

A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

Equity Research Report: Electronic Arts - A competitive analysis

Jan Philipp Schütt (56147)

A Project carried out on the Master in Finance Program, under the supervision of:

Rosário André

o

19.12.2023

Abstract

This report features a thorough and detailed analysis of Electronic Arts' competitive positioning within the dynamic video game industry. Throughout, it examines the macroeconomic factors that have and will influence Electronic Arts' business activities, including the COVID-19 pandemic and geopolitical tensions. It delves into the impact of interest rate hikes, inflation trends, and consumer spending patterns across EA's key markets, with a particular focus on North America, Europe, and Japan. The report concludes that across Electronic Arts' main markets, Europe and North America, interest rates will remain at an elevated level until the second half of 2024, after which a slower-than-usual decrease will take place, driven by a persistent inflationary environment.

Additionally, this research report provides an extensive analysis of the video gaming industry, including its history, current market trends, and emerging delivery and monetization methods such as subscription services and competitive gaming. The report utilizes Porter's Five Forces analysis to examine the industry's competitive landscape, revealing a very competitive market with high bargaining power of buyers and suppliers and relatively low threats of new entrants and substitutes. The analysis concludes that the industry is growing and presents many opportunities and challenges, for example, live streaming, competitive gaming, and regulatory changes, for the market participants such as Electronic Arts.

Finally, the report provides an analysis of Electronic Arts Inc.'s competitive positioning, evaluating the company's market share, franchise strength, and strategic acquisitions. It concludes a growth in Electronic Arts market share up to 3.95% in the current financial year. Additionally, it highlights the relevance of its robust product, its leading position in sports-related games, strategic acquisitions, and exclusive licensing deals with major sports organizations, which contribute to its competitive advantage. Additionally, EA's focus on mobile expansion enhances its market position and expands its reach. Overall, this analysis underscores EA's strategic focus on sports gaming, external growth strategies, positioning it well within the competitive landscape of the video game industry.

Keywords (up to four): Macroeconomic Analysis, Industry Analysis, Competitive Analysis, Company Analysis

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

This report is part of the Electronic Arts equity research report (annexed), developed by Matthias Pfeifer and Jan Philipp Schütt and should be read as an integral part of it.

Table of Contents

INTRODUCTION	5
MACROECONOMIC OVERVIEW.....	6
UNITED STATES.....	6
EUROPE.....	6
JAPAN	7
INDUSTRY ANALYSIS	7
HISTORY AND OVERVIEW	8
DEMOGRAPHICS AND GEOGRAPHICS	9
MARKET DRIVERS.....	9
BARGAINING POWER & ENGAGEMENT OF CUSTOMERS	11
SUBSTITUTES	12
PORTERS FIVE FORCES & CONCLUSION.....	12
COMPETITIVE ANALYSIS.....	13
MARKET SHARE	13
COMPETITIVE POSITIONING	13
<i>Franchises.....</i>	<i>14</i>
<i>External & Internal Growth.....</i>	<i>14</i>
<i>Emerging Trends</i>	<i>16</i>
CONCLUSION	17

Introduction

In this part of the report, we will take a detailed look into the competitive analysis of Electronic Arts and analyse which external factors are the main influences of its future and current business success. The content in this report follows a detailed analysis of Electronic Arts business model and a stockholder analysis, and precedes a thorough analysis of EAs financials and the valuation using different techniques, like a discounted cashflow analysis and multiples.

Thus, this part of the report builds the perfect bridge between the analysis of how Electronic Arts generates its income and future developments, utilizing the comprehensive analysis of the factors affecting future development. Therefore, this report contains an analysis of the current macroeconomic environment of Electronic Arts, a comprehensive breakdown of the industry, and an assessment of Electronic Arts' competitive positioning compared to its closest competitors.

This report concludes that the outer factors affecting Electronic Arts future business activity, provide a favourable position for future growth, granted with some minor challenges ahead, including regulatory changes for microtransactions and ongoing consolidation within the industry. The information provided in the joint report additionally highlights the strong financial position of EA, which is characterized by continuous growth throughout the past years. Utilizing the information of the competitive analysis, the joint report provides several perspectives of future growth and additionally highlights the importance and development of intellectual property for EA. Given Electronic Arts solid financial outlook and its strong position within the industry, we concluded that its underlying stock price will rise in the next twelve months to our target price of 142.21\$, which represents a hold recommendation, given our estimated potential of around 3% growth in the following year.

Macroeconomic Overview¹

The success of Electronic Arts Inc. as an international video game developer and publisher is heavily influenced by macroeconomic and political conditions in its core markets. Therefore, it is essential to closely examine the impact of macroeconomic conditions on its current and future business. Following the COVID-19 pandemic and the attack on Ukraine, Electronic Arts has witnessed volatile developments in its main markets, leading to a widespread rise in inflation and the fastest rate of interest rate hikes in the history of central banks. This has resulted in a time of uncertainty and volatility for international markets, as evidenced by the all-time high monthly Global Economic Policy Uncertainty Index, which measures policy-related economic uncertainty through different data sources.

United States²

Given the stronger than expected momentum of the economy in the current year, the US seems to have avoided a recession. The country's GDP has consistently grown by 2.2%, 2.1%, and 4.9% in the first three quarters of 2023, respectively. Additionally, the Federal Reserve is expected to not further increase its key interest rate above 5.5%, as inflation levels have decreased to 3.2% in October 2023 from 6.4% in January 2023. Given the slower-than-expected decrease in inflation, especially across core services, we further assume that there will be no rate reductions until the middle of 2024. Along with the general market and economist consensus, we expect the key interest rate to decrease by no more than 75bps-100bps in 2024, after which we expect a gradual decrease over an extended period of time. Andrew Hollenhorst, chief U.S. economist at Citi, supports that expected development: "We agree the Fed will cut in 2024, but think markets are underestimating how stubbornly high inflation will delay cuts until activity has more clearly slowed". In light of the unpredictable market developments since the Covid-19 pandemic, we have decided to adopt a conservative approach in our rate predictions. Therefore, our analysis leads us to believe that it is unlikely for the FED to cut rates lower than 1.5% over the foreseeable future. Although it seemed that the US unemployment started to increase in October, suggesting that no further rate hikes are necessary, rising to 3.9%, it dropped once again in November to 3.7%. We thus continue to forecast conservatively, expecting at most a 75bps rate cut in 2024. While consumer spending, which accounts for 65% of the GDP, has remained consistent throughout the year, growing nearly 1% QoQ, it is expected to slow down slightly over the first half of 2024, thanks to a higher borrowing rate, gradually rising unemployment, and slower inflation reduction. Retail sales ex. gas and autos are expected to follow this trend of light growth slowdown. Therefore, the current macroeconomic conditions in North America support a growth of EA's business activity, albeit at a slightly lower rate than in previous years. However, in the medium term, with decreasing interest rates and lower inflation, consumer spending on non-essential goods is expected to improve significantly, providing a favourable environment for growth in EA's business activity.

Europe³

In the second-largest market for Electronic Arts, Europe, our analysis focuses on the distinct regions of the European Union (EU) and the United Kingdom (UK) as primary areas of relevance. The European Central Bank (ECB) and the Bank of England (BoE) have both

¹ Global Economic Policy Uncertainty Index

² Sources: Trading Economics; Nasdaq

³ Sources: Trading Economics; European Central Bank

raised their rates to 4.50% and 5.25%, respectively. However, weaker industrial activity and decreasing momentum post-covid reopening have led to a slowdown in economic activity across Europe over the course of the year. Inflation in the region has decreased in October, as a result of the hikes of base interest rates, down to 2.9% in the EU and 4.6% in the UK, primarily driven by lower energy prices. However, amidst ongoing and developing geopolitical tensions, both central banks assess an elevated risk to strong volatility of energy prices in the future as well as a long persisting inflation driven by services and food prices. Therefore, we assume that the elevated base rates will persist up to the third quarter of 2024, after which both central banks will gradually decrease them, depending on the persistency of core inflation rates.

While the labour market has been stable, with current low unemployment rates across the Eurozone (6.5%) and the UK (4.2%), insufficient wage increases paired with an overall high inflation, led to a slight fall in consumer spending between -1.8% to -2.9% and -1.3% to -2.7%, respectively. As a result we believe that the European economies will experience a near stagnation in the short term, providing insufficient macroeconomic conditions for significant business expansion. However, we assume that in the medium term, given an expected decrease of inflation rates and subsequently key interest rates starting in Q3 2024, macroeconomic conditions will improve and provide sufficient grounds for further growth across industries, thus Electronic Arts.

Japan⁴

While western markets have been combating inflation through rapid increases in interest rates, the Bank of Japan (BoJ) has left interest rates unchanged and provided substantial subsidies, particularly to compensate for surging energy prices. This policy is likely to lead to elevated inflation levels until the BoJ changes its strategy.

Despite low levels of unemployment ranging between 2.4% and 2.8% over the course of the year, consumer spending has decreased slightly at a rate of less than 0.3% per quarter, indicating that inflation is overshadowing wage increases by a small margin. We assume that the BoJ will wait for a higher non-transitional inflationary environment before adjusting its policy and abandoning its negative interest rate policy.

Retail sales and household spending have been varying month to month but ultimately remaining at a very similar level with a slight negative trend, suggesting that the macroeconomic environment supports neither a growing nor decreasing business activity in the short term. We will need to await further developments in Japan's economy and the central bank's decision to determine the development of business activity for EA in Japan in the medium term. However, we assume that it will remain relatively stable over the foreseeable future.

Industry Analysis⁵

In addition to examining the macroeconomic landscape and its impact on business operations, we will comprehensively analyze the video game industry's historical and projected growth to assess the potential paths for Electronic Arts' future business development.

⁴ Sources: Trading Economics; Deloitte: Japan Economic Outlook October 2023

⁵ Sources: Newzoo Global Games Market Report 2023; World Economic Forum; Statista, Finances Online; The Business Research Company: Online Microtransactions Global Market 2023; Harvard Business School Working Knowledge: "The \$15 Billion Question: Have Loot Boxes Turned Video Gaming into Gambling?"; TwitchTracker;

History and Overview

The history of video games can be traced back to the 1940s, where the first game machine was revealed at the New York World's Fair. Since then, the industry has grown progressively around new technologies, leading it to become the USD 188.0 billion behemoth industry it is today. Along the industry's long tenure, there have been several success stories, such as the arcade game Pac-Man, which realized more than USD 1 billion in sales in 1980, the release of the Game Boy by Nintendo in 1989, and Nokia's release of cell phones with the game Snake, which led to the first popular mobile game. Today, the video game industry is an essential part of modern entertainment, with millions of people around the world playing games on various platforms, including consoles, PCs, and mobile devices.

While the industry has come a long way since its inception, gradually adapting to new technologies and growing in popularity over the years, there has never been such a significant surge in growth as during the COVID-19 pandemic. While most industries struggled due to government-imposed restrictions, video games became a go-to source of entertainment and socialization for many individuals. As a result, the industry saw a staggering growth of nearly 37% from 2019 to 2021. However, with the end of pandemic shutdowns and the implementation of privacy changes affecting personalized ads in mobile video games, the market size dropped slightly to USD 184.4bn in 2022. Despite experiencing a setback, the industry is projected to return to growth and reach USD 212.6bn in 2025, with a compounded annual growth rate of approximately 4.2%. After that, we assume that the industry will maintain a steady growth rate of between 3.0% to 4.0% annually, representing a minor slowdown due to the expected slowdown within the mobile games sector and other challenges of the industry.

The video gaming industry is a highly competitive landscape, with a diverse range of games from many publishers and different audiences. In order to gain a better understanding of the video game industry's growth, both past and future, we will examine how we can differentiate between different segments within the industry, as well as the factors driving overall market growth. The gaming industry is currently divided into three segments: mobile games, console games, and PC games, representing 49.3%, 29.9%, and 20.8% of total sales, respectively. Mobile games, the largest segment of the three, experienced significant growth, evidenced by a 13.7% CAGR between 2016 and 2023, driven by an increasing volume of casual gamers and, consequently, the market for personalized ads. Although its market value declined in the past year due to Apple's and Google's newly imposed privacy regulations restricting personalized ads, we expect it to return positive in the short- to medium-term, granted at a significantly slower pace.

Even though the mobile market crystallized itself as the largest market for the foreseeable future, consoles and PCs exhibited resilient growth in the past, displaying a CAGR of 9.8% and 3.5% between 2016 and 2023, respectively. Based on the projected industry growth of 4.2% until 2026 and the above-average growth observed during the pandemic, we anticipate a moderate slowdown in the growth of all sub-markets in the medium term, while still remaining positive. The console market growth however is expected to only slow down marginally in the medium term. This is due to exclusivity deals of console providers with game developers and an increasing focus on the subsector, as mobile experiences a significant slowdown. These developments could prove to be particularly beneficial for developers such as Electronic Arts, who continuously to focused on the consoles market (with 59% of revenues stemming from console platforms).

Demographics and Geographics

Understanding the demographics and geographic differences within the video game industry is essential to understand the market's dynamics. The industry has traditionally focused on young males, who still represent the largest share among gamers. However, with the increased popularity of video games in recent years, other demographic groups have also become a primary focus. Since 2015 the number of video gamers has risen consistently at an accelerated pace, from 2.0 billion to 3.1 billion in 2023, representing a compounded annual growth of around 5.6%. Currently, in EA's key market, the largest share of gamers is male (55%) and between the ages of 18-34 (38%), which we assume to be representative of the global market. While EA's initial target group, people aged >18 to 34 years remain most the active, averaging 7.5 hours a week, for an increasing amount of people aged 40+ video games, especially mobile games, have become increasingly popular. Due to demographic changes, we can predict that there will be a gradual shift in the video games industry, particularly in the mobile games sector, towards the development of games that are tailored to the growing target group.

Geographically, the Asia-Pacific region represents the largest market in the video game industry, with around 46% of the global market share, followed by North America, Europe, Latin America (LATAM), and the Middle East Africa (MEA) region, constituting 27%, 18%, 5%, and 4% of the market's value, respectively. The global presence of Electronic Arts is primarily centered around the core video game markets in the US and Europe, with some notable exposure in the Asian market. Regions where video games are long established as part of daily life display robust yet moderate growth rates, ranging from 1.2% to 3.8% in 2023, resulting from increased market saturation and increased regulatory measures governing mobile monetization strategies. Conversely, the potential of the LATAM and MEA regions has increased significantly due to the improved mobile internet infrastructure. As a result, these regions have witnessed significant growth in this year alone at rates of 4.3% and 6.9%, respectively.

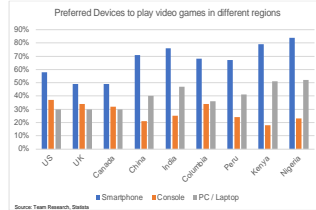
In the established markets of Europe and North America, console gaming enjoys significant popularity compared to the rest of the world. As of September 2023, 37% of people in the US, 34% in the UK, and 29% in Germany named consoles as their preferred gaming device, ranking only second to smartphones. In developing countries, however, notably across the Asia Pacific, MEA, and Latin America regions, the smartphone emerges as the highly dominant gaming platform. With a penetration rate exceeding 33% in nearly every country and constrained average household incomes limiting additional platform purchases, the smartphone stands out as the leading platform for video games.

Looking ahead, we expect the video game industry to continue its positive trend, exhibiting moderate growth rates in its core markets (which simultaneously represent EA's core markets) ranging from 1.5% to 4.5% per annum, while we anticipate much stronger growth within the LATAM and MEA regions (which currently represent only a small amount of EA's revenues).

Market Drivers

Over the last decade, the video games industry has undergone a significant shift in its delivery methods. Physical delivery methods have almost entirely been replaced with digital downloads. The industry has also experienced a surge in additional monetization methods, such as downloadable content (DLCs), microtransactions, in-game advertisements, and gaming subscription services. These new delivery and monetization methods have contributed significantly to the industry's growth. Additionally, while 50% of game developers

Figure 1



Source: Team Research, Statista

still prefer the traditional pay-to-download/play model, more and more are moving towards a free-to-play model. This approach, which has gained significant popularity since the early 2010s through the widespread adaption in the mobile sector, involves the continuous engagement of its players by gradually introducing new and/or supplementary content redeemable through payment. While the sale of video game software is still expected to grow to roughly USD 39.45 billion by 2025 (excluding in-game purchases), we assume that further growth will be slightly behind the growth of player numbers. On the other hand, free-to-play games, including their in-game purchases, are estimated to generate nearly threefold the pay-to-play in 2025, given our assumption that its current annual growth of around 6.04% does not decrease by more than three percentage points. With the success of live services focused free-to-play games initially found in mobile games, console, and PC game developers quickly adapted to the trend, creating the industry's most popular games, like Riot Games' League of Legends.

Over the last ten years, however, an additional distribution method has become increasingly important, particularly among the major console providers such as Sony and Microsoft, who were among the first to offer it. Subscription services for video games, which provide access to a wide range of titles from one or more publishers, have grown faster than the industry as a whole. With revenues of over USD 7bn, this market has become a focal point for all major game developers and console providers, all competing for a share of the expected growth, which is forecast to grow at an annual rate of around 10.4% until 2025. The most popular subscription services currently include PlayStation Plus, Xbox Game Pass, EA Play, Apple Arcade, and various others.

A common denominator affecting the growth of the two major publishing approaches is the increasing relevance of additional content purchased through so-called microtransactions. Microtransactions, in this sense, include everything from the purchase of in-game currency, downloadable additional content (DLCs), up to lootboxes. As an increasing amount of players were willing to pay for such services, the market and, subsequently, the number of developers including these "products" in their games rose drastically. The entire sub-market of microtransactions grew massively, generating roughly USD 68bn in 2022, and is believed to continue its growth. However, due to newly imposed and currently discussed governmental regulations, a substantial part, namely the submarket of loot boxes, is at risk, potentially affecting the growth of the entire microtransactions market. Loot boxes are a type of microtransaction where a player can purchase a crate, including certain items for the game its regarding. Each item possesses a certain probability of being won, with the rarer items considered to be more valuable than the others. Around the world, different governments are currently debating whether loot boxes are to be considered gambling or not, as a large portion of the revenue is created by a small number of players, who prioritize these boxes over the game itself, viewing it as a type of in-game "casino". Consequently, developers have or are re-designing these products according to the different countries' policies, with the goal that players engage more responsibly with the product. Nevertheless, some countries, like Belgium or the Netherlands, have ruled to ban loot boxes completely or for the most part. In other countries, regulators have ruled in favor of the product, like China or the UK, where regulators decided that the outcome of each item has to be disclosed prior to the purchase, or New Zealand, which has declared against categorization of gambling. Among other key video game markets like the US or Germany, a decision is yet to be made, representing a major risk to the USD 15bn submarket. Electronic Arts is particularly exposed to the risk of potential bans or restrictions in its main markets, as a significant portion of its revenue from live

services relies on loot boxes. These loot boxes are included in the Apex Legends and Battlefield portfolio, as well as the Ultimate Team game mode of its sports games, and accounted for around 44% of live services revenue. However, the company has taken proactive measures to mitigate this risk by disclosing the probabilities of receiving each item in its loot boxes and prohibiting secondary markets. Despite these efforts, a complete ban on microtransactions still poses a significant threat to Electronic Arts and other companies that rely on loot boxes as a revenue stream.

While previously mentioned different innovations in terms of delivery methods and monetization strategies have been incorporated in the business strategy of every business, the developments in the underlying technology present the foundation of all the progress of the past and future. Developments in the underlying technology, however, is a very broad term, as it describes simple improvements like enhanced graphics through graphic cards or monitors, as well as industry-shaping technological milestones, like cloud-based gaming or augmented reality. The latter, for example, has made several breakthroughs through Meta's Quest or found massive adaption in the mobile game Pokémon Go, which achieved more than 500 million downloads within its first year. With an accelerated pace of new technologies in the past five to ten years, we can expect that it will have a significant impact on the entire industry and its participants.

Bargaining Power & Engagement of Customers

Like in any industry, any type of growth and development can be attributed to one key factor: the increased spending of its customers. The video gaming industry is no exception while its continuous rise in earning is for one the result of the increasing amount of players and secondly from the growing engagement of the customer with the product. Therefore, the competition among the industry participants, the developers, is primarily focused on how to obtain the attention of its customers and, more importantly, how to keep it. However, consumers generally do not exhibit a high degree of brand loyalty towards any particular video game developer or manufacturer but more to a game or a series of games. Overall, players seek out games that offer the highest quality or fulfill their desires in a unique manner. To stay competitive, EA must constantly strive for excellence and outperform its competitors. Although EA is currently the second most popular game developer and the third most recognized brand, it should continue to aim for growth in both. With major competitors such as TakeTwo's Rockstar Games releasing highly anticipated titles like GTA VI, EA's market position could be challenged in the short term.

Further, as game prices continue to rise, with an average cost of USD 69.99 per game, consumers may decide to spend more time with a single game, leading to increased potential revenue from additional content. However, this may also lead to stronger competition among game developers as consumers gain more power in the future. Despite this, especially EA's sports segment should remain strong, thanks to its market-leading position in specific niches such as American football and soccer games. To succeed in the long run, EA must continue to invest in developing high-quality games that meet the changing demands of its customers. Outside of the compelling game content, cross-platform availability, and more, the creation of a community for their games and franchises has long been a crucial part of every developers business strategy, with the goal of retaining its customers and continuously generating revenue. With the increasing popularity of online communities, social media video gaming communities formed within, e.g., live streaming platforms, offered developers the chance to directly and indirectly interact with its community. The success of Twitch, one of the largest gaming livestreaming platforms, is a testament to the growing popularity and influence on the

developers. In the last five years, Twitch's average concurrent views have displayed a compound annual growth rate (CAGR) of 15.4%, and in the last ten years, the CAGR has been 25.2%, reaching 2.5 million in November 2023. The fact that about 20% of gamers listed watching their preferred streamer play a game as the main motivation to start playing the game itself is sufficient to describe the relevance of these platforms for developers and publishers. Further, the diverse impact of live streaming communities on a video game's success can be seen in examples such as *Cyberpunk 2077* and *Rocket League*.⁶ Despite high anticipation and extensive promotion, *Cyberpunk 2077* faced a setback due to bugs and performance issues, which led to negative reviews from streamers and their communities. The game's average viewer and player numbers plummeted from 85,000 and 830,000 (on Steam) in December 2020 to 1,500 and 47,000 (on Steam) by February 2021. On the other hand, *Rocket League*, developed by the relatively unknown Psyonix, achieved success on Twitch with its unique concept of football with cars and its marketing strategy focused on live streaming platforms. The game rose from the 165th to the 5th most-watched game within a month of its release and sold more than 5 million units. A major gaming tournament hosted by Psyonix and Twitch in September 2020 boosted *Rocket League*'s popularity, leading to its highest player and viewer numbers (240,000 on one day in October 2020) in the following months. Continuous interaction and development based on feedback from the streaming community have been key to *Rocket League*'s success, as shown by its ranking within the top 40 games on Twitch in November 2023, more than eight years after its release. Moreover, through continuous interaction with the community, *Cyberpunk 2077*'s developers updated the game and released a DLC, which resulted in the first noticeable increase in player numbers.

Hand in hand with a growing live streaming and viewer community goes the rise of competitive gaming, primarily broadcasted on main platforms like Twitch or YouTube Gaming. Exemplified throughout the success of *Rocket League*, the sub-sector has proven to be similarly effective in boosting player numbers and engagement with the game itself. Therefore, it is no surprise that most major players are initiating their own focus on e-sports. Notably, the competitive gaming sub-sector has experienced remarkable growth over the past three years, with an average CAGR of 11.6%. It's expected that this sub-sector will generate around USD 1.9 billion in revenue by 2025, thus provides a substantial opportunity for Electronic Arts.

Substitutes

In recent years, video games have overtaken other digital entertainment offerings in terms of popularity. The industry's alternative offerings and ever-growing user base have made them an essential part of the digital entertainment universe. Further, the constant innovation and development of the games industry also means that it is well equipped to compete with alternative forms of entertainment or substitute products, giving it a dynamic and enduring appeal to enthusiasts around the world.

Porters Five Forces & Conclusion

Based on our industry analysis, we will use Porter's Five Forces to summarize the findings. The video gaming industry is characterized by a very high bargaining power of buyers, with very selective and limited spending and (live streaming) communities influencing purchase

⁶ Johnson, M. R. and Woodcock, J. (2019) 'The Impacts of Live Streaming and Twitch.tv on the Video Game Industry', *Media, Culture and Society*, 41(5): 670-688

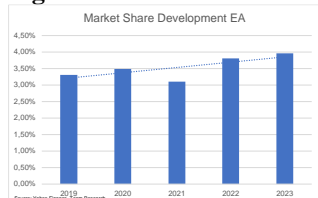
decisions. Additionally, developers within the industry are highly dependent on its suppliers, meaning platform providers like Sony, Apple, and more. While suppliers possess a higher leverage over video game developers than vice versa, the competition among platform providers and a mutual benefit is sufficient to assess the risk as medium. With video games overpowering other forms of digital entertainment, we assess the risk of substitutes as low. Additionally, although barriers to entry are very low within the industry, ongoing consolidation, large intellectual property portfolios of leading companies, and strong fanbases limit the risk of new entrants significantly. Furthermore, the strong cash position of some of the industry's leading players puts new entrants at risk of being acquired, thus, we assess the risk of new entrants as low to medium. The rivalry between competitors in the video gaming industry thus is extremely high, with a fierce battle of market share, for customer engagement and thus the purchasing decisions of buyers.

While we view the future of the industry as promising and full of opportunities for increased business activity, there are also challenges ahead for competing companies. The thriving community of active players plays a pivotal role in driving the industry's growth, serving as a substantial financial force that has significantly impacted the gaming sector's landscape.

Competitive Analysis⁷

We will now take a closer look at Electronic Arts competitive positioning in this dynamic industry, and assess its developments, in respect to the industry's progress, past and future, while using multiple analytical tools to evaluate its strengths, weaknesses, and possible future developments.

Figure 2



Electronic Arts is one of the largest exclusive game developers globally, holding a significant 3.95% share of the market's value. This places EA among the top companies in this category, alongside other exclusive game developers such as NetEase (5.11%) and Tencent (17.52%). However, when it comes to market share, console providers such as Nintendo (6.40%), Microsoft (18.26%), and Sony (13.30%) have managed to secure a larger share thanks to the positive contribution of their console offerings. Looking ahead, it is anticipated that TakeTwo Interactive (1.22%) and Epic Games (3.34%) will gain substantial market share, driven by the 2025 release of GTA VI and the continued success of Fortnite, respectively. Despite this, we expect Electronic Arts to continuously increase its market share as it has done in the past years, from around 3.1% in 2021 to the current 3.95%, based on its strong product portfolio. As the industry continues to expand, major players are competing fiercely to hold or increase their market share and benefit alongside its growth.

Competitive Positioning

Due to the growth of the video game industry, it has become increasingly important for developers and publishers to establish their position among competitors. In order to gain a greater market share, it is essential to build a loyal fanbase and increase popularity, making it the most crucial factor for success.

⁷ Sources: NewZoo: "Top 25 companies game revenues"; Statista; Websites & annual reports of: Electronic Arts, Tencent, Microsoft, Sony, TakeTwo, NetEase, Epic Games, Nintendo, Ubisoft, Activision Blizzard; ESport Charts

Franchises

Throughout its long tenure, Electronic Arts has established itself in the market as the leading provider of sports related games, leveraging its strong franchises of annually released games, like EA Sports FC (previously called FIFA), EA Madden NFL, or EA F1. The subsector of sports related video games is primarily dominated by EA and TakeTwo Interactive, with their annually released games of NBA2K or Major League Baseball 2K. Electronic Arts, however, has emerged as the clear leader in the subgenre as a result of its diverse portfolio of licensing deals with major sports organizations, enabling them to cover the most popular sports like Football (with more than 3bn annual viewers), Formula 1 (with more than 1.55bn annual viewers) or Ice Hockey (433m annual viewers), compared to, e.g. Basketball (445m annual viewers). Being in possession of the strongest licensing agreement portfolio within the subgenre further led to an increased loyalty among its consumers towards its products. Furthermore, the portfolio of exclusive licensing deals allows Electronic Arts to overshadow any additional competitors, which could challenge the quality or price of the games, exemplified by the decline of the game Pro Evolution Soccer. Electronic Arts additionally utilized the very limited risk of new entrants or other competitors to build up a strong fanbase for the brand, which we estimate will not be challenged in future years. With the record breaking release of EA Sports FC, with over 14.5 million units sold in the first four weeks of its release, Electronic Arts demonstrates its strong customer loyalty to their brand, and not the previous releases FIFA branding. While EA has dropped the licensing deal with FIFA due to unreasonably high cost expectations by FIFA (USD 1bn per Worldcup), they managed to build up a significant portfolio consisting of more than 19 thousand athletes, 700 teams, and 30 leagues. Most recently, EA further renewed its licensing agreement with CONMEBOL, the governing body of football in South America, securing a multi-year partnership as exclusive sports video game partner.

Additionally, Electronic Arts leverages its strong position and expertise within the sub-market to increase its footprint, primarily through strategic acquisitions of smaller competitors to dominate a specific niche or build out its less dominant mobile sports games portfolio. The latter, currently generating around USD 7.52bn, is estimated, similarly to the rest of the mobile games market, to exhibit significant growth of around 12.03% per annum. Electronic Arts acquisition of Playdemic, developer of the popular mobile sports game Golf Clash, underlines its ambitions to grow alongside the subsector and increase its dominance across all platforms.

Other robust franchises include, e.g., the Sims saga, where EA gradually develops small additions (DLCs) to continue captivating the consumer with the product, increasing brand loyalty and revenues. While The Sims has been one of the most successful gaming franchises in the world, competition, mainly in the form of Animal Crossing: New Horizons, developed by Nintendo, started to threaten EA's leading position within the simulation games sub-genre. Building upon their competitor's success, Electronic Arts Vice President Lindsay Pearson recently announced that Sims 5, currently still in development, will feature a multiplayer feature oriented to Animal Crossing's multiplayer strategies. Nevertheless, with over 1.8bn hours played, The Sims 4 just finished the most successful year in Sims history. Therefore, we expect The Sims franchise to continue generating revenue primarily through DLC sales until the release of The Sims 5, which will significantly increase full game sales.

External & Internal Growth

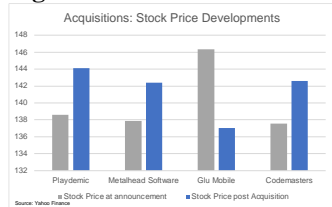
Over the past decade, the video game industry has witnessed a trend of consolidation. This has become more noticeable in the last three years, with several leading developers and

other technology or media giants making a large number of acquisitions of smaller and even leading companies in the industry. By far the largest acquisition in the video game sphere has been Microsoft's takeover of Activision Blizzard for USD 68.7bn, announced in January 2022, which positioned them second largest video game developer behind TenCent. Electronic Arts' most direct competitor, TakeTwo Interactive, completed the 2nd largest transaction in the industry's history of Zynga for USD 12.7bn in 2022. TakeTwo used this acquisition to expand its reach in the mobile gaming market, to which it previously had very limited access to.

Electronic Arts pursues an acquisition strategy comparable to its competitors', having completed four strategic acquisitions in the past three years. Through its two largest acquisitions, namely the USD 2.4bn purchase of Glu Mobile in April 2021 and the USD 1.4bn acquisition of Playdemic in June 2021, EA aimed to increase its footprint in the mobile sector. Additionally, with the acquisition of Playdemic in particular, EA strengthened its sports mobile games portfolio. Conversely, the acquisition of Metalhead Software in May 2021 for an undisclosed amount as well as the Codemasters acquisition completed in February of 2021 for USD 1.2bn aimed to strengthen EA's market leading sports and racing franchises, while simultaneously eliminating the threat of new competition. Both acquisitions followed a positive market reaction of 3.3% and 3.7% in the next days. Conversely, after TakeTwo acquired Zynga, their share price dropped by 14%, despite the acquisition being based on a similar rationale as EA's. Our analysis suggests that the drop in share price was a result of increased pressure from shareholders due to past acquisitions made in the industry, as well as competition from TakeTwo's direct rival, EA. A thesis supported by the market reaction to the deal post-announcement. While the majority of EA's acquisitions were met with positive reactions from the market, supporting the accretive strategic rationale, its acquisition of Glu Mobile for USD 2.4bn in April 2021 was met with skepticism, resulting in a 6.3% share drop after its announcement. Similarly to the Zynga acquisition by TakeTwo, the market's reaction indicates that the acquisition was either dilutive or too expensive, although not as strong as the reaction to TakeTwo's deal. We assess the market's reaction as partially justified as we assess the portfolio of games acquired with a significantly lower value, underlined by the significant increase in Goodwill of around USD 1.39bn in the quarter after the acquisition. However, our analysis concludes that equally significant for the acquisition, was the 500+ strong developer team with mobile game focused expertise, joining EA from GluMobile. As the mobile market was still rising significantly in that point of time, not yet affected by Apple's regulations, it underlines EA's strength in identifying different acquisition opportunities to grow their portfolio, customer base and expertise within different sub-industries.

While Electronic Arts utilized several acquisitions to increase their footprint within the mobile and sports sub-sector, it is worth noting that they also dedicate a significantly higher percentage of their revenue towards research and development compared to their peers. By investing an average of 30.97% of its revenues over the past two years, EA's R&D cost margin is nearly 14 percentage points above its nearest relevant competitor, Activision Blizzard (17.0%) and TakeTwo (12.6%). On the one hand, this could mean that Electronic Arts is focusing significantly more on the development of new games and technology, improving its portfolio and securing a solid foundation for future growth. On the other hand, this could imply a certain level of inefficiency within the operations, especially within the workforce of EA, thus indicating too high personnel costs. While we estimate that increased R&D costs are partially a result of an elevated level of future orientation and a strong focus on the continuous development of games, below average revenue per employee suggest that the personnel costs of EA are too high. With around USD 554k per employee, EA is around

Figure 3



8% below its closest competitor, TakeTwo, and around 4.5% below Activision Blizzard, prior to their acquisition.

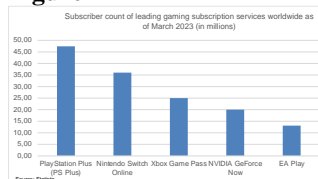
Emerging Trends

Emerging Trends

Within the livestreaming and competitive gaming subsector, Electronic Arts lags behind its most relevant competitors in terms of average viewership and popularity. As of November 27th, only two of EA's games, EA Sports FC 24 (11th) and Apex Legends (13th) have made it to the top 15, averaging 40,610 and 28,924 viewers per day, respectively. In contrast, Tencent, Epic Games, and TakeTwo have surpassed Electronic Arts' concurrent viewership due to the immense popularity of their hit games, such as League of Legends, Fortnite, and GTA V. Despite this, EA has made efforts to increase viewership, such as enabling Twitch Drops, which provides viewers of live streams covering certain EA games with the opportunity to gain specific in-game items. Additionally, EA has dedicated an entirely new platform, EA Play Live, to promote several new games and updates through live broadcasts and community events. However, EA's main competitors continue to average higher viewer numbers due to the immense fanbases and long-lasting popularity of their top games. Furthermore, as seen in the Rocket League example provided above, and other examples like Fortnite and League of Legends benefit heavily from their strong focus on competitive gaming, as leading competitive players cumulated a large fanbase, which aim to improve their own gameplay. To counter this, Electronic Arts introduced a competitive gaming division, focusing solely on the promotion and organization of live, in-person events with large prize pools for their medallion games: EA Sports FC, Madden NFL, and Apex Legends, with the goal to benefit from these events in terms of sales, community engagement and advertisements. Still, Electronic Arts most popular games have shown resilience over the past years and even growth within its competitive leagues, mainly through Apex Legends and EA Sports FC events. While these did and will not reach the levels of attraction achieved by its competitors, they displayed growth in attraction over the past years, promising further opportunities in the future.

As the gaming industry is increasingly exploring subscription-based models as delivery methods, Electronic Arts has launched EA Play / Play Pro. With the goal to challenge competitors' respective offerings such as the Xbox Game Pass, Apple Arcade, Ubisoft+, and PlayStation Plus. Subscribers to EA Play gain access to a vast range of games, with only the most recent releases and popular titles such as Madden NFL, Sports FC (FIFA), or Star Wars titles being excluded for a set amount of time (for regular EA Play subscribers). Currently, EA Play is the 5th most subscribed service in the industry, with around 13.0m subscribers, lacking behind PlayStation Plus (47.4m), Nintendo Switch Online (36.0m), Xbox Game Pass (25.0m), and NVIDIA GeForce Now (20.0m). While this could exhibit EA Play's lack of competitiveness, as it is 35% behind its nearest larger competitor, one has to include the fact that all larger subscription services include games out of EA's portfolio. The closest competitor, in terms of a sole game developer, for EA Play is Ubisoft+. In October of 2023, Ubisoft announced an exclusive partnership with Microsoft's Activision Blizzard, gaining the cloud streaming rights of the entire Activision portfolio for all existing and future titles for 15 years. This partnership will allow Ubisoft to heavily concur with EA Play's market position, thus posing a risk for future growth in the subscription-services section of EA, provided they decrease their price from the current EUR 18.0, which is nearly double the price of EA Play. Nevertheless, we estimate that EAs' position as the leading sole developer (= excl.

Figure 4



subscription providers with their own platforms) in a market that is forecasted to grow between 8.0% to 9.0% for the next 2 to 3 years will provide stability for the live services revenues.

Conclusion

Electronic Arts (EA) is one of the largest exclusive game developers globally, holding a significant 3.95% of the industry's revenue. EA has established itself in the market as the leading provider of sports-related games, leveraging its strong franchises of annually released games, like EA Sports FC, EA Madden NFL, or EA F1. EA's sports segment should remain strong, thanks to its market-leading position in specific niches such as American football and soccer games. However, when it comes to market share, console providers such as Nintendo, Microsoft, and Sony have managed to secure a larger share, thanks to the positive influence of their console offerings. To stay competitive, EA must constantly strive for excellence and outperform its competitors. With major competitors such as TakeTwo's Rockstar Games releasing highly anticipated titles like GTA VI, EA's market position could be challenged in the short term. Despite this, EA has emerged as the clear leader in the subgenre of sports-related video games as a result of its diverse portfolio of licensing deals with major sports organizations, enabling them to cover the most popular sports. Additionally, Electronic Arts leverages its strong position and expertise within the sub-market to increase its footprint, primarily through strategic acquisitions of smaller competitors to dominate a specific niche or build out its less dominant mobile sports games portfolio.

Appendix

In the following appendix you will find the complete/joint equity research report:

“ELECTRONIC ARTS”

“ENTERTAINMENT INDUSTRY”

STUDENT: MATTHIAS PFEIFER
JAN PHILIPP SCHÜTT

COMPANY REPORT

20 DECEMBER 2023

55788@novasbe.pt
56147@novasbe.pt

Electronic Arts Equity Research

Can EA keep growing in this competitive industry?

- Utilizing exclusive partnerships with major sports leagues and large companies, like Disney, EA managed to build a strong portfolio of licensing deals and franchises, including popular sports titles Madden and EA Sports FC, as well as the Star Wars games.
- Leveraging its expertise in acquisitions, EA has demonstrated a remarkable ability to expand its market position in desired areas. In 2021, the company made four strategic acquisitions that helped it to increase its mobile exposure and strengthen its sports franchise.
- A significantly higher spending on research and development paired with below-average revenue per employee than its peers indicates that EA overspends on personnel and development costs. This investment, however, provides an opportunity for future business activity and reinforces the stability of the company.
- Looking ahead, a growing industry, new technologies and ongoing developments in monetization methods will shape the future of Electronic Arts.

Company description

Electronic Arts (EA) is a leading global video game company that has been in the industry for almost four decades. With a diverse portfolio of games spanning across various genres, including sports, action, and casual gaming, EA is committed to delivering high-quality games and engaging experiences to players worldwide. Their success stems from strategic acquisitions, partnerships, and a focus on expanding their intellectual property portfolio.

Recommendation: **HOLD**

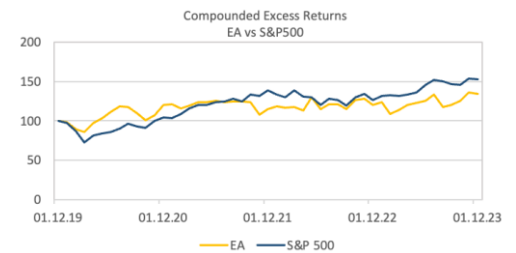
Price Target FY24: **142.21 \$**

Price (as of 19-Feb-24) **138.94 \$**

Reuters: EA.O, Bloomberg: EA:US

52-week range (\$)	108.53-143.47
Market Cap (\$m)	37 338
Outstanding Shares (m)	268.97
Other (...)	

Source: Yahoo Finance



Source: Yahoo Finance; Team Analysis

(Values in \$ millions)	2023	2024E	2025F
Revenues	7 426	7 694	8 069
EBITDA	1 979	1 905	2 020
Net Profit	802	1 080	1 182
EPS	2.98	4.01	4.39
P/E	46.6x	35.4x	32.4x

Source: Yahoo Finance; Team Analysis

THIS REPORT WAS PREPARED EXCLUSIVELY FOR ACADEMIC PURPOSES BY MATTHIAS PFEIFER & JAN PHILIPP SCHÜTT, A MASTER IN FINANCE STUDENT OF THE NOVA SCHOOL OF BUSINESS AND ECONOMICS. THE REPORT WAS SUPERVISED BY A NOVA SBE FACULTY MEMBER, ACTING IN A MERE ACADEMIC CAPACITY, WHO REVIEWED THE VALUATION METHODOLOGY AND THE FINANCIAL MODEL. (PLEASE REFER TO THE DISCLOSURES AND DISCLAIMERS AT END OF THE DOCUMENT)

Table of Contents

COMPANY OVERVIEW	3
BUSINESS DESCRIPTION & HISTORY	3
BUSINESS MODEL	4
SHAREHOLDER STRUCTURE	5
MACROECONOMIC OVERVIEW	6
UNITED STATES	6
EUROPE	7
JAPAN	8
INDUSTRY ANALYSIS	8
HISTORY AND OVERVIEW	9
DEMOGRAPHICS AND GEOGRAPHICS	10
MARKET DRIVERS	11
BARGAINING POWER & ENGAGEMENT OF CUSTOMERS.....	13
SUBSTITUTES	15
PORTERS FIVE FORCES & CONCLUSION	15
COMPETITIVE ANALYSIS	16
MARKET SHARE.....	16
COMPETITIVE POSITIONING	17
▪ <i>Franchises</i>	17
▪ <i>External & Internal Growth</i>	18
▪ <i>Emerging Trends</i>	20
CONCLUSION	21
FINANCIAL ANALYSIS	22
VALUE DRIVER: REVENUE.....	22
▪ <i>Historical Performance</i>	22
▪ <i>Forecast: Service Perspective</i>	23
▪ <i>Forecast: Platform Perspective</i>	24
VALUE DRIVER: INTANGIBLE ASSETS	24
FINANCIAL ANALYSIS	25
▪ <i>Income Statement</i>	25
▪ <i>Balance Sheet – Cashflow Statement – Key Ratios</i>	25
ROIC & ROE	26
SWOT	26
VALUATION	28
DISCOUNTED CASHFLOW ANALYSIS	28
▪ <i>Cost of Equity</i>	29
▪ <i>Cost of Debt</i>	29
▪ <i>Target Capital Structure</i>	30
▪ <i>Growth Rate</i>	30
▪ <i>Scenario Analysis</i>	30
▪ <i>Sensitivity Analysis</i>	30
EXTRINSIC VALUATION - MULTIPLES	31
CONCLUSION	32
APPENDIX	33

Company Overview

Title 2

Business Description & History

Electronic Arts Inc. (Nasdaq: EA) traces its origins to May 1982 when founder Trip Hawkins incorporated the company as "Amazin' Software." Following its initial entry into the video gaming market with "Hard Hat Mack", a jump 'n' run game, Electronic Arts Inc. shifted its focus towards acquiring publishing rights to games of external developers. This led to a series of successful acquisitions, with EA rebranding the studios under its name. A pivotal moment in the history of Electronic Arts was in 1988, when the company entered into a strategic partnership with football coach John Madden, resulting in the development of the annually released *Madden NFL* games. The *Madden NFL* franchise became a cornerstone of EA's success, showcasing the ability to sign influential partnerships, enabling a broad audience. Then, in 1993, EA published *FIFA International Soccer*, marking the beginning of its market-leading position across the different sports-focused sub-markets. Utilizing different licensing deals with major international leagues and organizations, allowing them to use real team names, logos, and players, ultimately led to the widespread success of their sports video game portfolio across the globe. EA has since stayed up-to-date with technological advancements, such as incorporating 3D graphics, realistic player animations, and more, leading to its titles' increasing popularity. In an attempt to ensure continuous consumer engagement and prevent franchise fatigue among consumers, EA gradually diversified its portfolio outside its sports franchises, expanding into different genres of games, for example, through the launch of *The Sims* in 2000 or *Medal of Honor*, published in 1999. Electronic Arts announced its first major restructuring in 2007, diversifying into mobile gaming with strategic investments in form of the acquisition of external developers' publishing rights. Under current CEO Andrew Wilson, appointed in 2013, EA secured impactful licensing deals, including rights for Star Wars games after Disney's closing of LucasArts games, driving robust growth. However, EA has faced several challenges in Wilson's time, with the most notable being the backlash in 2017 over its implementation of pay-to-win loot boxes practices in Star Wars Battlefront II, which led to a significant drop in the company's stock price. The company was forced to reevaluate its microtransaction approach and become more consumer-friendly. In recent years, Electronic Arts underwent several smaller restructurings aimed at streamlining operations and refocusing on its key franchises. Over the company's long tenure, it consistently progressed

and grew along the challenges it faced. Despite these challenges, Electronic Arts has remained committed to delivering high-quality games and engaging experiences to players worldwide. Its successful strategy of building a diverse portfolio of games, signing strategic licensing deals, and acquiring publishing rights has made it one of the largest and most successful video game companies, with a robust foundation of leading studios.

Title 2

Business Model¹

Electronic Arts Inc.'s business operation evolves around the distribution of fully-owned and licensed video games distributed towards its customers using a cross-platform approach and the provision of additional features in and for the game, called live services. These live services include downloadable content, subscriptions, and microtransactions, which can be purchased through in-game stores using real currency.

The success of Electronic Arts stems primarily from the diverse and robust portfolio of games, ranging from sports games over action games, including popular franchises like Star Wars or Battlefield games, to casual gaming, with popular titles like Plants vs. Zombies. Strategic acquisitions of developer studios/companies and/or their publishing rights have been vital to EAs' business strategy. This is best exemplified through the 2021 acquisitions of Playdemic, Ltd, developer of Golf Clash, which EA used to strengthen its sports and mobile games portfolio. With acquisitions, in-house development or other licensing deals, Electronic Arts business plan was and is primarily focused on the continuous expansion of their intellectual property portfolio, securing its long-term position in the market. Furthermore, its market position is supported by its strategic orientation toward its key partnerships, -activities, and -channels. Its most essential partnerships are its technology/distribution partners, including companies like Sony and Microsoft on the technology side, which ensure that EA's games are compatible with the latest gaming consoles, or Steam and Walmart, providing EA with a digital and physical marketplace to distribute their video games. Additionally, to promote their most recent games, Electronic Arts utilizes different methods of advertisements, such as hosting e-sport tournaments or collaborating with popular social media creators in the industry.

Electronic Arts boasts an exceptional management team, which has been instrumental in the company's success. Andrew Wilson, who has been with EA since 2000, became the CEO in 2013 and the Chair in 2021. Under his

¹ Sources: IGN: "EA Sports and EA games splitting apart in internal shakeup" – accessed on 17th of December; Yahoo Finance; Electronic Arts Annual Report

leadership, EA has transformed into a digital-first company, expanding its global reach and player base. Since his appointment as CEO, EA's stock price has risen by over 400%. Christopher Suh, who previously served as CFO of Microsoft's Cloud & AI division for 25 years, joined EA as CFO in 2022. He oversees the company's financial operations, strategy, and capital allocation. Laura Miele, who has been with EA since 1996, was appointed COO in 2021. She is responsible for EA's studios, publishing, marketing, analytics, technology, and operations. Her contributions have been crucial in launching and expanding EA's popular franchises, such as Apex Legends, FIFA, and The Sims.

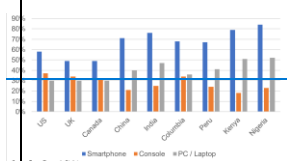
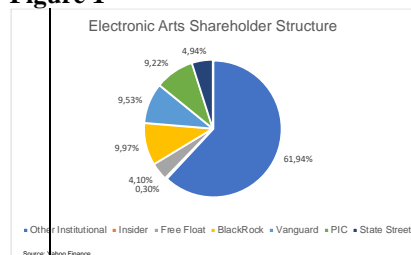
EA's business model is designed to create long-term engagement with players, with a focus on delivering high-quality games and live services. By leveraging its strong portfolio of franchises and partnerships, EA has maintained a leading position in the video game industry, currently holding a market share of around 3.95% and continuing to grow its business over time.

Title 2

Shareholder Structure²

Electronic Arts pursued its initial public offering in September 1989, with an initial market capitalization of around USD 84m. As of the 30th of September 2023, 269.84 million shares of common stock were outstanding, publicly listed on the Nasdaq, with the vast majority held by institutional investors. Of the approximately 1,400 institutional shareholders, holding around 95.6%, the largest five shareholders are primarily providers of exchange-traded funds (ETF), namely BlackRock (9.97%), Vanguard (9.53%), State Street (4.94%) and Amundi (2.26%). Furthermore, the Public Investment Fund, the sovereign wealth fund of Saudi Arabia, is the third largest shareholder of EA, with around 9.22% of the common stock. Apart from institutional investors, there is currently, around 4.1% of the free float held by retail investors, and around 0.3% owned by insiders of the firm. Important to notice here is that as of the 23rd of November, there has been a total of two insider buys in the last year, while in the same time frame, 64 sales have been made, netting around 211.1k shares sold. While this would normally be the cause of concern for many investors, in the gaming industry, and more specifically Electronic Arts, it is not. With around 78% to 95% of the executives compensation being based on shares (in FY23), shares sold by insiders symbolizes not mistrust in the companies future, but instead reflects own financial motives of the executives. Furthermore, one could argue that such a substantial share based incentive creates a strong incentive for improved performance among the executives. Additionally, we believe that the strong

Figure 1



² Source: Nasdaq

fragmentation among institutional and retail investors helps the board to achieve its long-term objectives without pressure in the short-term from single investors.

Finally, in August 2022, Electronic Arts announced a major share buyback programme, consisting of USD 2.6bn, which will be exercised until November 4th, 2024. In the first six months of the FY24, EA has returned around USD 753m to stockholders through repurchasing 5.2m shares worth approximately USD 650m and returning USD 103m through their quarterly dividend of USD 0.19 per share.

Macroeconomic Overview³

The success of Electronic Arts Inc. as an international video game developer and publisher is heavily influenced by macroeconomic and political conditions in its core markets. Therefore, it is essential to closely examine the impact of macroeconomic conditions on its current and future business. Following the COVID-19 pandemic and the attack on Ukraine, Electronic Arts has witnessed volatile developments in its main markets, leading to a widespread rise in inflation and the fastest rate of interest rate hikes in the history of central banks. This has resulted in a time of uncertainty and volatility for international markets, as evidenced by the all-time high monthly Global Economic Policy Uncertainty Index, which measures policy-related economic uncertainty through different data sources.

United States⁴

Given the stronger than expected momentum of the economy in the current year, the US seems to have avoided a recession. The country's GDP has consistently grown by 2.2%, 2.1%, and 4.9% in the first three quarters of 2023, respectively. Additionally, the Federal Reserve is expected to not further increase its key interest rate above 5.5%, as inflation levels have decreased to 3.2% in October 2023 from 6.4% in January 2023. Given the slower-than-expected decrease in inflation, especially across core services, we further assume that there will be no rate reductions until the middle of 2024. Along with the general market and economist consensus, we expect the key interest rate to decrease by no more than 75bps-100bps in 2024, after which we expect a gradual decrease over an extended period of time. Andrew Hollenhorst, chief U.S. economist at Citi, supports that expected development: "We agree the Fed will cut in 2024, but think markets are underestimating how stubbornly high inflation will delay cuts

³ Global Economic Policy Uncertainty Index

⁴ Sources: Trading Economics; Nasdaq

until activity has more clearly slowed". In light of the unpredictable market developments since the Covid-19 pandemic, we have decided to adopt a conservative approach in our rate predictions. Therefore, our analysis leads us to believe that it is unlikely for the FED to cut rates lower than 1.5% over the foreseeable future. Although it seemed that the US unemployment started to increase in October, suggesting that no further rate hikes are necessary, rising to 3.9%, it dropped once again in November to 3.7%. We thus continue to forecast conservatively, expecting at most a 75bps rate cut in 2024. While consumer spending, which accounts for 65% of the GDP, has remained consistent throughout the year, growing nearly 1% QoQ, it is expected to slow down slightly over the first half of 2024, thanks to a higher borrowing rate, gradually rising unemployment, and slower inflation reduction. Retail sales ex. gas and autos are expected to follow this trend of light growth slowdown. Therefore, the current macroeconomic conditions in North America support a growth of EA's business activity, albeit at a slightly lower rate than in previous years. However, in the medium term, with decreasing interest rates and lower inflation, consumer spending on non-essential goods is expected to improve significantly, providing a favourable environment for growth in EA's business activity.

Europe⁵

In the second-largest market for Electronic Arts, Europe, our analysis focuses on the distinct regions of the European Union (EU) and the United Kingdom (UK) as primary areas of relevance. The European Central Bank (ECB) and the Bank of England (BoE) have both raised their rates to 4.50% and 5.25%, respectively. However, weaker industrial activity and decreasing momentum post-covid reopening have led to a slowdown in economic activity across Europe over the course of the year. Inflation in the region has decreased in October, as a result of the hikes of base interest rates, down to 2.9% in the EU and 4.6% in the UK, primarily driven by lower energy prices. However, amidst ongoing and developing geopolitical tensions, both central banks assess an elevated risk to strong volatility of energy prices in the future as well as a long persisting inflation driven by services and food prices. Therefore, we assume that the elevated base rates will persist up to the third quarter of 2024, after which both central banks will gradually decrease them, depending on the persistency of core inflation rates.

While the labour market has been stable, with current low unemployment rates across the Eurozone (6.5%) and the UK (4.2%), insufficient wage increases paired with an overall high inflation, led to a slight fall in consumer spending

⁵ Sources: Trading Economics; European Central Bank

between -1.8% to -2.9% and -1.3% to -2.7%, respectively. As a result we believe that the European economies will experience a near stagnation in the short term, providing insufficient macroeconomic conditions for significant business expansion. However, we assume that in the medium term, given an expected decrease of inflation rates and subsequently key interest rates starting in Q3 2024, macroeconomic conditions will improve and provide sufficient grounds for further growth across industries, thus Electronic Arts.

Japan⁶

While western markets have been combating inflation through rapid increases in interest rates, the Bank of Japan (BoJ) has left interest rates unchanged and provided substantial subsidies, particularly to compensate for surging energy prices. This policy is likely to lead to elevated inflation levels until the BoJ changes its strategy.

Despite low levels of unemployment ranging between 2.4% and 2.8% over the course of the year, consumer spending has decreased slightly at a rate of less than 0.3% per quarter, indicating that inflation is overshadowing wage increases by a small margin. We assume that the BoJ will wait for a higher non-transitional inflationary environment before adjusting its policy and abandoning its negative interest rate policy.

Retail sales and household spending have been varying month to month but ultimately remaining at a very similar level with a slight negative trend, suggesting that the macroeconomic environment supports neither a growing nor decreasing business activity in the short term. We will need to await further developments in Japan's economy and the central bank's decision to determine the development of business activity for EA in Japan in the medium term. However, we assume that it will remain relatively stable over the foreseeable future.

Industry Analysis⁷

In addition to examining the macroeconomic landscape and its impact on business operations, we will comprehensively analyze the video game industry's historical and projected growth to assess the potential paths for Electronic Arts' future business development.

⁶ Sources: Trading Economics; Deloitte: Japan Economic Outlook October 2023

⁷ Sources: Newzoo Global Games Market Report 2023; World Economic Forum; Statista, Finances Online; The Business Research Company: Online Microtransactions Global Market 2023; Harvard Business School Working Knowledge: "The \$15 Billion Question: Have Loot Boxes Turned Video Gaming into Gambling?"; TwitchTracker;

History and Overview

The history of video games can be traced back to the 1940s, where the first game machine was revealed at the New York World's Fair. Since then, the industry has grown progressively around new technologies, leading it to become the USD 188.0 billion behemoth industry it is today. Along the industry's long tenure, there have been several success stories, such as the arcade game Pac-Man, which realized more than USD 1 billion in sales in 1980, the release of the Game Boy by Nintendo in 1989, and Nokia's release of cell phones with the game Snake, which led to the first popular mobile game. Today, the video game industry is an essential part of modern entertainment, with millions of people around the world playing games on various platforms, including consoles, PCs, and mobile devices.

While the industry has come a long way since its inception, gradually adapting to new technologies and growing in popularity over the years, there has never been such a significant surge in growth as during the COVID-19 pandemic. While most industries struggled due to government-imposed restrictions, video games became a go-to source of entertainment and socialization for many individuals. As a result, the industry saw a staggering growth of nearly 37% from 2019 to 2021. However, with the end of pandemic shutdowns and the implementation of privacy changes affecting personalized ads in mobile video games, the market size dropped slightly to USD 184.4bn in 2022. Despite experiencing a setback, the industry is projected to return to growth and reach USD 212.6bn in 2025, with a compounded annual growth rate of approximately 4.2%. After that, we assume that the industry will maintain a steady growth rate of between 3.0% to 4.0% annually, representing a minor slowdown due to the expected slowdown within the mobile games sector and other challenges of the industry.

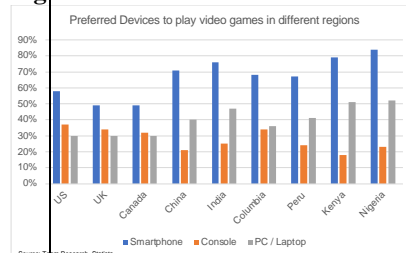
The video gaming industry is a highly competitive landscape, with a diverse range of games from many publishers and different audiences. In order to gain a better understanding of the video game industry's growth, both past and future, we will examine how we can differentiate between different segments within the industry, as well as the factors driving overall market growth. The gaming industry is currently divided into three segments: mobile games, console games, and PC games, representing 49.3%, 29.9%, and 20.8% of total sales, respectively. Mobile games, the largest segment of the three, experienced significant growth, evidenced by a 13.7% CAGR between 2016 and 2023, driven by an increasing volume of casual gamers and, consequently, the market for personalized ads. Although its market value declined in the past year due to Apple's and Google's newly imposed privacy regulations restricting personalized

ads, we expect it to return positive in the short- to medium-term, granted at a significantly slower pace.

Even though the mobile market crystallized itself as the largest market for the foreseeable future, consoles and PCs exhibited resilient growth in the past, displaying a CAGR of 9.8% and 3.5% between 2016 and 2023, respectively. Based on the projected industry growth of 4.2% until 2026 and the above-average growth observed during the pandemic, we anticipate a moderate slowdown in the growth of all sub-markets in the medium term, while still remaining positive. The console market growth however is expected to only slow down marginally in the medium term. This is due to exclusivity deals of console providers with game developers and an increasing focus on the subsector, as mobile experiences a significant slowdown. These developments could prove to be particularly beneficial for developers such as Electronic Arts, who continuously to focused on the consoles market (with 59% of revenues stemming from console platforms).

Demographics and Geographics

Figure 2



Understanding the demographics and geographic differences within the video game industry is essential to understand the market's dynamics. The industry has traditionally focused on young males, who still represent the largest share among gamers. However, with the increased popularity of video games in recent years, other demographic groups have also become a primary focus. Since 2015 the number of video gamers has risen consistently at an accelerated pace, from 2.0 billion to 3.1 billion in 2023, representing a compounded annual growth of around 5.6%. Currently, in EA's key market, the largest share of gamers is male (55%) and between the ages of 18-34 (38%), which we assume to be representative of the global market. While EA's initial target group, people aged >18 to 34 years remain most the active, averaging 7.5 hours a week, for an increasing amount of people aged 40+ video games, especially mobile games, have become increasingly popular. Due to demographic changes, we can predict that there will be a gradual shift in the video games industry, particularly in the mobile games sector, towards the development of games that are tailored to the growing target group.

Geographically, the Asia-Pacific region represents the largest market in the video game industry, with around 46% of the global market share, followed by North America, Europe, Latin America (LATAM), and the Middle East Africa (MEA) region, constituting 27%, 18%, 5%, and 4% of the market's value, respectively. The global presence of Electronic Arts is primarily centered around the core video game markets in the US and Europe, with some notable exposure in the

Asian market. Regions where video games are long established as part of daily life display robust yet moderate growth rates, ranging from 1.2% to 3.8% in 2023, resulting from increased market saturation and increased regulatory measures governing mobile monetization strategies. Conversely, the potential of the LATAM and MEA regions has increased significantly due to the improved mobile internet infrastructure. As a result, these regions have witnessed significant growth in this year alone at rates of 4.3% and 6.9%, respectively.

In the established markets of Europe and North America, console gaming enjoys significant popularity compared to the rest of the world. As of September 2023, 37% of people in the US, 34% in the UK, and 29% in Germany named consoles as their preferred gaming device, ranking only second to smartphones. In developing countries, however, notably across the Asia Pacific, MEA, and Latin America regions, the smartphone emerges as the highly dominant gaming platform. With a penetration rate exceeding 33% in nearly every country and constrained average household incomes limiting additional platform purchases, the smartphone stands out as the leading platform for video games.

Looking ahead, we expect the video game industry to continue its positive trend, exhibiting moderate growth rates in its core markets (which simultaneously represent EAs core markets) ranging from 1.5% to 4.5% per annum, while we anticipate much stronger growth within the LATAM and MEA regions (which currently represent only a small amount of EAs revenues).

Market Drivers

Over the last decade, the video games industry has undergone a significant shift in its delivery methods. Physical delivery methods have almost entirely been replaced with digital downloads. The industry has also experienced a surge in additional monetization methods, such as downloadable content (DLCs), microtransactions, in-game advertisements, and gaming subscription services. These new delivery and monetization methods have contributed significantly to the industry's growth. Additionally, while 50% of game developers still prefer the traditional pay-to-download/play model, more and more are moving towards a free-to-play model. This approach, which has gained significant popularity since the early 2010s through the widespread adaption in the mobile sector, involves the continuous engagement of its players by gradually introducing new and/or supplementary content redeemable through payment. While the sale of video game software is still expected to grow to roughly USD 39.45 billion by 2025 (excluding in-game purchases), we assume that further growth will be slightly behind the growth of player numbers. On the other hand, free-to-play games, including their in-game purchases, are estimated to generate nearly threefold the

pay-to-play in 2025, given our assumption that its current annual growth of around 6.04% does not decrease by more than three percentage points. With the success of live services focused free-to-play games initially found in mobile games, console, and PC game developers quickly adapted to the trend, creating the industry's most popular games, like Riot Games' League of Legends.

Over the last ten years, however, an additional distribution method has become increasingly important, particularly among the major console providers such as Sony and Microsoft, who were among the first to offer it. Subscription services for video games, which provide access to a wide range of titles from one or more publishers, have grown faster than the industry as a whole. With revenues of over USD 7bn, this market has become a focal point for all major game developers and console providers, all competing for a share of the expected growth, which is forecast to grow at an annual rate of around 10.4% until 2025. The most popular subscription services currently include PlayStation Plus, Xbox Game Pass, EA Play, Apple Arcade, and various others.

A common denominator affecting the growth of the two major publishing approaches is the increasing relevance of additional content purchased through so-called microtransactions. Microtransactions, in this sense, include everything from the purchase of in-game currency, downloadable additional content (DLCs), up to lootboxes. As an increasing amount of players were willing to pay for such services, the market and, subsequently, the number of developers including these "products" in their games rose drastically. The entire sub-market of microtransactions grew massively, generating roughly USD 68bn in 2022, and is believed to continue its growth. However, due to newly imposed and currently discussed governmental regulations, a substantial part, namely the submarket of loot boxes, is at risk, potentially affecting the growth of the entire microtransactions market. Loot boxes are a type of microtransaction where a player can purchase a crate, including certain items for the game its regarding. Each item possesses a certain probability of being won, with the rarer items considered to be more valuable than the others. Around the world, different governments are currently debating whether loot boxes are to be considered gambling or not, as a large portion of the revenue is created by a small number of players, who prioritize these boxes over the game itself, viewing it as a type of in-game "casino". Consequently, developers have or are re-designing these products according to the different countries' policies, with the goal that players engage more responsibly with the product. Nevertheless, some countries, like Belgium or the Netherlands, have ruled to ban loot boxes completely or for the most part. In other countries, regulators have ruled in favor of the product, like China or the UK, where regulators decided that the outcome of each item has to

be disclosed prior to the purchase, or New Zealand, which has declared against categorization of gambling. Among other key video game markets like the US or Germany, a decision is yet to be made, representing a major risk to the USD 15bn submarket. Electronic Arts is particularly exposed to the risk of potential bans or restrictions in its main markets, as a significant portion of its revenue from live services relies on loot boxes. These loot boxes are included in the Apex Legends and Battlefield portfolio, as well as the Ultimate Team game mode of its sports games, and accounted for around 44% of live services revenue. However, the company has taken proactive measures to mitigate this risk by disclosing the probabilities of receiving each item in its loot boxes and prohibiting secondary markets. Despite these efforts, a complete ban on microtransactions still poses a significant threat to Electronic Arts and other companies that rely on loot boxes as a revenue stream.

While previously mentioned different innovations in terms of delivery methods and monetization strategies have been incorporated in the business strategy of every business, the developments in the underlying technology present the foundation of all the progress of the past and future. Developments in the underlying technology, however, is a very broad term, as it describes simple improvements like enhanced graphics through graphic cards or monitors, as well as industry-shaping technological milestones, like cloud-based gaming or augmented reality. The latter, for example, has made several breakthroughs through Meta's Quest or found massive adaption in the mobile game Pokémon Go, which achieved more than 500 million downloads within its first year. With an accelerated pace of new technologies in the past five to ten years, we can expect that it will have a significant impact on the entire industry and its participants.

Bargaining Power & Engagement of Customers

Like in any industry, any type of growth and development can be attributed to one key factor: the increased spending of its customers. The video gaming industry is no exception while its continuous rise in earning is for one the result of the increasing amount of players and secondly from the growing engagement of the customer with the product. Therefore, the competition among the industry participants, the developers, is primarily focused on how to obtain the attention of its customers and, more importantly, how to keep it. However, consumers generally do not exhibit a high degree of brand loyalty towards any particular video game developer or manufacturer but more to a game or a series of games. Overall, players seek out games that offer the highest quality or fulfill their desires in a unique manner. To stay competitive, EA must constantly strive for excellence and outperform its competitors. Although EA is currently the second most popular

game developer and the third most recognized brand, it should continue to aim for growth in both. With major competitors such as TakeTwo's Rockstar Games releasing highly anticipated titles like GTA VI, EA's market position could be challenged in the short term.

Further, as game prices continue to rise, with an average cost of USD 69.99 per game, consumers may decide to spend more time with a single game, leading to increased potential revenue from additional content. However, this may also lead to stronger competition among game developers as consumers gain more power in the future. Despite this, especially EA's sports segment should remain strong, thanks to its market-leading position in specific niches such as American football and soccer games. To succeed in the long run, EA must continue to invest in developing high-quality games that meet the changing demands of its customers.

Outside of the compelling game content, cross-platform availability, and more, the creation of a community for their games and franchises has long been a crucial part of every developers business strategy, with the goal of retaining its customers and continuously generating revenue. With the increasing popularity of online communities, social media video gaming communities formed within, e.g., live streaming platforms, offered developers the chance to directly and indirectly interact with its community. The success of Twitch, one of the largest gaming livestreaming platforms, is a testament to the growing popularity and influence on the developers. In the last five years, Twitch's average concurrent views have displayed a compound annual growth rate (CAGR) of 15.4%, and in the last ten years, the CAGR has been 25.2%, reaching 2.5 million in November 2023. The fact that about 20% of gamers listed watching their preferred streamer play a game as the main motivation to start playing the game itself is sufficient to describe the relevance of these platforms for developers and publishers. Further, the diverse impact of live streaming communities on a video game's success can be seen in examples such as Cyberpunk 2077 and Rocket League.⁸

Despite high anticipation and extensive promotion, Cyberpunk 2077 faced a setback due to bugs and performance issues, which led to negative reviews from streamers and their communities. The game's average viewer and player numbers plummeted from 85,000 and 830,000 (on Steam) in December 2020 to 1,500 and 47,000 (on Steam) by February 2021. On the other hand, Rocket League, developed by the relatively unknown Psyonix, achieved success on Twitch with its unique concept of football with cars and its marketing strategy

⁸ Johnson, M. R. and Woodcock, J. (2019) 'The Impacts of Live Streaming and Twitch.tv on the Video Game Industry', *Media, Culture and Society*, 41(5): 670-688

focused on live streaming platforms. The game rose from the 165th to the 5th most-watched game within a month of its release and sold more than 5 million units. A major gaming tournament hosted by Psyonix and Twitch in September 2020 boosted Rocket League's popularity, leading to its highest player and viewer numbers (240,000 on one day in October 2020) in the following months. Continuous interaction and development based on feedback from the streaming community have been key to Rocket League's success, as shown by its ranking within the top 40 games on Twitch in November 2023, more than eight years after its release. Moreover, through continuous interaction with the community, Cyberpunk 2077's developers updated the game and released a DLC, which resulted in the first noticeable increase in player numbers.

Hand in hand with a growing live streaming and viewer community goes the rise of competitive gaming, primarily broadcasted on main platforms like Twitch or YouTube Gaming. Exemplified throughout the success of Rocket League, the sub-sector has proven to be similarly effective in boosting player numbers and engagement with the game itself. Therefore, it is no surprise that most major players are initiating their own focus on e-sports. Notably, the competitive gaming sub-sector has experienced remarkable growth over the past three years, with an average CAGR of 11.6%. It's expected that this sub-sector will generate around USD 1.9 billion in revenue by 2025, thus provides a substantial opportunity for Electronic Arts.

Substitutes

In recent years, video games have overtaken other digital entertainment offerings in terms of popularity. The industry's alternative offerings and ever-growing user base have made them an essential part of the digital entertainment universe. Further, the constant innovation and development of the games industry also means that it is well equipped to compete with alternative forms of entertainment or substitute products, giving it a dynamic and enduring appeal to enthusiasts around the world.

Porters Five Forces & Conclusion

Based on our industry analysis, we will use Porter's Five Forces to summarize the findings. The video gaming industry is characterized by a very high bargaining power of buyers, with very selective and limited spending and (live streaming) communities influencing purchase decisions. Additionally, developers within the industry are highly dependent on its suppliers, meaning platform providers like Sony, Apple, and more. While suppliers possess a higher leverage over video game developers than vice versa, the competition among platform

providers and a mutual benefit is sufficient to assess the risk as medium. With video games overpowering other forms of digital entertainment, we assess the risk of substitutes as low. Additionally, although barriers to entry are very low within the industry, ongoing consolidation, large intellectual property portfolios of leading companies, and strong fanbases limit the risk of new entrants significantly. Furthermore, the strong cash position of some of the industry's leading players puts new entrants at risk of being acquired, thus, we assess the risk of new entrants as low to medium. The rivalry between competitors in the video gaming industry thus is extremely high, with a fierce battle of market share, for customer engagement and thus the purchasing decisions of buyers.

While we view the future of the industry as promising and full of opportunities for increased business activity, there are also challenges ahead for competing companies. The thriving community of active players plays a pivotal role in driving the industry's growth, serving as a substantial financial force that has significantly impacted the gaming sector's landscape.

Competitive Analysis⁹

We will now take a closer look at Electronic Arts competitive positioning in this dynamic industry, and assess its developments, in respect to the industry's progress, past and future, while using multiple analytical tools to evaluate its strengths, weaknesses, and possible future developments.

Market Share

Electronic Arts is one of the largest exclusive game developers globally, holding a significant 3.95% share of the market's value. This places EA among the top companies in this category, alongside other exclusive game developers such as NetEase (5.11%) and Tencent (17.52%). However, when it comes to market share, console providers such as Nintendo (6.40%), Microsoft (18.26%), and Sony (13.30%) have managed to secure a larger share thanks to the positive contribution of their console offerings. Looking ahead, it is anticipated that TakeTwo Interactive (1.22%) and Epic Games (3.34%) will gain substantial market share, driven by the 2025 release of GTA VI and the continued success of Fortnite, respectively. Despite this, we expect Electronic Arts to continuously increase its market share as it has done in the past years, from around 3.1% in 2021 to the current 3.95%, based on its strong product portfolio. As the industry

Figure 3



⁹ Sources: NewZoo: “Top 25 companies game revenues”; Statista; Websites & annual reports of: Electronic Arts, Tencent, Microsoft, Sony, TakeTwo, NetEase, Epic Games, Nintendo, Ubisoft, Activision Blizzard; ESport Charts

continues to expand, major players are competing fiercely to hold or increase their market share and benefit alongside its growth.

Competitive Positioning

Due to the growth of the video game industry, it has become increasingly important for developers and publishers to establish their position among competitors. In order to gain a greater market share, it is essential to build a loyal fanbase and increase popularity, making it the most crucial factor for success.

- **Franchises**

Throughout its long tenure, Electronic Arts has established itself in the market as the leading provider of sports related games, leveraging its strong franchises of annually released games, like EA Sports FC (previously called FIFA), EA Madden NFL, or EA F1. The subsector of sports related video games is primarily dominated by EA and TakeTwo Interactive, with their annually released games of NBA2K or Major League Baseball 2K. Electronic Arts, however, has emerged as the clear leader in the subgenre as a result of its diverse portfolio of licensing deals with major sports organizations, enabling them to cover the most popular sports like Football (with more than 3bn annual viewers), Formula 1 (with more than 1.55bn annual viewers) or Ice Hockey (433m annual viewers), compared to, e.g. Basketball (445m annual viewers). Being in possession of the strongest licensing agreement portfolio within the subgenre further led to an increased loyalty among its consumers towards its products. Furthermore, the portfolio of exclusive licensing deals allows Electronic Arts to overshadow any additional competitors, which could challenge the quality or price of the games, exemplified by the decline of the game Pro Evolution Soccer. Electronic Arts additionally utilized the very limited risk of new entrants or other competitors to build up a strong fanbase for the brand, which we estimate will not be challenged in future years. With the record breaking release of EA Sports FC, with over 14.5 million units sold in the first four weeks of its release, Electronic Arts demonstrates its strong customer loyalty to their brand, and not the previous releases FIFA branding. While EA has dropped the licensing deal with FIFA due to unreasonably high cost expectations by FIFA (USD 1bn per Worldcup), they managed to build up a significant portfolio consisting of more than 19 thousand athletes, 700 teams, and 30 leagues. Most recently, EA further renewed its licensing agreement with CONMEBOL, the governing body of football in South America, securing a multi-year partnership as exclusive sports video game partner.

Additionally, Electronic Arts leverages its strong position and expertise within the sub-market to increase its footprint, primarily through strategic acquisitions of smaller competitors to dominate a specific niche or build out its less dominant mobile sports games portfolio. The latter, currently generating around USD 7.52bn, is estimated, similarly to the rest of the mobile games market, to exhibit significant growth of around 12.03% per annum. Electronic Arts acquisition of Playdemic, developer of the popular mobile sports game Golf Clash, underlines its ambitions to grow alongside the subsector and increase its dominance across all platforms.

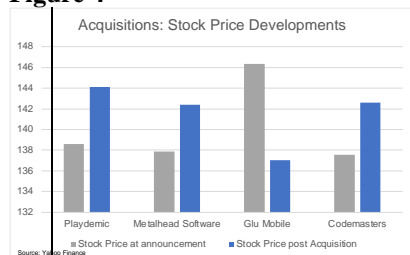
Other robust franchises include, e.g., the Sims saga, where EA gradually develops small additions (DLCs) to continue captivating the consumer with the product, increasing brand loyalty and revenues. While The Sims has been one of the most successful gaming franchises in the world, competition, mainly in the form of Animal Crossing: New Horizons, developed by Nintendo, started to threaten EA's leading position within the simulation games sub-genre. Building upon their competitor's success, Electronic Arts Vice President Lindsay Pearson recently announced that Sims 5, currently still in development, will feature a multiplayer feature oriented to Animal Crossing's multiplayer strategies. Nevertheless, with over 1.8bn hours played, The Sims 4 just finished the most successful year in Sims history. Therefore, we expect The Sims franchise to continue generating revenue primarily through DLC sales until the release of The Sims 5, which will significantly increase full game sales.

▪ External & Internal Growth

Over the past decade, the video game industry has witnessed a trend of consolidation. This has become more noticeable in the last three years, with several leading developers and other technology or media giants making a large number of acquisitions of smaller and even leading companies in the industry. By far the largest acquisition in the video game sphere has been Microsoft's takeover of Activision Blizzard for USD 68.7bn, announced in January 2022, which positioned them second largest video game developer behind TenCent. Electronic Arts' most direct competitor, TakeTwo Interactive, completed the 2nd largest transaction in the industry's history of Zynga for USD 12.7bn in 2022. TakeTwo used this acquisition to expand its reach in the mobile gaming market, to which it previously had very limited access to.

Electronic Arts pursues an acquisition strategy comparable to its competitors', having completed four strategic acquisitions in the past three years. Through its two largest acquisitions, namely the USD 2.4bn purchase of Glu Mobile in April 2021 and the USD 1.4bn acquisition of Playdemic in June 2021, EA aimed to

Figure 4



increase its footprint in the mobile sector. Additionally, with the acquisition of Playdemic in particular, EA strengthened its sports mobile games portfolio. Conversely, the acquisition of Metalhead Software in May 2021 for an undisclosed amount as well as the Codemasters acquisition completed in February of 2021 for USD 1.2bn aimed to strengthen EA's market leading sports and racing franchises, while simultaneously eliminating the threat of new competition. Both acquisitions followed a positive market reaction of 3.3% and 3.7% in the next days. Conversely, after TakeTwo acquired Zynga, their share price dropped by 14%, despite the acquisition being based on a similar rationale as EA's. Our analysis suggests that the drop in share price was a result of increased pressure from shareholders due to past acquisitions made in the industry, as well as competition from TakeTwo's direct rival, EA. A thesis supported by the market reaction to the deal post-announcement. While the majority of EA's acquisitions were met with positive reactions from the market, supporting the accretive strategic rationale, its acquisition of Glu Mobile for USD 2.4bn in April 2021 was met with skepticism, resulting in a 6.3% share drop after its announcement. Similarly to the Zynga acquisition by TakeTwo, the market's reaction indicates that the acquisition was either dilutive or too expensive, although not as strong as the reaction to TakeTwo's deal. We assess the markets reaction as partially justified as we assess the portfolio of games acquired with a significantly lower value, underlined by the significant increase in Goodwill of around USD 1.39bn in the quarter after the acquisition. However, our analysis concludes that equally significant for the acquisition, was the 500+ strong developer team with mobile game focused expertise, joining EA from GluMobile. As the mobile market was still rising significantly in that point of time, not yet affected by Apple's regulations, it underlines EAs strength in identifying different acquisition opportunities to grow their portfolio, customer base and expertise within different sub-industries.

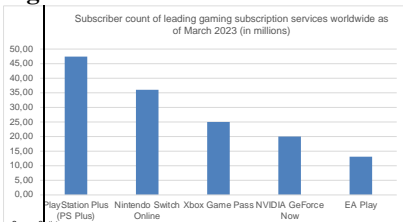
While Electronic Arts utilized several acquisitions to increase their footprint within the mobile and sports sub-sector, it is worth noting that they also dedicate a significantly higher percentage of their revenue towards research and development compared to their peers. By investing an average of 30.97% of its revenues over the past two years, EAs R&D cost margin is nearly 14 percentage points above its nearest relevant competitor, Activision Blizzard (17.0%) and TakeTwo (12.6%). On the one hand, this could mean that Electronic Arts is focusing significantly more on the development of new games and technology, improving its portfolio and securing a solid foundation for future growth. On the other hand, this could imply a certain level of inefficiency within the operations, especially within the workforce of EA, thus indicating too high personnel costs.

While we estimate that increased R&D costs are partially a result of an elevated level of future orientation and a strong focus on the continuous development of games, below average revenue per employee suggest that the personnel costs of EA are too high. With around USD 554k per employee, EA is around 8% below its closest competitor, TakeTwo, and around 4.5% below Activision Blizzard, prior to their acquisition.

▪ Emerging Trends

Within the livestreaming and competitive gaming subsector, Electronic Arts lags behind its most relevant competitors in terms of average viewership and popularity. As of November 27th, only two of EA's games, EA Sports FC 24 (11th) and Apex Legends (13th) have made it to the top 15, averaging 40,610 and 28,924 viewers per day, respectively. In contrast, Tencent, Epic Games, and TakeTwo have surpassed Electronic Arts' concurrent viewership due to the immense popularity of their hit games, such as League of Legends, Fortnite, and GTA V. Despite this, EA has made efforts to increase viewership, such as enabling Twitch Drops, which provides viewers of live streams covering certain EA games with the opportunity to gain specific in-game items. Additionally, EA has dedicated an entirely new platform, EA Play Live, to promote several new games and updates through live broadcasts and community events. However, EA's main competitors continue to average higher viewer numbers due to the immense fanbases and long-lasting popularity of their top games. Furthermore, as seen in the Rocket League example provided above, and other examples like Fortnite and League of Legends benefit heavily from their strong focus on competitive gaming, as leading competitive players cumulated a large fanbase, which aim to improve their own gameplay. To counter this, Electronic Arts introduced a competitive gaming division, focusing solely on the promotion and organization of live, in-person events with large prize pools for their medallion games: EA Sports FC, Madden NFL, and Apex Legends, with the goal to benefit from these events in terms of sales, community engagement and advertisements. Still, Electronic Arts most popular games have shown resilience over the past years and even growth within its competitive leagues, mainly through Apex Legends and EA Sports FC events. While these did and will not reach the levels of attraction achieved by its competitors, they displayed growth in attraction over the past years, promising further opportunities in the future.

Figure 5



As the gaming industry is increasingly exploring subscription-based models as delivery methods, Electronic Arts has launched EA Play / Play Pro. With the goal to challenge competitors' respective offerings such as the Xbox Game Pass, Apple Arcade, Ubisoft+, and PlayStation Plus. Subscribers to EA Play gain

access to a vast range of games, with only the most recent releases and popular titles such as Madden NFL, Sports FC (FIFA), or Star Wars titles being excluded for a set amount of time (for regular EA Play subscribers). Currently, EA Play is the 5th most subscribed service in the industry, with around 13.0m subscribers, lacking behind PlayStation Plus (47.4m), Nintendo Switch Online (36.0m), Xbox Game Pass (25.0m), and NVIDIA GeForce Now (20.0m). While this could exhibit EA Play's lack of competitiveness, as it is 35% behind its nearest larger competitor, one has to include the fact that all larger subscription services include games out of EA's portfolio. The closest competitor, in terms of a sole game developer, for EA Play is Ubisoft+. In October of 2023, Ubisoft announced an exclusive partnership with Microsoft's Activision Blizzard, gaining the cloud streaming rights of the entire Activision portfolio for all existing and future titles for 15 years. This partnership will allow Ubisoft to heavily concur with EA Play's market position, thus posing a risk for future growth in the subscription-services section of EA, provided they decrease their price from the current EUR 18.0, which is nearly double the price of EA Play. Nevertheless, we estimate that EA's position as the leading sole developer (= excl. subscription providers with their own platforms) in a market that is forecasted to grow between 8.0% to 9.0% for the next 2 to 3 years will provide stability for the live services revenues.

Conclusion

Electronic Arts (EA) is one of the largest exclusive game developers globally, holding a significant 3.95% of the industry's revenue. EA has established itself in the market as the leading provider of sports-related games, leveraging its strong franchises of annually released games, like EA Sports FC, EA Madden NFL, or EA F1. EA's sports segment should remain strong, thanks to its market-leading position in specific niches such as American football and soccer games. However, when it comes to market share, console providers such as Nintendo, Microsoft, and Sony have managed to secure a larger share, thanks to the positive influence of their console offerings. To stay competitive, EA must constantly strive for excellence and outperform its competitors. With major competitors such as TakeTwo's Rockstar Games releasing highly anticipated titles like GTA VI, EA's market position could be challenged in the short term. Despite this, EA has emerged as the clear leader in the subgenre of sports-related video games as a result of its diverse portfolio of licensing deals with major sports organizations, enabling them to cover the most popular sports. Additionally, Electronic Arts leverages its strong position and expertise within the sub-market to increase its footprint, primarily through strategic acquisitions of

smaller competitors to dominate a specific niche or build out its less dominant mobile sports games portfolio.

Financial Analysis

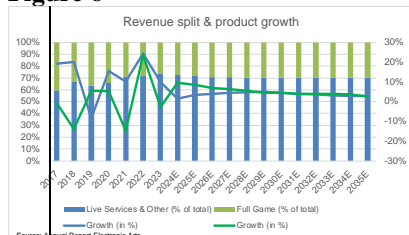
Electronic Arts Inc.'s favorable industry conditions and comparably strong competitive position sets them up for continuous growth in the near future, although facing some challenges up ahead. In the next step, we will analyze whether their financial situation reflects our previous assumptions and sets them up for future growth.

Value Driver: Revenue

- Historical Performance

In the financial year of 2023, total revenue grew by 6.22%, up to USD 7,426m from USD 6,991m. However, net bookings fell by 2.32%, caused by the prior year's release of Battlefield of 2022 and a USD 244m impact of foreign exchange rate fluctuations. Net bookings display the net amount of products and services sold in the period, calculated by adding total revenue to the change in deferred net revenue for online-enabled games. Growth of sales was primarily driven by the increase in the live services business, which includes microtransactions, extra content, and subscription services, which grew from USD 4,998m in 2022 to USD 5,486m in 2023 (9.76% YoY). Around 77% of live services revenue stems from extra content purchased in the games themselves, primarily within the Ultimate Teams mode of EA's sports portfolio and extra content purchased for Apex Legends. Although live services revenues were crucial for the company's growth in 2023, it slowed down significantly within the first two quarters of the new FY, recording only a 1.68% growth, while even declining in Q2 '24 compared to last quarter and last year's Q2 results. The quarterly decrease was driven by the decreased sales of extra content in Apex Legends, following its decrease in active players, which declined by nearly half since its all-time peak ten months ago, and softness in sales of extra content within the mobile game portfolio. Growth in the first half year of the FY24, therefore, was predominantly the result of a 12.83% increase in full game revenue, thanks to the EA SPORTS FC 24 sales, which registered more than 14.5m accounts within the first four weeks of its release. Furthermore, the Madden NFL franchise outperformed expectations, achieving a 6.0% growth in net bookings YoY. The increased bookings were partially offset by a decrease in EA SPORTS F1 24 franchise. In the first half of FY24, Electronic Arts recognized a net revenue of USD 3,838m, which reflects a growth of 4.55% compared to H1 2023. Net

Figure 6



Bookings grew in Q2 of FY24 by around 4% compared to Q1, resulting in USD 3,398m for the first two quarters in FY24, up 11.30% to H1 of FY23.

In the mobile game segment, Electronic Arts offers free-to-play games only, with revenues resulting from in-game purchases and other live services products. In FY23, the segment made up around 16.8% of EA's revenues, growing by over 18.0% compared to FY21. However, in the first two quarters of FY24, EA's mobile segment experienced a decline of 5.1%, in line with the industry-wide trend, due to changes in Apple's privacy regulations, an inflationary environment, and delayed launches and updates of several mobile games within EAs mobile portfolio.

- **Forecast: Service Perspective**

Full Game: Electronic Arts experienced significant growth in full game revenues in the first half of FY24, driven by the increase in sales on its popular franchises, both Madden NFL and EA Sports FC demonstrating record-breaking sales numbers. Going forward, we estimate continuous growth in the segment, driven by improvements in the sports franchise games and expansion of the sports portfolio through, e.g., the release of EA Sports College Football 24. For the remainder of the current financial year, we expect full game revenues to decline from the current 13% compared to H1 of FY23 to around 9.5% to 10%, as EAs most popular releases have already happened. We expect similar growth in the FY25, driven by the current momentum of EAs most popular titles. In FY26, which starts in April of 2025, we expect a dip in growth, as highly anticipated games of EAs competitors, such as GTA VI, are announced to be released, which will collect a large portion of the quarterly consumer spending. Looking ahead, we expect full-game revenue growth to be a continuous driver of Electronic Arts's success story, with popular releases expected across other franchises, like Star Wars or Battlefield, granted at a more modest pace. In the long term, we expect full game growth to converge towards our estimated perpetuity growth rate, driven primarily by the slowdown in downloadable games and the continuous decline in packaged games.

Live Services: The growth of popular sports franchise titles and, consequently, the additional content purchased will boost live services revenues in the foreseeable future. Additionally, we estimate that growth in the subscription services industry will further drive up live services revenues in the future. Nevertheless, in the short term, we estimate that the current struggles within the mobile games sector, an inflationary environment, and softness in live services revenue in Apex Legends will persist and significantly limit the short-term growth prospective of EA. Thus, we implement a conservative growth perspective of

1.5% for the current financial year, after which we expect growth to gradually pick up between 3.5% to 4.0% in the short to medium term. Additionally, we estimate that in the medium- to long-term, overall growth within the mobile games sector, as well as continuous expansion and success of EAs core franchises, will boost live services revenue. Through the 2021 mobile game focused acquisitions, EA is perfectly equipped to benefit alongside the industries growth. Given the current struggles of the mobile sector and the slowdown of live services revenue in EA, we decided to adopt a conservative outlook for the following years compared to the industry. Looking further ahead, we estimate that live services revenue growth will converge and slightly drop below overall GDP growth.

▪ Forecast: Platform Perspective

Across all platforms, we estimated future revenue growth using the exposure of the platform to EA's overall revenue. The stated above growth of full games will positively affect the revenues of the console and PC platform sales, while decreasing extra content sales from Apex Legends and decreasing EA F1 sales will mitigate the growth to some extent. We further believe that the increased popularity of consoles in EAs core markets will lead to the majority of full game sales growth to be reflected within the console platform. Further, through the growth in subscription services we believe that further growth will be attributed towards the console and PC subsector in the medium- to long-term.

The mobile platform, however, will, in the short term, experience a near stagnation, primarily driven by ongoing privacy regulations imposed restrictions for personalized ads. Nevertheless, in the medium- to long-term we assume that the anticipated growth of the platform will provide the foundation which will nurture revenues for EA on the mobile platform alongside.

In the long term, we expect revenue growth across all platforms to converge towards our long-term GDP growth estimate.

Value Driver: Intangible Assets

Other than in industries with an intensive focus on physical assets, software companies' balance sheets are mostly dominated by intangible assets like Intellectual Property (IP), software development assets, and brand value. EA's IP, which includes popular game franchises, is a critical driver since the strength, recognition, and fan base of its IPs can significantly influence future cash flows.

EA's total intangible assets have been on the rise for several years, which comes as a result of intensive investments in software development, including new games and updates for existing ones in order to drive sales and player

engagement. In addition, brand equity, developed over years of successful game releases and marketing, as well as Goodwill generated from past acquisitions, contribute to the company's assets. Total intangible assets increased from USD 1.9 billion at the end of FY 2020 to USD 6.0 billion in FY 2023. It is expected that Electronic Arts keeps adding to these assets through continued investments in the development of new software and acquisitions of existing IPs. For the purpose of valuation, Goodwill is staying fixed in the forecast, justified by the assumption of acquisition at fair value.

Financial Analysis

▪ Income Statement

In FY 2023, EA's total revenues amounted to USD 7.43 billion, which is up 6.2% compared to the previous financial year and 31.9% against FY 2021. These revenues can be split in several ways. In terms of geographical distribution, North America is currently the strongest market for Electronic Arts, with 42% of 2023 revenues generated there, while the only other explicitly named region – Japan – made up for 3% of revenues. The remaining 55% ran through EA's 'Swiss legal entity', which is responsible for all other markets in- and outside of Europe. Another way to break down EA's total sales is by platform for which the software is developed and sold. In FY 2023, Console, Mobile, and PC & Other generated 60%, 17%, and 23%, respectively. For the present thesis, revenue analysis and forecast were performed by splitting sales figures into Full Game (26%) – with subsections Full Game Downloads (17%) and Packaged Goods (9%) – and Live Services & Other (74%).

Gross profits in the software and video game industry are naturally high given the asset light character of the products. EA's gross margin has been on the rise for the past three years, increasing from 76% in FY 2021 to 81% in FY 2023. On the other hand, substantial investments in R&D led to a slight reduction of the company's EBIT margin in the same time period from 19% to 18%. In FY 2023, net income amounted to USD 802m, a slight increase compared to the USD 789m of the previous financial year.

▪ Balance Sheet – Cashflow Statement – Key Ratios

A noteworthy aspect in Electronic Arts' balance sheet, is the Net Working Capital (NWC). For a firm predominantly operating in the digital and gaming sector, the NWC often presents as negative. Rather than indicating a liquidity shortfall, this is the result of a business model hinged on advanced customer payments and minimal physical inventory, leading to a scenario where current liabilities exceed current assets. The company still retains an efficient cash conversion cycle and a

robust operational liquidity, which is why this pattern is expected to persist in the future.

A significant portion of EA's CapEx is channelled towards intangible assets, especially via software development and intellectual property. These expenditures are important in sustaining innovation and competitiveness in a rapidly evolving industry. Therefore, steady capital expenditures are anticipated in order to secure future revenue streams and market positioning.

EA's assets are skewed towards intangibles like software and brand value, which is central to EA's operational activity as a software developer. In the past, changes in intangible assets, even if inconsistent, generally followed an upward trend. Future acquisitions and investments into development of such assets are expected to keep the intangible assets growing. For the sake of the analysis, the model contains no changes in Goodwill, implying acquisitions at fair value.

The excess cash position remains unchanged in the forecast due to the assumption that operating cash flows are exactly set off by the respective annual cash flows from financing. Long-term financial debt amounts are linked to previous-year net capital, assuming that EA aims to remain a stable leverage ratio of around 24%. This way, the company's continuously high liquidity is reflected in the forecast. Historically, solvency ratios remain mostly positive with Debt to EBITDA ranging around 0.96.

ROIC & ROE

In recent years, EA shareholders have seen highly attractive returns of up to almost 40% in FY 2020. Since then, the return on equity has decreased to 10.84% in FY 2023. Yet, given the outlook on growing revenues and steady cash flows, ROE is expected to steadily recover in the foreseeable future. Considering the company's low leverage ratio, the return on invested capital (ROIC) closely resembles this trend.

SWOT

To conclude the findings up until now we will summarize our findings and forecasts of Electronic Arts' strengths, weaknesses, opportunities, and threats.

Electronic Art's competitive edge, compared to its competitors, lies within its strong portfolio of franchises, primarily in the sports sub-market. In the sports sub-market, EA managed to outperform its respective peers and is expected to grow consistently through the continuous improvement of the games with the latest technologies and the expansion of the product portfolio with external acquisitions. In- and outside the sports games, Electronic Arts has gained a

significant competitive advantage through its strong intellectual property portfolio, consisting of other franchises, like Battlefield or The Sims, and exclusive licensing deals with externals like Disney (Star Wars Games) or CONMEBOL (rights for South American football leagues). Electronic Arts further has demonstrated its capability of adapting to the newest market trends, proven by its early adoption and success of EA Play, as well as using strategic acquisitions to grow in desired areas, proven by the GluMobile or Playdemic acquisition in 2021.

EA's heavy emphasis on its franchises creates a strong foundation but also puts its overall business success at risk by relying on a few selected games. This approach also requires EA to dedicate significant attention to these games, which could compromise the quality and success of their newly developed games. This, however, is crucial in order to increase its popularity among the sub-industry of live streams, which has worked well initially with the release of Apex Legends, which most recently experienced a gradual decline in popularity, thus affecting live services revenue.

Going forward, Electronic Arts positioned itself well for continuous growth, with opportunities arising from the potential focus on new demographic or geographical markets. With the most recent renewal of their licensing agreement with, for example, CONMEBOL, Electronic Arts has positioned itself to profit along the above-average growth of that South American sub-market. Furthermore, Electronic Arts has built a substantial reserve of cash, which could be utilized to increase its value for its shareholders, either through share buyback programs, which have been completed most recently, or the additional acquisitions of other developers. While EA has built out its mobile games portfolio and developer team significantly through past acquisitions and internal development, it should remain focused on the expansion in that particular sub-market, as it is expected to grow continuously, especially among new gamers. Last but not least, we expect that consumer spending will pick up across EA's core markets once central banks decrease the key interest rates, building a solid foundation for future growth.

However, we also see some potential threats to the success of Electronic Arts' business activity, primarily driven by the potential ban on loot boxes in some of the core markets as well as an ongoing consolidation of the industry. As global technology firms like Microsoft continuously increase their market share through acquisitions of major players, Electronic Arts will experience a rise in competition for newer and existing customers. Electronic Arts' business case is highly dependent on its partnerships with the providers of the respective gaming platforms. While it is unlikely that the platform providers will end their partnership

with Electronic Arts, changes in the agreement could potentially affect EA's profit margins. However, this is unlikely to happen as the partnership is mutually beneficial for all parties involved, and the platform providers are also in direct competition with other platforms.

Last but not least, we want to highlight the future possibility of an acquisition of Electronic Arts, similar to the one of Activision Blizzard, by one of the leading global technology companies. With the growth of the overall video game market, we assert a certain but small probability of an acquisition of EA in the foreseeable future. In 2022, there have been several acquisition rumors after confirmed talks with Amazon, Apple, Disney, and Comcast. While the potential in 2022 was undeniable, Andrew Wilson stated that Electronic Arts would “be in a stronger position as a standalone company.”

Thus, we conclude that there is a substantial foundation that provides Electronic Arts with the potential for continuous growth in the future compared to its current position and its competitors, which we assume will result in a rise in its stock price.

Valuation

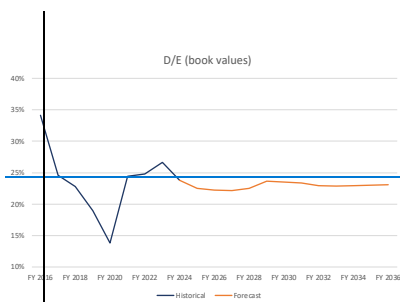
Since EA's financial reporting foregoes detailed information about specific business segments and precise regional composition, an intrinsic assessment represents a viable form of valuation. Based on considerable confidence in the expected capital structure, a discounted cash flow model (DCF) was applied to determine the intrinsic relative target price of the company's stock at \$142.21 per share.

PV Levered Value (Operating Value)	37 294,5
Non-operating items	664,98
Total Levered Enterprise Value	37 959,5
Financial Debt	-1 734,1
Cash and Cash Equivalents	2 024
Minority Interest	0,00
Equity Value	38 249,7
Shares outstanding	268,97
Share Price	142,21

Discounted Cashflow Analysis

Electronic Arts has on average kept its leverage ratio at a largely constant over the last years. Since there is no reason to expect considerable changes in this pattern, this valuation assumes a similar ratio over for the upcoming periods, thus making the DCF a suitable valuation method. To value the stock based on a discounted cash flow calculation, the company's Equity Value must be determined by deducting net debt from the forward-tracing operating Enterprise Value.

In the DCF analysis, operational cash flows for EA's two core businesses were considered: Live Services and Full Game Sales, either downloaded or sold as packaged copies. The forecast of those values was conducted in three stages. In the initial explicit forecast period, cash flows were projected in a detailed year-to-year manner until the end of FY 2036. Afterwards, a five-year annuity period was



assumed, in which FCF amounts were estimated via increasingly levelling reinvestment rate (RR) and return on invested capital (ROIC). Finally, with FY 2042 as terminal value, future CF projections are assumed to follow a growing perpetuity based on the Gordon growth formula.

The annual free cash flows were discounted using the respective weighted average cost of capital (WACC) for each year in order to reflect claims for equity as well as debt stakeholders.

▪ **Cost of Equity**

The cost of equity was calculated using the capital asset pricing model (CAPM). Given its default-proof nature and issuance in one of EA’s core markets, the yield on a zero-coupon ten-year US treasury note (STRIP) was considered as a justified approximation for the risk-free interest rate. Currently, this rate ranges at a relatively high 4.2%. However, as stated above, we expect it to slowly decline within the following years and staying afloat the 2% mark in the medium term.

In the CAPM, Beta (β) is a proxy of how closely stock price movement resembles that of a diversified market index. In order to determine the expected return of EA stock, Beta is thus calculated by dividing the covariance of monthly excess returns over the risk-free rate on the company’s shares and those of the S&P500 by the variance of the index’s monthly returns. The resulting stock Beta is 0.693.

In order to be consistent with the international scope of EA’s operations and investors, a global estimate was used for the market risk premium. The global average market risk premium in recent years corresponds to about 5.5%¹⁰.

▪ **Cost of Debt**

In 2021, EA issued a ten-year corporate bond with a yield to maturity of 5.2%¹¹. Given the bond’s recent issuance, it is an adequate approximation for the company’s cost of debt.

To further adjust this yield for default risk, two more factors must be considered: the probability of default and the loss given default (LGD). The default probability can be calculated using annual average credit rating transition rates issued by S&P on a year-to-year basis. For a BBB+ rated stock like EA’s, the probability of default in 10 years amounts to 2.16% or 0.21% per single year. For the estimated financial loss in case of default, the opposite of Moody’s estimate for a 37%

EA default probability	
BBB+	
PD(0,1)	0,09%
PD(0,2)	0,22%
PD(0,3)	0,37%
PD(0,4)	0,54%
PD(0,5)	0,75%
PD(0,6)	0,97%
PD(0,7)	1,23%
PD(0,8)	1,51%
PD(0,9)	1,82%
PD(0,10)	2,16%

¹⁰ Source: Statista “Average market risk premium in the United States from 2011 to 2023”

¹¹ Source: Debtwire

average recovery rate has been applied leading to a 67% LGD. The overall adjusted cost of debt for Electronic Arts then stands at 5.08% p.a.

▪ Target Capital Structure

The target capital structure is assumed to remain relatively stable so that looking forward, the relative ratio of debt and equity to enterprise value resembles that of the most recent financial period. To calculate enterprise value, EA’s net debt was subtracted from its market capitalization at the end of FY 2023. Since total unlevered cash flow and cash flow from financing are expected to set each other off in the conducted cash flow analysis, excess cash will supposedly stay at current levels. The company’s target D/EV ratio is thus at 5.93%.

▪ Growth Rate

In order to compute the terminal value that gives an impression of EA’s perpetual value beyond the forecasting period, an expected rate of growth has to be considered. Calculations for the growth rate are based on key markets’ GDP growth and the company’s exposure to them.¹² Overall, it is expected that in the long-term cash flows will grow by 2.4% p.a.

Perpetuity Growth			
Regions	GDP growth	Exposure	Maximum Growth
United States	2,01%	42%	0,9%
South America	2,00%	6%	0,1%
Europe	1,62%	29%	0,5%
Asia/Pacific	4,13%	20%	0,8%
Africa	4,23%	3%	0,1%
Perpetuity Growth			2,4%

▪ Scenario Analysis

To provide a comprehensive view of potential future outcomes and understand the range of possibilities for various market conditions, revenue forecasts were made with respect to three different scenarios (see Appendix). This way, potential risks and rewards are highlighted under different market environments, enabling a tailored investment process.

In the Base Scenario, revenues generated through Live Services and Full Game sales are forecasted according to historical developments as well as market and company analyses. This valuation leads to a share price for EA’s stock of the aforementioned \$142.21.

The Bear scenario assumes slower economy growth and lower revenues in future years. According to these projections, the target price per share is at \$115.34. On the other hand, a bullish market implies stronger revenues for the company than the Base case. The valuation leads to \$164.15 per share.

▪ Sensitivity Analysis

Every stock valuation is the result of its assumptions. Due to the relative uncertainty of such forecast values, it makes sense to investigate the price

Levered Firm	Interest Rate	Perpetuity growth					
		1,4%	1,9%	2,4%	2,9%	3,4%	
Unlevered Firm	1,0%	142,21	140,0	154,0	173,7	204,0	256,3
	1,5%	130,6	141,1	155,4	175,7	207,0	263,3
	2,0%	123,2	131,4	142,2	156,8	177,7	223,3
	2,5%	117,2	123,9	132,3	143,3	158,3	198,3
	3,0%	112,3	117,8	124,6	133,2	144,4	177,7

onal Monetary Fund

sensitivity to changes within the range of expectation. For the present valuation of Electronic Arts’ stock, four variables have been defined that have a substantial influence on the resulting price.

For once, the long-term interest rate affects the discount rate such that for a higher WACC, a decrease in price can be found and vice versa. The opposite is true for the perpetuity growth: The higher this rate, the more the terminal value and thus the price per share is increased. In the sensitivity analysis, different combinations of the two variables and the resulting share value can be seen.

Another useful examination is that of the effect of long-term Reinvestment Rate and Return On Invested Capital (ROIC), which impact future free cash flows. Increased reinvestment of the generated capital leads to fewer cash in the upcoming period. On the other hand, more return on the investment means more cash and thus higher share price.

		ROIC					
		142,21	21,1%	23,6%	26,1%	28,6%	31,1%
Rate	1,0%	127,8	135,9	143,9	151,9	160,0	
	2,0%	127,2	135,1	143,1	151,0	159,0	
	3,0%	126,5	134,3	142,2	150,1	157,9	
	4,0%	125,8	133,6	141,4	149,1	156,9	
	5,0%	125,1	132,8	140,5	148,2	155,9	

		ROIC					
		142,21	21,1%	23,6%	26,1%	28,6%	31,1%
Rate	1,0%	127,8	135,9	143,9	151,9	160,0	
	2,0%	127,2	135,1	143,1	151,0	159,0	
	3,0%	126,5	134,3	142,2	150,1	157,9	
	4,0%	125,8	133,6	141,4	149,1	156,9	
	5,0%	125,1	132,8	140,5	148,2	155,9	

Extrinsic Valuation - Multiples

Besides intrinsic valuation, the price of a company’s stock is strongly dependent on the market’s expectations. To determine whether EA's stock is currently trading at a premium or discount relative to its intrinsic value industry average multiples can be applied to the financial metrics which leads to an implied target price of the stock.

The market was screened to find companies of similar size and scope of operations and then reduced to competitors that most accurately resembled EA’s business model. For each of the remaining eight comparable firms, trailing twelve months (TTM) financial data was collected and jointly used to determine EA’s market valuation against its peers and the broader industry benchmarks. The focus is predominantly on three key valuation multiples: Enterprise Value to Revenue (EV/Revenue), Enterprise Value to EBITDA (EV/EBITDA), and Price to Earnings (P/E).

Competitor	Country	Revenue	EBITDA
Ubisoft	France	2 086	663
TakeTwo	United States	5 438	584
Roblox	United States	2 628	-886
NetEase	China	14 362	4 017
Nexon	Japan	2 954	1 200
Capcom	Japan	1 068	479
Bandai Namco	Japan	7 138	1 006
Sea Limited	Singapore	12 898	872

Considering that three of the chosen competitors had negative EBIT and thus also negative earnings per share, the most data can be included when using the EV/Revenue multiple, which on average lies at 4.8x. When multiplied with EA’s TTM revenues of \$7.59 billion, EA’s stock values at \$132.09 indicating that EA stock is currently slightly undervalued by the market when it comes to sales revenue compared to the competition. This relatively low multiple may indicate a market expectation of future decline, especially in revenue generation.

EV/Revenue	
Revenue	7 593
EV/Revenue	4,5x
EV	33 794
Debt value	-1 734
Equity value	35 528
Shares outstanding	269
Price per share	132,09

The EV/EBITDA lays its focus more on operating profitability and is therefore one of the most important multiple valuation ratios. Excluding Roblox due to negative TTM EBITDA, the average multiple is 18.8x. EA has a TTM EBITDA of \$1.94

EV/EBITDA	
EBITDA	1 936
EV/EBITDA	18,6x
EV	35 934
Debt value	-1 734
Equity value	37 668
Shares outstanding	269
Price per share	140,04

billion, leading to a valuation of \$140.04 per share, which closely resembles the implicit share price from the DCF analysis. This ratio is generally higher for companies with strong growth prospects. In case of EA's valuation, it is indicated that the market is currently not willing to pay a huge premium for the company's EBITDA.

In terms of P/E ratio, the competitors with positive earnings per share average at 42.5x. For EA's EPS of \$3.27, the stock target is thus set to \$104.08 per share. This multiple is indicative of the market's reticence regarding EA's future profitability and its ability to generate substantial earnings relative to its current share price.

P/E	
EPS	3,27
P/E	31,8x
Price	104,08
Price	104,08

Conclusion

Electronic Arts is a strong institution in the gaming industry with a solid and well-proven business model. On top of its strong foundation, there is reason to expect moderate growth within the upcoming years. Both internal and market valuation have shown that the stock holds an upside potential. However, in accordance with the recommendation guidelines, the expected yield in the Base scenario does not surpass the 10% threshold, including the quarterly dividend of \$0.19 per share. Thus, we conclude a **HOLD** recommendation of the traded equity shares of Electronic Arts.

Appendix

Financial Statements

Balance Sheet

In millions of USD except per share	Reformulated Position - Operating							Forecast														
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	
OPERATING ASSETS																						
Required liquid funds	440	485	515	495	554	563	699	743	769	807	846	889	933	979	1023	1063	1104	1142	1178	1211	1235	
% of revenue	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Accounts receivable	233	359	385	623	461	521	650	684	662	695	728	765	803	843	880	915	950	983	1014	1042	1063	
Average collection period in days	19	27	27	46	30	34	34	34	31	31	31	31	31	31	31	31	31	31	31	31	31	31
Current right of use agreements (royalties)	54	79	68	53	74	34	35	105	86	90	94	99	104	109	114	119	123	127	131	135	138	
% of revenue	1%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Current operating assets	727	923	968	1171	1089	1108	1384	1532	1517	1591	1668	1751	1840	1930	2017	2097	2177	2253	2324	2388	2436	
Property Plant & Equipment - Net change	439	434	453	448	449	491	550	549	572	603	641	675	704	739	778	818	858	899	942	986	1032	
% of revenue	0	-5	19	-5	1	42	59	-1	23	31	38	35	28	36	39	40	40	41	43	45	45	
Goodwill & other intangible assets	1767	1715	1954	1979	1938	3177	6349	5998	6048	6121	6237	6314	6257	6319	6383	6443	6486	6519	6573	6624	6669	
Goodwill	1710	1707	1883	1892	1885	2868	5387	5380	5380	5380	5380	5380	5380	5380	5380	5380	5380	5380	5380	5380	5380	
Other intangible assets	57	8	71	87	53	309	962	618	668	741	857	934	877	939	1003	1063	1106	1139	1193	1244	1289	
change	-49	-63	-84	-25	256	653	-344	50	73	216	77	-57	62	64	60	43	33	54	50	45	45	
% of revenue	0%	-1%	1%	0%	-1%	5%	9%	-5%	2%	2%	3%	2%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Other non-current operating assets	450	325	118	65	1928	2065	2271	2493	2152	2678	2776	2843	2973	3084	3300	3414	3531	3650	3766	3880	3953	
Non-current right of use agreements (royalties)	63	39	34	30	25	20	28	31	49	44	43	44	44	47	51	54	57	57	59	60	61	
% of revenue	1%	1%	1%	1%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Deferred tax asset	387	286	84	35	1903	2045	2243	2462	2103	2635	2732	2800	2929	3037	3250	3361	3473	3592	3708	3820	3891	
% of revenue	9%	6%	2%	1%	34%	36%	32%	33%	27%	33%	32%	31%	31%	31%	32%	32%	31%	31%	31%	32%	32%	32%
Non-current operating assets	2656	2474	2525	2492	4315	5733	9170	9040	8772	9402	9653	9833	9934	10143	10461	10776	10875	11067	11261	11490	11653	
TOTAL OPERATING ASSETS	3383	3397	3493	3663	5404	6841	10554	10572	10289	10993	11321	11585	11774	12073	12478	12763	13022	13230	13486	13788	14089	
OPERATING LIABILITIES																						
Accounts payable	89	87	48	113	68	96	101	99	123	129	135	142	149	156	163	169	176	182	188	193	197	
Average payable period in days	7	7	8	8	6	6	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Accrued expenses	541	616	594	892	845	1091	1171	1012	1143	1212	1312	1361	1401	1493	1574	1657	1734	1818	1910	2002	2095	
change	0	75	-22	298	-47	246	80	-159	131	68	100	49	40	92	81	83	77	83	93	92	93	
% of revenue	0%	2%	0%	6%	-1%	4%	-2%	-2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Royalties	159	165	121	144	171	210	203	208	248	260	272	286	301	315	329	343	356	368	380	392	398	
% of revenue	4%	3%	3%	3%	3%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Deferred revenue	1458	1539	1622	1100	945	1527	2024	1901	1861	1984	2207	2300	2358	2467	2598	2719	2812	2936	2994	3081	3144	
% of revenue	33%	32%	31%	22%	17%	27%	29%	26%	24%	25%	26%	26%	25%	25%	25%	26%	25%	25%	25%	25%	25%	25%
Current operating liabilities	2247	2407	2435	2249	2029	2924	3499	3220	3375	3584	3926	4089	4208	4381	4665	4888	5078	5267	5472	5666	5833	
Deferred income taxes	2	1	1	2	1	43	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
Royalties	118	97	74	51	26	0	3	0	16	17	18	18	19	20	21	22	23	24	25	26	26	
% of revenue	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Provisions for taxation	80	104	250	233	373	315	386	607	380	399	418	439	461	484	506	526	546	565	583	599	611	
% of revenue	2%	2%	5%	5%	7%	6%	8%	8%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Non-current operating liabilities	200	202	325	286	400	358	390	608	397	416	436	458	480	504	527	548	569	588	607	624	636	
TOTAL OPERATING LIABILITIES	2447	2609	2760	2535	2429	3382	3889	3828	3772	4000	4362	4547	4689	4936	5192	5436	5646	5855	6079	6290	6470	
NET CURRENT OPERATING ASSETS (NWC)	-1520	-1485	-1467	-1078	-940	-1816	-2115	-1688	-1858	-1993	-2258	-2336	-2368	-2501	-2648	-2791	-2900	-3014	-3148	-3278	-3398	
NET NON-CURRENT OPERATING ASSETS	2456	2272	2200	2206	1915	5375	8780	8432	8375	8966	9217	9375	9454	9639	9935	10228	10366	10479	10674	10866	11047	
NET OPERATING ASSETS	936	788	733	1128	2975	3559	6665	6744	6517	6993	6959	7039	7086	7137	7287	7337	7406	7465	7527	7588	7610	
FINANCIAL ASSETS																						
Derivatives	16	19	4	33	76	33	63	29	47	50	44	47	43	46	46	45	45	45	46	45	45	
Excess liquid funds	3394	4048	4816	4950	5181	5903	2363	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	
change	0	653	769	124	231	622	-2440	-339	0	0	0	0	0	0	0	0	0	0	0	0	0	
% of revenue	0%	13%	15%	3%	4%	11%	-49%	-5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TOTAL FINANCIAL ASSETS	3410	4067	4820	4983	5257	5836	2426	2053	2071	2074	2069	2071	2068	2070	2070	2070	2070	2070	2070	2070	2070	
DEBT																						
Notes payable (short-term)	0	0	0	0	599	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Derivatives	10	8	56	16	36	40	14	65	31	33	36	34	36	36	38	35	36	36	36	36	36	
Convertible debt	161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Notes payable (long-term)	989	990	992	994	397	1876	1878	1880	1704	1657	1767	1754	1836	1956	1978	2027	2026	2072	2120	2175	2230	
TOTAL DEBT	1160	998	1048	1010	1032	1916	1892	1945	1734	1690	1803	1787	1872	1995	2013	2065	2061	2107	2156	2211	2267	
NET DEBT	-250	-309	-372	-397	-425	-920	-534	-108	-337	-383	-266	-283	-195	-75	-57	-4	-9	38	86	141	197	
EQUITY																						
Common Stock	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Additional Paid In Capital	1351	1049	657	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Accumulated Other Comprehensive Income	-16	-19	-127	-30	-50	-90	15	-67	0	0	0	0	0	0	0	0	0	0	0	0	0	
Retained Earnings (Accumulated Deficit)	2065	3017	4062	3358	7508	7887	7607	7357	7516	8111	8068	8300	8439	8550	8831	8971	9213	9407	9608	9807	9977	
in FY	1156	967	1035	1236	2150	379	-280	-250														

In millions of USD except per share	Reformulated Position - Operating							Forecast														
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	
OPERATING ASSETS																						
Required liquid funds	440	485	515	495	554	563	699	713	709	807	846	889	933	979	1023	1063	1104	1142	1178	1211	1235	
change	0	-5	19	-5	1	42	59	-1	23	31	38	35	28	36	39	40	40	41	43	45	45	
% of revenue	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	
Accounts receivable	233	359	385	623	461	521	650	684	662	695	728	765	803	842	880	915	950	983	1014	1042	1063	
Average collection period in days	19	27	27	46	30	34	34	34	31	31	31	31	31	31	31	31	31	31	31	31	31	
Current right of use agreements (royalties)	54	79	68	53	74	24	35	105	86	90	94	99	104	109	114	119	123	127	131	135	138	
% of revenue	1%	2%	1%	1%	1%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Current operating assets	727	923	968	1171	1089	1108	1384	1532	1517	1591	1668	1753	1840	1930	2017	2097	2177	2253	2324	2388	2436	
Property Plant & Equipment - Net	439	434	453	448	449	491	550	549	572	603	641	675	704	739	778	818	858	899	942	986	1032	
change	0	-5	19	-5	1	42	59	-1	23	31	38	35	28	36	39	40	40	41	43	45	45	
% of revenue	0%	-1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Goodwill & other intangible assets	1767	1715	1954	1979	1938	3177	6349	5998	6048	6121	6237	6314	6257	6319	6383	6443	6486	6519	6573	6624	6669	
Goodwill	1710	1707	1882	1892	1885	2868	5387	5380	5380	5380	5380	5380	5380	5380	5380	5380	5380	5380	5380	5380	5380	
Other intangible assets	57	8	72	87	53	309	962	618	668	741	857	934	877	939	1003	1063	1106	1139	1197	1244	1289	
change	0	-49	63	16	-34	256	653	-444	50	73	116	77	-57	62	64	60	43	33	54	50	45	
% of revenue	0%	-1%	1%	0%	-1%	5%	9%	-5%	2%	2%	3%	2%	1%	2%	2%	2%	2%	2%	2%	2%	2%	
Other non-current operating assets	450	325	118	65	1928	2065	2271	2493	2152	2078	2776	2843	2973	3084	3300	3414	3531	3650	3766	3880	3953	
Non-current right of use agreements (royalties)	63	39	34	30	25	20	28	31	49	44	43	44	44	44	47	51	54	57	57	59	61	
% of revenue	1%	1%	1%	1%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Deferred tax asset	387	286	84	35	1903	2045	2243	2462	2103	2635	2732	2800	2929	3037	3250	3361	3473	3592	3708	3820	3891	
% of revenue	9%	6%	2%	1%	34%	36%	32%	32%	27%	23%	22%	22%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
Non-current operating assets	2656	2474	2525	2492	4915	5733	9170	9040	8772	9402	9953	9833	9934	10143	10461	10776	10875	11067	11281	11490	11653	
TOTAL OPERATING ASSETS	3383	3397	3493	3663	5404	6841	10554	10752	10289	10993	11321	11585	11774	12073	12478	12778	13052	13320	13606	13878	14089	
OPERATING LIABILITIES																						
Accounts payable	89	87	48	113	68	96	101	99	123	129	135	142	149	156	163	169	176	182	188	193	197	
Average payable period in days	7	7	3	8	4	6	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	
Accrued expenses	541	616	594	892	845	1091	1171	1012	1143	1212	1312	1361	1401	1493	1574	1657	1734	1818	1910	2002	2095	
change	0	75	-22	298	-47	246	80	-159	131	68	100	49	40	92	81	83	77	82	93	92	93	
% of revenue	0%	2%	0%	6%	-1%	4%	1%	-3%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Royalties	159	165	171	144	171	210	203	208	248	260	272	286	301	315	329	343	356	368	380	390	398	
% of revenue	4%	3%	3%	3%	3%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	
Deferred tax asset	1458	1539	1622	1100	945	1527	2024	1901	1861	1984	2207	2300	2358	2467	2598	2719	2812	2899	2994	3081	3144	
% of revenue	3%	3%	3%	2%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Current operating liabilities	2247	2407	2435	2249	2029	2924	3459	3220	3375	3584	3926	4089	4208	4431	4665	4888	5078	5267	5472	5666	5833	
Deferred income taxes	2	1	1	2	1	43	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
Royalties	118	97	74	51	21	0	3	0	16	17	18	19	19	20	21	22	23	24	24	25	26	
% of revenue	3%	2%	1%	1%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Provisions for taxation	80	104	250	233	373	315	386	607	380	399	418	439	461	484	506	526	546	565	583	599	611	
% of revenue	2%	2%	5%	5%	7%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	
Non-current operating liabilities	200	202	325	286	400	358	390	608	397	416	436	458	480	504	527	548	569	588	607	624	636	
TOTAL OPERATING LIABILITIES	2447	2609	2760	2535	2429	3282	3889	3828	3772	4000	4362	4547	4689	4936	5192	5436	5666	5885	6079	6290	6470	
NET CURRENT OPERATING ASSETS (NWC)	-1520	-1485	-1467	-1078	-940	-1816	-2115	-1688	-1858	-1993	-2258	-2336	-2368	-2501	-2648	-2791	-2900	-3014	-3148	-3278	-3398	
NET NON-CURRENT OPERATING ASSETS	2456	2272	2200	2206	3915	5735	8780	8432	8375	8986	9217	9375	9454	9639	9935	10128	10306	10479	10674	10866	11017	
NET OPERATING ASSETS	936	788	733	1128	2975	3559	6665	6744	6517	6993	6959	7039	7086	7137	7287	7337	7406	7465	7527	7588	7619	
FINANCIAL ASSETS																						
Derivatives	16	19	4	33	76	33	63	29	47	50	44	47	43	46	46	45	45	45	46	45	45	
Excess liquid funds	3394	4048	4816	4550	5181	5803	2363	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	
change	0	653	769	134	231	622	-3440	-339	0	0	0	0	0	0	0	0	0	0	0	0	0	
% of revenue	0%	13%	15%	3%	4%	11%	-49%	-5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
TOTAL FINANCIAL ASSETS	3410	4067	4820	4983	5257	5836	2426	2053	2071	2074	2069	2071	2068	2070	2070	2070	2070	2070	2070	2070	2070	
DEBT																						
Notes payable (short-term)	0	0	0	0	599	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Derivatives	10	8	56	16	36	40	14	65	31	33	36	34	36	36	36	38	35	36	36	36	36	
Convertible debt	161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Notes payable (long-term)	989	990	992	994	397	1876	1878	1880	1704	1657	1767	1754	1836	1959	1978	2027	2026	2072	2120	2175	2230	
TOTAL DEBT	1160	998	1048	1010	1032	1916	1892	1945	1734	1690	1803	1787	1872	1959	2013	2065	2061	2107	2156	2211	2267	
NET DEBT	-2250	-3069	-3772	-973	-4225	-920	-534	-108	-337	-383	-266	-283	-195	-75	-57	-4	-9	38	86	141	197	
EQUITY																						
Common Stock	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Additional Paid in Capital	1351	1049	657	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Accumulated Other Comprehensive Income	-16	-19	-127	-90	-50	-50	15	-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
Retained Earnings (Accumulated Deficit)	2060	3027	4062	5358	7508	7887	7607	7357	7516	8111	8058	8300	8439	8550	8831	8971	9213	9407	9608	9807	9977	
in FY	1156	967	1035	1296	2150	379	-280	-250	159	596	-44	233	138	112	281	140	242	194	202	198	170	
% of revenue	28%	20%	20%	26%	26%	39%	7%	-3%	2%	7%	-1%	3										

Income Statement

Reformulated Income Statement													Forecast									
in millions of USD	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	
Live Services & Other	2,409	2,874	3,450	3,157	3,650	4,016	4,998	5,489	5,571	5,766	5,997	6,267	6,565	6,893	7,203	7,491	7,772	8,025	8,265	8,493	8,692	
% of total	55%	59%	67%	64%	66%	71%	74%	74%	72%	71%	71%	71%	70%	70%	70%	70%	70%	70%	70%	70%	70%	
% growth	0%	19%	20%	-8%	16%	10%	24%	10%	1.5%	4%	4%	5%	5%	5%	5%	4%	4%	3%	3%	3%	2%	
Full Game	1,987	1,971	1,700	1,793	1,887	1,613.00	1,993	1,937	2,122	2,302	2,460	2,620	2,766	2,893	3,022	3,142	3,268	3,396	3,518	3,613	3,658	
% of total	45%	41%	33%	36%	34%	29%	29%	26%	28%	29%	29%	29%	30%	30%	30%	30%	30%	30%	30%	30%	30%	
% growth	0%	-1%	-14%	5%	5%	-15%	24%	-3%	10%	8%	7%	6%	6%	5%	4%	4%	4%	4%	4%	3%	1%	
Full Game Downloads	465	659	707	681	811	918	1,282	1,262	1,413	1,576	1,734	1,911	2,093	2,271	2,447	2,624	2,801	2,976	3,140	3,273	3,352	
% of total	11%	14%	14%	14%	15%	16%	18%	17%	18%	20%	20%	22%	22%	23%	24%	25%	25%	26%	27%	27%	27%	
% growth	0%	42%	7%	-4%	19%	13%	40%	-2%	12%	12%	10%	10%	10%	9%	8%	7%	6%	6%	6%	6%	2%	
Packaged Goods	1,522	1,312	993	1,112	1,076	695	711	675	709	726	726	708	673	622	576	518	466	420	378	340	306	
% of total	35%	27%	19%	22%	19%	12%	10%	9%	9%	9%	9%	8%	7%	6%	6%	5%	4%	4%	3%	3%	2%	
% growth	0%	-14%	-24%	12%	-3%	-35%	2%	-5%	3%	3%	0%	-3%	-5%	-8%	-10%	-10%	-10%	-10%	-10%	-10%		
Total Revenues	4,396	4,845	5,150	4,950	5,537	5,629	6,991	7,426	7,694	8,069	8,457	8,886	9,330	9,786	10,225	10,633	11,040	11,421	11,783	12,106	12,500	
% growth		10.2%	6.3%	-3.9%	11.9%	1.7%	24.2%	6.2%	3.6%	4.9%	4.8%	5.1%	5.0%	4.9%	4.5%	4.0%	3.8%	3.5%	3.2%	2.7%	2.0%	
COGS (net of D&A)	-1,169	-1,132	-1,150	-1,200	-1,241	-1,343	-1,556	-1,414	-1,720	-1,774	-1,852	-1,911	-1,993	-2,136	-2,211	-2,303	-2,386	-2,471	-2,556	-2,623	-2,674	
% of revenue	27%	23%	22%	24%	22%	24%	22%	19%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	
Gross profit (net of D&A)	3,227	3,713	4,000	3,750	4,296	4,286	5,435	6,012	5,973	6,295	6,605	6,975	7,337	7,650	8,005	8,330	8,653	8,950	9,227	9,483	9,676	
% of revenue	73%	77%	78%	76%	78%	76%	78%	81%	78%	78%	78%	78%	79%	78%	78%	78%	78%	78%	78%	78%	78%	
SG&A	-1,028	-1,112	-1,110	-1,162	-1,137	-1,281	-1,634	-1,705	-1,740	-1,811	-1,931	-2,030	-2,122	-2,221	-2,323	-2,421	-2,522	-2,596	-2,679	-2,753	-2,809	
% of revenue	23%	23%	22%	23%	21%	23%	23%	23%	23%	22%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	
R&D	-1,109	-1,205	-1,320	-1,433	-1,559	-1,778	-2,186	-2,328	-2,328	-2,463	-2,622	-2,744	-2,874	-3,004	-3,147	-3,278	-3,400	-3,515	-3,626	-3,728	-3,803	
% of revenue	25%	25%	26%	29%	28%	32%	31%	31%	30%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	
EBITDA	1,090	1,396	1,570	1,155	1,600	1,227	1,615	1,979	1,905	2,020	2,052	2,201	2,341	2,425	2,535	2,631	2,742	2,838	2,922	3,003	3,064	
Depreciation / Amortization	-192	-172	-136	-145	-150	-181	-486	-536	-435	-425	-489	-555	-564	-568	-598	-635	-665	-685	-706	-732	-754	
% of PP&E, Intangibles and Other	20%	22%	21%	24%	6%	6%	13%	15%	13%	11%	11%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	
Other Costs	0	0	0	-14	-5	0	0	-111	0	0	0	0	0	0	0	0	0	0	0	0	0	
EBIT	898	1,224	1,434	996	1,445	1,046	1,129	1,332	1,469	1,596	1,564	1,646	1,777	1,857	1,937	1,995	2,076	2,153	2,216	2,271	2,310	
Statutory tax rate	35%	35%	32%	32%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
Effective tax rate	-31%	20%	28%	6%	-106%	17%	26%	39%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
Taxes on operating income	-314	-428	-452	-209	-303	-220	-237	-280	-309	-335	-328	-346	-373	-390	-407	-419	-436	-452	-465	-477	-485	
Tax adjustments	593	185	46	149	1,834	40	-55	-244	0	0	0	0	0	0	0	0	0	0	0	0	0	
NOPLAT	1,177	981	1,028	936	2,976	866	837	808	1,161	1,261	1,235	1,300	1,404	1,467	1,531	1,576	1,640	1,701	1,751	1,794	1,825	
Other non-operating income/expense	-8	8	9	40	7	-8	6	3	7	7	7	7	7	7	7	7	7	7	7	7	7	
Interest	-13	-22	6	43	56	-21	-54	-9	-88	-86	-92	-91	-95	-101	-102	-105	-105	-107	-110	-112	-115	
% of debt	1%	2%	-1%	-4%	-5%	1%	3%	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	
Net Income	1,156	967	1,043	1,019	3,039	837	789	802	1,080	1,182	1,151	1,216	1,316	1,373	1,435	1,478	1,543	1,601	1,648	1,689	1,716	
% growth		-16.3%	7.9%	-2.3%	198.2%	-72.5%	-5.7%	1.6%	34.6%	9.4%	-2.6%	5.7%	8.2%	4.3%	4.6%	3.0%	4.3%	3.8%	2.9%	2.5%	1.6%	
Other comprehensive income after tax	-18	-3	-108	74	-20	0	65	-82	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	
% of revenue	0%	0%	2%	-1%	0%	0%	-1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Total comprehensive income	1,138	964	935	1,093	3,019	837	854	720	1,068	1,170	1,139	1,205	1,304	1,361	1,424	1,467	1,531	1,590	1,637	1,677	1,705	

Cash Flow Statement

in millions of USD (except per share)	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036
EBIT	898	1,224	1,434	996	1,445	1,046	1,129	1,332	1,469	1,596	1,564	1,646	1,777	1,857	1,937	1,995	2,076	2,153	2,216	2,271	2,310
Notional income taxes	-314	-428	-452	-209	-303	-220	-237	-280	-309	-335	-328	-346	-373	-390	-407	-419	-436	-452	-465	-477	-485
Tax adjustments	593	185	46	149	1,834	40	-55	-244	0	0	0	0	0	0	0	0	0	0	0	0	0
NOPLAT	1,177	981	1,028	936	2,976	866	837	808	1,161	1,261	1,235	1,300	1,404	1,467	1,531	1,576	1,640	1,701	1,751	1,794	1,825
Depreciation and Amortization	192	172	136	145	150	181	486	536	435	425	489	555	564	569	598	635	665	685	706	732	754
Gross Free Cash Flow	1,369	1,153	1,164	1,081	3,126	1,047	1,323	1,344	1,596	1,685	1,724	1,855	1,968	2,035	2,128	2,210	2,306	2,386	2,457	2,526	2,578
PP&E	-99	-110	-139	-116	-121	-180	-221	-192	-368	-355	-414	-463	-455	-474	-496	-526	-548	-562	-581	-599	-615
Goodwill & intangibles	3	-250	-52	7	-1,273	-3,488	-427	-138	-168	-222	-199	-77	-187	-198	-203	-195	-191	-217	-221	-223	-223
Net Working Capital	-36	-18	-389	-138	876	299	-427	169	139	135	265	78	32	133	147	143	109	114	134	131	119
Other operating assets	117	202	56	-1,859	-146	-214	-223	340	530	-105	-72	-134	-116	-222	-120	-122	-125	-123	-120	-79	
Other operating liabilities	2	123	-39	114	-42	32	218	111	19	20	22	23	24	23	21	21	21	21	19	17	
Operating Unlevered FC*	1,270	1,129	1,083	941	1,129	282	-2,629	740	1,388	784	1,269	1,221	1,357	1,415	1,381	1,526	1,571	1,642	1,689	1,733	1,796
Non-Operating Income after Tax	-8	8	9	40	7	-8	6	3	7	7	7	7	7	7	7	7	7	7	7	7	7
Change in Net Non-Operating Assets	8	114	-140	-31	-100	-65	-15	-15	-224	-73	-108	-135	-179	-180	-150	-143	-168	-181	-188	-191	-195
Non-Operational Unlevered FCF	16	123	-100	-24	-108	-59	-12	-12	-217	-66	-101	-128	-172	-173	-143	-135	-161	-174	-181	-184	-188
Total Unlevered FCF	1,145	1,206	441	1,105	174	-2,328	718	718	1,171	718	1,168	1,092	1,185	1,242	1,239	1,391</					

in millions of USD (except per share)	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036
EBIT	858	1,224	1,434	996	1,845	1,046	1,128	1,332	1,469	1,596	1,564	1,646	1,773	1,857	1,937	1,995	2,076	2,153	2,216	2,271	2,310
Notional income taxes	-314	-428	-452	-209	-303	-220	-237	-280	-309	-335	-328	-346	-373	-390	-407	-419	-436	-452	-465	-477	-485
Tax adjustments	593	185	46	149	1,834	40	-55	-244	0	0	0	0	0	0	0	0	0	0	0	0	0
NOPLAT	1,177	981	1,028	936	2,976	866	837	808	1,161	1,261	1,235	1,300	1,404	1,467	1,531	1,576	1,640	1,701	1,751	1,794	1,825
Depreciation and Amortization	192	172	136	145	150	181	486	536	435	425	489	555	564	569	598	635	665	685	706	732	754
Gross Free Cash Flow	1,369	1,153	1,164	1,081	3,126	1,047	1,323	1,344	1,596	1,686	1,724	1,855	1,968	2,035	2,128	2,212	2,306	2,386	2,457	2,526	2,578
PP&E	-99	-110	-139	-116	-121	-180	-221	-192	-368	-356	-414	-463	-455	-474	-496	-526	-548	-562	-581	-599	-615
Goodwill & intangibles	3	-250	-52	7	-123	-3,488	7	-138	-168	-222	-199	-77	-192	-198	-203	-195	-191	-217	-221	-223	-223
Net Working Capital	-36	-18	-389	-138	876	299	-427	-169	135	265	78	32	133	147	143	109	114	134	131	131	119
Other operating assets	117	202	56	-1,859	-146	-214	-221	340	-530	-105	-72	-134	-116	-222	-120	-122	-125	-123	-120	-79	
Other operating liabilities	2	123	-39	114	-42	32	218	-211	19	20	22	23	24	23	21	21	21	20	19	17	
Operating Unlevered FCF	1,270	1,129	1,083	541	1,129	282	-2,269	730	1,388	784	1,269	1,221	1,357	1,415	1,381	1,526	1,571	1,642	1,689	1,733	1,794
Non-Operating Income after Tax	-8	8	9	40	7	-8	6	3	7	7	7	7	7	7	7	7	7	7	7	7	7
Change in Net Non-Operating Assets	8	114	-140	-31	-100	-65	-15	-224	-73	-108	-135	-179	-180	-150	-143	-168	-181	-188	-191	-195	
Non-Operational Unlevered FCF	16	123	-100	-24	-108	-59	-12	-217	-66	-101	-128	-172	-173	-143	-135	-161	-174	-181	-184	-188	
Total Unlevered FCF	1,145	1,206	441	1,105	174	-2,328	718	1,171	718	1,168	1,092	1,185	1,242	1,239	1,391	1,410	1,468	1,508	1,548	1,605	
Financial costs	-13	-22	6	43	56	-21	-54	-9	-88	-86	-92	-91	-95	-102	-105	-105	-107	-110	-112	-115	
Net Financial Debt	-818	-704	-201	-252	305	3,386	426	-229	-46	118	-18	88	120	18	53	4	46	48	55	56	
Transaction with shareholders	0	-302	-400	-357	-889	-458	-1,069	-1,052	-842	-575	-1,183	-972	-1,166	-1,249	-1,143	-1,327	-1,289	-1,396	-1,435	-1,479	
Other non cash expenses	-18	-3	-108	74	-20	0	65	-82	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12		
CF from Financing	-1,145	-1,206	-441	-1,105	-174	2,328	-718	-1,171	-718	-1,168	-1,092	-1,185	-1,242	-1,239	-1,391	-1,410	-1,468	-1,508	-1,548	-1,605	

Free Cash Flow Map

	HISTORICAL								EXPLICIT FORECAST												IMPLICIT				PERPETUITY			
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039		FY 2040	FY 2041	
NOPLAT	1,177	981	1,028	936	2,976	866	837	808	1,161	1,261	1,235	1,300	1,404	1,467	1,531	1,576	1,640	1,701	1,751	1,794	1,825	1,869	1,917	1,964	2,009	2,055	2,071	
growth rate of NOPLAT	-16.7%	4.8%	-8.3%	212.5%	-76.9%	-3.3%	-3.5%	43.7%	6.9%	-2.0%	5.2%	6.0%	4.5%	4.3%	3.0%	4.1%	3.7%	2.9%	2.5%	1.7%	1.7%	2.4%	2.6%	2.4%	2.3%	2.3%	0.8%	
(-) Investment	93	148	55	-395	-1,847	584	-3,106	-79	227	476	33	-79	47	-52	-149	-50	49	-59	-62	-61	-31	-61	-63	-61	-61	-61	-61	
growth of investments	59,256%	-63,206%	624,776%	367,525%	-68,376%	431,700%	-97,476%	-388,536%	309,626%	-107,026%	337,216%	-40,646%	9,556%	189,266%	-66,546%	38,796%	-14,906%	4,636%	-6,636%	-49,676%	96,556%	3,036%	2,596%	3,226%	3,226%	3,226%	3,226%	
Unlevered operating FCF	1,270	1,129	1,083	541	1,129	282	-2,269	730	1,388	784	1,269	1,221	1,357	1,415	1,381	1,526	1,571	1,642	1,689	1,733	1,794	1,808	1,854	1,903	1,948	1,994	2,009	
growth rate of FCF	-11.09%	-4.13%	-50.02%	108.74%	-75.05%	-905.25%	-132.15%	90.22%	-43.47%	61.72%	-3.78%	11.17%	4.30%	-2.40%	10.50%	2.92%	4.53%	2.84%	2.60%	3.52%	0.80%	2.57%	2.59%	2.37%	2.36%	0.77%		
Invested Operating Capital	936	788	733	1,128	2,975	3,559	6,665	6,744	6,517	6,993	6,959	7,039	7,086	7,137	7,287	7,337	7,406	7,465	7,527	7,588	7,619	7,680	7,742	7,803	7,865	7,926	7,987	
Invested Operating Capital (No Goodwill)	-774	-920	-1,150	-764	1,990	693	1,378	1,364	1,137	1,613	1,578	1,659	1,706	1,757	1,807	1,857	1,906	1,955	2,005	2,055	2,105	2,155	2,205	2,255	2,305	2,355	2,405	
ROIC based on scenario chosen	104.85%	130.54%	127.69%	263.83%	29.11%	23.52%	12.11%	17.21%	19.34%	17.66%	18.68%	19.95%	20.70%	21.44%	21.63%	22.36%	22.97%	23.45%	23.84%	24.09%	24.33%	24.53%	24.69%	24.86%	25.06%	25.24%	25.12%	26.12%
ROIC with Goodwill	104.85%	130.54%	127.69%	263.83%	29.11%	23.52%	12.11%	17.21%	19.34%	17.66%	18.68%	19.95%	20.70%	21.44%	21.63%	22.36%	22.97%	23.45%	23.84%	24.09%	24.33%	24.53%	24.69%	24.86%	25.06%	25.24%	25.12%	26.12%
ROIC without Goodwill	-126.68%	-111.80%	-81.39%	-389.53%	79.47%	121.15%	63.22%	85.13%	110.89%	76.58%	82.30%	84.64%	85.99%	87.09%	82.68%	83.83%	83.97%	83.96%	83.76%	82.63%	83.59%	83.55%	83.46%	83.36%	83.32%	83.32%	83%	
Change in ROIC	21.69%	-2.61%	236.14%	-234.72%	-5.39%	-12.40%	3.09%	22.33%	-3.69%	1.20%	1.27%	0.74%	0.19%	0.13%	0.43%	0.19%	0.43%	0.19%	0.21%	0.43%	0.43%	0.43%	0.43%	0.43%	0.43%	0.43%	0.09%	
Reinvestment Rate (RR)	-7.90%	-15.10%	-5.30%	42.20%	62.05%	67.66%	371.11%	-19.54%	37.77%	-2.71%	6.10%	3.35%	3.52%	3.75%	3.17%	4.23%	3.47%	3.53%	3.42%	3.69%	3.25%	3.27%	3.11%	3.05%	2.96%	2.96%	2.96%	
growth	-11.09%	-4.13%	-50.02%	108.74%	-75.05%	-905.25%	-132.15%	90.22%	-43.47%	61.72%	-3.78%	11.17%	4.30%	-2.40%	10.50%	2.92%	4.53%	2.84%	2.60%	3.52%	0.80%	2.57%	2.59%	2.37%	2.36%	0.77%		
Total Net Non-Operating Assets	212	204	90	230	261	361	426	441	665	738	846	981	1,160	1,341	1,491	1,633	1,801	1,983	2,171	2,362	2,558	2,558	2,558	2,558	2,558	2,558	2,558	
Interest	-13	-22	6	43	56	-21	-54	-9	-88	-86	-92	-91	-95	-102	-105	-105	-107	-110	-112	-115	-115	-115	-115	-115	-115	-115	-115	
Tax shield	5	8	-2	-9	-12	4	11	2	19	18	19	19	20	21	21	22	22	23	23	24	24	24	24	24	24	24	24	
Financial debt	1,160	998	1,048	1,010	1,032	1,916	1,892	1,945	1,734	1,690	1,803	1,787	1,872	1,995	2,013	2,065	2,061	2,107	2,156	2,211	2,267	2,267	2,267	2,267	2,267	2,267	2,267	
CF Financial Debt	-184	56	5	78	863	-78	44	-299	-130	-21	-107	-10	22	45	-53	-109	-61	-61	-58	-59	-115	-115	-115	-115	-115	-115	-115	

Revenue Scenarios

In millions of USD	Revenue Scenarios								Forecast												
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036
Scenario 1																					
BASE CASE									BASE CASE												
Revenue - Supplementary Breakdown	4 396	4 845	5 150	4 950	5 537	5 629	6 991	7 426	7 604	8 069	8 457	8 886	9 330	9 786	10 225	10 633	11 040	11 421	11 783	12 106	12 350
Live Services & Other	2 409	2 874	3 450	3 157	3 650	4 016	4 998	5 489	5 571	5 766	5 997	6 267	6 565	6 893	7 203	7 491	7 772	8 025	8 265	8 493	8 692
% of total	55%	59%	67%	64%	66%	71%	71%	74%	72%	71%	71%	71%	70%	70%	70%	70%	70%	70%	70%	70%	70%
% growth	19%	20%	-8%	16%	10%	24%	10%	10%	15%	35%	40%	45%	48%	50%	45%	40%	38%	33%	30%	28%	23%
Full Game	1 987	1 971	1 700	1 793	1 887	1 613	1 993	1 937	2 122	2 302	2 460	2 620	2 766	2 893	3 022	3 142	3 268	3 396	3 518	3 613	3 658
% of total	45%	41%	33%	36%	34%	29%	29%	26%	28%	29%	29%	29%	30%	30%	30%	30%	30%	30%	30%	30%	30%
% growth	-1%	-14%	5%	5%	-15%	24%	-3%	-6%	8%	8%	6%	6%	5%	4%	4%	4%	4%	3%	3%	3%	2%
Full Game Downloads	465	659	707	681	811	918	1 282	1 262	1 413	1 576	1 734	1 911	2 093	2 271	2 447	2 624	2 801	2 976	3 140	3 273	3 352
% of total	11%	14%	14%	14%	15%	16%	18%	17%	18%	20%	20%	22%	22%	23%	24%	25%	25%	26%	27%	27%	27%
% growth	42%	7%	-4%	19%	13%	40%	-2%	-2%	12%	11,500%	10,000%	10,25%	9,500%	8,500%	7,75%	7,25%	6,75%	6,25%	5,500%	4,25%	2,40%
Packaged Goods	1 522	1 312	993	1 112	1 076	695	711	675	709	726	726	708	673	622	576	518	466	420	378	340	306
% of total	35%	27%	19%	22%	19%	12%	10%	9%	9%	9%	9%	9%	8%	8%	7%	6%	5%	4%	3%	2%	2%
% growth	-14%	-24%	12%	-3%	-35%	2%	-5%	-5%	3%	3%	0,0%	-3%	-5%	-7,5%	-7,5%	-10%	-10%	-10%	-10%	-10%	-10%
Scenario 2																					
BEAR CASE									BEAR CASE												
Revenue - Supplementary Breakdown	4 396	4 845	5 150	4 950	5 537	5 629	6 991	7 426	7 607	7 784	7 977	8 184	8 399	8 618	8 799	8 992	9 166	9 352	9 519	9 699	9 890
Live Services & Other	2 409	2 874	3 450	3 157	3 650	4 016	4 998	5 489	5 544	5 627	5 740	5 866	6 013	6 163	6 317	6 475	6 637	6 803	6 973	7 147	7 326
% of total	55%	59%	67%	64%	66%	71%	71%	74%	72%	70%	68%	66%	64%	63%	62%	61%	60%	60%	59%	59%	59%
% growth	19%	20%	-8%	16%	10%	24%	10%	10%	1,0%	1,5%	2,0%	2,2%	2,5%	2,5%	2,5%	2,5%	2,5%	2,5%	2,5%	2,5%	2,5%
Full Game	1 987	1 971	1 700	1 793	1 887	1 613	1 993	1 937	2 003	2 157	2 237	2 318	2 386	2 455	2 482	2 517	2 529	2 549	2 546	2 552	2 564
% of total	45%	41%	33%	36%	34%	29%	29%	26%	27%	27%	26%	26%	26%	25%	24%	24%	23%	22%	22%	21%	21%
% growth	-1%	-14%	5%	5%	-15%	24%	-3%	-6%	0,5%	4,6%	3,7%	3,6%	3,6%	2,9%	2,9%	1,1%	1,4%	0,5%	0,8%	-0,1%	0,2%
Full Game Downloads	465	659	707	681	811	918	1 282	1 262	1 388	1 499	1 612	1 725	1 837	1 947	2 025	2 106	2 169	2 234	2 279	2 324	2 371
% of total	11%	14%	14%	14%	15%	16%	18%	17%	18%	19%	19%	19%	20%	20%	20%	20%	20%	20%	20%	19%	19%
% growth	42%	7%	-4%	19%	13%	40%	-2%	-2%	10%	8,000%	7,500%	7,000%	6,500%	6,000%	4,000%	4,000%	3,000%	3,000%	2,000%	2,000%	2,000%
Packaged Goods	1 522	1 312	993	1 112	1 076	695	711	675	675	658	625	594	549	508	457	412	360	315	268	228	194
% of total	35%	27%	19%	22%	19%	12%	10%	9%	9%	8%	7%	7%	6%	5%	4%	4%	3%	2%	2%	2%	2%
% growth	-14%	-24%	12%	-3%	-35%	2%	-5%	-5%	0%	-3%	-5%	-5%	-8%	-8%	-10%	-10%	-13%	-13%	-15%	-15%	-15%
Scenario 3																					
BULL CASE									BULL CASE												
Revenue - Supplementary Breakdown	4 396	4 845	5 150	4 950	5 537	5 629	6 991	7 426	7 750	8 112	8 528	8 964	9 430	9 917	10 407	10 924	11 452	12 011	12 586	13 187	13 800
Live Services & Other	2 409	2 874	3 450	3 157	3 650	4 016	4 998	5 489	5 599	5 767	5 997	6 267	6 581	6 910	7 255	7 618	7 999	8 399	8 819	9 260	9 723
% of total	55%	59%	67%	64%	66%	71%	71%	74%	73%	71%	71%	71%	71%	71%	71%	72%	72%	74%	75%	76%	79%
% growth	19%	20%	-8%	16%	10%	24%	10%	10%	2,00%	3,00%	4,00%	4,50%	5,00%	5,00%	5,00%	5,00%	5,00%	5,00%	5,00%	5,00%	5,00%
Full Game	1 987	1 971	1 700	1 793	1 887	1 613	1 993	1 937	2 152	2 345	2 530	2 696	2 849	3 008	3 152	3 306	3 453	3 612	3 768	3 928	4 077
% of total	45%	41%	33%	36%	34%	29%	29%	26%	28%	29%	30%	30%	31%	31%	31%	31%	31%	32%	32%	32%	33%
% growth	-1%	-14%	5%	5%	-15%	24%	-3%	-6%	11,1%	8,0%	7,9%	6,6%	5,7%	5,6%	4,8%	4,5%	4,5%	4,5%	4,3%	4,3%	3,8%
Full Game Downloads	465	659	707	681	811	918	1 282	1 262	1 426	1 583	1 749	1 915	2 088	2 265	2 446	2 636	2 834	3 039	3 252	3 463	3 671
% of total	11%	14%	14%	14%	15%	16%	18%	17%	19%	20%	21%	22%	22%	23%	24%	25%	26%	27%	28%	29%	30%
% growth	42%	7%	-4%	19%	13%	40%	-2%	-2%	13%	11,000%	10,500%	9,500%	9,000%	8,500%	7,75%	7,50%	7,25%	7,00%	6,500%	6,000%	6,000%
Packaged Goods	1 522	1 312	993	1 112	1 076	695	711	675	726	762	781	781	761	742	705	670	620	573	516	464	406
% of total	35%	27%	19%	22%	19%	12%	10%	9%	9%	9%	9%	9%	8%	8%	7%	6%	5%	4%	3%	2%	2%
% growth	-14%	-24%	12%	-3%	-35%	2%	-5%	-5%	8%	5%	3%	0%	-3%	-3%	-5%	-5%	-8%	-8%	-10%	-10%	-13%

Disclosures and Disclaimers

Report Recommendations

Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

This report was prepared by Jan Philipp Schütt and Matthias Pfeifer, Master in Finance students of Nova School of Business and Economics ("Nova SBE"), within the context of the Field Lab – Equity Research.

This report is issued and published exclusively for academic purposes, namely for academic evaluation and master graduation purposes, within the context of said Field Lab – Equity Research. It is not to be construed as an offer or a solicitation of an offer to buy or sell any security or financial instrument.

This report was supervised by a Nova SBE faculty member, acting merely in an academic capacity, who revised the valuation methodology and the financial model.

Given the exclusive academic purpose of the reports produced by Nova SBE students, it is Nova SBE understanding that Nova SBE, the author, the present report and its publishing, are excluded from the persons and activities requiring previous registration from local regulatory authorities. As such, Nova SBE, its faculty and the author of this report have not sought or obtained registration with or certification as financial analyst by any local regulator, in any jurisdiction. In Portugal, neither the author of this report nor his/her academic supervisor is registered with or qualified under COMISSÃO DO MERCADO DE VALORES MOBILIÁRIOS ("CMVM", the Portuguese Securities Market Authority) as a financial analyst. No approval for publication or distribution of this report was required and/or obtained from any local authority, given the exclusive academic nature of the report.

The additional disclaimers also apply:

USA: Pursuant to Section 202 (a) (11) of the Investment Advisers Act of 1940, neither Nova SBE nor the author of this report are to be qualified as an investment adviser and, thus, registration with the Securities and Exchange Commission ("SEC", United States of America's securities market authority) is not necessary. Neither the author nor Nova SBE receive any compensation of any kind for the preparation of the reports.

Germany: Pursuant to §34c of the WpHG (*Wertpapierhandelsgesetz*, i.e., the German Securities Trading Act), this entity is not required to register with or otherwise notify the *Bundesanstalt für Finanzdienstleistungsaufsicht* ("BaFin", the German Federal Financial Supervisory Authority). It should be noted that Nova SBE is a fully-owned state university and there is no relation between the student's equity reports and any fund raising programme.

UK: Pursuant to section 22 of the Financial Services and Markets Act 2000 (the "FSMA"), for an activity to be a regulated activity, it must be carried on "by way of business". All regulated activities are subject to prior authorization by the Financial Conduct Authority ("FCA"). However, this report serves an exclusively academic purpose and, as such, was not prepared by way of business. The author - a Master's student - is the **sole and exclusive responsible** for the information, estimates and forecasts contained herein, and for the opinions expressed, which exclusively reflect his/her own judgment at the date of the report. Nova SBE and its faculty have no single and formal position in relation to the most appropriate valuation method, estimates or projections used in the report and may not be held liable by the author's choice of the latter.

The information contained in this report was compiled by students from public sources believed to be reliable, but Nova SBE, its faculty, or the students make no representation that it is accurate or complete, and accept no liability whatsoever for any direct or indirect loss resulting from the use of this report or of its content.

Students are free to choose the target companies of the reports. Therefore, Nova SBE may start covering and/or suspend the coverage of any listed company, at any time, without prior notice. The students or Nova SBE are not responsible for updating this report, and the opinions and recommendations expressed herein may change without further notice.

The target company or security of this report may be simultaneously covered by more than one student. Because each student is free to choose the valuation method, and make his/her own assumptions and estimates, the resulting projections, price target and recommendations may differ widely, even when referring to the same security. Moreover, changing market conditions and/or changing subjective opinions may lead to significantly different valuation results. Other students' opinions, estimates and recommendations, as well as the advisor and other faculty members' opinions may be inconsistent with the views expressed in this report. Any recipient of this report should understand that statements regarding future prospects and performance are, by nature, subjective, and may be fallible.

This report does not necessarily mention and/or analyze all possible risks arising from the investment in the target company and/or security, namely the possible exchange rate risk resulting from the security being denominated in a currency either than the investor's currency, among many other risks.

The purpose of publishing this report is merely academic and it is not intended for distribution among private investors. The information and opinions expressed in this report are not intended to be available to any person other than Portuguese natural or legal persons or persons domiciled in Portugal. While preparing this report, students did not have in consideration the specific investment objectives, financial situation or

particular needs of any specific person. Investors should seek financial advice regarding the appropriateness of investing in any security, namely in the security covered by this report.

The author hereby certifies that the views expressed in this report accurately reflect his/her personal opinion about the target company and its securities. He/ She has not received or been promised any direct or indirect compensation for expressing the opinions or recommendation included in this report.

[If applicable, it shall be added: *"While preparing the report, the author may have performed an internship (remunerated or not) in [insert the Company's name]. This Company may have or have had an interest in the covered company or security"* and/ or *"A draft of the reports have been shown to the covered company's officials (Investors Relations Officer or other), mainly for the purpose of correcting inaccuracies, and later modified, prior to its publication."*]

The content of each report has been shown or made public to restricted parties prior to its publication in Nova SBE's website or in Bloomberg Professional, for academic purposes such as its distribution among faculty members for students' academic evaluation.

Nova SBE is a state-owned university, mainly financed by state subsidies, students tuition fees and companies, through donations, or indirectly by hiring educational programs, among other possibilities. Thus, Nova SBE may have received compensation from the target company during the last 12 months, related to its fundraising programs, or indirectly through the sale of educational, consulting or research services. Nevertheless, no compensation eventually received by Nova SBE is in any way related to or dependent on the opinions expressed in this report. The Nova School of Business and Economics does not deal for or otherwise offer any investment or intermediation services to market counterparties, private or intermediate customers.

This report may not be reproduced, distributed or published, in whole or in part, without the explicit previous consent of its author, unless when used by Nova SBE for academic purposes only. At any time, Nova SBE may decide to suspend this report reproduction or distribution without further notice. Neither this document nor any copy of it may be taken, transmitted or distributed, directly or indirectly, in any country either than Portugal or to any resident outside this country. The dissemination of this document other than in Portugal or to Portuguese citizens is therefore prohibited and unlawful.