Acquisition Game made simple: Sony buys Game Publisher Electronic Arts

Jens Hovestädt

Dissertation written under the supervision of professor

António Borges de Assunção

Dissertation submitted in partial fulfilment of requirements for the MSc in Finance, at the Universidade Católica Portuguesa, 01.06.2022.

Abstract

The gaming market, with a market volume of $300.0 billion and 2.7 billion gamers worldwide, is driven by industry consolidation and megatrends. Video game industry leader Sony must react to defend its market position. Therefore, this thesis deals with the question whether an acquisition of the American game manufacturer EA by the Japanese technology company Sony makes sense and what is a reasonable offer price.

Through the valuation of Sony, EA, and the combined companies, an offer price of $159.2 (premium of 32.6% over 02.05.2022 share price of $120.0) is set in a friendly takeover. The capital requirement of $49.7 billion will be paid by Sony 60.0% ($29.8 billion) through cash reserves and 40.0% ($19.9 billion) through newly raised debt.

The acquisition results in total synergies of $25.8 billion. After deducting the premium and transaction and integration cost, synergies of $6.3 per 1.2 billion fully diluted shares remain outstanding to Sony's shareholders. The transaction is on average 12.4% accretive to Sony's shareholders and delivers significant value to both companies from a strategic and financial perspective.

Title: Acquisition Game Made Simple: Sony Buys Game Publisher Electronic Arts

Author: Jens Hovestädt

Keywords: Mergers & Acquisitions, Gaming Industry, Company Valuation

Resumo

O mercado do jogo, com um volume de mercado de $300,0 mil milhões e 2,7 mil milhões de jogadores em todo o mundo, é impulsionado pela consolidação da indústria e pelas megatendências. A Sony, líder da indústria dos jogos de vídeo, tem de reagir para defender a sua posição no mercado. Portanto, esta tese trata da questão de saber se uma aquisição do fabricante americano de jogos EA pela empresa tecnológica japonesa Sony faz sentido e qual é um preço de oferta razoável.

Através da avaliação da Sony, EA, e das empresas combinadas, um preço de oferta de $159,2 (prémio de 32,6% sobre 02.05.2022 preço da acção de $120,0) é fixado numa aquisição amigável. O EV a pagar de $49,7 mil milhões será pago pela Sony 60,0% ($29,8 mil milhões) através de reservas em dinheiro e 40,0% ($19,9 mil milhões) através de dívidas recentemente contraídas.

A aquisição resulta em sinergias totais de $25,8 mil milhões. Após dedução do prémio e do custo de transacção e integração, as sinergias de $6,3 por $1,2 mil milhões de acções totalmente diluídas ficam em circulação para os accionistas da Sony. A transação permite, em média, um acréscimo de 12,4% nos lucros por acção para os acionistas da Sony e proporciona um valor significativo a ambas as empresas, quer de uma perspetiva estratégica quer financeira.

Título: Jogo de aquisição tornado simples: A Sony compra a editora de jogos Electronic Arts

Autor: Jens Hovestädt

Palavras-chave: Fusões e Aquisições, Indústria de Jogos, Avaliação de Empresas

Acknowledgments

This dissertation marks the end of my long, educational, and exciting academic journey. I would like to take this opportunity to thank all the people who have supported me along the way and contributed to my academic and personal development.

I would like to thank my parents who always supported me and were always there for me.

Furthermore, I would like to thank my supervisor António Borges de Assunção for his excellent guidance, knowledge transfer, availability, and interaction during the completion of this dissertation.

Finally, I would like to thank the professors and staff of the Católica Lisbon School of Business and Economics, as well as all the friends I have made here in Portugal, for making my time in Portugal a unique experience that I will remember with pleasure in the future.

Table of Contents

List of Figures

List of Tables

List of Abbreviations

APAC	Asia Pacific Region
APV	Adjusted Present Value
BCG	Boston Consulting Group
CAGR	Compound Annual Growth Rate
CAPEX	Capital Expenditures
CAPM	Capital Asset Pricing Model
CEO	Chief Executive Officer
CMOS	Complementary Metal Oxide Semiconductor
COGS	Cost of Goods Sold
D&A	Depreciation and Amortization
DCF	Discounted Cash Flow Analysis
EA	Electronic Arts
EBIT	Earnings before Interest and Taxes
EBITDA	Earnings before Interest, Taxes, Depreciation and Amortization
EV	Enterprise Value
FCF	Free Cash Flow
FCFF	Free Cash Flow to the Firm
LTM	Last Twelve Months
M&A	Mergers and Acquisitions
MV	Market Value
NASDAQ	National Association of Securities Dealers Automated Quotations
NTM	Next Twelve Months

NWC	Net Working Capital
PCs	Personal Computers
PS	PlayStation
PSN	PlayStation Network
PV	Present Value
R&D	Research and Development
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TV	Terminal Value
US	United States
VR	Virtual reality
WACC	Weighted Average Cost of Capital
YTM	Yield to Maturity

List of Variables and Symbols

πd	Probability of Bankruptcy
$\triangle$NWC	Increase/(Decrease) in Net Working Capital
$	US Dollar
BC	Bankruptcy Costs as Percentage of EV
C	Interest Expense (annually)
CompanyB	Buyer Company on a stand-alone Basis
CompanyBT	EV of combined Company without Synergies
CompanyBTS	EV of combined Company derived from Merger Model with synergies
CompanyT	Target Company on a stand-alone Basis
D	Market Value of Debt
D/E	Debt-to-Equity Ratio
E	Market Value of Equity
FV	Total Bank Debt
g	Perpetuity Growth Rate
i	Respective Year
n	Final Year of the Projection Period (Terminal Year)
PE	Preferred Stock
r_d	Cost of Debt
r_e	Cost of Equity
r_e^u	Unlevered Cost of Equity
r_f	Risk-free Rate

$r_m - r_f$	Market Risk Premium
r_{pe}	Interest Rate of Preferred Stock
$ß_l$	Levered Beta
$ß_u$	Unlevered Beta
t	Tax Rate (at the Marginal Tax Rate)
ta	Weighted average Maturity of the Debt
V (A)	Value of Firm A on a standalone Basis
V (B)	Value of Firm B on a standalone Basis
V(AB)	Value of a Firm created by combining Firm A and Firm B (incl. Synergies)
WACCBT	Combined WACC of the Merged Company

Glossary

AAA Game	Blockbuster games which are classified as technically complex and highly interactive products
Accretion / Dilution Analysis	Calculation used to assess the benefit of a proposed merger or acquisition from a shareholder perspective. The accretion/dilution analysis determines whether earnings per share (EPS) will increase or decrease after the transaction
Asset Retirement Obligations	Future (estimated) liability of a company for which provisions are already made today resulting from decommissioning costs for the asset (e.g., decommissioning of mines, power plants)
Capital Employed	Long-term Net Capital in the company: Total Capital - Current Debt - Cash
Capital Requirement	Capital requirements necessary to finance the transaction. This amount includes the equity value of the target (offer price times fully diluted shares), the debt to be assumed and all transaction costs. The hypothetical cash balance of the target is not deducted as it increases the cash balance of the buyer after the transaction and is not used to finance the purchase price (no subtraction as with cash in EV)

Cash and Cash Equivalents	Excess cash, Investments, Net Operating Losses, Investments in Unconsolidated Entities (<20%)
CMOS (Complementary Metal Oxide Semiconductor)	Semiconductor image sensors that convert light into electrical signals
COGS (Cost of Goods Sold)	Cost directly related to the manufacturing of products
Current Assets	Accounts Receivable, Inventory, Prepaid Expenses, and other Currents Assets
Current Liabilities	Accounts Payable, Accrued Liabilities, and other Current Liabilities
Deal EV	Actual enterprise value of the purchase. This includes the offer price times the fully diluted shares outstanding of the target plus the debt to be assumed of the target minus the hypothetically available cash of the target
Debt Service Coverage Ratio (DSCR)	Operating Cash Flow / (Interest Expense + Debt Repayments)
EBIT (Earnings Before Interest and Taxes)	Revenue – Cost of Goods Sold – Operating Expenses – Depreciation & Amortization +/- Other Operating Income/Expenses
EBITDA (Earnings Before Interest, Taxes and Depreciation & Amortization)	Revenue – Cost of Goods Sold – Operating Expenses (excluding Depreciation & Amortization)

EPS (Earnings per Share)	(Net Income – Preferred Dividends) / Weighted Common Stock Outstanding
EPS Growth	Growth estimates from analysts who cover the stock
Free-to-Play Games	The actual game is free, but there are incentives to pay money to get additional content and player upgrades
Gearing	Book Value of Debt / Book Value of Equity
In the Money	Exercise Price < Current Stock Price
Interest Coverage Ratio (ICR)	EBITDA / Interest Expense
Leverage	Net Debt / EBITDA
Merger Model	Considers all synergy effects and financing effects resulting from the merger of the buyer company with the seller company
Noncontrolling Interest	Share in the target company held by third parties (minority interests)
NWC (Net Working Capital)	Non-Cash Current Assets – Non-interest-bearing Current Liabilities
Out of the Money	Exercise Price > Current Stock Price
P/E Ratio (Price / Earnings)	Market Value per Share (Share Price) / EPS
PEG (Price-Earnings-to-Growth)	P/E Ratio / EPS Growth

Pension Obligations (Underfunded Pensions)	Only in the case of Defined Benefit Plan if the current Pension Obligation is smaller than the capital saved by the company for this purpose. If the capital saved is greater than the Pension Obligation to employees, it is valued as additional cash
Price / Book Value of Equity	Share Price / Book Value per Share
PS (PlayStation) Network	Account required to use PlayStation online services such as gaming, entertainment, and the online PlayStation shop
PS (PlayStation) Now	Account required to use cloud gaming of video games on the various PlayStations consoles and Microsoft Windows computers
PS (PlayStation) Plus	Account required to access online multiplayer, monthly games, and exclusive discounts with PlayStation
Return on Capital Employed (ROCE)	EBIT / Capital Employed
Return on Equity	Net Income / Average Shareholders' Equity
Return on Invested Capital (ROIC)	(EBIT * (1 – Tax Rate)) / Capital Employed
Systematic Risk	Risk to the entire Market (Exogenous Shocks)
Ultimate Team	Game mode that allows players to collect current and former professional sport

	(baseball, football, soccer) players to build and compete as a personalized team
Unaffected Share Price	Price of the Target which isolates the effects of the purchase offer/rumours

1 Introduction

There are not many industries that have come through the corona pandemic robust and strengthened. One of the few winners of the pandemic is the gaming industry. Driven by the growing online gaming community, a metaverse that many companies are trying to build, and an increasingly real gaming experience through virtual reality (VR) and more powerful hardware, the industry is becoming more and more successful.

The consulting firm Accenture (Kelly et al., 2021) estimates that there are 2.7 billion gamers worldwide, with a clear upward trend. As a result, the gaming market is worth $300.0 billion and is thus more valuable than the combined music and film industry[1]. Market leaders in this market like Microsoft, Nintendo and Sony not only provide the hardware inform of game consoles, but they are also game developers to keep players loyal to their game consoles. A company that wants to be a leader in the gaming industry must develop its own attractive and popular games or secure know-how, exclusive rights, and strong game titles through strategic acquisitions. This Mergers & Acquisitions (M&A) trend is also reflected in recent acquisitions. Microsoft, the manufacturer of the gaming console X-Box and Personal Computers (PCs), acquired the American game developers Activision-Blizzard for $67.4 billion and Bethesda for $7.5 billion. With this move, Microsoft acquires the development studios behind popular games such as Call of Duty, Doom, Fallout, Wolfenstein, and World of WarCraft.

The Microsoft deals are putting the main competitor Sony and its gaming console PlayStation (PS) under a high pressure. Sony must react to the Microsoft deals to defend its market position among the companies with the highest gaming revenues and to remain competitive in the future. A potential way for Sony is to buy an established and lucrative game publisher with popular game titles. This paper therefore deals with the potential acquisition of the American game publisher Electronic Arts (EA) by Japanese technology giant Sony. It strives to answer the question at what price an acquisition of EA by Sony makes sense and whether it creates sustainable and future value for Sony and its shareholders.

The thesis is structured in five chapters and starts after the introduction with a literature review that provides an overview of the theoretical foundations of M&A and company valuation methods. The third chapter introduces the gaming target market and the buyer Sony and the target company EA including the deal rationale. In the subsequent valuation chapter, the

[1] Accenture report: “Gaming – the new superplatform”, April 2021

companies Sony and EA are valued and analysed as individual companies and as a combined company using various valuation methods based on the theoretical foundations. A recommendation for action for a possible takeover is then made in the conclusion and the findings are finally critically discussed and summarised.

2 Literature Review

This chapter deals with the theoretical framework of M&A and the different valuation methods used in this thesis to value Sony, EA and the two companies as a combined entity.

2.1 M&A Overview

The M&A overview subchapter classifies the term M&A and gives an overview of motivations behind M&A, value creation and destruction, as well as various payment methods and acquisition premiums in the takeover process.

2.1.1 M&A Definition

According to Ahern & Weston (2007) a merger represents the absorption of one company by another under the premise that one company ceases to exist. In contrast, an acquisition is the purchase of specific assets such as business units, segments, or subsidiaries. The selling company can continue to exist independently after the sale of certain assets. In this thesis, M&A is defined as the acquisition of another company with a controlling majority (>50.0%) allowing the buyer to enforce strategic decisions and implementations through a voting majority.

In general, the following types of mergers can be distinguished after Sherman (2010):

- **Vertical mergers:** Mergers between companies at the downstream level of production or value creation. For example, a car manufacturer merges with its suppliers (backward integration) or a tool manufacturer with a sales organisation (forward integration).
- **Horizontal mergers:** Companies at the same stage of the value chain merge (competitors).
- **Conglomerate merger:** Companies from different sectors merge, sometimes even unrelated to the core business of a company. This type of merger creates new segments and broader diversification.

A distinction must be made between friendly and hostile takeovers. Damodaran (2012) describes that in a friendly takeover, the management, and the board of directors of the target support the third-party takeover attempt and recommend that the shareholders accept the sale. In the opposite case of a hostile takeover, the management, and the board of directors of the target do not support the takeover bid and the prospective buyer turns directly to the shareholders by tender offer to acquire a majority of the shares. According to Damodaran (2012), a further distinction must be made between a share and an asset deal. In a share deal, the buyer acquires all shares of a company (assets and liabilities). In an asset deal, the buyer acquires only specified assets (also called cherry picking) and assumes certain liabilities.

2.1.2 Motivations for M&A

Rosenbaum & Pearl (2013) describe that the main factors for buying a business are the desire to grow, improve and expand an existing business platform. Inorganic growth through acquisitions is a cheaper, faster, and less risky option than building a business from scratch. Objective is to achieve higher returns for shareholders through an acquisition that strengthens the buyer's core business model and delivers additional growth and improved profitability.

Kolev et al. (2012) add that M&A usually takes place in waves, which are mainly shaped by the economic situation and by different motivations, characteristics, and outcomes. Berkovitch & Narayanan (1993) cluster M&A motivations into the three categories synergy, agency, and hubris. For the categorisation of M&A motivations, we focus on the two categories synergy and agency. The hubris category will be discussed later in this paper. *Appendix Table 4* shows an overview of M&A motivations with an explanation of the three categories, expanded with frequently mentioned examples of M&A motivations from common theory. The main motivation for M&A transactions should in practice be analogous to the synergy motive. Managers seek to create sustainable and lasting value for the buyer, the target, and the shareholders of both companies. The agency motive, on the other hand, reflects motives for M&A transactions that are primarily driven by personal management motivations and incentives.

2.1.3 Value Creation and Value Reduction in M&A

One of the main motivations and rationales of M&A transactions, as already mentioned in the previous part, is the achievement of synergy effects (Damodaran, 2012). According to Damodaran a synergy occurs when the value of a combined firm is greater than the values of the separate buyer and target on a standalone basis (*equation (1)*).

$$V(AB) > V(A) + V(B) \quad (1)$$

Whereas:

V(AB) = Value of a firm created by combining firm A and firm B (incl. synergies)

V (A) = Value of firm A on a standalone basis

V (B) = Value of firm B on a standalone basis

Consequently, a reverse synergy or value loss would occur if the two companies were worth more on a standalone basis than as a combined company (*equation (2)*).

$$V(AB) < V(A) + V(B) \tag{2}$$

Rosenbaum & Pearl (2013) identify synergies as one of the primary value enhancers for M&A transactions, especially when acquiring competitors or firms with the same or related core businesses. In this case, the synergies are usually greater, and the chances of success are higher, as there is a greater likelihood of overlap and redundancy. The acquirer can use its detailed knowledge of the business and market dynamics to achieve greater success.

Damodaran (2012) distinguishes between operating and financial synergies. *Appendix Table 5* provides a more detailed explanation and classification of synergy types with appropriate examples. According to a McKinsey study[2] (Christofferson et al., 2004), operating synergies are weighted more importantly than financial synergies in potential acquisitions. Compared to revenue synergies, cost synergies are easier to quantify because the effects of a headcount reduction or facility consolidation are easier to measure than revenue synergies. As cost synergies also have a higher likelihood of success than revenue synergies, cost synergies are more rewarded in the market through stock price appreciation.

Besides creating value through synergies, it is also possible to have value reduction through M&A transactions. This is also expressed in *equation (2)* by a reverse synergy. The hubris theory in *Appendix Table 4* gives examples of how value reduction can occur in a M&A transaction. In practice, synergy effects are often incorrectly valued or overvalued, and company valuations are based on overly optimistic assumptions, resulting in an excessive purchase price. Christofferson et al. (2004) identify the underestimation of onetime costs and integration costs as typical sources of valuation errors, as well as the use of benchmarks without intensive sensitivity checks derived from non-comparable situations. The winner's curse mentioned in the theory also leads to a value reduction because a buyer makes an overly high bid for a target based on incomplete or poor information. As the target is then heavily overpaid

[2] McKinsey Quarterly: "Where Mergers Go Wrong", May 2004.

and an excessive purchase price payment exceeds possible synergy effects and value creation opportunities, value is destroyed for the combined company after a transaction.

2.1.4 Payment Methods in M&A Transactions

The purchase price in a M&A transaction can generally be paid in funds from cash, debt, and equity. Choice of financing for the buyer depends on various factors including company size, balance sheet flexibility and structure, credit profile and external factors of the capital market and macro-economy. On top of that, the choice of funds depends on the cost of capital and the speed and certainty of the transaction. *Appendix Table 6* describes the advantages and disadvantages of the various financing methods in detail.

By financing a transaction with funds from cash and debt, you have a cash deal, and by financing with equity, you have a stock deal. Equity financing is generally defined as a situation where a company uses its own shares as an acquisition currency (Rosenbaum & Pearl, 2013). The target shareholders can be paid with the buyer's own shares or cash proceeds from a capital increase can be used. Rappaport & Sirower (1999) state that the main difference between cash and stock deals is that in a cash transaction the shareholders of the buyer assume the entire risk of possible synergies and the success of the transaction. In a stock deal, these risks are shared between the shareholders of the buyer and the target.

2.1.5 Acquisition Premium

The acquisition premium is defined by Amel-Zadeh & Zhang (2015) and Officer (2007) as the acquirer's offer price in excess of the target's share price. The offer price reflects the acquirer's assessment of the target's potential to create takeover benefits. Rosenbaum & Pearl (2013) define the acquisition premium as the incremental amount of money per share offered by the acquirer relative to the target's unaffected share price, expressed as a percentage (*equation (3)*).

$$\%\ Premium\ Paid = \frac{Offer\ Price\ per\ Share}{Unaffected\ Share\ Price} - 1 \tag{3}$$

In the balance sheet of the combined company, the acquisition premium is recorded as "goodwill". The amount of the acquisition premium depends on the expected takeover benefits, the bidder competition during the M&A process, the industry of the target and on macroeconomic factors.

Similarly, the included control premium is crucial, as the buyer must offer incentives in the form of an offer higher than the market price to obtain controlled ownership of the target and to motivate the target's shareholders to sell their shares. A Boston Consulting Group (BCG) study[3] (Kengelbach et al., 2019) reported that an average acquisition premium of 30.6% was paid in global M&A transactions between 1990 and 2019 across all industries.

2.2 Firm Valuation Overview

This firm valuation overview sub-chapter addresses the various valuation methods used during this thesis. A brief description of the process of the different valuation methods is first given. The individual components are then explained in more detail in the corresponding sub-chapters.

2.2.1 Discounted Cash Flow (Intrinsic Valuation Approach)

Damodaran (2012) explains the rationale behind the discounted cash flow analysis (DCF) as the estimation of the intrinsic value of an asset based on its fundamentals. The underlying principle is that the value of an asset can be derived from the present value of its projected free cash flows (FCF). With its intrinsic value approach, the DCF serves as an important alternative to market-based valuation methods. A major advantage is that assumptions and estimates can be easily modelled, and thus different scenarios can be analysed and subsequently checked for sensitivity.

According to Koller et al. (2020), a DCF has a projection period and a terminal value (TV). In the projection period, the FCF can be projected more precisely. Depending on the maturity of the company, the industry and the predictability of the financial performance, this period is between 5 and 10 years. The goal in the projection period is to predict the FCF at a steady state level as accurately as possible. As it becomes increasingly difficult to reliably predict the FCF over an extended period due to different business and economic cycles, the TV is additionally used. The TV captures the remaining value behind the projection period and therefore reflects the "going concern" value. The TV represents a large proportion of the value of the company to be determined in a DCF. For this reason, it is important to forecast the financials of the company in the last year (terminal year) of the projection period at a steady state or normalised level.

The projected FCF from the projection period and the TV are discounted to the present at the weighted average cost of capital (WACC). The enterprise value (EV) is the sum of all discounted free cash flows from the projection period and the discounted TV. Implied equity value and share price can then be derived from the calculated EV. The final step is a sensitivity

[3] BCG M&A Report "Downturns are a Better Time for Deal Hunting", September 2019.

analysis in which all assumptions made and key value drivers such as exit multiple, growth rate, WACC and various scenarios are varied and tested to determine a valuation range.

2.2.1.1 Free Cash Flow

Primarily, the unlevered FCF is required for this paper, which is independent of the capital structure. This FCF is also called free cash flow to the firm (FCFF) as it represents the FCF to all capital providers (debt and equity holders) and is therefore before financing costs (interest expense) but after taxes (*equation (4)*).

$$FCFF = EBIT * (1 - t) + D\&A - CAPEX - \triangle NWC \tag{4}$$

Whereas:

EBIT = Earnings before Interest and Taxes

t = Tax rate (at the Marginal Tax Rate[4])

EBIT * (1 - t) = NOPAT (Net Operating Profit After Taxes)

D&A = Depreciation & Amortization

CAPEX = Capital Expenditures

△NWC = Increase/(Decrease) in Net Working Capital[5]

Generally, with FCFF projections the historical performance of the company is analysed first. Historical performance is always a good first indicator for future and defensible assumptions (Rosenbaum & Pearl, 2013). In addition, broker research, industry reports or management expectations are considered for a future projection of the individual components of the FCFF.

2.2.1.2 Weighted Average Cost of Capital

Koller et al. (2020) define WACC as the total cost to a company of raising new capital or a representation of the riskiness of an investment in the company. When calculating WACC, a target capital structure consistent with the company's long-term strategy should be chosen:

$$WACC = \frac{E}{D + E + PE} * r_e + \frac{PE}{D + E + PE} * r_{pe} + \frac{D}{D + E + PE} * r_d * (1 - t) \tag{5}$$

Whereas:

E = Market Value of Equity $\quad$ r_e = Cost of Equity

[4] Marginal tax rate is used as the company's actual tax rate (effective tax rate) differs due to the use of tax credits or other tax specific policies.
[5] Components of the NWC that indicate a source or use of cash for the company are forecasted by the cash conversion cycle (days sales outstanding, days inventory outstanding, days payables outstanding).

D = Market Value of Debt $\quad$ r_d = Cost of Debt

PE = Preferred Stock $\quad$ r_{pe} = Interest Rate of Preferred Stock

Preferred stock is a kind of hybrid between debt and equity, as it is equity, but due to characteristics such as a fixed interest payment, no voting rights and preferential treatment in the event of insolvency, it is classified more as debt. Therefore, the preferred stock component is considered separately in (*equation (5)*) for calculating the WACC.

2.2.1.2.1 Market Value of Equity and Debt

The market value (MV) of equity on a fully diluted basis can be determined according to Koller et al. (2020) for listed companies by multiplying the number of shares outstanding by the current share price. Options, warrants and convertible bonds must also be included in the market value of equity if they are in the money. If they are out of the money, warrants and bonds are added to debt.

Damodaran (2012) classifies the calculation of the market value of debt as more difficult. Firms usually have a mix of publicly traded debt (bonds) and non-publicly traded bank debt. The publicly traded debt reflects the market value and the non-traded debt the book value. To convert the debt with book value into market value, the entire non-traded debt is treated as a coupon bond (*equation (6)*). The coupon corresponds to the interest expenses for all the debt and the maturity reflects the weighted average maturity of the debt.

$$MV\ of\ Debt = C * \left(\frac{1 - \frac{1}{(1+r_d)^{ta}}}{r_d} \right) + \frac{FV}{(1+r_d)^{ta}} \tag{6}$$

Whereas:

C = Interest Expense (annually)

FV = Total Bank Debt

ta = Weighted Average Maturity of the Debt

2.2.1.2.2 Cost of Equity

Rosenbaum & Pearl (2013) describe the cost of equity as the required annual return including dividends that equity investors demand. For the calculation of the cost of equity, the Capital Asset Pricing Model (CAPM) is used, which was introduced by Sharpe (1964):

$$r_e = r_f + \beta_l * (r_m - r_f) \tag{7}$$

Whereas:

r_f = Risk-free Rate

$ß_l$ = Levered Beta

r_m - r_f = Market Risk Premium

The risk-free rate is the expected rate of return on an investment in a "riskless" security such as German government bonds. KPMG Corporate Finance quantifies a market risk premium of 5.5%[6], which represents the spread of the expected market return over the risk-free rate. Another component of the CAPM is the levered beta. The beta is a measure of the covariance between the rate of return on a company's stock and the overall market return of an index such as the DAX. A beta greater than one represents that a stock has a higher systematic risk than the market. Whereas a beta smaller than one indicates a lower systematic risk compared to the market. Information on levered betas of the peer group is provided by databases such as Thomson Reuters Refinitiv. The levered betas are determined by the capital structure of the peer companies. To eliminate the influence of financing decisions and to determine an industry beta as the median of the betas, the levered betas must be converted into an unlevered beta (Rosenbaum & Pearl, 2013):

$$ß_u = \frac{ß_l}{\left(1 + \frac{D}{E} * (1 - t)\right)} \tag{8}$$

Whereas:

$ß_u$ = Unlevered Beta

D/E = Debt-to-Equity Ratio

Finally, the unlevered beta of the peer group, which now reflects the industry median, must be relevered with the capital structure of the company to be valued:

$$ß_l = ß_u * \left(1 + \frac{D}{E} * (1 - t)\right) \tag{9}$$

2.2.1.2.3 Cost of Debt

The cost of debt for publicly traded bonds are their corresponding yield to maturities (YTM). For private, non-traded debt, the cost of debt is determined by calculating the default spread

[6] KPMG Equity Market Risk Premium Research, March 2022.

plus the risk-free rate. The default spread is derived from rating tables of the major rating agencies[7] and is calculated based on the company's rating and key financial figures like the interest coverage ratio (Damodaran, 2012).

2.2.1.2.4 Calculation of the Terminal Value

Koller et al. (2020) calculate the TV based on the company FCFF or EBITDA of the final year of the projection period. In this context, they describe two common methods for calculating the TV. The first is the exit multiple approach (*equation (10)*) and the second is the perpetuity growth approach (*equation (11)*).

$$TV\ (Exit\ Multiple\ Method) = EBITDA_n * Exit\ Multiple \tag{10}$$

Whereas:

n = Final Year of the Projection Period (Terminal Year)

EBITDA = Earnings before Interests, Taxes, Depreciation, and Amortisation

$$TV\ (Perpetuity\ Growth\ Method) = \frac{FCFF_n * (1 + g)}{(WACC - g)} \tag{11}$$

Whereas:

g = Perpetuity Growth Rate

The exit multiple method takes a multiple based on terminal year EBITDA or EBIT of the company being valued. Thereby the exit multiple taken is based on existing public market valuations of comparable companies that have recently been acquired.

The perpetuity growth method assumes that the FCFF of the company being valued grow at a steady rate in perpetuity. The growth rate can never be greater than the WACC. Good indicators for the growth rate are forecasted gross domestic product rates, industry growth rates or inflation rates.

As Rosenbaum & Pearl (2013) state, both methods are calculated in practice and the TV determined in each case is thus cross-checked. In addition, the calculation of the implied exit multiple (*equation (12)*) and the implied perpetuity growth rate (*equation (13)*) serve as a sensitivity check to exclude unrealistic assumptions.

[7] Big three: S&P Global Ratings, Moody's, and Fitch Group, *Appendix Table 17.*

$$Implied\ Exit\ Multiple = \frac{TV^{8}}{EBITDA_n} \tag{12}$$

$$Implied\ Perpetuity\ Growth\ Rate = \frac{\left(\left(TV^{9} * WACC\right) - FCFF_n\right)}{\left(TV^{19} + FCFF_n\right)} \tag{13}$$

2.2.1.2.5 Equity Value vs. Enterprise Value

The EV represents the total enterprise value which is distributable to all equity and debt holders and consequently reflects total ownership interest. A DCF obtains the EV by adding up the sum of all discounted FCFF from the projection period and the discounted TV (*equation (14)*).

$$EV = \sum_{i=1}^{n} \frac{FCFF_i}{(1 + WACC)^{i}} + \frac{TV}{(1 + WACC)^{n}} \tag{14}$$

Whereas:

i = Respective Year

Another way to calculate EV as described by Rosenbaum & Pearl (2013) is to use the EV-Equity bridge (*equation (15)*). This formula can also be used to determine the equity value of a company by rearranging the formula to equity value. The equity value is the part of the company's value that is allocated exclusively to equity investors. In most M&A transactions, the EV reflects the true purchase price, as the buyer is obliged to make mandatory debt repayments and refinance the debt due to change of control clauses for debt instruments.

$$\begin{gathered} EV = Equity\ Value^{10} + Total\ Debt^{11} + Preferred\ Stock + Noncontrolling\ Interest + \\ Capital/Finance\ Lease^{12} + Pension\ Obligations + Asset\ Retirement\ Obligations - \\ Cash\ and\ Cash\ Equivalents \end{gathered} \tag{15}$$

2.2.2 Adjusted Present Value (Intrinsic Valuation Approach)

Another intrinsic value valuation first introduced by Myers (1974) is the adjusted present value (APV) method. The basic concept is to initially value the company without debt and then add the present value of the tax shield and deduct the expected financial distress cost due to the debt borrowing (*equation (16)*).

[8] TV calculated with perpetuity growth rate.
[9] TV calculated with exit multiple.
[10] Equity value on a fully diluted basis.
[11] Interest bearing debt.
[12] If IFRS 16 is not applied, operating leases are converted into capital leases.

$$EV = \sum_{i=1}^{n} \frac{FCFF_i}{(1 + r_e^u)^i} + \frac{TV}{(1 + r_e^u)^n} + PV\ (Tax\ Shield) - E\ (Distress\ Costs) \tag{16}$$

Whereas:

r_e^u = Unlevered Cost of Equity

PV (Tax Shield) = Present Value Tax Shield

E (Distress Costs) = Expected Distress Costs

First the company is valued without debt by discounting the FCFF and the TV with the unlevered cost of equity. The unlevered cost of equity is derived from *equation (7)* by replacing the levered beta with the unlevered beta (*equation (8)*). In the second step, the expected tax advantage (tax shield) is calculated as perpetuity in accordance with Damodaran (2012):

$$PV\ (Tax\ Shield) = \sum_{i=1}^{n} \frac{t * r_d * D_i}{(1 + r_d)^i} \tag{17}$$

To calculate the expected distress costs (*equation (18)*) in the event of a bankruptcy, the probability of default and the associated bankruptcy cost must be determined. According to Damodaran, this is the greatest difficulty with the APV method. Altman et al. (1999) suggest that the bond rating of the company can be used to determine the default probability[13]. Bankruptcy costs, in contrast, are based on studies that have investigated the characteristics and magnitude of bankruptcy costs. Shapiro (1989) and Titman (1984) describe a small part of bankruptcy costs as direct bankruptcy costs, such as legal costs or administrative costs. Indirect bankruptcy costs, such as the loss of important employees and customers and brand damage, account for a considerable share of 25% to 30% of the firm value.

$$E\ (Distress\ Costs) = \pi_d * BC * \left(\sum_{i=1}^{n} \frac{FCFF_i}{(1 + r_e^u)^i} + \frac{TV}{(1 + r_e^u)^n} \right) \tag{18}$$

Whereas:

π_d = Probability of bankruptcy

BC = Bankruptcy costs as percentage of EV

[13] Rating and probability of default table in accordance with Altmann (2009) in the *Appendix Table 17.*

2.2.3 Multiple Valuation (Relative Valuation Approach)

In contrast to the intrinsic value approach of the DCF, the multiple valuation represents a market-based valuation approach. In the case of multiples, a basic distinction can be made between multiples that reflect the EV or the equity value of a company (*Appendix Table 7*). It is important that the numerator in the calculation of the multiple matches the denominator. EV multiples may only be calculated with financial metrics that can be attributed to equity and debt holders together, whereas equity value multiples can only be attributed to equity holders and are therefore influenced by the capital structure. EV multiples are widely used in practice as they are independent of the capital structure and other factors that are not business relevant. For example, they are independent of different tax burdens of the countries or certain accounting policies of the companies like depreciation (Rosenbaum & Pearl, 2013).

According to Liu et al. (2002), multiples can be divided into current, trailing (LTM = last twelve months) and forward-looking (NTM = next twelve months) multiples.

A distinction must be made between comparable companies' analysis ("comps" or "trading comps") and precedent transactions analysis ("precedents" or "transaction comps"). The individual steps in the multiple valuation of trading and transaction comps are shown in *Appendix Figure 16.*

2.2.3.1 Comparable Companies Analysis

Trading comps reflect a current valuation measured against prevailing market conditions and sentiment. The trading comps are used to determine the value of the target company based on comparable listed companies. As shown in *Appendix Table 7*, there are various multiples that are determined for comparable companies and then applied as a peer group median to the appropriate financial metric of the target company.

Koller et al. (2020) select comparable companies based on business profile characteristics (sector, products, services, customer, end markets, geography) and financial profile characteristics (size, profitability, growth, return on investment, creditworthiness).

2.2.3.2 Precedent Transaction Analysis

Transaction comps are based on multiples of previous transactions of comparable companies. They usually deliver higher multiples than trading comps. This is because the multiples of transaction comps include a control premium that the buyer must pay to obtain control of the target company. In addition, multiples from strategic buyers (corporate competitors) include expected synergies based on the transaction multiple paid. With transaction comps, an M&A premium analysis can be carried out. For this purpose, it is necessary to look at the multiples paid for the transaction and to extract the multiples of the company on different days before the announcement of the transaction (Damodaran, 2012). The criteria for selecting precedent transactions are analogous to the trading comps (business and financial profile characteristics).

2.2.4 Valuation of Synergies

To value synergies, Damodaran (2001) uses the DCF technique explained in *2.2.1 Discounted Cash Flow (Intrinsic Valuation Approach)* with discounting of the WACC. First the target and the buyer are valued separately on a stand-alone basis. Then the value of the combined company without synergies is determined by adding up the stand-alone company values of the target and the buyer (*equation (19)*). In contrast, the combined company consisting of the target and the buyer is valued via a merger model including synergies (*Appendix Table 5*). The value of the synergies is then determined by subtracting the combined company with synergies minus the combined company without synergies (*equation (20)*).

$$Company_{BT} = Company_{B} + Company_{T} \tag{19}$$

Whereas:

$Company_{BT}$ = EV of Combined Company without Synergies

$Company_{B}$ = Buyer Company on a stand-alone Basis

$Company_{T}$ = Target Company on a stand-alone Basis

$$Synergies = Company_{BTS} - Company_{BT} \tag{20}$$

Whereas:

$Company_{BTS}$ = EV of Combined Company derived from Merger Model with Synergies

3 Industry and Company Profiles

This chapter analyses the gaming industry in terms of its dynamics, drivers, trends, and competitive landscape and provides a detailed analysis of the buyer Sony and the target EA inclusive deal rational.

3.1 Gaming Industry and Market Dynamics

The target market in which Sony is buying EA is the gaming industry, or more specifically the game development and game publishing industry. *Appendix Figure 17* shows the composition of the value chain of games software. Game developers create games from scratch by developing and coordinating the code, the storyline, the visuals, the gameplay, and everything else around the game design. They determine whether the game will be exclusive to certain consoles or applicable to the broad hardware range. Game publishers, in contrast, commercialise (marketing, trailer development, sales strategy, content release) the finished game and bring it to the market so that the world can play it.

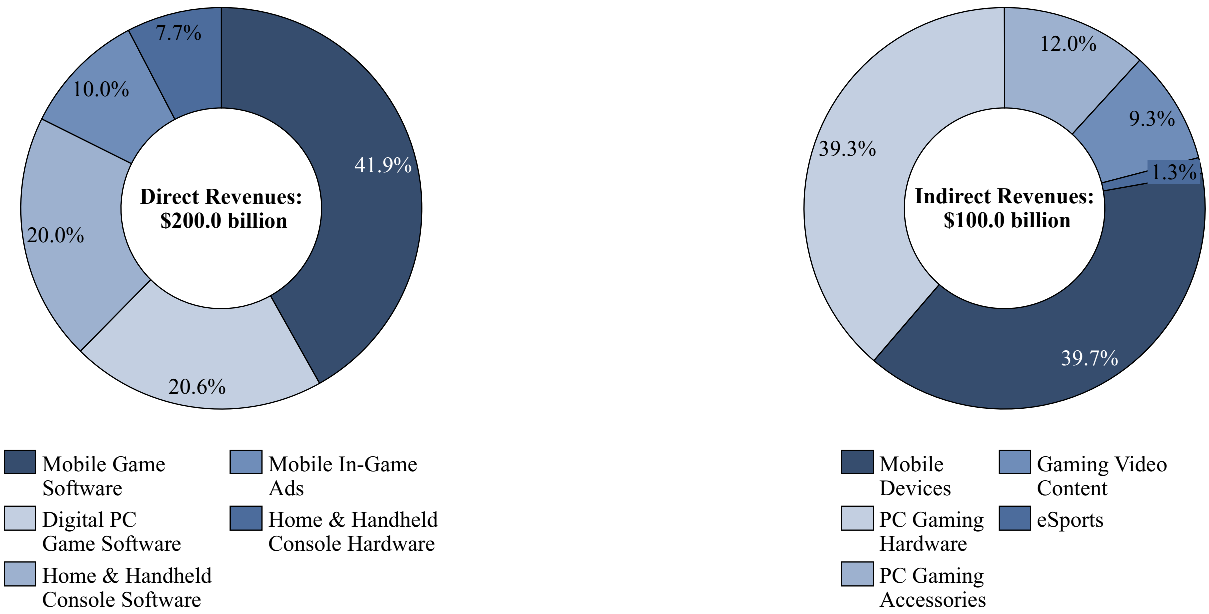
3.1.1 Market Size and Segmentation

As already mentioned in the introduction, Accenture (Kelly et al., 2021) estimates the market size of the entire gaming industry from both direct and indirect revenues at $300.0 billion[1].

In *Figure 1* the direct gaming market represents revenues generated directly by gaming, including revenues from the sale of software (games), hardware (game consoles), in game purchases and advertising. The direct gaming market also drives and influences the indirect gaming market through sales in the eSports sector and sales on other mobile devices as well as sales of gaming accessories.

Sony is primarily active in the direct gaming market through the sale of home and handheld software (games) and hardware (game consoles). Home and handheld software accounts for 20.6% and home and handheld hardware for 7.7% of the $200.0 billion total direct gaming revenue in 2020. EA doesn't sell its own game consoles but develops and publishes games for consoles, PCs, and mobiles. In addition to the mobile game software, digital PC software and home and handheld software, EA is active in the indirect gaming market in the segments eSports and gaming video content.

Figure 1: Segmentation of the global gaming industry market 2020

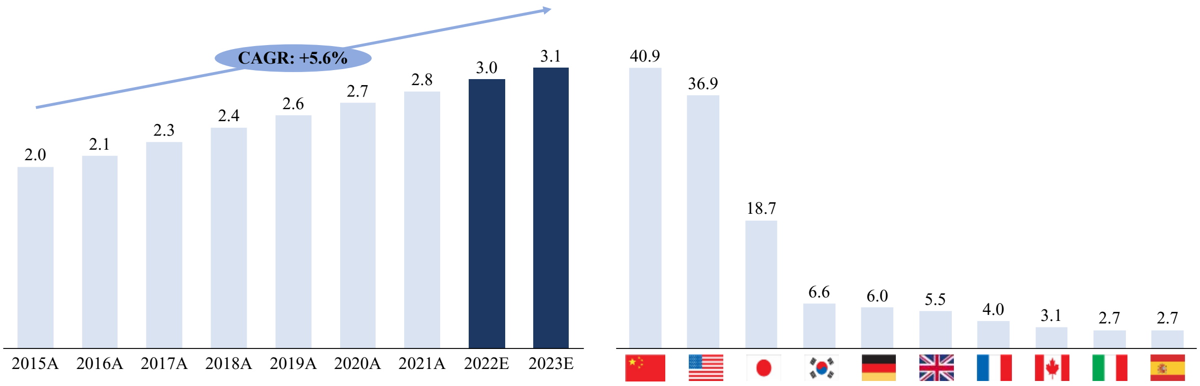


Source: Accenture report "Gaming – the new superplatform", April 2021

3.1.2 Main Drivers and Trends

The biggest driver of the gaming industry is the increase in the world's population and digitalisation (Kabla et al., 2020). More and more people have hardware that enables unrestricted gaming, in the form of game consoles, mobile phones, tablets or PCs with internet access. People around the world are spending more and more time online and with gaming, a trend that has recently been reinforced by the corona pandemic. Accenture[1] (Kelly et al., 2021) estimates that the average gamer is 32 years old and spends an average of 16 hours a week playing video games. In addition, he spends an average of 8 hours a week watching or participating in video streams and six hours a week interacting in game forums and communities. *Figure 2* shows the evolution of active video game players and indicates that in 2022 about three billion people in the world will be playing video games and online games. The three billion gamers are almost equally divided between women (48.0%) and men (52.0%). According to *Figure 2*, the top five countries with the highest gaming revenues include three countries from the Asia-Pacific (APAC) region: China, Korea, and Japan. The APAC region is particularly gaming affine as 54.0% of the world's three billion gamers come from the APAC region, according to Accenture[1] (Kelly et al., 2021). Europe has the second largest gamer share with 14.0%, followed by Middle East and Africa with 13.0%, Latin America with 10.0% and North America with 9.0%.

Figure 2: Development of active video gamers worldwide in billion people (left) and top 10 gaming revenues by country in $billion (right)



Source: Finances Online, March 2022

Alongside the increasing number of gamers worldwide and technological progress, *Appendix Figure 18* shows other observable drivers and trends affecting the gaming industry.

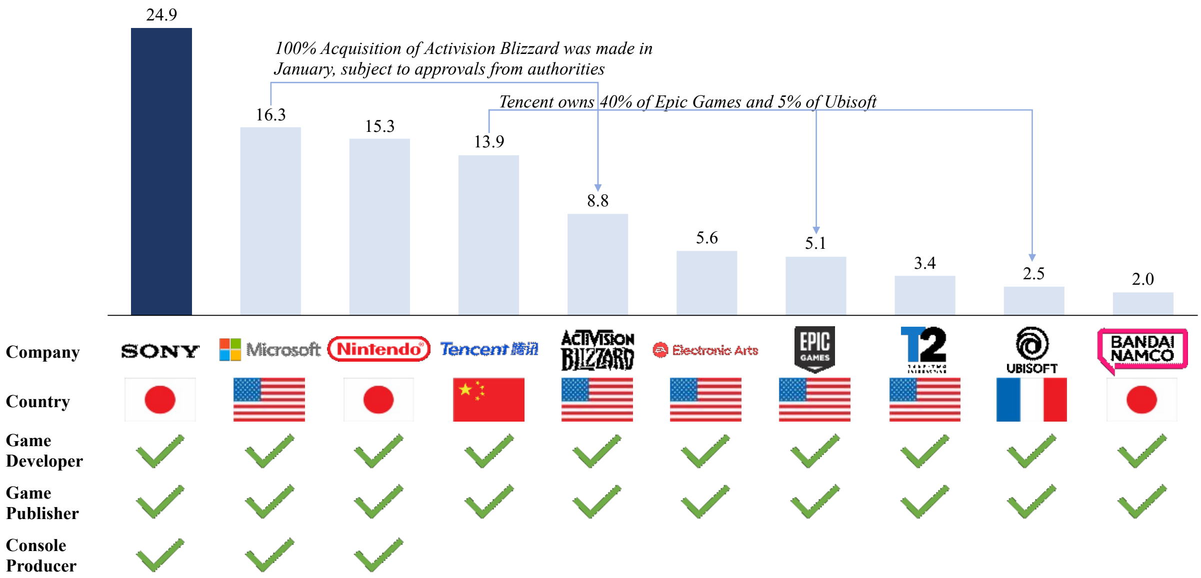
Another big driver of the industry are M&A transactions (*Appendix Table 8*) to acquire game developers and publishers of the most popular games on the market, to guarantee access to a large customer base (Kabla et al., 2020). By acquiring popular game titles, the three major game console manufacturers Microsoft, Nintendo and Sony can achieve exclusivity for their respective consoles and make certain games only playable on their consoles. In addition, an M&A trend can be observed in the acquisition of mobile game providers. Game publishers are also acquiring game developers in the form of vertical mergers or other game publishers to increase their market share or expand into other markets like the Asian market.

3.1.3 Competitive Landscape

The gaming market generally comprises companies that produce the hardware in the form of game consoles or PCs and the software in the form of games. *Figure 3* provides an overview of the world's ten largest gaming companies in terms of divisional gaming revenues in 2021. These companies, by virtue of their size and business strategy, are all game developers and game publishers at the same time. In addition, the top three gaming companies Sony, Microsoft and Nintendo produce their own game consoles (Gilbert, 2022).

It is striking that the gaming market is dominated by companies from the USA and Asia. Among the ten largest gaming companies, five are from the USA and four from Asia.

Figure 3: *Largest gaming companies by revenue of respective gaming division 2021 in $billion*

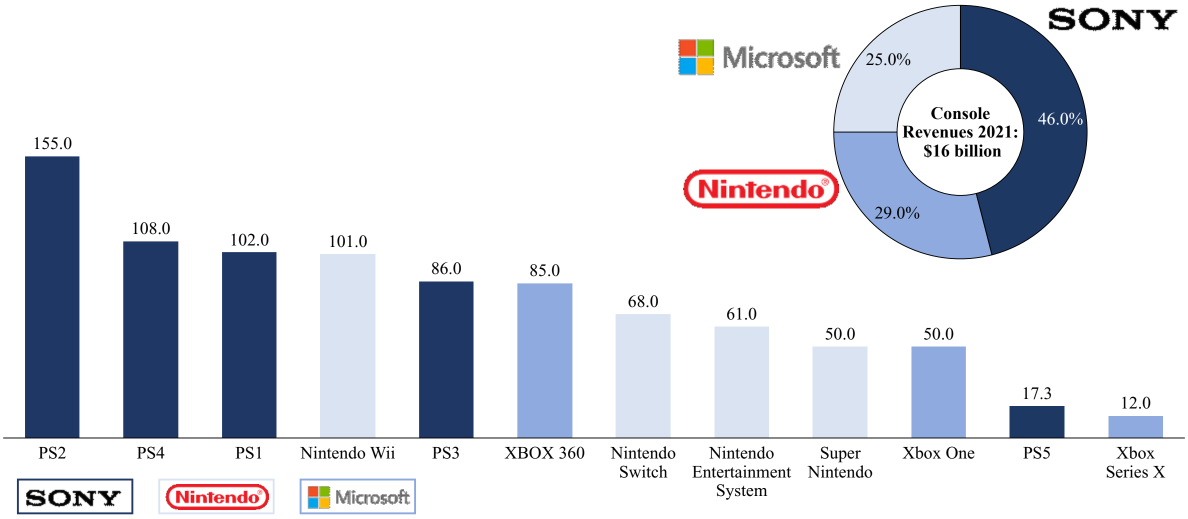


Source: 2021 Annual reports of respective companies

The French company Ubisoft is the only European company represented. American and Asian companies are heavily consolidating the market, as shown in *Appendix Table 8*. There are also acquisitions below the top ten gaming companies. Especially the big technology groups like Microsoft, Tencent and Sony can make large acquisitions due to their financial strength and cash reserves (Sants, 2022).

As shown in *Figure 4*, the market for game consoles, which is currently worth about $16.0 billion, is divided between the three players Sony, Microsoft, and Nintendo. Sony is the market leader in the console market with a market share of 46.0%, followed by Nintendo with 29.0% and Microsoft with 25.0% (Gilbert, 2022). Sony and Microsoft recently launched their two new game consoles in 2020: PlayStation 5, and Xbox Series X. Competitor Nintendo launched its last console in the form of the Nintendo Switch in 2017.

Figure 4: World's best-selling gaming consoles in million units and market share split 2021 in the gaming console market



Note: PS5 and Xbox Series X ongoing sale: Ongoing chip shortage prevents higher sales figures

Source: Finances Online, March 2022

According to the production cycle in *Appendix Figure 19*, Nintendo launches a new console every 5.4 years on average, followed by Microsoft with 6.0 years and Sony with 6.3 years. Nintendo is also the market leader with seven game consoles developed while Sony has developed five consoles and Microsoft four consoles. On the other hand, Sony is the market leader in terms of all time consoles sold. The market is dominated by Sony and his three best-selling consoles in *Figure 4* (PlayStation 2,4 and 1). The Nintendo Wii is in fourth place and the best-selling Microsoft console is the Xbox 360 in sixth place (Gilbert, 2022).

All big gaming companies have several different development studios according to their company websites. The big advantage of major video game companies is that they are both game developers and publishers, which means they can basically design and market the games according to their ideas. They therefore have enormous influence on the value chain in *Appendix Figure 17* and can make the development and marketing process as effective and cost-efficient as possible. Through in-game purchases of objects or various online game modes and subscriptions, the top players can earn additional money in the form of recurring revenues. In addition, due to their profitability and size, they can invest massively in marketing to guarantee the success of the games (Kabla et al., 2020).

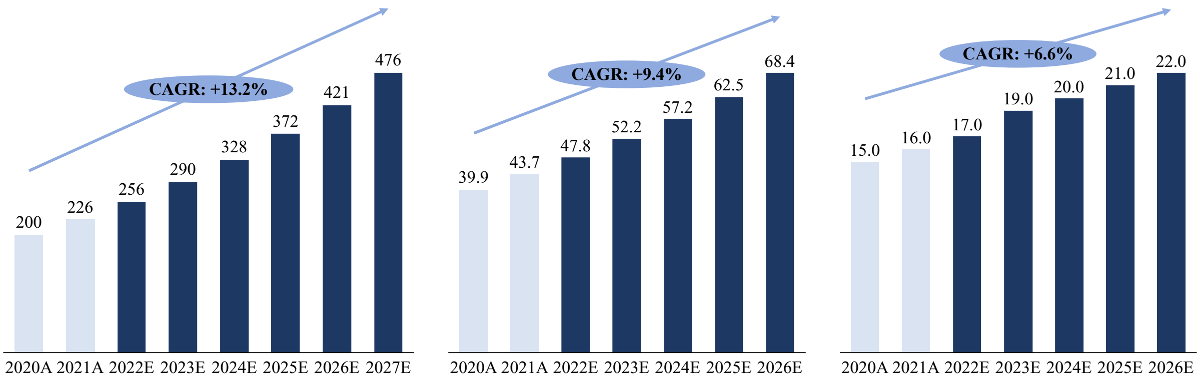
The big players, as shown in *Appendix Table 9*, have many development studios and developers in their organisational matrix and can outsource various stages of the development process.

Number of developers can greatly reduce development time and market readiness. Veresockaya (2020) classifies the average development time of AAA games as three to five years and the average development and marketing costs of these games as $60.0 million to $80.0 million. But development costs are also highly dependent on the game. Development costs for the top games in *Appendix Table 9* were $265.0 million for Take Two Interactive (Grand Theft Auto V) and $250.0 million for Activision Blizzard (Call of Duty Modern Warfare).

3.1.4 Gaming Industry Outlook

The global direct gaming market is driven by strong forecasts from the drivers and trends described in *3.1.2 Main Drivers and Trends*. With a compound annual growth rate (CAGR) of 13.2%, the direct gaming market will grow from $200.0 billion in 2020 to $476.0 billion in 2027 (*Figure 5*). The two sub-segments home & handheld software and home & handheld hardware which are target markets for Sony and EA are also growing strongly. The home & handheld software (games) market is growing at a CAGR of 9.4% from $40.0 billion in 2020 to $68.0 billion in 2026. At a CAGR of 6.6%, the Home & Handheld Hardware (game consoles) market is growing from $15.0 billion in 2020 to $22.0 billion in 2026.

Figure 5: *Global direct gaming market (left), home & handheld software market (middle), home & handheld hardware market (right) in $billion*

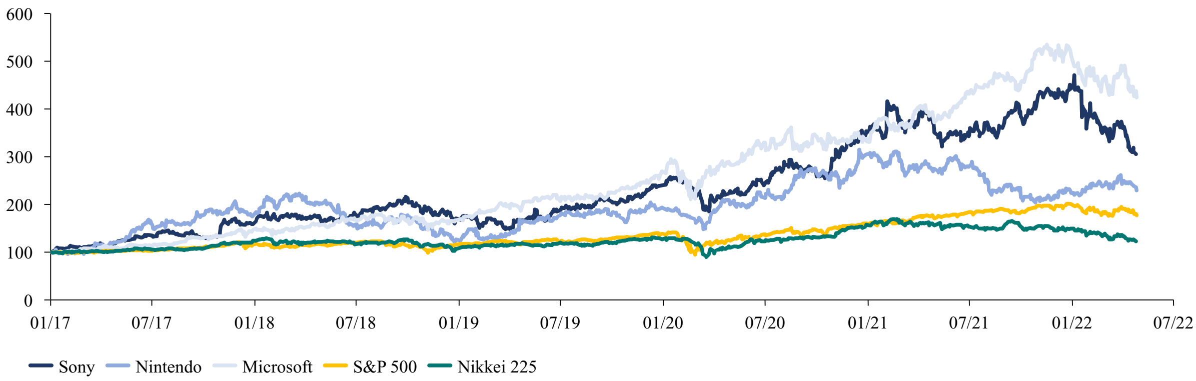


Source: MarketLine, Statista, The Business Research Company, April 2022

3.2 Company Profile of the Buyer Sony

Sony was founded in 1946 by Masaru Ibuka and Akio Morita. The Japanese company, headquartered in Tokyo, has evolved over the past 60 years from a small local company with a starting capital of about $1,500 and 20 employees to a global technology corporation with 109,700 employees. Sony operates in 46 countries with 61 office locations and is listed on both the Tokyo and New York Stock Exchanges. *Figure 6* shows a comparison of the cumulative returns of the big three game consoles and game producers Microsoft, Nintendo and Sony compared to the S&P 500 and the Nikkei 225 over the years 2017 to 2022. 2017 reflects the reference year with a starting value of 100. Sony significantly outperforms the S&P 500 and the Nikkei 225 as well as Nintendo during the Corona Pandemic. Sony has 1.2 billion shares outstanding of which 99.9% are in free float with 384,047 shareholders. A detailed overview of the shareholder structure is shown in *Figure 7*. With a market capitalisation as of 27 April 2022 of $107.0 billion, Sony is the second-largest Japanese company behind automotive firm Toyota.

Figure 6: *Cumulative returns of Microsoft, Nintendo, and Sony for the years 2017-2022*



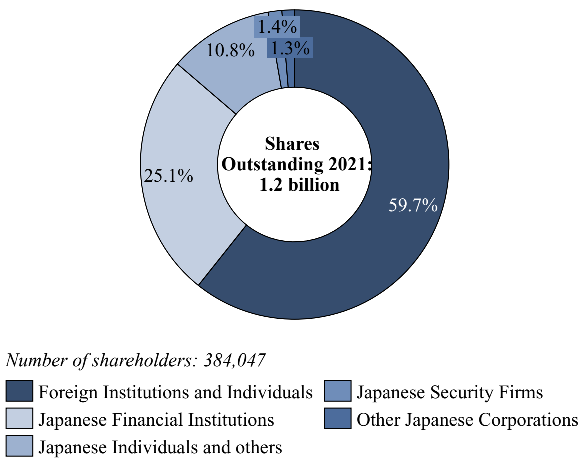
Source: Thomson Reuters Eikon, April 2022 (reference year 2017 = 100)

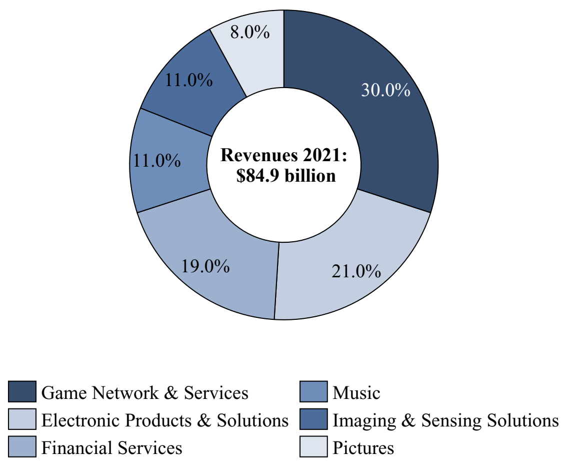
Technological progress and development strength characterise Sony as they have invented products including the Blu-Ray disc, CD player, PlayStation, transistor radio, Trinitron television and Walkman. Kenichiro Yoshida is the chief executive officer (CEO) of Sony, which operates in the following six business segments:

- **Game and network services:** One of the world's leading game ecosystems and network platforms and Sony's largest segment in terms of revenues, as shown in *Figure 7*. This area is responsible for the development and sale of gaming consoles and games. In addition, this segment includes the PS network with 104.0 million monthly users, 46.3 million PS plus subscribers and 3.2 million PS now subscribers. Recurring revenues from subscriptions and add-on content are therefore generated by the Network Services.
- **Electronic products and solutions:** Sony's founding business which offers products in the areas of image (TVs, cameras), sound (speakers, headphones) and communication (Xperia mobile phones). Core technologies in the areas of light sources, sensor technology, display and communication are integrated into products.

- **Financial services:** In Japan, insurance products (mainly automotive insurance) are offered to individual customers through Sony assurance. The Sony bank also offers mortgage loans and foreign currency deposits through online services.
- **Music:** Forerunner of Sony's entertainment business and ranked first in music publishing and second in music production worldwide. Artists include among others Future, Harry Styles and Olivia Rodrigo.
- **Imaging and sensing solutions:** Production of Complementary Metal Oxide Semiconductor (CMOS) image sensors which are used in various applications such as cars, cameras, mobile phones, or sports technologies. Sony combines CMOS image sensors with pixels, signal processing and algorithms.
- **Pictures:** Only independent major Hollywood studio producing and distributing international films (over 31 films such as Jumanji, Karate Kid, Spider-Man, Uncharted), television series (over 120 series such as Blacklist, The Boys, The Crown) and video and mobile game entertainment.

Figure 7: Sony's shareholder structure (left) and revenue split by business division in 2021 (right)

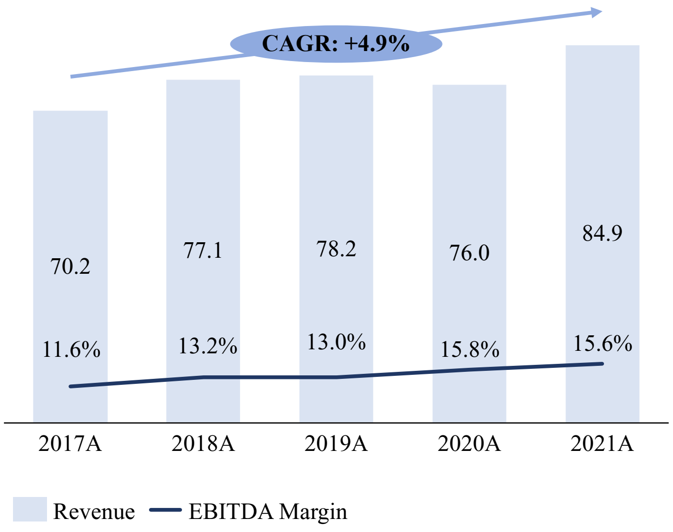




Source: 2021 Annual report of Sony

Sony is distinguished by financial stability. 2021 was a new record year and Sony was able to increase its revenues to $84.9 billion. Revenues increased by 20.9% with a CAGR of 4.9% in the period from 2017 to 2021 (*Figure 8*). *Appendix Table 10* shows key financial items within Sony's income statement, balance sheet and cash flow statement and related financial ratios as well as the industry median.

Figure 8: Overview of Sony's revenue ($billion) and EBITDA margin development



Source: Annual reports of Sony

The leverage ratio is negative as the excess cash position is greater than the existing interest-bearing debt. Sony had cash and cash equivalents of $42.4 billion in 2021, which can be invested in research and development (R&D) and acquisitions. In addition, Sony has increased room to increase its borrowings, which is a favourable financing option with a company rating of A (Standard & Poor's) and A3 (Moody's). The value for shareholders has also increased significantly in recent years. The net income margin rose from 2.5% (2017) to 13.6% (2021). Accordingly, earnings per share (EPS) have increased from $1.4 to $9.4 within five years. Overall, Sony 2021 outperformed the industry median in all areas. The EBITDA margin of 15.6% is significantly higher than the industry median of 9.8%. The net income margin of 13.6% is also higher than the industry median of 5.8%.

The SWOT analysis (*Appendix Figure 20)* provides a detailed insight into Sony's strengths, weaknesses, opportunities, and threats[14].

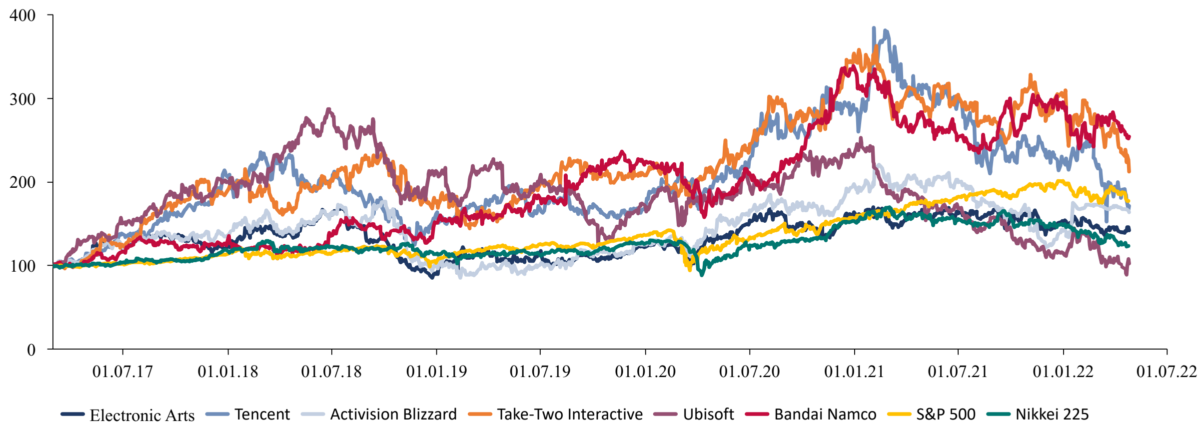
3.3 Company Profile of the Target Electronic Arts

EA was founded in 1982 in Redwood City, California, USA by former Apple employee William (Trip) M. Hawkins. The company is a global leader in digital interactive entertainment, and develops, markets, and publishes games, content and services that can be played and viewed on game consoles, PCs, mobile phones, and tablets. EA has more than 540.0 million registered players and fans in over 200 different countries. The games portfolio includes brands that EA

[14] Information based on Sony's website.

either owns outright (such as Apex Legends, Battlefield, Need for Speed, Plants vs. Zombies and The Sims) or licenses from third parties (such as FIFA, Formula 1, Madden NFL, NHL, Star Wars, and UFC). As a result, the portfolio includes diverse genres such as sports, racing, first-person shooter, action, role-playing and simulation. The company employs over 11,000 people and was listed on the National Association of Securities Dealers Automated Quotations (NASDAQ) on 9 January 1989. *Figure 9* shows a comparison of the cumulative returns of the big exclusive game producers compared to the S&P 500 and the Nikkei 225 over the years 2017 to 2022. This indicates that EA's performance on the stock market has been middling compared to its direct competitors. EA has 280.0 million shares outstanding of which 99.5% are in free float. Among the 1,075 institutional holders, the largest shareholders are Vanguard Group with 7.7%, BlackRock with 5.4% and State Street Global Advisors with 5.0%. A detailed overview of the shareholder structure is shown in *Figure 10.* With a market capitalisation of $34.7 billion as of 27 April 2022, EA is the second largest pure play game developer and publisher in the US behind Activision Blizzard with a market capitalisation of $59.8 billion.

Figure 9: *Cumulative returns of leading game producers for the years 2017-2022*



Source: Thomson Reuters Eikon, April 2022 (reference year 2017 = 100)

CEO since 2013 is Andrew Wilson, who has been with EA for over 20 years. He is responsible for the following two business areas:

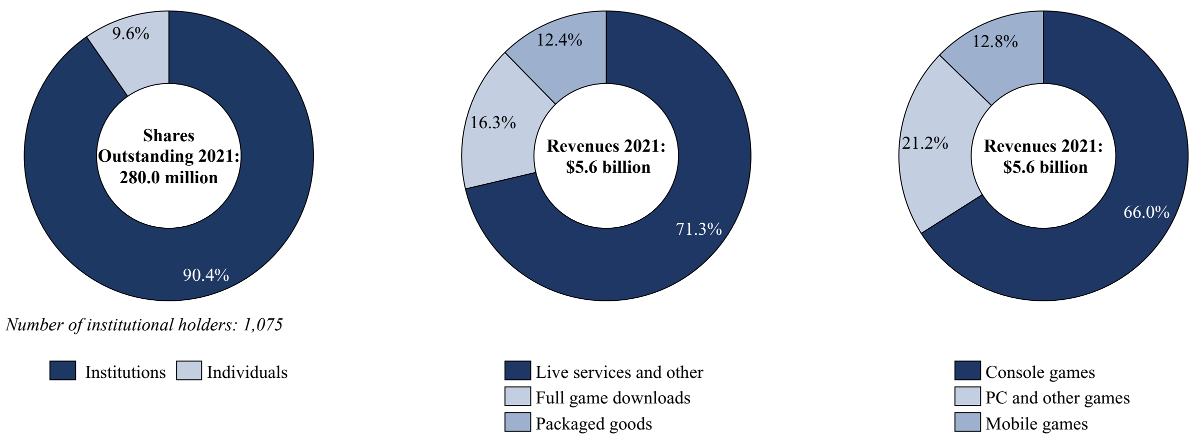
- **Live Services:** This area generates revenue from sales of add-on content for console, PC, and mobile games, as well as licensing revenue from third-party publishing partners who distribute EA's games digitally. Players engage with EA's games and services over a longer period and purchase additional content that adds value to players and expands and enhances gameplay. Life services is heavily driven by add-on content in FIFA's Ultimate Team game mode, which generated stand-alone revenues of approximately

$1.6 billion in 2021. Another strong performer in this area is the free-to-play game Apex Legends which has over 100 million players on consoles and PCs and is one of the most watched and streamed games in the world with 56.3 million viewing hours.

- **Full game:** This segment consists of complete game downloads and packaged goods. Game downloads are revenues from the digital sale of complete games on console, PCs, mobiles, and tablets. Packaged goods include revenues from software that is sold physically through brick-and-mortar retailers.

A detailed breakdown of revenues can be found in *Figure 10*. Live service and other account for 71.3% of the $5.6 billion in revenue. Two thirds of the revenue is also generated by console games.

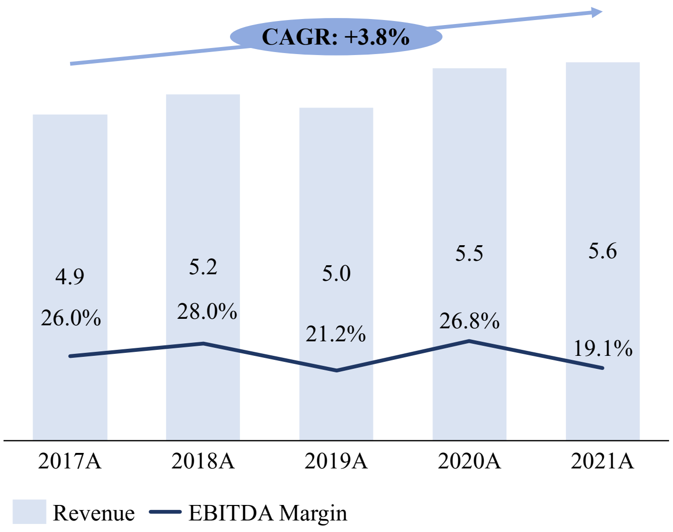
Figure 10: *Electronic Arts' shareholder structure (left) and revenue split by business segment and hardware in 2021 (right)*



Source: 2021 Annual report of EA

In 2021, EA recorded its highest revenue in 5 years. Overall, revenues grew moderately at a CAGR of 3.8% from 2017 to 2021 (*Figure 11*). 56.0% of revenues are generated outside North America. In addition, the gross margin remained at a consistently strong level of more than 73.0% over the last five years. Organic growth is reflected by the high level of R&D spending, which amounted to approximately 31.6% of revenues in 2021. Besides organic growth, shareholder value is attempted to be maximised through recent acquisitions, as shown in *Appendix Table 8*. EA has a healthy capital structure with a company rating of BBB+ (Standard & Poor's) and Baa1 (Moody's), which offers opportunities for additional leverage. Compared to the industry median, EA performs better in all categories. The return on equity of 10.7% is 2.8 times higher than the industry median (3.8%). EBITDA margin of 19.1% is also significantly higher than the industry median (12.8%). *Appendix Table 11* shows a summary of the main financial items in EA's income statement, balance sheet and cash flow statement, as well as the corresponding financial ratios and the industry median.

Figure 11: Overview of Electronic Arts' revenue ($billion) and EBITDA margin development



Source: Annual reports of Electronic Arts

The SWOT analysis (*Appendix Figure 21*) provides a detailed insight into EA's strengths, weaknesses, opportunities, and threats[15].

3.4 Deal Rationale

As described in *3.1.2 Main Drivers and Trends*, there is already a wave of consolidation in the gaming industry. Sony is under pressure due to the acquisition of Activision Blizzard by console rival Microsoft. The acquisition gives Microsoft the development studios and rights to the top games in the Call of Duty franchise, Candy Crush, Crash Bandicoot, and World of Warcraft. These increase Microsoft's Xbox Game Pass subscriptions the counterpart of the PlayStation Network and allow Microsoft to continuously have new and appealing content. In addition, once their current contracts expire, these popular game titles could only be playable exclusively on the Xbox. This would be a reason for some players to choose the Xbox over the PlayStation.

A possible acquisition of EA by Sony can't only be interpreted as a defensive reaction. Sony would become the market leader in sports games through an acquisition of EA and get other popular licensed games such as Medal of Honor and Star Wars. This would secure recurring revenue through live services and the ultimate team mode. Besides a broader positioning in the gaming sector, Sony would acquire EA's 20 development studios and therefore secure

[15] Information based on EA's website.

innovation and know-how. The development and publishing studios include EA's recent interesting acquisitions of Codemasters (racing games), Glu Mobile (mobile games) and Playdemic (sports games). This would allow Sony to enter the most promising and largest market of mobile games. In contrast to Sony, EA has a strong presence in the mobile game market through its acquisition of Glu Mobile and own mobile game titles like FIFA Mobile, Madden Mobile, NBA Mobile, Need for Speed No Limits and Sims Mobile.

Sony doesn't have any notable free-to-play titles of its own. The acquisition would give them the rights to Apex Legends, which is currently one of the most played free-to-play games and competes with Microsoft's Call of Duty War Zone. This would lead to an additional market entry by Sony.

On the financial side, significant synergies could be achieved by offering players an even more integrated gaming ecosystem. Development studios could be merged and development time reduced, which would save considerable costs. Acquiring many top sports games that are released annually and only require minor modifications each year also reduces development costs in exchange for large revenues and a broad customer base.

4 Valuation

This chapter values the buyer company Sony and the target company EA using the valuation methods introduced in *2.2 Firm Valuation Overview*. The valuation is performed on a stand-alone basis and as a combined company with and without synergies. By executing the different valuation methods, a valuation range is determined and a target price that reflects the current fair value per share is calculated. Three different scenarios (base, optimistic, pessimistic case) were introduced for the APV and DCF valuation. As the valuation methods for Sony, EA and the combined company are all identical, the Sony valuation is described in more detail and the other valuations are described in a more condensed way with a focus on the target price.

4.1 Valuation of the Buyer Sony

Since Sony is a mature company and has stable margins, a projection period of five years is chosen. *Appendix Table 50* shows the analysis of the income statement and the forecast for the years 2022 to 2026.

4.1.1 Discounted Cash Flow Analysis of Sony

The first step is to determine the WACC (*equation (5)*) discount rate for the DCF method. This is done by analysing Sony's current capital structure and deriving a future target capital structure as shown in *Appendix Table 14*. The future capital structure will be affected by the acquisition of EA as additional debt will be raised and cash will be reduced by the purchase as described in *4.3.4 Effects of the Transaction and Transaction Structure*. Additionally, a debt level is maintained to benefit from the tax shield and tax deductibility of interest.

Sony has debt of $18.9 billion of which 89.7% ($16.9 billion) is bank debt. This book value of $16.9 billion must be transformed into the MV of Debt of $16.4 billion (*Appendix Table 13*) with *equation (6)*. As a result, the total MV of debt amounts to $18.3 billion.

The cost of debt of 1.5% is calculated by adding the weighted YTM of the outstanding bonds to the credit spread for the bank debt plus the risk-free rate. A credit spread of 0.8 (*Appendix Table 17*) is derived from the interest coverage ratio of 115.6x EBITDA. Treasury bills of the Federal State of Germany[16] with a maturity of 30 years serve as the risk-free rate.

Sony's cost of equity of 6.8% is calculated using CAPM *equation (7)*. The peer group for the unlevered beta (*equation (8)*) is composed according to *Appendix Table 12*. By relevering (*equation (9)*), a levered beta of 1.1 is obtained.

According to *Appendix Table 16*, a WACC of 5.3% is derived for Sony. The detailed calculation of Sony's WACC components is presented in *Appendix Table 15*.

Appendix Figure 22 shows the three different DCF and APV scenarios. In addition, assumptions of the FCFF items based on the company analysis and strategy, market dynamics and other factors were made for the DCF and APV model which can be seen in *Appendix Table 18*.

EBIT is taxed at Sony's marginal tax rate of 22.9%. *Equation (4)* calculates the FCFF for the respective period, which is discounted to the present with the WACC of 5.3%. *Appendix Table 19* shows the exemplary calculation and discounting of the FCFF in the base case scenario.

To calculate the terminal value, an exit multiple is used, and a growth rate is determined. Subsequently, by calculating the implied exit multiple (*equation (12)*) and implied growth rate (*equation (13)*), a cross-check is carried out to verify whether the assumptions are reasonable.

[16] https://www.bundesbank.de/resource/blob/772218/c8ef6f945d9177cbf49b7db03e6db704/mL/rendbund-data.pdf.

In this base case scenario, a terminal year EBITDA multiple of 7.0x was chosen based on peer companies in comparable business segments to Sony (*Appendix Table 23*). The 7.0x multiple corresponds to a TV growth rate of 1.0%.

The sum of the discounted FCFF of $37.4 billion and the TV of $88.4 billion results in a base case DCF EV of $125.8 billion for Sony. *Appendix Table 20* shows the exemplary TV calculation and the equity bridge to the implied equity value which is approximately $20.7 billion larger than the EV due to Sony's large cash position of $42.4 billion. The result is a share price of $117.2 which is the equity value of $146.5 billion divided by the 1.2 billion fully diluted shares outstanding.

4.1.2 Adjusted Present Value Analysis of Sony

The structure of the APV calculation is like the DCF calculation including the previously described scenarios (*Appendix Figure 22*). Therefore, the base case scenario in *Appendix Table 19* is used as a starting point. The big difference is that in the APV, the unlevered cost of equity of 5.5% (*Appendix Table 15*) serve as a discount rate instead of the WACC.

Appendix Table 21 shows the discounting of FCFF with the unlevered cost of equity. In addition, the interest expense for the tax shield is derived from the assumptions (*Appendix Table 18*) and discounted with the cost of debt of 1.5%. Due to Sony's low interest payments, the tax shield PV is $6.2 million. The expected distress cost (*equation (18)*) of $21.8 million is calculated by multiplying the rolling enterprise value by the probability of default (*Appendix Table 17*) and the expected bankruptcy cost of 25%. Adding the individual components according to *equation (16)* results in an base case APV EV of $124.9 billion with the same exit multiple and growth rate as the DCF. Using the equity bridge, the implied equity value of $145.5 billion is derived and an implied share price of $116.4 is determined for Sony (*Appendix Table 21*).

4.1.3 Comparable Companies Analysis of Sony

The peer group of Sony's comps analysis is clustered according to the six segments of Sony described in *3.2 Company Profile of the Buyer Sony. Appendix Table 23* shows the breakdown of the peer group and the financial metrics of the comparable companies. The output are valuation ranges which can be seen in *Appendix Table 22* of the most important EV multiples and equity multiples (2021, LTM, NTM). The EV multiples lead to the implied equity value after deduction of the equity bridge (rearrangement of *equation (15)* according to equity value) and subsequently to the share price. Equity value multiples directly reflect the equity value and thus the implied share price by dividing the fully diluted shares. The highest share price range is achieved by the NTM Net Income Multiples which provide a share price of $152.2 - $169.1. With a share price range of $85.1 - $92.7, the NTM EBITDA multiples offer the smallest price range.

4.1.4 Precedent Transaction Analysis of Sony

Analogous to the comps, the transaction multiples are analysed by comparable transactions in Sony's largest segment (gaming) as well as in the other segments. *Appendix Table 25* shows the comparable selected transactions and the multiples and premiums paid. *Appendix Table 24* provides an overview of the valuation range of the transaction multiples in the base case scenario. The range of all LTM multiples is between $110.4 and $123.6 and thus narrower than the comps. The average premium of these Sony transaction multiples is 36.2% (compared to Sony's share price of $85.8 per 02.05.2022).

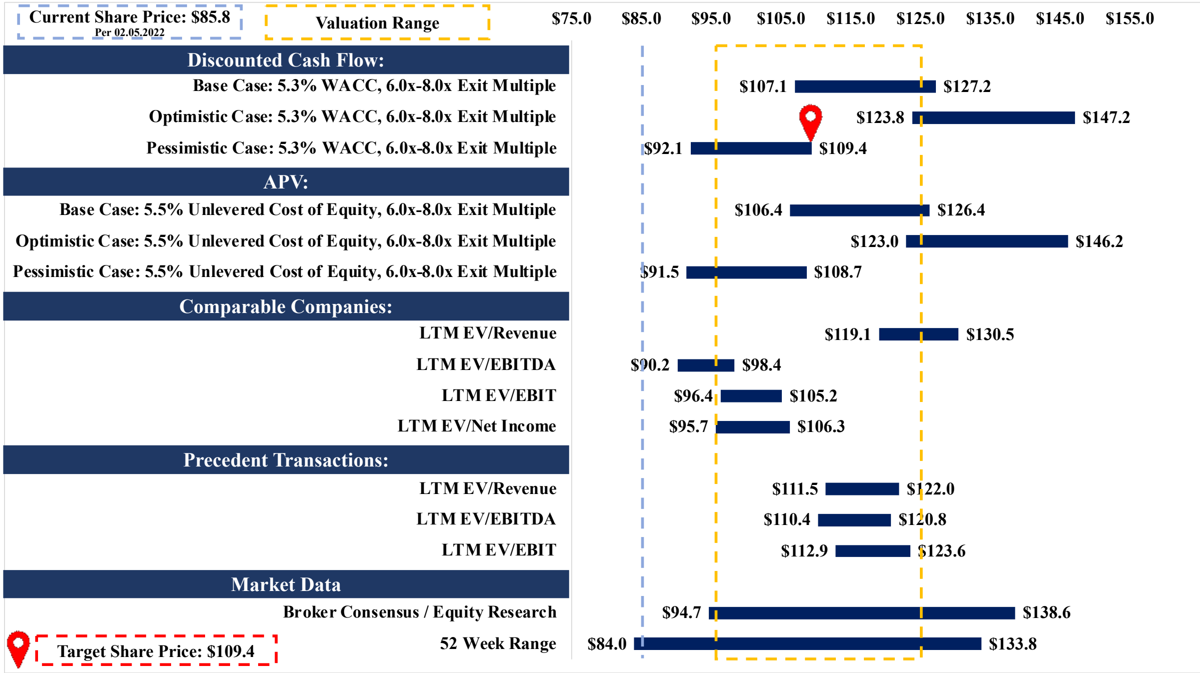
4.1.5 Sensitivity Analysis of Sony

To verify the results of the different scenarios and to determine a valuation range, a sensitivity analysis is carried out for the DCF method and APV method. The result is a share price range of $107.1 and $127.2 in the DCF base case and a valuation range of $106.4 and $126.4 in the APV base case (*Appendix Table 26*). A Sensitivity analysis of the optimistic and pessimistic case is provided in *Appendix Table 27* and *Appendix Table 28*. The difference between the base case share price of the DCF and APV valuation is very small due to almost identical discount rates and a low tax shield and a low probability of default.

4.1.6 Valuation Summary of Sony

Figure 12 shows a summary of the valuation methods and the resulting share price range in the form of a valuation football field. Only LTM multiples are shown for the multiples to ensure comparability between comps and transaction multiples, as the precedent transaction analysis is based on LTM multiples. Sony's target price is set at $109.4. This is an upside of 27.5% compared to Sony's share price as of 02.05.2022. The target price is the median price within the valuation range resulting from the different valuation methods and scenarios.

Figure 12: Football field of Sony's valuation methodologies



Source: Own calculation

4.2 Valuation of the Target Electronic Arts

Appendix Table 51 shows the analysis of EA's income statement and the forecast for the years 2022 to 2026.

4.2.1 Discounted Cash Flow Analysis of Electronic Arts

EA's debt amount of $1.9 billion (*Appendix Table 29*) is composed exclusively of public trade debt in the form of bonds which reflect the MV of debt. The weighted yield of 4.3% of the outstanding bonds is therefore calculated in addition to the risk-free rate of 0.7%, resulting in cost of debt of 5.0%. The unlevered beta is 0.7 and is determined based on the peer group in *Appendix Table 30*. The relevered beta of 0.9 leads to cost of equity of 5.4%. A detailed breakdown of EA's cost of capital can be found in *Appendix Table 31*. *Appendix Table 32* shows how the WACC of 5.1% for EA is derived.

Appendix Table 33 provides an overview of the assumptions made in the DCF and APV valuation of EA. The development of revenue and EBITDA within the three scenarios can be seen in *Appendix Figure 23*. Equity research and market forecasts indicate that gaming companies will rise strongly in the future due to drivers described in *3.1.2 Main Drivers and Trends*. This trend is also reflected in the three scenarios for EA.

EBIT is taxed at EA's marginal tax rate of 12.4%. *Appendix Table 34* shows the exemplary calculation and discounting of the FCFF in the base case scenario. 26.0x EBITDA was chosen as the exit multiple in the DCF and APV. The exit multiple is significantly higher for EA than for Sony. This is because pure gaming companies trade much higher than diversified technology companies as seen in *Appendix Table 23*. In addition, the gaming industry is extremely hot right now and driven by strong growth drivers. This can also be seen in comparable transactions of gaming companies such as the purchase of Glu Mobile for 69.0x EBITDA, Sumo Group for 62.9x EBITDA or Zynga for 31.3x EBITDA (*Appendix Table 40*).

The EBITDA multiple of 26.0x corresponds to an approximate implied perpetuity growth rate of 1.0%, like the Sony valuation. In total, EA's base case DCF EV is $42.4 billion and its equity value after deduction of net debt is $46.9 billion. At 292,000 fully diluted shares, this results in a share price of $160.6 in the base case DCF method (*Appendix Table 35*).

4.2.2 Adjusted Present Value Analysis of Electronic Arts

The unlevered cost of equity of 4.6% (*Appendix Table 31*) serves as the discount rate for the FCFFs and the TV. The present value of tax shield (discounted with EA's cost of debt of 5.0%) of $11.6 million is more than $3.0 million less than the expected distress cost for EA. Combining the three components results in a base case APV EV of $43.4 billion. The equity bridge leads to an implied equity value of $47.9 billion and a share price of $164.1 (*Appendix Table 36*).

4.2.3 Comparable Companies Analysis of Electronic Arts

EA's peer group is mainly composed of gaming companies. In addition, the peer group clustering in the *Appendix Table 38* includes companies from the segments technology / internet and entertainment / toys / games which were reported in EA's annual report. The median multiples lead to the valuation range of EA in the comps analysis reported in *Appendix Table 37*. LTM EBIT multiples have the highest share price range between $166.3 - $183.3 for EA. NTM EBITDA multiples have the smallest share price range of $108.0 - $118.3.

4.2.4 Precedent Transaction Analysis of Electronic Arts

Appendix Table 40 shows the comparable selected transactions and the multiples and premiums paid. *Appendix Table 39* provides an overview of the valuation range of the transaction multiples in the base case scenario. The focus of the transaction multiples for EA is on comparable transactions in the gaming industry. The Activision Blizzard and Zynga acquisitions, which were made at the beginning of 2022, are particularly good indicators. As with Sony, the share price range of the precedent transactions is smaller than for the comps. All LTM precedent transaction multiples result in a range between \$147.1 - \$167.8. The average premium of these EA transaction multiples is 30.5% (compared to EA's share price of \$120.0 per 02.05.2022).

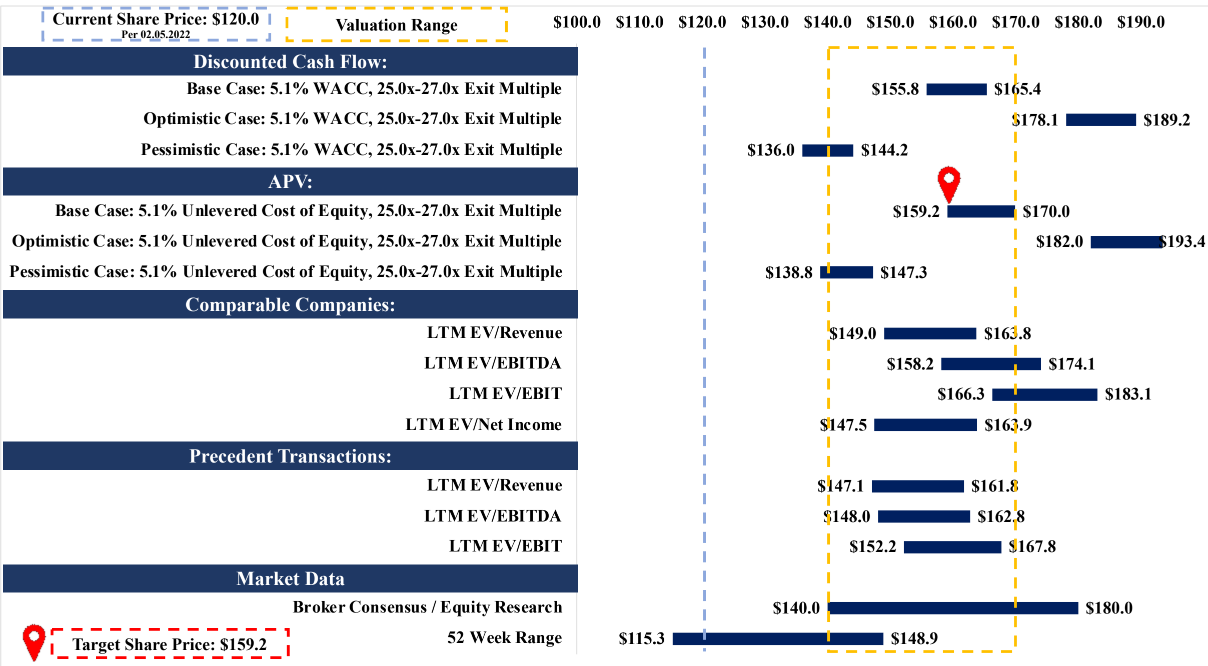
4.2.5 Sensitivity Analysis of Electronic Arts

Appendix Table 41 gives an overview of the sensitivity analysis of EA in the base case scenario of the DCF and APV. The share prices in the DCF and APV have a slightly higher deviation for EA than for Sony. The respective base case share price range is between \$155.8 and \$165.4. *Appendix Table 42* and *Appendix Table 43* illustrate EA's sensitivity analysis in the optimistic and pessimistic cases.

4.2.6 Valuation Summary of Electronic Arts

EA's target price within the valuation range from all valuation methods and scenarios is \$159.2 (*Figure 13*). This presents an upside of 32.6% compared to the share price of \$120.0 as of 02.05.2022. This upside potential is also shared by broker consensus and equity reports on EA which put the median share price of all investment banks at \$164.0.

Figure 13: *Football field of Electronic Arts' valuation methodologies*



Source: Own calculation

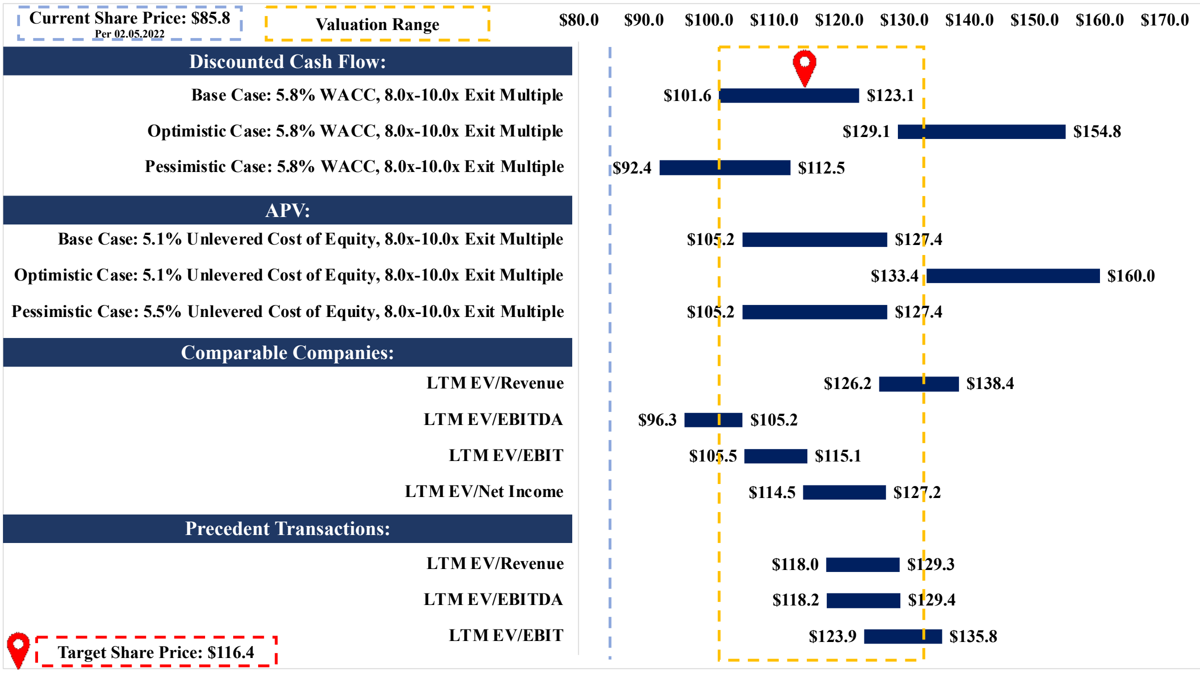
4.3 Valuation of the Combined Firm

The objective in this sub-chapter is to value Sony and EA as a combined company with and without synergies to derive the amount of synergies from *equation (20)*.

4.3.1 Valuation of the Combined Firm without Synergies

The transaction increases Sony's WACC from 5.3% to 5.8% (*Appendix Table 46*). *Figure 14* shows a summary of the different valuation methods of the combined company of Sony and EA without synergy effects. A target price of $116.4 is indicated for the combined company without synergy effects. This gives Sony's 1.2 billion fully diluted shares an implied equity value of $145.6 billion and an EV of $168.2 billion. The EV of the combined company without synergies is therefore as shown in *equation (19)*, the sum of the stand-alone EV of Sony ($125.8 billion) and EA ($42.4 billion) based on the respective DCF valuations in the base case scenario.

Figure 14: *Football field of the combined companies' valuation methodologies without synergies*

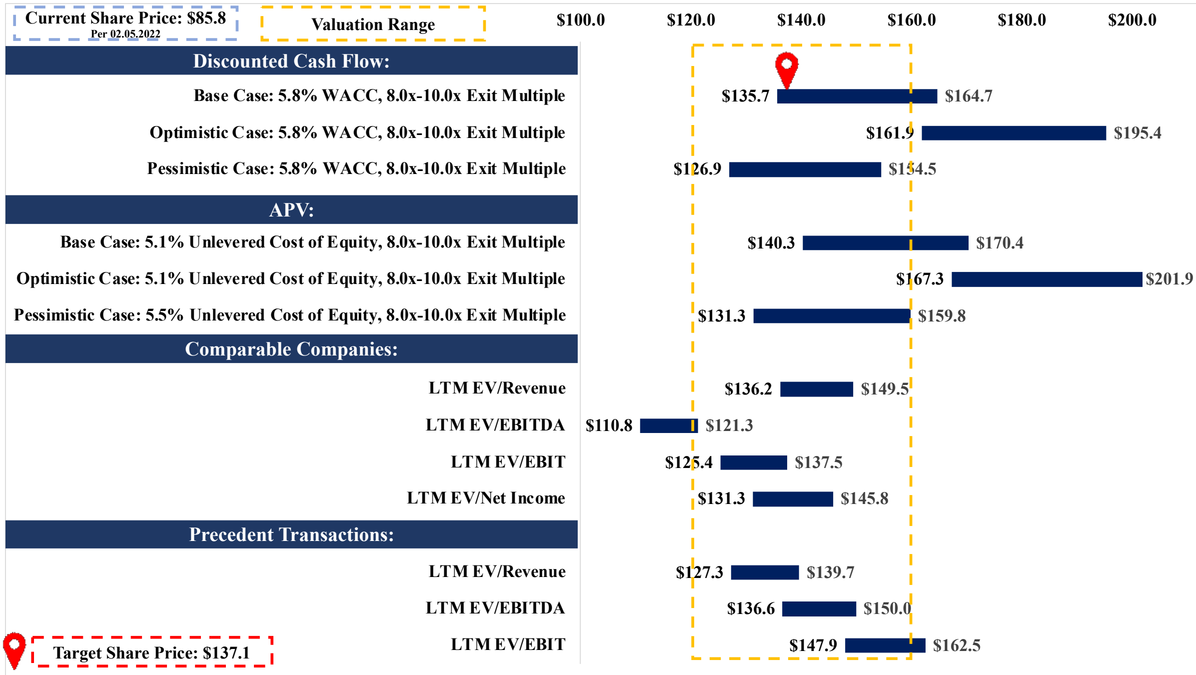


Source: Own calculation

4.3.2 Valuation of the Combined Firm with Synergies

To include the synergy effects in the valuation, assumptions were made regarding revenue, cost, tangible financial and asset synergies (*Appendix Table 47*). Synergy effects arise for Sony mainly by increasing the revenue through additional games as well as additional online games, subscriptions, and in-game purchases. In addition, new platforms such as mobile games or free-to-play games will be integrated into Sony's revenue model. This also increases the number of PlayStation players and PSN users. But there are also increased additional costs of goods sold (COGS) for Sony after the transaction. These result mainly from the increasing licence fees that EA must pay to FIFA, clubs, and players for the licensing of sports games such as FIFA. COGS also rise due to the increase in the headcount of several developers and development studios that are taken over by EA and are necessary for the development of EA's classic games. In addition, assumptions were made about merger & integration costs that counteract the synergy effects. *Figure 15* shows an overview of the different valuation methods for the valuation of the combined company of Sony and EA with synergy effects. A target price of $137.1 is projected, resulting in an implied equity value of $171.4 billion and an EV of $194.1 billion. The target price of $137.1 reflects an upside 17.7% compared to the share price of $116.4 of the combined company without synergies.

Figure 15: *Football field of the combined companies' valuation methodologies with synergies*



Source: Own calculation

4.3.3 Synergies of the Combined Company

In total, this deal captures synergies of $25.8 billion with a net value of synergies of $19.4 billion (*Appendix Table 48*) after costs. The net value of synergies includes transactions and financing fees of $1.4 billion and the PV of merger & integration costs of $5.1 billion (*Appendix Table 47*). EA's shareholders will receive a share price of $159.2 which reflects a premium of 32.6% ($39.2) to the share price as of 02.05.2022. The total amount of the premium is $11.4 billion for 292,000 fully diluted shares. The maximum acquisition price which would eliminate all synergies would be $186.3 (premium 55.3%) per share. Based on the previous analysis, the offer price of $159.2 per EA share is fair and in line with market conditions. Sony's shareholders will receive $6.3 per share in synergies. This means that Sony's shareholders will capture a total of $7.9 billion in synergies after deducting the premium paid to EA shareholders and the enumerated costs. The ratio of net synergies to EA's deal EV ($42.0 billion) is 46.1% (*Table 1*).

Table 1: *Premium analysis and synergy overview*

Premium Analysis Electronic Arts Share Holders	
Premium in Cash per Share	$39.2
Premium in %	32.6%
Sum of Premium	11,431,800
Maximum payable Share Price	
Maximum payable Share Price	$186.30
Acquisition Premium	55.3%
Synergie Overview	
Estimated Synergies	25,836,619
Costs which must be deducted	
Present Value of Merger and Integration Costs	5,116,233
Transaction Fees	1,161,795
Financing Fees	198,930
Value of Net Synergies	**19,359,661**
Ratio Net Synergy Value to Target (Electronic Arts) EV	*46.1%*

Premium Analysis Sony Share Holders	
Captured Synergies	7,927,861
Synergies per Share	$6.3

Source: Own calculation

4.3.4 Effects of the Transaction and Transaction Structure

The target price of $159.2 determined in *4.2.6 Valuation Summary of Electronic Arts* represents a realistic takeover price. The respective premium of 32.6% is in a comparable range for transactions of gaming companies as shown in *Appendix Table 40*. There the premium median of premiums one day before unaffected share price is about 33.1%.

EA's equity value is $46.5 billion (*Table 2*). This is the target price of $159.2 times the 292,000 fully diluted outstanding shares. EA's debt of $1.9 billion is fully assumed. In addition, advisory fees of 1.5%, debt issuance fees of 2.0% and legal and other fees of 1.0% on the equity value are also financed. This results in a capital requirement of $49.7 billion for the purchase of EA. On top of that, EA's cash reserves increase Sony's cash position and are not used to fund the deal.

Table 2: *Offer price, premium and overview of sources and uses of funds for the transaction*

Offer Price and Premium	
Offer Share Price	$159.2
Diluted Weighted Average Shares Outstanding	292,000
EA's Share price per 02.05.2022	$120.0
Premium	32.6%
Premium in Cash	11,431,800

Sources & Uses of Funds

Uses:	in $Thousands
Equity Purchase Price of Target	46,471,800
Assume/Replace EA's Debt	1,900,000
Transaction Fees	1,161,795
Financing Fees	198,930
Total Uses:	**49,732,525**

Transaction and Financing Fees are included in the financing

Sources:	%	in $Thousands
Cash Used to Purchase Equity	60%	29,839,515
Debt Issued to Purchase Equity	40%	19,893,010
Stock Issued to Purchase Equity	0%	0
Total Sources:		**49,732,525**

Source: Own calculation

Due to Sony's high cash reserves of $42.4 billion, 60.0% of the capital requirement ($29.8 billion) will be paid from cash. Sony has still $18.9 billion (including EA's adopted cash of $6.4 billion) in cash left after the transaction. This gives Sony financial flexibility to make further investments in the future. The remaining 40.0% ($19.9 billion) will be financed by newly raised debt. With negative leverage of -1.3x EBITDA and a pre-transaction gearing ratio of 37.5%, Sony has ample firepower for additional debt. Stock will not be issued to finance the transaction as Sony doesn't want to give up any ownership and doesn't want to dilute existing shareholders.

The transaction creates goodwill of $38.9 billion, a new deferred tax liability of $5.7 billion and intangibles of $8.3 billion (*Table 3*). The full impact and adjustments of the transaction on the balance sheet and income statement are presented in *Appendix Table 53* and *Appendix Table 52*.

Table 3: *Goodwill calculation (purchase price allocation) after the transaction*

Goodwill Calculation	in $Thousands
Equity Purchase Price	46,471,800
Less: EA Book Value	7,840,000
Plus: Write-Off of Existing Goodwill	2,868,000
Total Allocable Purchase Premium:	**41,499,800**
Less: Write-Up of PP&E	30,000
Less: Write-Up of Intangibles	8,299,960
Less: Write-Down of Deferred Tax Liabilities	19,000
Plus: New Deferred Tax Liability	5,710,865
Total Goodwill Created	**38,861,705**

Fixed Asset Write-Up	in $Thousands
PP&E Write-Up %	4.1%
PP&E Write-Up Amount	30,000
Depreciation Period (Years)	10

Intangible Asset Write-Up	in $Thousands
Purchase Price to Allocate	41,499,800
% Allocated to Indefinite-Lived Intangibles	40.0%
Indefinite-Lived Intangibles	**16,599,920**
% Allocated to Definite-Lived Intangibles	20.0%
Intangibles Write-Up Amount	**8,299,960**
Amortization Period (Years)	5
New Deferred Tax Liability	**5,710,865**

Source: Own calculation

The interest payment increases by more than 100% to over $330.1 million after the transaction due to the debt raised. This also increases the tax shield. The leverage changes to 1.3x EBITDA and the gearing ratio to 65.2%. Due to the additional EBITDA of EA, the interest coverage ratio is still extremely high at 43.2x, which is an indicator that Sony has no problems repaying its debt.

Independent of the capital requirement, EA's deal EV in this transaction is $42.0 billion ($46.5 equity value + $1.9 debt - $6.4 cash and cash equivalents). Thus, a revenue LTM multiple of 7.5x, a LTM EBITDA multiple of 32.8x and a LTM EBIT multiple of 33.7x will be paid on the deal EV. This puts the revenue multiple in line with the 7.7x revenue multiple Microsoft paid for the acquisition of Activision Blizzard and the 31.3x EBITDA multiple Take Two Interactive paid for Zynga in comparable transactions (*Appendix Table 40)*.

As shown in *Figure 10*, 90.4% of EA's shareholder structure consists of 1,075 institutional investors. The institutional investors invest mostly money of others on their behalf. Therefore, they are more interested in achieving a substantial return on their investment than in having influence on the company. Due to the premium of 32.6%, a high return is available for the institutional investors and therefore the likelihood of accepting Sony's bid is very high. The remaining 9.6% is partly made up of retail investors who would also benefit from Sony's offer and a small portion of employee shares. The employee shares could be squeezed out in the event of a takeover of the 90.4% investors' shares.

4.3.5 Accretion and Dilution Analysis

The accretion/dilution analysis shows how Sony's EPS will change after the transaction and whether this will have positive effects for shareholders. An acquisition of EA under the transaction structure described in *4.3.4 Effects of the Transaction and Transaction Structure* is very accretive for Sony's shareholders. On average, EPS will increase by 12.4% in the years 2022 to 2026 (*Appendix Table 49*). From the perspective of the accretion/dilution analysis, the acquisition is therefore positive for Sony's shareholders.

5 Conclusion

The aim of this work was to answer the question at what price an acquisition of EA by Sony makes sense and whether it creates sustainable and future value for Sony and its shareholders.

Based on the extensive financial and strategic analysis of Sony and EA and their respective valuations using the APV, DCF and multiple valuation, an offer price for the friendly takeover of EA was determined to be $159.2. The offer price represents a premium of 32.6% over the share price $120.0 as of 02.05.2022 and is in line with premiums paid on precedent transactions, which also median around 33.1%. The capital requirement, which includes the transaction and financing fees, is $49.7 billion and will be paid 60.0% ($29.8 billion) with Sony's existing cash and 40.0% ($19.9 billion) with new debt raised.

From a financial point of view, this transaction makes sense as it generates synergies of $25.8 billion. Deducting the premium and all transaction and merger & integration costs leaves total net synergies of $7.9 billion or $6.3 per share for Sony's shareholders. In addition, the deal is highly accretive for Sony's shareholders as EPS will increase by an average of 12.4% in the years 2022 - 2026 after the transaction.

On top of the financial aspects, the transaction also pays off for Sony from a strategic perspective. Sony diversifies its gaming revenues with additional popular game titles such as FIFA, Medal of Honor and Star Wars. Sony would become the market leader in sports games. In addition, EA gives Sony access to mobile games and interesting free-to-play games with recurring revenues and a subscription business model that is one of the most profitable aspects of gaming.

Finally, Sony's acquisition also responds to recent acquisitions by competitors such as Microsoft and Tencent and ensures that Sony can defend and even expand its market position. With the games from EA, Sony is also prepared for the future and has strong leverage on the competition if popular titles from Activision Blizzard or other providers can only be played exclusively on foreign consoles.

6 References

Ahern, K. W. (2007). M&As: The Good, the Bad, and the Ugly. Journal of Applied Finance, 17(1), 5-20.

Altman, E. C. (1999). Defaults and Returns on High Yield Bonds: Analysis through 1998 and Default Outlook for 1999-2001. *NYU Working Paper, No. S- CDM-99-01*.

Amel-Zadeh, A. & Zhang, Y. (2015). The Economic Consequences of Financial Restatements: Evidence from the Market for Corporate Control. *The Accounting Review, 90(1)*, 1-29.

Berkovitch, E. & Narayanan, M.P. (1993). Motives for Takeovers: An Empirical Investigation. *Journal of Financial and Quantitative Analysis, 28 (3)*, 347-362.

Bruner, R. (2004). Where M&A Pays and Where It Strays: A Survey of the Research. *Journal of Applied Corporate Finance, 16 (4)*, 63-76.

Christofferson, S. A. / McNish, R. S. / Sias, D. L. (2004). Where mergers go wrong. *McKinsey Quarterly*. Retrieved from: https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/where-mergers-go-wrong.

Damodaran, A. (2001). *Corporate Finance: Theory and Practice, 2nd ed.* New Jersey: John Wiley & Sons.

Damodaran, A. (2012). *Tools and Techniques for Determining the Value of Any Asset, 3rd ed.* New Jersey: John Wiley & Sons.

Dealscreener. (25. April 2022). *Thomson Reuter Refinitiv* . Retrieved from: https://emea1.apps.cp.thomsonreuters.com/web/Apps/ScreenerApp?univ=dealsmna.

Electronic Arts. (02. May 2022). *Investor Relations*. Retrieved from: https://ir.ea.com/home/default.aspx.

Gilbert, N. (15. March 2022). *Finances Online*. Number of Gamers Worldwide 2022/2023: Demographics, Statistics, and Predictions. Retrieved from: https://financesonline.com/number-of-gamers-worldwide/.

HP Development. (28. September 2021). *THE TOP 50 BEST-SELLING VIDEO GAMES OF ALL TIME*. Retrieved from: https://www.hp.com/us-en/shop/tech-takes/top-50-best-selling-video-games-all-time.

Kabla, R. / Gosselns, D. / Eide, W. / Marler, B. / De Gier, R. / Rothstein, J. / Kaden, S. (2020). *Houlihan Lokey Video Games Market Update | Summer 2020.* Los Angeles . Retrieved from: http://cdn.hl.com/pdf/2020/tmt-video-game-market-update-summer----2020.pdf.

Kelly, C. / Schuler, S. / Johnson, P. (27. April 2021). *Accenture*. Retrieved from: https://www.accenture.com/_acnmedia/PDF-152/Accenture-Gaming-Article.pdf#zoom=40.

Kengelbach, J. / Keienburg, G / Gell, J. / Nielsen, J. / Bader, M. / Degen, D. / Sievers, S. (25. September 2019). The 2019 M&A Report: Downturns Are a Better Time for Deal Hunting. *BCG*. Retrieved from: https://www.bcg.com/publications/2019/mergers-and-acquisitions-report-shows-downturns-are-a-better-time-for-deal-hunting.

Kolev, K. / Haleblian, J. / McNamara, G. / Dykes, B. (2012). Exploring firm characteristics that differentiate leaders from followers in industry merger waves: a competitive dynamics perspective. *Strategic Management Journal*, 1037 – 1052.

Koller, T. / Goedhart, M. / Wessels, D. (2020). *Valuation: Measuring and Managing the Value of Companies (McKinsey Company), 7ed.* John Wiley & Sons.

Liu, J. / Nissim, D. / Jacob, T. (2002). Equity Valuation using Multiples. *Journal of Accounting Research, 40(1)*, 135–172.

MarketLine. (2020). *Global Games Software Market.* Retrieved from: https://advantage.marketline.com/HomePage/Index?returnUrl=Home.

Meyers, S. (1974). Interactions of Corporate Financing and Investment Decisions - Implications for Capital Budgeting. *The Journal of Finance, 29(1)*, 1-25.

NL, K. C. (31. 12 2021). *KPMG: Equity Market Risk Premium Research*. Retrieved from: https://indialogue.io/clients/reports/public/5d9da61986db2894649a7ef2/5d9da63386db2894649a7ef5.

Officer, M. (2007). The price of corporate liquidity: Acquisition discounts for unlisted targets. *Journal of Financial Economics, 83(3)*, 571-598.

Rappaport, A. & Sirower, M. L. (1999). Stock or Cash: The Trade-Offs for Buyers and Sellers in Mergers ans Acquisitions. *Harvard Business Review, 77(6)*, 147-158.

Rosenbaum, J. & Pearl, J.. (2013). *Investment Banking - Valuation, Leveraged Buyouts, and Mergers & Acquisitions, 2nd ed.* John Wiley & Sons.

Sants, A. (03. February 2022). *Investors Chronicle* . Retrieved from: Change in gaming economics is driving M&A boom: https://www.investorschronicle.co.uk/news/2022/02/03/change-in-gaming-economics-is-driving-m-a-boom/.

Shapiro, A. (1989). *Modern Corporate Finance.* 1st ed. Macmillan.

Sharpe, W. F. (1964). Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk. *Journal of Finance, 19(3)*, 425–442.

Sherman, A. (2010). *Mergers and Acquisitions from A to Z.* 1st ed. Amacom.

Sony. (01. May 2022). *Investor Relations*. Retrieved from: https://www.sony.com/en/SonyInfo/IR/.

Statista. (3. March 2022). *Statista Research Department*. Revenue of the video game consoles market worldwide from 2013 to 2026. Retrieved from: https://www.statista.com/forecasts/1196090/revenue-video-game-consoles-worldwide.

The Business Research (19. February 2022). Von Console Games Global Market Report 2022. Retrieved from: https://www.thebusinessresearchcompany.com/report/console-games-global-market-report.

Titman, S. (1984). The effect of capital structure on a firm's liquidation decision. *Journal of Financial Economics, 13(1)*, 137-151.

Veresockaya, K. (10. August 2020). *Kevuru Games*. Von AAA Games – Everything You Need to Know About the Budge. Retrieved from: https://kevurugames.com/blog/why-are-aaa-games-so-expensive-everything-you-need-to-know-about-the-budget/.

Zegarra, T. (19. July 2020). *HP Development Company*. Game Developers vs Game Publishers: What's the difference? Retrieved from: https://www.hp.com/us-en/shop/tech-takes/game-developers-vs-game-publishers.

7 Appendices

7.1 Appendices: Literature Review

Appendix Table 4: Motivations for M&A and value reduction through managers' mistakes

Motives for M&A / Value reduction	The Synergy Motive	The Agency Motive	The Hubris Hypothesis
Explanation	The synergy motive assumes that managers of targets and acquirers maximize shareholder wealth and would engage in takeover activity only if it results in gains to both sets of shareholders.	The agency motive assumes some takeovers are primarily motivated by the self-interest of the acquirer management.	The hubris hypothesis assumes that acquisitions are motivated by managers' mistakes and that there are no synergy gains.
Examples	• Different types of synergies (top line / costs), elimination of inefficiencies • Growth, expansion • Increase market share and market power • Market consolidation • Know-how (disruptions, innovation and R&D process motives) • Financial factors, tax motives, rating improvements	• Management incentives (bonuses, job protection), increase EPS • Empire building (ego and pride), increase company size • Diversification • Eliminate competitors, defensive acquisition (fearful of a fast-growing competitor) • Succession plans • Shareholders structure issues • Different periods of investments and divestments	• Valuation mistakes • Overestimating synergies • Winner's curse • Herd behaviour • Bad post merger integration • Excess cash reserves that are not invested wisely

Source: Berkovitch & Narayanan (1993) and own examples

Appendix Table 5: Explanation of different types of synergies

	Operating Synergies		Financial Synergies	
Explanation	Operating synergies result in strategic advantages, revenue enhancements and cost efficiencies that enable the company to achieve margin increases and growth after an acquisition.		Financial synergies result in the improvement of financial activities from the creation of a larger combined company after an acquisition and have a direct impact on the cost of capital.	
	Revenue Synergies	**Cost Synergies**	**Tangible Financial Synergies**	**Asset Synergies**
Examples	• Expanded market share in new or existing markets through combination of companies • Leverage of technology, know-how and distribution channels in order to combine different functional strengths • Cross-selling of products and service offerings • Greater pricing power as a result of reduced competition	• Economies of scale: Larger companies are able to produce and sell more units at lower cost per unit • Economics of scope: Allocation of common resources across multiple products and geographies • Elimination of inefficiencies: Headcount, facilities, infrastructure, overheads • Increased purchasing power and ability to buy key inputs at lower prices	• Tax benefits and unused tax losses • Adopting target´s net operating losses to shield income • Increased debt capacity through more stable and predictable cash flows • Achievement of a more stable capital structure • Achievement of financial rating improvement and lower cost of capital through broader diversification and stability through size	• Access to patents • Asset redundancy and elimination • Improvement of the balance sheet • Creation of goodwill and subsequent depreciation to shield income • Access to cash reserves, fixed income or capital projects

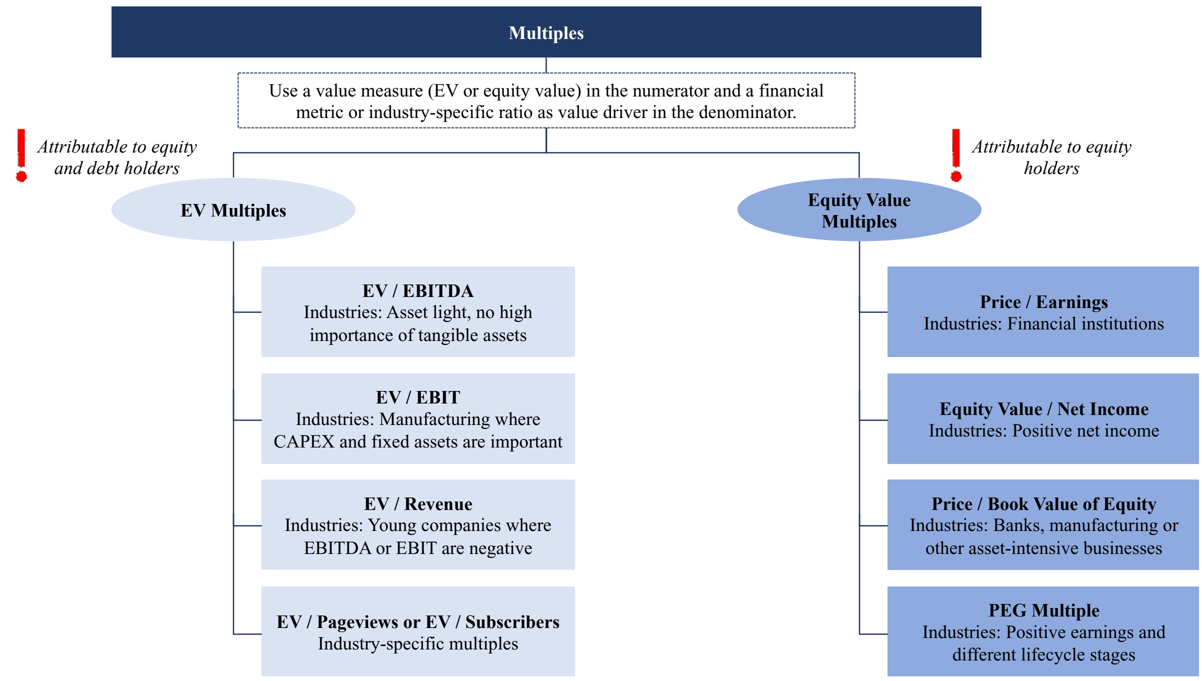
Source: Damodaran (2012), Rosenbaum & Pearl (2013) and own examples

Appendix Table 6: *Advantages and disadvantages of the different financing methods*

	Cash	Debt	Equity
Advantages	• Cheapest financing method (in a low interest rate environment) • No time-consuming financing • No influence on debt ratios • Own funds, no external financier is required (no ceding of control or entering into obligations) • Excess cash reserves are invested appropriately (in case of positive NPV transaction) • Some large companies have war chests as part of their corporate and financial strategy for growth opportunities	• Cheaper than equity in terms of required return by investors • Interest payments are tax reductible • A variety of different debt providers are available (banks, debt funds, special capital providers like mezzanine funds) • No dilution of ownership • Greater leverage can increase the company's return on equity (only up to a certain point)	• Can be a cheap option if the buyer is overvalued in the stock market (high stock price and P/E multiple) • Can be faster than debt financing • Provides buyer with more flexibility (no mandatory interest payments, no principal repayment, no covenants) • Seller can participate in the upside potential of the buyer's share price • Seller is not taxed until stock is sold
Disadvantages	• Seller gets taxed immediately • Seller can not participate in the upside potential of the buyer's share price • Depending on company structures, larger cash reserves could be held abroad, resulting in significant tax repatriation	• Increased debt profile of the combined company (more risky) • Less balance sheet flexibility • Financing can be expensive and time consuming • Mandatory cash interest payments • Possible rating downgrade • Possible future higher costs of debt • Constraints through bank covenants • Seller gets taxed immediately • Seller can not participate in the upside potential of the buyer's share price	• Lock-up periods for the seller • Shareholders need to approve the equity increase, depending on the size of the increase (can add time and uncertainty) • Generally more expensive than debt financing as equity investors require a higher rate of return • Dilution of ownership • Giving up control and voting rights Fixed shares vs. fixed value makes a big difference when the share price of the buyer fluctuates strongly

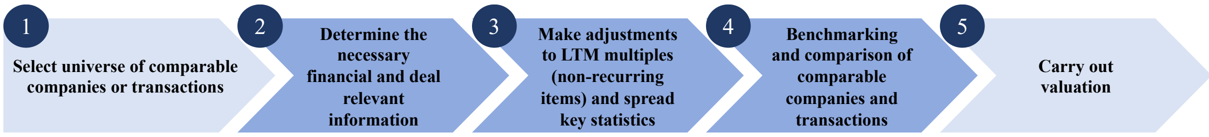
Source: Rosenbaum & Pearl (2013), Rappaport & Sirower (1999) and own examples

Appendix Table 7: *Comparison of EV and equity value multiples*



Source: Koller et al. (2020) and own examples

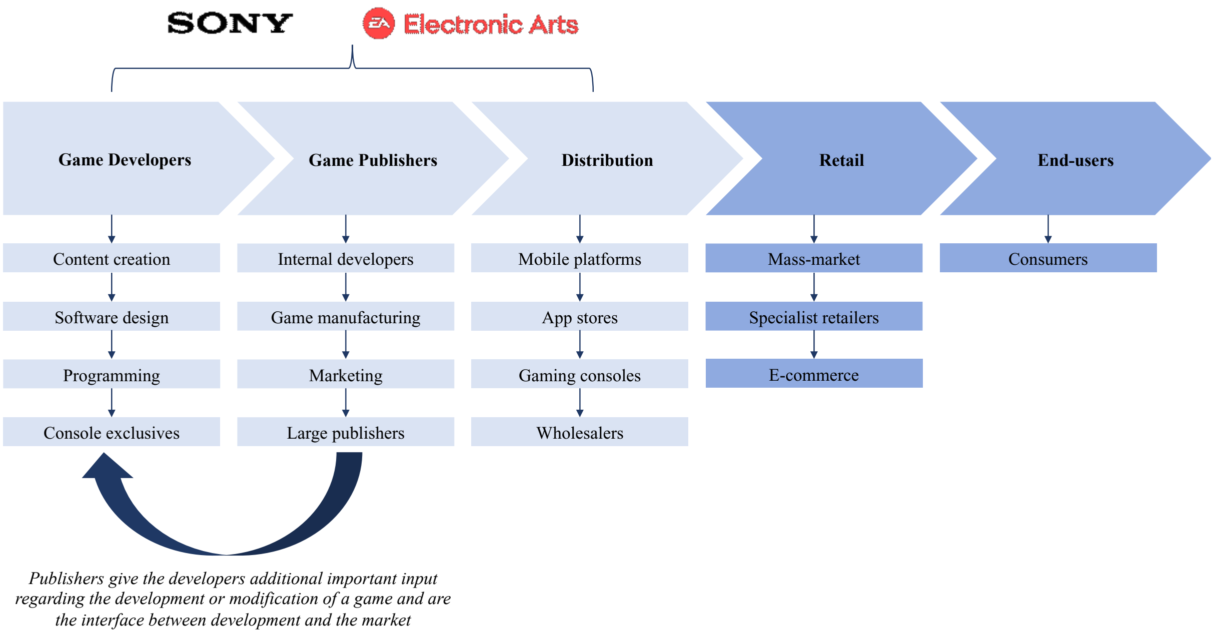
Appendix Figure 16: The different steps of the multiple valuation



Source: Rosenbaum & Pearl (2013) and own examples

7.2 Appendices: Industry and Company Profiles

Appendix Figure 17: Overview value chain of games software



Source: MarketLine – Global games software market (2020) and own examples

Appendix Figure 18: Market driver and trends of the gaming industry

Socialising
- Connect with other likeminded people
- Metaverse
- Meet new people
- Stay in touch with friends

Game / event streaming
- Global eSports audience is expected to grow from 495 million in 2020 to 650 million people in 2023
- Travis Scott's concert series hosted in Fortnite drew 12.3 million viewers in its first show
- UC Berkeley held a virtual ceremony in Minecraft for their graduating class

Profitable business model
- Recurring revenues
- In-game purchases and memberships
- Digital game currencies and easy payments
- Buy non-fungible digital items for real money
- Big technology players try to consolidate the market

Gaming experience
- VR gaming
- Blockchain-based games
- Next generation consoles
- More graphically sophisticated games
- Different online game modes

Cloud gaming
- Enables the playing of any game on any device without needing to have a local copy of the game itself

eSports
- COVID-19 pushing eSports to the next level
- Gaming tournaments and events

Cross-platform gaming
- Play a game regardless of the type of console or platform
- Expansion of customer base

5G
- Enable to play anywhere, at any time, on any screen
- Boost of games on mobile devices

Source: Houlihan Lokey video games market update, Summer 2020, and own examples

Appendix Table 8: Overview of precedent transactions in the gaming industry

Date	Acquirer	Acquirer Nation	Target	Target Nation	% Bought	EV ($M.)	EV / EBITDA	EV / EBIT	EV / Revenue	Target highlights
Jan. 2022	Microsoft		Activision Blizzard		100.00	67,428	17.9x	20.2x	7.66x	Game publisher of Call of Duty, Candy Crush, Diablo, World of Warcraft, and Spyro
Jan. 2022	T2		zynga		100.00	11,261	31.3x	91.1x	4.06x	Mobile game publisher who owns the online game Farmville and online Poker games
Jan. 2022	SONY		BUNGIE		100.00	3,600	n.a.	n.a.	n.a.	Developer and publisher of Destiny 2 and earlier titles in the Halo franchise
Jul. 2021	Tencent 腾讯		sumo group		91.25	1,212	62.9x	107.4x	12.70x	12 development studios with various games like Hood Outlaws & Legends, Hitman, and Sonic
Jun. 2021	Electronic Arts		Playdemic		100.00	1,400	n.a.	n.a.	n.a.	Developer of Golf Clash which is one of the biggest mobile sports games in the UK and US
Mar. 2021	ByteDance		Moonton		100.00	4,000	n.a.	n.a.	n.a.	Developer and publisher known primarily for its Mobile Legends titles
Feb. 2021	Electronic Arts		glu		100.00	2,013	69.0x	98.1x	3.72x	Publisher of licensed mobile games based on reality TV shows and licensed Disney properties
Dec. 2020	Electronic Arts		Codemasters		100.00	1,196	19.5x	51.6x	11.71x	Publisher of racing games on Console, PC and Mobile (Dirt, Formula 1, Grid)
Sep. 2020	Microsoft		ZeniMax Media Inc.		100.00	7,500	n.a.	n.a.	n.a.	Parent company of game developer and publisher Bethesda (Fallout, Doom, Dishonored)
Jul. 2020	Tencent 腾讯		Le You		100.00	1,400	20.3x	41.2x	6.56x	Developer and publisher of console games like Samurai Showdown
Jun. 2020	zynga		peak		100.00	1,934	n.a.	n.a.	2.70x	Mobile game developer of games like Toon Blast and Toy Blast
Jun. 2016	Tencent 腾讯		Supercell		81.40	8,600	n.a.	n.a.	n.a.	Mobile game developer with titles like Clash of Clans
Nov. 2015	Activision Blizzard		king		100.00	5,041	6.8x	7.0x	2.38x	Mobile game developer and publisher with titles like Candy Crush
Sep. 2014	Microsoft		MOJANG		100.00	2,500	n.a.	n.a.	n.a.	Developer and publisher of multiplatform franchise Minecraft
Mar. 2014	Meta		oculus		100.00	2,181	n.a.	n.a.	n.a.	VR gaming pioneer and nucleus for add-on acquisitions of developers like Beat Games
Average							**32.1x**	**59.0x**	**6.40x**	
Median							**21.1x**	**55.7x**	**5.31x**	

Pending Transaction

Source: Thomson Reuters Eikon Dealscreener, April 2022

Appendix Figure 19: *To date produced game consoles and average console production cycle*

Source: Representative company websites and company history, April 2022

Appendix Table 9: *Comparison of the number of development studios and developers of the largest video gaming companies and overview of the most successful games (hard copies sold – no free-to-play)*

Company	# Game Development Studios	Game Developers	Current Highlight Games	All Time Top Selling Game	Sales Top Game In Million Units*
Activision Blizzard	9	≈2,800	Candy Crush, Call of Duty, Crash Bandicoot, Guitar Hero, Tony Hawk's, Spyro, Skylanders, World of Warcraft	Call of Duty Modern Warfare	30
Bandai Namco	≈6	1,500	Ace Combat, Dark Souls, Gundam, Tekken, Pac-Man	Pac-Man	41
Electronic Arts	20	≈6,000	Apex Legend, Battlefield, FIFA, Madden NFL, Need for Speed, The Sims, Titanfall, Plants vs. Zombies	Tetris	100
Epic Games	≈4	≈700	Fortnite, Rocket League	Fortnite	n.a.***
Microsoft	23	≈7,000	Age of Empires, Gears of War, Halo, Minecraft, Fallout, Microsoft Solitaire, DOOM, The Elder Scrolls, Wolfenstein	Minecraft	250
Nintendo	≈22	≈7,000	Animal Crossing, Donkey Kong, Mario, Pokémon, Zelda	WII Sports	82.9
Sony	19	≈6,500	Crash Bandicoot, Ghost of Tsushima, Gran Turismo, MLB, Spider-Man, The Last of Us, Unchartered	The Last of Us Remastered	20
T2	26	5,000	Grand Theft Auto, Mafia, Max Payne, NBA 2K, WWE 2K	Grand Theft Auto V	150
Tencent 腾讯	≈40	≈11,000	Honor of Kings, League of Legends, Player Unknown's Battlegrounds, Valorant	Player Unknown's Battlegrounds**	70
Ubisoft	45	≈14,000	Anno, Assassin's Creed, Far Cry, Prince of Persia, Rayman, Tom Clancy's, Watch Dogs	Far Cry V	25

* hard copies sold, excludes free-to-play games
** before free-to-play-version
*** free-to-play version with 350 million accounts

Source: Representative company annual reports and HP Development Company Tech newsletter, September 2021

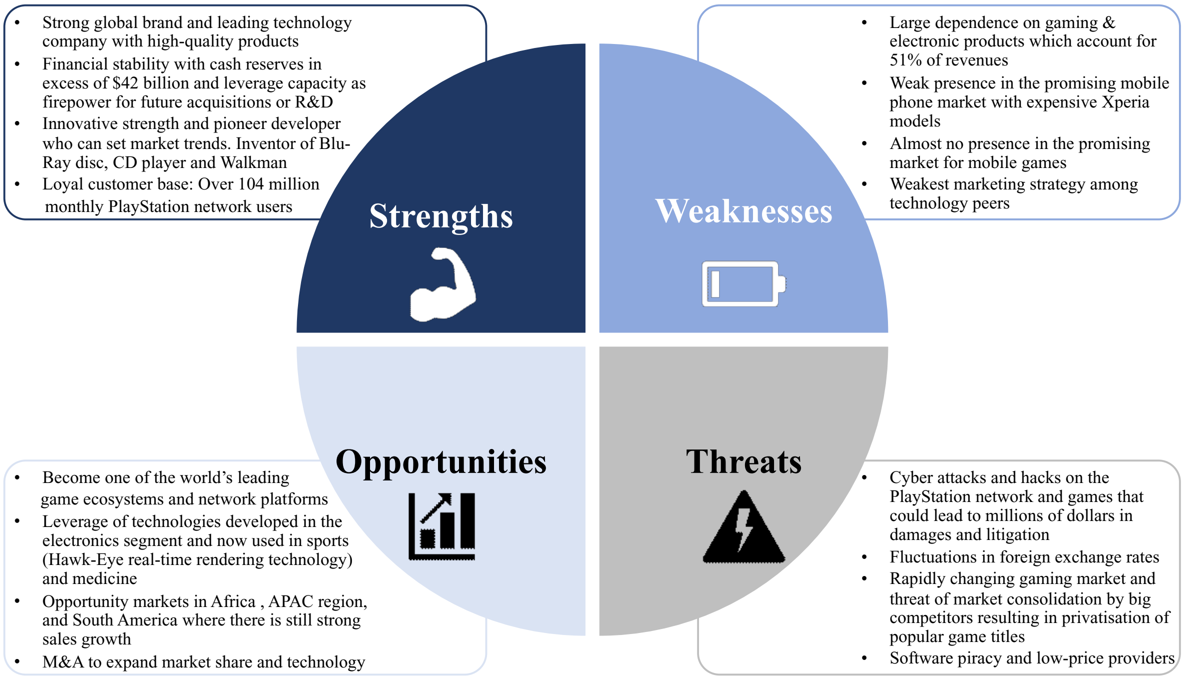
Appendix Table 10: *Selected key financial items within Sony's income statement, balance sheet and cash flow statement and related financial ratios*

in $billion	2017	2018	2019	2020	2021	CAGR
Revenue	70.19	77.11	78.16	75.97	84.88	4.9%
EBITDA	8.13	10.20	10.19	12.00	13.28	13.0%
EBIT	3.70	6.94	7.43	8.10	9.63	27.0%
R&D Expense	4.13	4.14	4.34	4.59	4.95	4.6%
Interest paid	0.13	0.12	0.11	0.10	0.11	-4.1%
Net Income	1.78	4.78	7.63	5.87	11.52	59.5%
Cash Positions	18.10	26.00	25.20	31.20	42.40	23.7%
Shareholders Equity	22.40	27.90	33.80	38.40	50.40	22.5%
Interest-bearing Debt	10.77	12.66	12.26	13.72	18.90	15.1%
Cash Flow from Operations	7.47	11.33	11.32	12.39	12.73	14.3%
Capital Employed	93.62	100.53	109.23	124.98	125.11	7.5%
Shares Outstanding (in billion shares)	1.26	1.26	1.27	1.23	1.23	-0.6%
FX Rate (JPY/USD)	*0.009231*	*0.009025*	*0.009019*	*0.009198*	*0.009432*	

	2017	2018	2019	2020	2021	Industry Median
Gross Margin	31.40%	32.44%	33.28%	34.31%	32.92%	27.6%
EBITDA Margin	11.59%	13.23%	13.04%	15.79%	15.65%	9.8%
EBIT Margin	5.27%	9.00%	9.51%	10.66%	11.35%	8.2%
Net Income Margin	2.54%	6.20%	9.77%	7.72%	13.57%	5.8%
Basic EPS (in$)	1.41	3.78	6.03	4.75	9.36	n.a.
Return on Equity (ROE)	7.95%	17.11%	22.58%	15.29%	22.87%	10.1%
Return on Capital Employed (ROCE)	3.95%	6.90%	6.81%	6.48%	7.70%	4.4%
Return on Invested Capital (ROIC)	3.05%	5.32%	5.25%	5.00%	5.94%	3.1%
Leverage (Net Debt-to-EBITDA)	-0.90x	-1.31x	-1.27x	-1.46x	-1.77x	0.05x
Gearing (Debt-to-Equity)	48.03%	45.33%	36.29%	35.75%	37.53%	25.0%
Interest Coverage Ratio	60.57x	83.33x	90.61x	117.62x	115.56x	n.a.
Debt Service Coverage Ratio	55.64x	92.51x	7.10x	121.44x	110.76x	n.a.

Source: Respective annual reports of Sony

Appendix ***Figure 20:*** *SWOT analysis of Sony*



Source: 2021 Annual report and corporate strategy meeting of Sony as well as own elaboration

Appendix Table 11: *Selected key financial items within Electronic Arts' income statement, balance sheet and cash flow statement and related financial ratios*

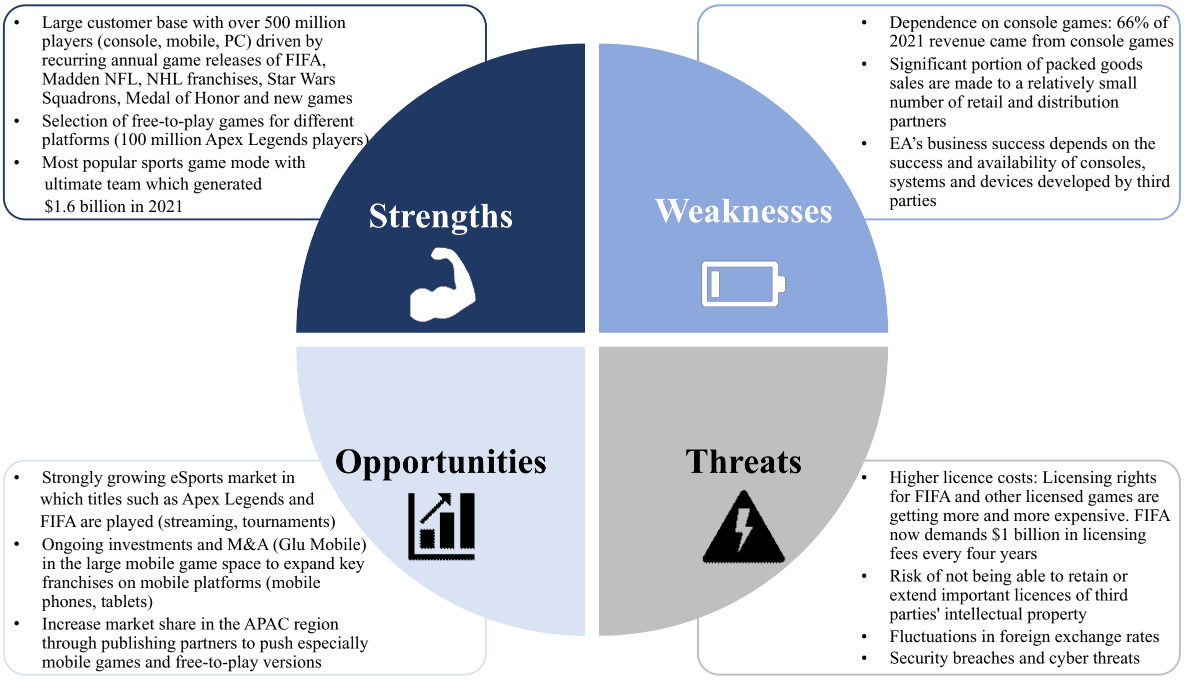
in $billion	2017	2018	2019	2020	2021	CAGR
Revenue	4.85	5.15	4.95	5.54	5.63	3.8%
EBITDA	1.26	1.44	1.05	1.49	1.08	-3.9%
EBIT	1.24	1.43	1.01	1.45	1.05	-4.1%
R&D Expense	1.21	1.32	1.43	1.55	1.78	10.1%
Interest paid	0.05	0.04	0.05	0.04	0.05	0%
Net Income	0.98	1.04	1.03	3.04*	0.84	-3.8%
Cash Positions	4.53	5.33	5.45	5.74	6.37	8.9%
Shareholders Equity	4.06	4.6	5.33	7.46	7.84	17.9%
Interest-bearing Debt	0.99	0.99	0.99	1.00	1.90	17.7%
Cash Flow from Operations	1.38	1.69	1.55	1.80	1.93	8.8%
Capital Employed	0.77	0.76	1.25	2.71	3.96	50.6%
Shares Outstanding (in billion shares)	0.30	0.31	0.30	0.29	0.28	-1.7%

** 2020 net income includes benefit for income taxes of $1.53 billion*

	2017	2018	2019	2020	2021	Industry Median
Gross Margin	73.40%	75.15%	73.33%	75.27%	73.53%	62.1%
EBITDA Margin	26.01%	28.02%	21.15%	26.84%	19.12%	12.8%
EBIT Margin	25.57%	27.84%	20.40%	26.19%	18.58%	2.9%
Net Income Margin	20.27%	20.25%	20.87%	54.98%	14.87%	-0.5%
Basic EPS (in$)	3.24	3.39	3.41	10.39	2.90	n.a.
Return on Equity (ROE)	24.19%	22.70%	19.38%	40.80%	10.68%	3.8%
Return on Capital Employed (ROCE)	160.70%	188.19%	80.99%	53.45%	26.43%	23.7%
Return on Invested Capital (ROIC)	140.73%	164.81%	70.93%	46.81%	23.14%	19.2%
Leverage (Net Debt-to-EBITDA)	-2.81x	-3.01x	-4.25x	-3.19x	-4.15x	0.6x
Gearing (Debt-to-Equity)	24.38%	21.59%	18.65%	13.35%	24.23%	46.0%
Interest Coverage Ratio	26.81x	32.80x	23.27x	33.77x	23.91x	n.a.
Debt Service Coverage Ratio	6.59x	38.45x	34.38x	40.84x	42.98x	n.a.

Source: Respective annual reports of EA

Appendix Figure 21: SWOT analysis of Electronic Arts



Source: 2021 Annual report of EA as well as own elaboration

7.3 Appendices: Valuation of the Buyer Sony

Appendix Table 12: Sony's peer group for unlevered beta computation

Cost of Equity in $Thousands						Marginal	Levered	Unlevered
Company	**Market Cap.**	**Revenues**	**MV of Equity**	**MV of Debt**	**Debt/Equity**	**Tax Rate**	**Beta**	**Beta**
Apple	2,551,593,785	365,817,000	63,090,000	125,567,000	199%	15.9%	1.19	0.45
Microsoft	2,075,581,276	168,088,000	141,988,000	70,687,000	50%	14.8%	0.94	0.66
Nintendo	58,517,573	16,594,758	16,931,987	52,087	0%	28.6%	0.83	0.83
Panasonic	21,801,855	63,200,995	23,433,008	13,075,185	56%	29.6%	1.25	0.90
Samsung Electronics	356,927,716	244,503,423	249,366,727	15,482,128	6%	27.3%	1.07	1.02
Tencent	462,298,474	86,837,187	126,934,242	50,924,261	40%	12.4%	1.28	0.95
Average								**0.80**
Median								**0.86**

Relevered Beta	Mean Unlevered Beta	Target Debt/Equity	Target Marginal Tax Rate
	0.86	37.5%	22.9%
Relevered Beta			**1.11**

Source: Own calculation, Thomson Reuter Refinitiv

Appendix Table 13: Sony's calculation of the market value of debt

Calculation Market Value of Debt 2021	in $Thousands
Total Debt	18,904,814
- Bond Debt	1,956,476
Other interest bearing Debt	**16,948,338**
Percentage Bond Debt	10.3%
Weighted Interest Expense on Bonds	0.29%
Interest Paid for Bonds	5,653
Interest Paid for entire Debt	114,929
Interest Expense Bank Debt	109,276
Average Maturity according to Annual Report	4.5
Transformed Book Value to MV of Debt	**16,350,768**
+ Bond Debt	1,956,476
Entire Market Value of Debt	**18,307,243**

Source: Own calculation

Appendix Table 14: Capitalization of Sony

Exchange Rate Yen / $
0.009033

Sony Capitalization 2021						
in $Thousands	**Yen Amoint**	**$Amount**	**$Amount draw**	**% of Total Cap**	**aturity in years**	**Yield**
Cash and Cash Equivalents		42,359,531				
Revolving Credit Facility	220,711,000	1,993,682	0	-		-
Revolving Credit Facility	155,796,000	1,407,305	0	-		-
Revolving Credit Facility	275,000,000	2,484,075	0	-		-
Revolving Credit Facility	275,000,000	2,484,075	0	-		-
Term Loan	43,000,000	388,419	388,419	0.6%	7	-
Term Loan	43,000,000	388,419	388,419	0.6%	9	-
Term Loan	77,898,000	703,653	703,653	1.0%	7	-
Term Loan	77,898,000	703,653	703,653	1.0%	9	-
Senior Secured		**2,184,143**	**2,184,143**	**3.2%**	**8**	
Bonds						
SONYC	26,592,000	240,206	240,206	0.3%	1	0.00%
SONYCW	10,000,000	90,330	90,330	0.1%	1	0.19%
SONYC	15,000,000	135,495	135,495	0.2%	1	0.28%
SNYFNB	10,000,000	90,330	90,330	0.1%	2	0.15%
SONYC	30,000,000	270,990	270,990	0.4%	2	0.13%
SONYCW	10,000,000	90,330	90,330	0.1%	3	0.22%
SNYFNB	20,000,000	180,660	180,660	0.3%	4	0.20%
SONYC	25,000,000	225,825	225,825	0.3%	4	0.42%
SONYC	10,000,000	90,330	90,330	0.1%	4	0.27%
SONYC	60,000,000	541,980	541,980	0.8%	7	0.50%
Total Bonds		**1,956,476**	**1,956,476**	**2.8%**	**2.9**	

Long Term Debt 2021 in $Thousands	**Amount**	**% of Total Cap**	**Average Yield**
Bonds	1,490,445	2.2%	0.33%
Term Loans	2,184,143	3.2%	-
Other Long Term Debt (incl. Capital Lease)	3,310,577	4.8%	-
Long Term Debt	**6,985,165**	**10.1%**	**0.00**

Short Term Debt in 2021 in $Thousands	**Amount**	**% of Total Cap**	**Average Yield**
Bonds	466,031	0.7%	0.16%
Short Term Portion of Capital Lease	1,189,637	1.7%	-
Other Short Term Debt	10,263,981	14.8%	-
Short Term Debt	**11,919,649**	**17.2%**	**0.16%**
Total Debt	**18,904,814**	**27.3%**	
Shareholders Equity	**50,366,554**	**72.7%**	
Total Capitalization	**69,271,368**	**100%**	
Net Debt	**(23,454,717)**		
Debt / Equity	**37.5%**		
Debt / Total Capitalization	**27.3%**		

Source: Sony Investor Relations and annual report

Appendix Table 15: Detailed overview of Sony's WACC components

Cost of Equity	
Risk-free rate	0.7%
Market Risk Premium	5.5%
Levered Beta	1.1
Size Premium	0.0%
Cost of Equity	**6.8%**

Cost of Debt	
Credit Spread	0.8%
Risk-free rate	0.7%
Cost of Debt	**1.5%**

Calculation of Unlevered Cost of Equity	
Risk-free rate	0.7%
Market Risk Premium	5.5%
Unlevered Beta	86.4%
Size Premium	0.0%
Unlevered Cost of Equity	**5.5%**

Source: Own calculation, Thomson Reuters Refinitiv

Appendix Table 16: Sony's WACC computation and sensitivity analysis

WACC Calculation	
Target Capital Structure	
Debt-to-Total-Capitalization	27.3%
Equity-to-Total-Capitalization	72.7%
Cost of Debt	
Cost of Debt	1.5%
Tax Rate	22.9%
After-tax Cost of Debt	**1.1%**
Cost of Equity	
Risk-free Rate	0.7%
Market Risk Premium	5.5%
Levered Beta	1.1
Size Premium	0.0%
Cost of Equity	**6.8%**
WACC	**5.3%**

WACC Sensitivity Analysis					
	Pre-tax Cost of Debt				
Debt-to-Total-Capitalization	**0.5%**	**1.0%**	**1.5%**	**2.0%**	**2.5%**
10%	6.2%	6.2%	6.3%	6.3%	6.3%
20%	5.5%	5.6%	5.7%	5.8%	5.9%
27%	5.1%	5.2%	5.3%	5.4%	5.5%
40%	4.3%	4.4%	4.6%	4.7%	4.9%
50%	3.6%	3.8%	4.0%	4.2%	4.4%

Source: Own calculation

Appendix Table 17: Credit spreads and probability of default

Credit Spreads according to Moody's and S&P for companies with market cap > $5 billion

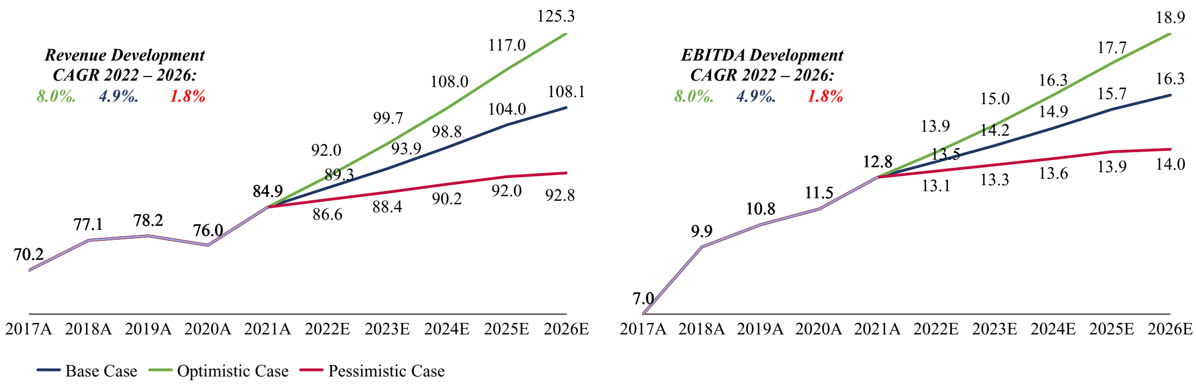
If Interest coverage ratio is >	<=	Rating is Moody's / S&P	Spread is	
-100000x	0.199999x	D2 / D	19.38%	Speculative Grade
0.20x	0.649999x	C2 / C	14.54%	
0.65x	0.799999x	Ca2 / CC	11.08%	
0.80x	1.249999x	Caa /CCC	9.00%	
1.25x	1.499999x	B3 / B-	6.60%	
1.50x	1.749999x	B2 / B	5.40%	
1.75x	1.999999x	B1 / B+	4.50%	
2.00x	2.249999x	Ba2 / BB	3.60%	
2.25x	2.499999x	Ba1 / BB+	3.00%	
2.50x	2.999999x	Baa2 / BBB	2.00%	Investment Grade
3.00x	4.249999x	A3 / A-	1.56%	
4.25x	5.499999x	A2 / A	1.38%	
5.50x	6.499999x	A1 / A+	1.25%	
6.50x	8.499999x	Aa2 / AA	1.00%	
8.50x	100000x	Aaa / AAA	0.75%	

Probability of Default according to Altman

Rating	Probability of Default	
Aaa / AAA	0.07%	Investment Grade
Aa2 / AA	0.51%	
A1 / A+	0.60%	
A2 / A	0.66%	
A3 / A-	2.50%	
Baa2 / BBB	7.54%	
Ba1 / BB+	10.00%	Speculative Grade
Ba2 / BB	16.63%	
B1 / B+	25.00%	
B2 / B	36.80%	
B3 / B-	45.00%	
Caa /CCC	59.10%	
Ca2 / CC	70.00%	
C2 / C	85.00%	
D2 / D	100.00%	

Source: Mood's, S&P and E. Altman (2009)

Appendix Figure 22: Sony's DCF and APV scenarios in $billions for revenue (left) and EBITDA (right)



Source: Own calculation

Appendix Table 18: DCF and APV assumptions of Sony

SONY

Operating Scenario: Base Case	Historical Period					Projection Period				
in $Thousands	**2017A**	**2018A**	**2019A**	**2020A**	**2021A**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**
Income Statement Assumptions (% Revenue)										
Revenue	4.0%	9.9%	1.4%	-2.8%	11.7%	5.2%	5.2%	5.2%	5.2%	4.0%
Cost of Goods Sold (COGS)	68.6%	67.6%	66.7%	65.7%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%
Selling, General & Administrative (SG&A	15.5%	14.3%	13.9%	13.1%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
Research & Development	5.9%	5.4%	5.6%	6.0%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
Depreciation & Amortization (D&A)	4.3%	4.2%	4.3%	5.0%	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%
Other Operating Income / (Expenses)	-2.0%	0.0%	0.8%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Interest Expense	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Interest Income	-0.1%	-0.1%	1.5%	-0.1%	2.7%	0.1%	0.1%	0.1%	0.1%	0.1%
Non-Operating Expenses	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Minority Interest	-0.7%	-0.7%	-0.6%	-0.5%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Dividend Payout Ratio	34.4%	7.1%	4.8%	9.5%	5.8%	6.0%	6.0%	6.5%	6.5%	6.5%
CAPEX Assumptions (% Revenue)										
Capital Expenditures (CAPEX)	4.4%	3.1%	3.6%	5.3%	5.7%	5.7%	5.7%	5.7%	5.7%	5.7%
Balance Sheet Assumptions (% Revenue)										
Current Assets										
Accounts Receivables (in days)	55.0	53.6	54.3	53.2	52.6	52.6	52.6	52.6	52.6	52.6
Days Inventory Held (in days)	43.6	45.7	41.3	40.1	36.9	36.9	36.9	36.9	36.9	36.9
Prepaid Expenses	6.7%	6.3%	5.9%	7.3%	5.7%	5.7%	5.7%	5.7%	5.7%	5.7%
Current Liabilities										
Accounts Payable (in days)	36.7	30.9	31.1	25.9	34.7	34.7	34.7	34.7	34.7	34.7
Accrued Liabilities	17.8%	18.5%	19.5%	20.8%	19.5%	19.2%	19.2%	19.2%	19.2%	19.2%
Other Current Liabilities	35.4%	35.6%	35.8%	40.6%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%
Marginal Tax Rate Assumptions										
Marginal Tax Rate Assumptions	42.1%	14.5%	20.8%	27.1%	10.0%	22.9%	22.9%	22.9%	22.9%	22.9%
APV										
Bankruptcy Cost	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Rating	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA
Probability of Default	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%

Source: Own estimation in guidance of company and market reports

Appendix Table 19: Base case scenario FCFF calculation for Sony

SONY

Choose Operating Scenario: Base Case Mid-Year Convention: No	Historical Period					CAGR	Projection Period					CAGR
in $Thousands	**2017A**	**2018A**	**2019A**	**2020A**	**2021A**	**'17 - '21**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**	**'22 - '26**
Revenue	70,185,601	77,109,438	78,155,831	75,974,422	84,881,964	*4.9%*	89,295,826	93,939,209	98,824,048	103,962,898	108,121,414	*4.9%*
% growth	*4.0%*	*9.9%*	*1.4%*	*-2.8%*	*11.7%*		*5.2%*	*5.2%*	*5.2%*	*5.2%*	*4.0%*	
Cost of Goods Sold (COGS)	48,146,108	52,091,434	52,147,804	49,906,131	56,935,174		59,917,499	63,033,209	66,310,936	69,759,105	72,549,469	
Gross Profit	**22,039,493**	**25,018,004**	**26,008,027**	**26,068,291**	**27,946,790**	***6.1%***	**29,378,327**	**30,906,000**	**32,513,112**	**34,203,794**	**35,571,945**	***4.9%***
% margin	31.4%	32.4%	33.3%	34.3%	32.9%		32.9%	32.9%	32.9%	32.9%	32.9%	
Selling, General & Administrative (SG&A)	10,882,500	11,026,321	10,848,045	9,988,872	10,179,600		10,715,499	11,272,705	11,858,886	12,475,548	12,974,570	
Research & Development	4,130,466	4,138,125	4,339,961	4,592,469	4,953,451		5,179,158	5,448,474	5,731,795	6,029,848	6,271,042	
EBITDA	**7,026,527**	**9,853,558**	**10,820,021**	**11,486,950**	**12,813,739**	***16.2%***	**13,483,670**	**14,184,821**	**14,922,431**	**15,698,398**	**16,326,334**	***4.9%***
% margin	10.0%	12.8%	13.8%	15.1%	15.1%		15.1%	15.1%	15.1%	15.1%	15.1%	
Depreciation & Amortization (D&A)	3,018,980	3,262,032	3,373,340	3,832,273	3,685,016		3,839,721	4,039,386	4,249,434	4,470,405	4,649,221	
Other Operating Income / (Expenses)	(1,412,961)	(4,133)	618,424	(63,760)	37,907		0	0	0	0	0	
EBIT	**2,594,586**	**6,587,393**	**8,065,105**	**7,590,917**	**9,166,630**	***37.1%***	**9,643,949**	**10,145,435**	**10,672,997**	**11,227,993**	**11,677,113**	***4.9%***
% margin	3.7%	8.5%	10.3%	10.0%	10.8%		10.8%	10.8%	10.8%	10.8%	10.8%	
Taxes	594,360	1,509,021	1,847,531	1,738,906	2,099,865		2,208,464	2,323,305	2,444,116	2,571,210	2,674,059	
EBIAT	**2,000,226**	**5,078,372**	**6,217,574**	**5,852,011**	**7,066,765**	***37.1%***	**7,435,485**	**7,822,130**	**8,228,881**	**8,656,783**	**9,003,054**	***4.9%***
Plus: Depreciation & Amortization (D&A)	3,018,980	3,262,032	3,373,340	3,832,273	3,685,016		3,839,721	4,039,386	4,249,434	4,470,405	4,649,221	
Less: Capital Expenditures (CAPEX)	3,078,622	2,373,476	2,819,736	4,044,922	4,831,438		5,089,862	5,354,535	5,632,971	5,925,885	6,162,921	
Less: Inc./(Dec.) in Net Working Capital		2,209,709	2,199,535	2,543,606	7,693,063		1,660,806	1,949,506	2,050,880	2,157,526	1,745,936	
Current Assets	**21,045,680**	**22,710,305**	**22,121,953**	**22,087,649**	**22,847,384**		**24,015,660**	**25,264,474**	**26,578,227**	**27,960,295**	**29,078,706**	
Accounts Receivable	10,571,083	11,325,997	11,633,165	11,076,542	12,225,199		12,868,385	13,537,541	14,241,493	14,982,051	15,581,333	
Inventories	5,753,417	6,521,230	5,893,874	5,486,712	5,757,553		6,057,413	6,372,398	6,703,763	7,052,359	7,334,453	
Prepaid Expenses and other Current Assets	4,721,180	4,863,078	4,594,914	5,524,395	4,864,632		5,089,862	5,354,535	5,632,971	5,925,885	6,162,921	
Current Liabilities	**42,229,459**	**46,103,793**	**47,714,976**	**50,224,278**	**58,677,076**		**61,506,158**	**64,704,478**	**68,069,111**	**71,608,705**	**74,473,053**	
Accounts Payable	4,847,222	4,409,524	4,439,943	3,541,533	5,415,907		5,696,266	5,992,472	6,304,081	6,631,893	6,897,169	
Accrued Liabilities	12,522,137	14,252,329	15,274,679	15,801,993	16,532,151		17,144,799	18,036,328	18,974,217	19,960,877	20,759,312	
Other Current Liabilities	24,860,100	27,441,940	28,000,354	30,880,752	36,729,018		38,665,093	40,675,678	42,790,813	45,015,935	46,816,572	
Net Working Capital	**(21,183,779)**	**(23,393,488)**	**(25,593,023)**	**(28,136,629)**	**(35,829,692)**		**(37,490,498)**	**(39,440,004)**	**(41,490,884)**	**(43,648,410)**	**(45,394,346)**	
Unlevered Free Cash Flow (FCFF)							**7,846,149**	**8,456,487**	**8,896,224**	**9,358,828**	**9,235,291**	
WACC	5.3%											
Discount Period							1	2	3	4	5	
Discount Factor							0.95	0.90	0.86	0.81	0.77	
Present Value of Free Cash Flow							**7,452,870**	**7,629,990**	**7,624,418**	**7,618,850**	**7,141,435**	

Source: Own calculation

Appendix Table 20: *Calculation of Sony's EV, equity value and implied growth and exit multiple in the base case scenario*

Enterprise Value	
Cummulative Present Value of FCFF	**37,467,563**
Terminal Value	
Terminal Year EBITDA 2026	16,326,334
Exit Multiple	7.0x
Terminal Value	114,284,335
Discount Factor	0.77
Present Value of Terminal Value	**88,373,417**
% of Enterprise Value	70.2%
Enterprise Value	**125,840,980**

Implied Equity Value and Share Price	
Enterprise Value	125,840,980
Less: Total Debt	18,904,814
Less: Preferred Stock	0
Less: Noncontrolling Interest	486,120
Less: Underfunded Pensions	2,295,312
Less: Asset Retirement Obligations	0
Plus: Cash and Cash Equivalents	42,359,531
Implied Equity Value	**146,514,265**
Basic Weighted Average Shares Outstanding	1,230,480
Diluted Weighted Average Shares Outstanding	1,250,692
Implied Share Price	**$117.15**

Implied Perpetuity Growth Rate	
Terminal Year Free Cash Flow 2026	9,235,291
Discount Rate	0
Terminal Value	114,284,335
Implied Perpetuity Growth Rate	**1.0%**

Implied Exit Multiple	
Terminal Value	108,231,969
Terminal Year EBITDA 2026	16,326,334
WACC	5.3%
Implied Exit Multiple	**7.0x**

Source: Own calculation

Appendix Table 21: *Overview of Sony's APV calculation and share price calculation in the base case scenario*

Unlevered Cost of Equity	5.5%									
Discount Period						1	2	3	4	5
Discount Factor						0.95	0.90	0.85	0.81	0.77
Present Value of Free Cash Flow						**7,439,897**	**7,603,449**	**7,584,671**	**7,565,939**	**7,079,494**
Interest Expense	134,256	122,433	112,440	102,006	114,929	111,620	117,424	123,530	129,954	135,152
Cost of Debt	1.5%									
Tax Shield						**373**	**393**	**413**	**434**	**452**
Discount Factor						0.99	0.97	0.96	0.94	0.93
PV of Tax Shield						**368**	**381**	**395**	**410**	**420**
Rolling Sum of FCFFs and Terminal Value (EV)						95,046,811	102,650,260	110,234,931	117,800,869	124,880,364
Probability of Default						0.1%	0.1%	0.1%	0.1%	0.1%
Bankruptcy Cost						25.0%	25.0%	25.0%	25.0%	25.0%
Expected Distress Cost						**16,633**	**17,964**	**19,291**	**20,615**	**21,854**

Sum of FCFFs and Terminal Value	
Cummulative Present Value of FCFF	**37,273,450**
Terminal Value	
Terminal Year EBITDA 2026	16,326,334
Exit Multiple	7.0x
Terminal Value	114,284,335
Discount Factor	0.77
Present Value of Terminal Value	**87,606,914**
% of FCFFs and Terminal Value	70.2%
Sum of FCFFs and Terminal Value	**124,880,364**

Tax Shield	
Cummulative Present Value of Tax Shield	**1,975**
Terminal Value Tax Shield	
Terminal Year Tax Shield	420
Exit Multiple	10.7x
Terminal Value Tax Shield	4,497
Discount Factor	0.93
Present Value of Tax Shield	**4,183**
% of Tax Shields and Terminal Value Tax Shield	67.9%
Sum of Tax Shields and Terminal Value Tax Shield	**6,158**

Expected Distress Cost	
Expected Distress Cost 2026	**21,854**

Implied Equity Value and Share Price	
Enterprise Value	124,864,667
Less: Total Debt	18,904,814
Less: Preferred Stock	0
Less: Noncontrolling Interest	486,120
Less: Underfunded Pensions	2,295,312
Less: Asset Retirement Obligations	0
Plus: Cash and Cash Equivalents	42,359,531
Implied Equity Value	**145,537,952**
Basic Weighted Average Shares Outstanding	1,230,480
Diluted Weighted Average Shares Outstanding	1,250,692
Implied Share Price	**$116.37**

Source: Own calculation

Appendix Table 22: *Overview of Sony's comparable companies analysis and share price calculations in the base case scenario*

Sony Comparable Companies (COMPS) Valuation

Revenue	Financial Metric	Multiple Range		Implied Enterprise Value		Less: Net Debt	Implied Equity Value		Fully Diluted Shares	Implied Share Price	
LTM	80,428,193	1.59x	1.77x	128,242,560	142,491,733	(20,673,285)	148,915,845	163,165,018	1,250,692	$119.1	$130.5
2021	84,881,964	1.46x	1.62x	123,805,185	137,561,317	(20,673,285)	144,478,470	158,234,602	1,250,692	$115.5	$126.5
NTM	91,617,518	1.49x	1.65x	136,461,971	151,624,413	(20,673,285)	157,135,256	172,297,698	1,250,692	$125.6	$137.8

EBITDA	Financial Metric	Multiple Range		Implied Enterprise Value		Less: Net Debt	Implied Equity Value		Fully Diluted Shares	Implied Share Price	
LTM	12,639,612	7.3x	8.1x	92,123,076	102,358,973	(20,673,285)	112,796,361	123,032,258	1,250,692	$90.2	$98.4
2021	13,281,095	8.7x	9.7x	115,982,516	128,869,462	(20,673,285)	136,655,801	149,542,747	1,250,692	$109.3	$119.6
NTM	13,834,245	6.2x	6.9x	85,790,940	95,323,267	(20,673,285)	106,464,225	115,996,552	1,250,692	$85.1	$92.7

EBIT	Financial Metric	Multiple Range		Implied Enterprise Value		Less: Net Debt	Implied Equity Value		Fully Diluted Shares	Implied Share Price	
LTM	8,868,041	11.3x	12.5x	99,847,173	110,941,303	(20,673,285)	120,520,458	131,614,588	1,250,692	$96.4	$105.2
2021	9,633,986	13.4x	14.9x	129,535,744	143,928,604	(20,673,285)	150,209,029	164,601,889	1,250,692	$120.1	$131.6
NTM	9,894,692	10.6x	11.8x	105,296,208	116,995,786	(20,673,285)	125,969,493	137,669,071	1,250,692	$100.7	$110.1

Net Income	Financial Metric	Multiple Range		Implied Equity Value		Fully Diluted Shares	Implied Share Price	
LTM	8,692,859	13.8x	15.3x	119,665,462	132,961,625	1,250,692	$95.7	$106.3
2021	11,519,546	11.9x	13.3x	137,593,489	152,881,655	1,250,692	$110.0	$122.2
NTM	7,230,340	26.3x	29.3x	190,396,446	211,551,607	1,250,692	$152.2	$169.1

Source: Own calculation

Appendix Table 23: *Comparable Companies Analysis and peer group for Sony and combined entity (incl. Electronic Arts)*

SONY

in $Thousands						Enterprise Value /											Price /		
Company Name	**Ticker Symbol**	**Current Share Price**	**% of 52 Week High**	**Equity Value**	**Enterprise Value**	**LTM Revenue**	**2021 Revenue**	**NTM Revenue**	**LTM EBITDA**	**2021 EBITDA**	**NTM EBITDA**	**LTM EBIT**	**2021 EBIT**	**NTM EBIT**	**LTM EBITDA Margin**	**Total Debt / EBITDA**	**LTM EPS**	**2021 EPS**	**NTM EPS**
Game Network and Services																			
Activision Blizzard	ATVI	78.06	21.52	61,031,118	53,672,118	6.91x	6.64x	6.25x	16.0x	16.3x	13.2x	17.8x	16.1x	13.8x	39.8%	1.1x	3.3x	3.7x	4.0x
Bandai Namco	7832	67.35	19.93	14,987,522	13,438,474	1.82x	2.00x	1.89x	11.3x	14.1x	11.2x	14.5x	17.6x	n.a.	16.1%	0.2x	2.9x	2.7x	3.1x
Electronic Arts	EA	120.00	19.43	33,746,672	32,608,672	4.50x	5.89x	4.01x	24.2x	20.2x	11.0x	34.3x	31.2x	12.6x	20.7%	1.4x	6.8x	5.8x	7.5x
Microsoft	MSFT	284.47	18.65	2,127,560,556	2,087,332,556	10.84x	14.60x	9.26x	21.8x	31.7x	18.2x	25.5x	29.9x	21.6x	49.8%	0.7x	9.1x	8.1x	10.8x
Nintendo	7974	449.52	28.94	58,517,573	46,590,906	3.13x	3.83x	3.49x	8.7x	13.8x	9.6x	8.9x	8.1x	n.a.	35.8%	n.m.	15.0x	15.3x	29.1x
Perfect World	002624	2.24	43.37	4,336,158	4,126,987	2.98x	2.63x	2.48x	36.0x	15.3x	11.3x	36.0x	63.9x	11.5x	6.3%	3.9x	n.m.	n.m.	n.m.
Take-Two Interactive Software	TTWO	121.94	37.73	14,078,847	11,625,468	3.47x	3.76x	2.78x	12.0x	17.6x	12.6x	16.5x	17.4x	13.9x	28.5%	n.m.	4.9x	6.6x	6.2x
Tencent Holdings	700	48.10	39.93	462,310,257	485,080,005	5.56x	6.57x	4.82x	17.7x	18.2x	13.5x	25.4x	24.9x	16.1x	31.8%	1.8x	2.0x	2.0x	2.5x
Ubisoft Entertainment	UBI	44.93	41.67	5,643,284	6,234,292	2.36x	3.54x	2.38x	5.3x	10.1x	5.9x	15.1x	13.3x	13.2x	40.7%	2.1x	2.4x	3.0x	2.5x
Average						**4.62x**	**5.49x**	**4.15x**	**17.0x**	**17.5x**	**11.8x**	**21.5x**	**24.7x**	**14.7x**	**29.9%**	**1.6x**	**5.8x**	**5.9x**	**8.2x**
Median						**3.47x**	**3.83x**	**3.49x**	**16.0x**	**16.3x**	**11.3x**	**17.8x**	**17.6x**	**13.8x**	**31.8%**	**1.4x**	**4.1x**	**4.7x**	**5.1x**
Electronic Products and Services																			
Apple	AAPL	157.96	13.65	2,556,611,191	2,625,081,191	3.47x	9.56x	6.42x	20.1x	33.9x	19.2x	22.0x	24.1x	21.2x	33.6%	0.9x	6.2x	5.6x	6.6x
Fujitsu	6702	150.80	25.36	31,290,231	30,649,652	1.00x	0.95x	1.05x	8.7x	8.1x	7.3x	16.2x	17.0x	13.2x	11.2%	0.7x	10.3x	9.9x	10.5x
LG	003550	58.22	46.84	9,337,653	8,183,156	1.24x	1.71x	1.22x	3.6x	5.1x	3.0x	3.8x	4.0x	3.2x	37.6%	0.3x	13.8x	13.1x	13.3x
Nikon	7731	11.23	9.39	4,257,488	2,500,873	0.53x	0.46x	0.56x	4.9x	5.8x	4.4x	8.8x	n.m.	6.5x	10.6%	2.4x	0.8x	0.7x	0.8x
Panasonic Holdings	6752	8.86	34.35	21,801,855	27,995,150	0.43x	0.40x	0.46x	4.6x	5.6x	5.1x	8.9x	12.3x	n.a.	9.4%	2.5x	0.8x	0.6x	0.8x
Qualcomm Inc	QCOM	145.27	24.96	162,702,400	166,836,400	4.26x	7.68x	3.54x	11.5x	28.7x	8.7x	13.0x	17.0x	9.3x	36.5%	1.1x	10.9x	8.5x	13.1x
Samsung Electronics	005930	53.10	28.99	356,927,716	280,264,231	1.15x	1.28x	1.07x	4.1x	4.6x	3.3x	6.9x	6.4x	5.1x	30.7%	0.2x	5.3x	4.8x	6.3x
Toshiba	6502	41.71	9.82	18,108,856	19,176,885	0.65x	0.61x	0.72x	8.4x	9.8x	8.3x	12.8x	20.3x	n.a.	7.5%	1.6x	3.1x	3.0x	3.1x
Average						**1.59x**	**2.83x**	**1.88x**	**8.3x**	**12.7x**	**7.4x**	**11.5x**	**14.5x**	**9.8x**	**0.2x**	**1.2x**	**6.4x**	**5.8x**	**6.8x**
Median						**1.08x**	**1.11x**	**1.06x**	**6.7x**	**6.9x**	**6.2x**	**10.8x**	**17.0x**	**7.9x**	**0.2x**	**1.0x**	**5.7x**	**5.2x**	**6.4x**
Financial Services																			
Allianz	ALV	225.84	15.84	92,569,088	106,496,127	0.64x	0.63x	0.66x	627.2x	3.7x	588.0x	n.m.	12.4x	7.1x	0.8%	4.5x	18.5x	17.9x	25.5x
Allstate	ALL	127.73	11.58	35,249,875	44,380,875	1.07x	0.87x	0.98x	3.1x	3.1x	2.7x	3.3x	3.3x	9.1x	28.4%	0.6x	13.4x	13.5x	13.4x
AXA	CS	26.45	20.42	62,579,909	64,219,931	0.56x	0.64x	0.56x	2.3x	2.6x	6.1x	2.4x	2.4x	6.7x	19.8%	0.9x	3.2x	3.1x	3.5x
China Life Insurance	2628	1.47	31.51	91,124,357	91,708,901	0.97x	1.01x	0.91x	8.0x	8.9x	7.6x	8.6x	8.5x	10.0x	8.4%	0.8x	0.3x	0.3x	0.3x
Muenchener Rueckversicherung	MUV2	235.08	26.52	33,050,281	34,625,878	0.47x	0.59x	0.52x	1.8x	2.3x	6.5x	1.8x	2.2x	6.6x	23.7%	0.4x	27.8x	24.1x	29.3x
Nationwide Building Society	NBS	209.31	22.82	2,209,346	219,076,783	n.a.	n.a.	n.a.	55.7x	151.4x	48.7x	67.4x	78.0x	n.a.	82.6%	77.4x	n.a.	n.a.	n.a.
Ping An Insurance	601318	6.74	41.58	121,834,511	813,229,908	4.00x	5.76x	5.61x	n.a.	17.1x	n.a.	18.6x	19.2x	31.8x	23.4%	28.8x	0.9x	0.9x	1.3x
Progressive	PGR	110.33	8.19	64,529,653	69,735,253	1.50x	1.44x	1.32x	n.a.	6.3x	n.a	8.4x	8.6x	14.4x	23.6%	0.6x	5.2x	3.5x	6.0x
Travelers Companies	TRV	170.09	9.52	40,814,967	47,353,967	1.44x	1.69x	1.34x	4.3x	5.2x	4.0x	4.6x	4.8x	10.7x	31.4%	0.7x	15.5x	13.9x	14.7x
Average						**1.33x**	**1.58x**	**1.49x**	**100.3x**	**22.3x**	**94.8x**	**14.4x**	**15.5x**	**12.0x**	**26.9%**	**12.7x**	**10.6x**	**9.7x**	**11.7x**
Median						**1.02x**	**0.94x**	**0.95x**	**4.3x**	**5.2x**	**6.5x**	**6.5x**	**8.5x**	**9.5x**	**23.6%**	**0.8x**	**9.3x**	**8.5x**	**9.7x**
Music																			
Hybe Co	352820	199.21	44.21	8,267,207	8,003,836	7.45x	10.90x	4.78x	34.2x	48.1x	20.2x	49.2x	50.0x	23.2x	21.4%	4.5x	3.0x	3.0x	6.3x
Tencent Music Entertainment	TME	4.46	74.72	7,560,044	7,323,967	1.50x	1.64x	1.58x	13.5x	10.5x	11.8x	17.4x	17.1x	12.3x	11.2%	1.5x	0.4x	0.4x	0.4x
Universal Music	UMG	23.02	28.08	41,899,479	44,531,835	4.35x	4.91x	4.24x	n.a.	24.3x	18.4x	27.9x	28.1x	20.5x	20.2%	2.5x	0.8x	0.8x	0.9x
Vivendi	VIV	11.48	30.11	12,766,200	13,657,316	1.01x	1.29x	1.28x	9.7x	12.1x	10.1x	18.9x	20.3x	15.1x	-0.2%	4.4x	0.7x	0.7x	0.7x
Warner Music	WMG	30.38	39.52	15,640,042	19,055,042	3.41x	4.27x	2.99x	19.1x	595.5x	13.7x	27.9x	29.5x	18.4x	17.8%	3.9x	0.8x	0.6x	1.3x
Average						**3.55x**	**4.60x**	**2.97x**	**19.1x**	**138.1x**	**14.8x**	**28.3x**	**29.0x**	**17.9x**	**14.1%**	**3.3x**	**1.1x**	**1.1x**	**1.9x**
Median						**3.41x**	**4.27x**	**2.99x**	**16.3x**	**24.3x**	**13.7x**	**27.9x**	**28.1x**	**18.4x**	**17.8%**	**3.9x**	**0.8x**	**0.7x**	**0.9x**
Imaging and Sensing Solutions																			
Canon	7751	22.96	10.72	30,691,045	31,498,935	1.03x	1.03x	1.08x	7.1x	9.6x	7.3x	12.6x	12.9x	8.7x	14.4%	0.6x	1.7x	1.5x	1.8x
GalaxyCore	688728	2.63	58.40	6,572,436	6,645,942	4.02x	6.72x	3.87x	28.0x	42.5x	16.2x	28.0x	27.1x	17.7x	22.3%	2.6x	0.1x	0.1x	0.1x
Melexis	MELE	85.92	31.30	3,483,493	3,415,343	4.50x	5.51x	4.12x	14.5x	23.9x	13.1x	18.2x	19.5x	16.5x	30.5%	0.0x	4.2x	3.7x	4.4x
ON Semiconductor	ON	55.62	21.94	24,158,914	25,922,814	3.60x	4.93x	3.26x	21.3x	24.9x	8.1x	17.7x	19.2x	10.3x	19.8%	1.6x	3.8x	3.0x	4.6x
Sharp	6753	8.38	55.80	5,137,708	8,303,847	0.37x	0.39x	0.39x	5.9x	7.2x	6.2x	11.0x	11.1x	9.8x	6.3%	4.1x	0.8x	0.6x	0.8x
SK Hynix	000660	87.18	26.29	63,691,489	71,725,041	1.84x	2.44x	1.47x	3.6x	5.3x	2.7x	6.7x	6.9x	4.4x	53.2%	0.8x	13.7x	11.6x	16.9x
STMicroelectronics	STM	36.62	29.81	33,490,581	32,775,581	2.47x	3.21x	2.13x	8.4x	12.5x	6.4x	12.8x	12.9x	9.3x	30.4%	0.7x	2.6x	2.2x	3.2x
Average						**2.55x**	**3.46x**	**2.33x**	**12.7x**	**18.0x**	**8.6x**	**15.3x**	**15.6x**	**10.9x**	**25.3%**	**1.5x**	**3.8x**	**3.2x**	**4.6x**
Median						**2.47x**	**3.21x**	**2.13x**	**8.4x**	**12.5x**	**7.3x**	**12.8x**	**12.9x**	**9.8x**	**22.3%**	**0.8x**	**2.6x**	**2.2x**	**3.2x**
Pictures and Movies																			
Imax	IMAX	16.31	30.80	954,491,178	58,546,754,796	n.m.	n.m.	166.88x	832.0x	n.m.	407.4x	n.m.	n.m.	774.8x	21.6%	1.9x	0.0x	-0.1x	1.0x
Lions Gate Entertainment	LGF.A	13.78	35.67	2,971,228,928	1,092,123,178	0.31x	0.28x	0.26x	0.6x	0.5x	2.4x	12.2x	4.6x	12.1x	48.5%	3.2x	-0.6x	-0.3x	-0.3x
Netflix	NFLX	199.46	71.55	88,614,862,121	260,058,891,808	8.55x	10.40x	7.73x	12.7x	15.7x	33.1x	34.1x	34.1x	36.5x	67.5%	5.0x	11.0x	11.2x	12.0x
Paramount Global	PARA	30.27	36.21	19,757,729,069	6,725,828,928	0.24x	0.27x	0.21x	1.5x	1.3x	2.0x	1.7x	1.7x	2.3x	15.8%	2.2x	3.5x	3.5x	2.2x
Walt Disney	DIS	113.50	40.02	206,641,891,808	31,874,729,069	0.44x	0.49x	0.35x	3.0x	3.5x	1.7x	5.6x	8.7x	2.0x	14.8%	4.0x	3.0x	2.3x	5.6x
Warner Bros Discovery	WBD	19.25	51.51	46,716,754,796	97,140,477,121	7.74x	9.10x	2.01x	12.8x	13.8x	7.4x	46.1x	46.9x	24.8x	60.3%	0.7x	1.9x	1.7x	1.6x
Average						**3.45x**	**4.11x**	**29.57x**	**143.8x**	**6.9x**	**75.7x**	**19.9x**	**19.2x**	**142.1x**	**38.1%**	**2.8x**	**3.1x**	**3.1x**	**3.7x**
Median						**0.44x**	**0.49x**	**1.18x**	**7.8x**	**3.5x**	**4.9x**	**12.2x**	**8.7x**	**18.4x**	**35.1%**	**2.7x**	**2.5x**	**2.0x**	**1.9x**
Overall																			
Average						**2.85x**	**3.68x**	**7.07x**	**50.2x**	**35.9x**	**35.5x**	**18.5x**	**19.7x**	**34.6x**	**26.1%**	**3.9x**	**5.1x**	**4.8x**	**6.2x**
Median						**1.77x**	**2.16x**	**1.65x**	**8.1x**	**9.7x**	**6.9x**	**12.5x**	**14.9x**	**11.8x**	**23.0%**	**1.2x**	**3.3x**	**3.4x**	**4.1x**
High						**10.84x**	**14.60x**	**166.88x**	**832.0x**	**595.5x**	**588.0x**	**67.4x**	**78.0x**	**774.8x**	**82.6%**	**77.4x**	**27.8x**	**24.1x**	**29.3x**
Low						**0.24x**	**0.27x**	**0.21x**	**0.6x**	**0.5x**	**1.7x**	**1.7x**	**1.7x**	**2.0x**	**-0.2%**	**0.0x**	**-0.6x**	**-0.3x**	**-0.3x**

Source: Own calculation, Thomson Reuters Refinitiv

Appendix Table 24: *Overview of Sony's precedent transaction analysis and share price calculations in the base case scenario*

Sony Precedent Transaction Valuation													
Multiple	**Financial Metric**	**Multiple Range**		**Implied Enterprise Value**		**Less: Net Debt**	**Implied Equity Value**		**Fully Diluted Shares**	**Implied Share Price**		**Premium Paid 1 Day before Transaction**	
LTM Revenue	80,428,193	1.48x	1.64x	118,712,013	131,902,237	(20,673,285)	139,385,298	152,575,522	1,250,692	$111.45	$121.99	29.9%	42.2%
LTM EBITDA	12,639,612	9.3x	10.3x	117,373,965	130,415,517	(20,673,285)	138,047,250	151,088,802	1,250,692	$110.38	$120.80	28.6%	40.8%
LTM EBIT	8,868,041	13.6x	15.1x	120,480,762	133,867,513	(20,673,285)	141,154,047	154,540,798	1,250,692	$112.86	$123.56	31.5%	44.0%

Source: Own calculation, Thomson Reuters Refinitiv

Appendix Table 25: Precedent transaction analysis of Sony and combined entity (incl. Electronic Arts)

SONY

in $Thousands

						Enterprise Value /				Equity Value /	Premiums Paid Days Prior to Unaffected		
Date Announced	Acquirer	Target	Industry	Equity Value	Enterprise Value	LTM Sales	LTM EBITDA	LTM EBIT	LTM EBITDA Margin	LTM Net Income	1 day	1 week	4 weeks
Game Network and Services													
Jan. 2022	Microsoft	Activision Blizzard	Game Network and Services	74,372,839	67,427,839	7.66x	17.9x	20.2x	43.0%	27.6x	45.3%	44.3%	49.4%
Jan. 2022	Take-Two Interactive	Zynga	Game Network and Services	11,230,938	11,260,738	4.06x	31.3x	91.1x	13.0%	n.m.	64.3%	50.8%	58.0%
Jul. 2021	Tencent	Sumo Group	Game Network and Services	1,202,600	1,211,968	12.70x	62.9x	107.4x	20.0%	528.0x	43.2%	42.7%	37.9%
Feb. 2021	Electronic Arts	Glu Mobile	Game Network and Services	2,377,614	2,013,218	3.72x	69.0x	98.1x	5.0%	116.3x	36.0%	40.1%	41.9%
Dec. 2020	Electronic Arts	Codemasters	Game Network and Services	1,226,744	1,195,866	11.71x	19.5x	51.6x	60.0%	79.0x	17.5%	20.8%	28.5%
Jul. 2020	Tencent	Leyou	Game Network and Services	1,379,607	1,400,214	6.56x	20.3x	41.2x	32%	n.m.	30.3%	46.3%	53.8%
Average						**7.74x**	**36.8x**	**68.3x**	**28.8%**	**187.7x**	**39.4%**	**40.8%**	**44.9%**
Median						**7.11x**	**25.8x**	**71.3x**	**26.0%**	**97.6x**	**39.6%**	**43.5%**	**45.6%**
Other Sony Segments													
Mar. 2021	Apollo Global Management	Athene	Financial Services	10,949,188	5,221,188	0.35x	n.a.	2.2x	n.a.	7.1x	16.5%	21.8%	25.8%
Oct. 2020	Marvell Technology	Inphi	Imaging and Sensing	8,299,931	8,585,072	14.38x	91.4x	n.m.	16.0%	n.m.	38.6%	33.4%	40.6%
Oct. 2020	Advanced Micro Devices	Xilinx	Imaging and Sensing	34,737,424	33,633,216	11.31x	36.1x	45.0x	31.4%	56.8x	33.9%	33.8%	43.4%
Dec. 2017	Walt Disney	21st Century Fox	Pictures and Movies	70,397,033	83,022,033	2.21x	10.1x	11.0x	22.0%	19.1x	52.2%	44.0%	43.0%
Dec. 2017	CVS Health	Aetna	Financial Services	67,822,970	72,053,970	1.17x	17.6x	21.1x	6.7%	37.7x	29.9%	31.9%	32.2%
Average						**5.88x**	**38.8x**	**19.8x**	**19.0%**	**30.2x**	**34.2%**	**33.0%**	**37.0%**
Median						**2.21x**	**26.8x**	**16.0x**	**19.0%**	**28.4x**	**33.9%**	**33.4%**	**40.6%**
Overall													
Average						**6.89x**	**37.6x**	**48.9x**	**24.9%**	**108.9x**	**37.1%**	**37.3%**	**41.3%**
Median						**6.56x**	**25.8x**	**43.1x**	**21.0%**	**47.2x**	**36.0%**	**40.1%**	**41.9%**
High						**14.38x**	**91.4x**	**107.4x**	**60.0%**	**528.0x**	**64.3%**	**50.8%**	**58.0%**
Low						**0.35x**	**10.1x**	**2.2x**	**5.0%**	**7.1x**	**16.5%**	**20.8%**	**25.8%**

Source: Own calculation, Thomson Reuters Refinitiv

Appendix Table 26: Sony's base case sensitivity analysis of DCF and APV valuation

Sony Base Case DCF Sensitivity Analysis

Enterprise Value

WACC \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	105,957,564	119,376,621	132,795,677	146,214,733	159,633,789
4.5%	103,812,104	116,913,187	130,014,271	143,115,354	156,216,437
5.3%	100,591,432	113,216,206	125,840,980	138,465,754	151,090,527
6.0%	97,711,858	109,911,844	122,111,830	134,311,817	146,511,803
6.5%	95,784,632	107,700,910	119,617,188	131,533,466	143,449,744

Implied Equity Value

WACC \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	126,630,849	140,049,906	153,468,962	166,888,018	180,307,074
4.5%	124,485,389	137,586,472	150,687,556	163,788,639	176,889,722
5.3%	121,264,717	133,889,491	146,514,265	159,139,039	171,763,812
6.0%	118,385,143	130,585,129	142,785,115	154,985,102	167,185,088
6.5%	116,457,917	128,374,195	140,290,473	152,206,751	164,123,029

Implied Share Price

WACC \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	$101.25	$111.98	$122.71	$133.44	$144.17
4.5%	$99.53	$110.01	$120.48	$130.96	$141.43
5.3%	$96.96	$107.05	$117.15	$127.24	$137.34
6.0%	$94.66	$104.41	$114.16	$123.92	$133.67
6.5%	$93.11	$102.64	$112.17	$121.70	$131.23

Sony Base Case APV Sensitivity Analysis

Enterprise Value

Unlevered Cost of Equity \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	105,945,179	119,361,887	132,778,595	146,195,303	159,612,011
4.5%	103,800,094	116,898,885	129,997,676	143,096,466	156,195,257
5.5%	99,838,501	112,351,584	124,864,667	137,377,750	149,890,834
6.0%	97,700,916	109,898,767	122,096,618	134,294,470	146,492,321
6.5%	95,774,028	107,688,220	119,602,413	131,516,606	143,430,798

Implied Equity Value

Unlevered Cost of Equity \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	126,618,464	140,035,172	153,451,880	166,868,588	180,285,296
4.5%	124,473,379	137,572,170	150,670,961	163,769,751	176,868,542
5.5%	120,511,786	133,024,869	145,537,952	158,051,035	170,564,119
6.0%	118,374,201	130,572,052	142,769,903	154,967,755	167,165,606
6.5%	116,447,313	128,361,505	140,275,698	152,189,891	164,104,083

Implied Share Price

Unlevered Cost of Equity \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	$101.24	$111.97	$122.69	$133.42	$144.15
4.5%	$99.52	$110.00	$120.47	$130.94	$141.42
5.5%	$96.36	$106.36	$116.37	$126.37	$136.38
6.0%	$94.65	$104.40	$114.15	$123.91	$133.66
6.5%	$93.11	$102.63	$112.16	$121.68	$131.21

Source: Own calculation

__Appendix Table 27:__ Sony's optimistic case sensitivity analysis of DCF and APV valuation

Sony Optimistic Case DCF Sensitivity Analysis

Enterprise Value

WACC \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	125,887,546	141,443,910	157,000,274	172,556,638	188,113,002
4.5%	123,343,121	138,530,868	153,718,614	168,906,361	184,094,107
5.3%	119,523,326	134,158,899	148,794,472	163,430,045	178,065,618
6.0%	116,107,853	130,250,981	144,394,108	158,537,236	172,680,364
6.5%	113,821,840	127,636,072	141,450,304	155,264,536	169,078,768

Implied Equity Value

WACC \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	146,560,831	162,117,195	177,673,559	193,229,923	208,786,287
4.5%	144,016,406	159,204,153	174,391,899	189,579,646	204,767,392
5.3%	140,196,611	154,832,184	169,467,757	184,103,330	198,738,903
6.0%	136,781,138	150,924,266	165,067,393	179,210,521	193,353,649
6.5%	134,495,125	148,309,357	162,123,589	175,937,821	189,752,053

Implied Share Price

WACC \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	$117.18	$129.62	$142.06	$154.50	$166.94
4.5%	$115.15	$127.29	$139.44	$151.58	$163.72
5.3%	$112.10	$123.80	$135.50	$147.20	$158.90
6.0%	$109.36	$120.67	$131.98	$143.29	$154.60
6.5%	$107.54	$118.58	$129.63	$140.67	$151.72

Sony Base Case APV Sensitivity Analysis

Enterprise Value

Unlevered Cost of Equity \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	125,872,529	141,426,170	156,979,812	172,533,453	188,087,095
4.5%	123,328,549	138,513,638	153,698,726	168,883,815	184,068,904
5.5%	118,629,965	133,136,058	147,642,151	162,148,244	176,654,337
6.0%	116,094,547	130,235,200	144,375,852	158,516,505	172,657,158
6.5%	113,808,934	127,620,748	141,432,563	155,244,378	169,056,192

Implied Equity Value

Unlevered Cost of Equity \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	146,545,814	162,099,455	177,653,097	193,206,738	208,760,380
4.5%	144,001,834	159,186,923	174,372,011	189,557,100	204,742,189
5.5%	139,303,250	153,809,343	168,315,436	182,821,529	197,327,622
6.0%	136,767,832	150,908,485	165,049,137	179,189,790	193,330,443
6.5%	134,482,219	148,294,033	162,105,848	175,917,663	189,729,477

Implied Share Price

Unlevered Cost of Equity \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	$117.17	$129.61	$142.04	$154.48	$166.92
4.5%	$115.14	$127.28	$139.42	$151.56	$163.70
5.5%	$111.38	$122.98	$134.58	$146.18	$157.77
6.0%	$109.35	$120.66	$131.97	$143.27	$154.58
6.5%	$107.53	$118.57	$129.61	$140.66	$151.70

Source: Own calculation, Thomson Reuters Refinitiv

__Appendix Table 28:__ Sony's pessimistic case sensitivity analysis of DCF and APV valuation

Sony Pessimistic Case DCF Sensitivity Analysis

Enterprise Value

WACC \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	88,154,459	99,677,859	111,201,259	122,724,659	134,248,060
4.5%	86,361,541	97,611,887	108,862,233	120,112,579	131,362,926
5.3%	83,670,344	94,511,666	105,352,989	116,194,312	127,035,635
6.0%	81,264,433	91,740,977	102,217,520	112,694,063	123,170,607
6.5%	79,654,365	89,887,278	100,120,191	110,353,105	120,586,018

Implied Equity Value

WACC \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	108,827,744	120,351,144	131,874,544	143,397,944	154,921,345
4.5%	107,034,826	118,285,172	129,535,518	140,785,864	152,036,211
5.3%	104,343,629	115,184,951	126,026,274	136,867,597	147,708,920
6.0%	101,937,718	112,414,262	122,890,805	133,367,348	143,843,892
6.5%	100,327,650	110,560,563	120,793,476	131,026,390	141,259,303

Implied Share Price

WACC \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	$87.01	$96.23	$105.44	$114.65	$123.87
4.5%	$85.58	$94.58	$103.57	$112.57	$121.56
5.3%	$83.43	$92.10	$100.77	$109.43	$118.10
6.0%	$81.51	$89.88	$98.26	$106.63	$115.01
6.5%	$80.22	$88.40	$96.58	$104.76	$112.94

Sony Pessimistic Case APV Sensitivity Analysis

Enterprise Value

Unlevered Cost of Equity \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	88,144,424	99,665,808	111,187,191	122,708,575	134,229,958
4.5%	86,351,820	97,600,197	108,848,575	120,096,952	131,345,329
5.5%	83,041,551	93,786,961	104,532,372	115,277,782	126,023,193
6.0%	81,255,604	91,730,314	102,205,024	112,679,734	123,154,444
6.5%	79,645,817	89,876,940	100,108,063	110,339,185	120,570,308

Implied Equity Value

Unlevered Cost of Equity \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	108,817,709	120,339,093	131,860,476	143,381,860	154,903,243
4.5%	107,025,105	118,273,482	129,521,860	140,770,237	152,018,614
5.5%	103,714,836	114,460,246	125,205,657	135,951,067	146,696,478
6.0%	101,928,889	112,403,599	122,878,309	133,353,019	143,827,729
6.5%	100,319,102	110,550,225	120,781,348	131,012,470	141,243,593

Implied Share Price

Unlevered Cost of Equity \ Exit Multiple	5.0x	6.0x	7.0x	8.0x	9.0x
4.0%	$87.01	$96.22	$105.43	$114.64	$123.85
4.5%	$85.57	$94.57	$103.56	$112.55	$121.55
5.5%	$82.93	$91.52	$100.11	$108.70	$117.29
6.0%	$81.50	$89.87	$98.25	$106.62	$115.00
6.5%	$80.21	$88.39	$96.57	$104.75	$112.93

Source: Own calculation, Thomson Reuters Refinitiv

7.4 Appendices: Valuation of the Target Electronic Arts

Appendix Table 29: Capitalization of Electronic Arts

Electronic Arts

EA Capitalization 2021						
in $Thousands	$Thousands	$Amount drawn	% of Total Capitalization	Maturity	Maturity in Years (from Jan. 2021)	Yield
Cash and Cash Equivalents	6,366,000					
Revolving Credit Facility	500,000	0	-		-	
Senior Secured	**500,000**	**0**	**0.0%**			
Bonds						
EA 4.800	400,000	400,000		01-Mar-2026	5.2	3.89%
EA 1.850	750,000	750,000		15-Feb-2031	10.1	4.23%
EA 2.950	750,000	750,000		15-Feb-2051	30.1	4.55%
Total Bonds	**1,900,000**	**1,900,000**			**16.9**	**4.29%**

Long Term Debt 2021 in $Thousands	Amount	% of Total Capitalization	Average Yield
Bonds	1,900,000	19.5%	4.29%
Term Loans	0	0.0%	-
Other Long Term Debt (incl. Capital Lease)	0	0.0%	-
Long Term Debt	**1,900,000**	**19.5%**	**0.04**

Short Term Debt in 2021 in $Thousands	Amount	% of Total Capitalization	Average Yield
Bonds	0	0.0%	
Short Term Portion of Capital Lease	0	0.0%	-
Other Short Term Debt	0	0.0%	-
Short Term Debt	**0**	**0.0%**	**0.00**
Total Debt	**1,900,000**	**19.5%**	
Shareholders Equity	**7,840,000**	**80.5%**	
Total Capitalization	**9,740,000**	**100%**	
Net Debt	**(4,466,000)**		
Debt / Equity	**24.2%**		
Debt / Total Capitalization	**19.5%**		

Source: Electronic Arts Investor Relations and annual report

Appendix Table 30: Electronic Arts' peer group for unlevered beta computation

Cost of Equity in $Thousands								
Company	**Market Cap.**	**Revenues**	**MV of Equity**	**MV of Debt**	**Debt/Equity**	**Marginal Tax Rate**	**Levered Beta**	**Unlevered Beta**
Activision Blizzard	61,956,287.84	8,086,000.00	17,599,000.00	3,608,000.00	20.5%	16.0%	0.56	0.48
Bandai Namco	14,951,821.12	6,732,902.45	4,611,707.32	247,353.21	5.4%	27.4%	0.73	0.70
Nintendo	58,517,573	16,594,758	16,931,987	52,087	0.3%	0%	0.83	0.83
Take-Two Interactive	14,404,435.78	3,088,970.00	3,331,892.00	0.00	0.0%	21.2%	0.77	0.77
Ubisoft Entertainment	6,137,724.76	1,758,940.11	1,941,805.64	2,456,313.18	126.5%	31.5%	0.11	0.06
Average								**0.57**
Median								**0.70**

Relevered Beta	Mean Unlevered Beta	Target Debt/Equity	Target Marginal Tax Rate
	0.70	24.2%	12.4%
Relevered Beta			**0.85**

Source: Own calculation, Thomson Reuters Refinitiv

Appendix Table 31: Detailed overview of Electronic Arts' WACC components

Cost of Equity	
Risk-free rate	0.71%
Market Risk Premium	5.50%
Levered Beta	0.85
Size Premium	0
Cost of Equity	**5.4%**

Cost of Debt	
Weighted Yield on Outstanding	4.29%
Risk-free rate	0.71%
Cost of Debt	**5.00%**

Calculation of Unlevered Cost of Equity	
Risk-free rate	0.71%
Market Risk Premium	5.50%
Unlevered Beta	0.70
Size Premium	0
Unlevered Cost of Equity	**4.6%**

Source: Own calculation, Thomson Reuters Refinitiv

Appendix Table 32: Electronic Arts' WACC computation and sensitivity analysis

WACC Calculation	
Target Capital Structure	
Debt-to-Total-Capitalization	19.5%
Equity--to-Total-Capitalization	80.5%
Cost of Debt	
Cost of Debt	5.0%
Tax Rate	12.4%
After-tax Cost of Debt	**3.9%**
Cost of Equity	
Risk-free Rate	0.7%
Market Risk Premium	5.5%
Levered Beta	0.85
Size Premium	0.0%
Cost of Equity	**5.4%**
WACC	**5.1%**

WACC Sensitivity Analysis	Pre-tax Cost of Debt				
Debt-to-Total-Capitalization	4.0%	4.5%	5.0%	5.5%	6%
5%	5.3%	5.3%	5.3%	5.3%	5.4%
10%	5.2%	5.2%	5.2%	5.3%	5.3%
20%	4.9%	5.0%	5.1%	5.2%	5.2%
25%	4.8%	4.9%	5.0%	5.1%	5.2%
30%	4.7%	4.8%	4.9%	5.0%	5.2%

Source: Own calculation

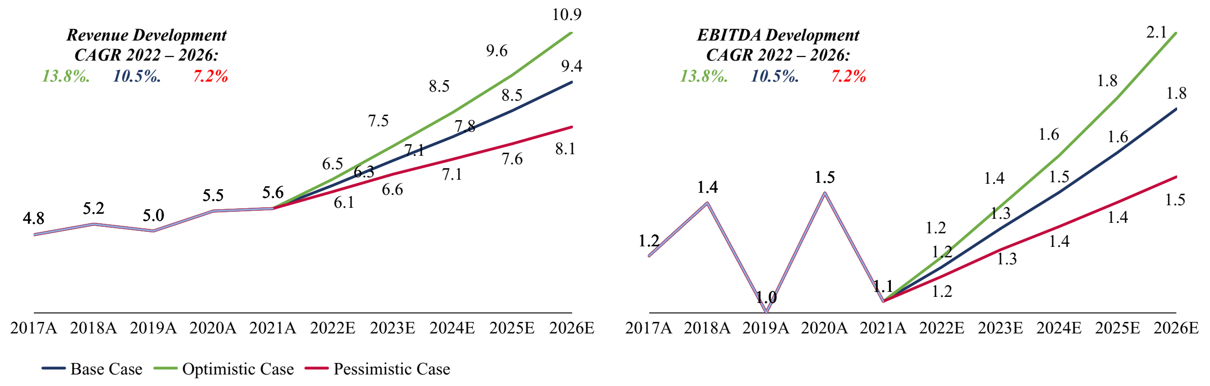
Appendix Table 33: Electronic Arts' DCF and APV assumptions

Electronic Arts

Operating Scenario: Base Case	Historical Period					Projection Period				
in $Thousands	2017A	2018A	2019A	2020A	2021A	2022E	2023E	2024E	2025E	2026E
Income Statement Assumptions (% Revenue)										
Revenue	10.2%	6.3%	-3.9%	11.9%	1.7%	12.0%	12.0%	10.0%	10.0%	10.0%
Cost of Goods Sold (COGS)	26.5%	24.8%	26.7%	24.7%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%
Selling, General & Administrative (SG&A	23.0%	21.6%	23.5%	20.5%	22.8%	22.8%	22.8%	22.8%	22.8%	22.8%
Research & Development	24.9%	25.6%	28.9%	28.0%	31.6%	31.6%	31.6%	31.6%	31.6%	31.6%
Depreciation & Amortization (D&A)	0.1%	0.2%	0.5%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Other Operating Income / (Expenses)	-0.3%	0.0%	-0.3%	-0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Interest Expense	1.0%	0.9%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Interest Income	0.6%	1.0%	2.6%	1.9%	0.2%	0.4%	0.4%	0.4%	0.4%	0.4%
Non-Operating Expenses	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Minority Interest	0.0%	-4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dividend Payout Ratio	0.0%	0.0%	0.0%	0.0%	11.7%	4.0%	4.0%	4.0%	4.0%	4.0%
CAPEX Assumptions (% Revenue)										
Capital Expenditures (CAPEX)	2.5%	2.1%	2.4%	2.5%	2.2%	2.4%	2.4%	2.4%	2.4%	2.4%
Balance Sheet Assumptions (% Revenue)										
Current Assets										
Accounts Receivables (in days)	27.0	27.3	45.9	30.4	33.8	33.8	33.8	33.8	33.8	33.8
Days Inventory Held (in days)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prepaid Expenses	6.4%	5.6%	6.3%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
Current Liabilities										
Accounts Payable (in days)	24.8	13.7	31.2	18.1	23.5	23.5	23.5	23.5	23.5	23.5
Accrued Liabilities	13.3%	13.8%	19.4%	17.1%	22.1%	22.1%	22.1%	22.1%	22.1%	22.1%
Other Current Liabilities	34.8%	33.6%	24.1%	18.9%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%
Marginal Tax Rate Assumptions										
Marginal Tax Rate Assumptions	4.2%	3.9%	9.3%	11.3%	33.4%	12.4%	12.4%	12.4%	12.4%	12.4%
APV										
Bankruptcy Cost	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Rating	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA
Probability of Default	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%

Source: Own estimation in guidance of company and market reports

Appendix Figure 23: Electronic Arts' DCF and APV scenarios in $billions for revenue (left) and EBITDA (right)



Source: Own calculation

Appendix Table 34: Electronic Arts' base case scenario FCFF calculation

Electronic Arts

Choose Operating Scenario: Base Case Mid-Year Convention: No	Historical Period					CAGR	Projection Period					CAGR
in $Thousands	**2017A**	**2018A**	**2019A**	**2020A**	**2021A**	**'17 - '21**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**	**'22 - '26**
Revenue	4,845,000	5,150,000	4,950,000	5,537,000	5,629,000	*3.8%*	6,304,480	7,061,018	7,767,119	8,543,831	9,398,214	*10.5%*
% growth	*10.2%*	*6.3%*	*-3.9%*	*11.9%*	*1.7%*		*12.0%*	*12.0%*	*10.0%*	*10.0%*	*10.0%*	
Cost of Goods Sold (COGS)	1,283,000	1,277,000	1,322,000	1,369,000	1,494,000		1,670,687	1,871,170	2,058,287	2,264,115	2,490,527	
Gross Profit	**3,562,000**	**3,873,000**	**3,628,000**	**4,168,000**	**4,135,000**	***3.8%***	**4,633,793**	**5,189,848**	**5,708,833**	**6,279,716**	**6,907,688**	***10.5%***
% margin	73.5%	75.2%	73.3%	75.3%	73.5%		73.5%	73.5%	73.5%	73.5%	73.5%	
Selling, General & Administrative (SG&A)	1,112,000	1,110,000	1,162,000	1,137,000	1,281,000		1,437,421	1,609,912	1,770,903	1,947,994	2,142,793	
Research & Development	1,205,000	1,320,000	1,433,000	1,550,000	1,778,000		1,992,216	2,231,282	2,454,410	2,699,851	2,969,836	
EBITDA	**1,245,000**	**1,443,000**	**1,033,000**	**1,481,000**	**1,076,000**	***-3.6%***	**1,204,156**	**1,348,654**	**1,483,520**	**1,631,872**	**1,795,059**	***10.5%***
% margin	25.7%	28.0%	20.9%	26.7%	19.1%		19.1%	19.1%	19.1%	19.1%	19.1%	
Depreciation & Amortization (D&A)	6,000	9,000	23,000	22,000	30,000		31,522	35,305	38,836	42,719	46,991	
Other Operating Income / (Expenses)	(15,000)	0	(14,000)	(14,000)	0		0	0	0	0	0	
EBIT	**1,224,000**	**1,434,000**	**996,000**	**1,445,000**	**1,046,000**	***-3.9%***	**1,172,633**	**1,313,349**	**1,444,684**	**1,589,153**	**1,748,068**	***10.5%***
% margin	25.3%	27.8%	20.1%	26.1%	18.6%		18.6%	18.6%	18.6%	18.6%	18.6%	
Taxes	152,073	178,164	123,746	179,531	129,958		145,691	163,174	179,491	197,441	217,185	
EBIAT	**1,071,927**	**1,255,836**	**872,254**	**1,265,469**	**916,042**	***-3.9%***	**1,026,942**	**1,150,175**	**1,265,193**	**1,391,712**	**1,530,883**	***10.5%***
Plus: Depreciation & Amortization (D&A)	6,000	9,000	23,000	22,000	30,000		31,522	35,305	38,836	42,719	46,991	
Less: Capital Expenditures (CAPEX)	123,000	107,000	119,000	140,000	124,000		151,308	169,464	186,411	205,052	225,557	
Less: Inc./(Dec.) in Net Working Capital		70,000	(489,000)	(46,000)	834,000		250,073	284,049	265,112	291,623	320,786	
Current Assets	**667,000**	**673,000**	**936,000**	**782,000**	**847,000**		**949,472**	**1,063,409**	**1,169,749**	**1,286,724**	**1,415,397**	
Accounts Receivable	359,000	385,000	623,000	461,000	521,000		583,812	653,870	719,257	791,182	870,300	
Inventories	0	0	0	0	0		0	0	0	0	0	
Prepaid Expenses and other Current Assets	308,000	288,000	313,000	321,000	326,000		365,660	409,539	450,493	495,542	545,096	
Current Liabilities	**2,415,000**	**2,491,000**	**2,265,000**	**2,065,000**	**2,964,000**		**3,316,545**	**3,714,531**	**4,085,984**	**4,494,582**	**4,944,040**	
Accounts Payable	87,000	48,000	113,000	68,000	96,000		107,565	120,473	132,520	145,772	160,349	
Accrued Liabilities	642,000	713,000	958,000	948,000	1,246,000		1,393,290	1,560,485	1,716,533	1,888,187	2,077,005	
Other Current Liabilities	1,686,000	1,730,000	1,194,000	1,049,000	1,622,000		1,815,690	2,033,573	2,236,930	2,460,623	2,706,686	
Net Working Capital	**(1,748,000)**	**(1,818,000)**	**(1,329,000)**	**(1,283,000)**	**(2,117,000)**		**(2,367,073)**	**(2,651,122)**	**(2,916,234)**	**(3,207,858)**	**(3,528,643)**	
Unlevered Free Cash Flow (FCFF)							**1,157,230**	**1,300,065**	**1,382,730**	**1,521,003**	**1,673,103**	
WACC	5.1%											
Discount Period							1	2	3	4	5	
Discount Factor							0.95	0.91	0.86	0.82	0.78	
Present Value of Free Cash Flow							**1,101,153**	**1,177,120**	**1,191,300**	**1,246,929**	**1,305,156**	

Source: Own calculation

Appendix Table 35: Calculation of Electronic Arts' EV, equity value and implied growth and exit multiple in the base case scenario

Enterprise Value	
Cummulative Present Value of FCFF	**6,021,658**
Terminal Value	
Terminal Year EBITDA 2026	1,795,059
Exit Multiple	26.0x
Terminal Value	46,671,533
Discount Factor	0.78
Present Value of Terminal Value	**36,407,575**
% of Enterprise Value	85.8%
Enterprise Value	**42,429,233**

Implied Equity Value and Share Price	
Enterprise Value	42,429,233
Less: Total Debt	1,900,000
Less: Preferred Stock	0
Less: Noncontrolling Interest	0
Less: Underfunded Pensions	0
Less: Asset Retirement Obligations	0
Plus: Cash and Cash Equivalents	6,366,000
Implied Equity Value	**46,895,233**
Basic Weighted Average Shares Outstanding	289,000
Diluted Weighted Average Shares Outstanding	292,000
Implied Share Price	**$160.60**

Implied Perpetuity Growth Rate	
Terminal Year Free Cash Flow 2026	1,673,103
Discount Rate	5.1%
Terminal Value	46,671,533
Implied Perpetuity Growth Rate	**1.0%**
Implied Exit Multiple	
Terminal Value	41,290,168
Terminal Year EBITDA 2026	1,795,059
WACC	5.1%
Implied Exit Multiple	**26.0x**

Source: Own calculation

Appendix Table 36: *Overview of Electronic Arts' APV calculation and share price calculation in the base case scenario*

Unlevered Cost of Equity	4.6%									
Discount Period						1	2	3	4	5
Discount Factor						0.96	0.91	0.87	0.84	0.80
Present Value of Free Cash Flow						**1,106,619**	**1,188,834**	**1,209,127**	**1,271,870**	**1,337,869**
Interest Expense	47,000	44,000	45,000	44,000	45,000	50,436	56,488	62,137	68,351	75,186
Cost of Debt	5.00%									
Tax Shield						**577**	**646**	**711**	**782**	**860**
Discount Factor						0.95	0.91	0.86	0.82	0.78
PV of Tax Shield						**549**	**586**	**614**	**643**	**674**
Rolling Sum of FCFFs and Terminal Value (EV)						38,426,748	39,615,582	40,824,709	42,096,580	43,434,449
Probability of Default						0.07%	0.07%	0.07%	0.07%	0.07%
Bankruptcy Cost						25.0%	25.0%	25.0%	25.0%	25.0%
Expected Distress Cost						**6,725**	**6,933**	**7,144**	**7,367**	**7,601**

Sum of FCFFs and Terminal Value	
Cummulative Present Value of FCFF	**6,114,320**
Terminal Value	
Terminal Year EBITDA 2026	1,795,059
Exit Multiple	26.0x
Terminal Value	46,671,533
Discount Factor	0.80
Present Value of Terminal Value	**37,320,129**
% of FCFFs and Terminal Value	85.9%
Sum of FCFFs and Terminal Value	**43,434,449**

Tax Shield	
Cummulative Present Value of Tax Shield	**3,067**
Terminal Value Tax Shield	
Terminal Year Tax Shield	674
Exit Multiple	22.0x
Terminal Value Tax Shield	14,828
Discount Factor	0.78
Present Value of Tax Shield	**11,621**
% of Tax Shields and Terminal Value Tax Shield	79.1%
Sum of Tax Shields and Terminal Value Tax Shield	**14,688**

Expected Distress Cost	
Expected Distress Cost 2026	**7,601**

Implied Equity Value and Share Price	
Enterprise Value	43,441,536
Less: Total Debt	1,900,000
Less: Preferred Stock	0
Less: Noncontrolling Interest	0
Less: Underfunded Pensions	0
Less: Asset Retirement Obligations	0
Plus: Cash and Cash Equivalents	6,366,000
Implied Equity Value	**47,907,536**
Basic Weighted Average Shares Outstar	289,000
Diluted Weighted Average Shares Outst	292,000
Implied Share Price	**$164.07**

Source: Own calculation

Appendix Table 37: *Overview of Electronic Arts' comparable companies analysis and share price calculations in the base case scenario*

Electronic Arts Comparable Companies (COMPS) Valuation

Revenue	Financial Metric	Multiple Range		Implied Enterprise Value		Less: Net Debt	Implied Equity Value		Fully Diluted Shares	Implied Share Price	
LTM	5,583,000	6.99x	7.77x	39,037,147	43,374,608	(4,466,000)	43,503,147	47,840,608	292,000	$149.0	$163.8
2021	5,629,000	6.74x	7.49x	37,960,064	42,177,849	(4,466,000)	42,426,064	46,643,849	292,000	$145.3	$159.7
NTM	6,682,749	4.14x	4.60x	27,667,169	30,741,299	(4,466,000)	32,133,169	35,207,299	292,000	$110.0	$120.6

EBITDA	Financial Metric	Multiple Range		Implied Enterprise Value		Less: Net Debt	Implied Equity Value		Fully Diluted Shares	Implied Share Price	
LTM	1,281,000	32.6x	36.2x	41,737,259	46,374,732	(4,466,000)	46,203,259	50,840,732	292,000	$158.2	$174.1
2021	1,076,000	28.0x	31.2x	30,179,846	33,533,162	(4,466,000)	34,645,846	37,999,162	292,000	$118.7	$130.1
NTM	1,276,405	21.2x	23.6x	27,068,408	30,076,009	(4,466,000)	31,534,408	34,542,009	292,000	$108.0	$118.3

EBIT	Financial Metric	Multiple Range		Implied Enterprise Value		Less: Net Debt	Implied Equity Value		Fully Diluted Shares	Implied Share Price	
LTM	1,248,000	35.3x	39.3x	44,089,520	48,988,355	(4,466,000)	48,555,520	53,454,355	292,000	$166.3	$183.1
2021	1,046,000	36.1x	40.1x	37,776,813	41,974,237	(4,466,000)	42,242,813	46,440,237	292,000	$144.7	$159.0
NTM	1,242,991	32.2x	35.8x	40,038,751	44,487,501	(4,466,000)	44,504,751	48,953,501	292,000	$152.4	$167.6

Net Income	Financial Metric	Multiple Range		Implied Equity Value		Fully Diluted Shares	Implied Share Price	
LTM	1,046,988	41.1x	45.7x	43,081,442	47,868,269	292,000	$147.5	$163.9
2021	837,000	41.2x	45.8x	34,478,541	38,309,490	292,000	$118.1	$131.2
NTM	1,065,149	38.8x	43.1x	41,305,120	45,894,578	292,000	$141.5	$157.2

Source: Own calculation, Thomson Reuters Refinitiv

__Appendix Table 38:__ Comparable Companies Analysis and peer group for Electronic Arts

Electronic Arts

in $Thousands						Enterprise Value /											Price /		
Company Name	**Ticker Symbol**	**Current Share Price**	**% of 52 Week High**	**Equity Value**	**Enterprise Value**	**LTM Revenue**	**2021 Revenue**	**NTM Revenue**	**LTM EBITDA**	**2021 EBITDA**	**NTM EBITDA**	**LTM EBIT**	**2021 EBIT**	**NTM EBIT**	**LTM EBITDA Margin**	**Total Debt / EBITDA**	**LTM EPS**	**2021 EPS**	**NTM EPS**
Video Game																			
Activision Blizzard	ATVI	78.06	21.52	61,031,118	53,672,118	6.91x	6.64x	6.25x	16.0x	16.3x	13.2x	17.8x	16.1x	13.8x	39.8%	1.1x	3.3x	3.7x	4.0x
Bandai Namco	7832	67.35	19.93	14,987,522	13,438,474	1.82x	2.00x	1.89x	11.3x	14.1x	11.2x	14.5x	17.6x	n.a.	16.1%	0.2x	2.9x	2.7x	3.1x
Microsoft	MSFT	284.47	18.65	2,127,560,556	2,087,332,556	10.84x	14.60x	9.26x	21.8x	31.7x	18.2x	25.5x	29.9x	21.6x	49.8%	0.7x	9.1x	8.1x	10.8x
Nintendo	7974	449.52	28.94	58,517,573	46,590,906	3.13x	3.83x	3.49x	8.7x	13.8x	9.6x	8.9x	8.1x	n.a.	35.8%	n.m.	15.0x	15.3x	29.1x
Perfect World	002624	2.24	43.37	4,336,158	4,126,987	2.98x	2.63x	2.48x	36.0x	15.3x	11.3x	36.0x	63.9x	11.5x	6.3%	3.9x	0.5x	0.0x	0.2x
Sony	6758	85.75	36.69	108,142,559	124,361,696	1.41x	1.6x	1.47x	7.6x	10.5x	9.1x	12.5x	13.9x	11.0x	18.3%	0.2x	5.0x	5.3x	5.6x
Take-Two Interactive	TTWO	121.94	37.73	14,078,847	11,625,468	3.47x	3.76x	2.78x	12.0x	17.6x	12.6x	16.5x	17.4x	13.9x	28.5%	n.m.	4.9x	6.6x	6.2x
Tencent	700	48.10	39.93	462,310,257	485,080,005	5.56x	6.57x	4.82x	17.7x	18.2x	13.5x	25.4x	24.9x	16.1x	31.8%	1.8x	2.0x	2.0x	2.5x
Ubisoft Entertainment	UBI	44.93	41.67	5,643,284	6,234,292	2.36x	3.54x	2.38x	5.3x	10.1x	5.9x	15.1x	13.3x	13.2x	40.7%	2.1x	2.4x	3.0x	2.5x
Zynga	ZNGA	8.50	25.78	9,666,850	9,143,039	3.24x	4.6x	2.8x	25.0x	-41.9x	10.9x	72.2x	73.3x	11.9x	13.0%	0.1x	0.2x	0.2x	0.5x
Average						**4.17x**	**4.98x**	**3.76x**	**16.14x**	**10.6x**	**11.5x**	**24.4x**	**27.8x**	**14.1x**	**0.3x**	**1.2x**	**4.5x**	**4.7x**	**6.4x**
Median						**3.18x**	**3.80x**	**2.79x**	**14.02x**	**14.7x**	**11.2x**	**17.1x**	**17.5x**	**13.5x**	**0.3x**	**0.9x**	**3.1x**	**3.4x**	**3.5x**
Technology / Internet																			
Adobe	ADBE	423.35	41.74	200,032,875	206,167,948	12.77x	16.02x	10.76x	30.6x	39.8x	20.5x	34.8x	34.3x	22.2x	41.7%	0.0x	12.7	12.5	16.1
Autodesk	ADSK	203.75	43.90	44,321,155	46,542,830	10.61x	12.28x	8.75x	52.0x	63.0x	20.2x	62.3x	62.3x	20.6x	20.2%	0.1x	5.1	5.1	8.1
Booking	BKNG	2,103.33	22.45	85,775,615	94,636,649	8.64x	13.93x	5.47x	n.m.	103.9x	14.7x	n.m.	37.7x	15.5x	n.m.	0.1x	45.7	45.8	123.1
eBay	EBAY	54.42	34.15	30,871,702	33,965,466	3.14x	3.82x	3.20x	m.m.	9.5x	8.6x	n.m.	10.1x	10.1x	n.m.	0.3x	4.0	4.0	4.8
Expedia	EXPE	149.56	30.96	23,495,552	27,370,787	2.85x	5.26x	2.17x	21.2x	-47.4x	8.8x	56.0x	104.5x	12.0x	12.4%	0.3x	3.0	1.7	10.1
IAC/Interactivecorp	IAC	86.85	51.51	7,805,515	9,553,477	2.52x	3.46x	1.57x	343.9x	-114.0x	15.6x	-78.3x	-78.3x	35.8x	1.0%	0.2x	6.3	6.4	2.2
Intuit	INTU	447.92	37.52	126,677,364	132,400,236	11.60x	17.24x	9.54x	42.4x	55.3x	23.6x	51.6x	53.0x	25.3x	23.6%	0.1x	11.1	9.7	13.8
NVIDIA	NVDA	203.34	41.31	509,166,278	492,767,903	18.31x	29.55x	13.42x	43.9x	85.7x	22.9x	49.0x	49.0x	24.5x	41.6%	0.0x	4.4	4.4	6.7
Salesforce	CRM	185.48	40.50	367,772,801	193,411,494	7.30x	9.10x	5.69x	50.3x	56.5x	17.5x	352.9x	321.3x	24.3x	14.7%	0.1x	4.8	4.8	5.8
VMware	VMW	109.85	20.21	46,253,034	54,084,954	4.21x	4.60x	3.83x	18.1x	18.0x	10.3x	22.6x	22.6x	12.8x	23.1%	0.2x	7.3	7.3	7.8
Average						**8.20x**	**11.53x**	**6.44x**	**75.31x**	**27.02x**	**16.3x**	**68.9x**	**61.7x**	**20.3x**	**0.2x**	**0.1x**	**10.4x**	**10.2x**	**19.8x**
Median						**7.97x**	**10.69x**	**5.58x**	**43.15x**	**47.55x**	**16.5x**	**50.3x**	**43.4x**	**21.4x**	**0.2x**	**0.1x**	**5.7x**	**5.7x**	**8.0x**
Entertainment / Toys / Games																			
AMC Networks	AMCX	35.07	51.83	1,505,164	3,914,691	1.27x	1.39x	1.22x	5.1x	5.0x	5.7x	5.8x	5.8x	6.2x	25.1%	0.8x	9.7	9.6	7.5
Hasbro	HAS	94.15	10.95	13,128,503	15,347,750	2.37x	2.81x	2.26x	13.5x	15.4x	10.7x	17.8x	17.3x	13.3x	17.5%	0.2x	4.8	5.2	5.9
Netflix	NFLX	204.01	71.49	90,636,308	123,023,032	4.05x	4.92x	3.66x	6.0x	7.4x	15.7x	16.1x	16.2x	17.3x	67.5%	0.1x	11.0	11.2	12.0
Warner Bros Discovery	W1BD34	19.86	50.93	47,711,761	60,193,704	4.79x	5.64x	1.25x	7.9x	8.5x	4.6x	28.6x	29.0x	14.9x	60.3%	0.2x	1.9	1.7	1.6
Average						**3.12x**	**3.69x**	**2.10x**	**8.1x**	**9.1x**	**9.2x**	**17.1x**	**17.1x**	**12.9x**	**42.6%**	**0.4x**	**6.8x**	**7.0x**	**6.7x**
Median						**3.21x**	**3.86x**	**1.75x**	**7.0x**	**8.0x**	**8.2x**	**17.0x**	**16.7x**	**14.1x**	**42.7%**	**0.2x**	**7.2x**	**7.4x**	**6.7x**
Overall																			
Average						**5.67x**	**7.49x**	**4.60x**	**36.2x**	**17.2x**	**13.1x**	**39.3x**	**40.1x**	**16.7x**	**0.3x**	**0.6x**	**7.4x**	**7.3x**	**12.1x**
Median						**3.76x**	**4.78x**	**3.34x**	**17.9x**	**15.4x**	**11.9x**	**24.0x**	**23.8x**	**14.4x**	**0.2x**	**0.2x**	**4.9x**	**5.2x**	**6.0x**
High						**18.31x**	**29.55x**	**13.42x**	**343.9x**	**103.9x**	**23.6x**	**352.9x**	**321.3x**	**35.8x**	**0.7x**	**3.9x**	**45.7x**	**45.8x**	**123.1x**
Low						**1.27x**	**1.39x**	**1.22x**	**5.1x**	**-114.0x**	**4.6x**	**-78.3x**	**-78.3x**	**6.2x**	**0.0x**	**0.0x**	**0.2x**	**0.0x**	**0.2x**

Source: Own calculation, Thomson Reuters Refinitiv

__Appendix Table 39:__ Overview of Electronic Arts' precedent transaction analysis and share price calculations in the base case scenario

Electronic Arts Precedent Transaction Valuation

Multiple	**Financial Metric**	**Multiple Range**		**Implied Enterprise Value**		**Less: Net Debt**	**Implied Equity Value**		**Fully Diluted Shares**	**Implied Share Price**		**Premium Paid 1 Day before Transaction**	
LTM Revenue	5,583,000	6.89x	7.66x	38,489,202	42,765,780	(4,466,000)	42,955,202	47,231,780	292,000	$147.11	$161.75	22.6%	34.8%
LTM EBITDA	1,281,000	30.3x	33.6x	38,759,057	43,065,619	(4,466,000)	43,225,057	47,531,619	292,000	$148.03	$162.78	23.4%	35.6%
LTM EBIT	1,248,000	32.1x	35.7x	40,064,544	44,516,160	(4,466,000)	44,530,544	48,982,160	292,000	$152.50	$167.75	27.1%	39.8%

Source: Own calculation, Thomson Reuters Refinitiv

CATÓLICA LISBON BUSINESS & ECONOMICS

Appendix Table 40: Precedent transaction analysis of Electronic Arts

Electronic Arts

in $Thousands

Date Announced	Acquirer	Target	Industry	Equity Value	Enterprise Value	Enterprise Value / LTM Sales	Enterprise Value / LTM EBITDA	Enterprise Value / LTM EBIT	LTM EBITDA Margin	Equity Value / LTM Net Income	Premiums Paid Days Prior to Unaffected: 1 day	1 week	4 weeks
Gaming													
Jan. 2022	Microsoft	Activision Blizzard	Game Network and Services	74,372,839	67,427,839	7.66x	17.9x	20.2x	43.0%	27.6x	45.3%	44.3%	49.4%
Jan. 2022	Take-Two Interactive	Zynga	Game Network and Services	11,230,938	11,260,738	4.06x	31.3x	91.1x	13.0%	n.m.	64.3%	50.8%	58.0%
Jul. 2021	Tencent	Sumo Group	Game Network and Services	1,202,600	1,211,968	12.70x	62.9x	107.4x	20.0%	528.0x	43.2%	42.7%	37.9%
Feb. 2021	Electronic Arts	Glu Mobile	Game Network and Services	2,377,614	2,013,218	3.72x	69.0x	98.1x	5.0%	116.3x	36.0%	40.1%	41.9%
Dec. 2020	Electronic Arts	Codemasters	Game Network and Services	1,226,744	1,195,866	11.71x	19.5x	51.6x	60.0%	79.0x	17.5%	20.8%	28.5%
Jul. 2020	Tencent	Leyou	Game Network and Services	1,379,607	1,400,214	6.56x	20.3x	41.2x	32%	n.m.	30.3%	46.3%	53.8%
Nov. 2015	Activision Blizzard	King Digital	Game Network and Services	58,212,022	5,044,770	2.38x	6.8x	7.0x	34.9%	10.4x	20.1%	22.5%	27.7%
Apr. 2015	Tencent	Glu Mobile (14.6%)	Game Network and Services	646,803	581,120	2.34x	41.3x	135.0x	5.7%	70.8x	17.4%	8.1%	19.5%
Average						**6.39x**	**33.6x**	**69.0x**	**26.7%**	**138.7x**	**34.3%**	**34.4%**	**39.6%**
Median						**5.31x**	**25.8x**	**71.3x**	**26.0%**	**74.9x**	**33.1%**	**41.4%**	**39.9%**
High						**12.70x**	**69.0x**	**135.0x**	**60.0%**	**528.0x**	**64.3%**	**50.8%**	**58.0%**
Low						**2.34x**	**6.8x**	**7.0x**	**5.0%**	**10.4x**	**17.4%**	**8.1%**	**19.5%**

Source: Own calculation, Thomson Reuters Refinitiv

Appendix Table 41: Electronic Arts' base case sensitivity analysis of DCF and APV valuation

Electronic Arts Base Case DCF Sensitivity Analysis

Enterprise Value

WACC \ Exit Multiple	24.0x	25.0x	26.0x	27.0x	28.0x
3.9%	41,818,370	43,300,891	44,783,413	46,265,934	47,748,456
4.5%	40,698,351	42,138,798	43,579,244	45,019,691	46,460,138
5.1%	39,628,651	41,028,942	42,429,233	43,829,525	45,229,816
5.7%	38,568,325	39,928,841	41,289,357	42,649,874	44,010,390
6.3%	37,555,494	38,878,045	40,200,595	41,523,146	42,845,697

Implied Equity Value

WACC \ Exit Multiple	24.0x	25.0x	26.0x	27.0x	28.0x
3.9%	46,284,370	47,766,891	49,249,413	50,731,934	52,214,456
4.5%	45,164,351	46,604,798	48,045,244	49,485,691	50,926,138
5.1%	44,094,651	45,494,942	46,895,233	48,295,525	49,695,816
5.7%	43,034,325	44,394,841	45,755,357	47,115,874	48,476,390
6.3%	42,021,494	43,344,045	44,666,595	45,989,146	47,311,697

Implied Share Price

WACC \ Exit Multiple	24.0x	25.0x	26.0x	27.0x	28.0x
3.9%	$158.51	$163.59	$168.66	$173.74	$178.82
4.5%	$154.67	$159.61	$164.54	$169.47	$174.40
5.1%	$151.01	$155.80	$160.60	$165.40	$170.19
5.7%	$147.38	$152.04	$156.70	$161.36	$166.02
6.3%	$143.91	$148.44	$152.97	$157.50	$162.03

Electronic Arts Base Case APV Sensitivity Analysis

Enterprise Value

Unlevered Cost of Equity \ Exit Multiple	24.0x	25.0x	26.0x	27.0x	28.0x
3.4%	42,788,389	44,306,838	45,825,286	47,343,734	48,862,183
4.0%	41,636,460	43,111,609	44,586,759	46,061,908	47,537,057
4.6%	40,571,260	42,006,398	43,441,536	44,876,675	46,311,813
5.2%	39,446,302	40,839,215	42,232,128	43,625,041	45,017,954
5.8%	38,405,140	39,759,002	41,112,864	42,466,726	43,820,588

Implied Equity Value

Unlevered Cost of Equity \ Exit Multiple	24.0x	25.0x	26.0x	27.0x	28.0x
3.4%	47,254,389	48,772,838	50,291,286	51,809,734	53,328,183
4.0%	46,102,460	47,577,609	49,052,759	50,527,908	52,003,057
4.6%	45,037,260	46,472,398	47,907,536	49,342,675	50,777,813
5.2%	43,912,302	45,305,215	46,698,128	48,091,041	49,483,954
5.8%	42,871,140	44,225,002	45,578,864	46,932,726	48,286,588

Implied Share Price

Unlevered Cost of Equity \ Exit Multiple	24.0x	25.0x	26.0x	27.0x	28.0x
3.4%	$161.83	$167.03	$172.23	$177.43	$182.63
4.0%	$157.89	$162.94	$167.99	$173.04	$178.09
4.6%	$154.24	$159.15	$164.07	$168.98	$173.90
5.2%	$150.38	$155.15	$159.93	$164.70	$169.47
5.8%	$146.82	$151.46	$156.09	$160.73	$165.37

Source: Own calculation

Appendix Table 42: *Electronic Arts' optimistic case sensitivity analysis of DCF and APV valuation*

Electronic Arts Optimistic Case DCF Sensitivity Analysis

Enterprise Value

WACC	Exit Multiple 24.0x	25.0x	26.0x	27.0x	28.0x
3.9%	48,465,986	50,184,634	51,903,283	53,621,932	55,340,580
4.5%	47,165,346	48,835,219	50,505,092	52,174,965	53,844,837
5.1%	45,923,159	47,546,480	49,169,802	50,793,123	52,416,445
5.7%	44,691,875	46,269,087	47,846,298	49,423,510	51,000,721
6.3%	43,515,763	45,048,962	46,582,161	48,115,360	49,648,559

Implied Equity Value

WACC	Exit Multiple 24.0x	25.0x	26.0x	27.0x	28.0x
3.9%	52,931,986	54,650,634	56,369,283	58,087,932	59,806,580
4.5%	51,631,346	53,301,219	54,971,092	56,640,965	58,310,837
5.1%	50,389,159	52,012,480	53,635,802	55,259,123	56,882,445
5.7%	49,157,875	50,735,087	52,312,298	53,889,510	55,466,721
6.3%	47,981,763	49,514,962	51,048,161	52,581,360	54,114,559

Implied Share Price

WACC	Exit Multiple 24.0x	25.0x	26.0x	27.0x	28.0x
3.9%	$181.27	$187.16	$193.05	$198.93	$204.82
4.5%	$176.82	$182.54	$188.26	$193.98	$199.69
5.1%	$172.57	$178.12	$183.68	$189.24	$194.80
5.7%	$168.35	$173.75	$179.15	$184.55	$189.95
6.3%	$164.32	$169.57	$174.82	$180.07	$185.32

Electronic Arts Optimistic Case APV Sensitivity Analysis

Enterprise Value

Unlevered Cost of Equity	Exit Multiple 24.0x	25.0x	26.0x	27.0x	28.0x
3.4%	49,592,247	51,352,544	53,112,842	54,873,140	56,633,438
4.0%	48,254,535	49,964,637	51,674,740	53,384,842	55,094,945
4.6%	47,017,557	48,681,276	50,344,995	52,008,714	53,672,432
5.2%	45,711,205	47,325,973	48,940,741	50,555,509	52,170,277
5.8%	44,502,179	46,071,676	47,641,173	49,210,670	50,780,167

Implied Equity Value

Unlevered Cost of Equity	Exit Multiple 24.0x	25.0x	26.0x	27.0x	28.0x
3.4%	54,058,247	55,818,544	57,578,842	59,339,140	61,099,438
4.0%	52,720,535	54,430,637	56,140,740	57,850,842	59,560,945
4.6%	51,483,557	53,147,276	54,810,995	56,474,714	58,138,432
5.2%	50,177,205	51,791,973	53,406,741	55,021,509	56,636,277
5.8%	48,968,179	50,537,676	52,107,173	53,676,670	55,246,167

Implied Share Price

Unlevered Cost of Equity	Exit Multiple 24.0x	25.0x	26.0x	27.0x	28.0x
3.4%	$185.13	$191.16	$197.19	$203.22	$209.24
4.0%	$180.55	$186.41	$192.26	$198.12	$203.98
4.6%	$176.31	$182.01	$187.71	$193.41	$199.10
5.2%	$171.84	$177.37	$182.90	$188.43	$193.96
5.8%	$167.70	$173.07	$178.45	$183.82	$189.20

Source: Own calculation, Thomson Reuters Refinitiv

Appendix Table 43: *Electronic Arts' pessimistic case sensitivity analysis of DCF and APV valuation*

Electronic Arts Pessimistic Case DCF Sensitivity Analysis

Enterprise Value

WACC	Exit Multiple 24.0x	25.0x	26.0x	27.0x	28.0x
3.9%	35,904,364	37,177,455	38,450,547	39,723,638	40,996,730
4.5%	34,944,573	36,181,534	37,418,495	38,655,456	39,892,417
5.1%	34,027,892	35,230,370	36,432,848	37,635,326	38,837,804
5.7%	33,119,232	34,287,554	35,455,876	36,624,197	37,792,519
6.3%	32,251,262	33,386,982	34,522,701	35,658,421	36,794,140

Implied Equity Value

WACC	Exit Multiple 24.0x	25.0x	26.0x	27.0x	28.0x
3.9%	40,370,364	41,643,455	42,916,547	44,189,638	45,462,730
4.5%	39,410,573	40,647,534	41,884,495	43,121,456	44,358,417
5.1%	38,493,892	39,696,370	40,898,848	42,101,326	43,303,804
5.7%	37,585,232	38,753,554	39,921,876	41,090,197	42,258,519
6.3%	36,717,262	37,852,982	38,988,701	40,124,421	41,260,140

Implied Share Price

WACC	Exit Multiple 24.0x	25.0x	26.0x	27.0x	28.0x
3.9%	$138.25	$142.61	$146.97	$151.33	$155.69
4.5%	$134.97	$139.20	$143.44	$147.68	$151.91
5.1%	$131.83	$135.95	$140.06	$144.18	$148.30
5.7%	$128.72	$132.72	$136.72	$140.72	$144.72
6.3%	$125.74	$129.63	$133.52	$137.41	$141.30

Electronic Arts Pessimistic Case APV Sensitivity Analysis

Enterprise Value

Unlevered Cost of Equity	Exit Multiple 24.0x	25.0x	26.0x	27.0x	28.0x
3.4%	36,735,777	38,039,720	39,343,664	40,647,607	41,951,550
4.0%	35,748,652	37,015,413	38,282,174	39,548,935	40,815,696
4.6%	34,835,837	36,068,239	37,300,641	38,533,043	39,765,446
5.2%	33,871,801	35,067,942	36,264,084	37,460,226	38,656,368
5.8%	32,979,562	34,142,169	35,304,777	36,467,384	37,629,991

Implied Equity Value

Unlevered Cost of Equity	Exit Multiple 24.0x	25.0x	26.0x	27.0x	28.0x
3.4%	41,201,777	42,505,720	43,809,664	45,113,607	46,417,550
4.0%	40,214,652	41,481,413	42,748,174	44,014,935	45,281,696
4.6%	39,301,837	40,534,239	41,766,641	42,999,043	44,231,446
5.2%	38,337,801	39,533,942	40,730,084	41,926,226	43,122,368
5.8%	37,445,562	38,608,169	39,770,777	40,933,384	42,095,991

Implied Share Price

Unlevered Cost of Equity	Exit Multiple 24.0x	25.0x	26.0x	27.0x	28.0x
3.4%	$141.10	$145.57	$150.03	$154.50	$158.96
4.0%	$137.72	$142.06	$146.40	$150.74	$155.07
4.6%	$134.60	$138.82	$143.04	$147.26	$151.48
5.2%	$131.29	$135.39	$139.49	$143.58	$147.68
5.8%	$128.24	$132.22	$136.20	$140.18	$144.16

Source: Own calculation, Thomson Reuters Refinitiv

7.5 Appendices: Valuation of the Combined Firm

***Appendix Table 44:** Capitalization of combined company*

SONY Electronic Arts

Sony and EA Capitalization 2021						
in $Thousands	$Thousands	$Amount drawn	% of Total Capitalization	Maturity	Maturity in Years (from Jan. 2021)	Yield
Cash and Cash Equivalents	6,366,000					
Revolving Credit Facility	500,000	0	-		-	
Senior Secured	**500,000**	**0**	**0.0%**			
Bonds						
EA 4.800	400,000	400,000		01-Mar-2026	126.2	3.89%
EA 1.850	750,000	750,000		15-Feb-2031	131.1	4.23%
EA 2.950	750,000	750,000		15-Feb-2051	151.1	4.55%
Total Bonds	**1,900,000**	**1,900,000**			**137.9**	**4.29%**

Long Term Debt 2021 in $Thousands	Amount	% of Total Capitalization	Average Yield
Bonds	3,390,445	3.5%	4.29%
Term Loans	23,487,730	24.3%	-
Long Term Debt	**26,878,175**	**27.8%**	**4.29%**

Short Term Debt in 2021 in $Thousands	Amount	% of Total Capitalization	Average Yield
Bonds	466,031	0.5%	0.16%
Short Term Portion of Capital Lease	1,189,637	1.2%	-
Other Short Term Debt	10,263,981	10.6%	-
Short Term Debt	**11,919,649**	**12.3%**	**0.16%**
Total Debt	**38,797,824**	**40.1%**	
Shareholders Equity	**58,016,543**	**59.9%**	
Total Capitalization	**96,814,367**	**100%**	
Net Debt	**32,431,824**		
Debt / Equity	**66.9%**		
Debt / Total Capitalization	**40.1%**		

Source: Own calculation, Thomson Reuter Refinitiv

***Appendix Table 45:** Calculation of unlevered and levered beta for combined company*

Cost of Equity in $Thousands Company	Market Cap.	Revenues	MV of Equity	MV of Debt	Debt/ Equity	Marginal Tax Rate	Levered Beta	Unlevered Beta
Apple	2,551,593,785	365,817,000	63,090,000	125,567,000	199%	15.9%	1.19	0.45
Bandai Namco	14,951,821.12	6,732,902.45	4,611,707.32	247,353.21	5.4%	27.4%	0.73	0.70
Microsoft	2,075,581,276	168,088,000	141,988,000	70,687,000	50%	14.8%	0.94	0.66
Nintendo	58,517,573	16,594,758	16,931,987	52,087	0%	28.6%	0.83	0.83
Panasonic Holdings	21,801,855	63,200,995	23,433,008	13,075,185	56%	29.6%	1.25	0.90
Samsung Electronics	356,927,716	244,503,423	249,366,727	15,482,128	6%	27.3%	1.07	1.02
Take-Two Interactive	14,404,435.78	3,088,970.00	3,331,892.00	0.00	0.0%	21.2%	0.77	0.77
Tencent	462,298,474	86,837,187	126,934,242	50,924,261	40%	12.4%	1.28	0.95
Average								**0.78**
Median								**0.80**

Relevered Beta	Mean Unlevered Beta	Target Debt/Equity	Target Marginal Tax Rate
	0.80	66.9%	22.9%
Relevered Beta			**1.21**

Source: Own calculation, Thomson Reuter Refinitiv

__Appendix Table 46:__ Detailed overview of the WACC components of the combined company

Cost of Equity	
Risk-free rate	0.71%
Market Risk Premium	5.50%
Levered Beta	1.21
Size Premium	0
Cost of Equity	**7.38%**

Cost of Debt	
Weighted Yield on Outstanding Bonds	3.79%
Risk-free rate	0.71%
Cost of Debt	**4.50%**

Calculation of Unlevered Cost of Equity	
Risk-free rate	0.71%
Market Risk Premium	5.50%
Unlevered Beta	0.80
Size Premium	0
Unlevered Cost of Equity	**5.1%**

WACC Calculation	
Target Capital Structure	
Debt-to-Total-Capitalization	40.1%
Equity-to-Total-Capitalization	59.9%
Cost of Debt	
Cost of Debt	4.50%
Tax Rate	22.9%
After-tax Cost of Debt	**3.5%**
Cost of Equity	
Risk-free Rate	0.71%
Market Risk Premium	5.50%
Levered Beta	1.21
Size Premium	0
Cost of Equity	**7.4%**
WACC	**5.8%**

Source: Own calculation

Appendix Table 47: Synergy assumptions of the combined company[17]

Operating Scenario: Base Case			Projection Period		
in $Thousands	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**
Revenue Synergies	**2.0%**	**3.3%**	**4.4%**	**5.1%**	**5.6%**
Revenue Enhancement and Market Share Expansion	0.3%	0.5%	0.8%	1.0%	1.1%
Cross-Selling	0.2%	0.3%	0.3%	0.3%	0.3%
Increase in Network and Game Subscriptions	0.5%	1.0%	1.2%	1.3%	1.5%
Expansion in Online Games and Free-to-Play	0.5%	0.5%	0.8%	1.0%	1.0%
Expansion in Mobile Games	0.5%	1.0%	1.3%	1.5%	1.7%
Cost Synergies	**0.5%**	**0.1%**	**0.1%**	**0.3%**	**0.3%**
Additional Cost of Goods Sold (COGS)	0.5%	1.0%	1.0%	1.0%	1.0%
Additional Operating Expense	0.2%	0.4%	0.7%	0.7%	0.7%
Reduction in Selling, General & Administrative (SG&A)	1.0%	1.0%	1.0%	1.0%	1.0%
Improvement in Research and Development	0.2%	0.5%	0.8%	1.0%	1.0%
Tangible Financial Synergies	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Cost of Capital (WACC) Improvement	0.0%	0.0%	0.0%	0.0%	0.0%
Asset Synergies (Improvement of Cash Conversion Cycle)					
Current Assets					
Accounts Receivables (in days)	30.0	30.0	29.0	28.0	28.0
Days Inventory Held (in days)	36.9	36.9	36.9	36.9	36.9
Prepaid Expenses	5.7%	5.7%	5.7%	5.7%	5.7%
Current Liabilities					
Accounts Payable (in days)	38.0	38.0	38.0	38.0	38.0
Accrued Liabilities	19.2%	19.2%	19.2%	19.2%	19.2%
Other Current Liabilities	43.3%	43.3%	43.3%	43.3%	43.3%
Merger & Integration Costs					
Total Merger & Integration Costs	5%				
Merger & Integration Costs in respective Year	2.0%	2.0%	1.0%	0.5%	0.0%
Total Synergies	**0.5%**	**1.4%**	**3.5%**	**4.9%**	**5.9%**

	2022E	2023E	2024E	2025E	2026E
Merger & Integration Costs	1,949,290	2,086,665	1,112,279	591,223	0
Discount Factor	0.95	0.89	0.84	0.80	0.75
Present Value of Merger and Integration Costs	**1,842,178**	**1,863,644**	**938,813**	**471,598**	**0**

Source: Own estimation in guidance of company and market reports

[17] The merger & integration costs are spread over the next 4 years and must therefore be discounted to the present value with the combined WACC of 5.8%.

__Appendix Table 48:__ Synergy calculation for Sony after transaction

Entity	Diluted Shares Outstanding	Target Price	Implied Equity Value	Plus: Total Debt	Plus: Noncontrolling Interest	Plus: Underfunded Pensions	Less: Cash and Cash Equivalents	Implied Enterprise Value
Sony and EA without Synergies	1,250,692	$116.4	145,576,973	38,797,824	486,120	2,295,312	18,886,016	168,270,213
Sony and EA with Synergies	1,250,692	$137.1	171,413,592	38,797,824	486,120	2,295,312	18,886,016	194,106,832
Estimated Synergies		**$20.7**	**25,836,619**					**25,836,619**

Debt and Cash and Cash Equivalents already includes financing effects of the acquisition (Net Debt of EA, issued debt and paid cash for the acquisition)

Entity	Diluted Shares Outstanding	Target Price	Implied Equity Value	Plus: Total Debt	Plus: Noncontrolling Interest	Plus: Underfunded Pensions	Plus: Cash and Cash Equivalents	Implied Enterprise Value
Electronic Arts Stand Alone	292,000	$159.2	46,471,800	1,900,000	0	0	6,366,000	42,005,800
Electronic Arts Share Price per 02.05.2022		$120.0						

Source: Own calculation

__Appendix Table 49:__ Accretion / Dilution analysis of post transaction EPS

Financial Ratios	2022E	2023E	2024E	2025E	2026E	Average '21 - '26	Average '22 - '26
Accretion / Dilution Analysis							
Basic Weighted Average Shares	1,230,480	1,230,480	1,230,480	1,230,480	1,230,480		
Basic EPS Sony before Transaction	5.6	5.7	5.8	5.9	6.0	*5.6*	*5.8*
Basic EPS Sony after Transaction	6.1	6.3	6.5	6.7	6.8	*6.5*	*6.5*
Accretive or Dilutive	Accretive	Accretive	Accretive	Accretive	Accretive		
% of Accretion / Dilution	10.6%	11.6%	12.4%	13.3%	14.3%		
Diluted Weighted Average Shares	1,250,692	1,250,692	1,250,692	1,250,692	1,250,692		
Diluted EPS before Transaction	5.5	5.6	5.7	5.8	5.9	*5.5*	*5.7*
Diluted EPS after Transaction	6.0	6.2	6.4	6.6	6.7	*6.4*	*6.4*
Accretive or Dilutive	Accretive	Accretive	Accretive	Accretive	Accretive		
% of Accretion / Dilution	10.6%	11.6%	12.4%	13.3%	14.3%		

Source: Own calculation

7.6 Appendices: Supplementary Appendices

Appendix Table 50: Sony's current and forecasted income statement

SONY

	Historical Period												Projection Period						
Income Statement in $Thousands	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**2018A**	**2019A**	**2020A**	**2021A**	**CAGR '12 - '21**	**CAGR '17 - '21**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**	**CAGR '21 - '26**	**CAGR '22 - '26**
Revenue	82,217,050	81,909,449	77,486,246	74,731,644	67,504,370	70,185,601	77,109,438	78,155,831	75,974,422	84,881,964	*0.4%*	*4.9%*	86,616,951	88,387,402	90,194,040	92,037,607	92,847,537	*1.6%*	*1.8%*
% growth	-	*-0.4%*	*-5.4%*	*-3.6%*	*-9.7%*	*4.0%*	*9.9%*	*1.4%*	*-2.8%*	*11.7%*			*2.0%*	*2.0%*	*2.0%*	*2.0%*	*0.9%*		
Cost of Goods Sold (COGS)	64,861,057	58,627,615	54,770,046	51,790,932	46,690,674	48,146,108	52,091,434	52,147,804	49,906,131	56,935,174			58,119,974	59,307,947	60,520,201	61,757,234	62,300,698	*1.6%*	*1.8%*
% revenue	78.9%	71.6%	70.7%	69.3%	69.2%	68.6%	67.6%	66.7%	65.7%	67.1%			*67.1%*	*67.1%*	*67.1%*	*67.1%*	*67.1%*		
Gross Profit	**17,355,993**	**23,281,834**	**22,716,200**	**22,940,712**	**20,813,696**	**22,039,493**	**25,018,004**	**26,008,027**	**26,068,291**	**27,946,790**	*5.4%*	*6.1%*	**28,496,977**	**29,079,455**	**29,673,839**	**30,280,373**	**30,546,840**	*1.6%*	*1.8%*
% margin	*21.1%*	*28.4%*	*29.3%*	*30.7%*	*30.8%*	*31.4%*	*32.4%*	*33.3%*	*34.3%*	*32.9%*			*32.9%*	*32.9%*	*32.9%*	*32.9%*	*32.9%*		
Selling, General & Administrative (SG&A	13,374,782	13,574,456	13,485,807	13,251,389	10,783,419	10,882,500	11,026,321	10,848,045	9,988,872	10,179,600			10,394,034	10,606,488	10,823,285	11,044,513	11,141,704		
% revenue	*16.3%*	*16.6%*	*17.4%*	*17.7%*	*16.0%*	*15.5%*	*14.3%*	*13.9%*	*13.1%*	*12.0%*			*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*		
Research & Development	0	5,704,159	4,649,115	4,223,455	3,899,028	4,130,466	4,138,125	4,339,961	4,592,469	4,953,451			5,023,783	5,126,469	5,231,254	5,338,181	5,385,157		
% revenue	-	*7.0%*	*6.0%*	*5.7%*	*5.8%*	*5.9%*	*5.4%*	*5.6%*	*6.0%*	*5.8%*			*5.8%*	*5.8%*	*5.8%*	*5.8%*	*5.8%*		
EBITDA	**3,981,211**	**4,003,219**	**4,581,278**	**5,465,868**	**6,131,249**	**7,026,527**	**9,853,558**	**10,820,021**	**11,486,950**	**12,813,739**	*13.9%*	*16.2%*	**13,079,160**	**13,346,498**	**13,619,300**	**13,897,679**	**14,019,978**	*1.6%*	*1.8%*
% margin	*4.8%*	*4.9%*	*5.9%*	*7.3%*	*9.1%*	*10.0%*	*12.8%*	*13.8%*	*15.1%*	*15.1%*			*15.1%*	*15.1%*	*15.1%*	*15.1%*	*15.1%*		
Depreciation & Amortization (D&A)	4,046,699	3,981,192	3,757,909	3,225,660	3,306,974	3,018,980	3,262,032	3,373,340	3,832,273	3,685,016			3,724,529	3,800,658	3,878,344	3,957,617	3,992,444		
% revenue	*4.9%*	*4.9%*	*4.8%*	*4.3%*	*4.9%*	*4.3%*	*4.2%*	*4.3%*	*5.0%*	*4.3%*			*4.3%*	*4.3%*	*4.3%*	*4.3%*	*4.3%*		
Other Operating Income / (Expenses)	(786,348)	2,656,268	(575,495)	(1,616,696)	(401,759)	(1,412,961)	(4,133)	618,424	(63,760)	37,907			0	0	0	0	0		
% revenue	*-1.0%*	*3.2%*	*-0.7%*	*-2.2%*	*-0.6%*	*-2.0%*	*0.0%*	*0.8%*	*-0.1%*	*0.0%*			*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*		
EBIT	**(851,836)**	**2,678,295**	**247,874**	**623,512**	**2,422,516**	**2,594,586**	**6,587,393**	**8,065,105**	**7,590,917**	**9,166,630**	*230.2%*	*37.1%*	**9,354,631**	**9,545,839**	**9,740,956**	**9,940,062**	**10,027,534**	*1.6%*	*1.8%*
% margin	*-1.0%*	*3.3%*	*0.3%*	*0.8%*	*3.6%*	*3.7%*	*8.5%*	*10.3%*	*10.0%*	*10.8%*			10.8%	10.8%	10.8%	10.8%	10.8%		
Interest Expense	296,696	321,057	234,037	214,666	210,582	134,256	122,433	112,440	102,006	114,929			108,271	110,484	112,743	115,047	116,059		
Interest Income	89,634	643,246	194,303	9,715	366,082	(96,898)	(84,230)	1,163,595	(69,086)	2,277,139			43,308	44,194	45,097	46,019	46,424		
Non operating Income / (Expenses)	5,597	(41,504)	48,653	(57,187)	(42,106)	(40,736)	(71,812)	7,792	(66,483)	(82,407)			(86,617)	(88,387)	(90,194)	(92,038)	(92,848)		
Earnings before Taxes (EBT)	**(1,053,301)**	**2,958,980**	**256,793**	**361,374**	**2,535,910**	**2,322,696**	**6,308,918**	**9,124,052**	**7,353,342**	**11,246,433**			**9,203,051**	**9,391,161**	**9,583,117**	**9,778,996**	**9,865,051**		
Income Tax Expense	3,991,556	1,704,286	943,550	807,115	789,403	1,145,179	1,369,724	406,739	1,629,794	9,385			2,107,499	2,150,576	2,194,534	2,239,390	2,259,097		
Net income before Extra Items	**(5,044,857)**	**1,254,694**	**(686,757)**	**(445,741)**	**1,746,507**	**1,177,517**	**4,939,194**	**8,717,313**	**5,723,548**	**11,237,048**			**7,095,552**	**7,240,585**	**7,388,583**	**7,539,606**	**7,605,954**		
Minority Interests	(737,372)	(736,394)	(593,851)	(700,174)	(515,703)	(500,985)	(509,777)	(453,466)	(368,555)	(184,858)			(259,851)	(265,162)	(270,582)	(276,113)	(278,543)		
Net Income	**(5,782,229)**	**518,300**	**(1,280,608)**	**(1,145,915)**	**1,230,804**	**676,532**	**4,429,417**	**8,263,847**	**5,354,993**	**11,052,190**	*207.5%*	*101.0%*	**6,835,702**	**6,975,423**	**7,118,001**	**7,263,493**	**7,327,412**	*-8.1%*	*1.8%*
% margin	*-7.0%*	*0.6%*	*-1.7%*	*-1.5%*	*1.8%*	*1.0%*	*5.7%*	*10.6%*	*7.0%*	*13.0%*			*7.9%*	*7.9%*	*7.9%*	*7.9%*	*7.9%*		
Dividends Paid	317,690	303,280	259,536	0	210,082	233,064	313,844	397,278	506,911	641,527			410,142	418,525	462,670	472,127	476,282		
% Payout	*5.5%*	*58.5%*	*20.3%*	*0.0%*	*17.1%*	*34.4%*	*7.1%*	*4.8%*	*9.5%*	*5.8%*			*6.0%*	*6.0%*	*6.5%*	*6.5%*	*6.5%*		
Retained Earning	**(6,099,919)**	**215,020**	**(1,540,144)**	**(1,145,915)**	**1,020,722**	**443,468**	**4,115,573**	**7,866,569**	**4,848,082**	**10,410,663**	*206.1%*	*120.1%*	**6,425,559**	**6,556,898**	**6,655,331**	**6,791,366**	**6,851,130**	*-8.2%*	*1.6%*
in $Thousands	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**2018A**	**2019A**	**2020A**	**2021A**	**CAGR '12 - '2**	**CAGR '17 - '21**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**	**CAGR '21 - '2(**	**CAGR '22 - '26**
Adjustable Items																			
Unusual Income / (Expense)	0	(93,028)	(16,440)	0	(27,557)	(1,104,932)	(348,726)	631,429	(283,896)	(224,812)			0	0	0	0	0		
Restructuring Costs	(666,591)	0	0	0	0	0	0	0	(227,283)	(242,544)			0	0	0	0	0		
Special Items Income / (Expense)	(666,591)	(93,028)	(16,440)	0	(27,557)	(1,104,932)	(348,726)	631,429	(511,179)	(467,356)			0	0	0	0	0		
Adjusted Figures																			
EBIT	**(185,245)**	**2,771,323**	**264,314**	**623,512**	**2,450,073**	**3,699,518**	**6,936,119**	**7,433,676**	**8,102,096**	**9,633,986**	*255.1%*	*27.0%*	**9,354,631**	**9,545,839**	**9,740,956**	**9,940,062**	**10,027,534**	*0.6%*	*1.8%*
EBITDA	**4,647,802**	**4,096,247**	**4,597,718**	**5,465,868**	**6,158,806**	**8,131,459**	**10,202,284**	**10,188,592**	**11,998,129**	**13,281,095**	*12.4%*	*13.0%*	**13,079,160**	**13,346,498**	**13,619,300**	**13,897,679**	**14,019,978**	*0.9%*	*1.8%*
Net Income	**(5,115,638)**	**611,328**	**(1,264,168)**	**(1,145,915)**	**1,258,361**	**1,781,464**	**4,778,143**	**7,632,418**	**5,866,172**	**11,519,546**	*209.4%*	*59.5%*	**6,835,702**	**6,975,423**	**7,118,001**	**7,263,493**	**7,327,412**	*-8.8%*	*1.8%*
Financial Ratios	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**2018A**	**2019A**	**2020A**	**2021A**	**Average '12 - '**	**Average '17 - '21**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**	**Average '21 - '**	**Average '22 - '26**
Current Assets																			
Accounts Receivable	52.1	43.7	47.9	46.0	50.9	55.0	53.6	54.3	53.2	52.6	*50.9*	*53.7*	52.6	52.6	52.6	52.6	52.6	52.6	52.3
Days Inventories Held	48.1	46.9	47.4	39.0	47.4	43.6	45.7	41.3	40.1	36.9	*43.6*	*41.5*	36.9	36.9	36.9	36.9	36.9	36.9	38.0
Prepaid Expenses and Other (% of Revenue)	7.4%	6.3%	6.8%	5.7%	6.9%	6.7%	6.3%	5.9%	7.3%	5.7%	*6.5%*	*6.4%*	5.7%	5.7%	5.7%	5.7%	5.7%	5.7%	5.8%
Current Liabilities																			
Accounts Payable	51.6	37.8	46.0	36.5	38.3	36.7	30.9	31.1	25.9	34.7	*37.0*	*31.9*	34.7	34.7	34.7	34.7	34.7	34.7	35.1
Accrued Liabilities (% of Revenue)	15.8%	14.2%	14.7%	15.3%	18.0%	17.8%	18.5%	19.5%	20.8%	19.5%	*17.4%*	*19.2%*	19.2%	19.2%	19.2%	19.2%	19.2%	0.2	0.2
Other Current Liabilities (% of Revenue)	33.6%	31.1%	31.5%	28.2%	33.9%	35.4%	35.6%	35.8%	40.6%	43.3%	*34.9%*	*38.2%*	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	41.9%
Profitability on Adjusted Figures																			
Return on Equity (ROE)	-20.9%	2.6%	-5.8%	-5.9%	5.8%	7.9%	17.1%	22.6%	15.3%	22.9%	*6.2%*	*17.2%*	11.8%	11.0%	10.4%	9.7%	9.0%	12.5%	9.8%
Return on Capital Employed (ROCE)	-0.2%	3.1%	0.3%	0.8%	2.8%	4.0%	6.9%	6.8%	6.5%	7.7%	*3.9%*	*6.4%*	7.2%	7.0%	7.2%	7.3%	7.6%	7.3%	6.7%
Capital Employed	86,850,391	88,835,038	84,031,380	76,611,620	88,063,814	93,615,707	100,528,931	109,230,797	124,980,570	125,107,014			130,192,716	135,833,514	134,565,804	136,872,499	132,766,022		
Return on Invested Capital (ROIC)	-0.2%	2.4%	0.2%	0.6%	2.1%	3.0%	5.3%	5.2%	5.0%	5.9%	*3.0%*	*4.9%*	5.5%	5.4%	5.6%	5.6%	5.8%	5.6%	5.2%
Debt on Adjusted Figures																			
Leverage	-1.0x	-0.9x	-1.2x	-1.5x	-1.5x	-0.9x	-1.3x	-1.3x	-1.5x	-1.8x	-1.3x	-1.3x	-1.9x	-2.1x	-2.2x	-2.3x	-2.3x	-2.1x	-2.0x
Net Debt	(4,866,654)	(3,624,091)	(5,665,649)	(7,929,829)	(9,207,946)	(7,290,512)	(13,343,518)	(12,948,013)	(17,532,174)	(23,454,717)			(24,832,849)	(27,475,946)	(29,844,929)	(31,434,086)	(32,918,703)		
Gearing (Debt-to-Equity Book Value)	57.8%	53.8%	57.3%	40.3%	36.3%	48.0%	45.3%	36.3%	35.8%	37.5%	*44.8%*	*40.6%*	33.9%	30.3%	27.9%	26.8%	26.0%	30.4%	31.0%
Debt Service Coverage Ratio	22.2x	6.6x	28.3x	2.4x	12.8x	55.6x	92.5x	7.1x	121.4x	110.8x	46.0x	77.5x	141.0x	139.2x	39.2x	124.9x	123.8x	113.1x	97.7x
Interest Coverage Ratio	15.7x	12.8x	19.6x	25.5x	29.2x	60.6x	83.3x	90.6x	117.6x	115.6x	57.0x	93.5x	120.8x	120.8x	120.8x	120.8x	120.8x	119.9x	110.0x
Credit Spread Rating (Moody's / S&P)	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA			Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA		
Credit Spread	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%			0.8%	0.8%	0.8%	0.8%	0.8%		
Probability of Default	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%			0.07%	0.07%	0.07%	0.07%	0.07%		
EPS																			
Basic Weighted Average Shares	1,003,578	1,005,417	1,027,024	1,114,424	1,237,802	1,262,023	1,263,895	1,266,592	1,234,408	1,230,480			1,230,480	1,230,480	1,230,480	1,230,480	1,230,480		
Diluted Weighted Average Shares	1,003,578	1,070,792	1,027,024	1,114,424	1,257,883	1,288,343	1,292,420	1,294,646	1,262,255	1,250,692			1,250,692	1,250,692	1,250,692	1,250,692	1,250,692		
Basic EPS	(5.1)	0.6	(1.2)	(1.0)	1.0	1.4	3.8	6.0	4.8	9.4	*2.0*	*5.1*	5.6	5.7	5.8	5.9	6.0	*5.6*	*5.8*
Diluted EPS	(5.1)	0.6	(1.2)	(1.0)	1.0	1.4	3.7	5.9	4.6	9.2	*1.9*	*5.0*	5.5	5.6	5.7	5.8	5.9	*5.5*	*5.7*

Source: Own calculation, Thomson Reuter Refinitiv

Appendix Table 51: Electronic Arts' current and forecasted income statement

Electronic Arts

	Historical Period												Projection Period						
Income Statement in $Thousands	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**2018A**	**2019A**	**2020A**	**2021A**	**CAGR '12 - '21**	**CAGR '17 - '21**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**	**CAGR '21 - '26**	**CAGR '22 - '26**
Revenue	4,143,000	3,797,000	3,575,000	4,515,000	4,396,000	4,845,000	5,150,000	4,950,000	5,537,000	5,629,000	*3.5%*	*3.8%*	6,115,346	6,643,711	7,088,840	7,563,792	8,070,567	*6.1%*	*7.2%*
% growth	-	*-8.4%*	*-5.8%*	*26.3%*	*-2.6%*	*10.2%*	*6.3%*	*-3.9%*	*11.9%*	*1.7%*			*8.6%*	*8.6%*	*6.7%*	*6.7%*	*6.7%*		
Cost of Goods Sold (COGS)	1,598,000	1,388,000	1,347,000	1,429,000	1,354,000	1,283,000	1,277,000	1,322,000	1,369,000	1,494,000			1,620,567	1,760,584	1,878,543	2,004,405	2,138,700	*6.1%*	*7.2%*
% revenue	38.6%	36.6%	37.7%	31.7%	30.8%	26.5%	24.8%	26.7%	24.7%	26.5%			*26.5%*	*26.5%*	*26.5%*	*26.5%*	*26.5%*		
Gross Profit	**2,545,000**	**2,409,000**	**2,228,000**	**3,086,000**	**3,042,000**	**3,562,000**	**3,873,000**	**3,628,000**	**4,168,000**	**4,135,000**	*5.5%*	*3.8%*	**4,494,779**	**4,883,128**	**5,210,297**	**5,559,387**	**5,931,866**	*6.1%*	*7.2%*
% margin	*61.4%*	*63.4%*	*62.3%*	*68.3%*	*69.2%*	*73.5%*	*75.2%*	*73.3%*	*75.3%*	*73.5%*			*73.5%*	*73.5%*	*73.5%*	*73.5%*	*73.5%*		
Selling, General & Administrative (SG&A	1,228,000	1,142,000	1,090,000	1,033,000	1,028,000	1,112,000	1,110,000	1,162,000	1,137,000	1,281,000			1,394,299	1,514,766	1,616,256	1,724,545	1,840,089		
% revenue	*29.6%*	*30.1%*	*30.5%*	*22.9%*	*23.4%*	*23.0%*	*21.6%*	*23.5%*	*20.5%*	*22.8%*			*22.8%*	*22.8%*	*22.8%*	*22.8%*	*22.8%*		
Research & Development	1,212,000	1,153,000	1,125,000	1,094,000	1,109,000	1,205,000	1,320,000	1,433,000	1,550,000	1,778,000			1,932,449	2,099,413	2,240,073	2,390,158	2,550,299		
% revenue	*29.3%*	*30.4%*	*31.5%*	*24.2%*	*25.2%*	*24.9%*	*25.6%*	*28.9%*	*28.0%*	*31.6%*			*31.6%*	*31.6%*	*31.6%*	*31.6%*	*31.6%*		
EBITDA	**105,000**	**114,000**	**13,000**	**959,000**	**905,000**	**1,245,000**	**1,443,000**	**1,033,000**	**1,481,000**	**1,076,000**	*29.5%*	*-3.6%*	**1,168,031**	**1,268,949**	**1,353,968**	**1,444,684**	**1,541,478**	*6.1%*	*7.2%*
% margin	*2.5%*	*3.0%*	*0.4%*	*21.2%*	*20.6%*	*25.7%*	*28.0%*	*20.9%*	*26.7%*	*19.1%*			*19.1%*	*19.1%*	*19.1%*	*19.1%*	*19.1%*		
Depreciation & Amortization (D&A)	43,000	30,000	16,000	14,000	7,000	6,000	9,000	23,000	22,000	30,000			30,577	33,219	35,444	37,819	40,353		
% revenue	*1.0%*	*0.8%*	*0.4%*	*0.3%*	*0.2%*	*0.1%*	*0.2%*	*0.5%*	*0.4%*	*0.5%*			*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*		
Other Operating Income / (Expenses)	(27,000)	37,000	36,000	3,000	0	(15,000)	0	(14,000)	(14,000)	0			0	0	0	0	0		
% revenue	*-0.7%*	*1.0%*	*1.0%*	*0.1%*	*0.0%*	*-0.3%*	*0.0%*	*-0.3%*	*-0.3%*	*0.0%*			*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*		
EBIT	**35,000**	**121,000**	**33,000**	**948,000**	**898,000**	**1,224,000**	**1,434,000**	**996,000**	**1,445,000**	**1,046,000**	*-45.9%*	*-3.9%*	**1,137,454**	**1,235,730**	**1,318,524**	**1,406,865**	**1,501,125**	*6.1%*	*7.2%*
% margin	*0.8%*	*3.2%*	*0.9%*	*21.0%*	*20.4%*	*25.3%*	*27.8%*	*20.1%*	*26.1%*	*18.6%*			18.6%	18.6%	18.6%	18.6%	18.6%		
Interest Expense	20,000	29,000	30,000	31,000	28,000	47,000	44,000	45,000	44,000	45,000			48,923	53,150	56,711	60,510	64,565		
Interest Income	1,000	45,000	4,000	7,000	16,000	31,000	52,000	129,000	107,000	14,000			24,461	26,575	28,355	30,255	32,282		
Non operating Income / (Expenses)	2,000	2,000	0	1,000	(9,000)	2,000	7,000	(1,000)	0	2,000			0	0	0	0	0		
Earnings before Taxes (EBT)	**18,000**	**139,000**	**7,000**	**925,000**	**877,000**	**1,210,000**	**1,449,000**	**1,079,000**	**1,508,000**	**1,017,000**			**1,112,993**	**1,209,155**	**1,290,169**	**1,376,610**	**1,468,843**		
Income Tax Expense	(58,000)	41,000	(1,000)	50,000	(279,000)	243,000	171,000	60,000	(1,531,000)	180,000			138,281	150,229	160,294	171,034	182,493		
Net income before Extra Items	**76,000**	**98,000**	**8,000**	**875,000**	**1,156,000**	**967,000**	**1,278,000**	**1,019,000**	**3,039,000**	**837,000**			**974,712**	**1,058,927**	**1,129,875**	**1,205,576**	**1,286,350**		
Minority Interests	0	0	0	0	0	0	(235,000)	0	0	0			0	0	0	0	0		
Net Income	**76,000**	**98,000**	**8,000**	**875,000**	**1,156,000**	**967,000**	**1,043,000**	**1,019,000**	**3,039,000**	**837,000**	*-30.5%*	*-3.5%*	**974,712**	**1,058,927**	**1,129,875**	**1,205,576**	**1,286,350**	*7.6%*	*7.2%*
% margin	*1.8%*	*2.6%*	*0.2%*	*19.4%*	*26.3%*	*20.0%*	*20.3%*	*20.6%*	*54.9%*	*14.9%*			*15.9%*	*15.9%*	*15.9%*	*15.9%*	*15.9%*		
Dividends Paid	0	0	0	0	0	0	0	0	0	98,000			38,988	42,357	45,195	48,223	51,454		
% Payout	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*11.7%*			*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*		
Retained Earning	**76,000**	**98,000**	**8,000**	**875,000**	**1,156,000**	**967,000**	**1,043,000**	**1,019,000**	**3,039,000**	**739,000**	*-28.8%*	*-6.5%*	**935,723**	**1,016,570**	**1,084,680**	**1,157,353**	**1,234,896**	*9.4%*	*7.2%*

in $Thousands	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**2018A**	**2019A**	**2020A**	**2021A**	**CAGR '12 - '21**	**CAGR '17 - '21**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**	**CAGR '21 - '26**	**CAGR '22 - '26**
Adjustable Items																			
Unusual Income / (Expense)	(11,000)	64,000	35,000	3,000	0	(15,000)	0	(14,000)	(5,000)	0			0	0	0	0	0		
Restructuring Costs	(16,000)	(27,000)	1,000	0	0	0	0	0	0	0			0	0	0	0	0		
Special Items Income / (Expense)	(27,000)	37,000	36,000	3,000	0	(15,000)	0	(14,000)	(5,000)	0			0	0	0	0	0		

Adjusted Figures																			
EBIT	**62,000**	**84,000**	**(3,000)**	**945,000**	**898,000**	**1,239,000**	**1,434,000**	**1,010,000**	**1,450,000**	**1,046,000**	*-36.9%*	*-4.1%*	**1,137,454**	**1,235,730**	**1,318,524**	**1,406,865**	**1,501,125**	*6.1%*	*7.2%*
EBITDA	**132,000**	**77,000**	**(23,000)**	**956,000**	**905,000**	**1,260,000**	**1,443,000**	**1,047,000**	**1,486,000**	**1,076,000**	*26.3%*	*-3.9%*	**1,168,031**	**1,268,949**	**1,353,968**	**1,444,684**	**1,541,478**	*6.1%*	*7.2%*
Net Income	**103,000**	**61,000**	**(28,000)**	**872,000**	**1,156,000**	**982,000**	**1,043,000**	**1,033,000**	**3,044,000**	**837,000**	*-26.2%*	*-3.9%*	**974,712**	**1,058,927**	**1,129,875**	**1,205,576**	**1,286,350**	*7.6%*	*7.2%*

Financial Ratios	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**2018A**	**2019A**	**2020A**	**2021A**	**Average '12 - '21**	**Average '17 - '21**	**2022E**	**2022E**	**2022E**	**2022E**	**2022E**	**Average '21 - '26**	**Average '22 - '26**
Current Assets																			
Accounts Receivable	32.2	30.0	33.4	29.3	19.3	27.0	27.3	45.9	30.4	33.8	*30.9*	*32.9*	33.8	33.8	33.8	33.8	33.8	33.8	33.3
Days Inventories Held	13.5	11.0	15.2	9.2	8.9	0.0	0.0	0.0	0.0	0.0	*5.8*	*0.0*	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Prepaid Expenses and Other (% of Revenue)	8.1%	7.7%	10.9%	6.7%	5.8%	6.4%	5.6%	6.3%	5.8%	5.8%	*6.9%*	*6.0%*	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	1.3%
Current Liabilities																			
Accounts Payable	49.1	35.8	32.2	17.4	24.0	24.8	13.7	31.2	18.1	23.5	*27.0*	*22.3*	23.5	23.5	23.5	23.5	23.5	23.5	24.1
Accrued Liabilities (% of Revenue)	18.6%	17.3%	18.5%	15.1%	14.4%	13.3%	13.8%	19.4%	17.1%	22.1%	*17.0%*	*17.1%*	22.1%	22.1%	22.1%	22.1%	22.1%	0.2	0.2
Other Current Liabilities (% of Revenue)	27.3%	29.6%	45.1%	30.9%	34.9%	34.8%	33.6%	24.1%	18.9%	28.8%	*30.8%*	*28.1%*	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	29.1%
Profitability on Adjusted Figures																			
Return on Equity (ROE)	4.2%	2.7%	-1.2%	28.7%	34.0%	24.2%	22.7%	19.4%	40.8%	10.7%	*18.6%*	*23.5%*	11.1%	10.8%	10.4%	10.0%	9.7%	10.5%	11.7%
Return on Capital Employed (ROCE)	4.1%	5.7%	-0.3%	249.3%	112.5%	160.7%	188.2%	81.0%	53.4%	26.4%	*88.1%*	*102.0%*	25.5%	24.5%	22.9%	23.2%	23.5%	24.3%	34.4%
Capital Employed	1,522,000	1,473,000	961,000	379,000	798,000	771,000	762,000	1,247,000	2,713,000	3,958,000			4,457,311	5,036,543	5,755,046	6,070,930	6,395,473		
Return on Invested Capital (ROIC)	3.6%	5.0%	-0.3%	218.4%	98.6%	140.7%	164.8%	70.9%	46.8%	23.1%	*77.2%*	*89.3%*	22.3%	21.5%	20.1%	20.3%	20.6%	21.3%	30.1%
Debt on Adjusted Figures																			
Leverage	-9.9x	-14.6x	77.6x	-2.5x	-3.0x	-2.8x	-3.0x	-4.3x	-3.2x	-4.2x	3.0x	-3.5x	-2.9x	-2.9x	-2.9x	-3.2x	-3.4x	-3.2x	-2.1x
Net Debt	(1,310,000)	(1,121,000)	(1,785,000)	(2,388,000)	(2,682,000)	(3,542,000)	(4,339,000)	(4,451,000)	(4,739,000)	(4,466,000)			(3,380,699)	(3,683,804)	(3,985,546)	(4,555,775)	(5,200,613)		
Gearing (Debt-to-Equity Book Value)	21.9%	24.7%	23.9%	20.8%	33.9%	24.4%	21.6%	18.6%	13.3%	24.2%	*22.8%*	*20.4%*	22.8%	19.4%	16.6%	12.0%	7.6%	17.1%	15.9%
Debt Service Coverage Ratio	13.9x	11.2x	23.7x	34.4x	43.7x	6.6x	38.5x	34.4x	40.8x	43.0x	29.0x	32.6x	31.0x	30.2x	12.2x	3.1x	2.0x	20.2x	16.1x
Interest Coverage Ratio	6.6x	2.7x	-0.8x	30.8x	32.3x	26.8x	32.8x	23.3x	33.8x	23.9x	21.2x	28.1x	23.9x	23.9x	23.9x	23.9x	23.9x	23.9x	23.4x
Credit Spread Rating (Moody's / S&P)	Aa2 / AA	Baa2 / BBB	D2 / D	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA			Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA		
Credit Spread	1.0%	2.0%	19.4%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%			0.8%	0.8%	0.8%	0.8%	0.8%		
Probability of Default	0.51%	7.54%	100.00%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%			0.07%	0.07%	0.07%	0.07%	0.07%		
EPS																			
Basic Weighted Average Shares	331,000	310,000	308,000	311,000	310,000	303,000	308,000	303,000	293,000	289,000			331,000	310,000	308,000	311,000	310,000	303,000	308,000
Diluted Weighted Average Shares	336,000	313,000	316,000	325,000	330,000	314,000	312,000	306,000	295,000	292,000			336,000	313,000	316,000	325,000	330,000	314,000	312,000
Basic EPS	0.3	0.2	(0.1)	2.8	3.7	3.2	3.4	3.4	10.4	2.9	*3.0*	*4.7*	2.9	3.4	3.7	3.9	4.1	*4.2*	*3.6*
Diluted EPS	0.3	0.2	(0.1)	2.7	3.5	3.1	3.3	3.4	10.3	2.9	*3.0*	*4.6*	2.9	3.4	3.6	3.7	3.9	*4.2*	*3.5*

Source: Own calculation, Thomson Reuter Refinitiv

Appendix Table 52: Combined companies' current and forecasted income statement

SONY Electronic Arts

	Historical Period												Projection Period						
Income Statement in $Thousands	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**2018A**	**2019A**	**2020A**	**2021A**	**CAGR '12 - '21**	**CAGR '17 - '21**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**	**CAGR '21 - '26**	**CAGR '22 - '26**
Revenue	86,360,050	85,706,449	81,061,246	79,246,644	71,900,370	75,030,601	82,259,438	83,105,831	81,511,422	90,510,964	*0.5%*	*4.8%*	92,732,297	95,031,113	97,282,880	99,601,399	100,918,104	*1.9%*	*2.1%*
% growth	-	*-0.8%*	*-5.4%*	*-2.2%*	*-9.3%*	*4.4%*	*9.6%*	*1.0%*	*-1.9%*	*11.0%*			*2.5%*	*2.5%*	*2.4%*	*2.4%*	*1.3%*		
Cost of Goods Sold (COGS)	66,459,057	60,015,615	56,117,046	53,219,932	48,044,674	49,429,108	53,368,434	53,469,804	51,275,131	58,429,174			59,740,541	61,068,530	62,398,744	63,761,639	64,439,398	*1.8%*	*1.9%*
% revenue	77.0%	70.0%	69.2%	67.2%	66.8%	65.9%	64.9%	64.3%	62.9%	64.6%			*64.4%*	*64.3%*	*64.1%*	*64.0%*	*63.9%*		
Gross Profit	**19,900,993**	**25,690,834**	**24,944,200**	**26,026,712**	**23,855,696**	**25,601,493**	**28,891,004**	**29,636,027**	**30,236,291**	**32,081,790**	*5.4%*	*5.8%*	**32,991,756**	**33,962,583**	**34,884,137**	**35,839,760**	**36,478,706**	*2.2%*	*2.5%*
% margin	*23.0%*	*30.0%*	*30.8%*	*32.8%*	*33.2%*	*34.1%*	*35.1%*	*35.7%*	*37.1%*	*35.4%*			*35.6%*	*35.7%*	*35.9%*	*36.0%*	*36.1%*		
Selling, General & Administrative (SG&A	14,602,782	14,716,456	14,575,807	14,284,389	11,811,419	11,994,500	12,136,321	12,010,045	11,125,872	11,460,600			11,788,333	12,121,254	12,439,540	12,769,057	12,981,794		
% revenue	*16.9%*	*17.2%*	*18.0%*	*18.0%*	*16.4%*	*16.0%*	*14.8%*	*14.5%*	*13.6%*	*12.7%*			*12.7%*	*12.8%*	*12.8%*	*12.8%*	*12.9%*		
Research & Development	1,212,000	6,857,159	5,774,115	5,317,455	5,008,028	5,335,466	5,458,125	5,772,961	6,142,469	6,731,451			6,956,232	7,225,882	7,471,328	7,728,340	7,935,456		
% revenue	*1.4%*	*8.0%*	*7.1%*	*6.7%*	*7.0%*	*7.1%*	*6.6%*	*6.9%*	*7.5%*	*7.4%*			*7.5%*	*7.6%*	*7.7%*	*7.8%*	*7.9%*		
EBITDA	**4,086,211**	**4,117,219**	**4,594,278**	**6,424,868**	**7,036,249**	**8,271,527**	**11,296,558**	**11,853,021**	**12,967,950**	**13,889,739**	*14.6%*	*13.8%*	**14,247,191**	**14,615,447**	**14,973,269**	**15,342,363**	**15,561,456**	*2.0%*	*2.2%*
% margin	*4.7%*	*4.8%*	*5.7%*	*8.1%*	*9.8%*	*11.0%*	*13.7%*	*14.3%*	*15.9%*	*15.3%*			*15.4%*	*15.4%*	*15.4%*	*15.4%*	*15.4%*		
Depreciation & Amortization (D&A)	4,089,699	4,011,192	3,773,909	3,239,660	3,313,974	3,024,980	3,271,032	3,396,340	3,854,273	3,715,016			3,755,106	3,833,877	3,913,788	3,995,436	4,032,797		
% revenue	*4.7%*	*4.7%*	*4.7%*	*4.1%*	*4.6%*	*4.0%*	*4.0%*	*4.1%*	*4.7%*	*4.1%*			*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*		
Other Operating Income / (Expenses)	(813,348)	2,693,268	(539,495)	(1,613,696)	(401,759)	(1,427,961)	(4,133)	604,424	(77,760)	37,907			0	0	0	0	0		
% revenue	*-0.9%*	*3.1%*	*-0.7%*	*-2.0%*	*-0.6%*	*-1.9%*	*0.0%*	*0.7%*	*-0.1%*	*0.0%*			*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*		
EBIT	**(816,836)**	**2,799,295**	**280,874**	**1,571,512**	**3,320,516**	**3,818,586**	**8,021,393**	**9,061,105**	**9,035,917**	**10,212,630**	*232.4%*	*27.9%*	**10,492,085**	**10,781,570**	**11,059,481**	**11,346,927**	**11,528,659**	*2.1%*	*2.4%*
% margin	*-0.9%*	*3.3%*	*0.3%*	*2.0%*	*4.6%*	*5.1%*	*9.8%*	*10.9%*	*11.1%*	*11.3%*			11.3%	11.3%	11.4%	11.4%	11.4%		
Interest Expense	316,696	350,057	264,037	245,666	238,582	181,256	166,433	157,440	146,006	159,929			330,124	320,221	310,614	301,296	292,257		
Interest Income	90,634	688,246	198,303	16,715	382,082	(65,898)	(32,230)	1,292,595	37,914	2,291,139			67,770	70,769	73,452	76,274	78,706		
Non operating Income / (Expenses)	7,597	(39,504)	48,653	(56,187)	(51,106)	(38,736)	(64,812)	6,792	(66,483)	(80,407)			(86,617)	(88,387)	(90,194)	(92,038)	(92,848)		
Earnings before Taxes (EBT)	**(1,035,301)**	**3,097,980**	**263,793**	**1,286,374**	**3,412,910**	**3,532,696**	**7,757,918**	**10,203,052**	**8,861,342**	**12,263,433**			**10,143,114**	**10,443,730**	**10,732,125**	**11,029,868**	**11,222,261**		
Income Tax Expense	3,933,556	1,745,286	942,550	857,115	510,403	1,388,179	1,540,724	466,739	98,794	189,385			2,323,555	2,392,420	2,458,484	2,526,690	2,570,763		
Net income before Extra Items	**(4,968,857)**	**1,352,694**	**(678,757)**	**429,259**	**2,902,507**	**2,144,517**	**6,217,194**	**9,736,313**	**8,762,548**	**12,074,048**			**7,819,558**	**8,051,310**	**8,273,641**	**8,503,177**	**8,651,498**		
Minority Interests	(737,372)	(736,394)	(593,851)	(700,174)	(515,703)	(500,985)	(744,777)	(453,466)	(368,555)	(184,858)			(259,851)	(265,162)	(270,582)	(276,113)	(278,543)		
Net Income	**(5,706,229)**	**616,300**	**(1,272,608)**	**(270,915)**	**2,386,804**	**1,643,532**	**5,472,417**	**9,282,847**	**8,393,993**	**11,889,190**	*208.5%*	*64.0%*	**7,559,707**	**7,786,148**	**8,003,058**	**8,227,064**	**8,372,955**	*-7.1%*	*2.6%*
% margin	*-6.6%*	*0.7%*	*-1.6%*	*-0.3%*	*3.3%*	*2.2%*	*6.7%*	*11.2%*	*10.3%*	*13.1%*			*8.2%*	*8.2%*	*8.2%*	*8.3%*	*8.3%*		
Dividends Paid	317,690	303,280	259,536	0	210,082	233,064	313,844	397,278	506,911	98,000			453,582	467,169	520,199	534,759	544,242		
% Payout	*5.6%*	*49.2%*	*20.4%*	*0.0%*	*8.8%*	*14.2%*	*5.7%*	*4.3%*	*6.0%*	*0.8%*			*6.0%*	*6.0%*	*6.5%*	*6.5%*	*6.5%*		
Retained Earning	**(6,023,919)**	**313,020**	**(1,532,144)**	**(270,915)**	**2,176,722**	**1,410,468**	**5,158,573**	**8,885,569**	**7,887,082**	**11,791,190**	*207.7%*	*70.0%*	**7,106,125**	**7,318,979**	**7,482,860**	**7,692,305**	**7,828,713**	*-8.2%*	*2.5%*

in $Thousands	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**2018A**	**2019A**	**2020A**	**2021A**	**CAGR '12 - '21**	**CAGR '17 - '21**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**	**CAGR '21 - '26**	**CAGR '22 - '26**
Adjustable Items																			
Unusual Income / (Expense)	(11,000)	(29,028)	18,560	3,000	(27,557)	(1,119,932)	(348,726)	617,429	(288,896)	0			0	0	0	0	0		
Restructuring Costs	(682,591)	(27,000)	1,000	0	0	0	0	0	(227,283)	0			0	0	0	0	0		
Special Items Income / (Expense)	(693,591)	(56,028)	19,560	3,000	(27,557)	(1,119,932)	(348,726)	617,429	(516,179)	0			0	0	0	0	0		

Adjusted Figures																			
EBIT	**(123,245)**	**2,855,323**	**261,314**	**1,568,512**	**3,348,073**	**4,938,518**	**8,370,119**	**8,443,676**	**9,552,096**	**10,212,630**	*263.4%*	*19.9%*	**10,492,085**	**10,781,570**	**11,059,481**	**11,346,927**	**11,528,659**	*2.1%*	*2.4%*
EBITDA	**4,779,802**	**4,173,247**	**4,574,718**	**6,421,868**	**7,063,806**	**9,391,459**	**11,645,284**	**11,235,592**	**13,484,129**	**13,889,739**	*12.6%*	*10.3%*	**14,247,191**	**14,615,447**	**14,973,269**	**15,342,363**	**15,561,456**	*2.0%*	*2.2%*
Net Income	**(5,012,638)**	**672,328**	**(1,292,168)**	**(273,915)**	**2,414,361**	**2,763,464**	**5,821,143**	**8,665,418**	**8,910,172**	**11,889,190**	*210.1%*	*44.0%*	**7,559,707**	**7,786,148**	**8,003,058**	**8,227,064**	**8,372,955**	*-7.1%*	*2.6%*

Financial Ratios	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**2018A**	**2019A**	**2020A**	**2021A**	**Average '12 - '21**	**Average '17 - '21**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**	**Average '21 - '26**	**Average '22 - '26**
Current Assets																			
Accounts Receivable	51.2	43.1	47.2	45.1	49.0	53.2	52.0	53.8	51.7	51.4	*49.8*	*52.4*	51.4	51.3	51.2	51.2	51.1	51.3	51.0
Days Inventories Held	47.2	46.1	46.6	38.2	46.4	42.5	44.6	40.2	39.1	0.0	*39.1*	*33.3*	35.9	35.8	35.8	35.7	35.7	29.8	35.3
Prepaid Expenses and Other (% of Revenue)	6.9%	5.8%	6.3%	5.3%	6.3%	6.7%	6.3%	5.9%	7.2%	5.7%	*6.2%*	*6.4%*	5.1%	5.1%	5.1%	5.1%	5.1%	5.2%	5.3%
Current Liabilities																			
Accounts Payable	51.5	37.8	45.7	36.0	37.9	36.4	30.5	31.1	25.7	34.4	*36.7*	*31.6*	34.4	34.4	34.4	34.3	34.3	34.4	34.7
Accrued Liabilities (% of Revenue)	15.9%	14.4%	14.9%	15.3%	17.8%	17.5%	18.2%	19.5%	20.5%	19.6%	*17.4%*	*19.1%*	19.4%	19.4%	19.4%	19.4%	19.4%	0.2	0.2
Other Current Liabilities (% of Revenue)	33.3%	31.1%	32.1%	28.3%	34.0%	35.4%	35.5%	35.1%	39.2%	42.4%	*34.6%*	*37.5%*	42.3%	42.3%	42.2%	42.2%	42.1%	42.3%	41.0%
Profitability on Adjusted Figures																			
Return on Equity (ROE)	-18.6%	2.6%	-5.3%	-1.2%	9.6%	10.4%	17.9%	22.1%	19.4%	20.4%	*7.7%*	*18.1%*	13.1%	13.6%	12.6%	11.9%	11.2%	13.8%	11.8%
Return on Capital Employed (ROCE)	-0.1%	3.2%	0.3%	2.0%	3.8%	5.2%	8.3%	7.6%	7.5%	7.9%	*4.6%*	*7.3%*	5.9%	6.1%	6.7%	6.3%	6.5%	6.6%	6.1%
Capital Employed	88,372,391	90,308,038	84,992,380	76,990,620	88,861,814	94,386,707	101,290,931	110,477,797	127,693,570	129,065,014			177,634,223	175,630,838	165,256,011	180,881,379	177,563,219		
Return on Invested Capital (ROIC)	-0.1%	2.4%	0.2%	1.6%	2.9%	4.0%	6.4%	5.9%	5.8%	6.1%	*3.5%*	*5.6%*	4.6%	4.7%	5.2%	4.8%	5.0%	5.1%	4.7%
Debt on Adjusted Figures																			
Leverage	-1.3x	-1.1x	-1.6x	-1.6x	-1.7x	-1.2x	-1.5x	-1.5x	-1.7x	-2.0x	-1.5x	-1.6x	1.3x	1.1x	0.9x	0.8x	0.6x	0.4x	0.4x
Net Debt	(6,176,654)	(4,745,091)	(7,450,649)	(10,317,829)	(11,889,946)	(10,832,512)	(17,682,518)	(17,399,013)	(22,271,174)	(27,920,717)			17,893,443	15,822,932	13,865,127	11,809,581	9,873,797		
Gearing (Debt-to-Equity Book Value)	54.5%	51.2%	54.0%	37.6%	36.0%	44.4%	42.0%	33.9%	32.1%	35.7%	*42.1%*	*37.6%*	65.2%	64.1%	56.2%	50.1%	45.4%	52.8%	51.8%
Debt Service Coverage Ratio	21.6x	6.8x	27.8x	2.7x	14.4x	25.7x	78.2x	7.8x	97.2x	91.7x	37.4x	60.1x	50.8x	53.0x	25.7x	21.1x	14.8x	42.9x	32.5x
Interest Coverage Ratio	15.1x	11.9x	17.3x	26.1x	29.6x	51.8x	70.0x	71.4x	92.4x	86.8x	47.2x	74.5x	43.2x	45.6x	48.2x	50.9x	53.2x	54.7x	50.0x
Credit Spread Rating (Moody's / S&P)	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA			Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA	Aaa / AAA		
Credit Spread	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%			0.8%	0.8%	0.8%	0.8%	0.8%		
Probability of Default	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%			0.07%	0.07%	0.07%	0.07%	0.07%		
EPS																			
Basic Weighted Average Shares	1,003,578	1,005,417	1,027,024	1,114,424	1,237,802	1,262,023	1,263,895	1,266,592	1,234,408	1,230,480			1,230,480	1,230,480	1,230,480	1,230,480	1,230,480		
Diluted Weighted Average Shares	1,003,578	1,070,792	1,027,024	1,114,424	1,257,883	1,288,343	1,292,420	1,294,646	1,262,255	1,250,692			1,250,692	1,250,692	1,250,692	1,250,692	1,250,692		
Basic EPS	(5.0)	0.7	(1.3)	(0.2)	2.0	2.2	4.6	6.8	7.2	9.7	*2.7*	*6.1*	6.1	6.3	6.5	6.7	6.8	*6.5*	*6.5*
Diluted EPS	(5.0)	0.6	(1.3)	(0.2)	1.9	2.1	4.5	6.7	7.1	9.5	*2.6*	*6.0*	6.0	6.2	6.4	6.6	6.7	*6.4*	*6.4*

Source: Own calculation, Thomson Reuter Refinitiv

__Appendix Table 53:__ Combined companies' current and forecasted balance sheet with transaction adjustments

SONY

Electronic Arts

As reported

Balance Sheet in $Thousands	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2021A
	Historical Period									
Long Term Assets	**115,242,176**	**112,112,961**	**107,849,531**	**96,873,280**	**110,842,674**	**119,450,800**	**130,713,538**	**141,960,935**	**160,929,041**	**172,856,355**
PPE	11,245,525	9,147,076	7,268,347	6,154,548	7,292,147	6,807,111	6,959,152	7,010,572	12,101,662	12,307,715
Intangible Assets	6,084,180	5,600,542	6,547,850	5,347,655	5,470,359	5,244,813	4,961,178	8,281,889	8,428,683	8,999,623
Goodwill	6,966,660	6,829,311	6,704,263	4,672,448	5,386,280	4,691,346	4,992,460	6,933,876	7,290,158	7,471,637
Long Term Investments	76,332,951	77,685,916	76,743,136	71,023,514	82,035,593	90,783,678	101,225,262	105,779,801	118,427,428	128,846,667
Other Long Term Assets	14,612,860	12,850,116	10,585,935	9,675,115	10,658,295	11,923,852	12,575,486	13,954,797	14,681,110	15,230,713
Current Assets	**45,356,187**	**38,715,240**	**40,749,551**	**34,947,526**	**37,283,723**	**39,105,672**	**48,712,239**	**47,334,933**	**53,336,849**	**65,206,915**
Cash and Cash Equivalents	19,030,332	16,179,862	18,209,699	15,702,149	17,146,200	18,059,992	26,001,934	25,212,980	31,249,200	42,359,531
Account Receivables	11,740,293	9,816,839	10,163,194	9,422,643	9,413,931	10,571,083	11,325,997	11,633,165	11,076,542	12,225,199
Inventory	8,540,481	7,538,643	7,112,642	5,539,721	6,069,069	5,753,417	6,521,230	5,893,874	5,486,712	5,757,553
Prepaid Expensens	5,600,948	4,706,219	4,749,734	3,885,178	4,290,812	4,721,180	4,863,078	4,594,914	5,524,395	4,864,632
Other Current Assets	444,133	473,677	514,282	397,835	363,711	0	0	0	0	0
Total Assets	**160,598,363**	**150,828,201**	**148,599,082**	**131,820,806**	**148,126,397**	**158,556,472**	**179,425,777**	**189,295,868**	**214,265,890**	**238,063,270**
Shareholders Equity	**24,506,976**	**23,333,681**	**21,883,607**	**19,289,666**	**21,884,313**	**22,420,274**	**27,925,881**	**33,799,813**	**38,365,346**	**50,366,554**
Common Stock	7,620,919	6,698,509	6,266,724	5,886,091	7,630,174	7,726,871	8,146,896	7,887,853	8,185,990	7,950,973
Additional Paid-In Capital	14,014,491	11,790,508	10,922,629	9,871,594	11,777,688	11,449,976	12,070,332	11,429,737	11,994,387	13,429,551
Retained Earnings	13,099,216	11,703,086	9,112,080	6,774,594	8,318,365	8,837,655	13,555,481	20,936,327	25,750,361	34,841,655
Treasury Stock	(56,010)	(47,479)	(41,516)	(35,132)	(37,837)	(38,920)	(42,632)	(944,639)	(2,162,278)	(1,122,152)
Unrealized Gain (Loss)	783,710	1,136,667	1,235,690	1,283,324	1,250,299	1,136,929	1,187,584	1,218,286	1,517,425	914,284
Other Equity	(10,955,350)	(7,947,610)	(5,612,000)	(4,490,805)	(7,054,376)	(6,692,237)	(6,991,780)	(6,727,751)	(6,920,539)	(5,647,757)
Long Term Liabilities	**81,373,746**	**81,681,220**	**80,357,471**	**73,024,103**	**83,325,701**	**89,255,425**	**98,604,985**	**100,643,965**	**117,864,424**	**117,099,991**
Long Term Debt	9,206,928	9,963,290	8,883,236	5,928,124	4,944,879	6,118,166	5,867,297	5,127,852	5,905,184	6,985,165
Deferred Income Tax	3,436,463	3,970,747	3,981,993	3,711,918	4,006,027	3,885,894	4,233,661	4,794,480	5,110,703	3,312,952
Minority Interest	5,812,777	5,164,204	5,127,692	5,133,528	5,939,380	5,837,801	6,484,188	6,307,407	6,249,563	486,120
Other Liabilities, Total	62,917,578	62,582,979	62,364,550	58,250,533	68,435,415	73,413,564	82,019,839	84,414,226	100,598,974	106,315,754
Current Liabilities	**54,717,640**	**45,813,301**	**46,358,003**	**39,507,037**	**42,916,383**	**46,880,773**	**52,894,912**	**54,852,091**	**58,036,120**	**70,596,725**
Accounts Payable	9,164,096	6,074,007	6,908,026	5,179,940	4,894,764	4,847,222	4,409,524	4,439,943	3,541,533	5,415,907
Payable/Accrued Expenses	12,963,678	11,649,535	11,390,927	11,439,374	12,145,450	12,522,137	14,252,329	15,274,679	15,801,993	16,532,151
Short Term Debt	1,206,426	933,171	1,083,803	516,217	1,326,132	4,171,673	4,668,731	5,581,172	7,534,637	10,730,012
Portion of Long Term Debt (Capital I	3,750,324	1,659,310	2,577,011	1,327,979	1,667,243	479,641	2,122,388	1,555,943	277,205	1,189,637
Other Current Liabilities	27,633,116	25,497,278	24,398,236	21,043,527	22,882,794	24,860,100	27,441,940	28,000,354	30,880,752	36,729,018
Total Liabilities & Shareholders' E	**160,598,362**	**150,828,202**	**148,599,081**	**131,820,806**	**148,126,397**	**158,556,472**	**179,425,778**	**189,295,869**	**214,265,890**	**238,063,270**

Balance Sheet in $Thousands	Electronic Arts 2021A	Adjustments for Acquisition Effects +	Adjustments for Acquisition Effects -	Pro Forma directly after Acquisition 2022 Adjusted	2022E	2023E	2024E	2025E	2026E
					Projection Period				
Long Term Assets	**6,075,000**	**44,323,665**		**223,255,020**	**227,353,216**	**226,009,269**	**216,416,268**	**232,781,354**	**229,932,879**
PPE	733,000	30,000		13,070,715	14,399,544	14,434,369	1,397,405	15,831,782	15,887,575
Intangible Assets	309,000	8,299,960		17,608,583	17,608,583	17,960,755	17,601,540	16,721,463	17,557,536
Goodwill	2,868,000	38,861,705	(2,868,000)	46,333,342	46,333,342	46,796,676	48,200,576	45,308,542	45,761,627
Long Term Investments	120,000			128,966,667	131,546,000	128,915,080	131,493,382	136,753,117	132,650,524
Other Long Term Assets	2,045,000			17,275,713	17,465,746	17,902,389	17,723,366	18,166,450	18,075,617
Current Assets	**7,213,000**		**(29,839,515)**	**42,580,400**	**44,372,495**	**45,913,217**	**47,500,843**	**49,155,075**	**50,590,890**
Cash and Cash Equivalents	6,366,000		(29,839,515)	18,886,016	19,830,317	20,821,833	21,862,924	22,956,070	24,103,874
Account Receivables	521,000			12,746,199	13,048,631	13,352,698	13,654,272	13,963,930	14,127,577
Inventory	0			5,757,553	5,875,691	5,995,790	6,118,344	6,243,403	6,298,344
Prepaid Expensens	0			4,864,632	5,291,856	5,423,417	5,552,213	5,684,844	5,760,402
Other Current Assets	326,000			326,000	326,000	319,480	313,090	306,829	300,692
Total Assets	**13,288,000**	**14,484,150**		**265,835,420**	**271,725,710**	**271,922,487**	**263,917,111**	**281,936,428**	**280,523,769**
Shareholders Equity	**7,840,000**		**(7,840,000)**	**50,366,554**	**57,821,965**	**57,128,527**	**63,602,770**	**69,370,469**	**74,857,985**
Common Stock	3,000		(3,000)	7,950,973	7,950,973	7,871,463	8,028,893	7,868,315	7,710,948
Additional Paid-In Capital	0		0	13,429,551	13,429,551	13,295,255	13,694,113	13,967,995	13,688,636
Retained Earnings	7,887,000		(7,887,000)	34,841,655	42,073,097	41,398,553	48,053,884	54,845,250	61,696,379
Treasury Stock	0		0	(1,122,152)	(1,122,152)	(1,110,930)	(1,088,712)	(1,110,486)	(1,332,583)
Unrealized Gain (Loss)	(4,000)		4,000	914,284	959,998	1,055,998	1,161,598	929,278	1,115,134
Other Equity	(46,000)		46,000	(5,647,757)	(5,469,503)	(5,381,812)	(6,247,005)	(7,129,882)	(8,020,529)
Long Term Liabilities	**2,484,000**	**22,324,150**		**141,908,141**	**139,642,575**	**139,324,143**	**123,516,164**	**134,466,980**	**126,809,108**
Long Term Debt	1,900,000	19,893,010	(1,900,000)	26,878,175	26,340,612	25,550,393	24,783,881	24,040,365	23,319,154
Deferred Income Tax	19,000	5,710,865	(19,000)	9,023,817	8,121,436	7,959,007	7,799,827	7,643,830	7,490,954
Minority Interest	0			486,120	486,120	583,344	700,013	735,013	779,114
Other Liabilities, Total	565,000		(1,360,725)	105,520,029	104,694,408	105,231,399	90,232,443	102,047,771	95,219,886
Current Liabilities	**2,964,000**	**0**		**73,560,725**	**74,261,170**	**75,469,817**	**76,798,176**	**78,098,979**	**78,856,676**
Accounts Payable	96,000			5,511,907	5,629,716	5,751,670	5,874,512	6,000,218	6,060,531
Payable/Accrued Expenses	1,246,000			17,778,151	17,981,946	18,438,641	18,883,889	19,342,819	19,610,322
Short Term Debt	0			10,730,012	10,193,511	9,785,771	9,687,913	9,494,155	9,304,272
Portion of Long Term Debt (Capital I	0			1,189,637	1,189,637	1,308,601	1,256,257	1,231,132	1,354,245
Other Current Liabilities	1,622,000			38,351,018	39,266,359	40,185,134	41,095,605	42,030,656	42,527,307
Total Liabilities & Shareholders' E	**13,288,000**	**14,484,150**		**265,835,420**	**271,725,710**	**271,922,487**	**263,917,111**	**281,936,428**	**280,523,769**

Source: Own calculation, Thomson Reuter Refinitiv