Master thesis

Valuation of LEGO Group

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Abstract

The purpose of this thesis has been to estimate the theoretical fair value of the Danish toy manufacturer LEGO Group as of March 31, 2020, conducted from an external perspective. The valuation is based on an in-depth strategic and financial analysis, as these allow for the necessary forecast to be estimated. The industry of traditional toys and games has been subjected to a number of challenges. Increasing time spent on electronic gadgets and increasing demand for digitalized toys and games put continuous pressure on innovation. The toy retail landscape has changed dramatically in recent years due to digitalization and increasing growth of e-commerce why Lego is making significant investments in upgrading their e-commerce platform, which is especially important in times of the COVID-19. In addition, the strategic analysis illustrates that LEGO Group's most generating geographical markets, Western Europe and North America, are stagnating, whereas Asia Pacific – especially the Chinese market – has shown substantial growth. China has been a growth priority to LEGO Group as the market has generated double-digit growth for numerous years why the company has increased its presence in the market. Furthermore, China has improved its legislation on intellectual property rights, which protects the LEGO brand from counterfeiting, increasing the attractiveness of the market. The System of Play is a vital source to the LEGO Group's success as this ensures that all LEGO elements can fit together, enabling an expandable collection of LEGO bricks generating continuous sales. Although the LEGO brick is the heart of the business and the company continuously seek opportunities to make it relevant for children through external licensing right, collaborations, and digital solutions. The LEGO brand was in 2020, the most reputable brand worldwide while it being the most valuable brand in the industry of traditional toys and games. In general, the strategic analysis portrayed a bright future for LEGO, due to a strong brand, the substantial opportunity for growth, and a high degree of innovation. A financial analysis has been conducted to evaluate LEGO Group's historical performance, and it concluded that the company outperformed its peers as the ROE and ROIC of LEGO Group was found to be much higher than its peers'. The operating profit margin of the LEGO Group has decreased in the analyzed period, but the level of the margin is nonetheless significantly higher than its peers'. Based on the strategic and financial analysis, a forecast for LEGO Group's future performance was conducted as both the income statement and the balance sheet were budgeted for the forecast period.

The valuation of the LEGO Group has been conducted by applying the present value approach and a relative valuation approach. The cost of capital was applied together with the forecast predictions in the DCF and EVA models resulted in an estimated theoretical fair value of LEGO Group of DKK 300,821mn. The multiple comparisons showed that the LEGO Group was valued highly in this thesis in comparison to its peers. However, this must be adjusted for the peers' lower sales growth and lower profitability. The thesis concludes that the estimated theoretical fair value of DKK 305,178mn is a representative assessment of the LEGO Group's value as of March 31, 2020.

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Part 1

Introduction & research design

1 Introduction and Research design

1.1 Introduction

A company valuation is the process where the economic value of a company is determined. Although many different methods for determining the value of a company exists several misconceptions about valuation endures according to Damodaran. Valuation is misinterpreted as it is viewed as an objective search for a true value and furthermore, it is thought that a good valuation will provide a precise estimate of value. However, Damodaran states that all valuations are biased and that no accurate valuations exist. It is furthermore misinterpreted that a more quantitative model would result in a better valuation, but the understanding of a valuation model is inversely proportional to the number of inputs required for the model (Masin, 2012).

According to Stewart (2001), all judgmental forecast will be affected by the inherent unreliability of the judgement process. Furthermore, judgements are less reliable when the task is more complex, when the environment is more uncertain and when the acquisition of information relies on perception and pattern recognition. This supports the notion that no valuation is objective and is affected by human bias (Stewart, 2001).

A valuation is to some extent based on quantitative information from, e.g. financial statements. However, it also requires the incorporation of qualitative data to examine strategy and prospects for a company and can therefore be exposed to subjectivity.

A valuation of a public company can be conducted by simply multiplying the number of shares outstanding and the price per share whereas a valuation of a non-public company is thought to be more challenging. When equity markets are perfectly competitive, investors perceive companies as less risky than companies in imperfect markets due to information asymmetry. Information asymmetry has a positive relation with companies' risk factors when markets are imperfect (Armstrong et al., 2010). Non-publicly traded companies in Europe do not subdue the transparency directive, which requires issuers of securities traded on regulated markets to make their activities transparent. This fuels the perceived information asymmetry when a privately held company is being valued based on an external perspective (Eu.europa.eu).

The notion of conducting a valuation of a non-public company is found to be both interesting and challenging. LEGO Group, a Danish toy manufacturing company, is therefore perceived as an exciting target for such a valuation.

Founded as a small carpenter's workshop, LEGO Group started to manufacture toys in 1932 and has since become a global enterprise and is today one of the world's largest manufacturers of toys. In 2003, LEGO Group had decreasing sales and was near bankruptcy why the future for the Danish toy company looked bleak. Just over a decade later, LEGO Group had become the most reputative toy brand in the world and is today the third-largest company in the industry of traditional toys and games. This industry is highly seasonal, where approximately 50% of the sales occur towards Christmas. LEGO Group is a market leader in the category of construction toy where the company in 2019 had a market share of 65.1% (Euromonitor).

Although LEGO Group has manufactured many different toys though its time, the LEGO brick has become the heart of the business through its System of Play which enables that all LEGO elements fit together. LEGO Group has a fast product-life cycle why new products each year make up approx. 60 % of their product portfolio while they have made investments in understanding the intersection between digital and physical play in order to meet the changing consumer needs. The toy retail market of today has rapidly been reshaped by digitalization and accelerating growth of e-commerce driving LEGO Group to invest in developing and expanding their retail ecosystem. With large retailers as Toys R Us filing for bankruptcy in the U.S. in 2017, LEGO Group's e-commerce platform and their 570 branded stores have become more important than ever to survive the rapid changes in the retail market of toys.

Today, LEGO Group sells its products in more than 140 countries and have more than 570 stores around the world. The company has close to 19,000 full-time employees with in-house production facilities in Denmark, China, Czech Republic, Hungary, and Mexico (LEGOa).

1.2 Motivation & Research question

As LEGO Group is an unlisted company, valuation poses various challenges compared to valuation of publicly listed companies. Valuation of unlisted companies in practice requires various valuation models as well as an analysis of a chosen peer group. Furthermore, unlisted companies have less transparency requirements than listed companies why information scarcity concerning unlisted companies is expected to be higher.

This serve the motivation for this thesis as its main purpose is to estimate the theoretical fair value of the unlisted company, LEGO Group, which has led to the following research question:

What is the theoretical fair value of the LEGO Group, as of March 31, 2020?

This research question will be supported by answering the following sub-questions:

- Which environmental conditions influence the LEGO Group and what are the current market expectations for the industry of traditional toys and games?
- What growth strategies does LEGO Group pursue and which competitive advantages might appear within the company?
- How has LEGO Group performed financially, based on a time-series analysis (the company's relative performance over time) and a cross-sectional analysis (comparison with selected peers)?
- How does the strategic and financial analysis affect the prospective analysis?
- How sensitive are the parameters of the valuation approaches to changes in key drivers?

1.3 Structure

This thesis has been separated into seven parts which are illustrated in the figure below.

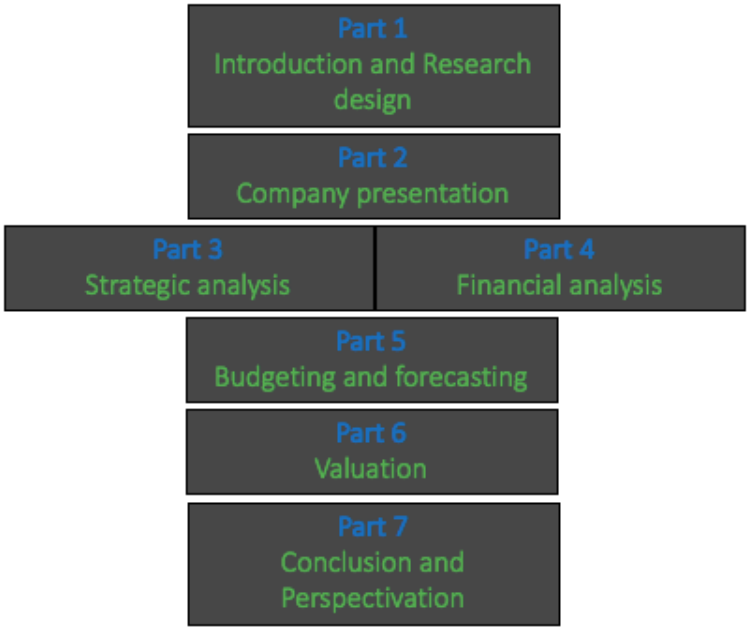


Figure 1.1: Own creation

Part 1 – This part covers the scientific framework for the thesis. It includes the research question, the methodology, delimitation, and covers the theories used to answer the research question.

Part 2 – Following the preliminary part, the company will be presented to create an underlying understanding of the following strategic and financial analysis.

Part 3 – In this part, a strategic analysis will be conducted on Lego and its external environment. The analysis is separated into an external and internal strategic analysis. The external analysis consists of a

PESTEL analysis which will analyze the macro environment. In contrast, the meso environment is analyzed through a Porter's Five Forces analysis which will display the competitive situation in the industry. The analysis of the microenvironment consists of a VRIO-analysis and by applying Ansoff's Growth Matrix.

Part 4 – The goal of this section is to reveal the financial performance of the company. The financial statements for the company and its peers are reformulated and as a result of this, making them applicable for analytical purposes. Based on the analytical numbers, the financial profitability analysis is conducted, which aims to expound what has been the key drivers of the company's performance in the analyzed period. The chapter provides key figures for the analyzed period and provides a gauge for the budgeting and forecasting.

Part 5 – This section will provide a projection of the future performance of Lego. Key drivers from the income statement and balance sheet will be forecasted for a period of 10 years. Furthermore, a Weighted Average Cost of Capital (WACC) will be estimated through a thorough analysis.

Part 6 – This thesis will apply two present value approaches to estimate the value of the company – The Discounted Cash Flow (DCF) model and the Economic Value Added (EVA) model. Furthermore, a sensitivity analysis of the estimated value is conducted. This chapter will also provide a multiple analysis as the company will be benchmarked to its peers.

Part 7 – This part will summarize the thesis and highlight the main objects and results that answer the research question.
As the thesis has been written over an extended period of time, it was found necessary to make a constraint date, after which new information was disregarded. This chapter will explore information obtained after the constraint date, which will provide perspectives on the results found in the thesis.

1.4 Methodology

1.4.1 Research approach

The research method used in this thesis is based on a deductive approach as it explores the existing theory to be applied to the case company at hand. The purpose of the thesis is not to generalize the results to a general theory for all companies as the analysis of the internal circumstances only applies to the case company.

The case study research approach to analysis is selected for this thesis, which is defined as "an empirical enquiry that investigates a contemporary phenomenon in depth and within its real-life context" (Yin, 2003: 13). With other words, case study research is concerned with the complexity and particular nature of the case in question. The case study method is used when a researcher is to cover the contextual conditions believing that they might be highly relevant to the phenomenon of the study. This research approach is found applicable for this thesis as the valuation of the case company is highly based on its contextual conditions.

The case study as a research strategy comprises an all-compassing method that covers the data collection techniques and specific approaches to data analysis and is therefore viewed as a comprehensive research strategy and is used a guideline for conducting this thesis (Yin, 2003: 14). The case study approach facilitates answering the research question of this thesis by gaining in-depth knowledge of the case company in question.

The case study is contemplated to be of intrinsic nature as the company itself is of primary interest in the exploration. The exploration is driven by a desire to know more about the uniqueness of the phenomenon and not because it is representative of other cases (Crowe et al., 2011).

The research question for the thesis has been formulated based on the organization of interest, a clarification of the time period covered by the case study and has been altered in a dynamic process with the data collected and the selection of theories used to conduct the analysis. This approach to developing a problem definition is consistent with the approach of the study design of a case study (Crowe et al., 2011).

1.4.2 Data collection

The case study approach involves the collection of data using a range of quantitative and qualitative techniques obtained from multiple sources in order to develop a thorough understanding of the case company in question (Crowe et al., 2011). The empirical information collected and employed for this thesis draws upon secondary data, and its main objective has been to gather extensive amounts of data and information about the case company and its external environment. This includes annual reports, articles, press releases, databases, website, academic books, and articles. The collected data is considered a mix of quantitative and qualitative data and is obtained from a variety of sources. The quantitative data emphasizes numbers to provide a broad point to the case study in the form of, e.g. industry statistics. In contrast, the qualitative data emphasizes words rather than numbers which provides a more in-depth understanding.

Thus, all data and information are collected from secondary sources. Although interviews with leading employees who might be able to reveal initiatives that would impact the forecast prospects would be extraordinarily useful. Unfortunately, the case company declines requests for any further information other than already public recorded information, which includes annual reports, press releases, and third-party interviews. Publicly traded companies in the EU subdues the transparency directive which requires issuers of securities traded on regulated markets to make their activities transparent, by regularly publishing information, including all information which could affect the price of securities (ec.europa.eu, A). As Lego is an unlisted company, they do not subdue the same obligations why the lack of internal information may affect the valuation of the company.

In a real-world scenario, a potential investor or acquirer of a company would require access to extensive internal information to perform a thorough due diligence. The purpose of the due diligence is to give the prospective investor a complete and thorough comprehension of the company and clarify whether the expectation for the valuation can be met. Most often, the due diligence will include commercial, financial, and legal conditions to clarify potential problems and opportunities (Bisgaard et al., 2004; 195). A lack of access to internal information, including prospective strategic pursuits, will, all else equal, affect the valuation as it may be less accurate than if all information was available.

This thesis is written from an external point of view as it is assessed that there is sufficient information to build a strong analysis based on the secondary sources outlined. Due to the lack of access to internal information, primary data has not been collected.
It must be noted that secondary data involves investigations where data was collected for previous research and was therefore not collected to answer the research question at hand. The data is either used to explore new questions or is used for different analysis strategies that are not part of the primary study and may, therefore, not always answer the researcher's question. The advantage of using secondary data is the high quality of data due to rigorous collection procedures as well as a level of expertise and professionalism when obtained from a credible source. Secondary data is used to gather information to create a clear analytical overview as multiple pieces of secondary data is taken into account in order to create a coherent as possible assessment of the research question (Bryman & Bell, 2011: 320).

1.4.3 Validity and reliability

The use of multiple sources of data has been advocated as a way of increasing validity of a study in the extent to which the method is appropriate to answer the research question as it establishes correct operational measures for the concepts being studied (Yin, 2003: 34). As previously stated, this thesis uses data obtained through a variety of techniques and a variety of sources increasing the validity of the thesis. As for articles including interviews with the CEO of Lego, one is still to be cautious of about the trustworthiness of his publicly shared opinions about the company's futures, but it has been sought to support these opinions through the use of other sources to link connections.

In order to uphold the reliability of the thesis, the collected data have been thoroughly selected from highly reliable sources, including Euromonitor, European Commission, MarketLine amongst others.

Economic and industry forecasts change continuously and cannot predict the future fully but merely indicate how the future may turn out. There forecasting in this thesis is based on firmly reliable statistics, which combined are used to assess the future growth prospect of the case company. However, according to Stewart (2001), all judgmental forecasts are biased by the inherent inconsistency, of the judgment process. Unreliability is an error introduced into the forecast by the natural inconsistency of the human judgment process. This is referred to as "imperfect reliability," i.e. that humans are not consistent if a similar task is performed twice. The lack of reliability cannot be solved as if another individual were to repeat the forecast the findings may vary from other individuals (ibid).

1.5 Delimitation

Throughout the compilation of this thesis is has been found necessary to set certain delimitations to achieve a manageable amount of information and analysis.

The reader of this thesis is assumed familiar with valuation, accounting, finance, and strategy.
LEGO Group will be referred to as Lego or "the company" throughout the thesis, but when deemed appropriate, the full name will be used.

The profitability analysis conducted in this thesis covers a 7-year historical time period from the years 2013-2019. In contrast, the strategic analysis employs data from before 2013 to provide more perspectives and thoroughness than otherwise possible with a limited period of time.

The Bloomberg Terminal which is one of the largest and best data sources for financial data has not been used due to COVID-19. This was caused by restricted access to the terminal. Bloomberg could have provided information about the beta for peer companies, but this is conducted through a regression analysis.

A considerable limitation in this thesis is the limitation of secondary information due to Lego not being a publicly listed company and does therefore not subdue the transparency directive. The scope of this thesis is to estimate the valuation of Lego from an external perspective why no insider knowledge is gained through confidential interviews.

A peer group analysis is crucial for conducting a valuation of an unlisted company. This thesis will consider competitors Mattel and Hasbro as the peer group for Lego and therefore, only benchmark the company against the two companies.

The peer companies both employ the United States Generally Accepted Accounting Policies (US GAAP) whereas Lego prepares their annual reports according to the International Financial Reporting Standards (IFRS). This can lead to comparison problems as various items in the financial statements can be treated differently using US GAAP in contrast to IFRS. A few differences are elaborated in the analysis, but the overall assessment is that the differences are not of a significant character.

As comprehensive income includes transaction which are non-recurring in nature it is found that the comprehensive is rarely used by analyst why this thesis will reformulate the income statement until net profit (Petersen et al., 2017: 87).

As Lego is an unlisted company and does not provide marketable ownership a liquidity premium can be expected to be added to the required rate of return on equity for a potential investor (Petersen et al., 2017: 363). This thesis will conduct a valuation of Lego disregarding the liquidity premium.

This thesis aims to conduct a valuation of Lego as of March 31, 2020 why all information from beyond this date is excluded from the thesis. This is conducted by estimating the value as of December 31, 2020 based on information collected up until the March 31, 2020. The estimated value is thereafter forecasted with the required rate of return on equity which is based on the Capital Asset Pricing Model.

1.6 Science theories

This paper examines the value of Lego as of March 31, 2020 based upon a strategic and financial analysis that examines the performance and future operating opportunities. The scientific theories used in this paper are the positivism and hermeneutic paradigm.
The philosophy of positivism only accounts for factual information gained through measurements and observations as genuinely trustworthy. The objectivity is vital, and the role of the researcher is limited to interpret the data collected with objectivity.

1.6.1 The positivism philosophy

In positivism, the researcher adopts a deductive approach and is independent of the research why it becomes purely objective. The independency refers to the researcher having minimal interaction with the research participant why the study is based solely on facts. In this paradigm, five principles appear as follows:

- No differences occur in the logic of inquiry across the sciences
- The purpose of the research should be to explain and predict
- The research should be empirically observable
- Common sense should not be included as it could bias the findings
- The science would be assessed only through logic

In the positivism progress, hypotheses and deductions require the concepts to be operationalized, so it is possible to measure. The financial analysis in this paper is examined through a positivism philosophy where the aim has been to increase the objectivity to determine Legos current economic situation and predicts the company's future position. The human interest and bias have been minimized as the data have been collected through annual reports from 2013 to 2019 from Lego and its peers why the researchers' own opinions have become irrelevant. Furthermore, all data collected has been through databases and other reliable sources to ensure objectivity and reliable measurements (Holm, 2014).

The logical positivism is used as mathematical models are included, such as the DCF-model and the EVA-model. The reliability of the data set can be assessed based on the validity and reliability of the data. The validity appears due to the inclusion of economic numbers which has relevancy in the field of study. It should be noted that the financial numbers have a considerable amount of validity though they are used to predict the future in the valuation models further. Subjectivity occurs when projections on the future must be made, why it is not easy to determine the same value amongst researches. The

economic numbers have a vast amount of reliability as they have been based on public informed data here included annual reports which have been approved by an auditor (Holm, 2014).

1.6.2 The hermeneutic philosophy

Understanding is a central focus in the hermeneutic paradigm. In this paradigm, the translator has an understanding at the beginning and is only able to translate what has been understood before. The translation is presented as an interplay between the author, translator and the reader as a subject-oriented process (Cercel et al., 2015).

The hermeneutic circle is based on understanding the whole through the different parts but also to understand the elements through an understanding of the entire situation.

The budgeting and forecasting are the product of elements conducted through an understanding of the company and its environment, and an understanding of the budgeting and forecasting will lead to an interpretation of the company and its environment (ibid).

1.7 Theory

1.7.1 SWOT

In order to identify the company's strengths and weaknesses as well as opportunities and threats, a SWOT-analysis will be prepared in this thesis. The analysis will provide an overview of the essential factors which affects the company, and the analysis is based on the company's internal and external conditions. Different models and theories will be used in order to analyze the conditions which will provide the basis for the SWOT-analysis. The final SWOT-analysis will, therefore, present an evaluation of the company's overall situation (Kotler et al., 2016).

The strategic analyzes conducted in this thesis are based on macro, meso and microenvironments.

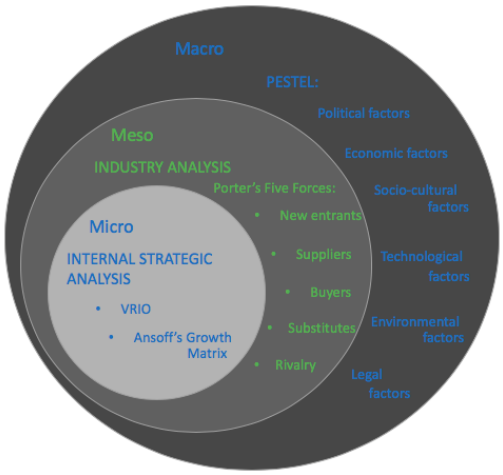


Figure 1.2: Own creation

1.7.2 PESTEL

A central part of an external analysis is an initial analysis of strategic macroeconomic factors. These are factors that the company cannot control but which they must monitor, and to which a company must respond as the factors can have critical consequences for the future of the company. It is important to recognize and respond profitably to unmet needs and trends for the company to build competitive advantages.

In order to analyze the macroeconomic conditions that apply to the company, a PESTEL model will be the starting point. This model is based on six factors which give a bird's eye view of the whole external environment from different angles in relation to the company. Political factors (P) determine the extent to which a government may influence the economy or certain industries which can include fiscal policy, trade tariffs etc. that may affect the company to a great extent. Economic factors (E) are determinates of an economy's performance that can have a substantial impact on the industry and company and have resonating long term effects such as economic growth patterns, interest rates and foreign exchange rates. Sociocultural factors (S) scrutinize the social environment of the industry and company population analytics and cultural trends where Technological factors (T) highlights the technological stage of the industry and the innovation in technology that may affect the operations and growth of the company. In contrast, Legal factors (L) refers to the laws that affect the business environment in particular countries but also includes policies that the company maintain for themselves such as customer standards, labor laws etc. Lastly, the Environmental factors (E) contains the factors that influence the surrounding environment such as global changes in climate, geographical location etc. (Kotler et al., 2016).

By executing the above-mentioned model, it will provide a precise analysis of the company's macroeconomic factors. The analysis will contribute to identifying and discussing factors that the company must address in the present and future and furthermore identify future possibilities.

It must be emphasized that a PESTEL analysis is no better than the data that is inserted into the analysis, why one must be particularly selective and critical when selecting data for input in the analysis. The quality of the analysis depends on the data inputs, the processing, and assessments hereof. For this reason, the prioritization of macroeconomic factors and the analysis, as well as conclusions hereof, can have a different outcome for other authors (ibid).

The PESTEL analysis has significantly been criticized for being based on the past, which will be compensated for by including, as far as possible, data on future developments. In addition, it can be argued that the historical data can form the basis for forecasting the future of the company and its surrounding environment. It must further be noted that external factors change over time and are based on predictions and assumptions and is made vulnerable to discrepancies which can result in a subjective outcome as the analysis is based on data which changes every day. By having a future perspective, the analysis should be reviewed periodically as the external factors are not constant why the analysis will be more valid as it is not a onetime research and analysis process (ibid). For this thesis, there will be conducted a onetime analysis process as the analysis will be used for analyzing a certain time period.

The PESTEL analysis does not provide tools for how the company can handle the surrounding conditions but offers a comprehensive technique for carrying out an external analysis by identifying and discussing the essential macroeconomic conditions that a company should take into account.

1.7.3 Porter's Five Forces

Porter's Five Forces is a model for identifying and analyzing five forces that define an industry's structure and shapes the nature of competitive interaction within an industry (Porter, 2008). The analysis is conducted in a meso environmental level as it falls between the macro- and microenvironment.

The analysis is conducted in order to clarify the industry's impact on value creation in the company. Porter (1979) argues that the intensity of competition in an industry is rooted in the competitive forces that shape the industry which are the power of buyers, power of suppliers, the threat from potential entrants and threat of substitutes. The collective strength of the five forces determines the profit potential of an industry – The weaker the forces collectively in an industry, the greater opportunity for superior performance, generating a profit and thus value.
For a company to understand the nature of an industry, regarding structure and competition, can be valuable as the company can improve effective strategic positioning and cope with the industry environment (ibid).

New entrants to an industry bring new capacity and the desire to gain market share that puts pressure on prices, costs, and the rate of investment necessary to compete. The seriousness of the threat of

entry depends on the barriers present in the industry and furthermore the reaction from existing competitors that new entrant can expect (Porter, 1979 & Porter, 2008).

The power of suppliers refers to the suppliers' ability to capture value for themselves by charging higher prices, limiting quality or services, or shifting costs to industry participants and furthermore their ability to squeeze profitability out of an industry that is unable to pass on cost increases in its own prices. A supplier group increases its power if it is more concentrated than the industry it sells to and if it does not depend heavily on the industry for its revenues. The group is furthermore powerful if it poses a credible threat of integrating forward into the industry's business and if they offer products that are differentiated (ibid).

The power of buyers refers to the customer's ability to force down prices, demanding better quality or more service, and their ability to drive the competitors against each other, all at the expense of industry profitability. The level of power depends on the negotiating leverage relative to industry participants, and they will be using their power primarily to pressure price reductions. A buyer group is powerful if it is concentrated or purchases in large volumes while the products it purchases from the industry are undifferentiated as alternative suppliers easily can be found, and buyer faces low switching cost in changing supplier. A buyer group can furthermore obtain negotiation leverage if they pose a credible threat to integrate backwards to offer the industry's product (ibid).

The threat of substitutes is the availability of other products that perform the same or similar functions as an industry's product but that a buyer could purchase from outside an industry. The threat of substitutes depends on the attractiveness of the price-performance trade-off offered by a substitute, and the higher the threat, the more the industry profitability suffers. The threat of a substitute furthermore increases when the buyer's cost of switching to the substitute is low (ibid).

Rivalry among existing competitors is the degree to which rivalry drives down an industry's profit potential and depends on the intensity with which companies compete and on the basis on which they compete. The intensity of rivalry is greatest when competitors are numerous or are roughly equal in size and power. Intensity increases further when industry growth is slow, and when the product lacks differentiation or switching costs (ibid).

When the five forces affecting competition in an industry and their underlying causes are assessed, the company's strategy can be identified including opportunities and threats, providing the company with the tool to achieve a profitable positioning in the industry.

Porter's Five Forces is criticized for being a static model and analyzes the competition in an industry at a certain period of time. However, Porter (2008) notes that industry structure is constantly undergoing

modest adjustments, and occasionally it can change abruptly. When including this perspective, an assessment of how relationships between the company, competitors, suppliers, buyers and substitutes are expected to develop in the future and impact the intensity of the rivalry. Porter focuses on each of the factors equally, which may not apply to all industry analysis. Porter furthermore notes that the relationship between a company and its buyers or supplier is based on a power struggle, whereas there in contradictory can be interactions between the parties.

1.7.4 VRIO

Environmental models of competitive advantage, Porters Five Forces included, have assumed that firms within an industry are identical in terms of the strategically relevant resources they control and strategies they pursue. A resource-based view of the firm provides a perspective for explaining growth and sustainable competitive advantage for a specific company (Barney, 1991). The resourced based view analyzes the microenvironment.

The VRIO model assumes that companies within an industry are heterogeneous with respect to the strategic resources they control and that resources may not be perfectly mobile across companies why heterogeneity can be long-lasting.

Barney (1991) defines firm resources as all assets, capabilities, organizational processes, firm attributes, information, knowledge etc. controlled by a firm and that enable the firm to implement strategies that improve its efficiency and effectiveness.

A firm must be able to identify its key resources in order to evaluate if these are sustained competitive advantages, and therefore has an imminent perspective.

For a firm resource to have a sustained competitive advantage, it must hold four attributes:

- Value: A firm resource is valuable when it enables a firm to conceive of or implement strategies that improve its efficiency and effectiveness. It must exploit opportunities and/or neutralize threats in a firm's environment.
- Rarity: A firm resource is defined as rare when it is not simultaneously implemented by large numbers of current and potential competing firms.
- Imitability: The firm resource must be imperfectly imitable for competitors to obtain or develop. The reasons for a resource to be imperfectly imitable are that it is dependent on unique historical conditions, that the link between the resources possessed by a firm and a firm's sustained competitive advantage is causally ambiguous or that the resource is socially complex.

- **Organization**: A firm resource must be supported by organized management systems, processes, structures, and culture that capitalize on resources and capabilities.

A company achieves the goal of sustained competitive advantage when its firm resources have successfully identified all component of the VRIO framework.

1.7.5 Ansoff's growth matrix

The microenvironment is also analyzed through Ansoff's growth matrix, which is a tool used by companies to analyze their current growth strategy and determine their future actions. The matrix is used for analyzing growth strategies, i.e. whether growth is driven by new products, new markets or both (Johnson et al., 2014).

Market penetration is a growth strategy that focuses on selling existing products into existing markets and is much about "business as usual". The strategy seeks to increase usage by existing customers to maintain or increase market shares and builds on existing capabilities. **Market development** involves offering existing products to new markets, e.g. new geographical markets or new distribution channels. It is essential that market development strategies are based on products that meet the needs of the new market. **Product development** is a growth strategy that aims to introduce new products into existing markets. A successful product development strategy places emphasis on research and development and innovation as the strategy typically involves mastering new processes or technologies that are unfamiliar to the company. **Diversification** is a growth strategy that aims to introduce new products into new markets and is intrinsically a riskier strategy.

The practice of Ansoff's Growth Matrix helps explore the scope of the company's portfolio and its potential for future growth.

1.7.6 Valuation Method - The Discounted Cash Flow model (DCF-model)

When a company is to be valued, several methods can be applied to arrive at an estimated value. For this thesis, the discounted cash flow is applied, which is a present value valuation approach where the methodology is to estimate the intrinsic value of a firm based on projections of the future free cash flow of a firm and the discount factor which reflects risk in the cash flow and the time value of money. The Weighted Average Cost of Capital (WACC) will be applied as the discount factor. The different value

approaches are theoretically equivalent as they are based on the same inputs and therefore yield identical value estimates (Petersen et al., 2017).

The WACC is a combination of the required rate of return on equity and debt. This approach has, in practice, become heavily used as it has a consistency aligned with the goal of long-term value creation. Furthermore, the model manages to capture several factors in a straightforward manner which could affect the value of the company (Yao, et al., 2005)

Factors as the discount rate and future cash flows are affected by the financial environment. However, they are mostly treated as constant or as a random variable which is estimated by past statistical data (Yao, et al., 2005). In practice, subjectivity will often occur. Likewise, to minimize the uncertainties and biases, the data is determined by using educated guesses based on thorough strategic analysis.

The model is based on the residual cash flow that has met all operating expenses and taxes, prior the debt payments, at the Weighted average cost of capital. The formula of the calculation is as follows:

$$Value\ of\ Firm = \sum_{t=1}^{t=n} \frac{CF\ to\ Firm_t}{(1 + WACC)^t}$$

Where

$CF\ to\ firm_t$ is the expected cash flow to firm in period t

$WACC$ is the Weighted Average Cost of Capital.

When applying the discounted cash flow valuation model, it should be noted that it is essential to secure that no technical errors in estimating the discount rate should occur. The importance of not mismatching the cash flow and the discount rate – using both real and nominal values – is crucial as these mistakes can result in severe errors and estimate an incorrect belief of the value of the firm. It is essential to ensure that the discount rate is consistent with the riskiness and the type of cash flow which is being discounted here included that the currency is similar and that the cash flows are discounted in nominal cash flows why he discount rate should be so as well.

The cost of equity in the discounted cash flow model should be estimated higher for riskier investments and lower for investments with lower risk. Regarding the risk-free rate, Damodaran states that for an investment to be risk free, it should fulfil the criteria of having no default risk and no reinvestment risk (Damodaran, A).

An advantage of applying the valuation model is that it is based on the required rate of return on equity and debt, which takes the risk into account (ibid). Furthermore, the model is able to account for the time value of money and does not depend on the accounting policies of the company. However, it should be noted that the terminal value takes up a significant fraction of the total estimated value of the firm and that the terminal value is situated in the distant future why the value estimate is characterized by more uncertainty. Due to subjectivity in the budgeting and the parameters found, it should be added that the model is no better than the values that are inserted.

1.7.7 Valuation Method - The Economic Value-Added model (EVA-model)

The Economic Value-Added model estimates a value which is constructed through a combination of the initial invested capital and the present value of all future EVAs. The formula for the EVA-model is as follows:

$$Enterprise\ value_0 = Invested\ capital_0 + \sum_{t=1}^{\infty} \frac{EVA}{(1+WACC)^t}$$

Where

$$EVA_t = (NOPAT_t - WACC) * Invested\ Capital_{t-1}$$

It should be noted that the model uses the initial invested capital and not the invested capital of t=1. The enterprise value is the present value of all the future EVA's why higher EVA's and a low WACC affect the firm value positively.

The model can be used to gain knowledge of whether the firm is traded below or above the company's book value of invested capital. If the yielded market value which is above the book value of the invested capital, it can be concluded that the firm would have a positive present value of EVA. Opposite, a negative present value of EVA would signal a below-traded company (Petersen et al., 2017: 311).
The value of the EVA model should be equivalent to the Discounted Cash Flow valuation model as they are based on the same inputs and therefore yield identical value estimates.

1.7.8 Valuation Method – Relative valuation approach (Multiples)

To supplement the present value approach a relative valuation approach – multiple analysis – will be conducted. A valuation based on multiples relies on the relative pricing of peers' earnings why a peer group for the company in question must be selected. This valuation approach is popular among practitioners due to its low level of complexity and the speed by which a valuation can be performed.

Furthermore, this approach is less resource-intensive compared with a relative valuation approach (Petersen et al., 2017: 317).

However, a thorough valuation based on multiples can be rather complicated and time consuming. It can be challenging to select a peer group the company can be completely comparable to as the companies can differ in many ways as e.g. different expected EBITDA margins, growth rates and profitability. Moreover, different accounting policies lead to different financial statements why such comparison may introduce noise in the valuation (Petersen et al., 2017: 325).

Part 2

Company presentation

2 Company presentation

2.1. The History of Lego

Lego was founded in 1932 in Billund by Ole Kirk Christiansen, a Danish carpenter who wanted to extend his business by including a line of hand-carved wooden toys. The company name is a contraction of two Danish words "Leg Godt" meaning "Play well". In Latin, the name Lego means "I assemble" which the founder claimed was purely a coincidence rather than intentional when choosing the name.

The belief that desolate times results in parents' desire to cheer their child was an insight which sustained the livelihood of Lego through the great depression and the global recession. The products produced by Ole Kirk was of high quality and bright colors as he believed in the philosophy that good play is a cornerstone of enrichment to the creative life of a child. This philosophy is still embraced in the organization today and aims to inspire and develop the builders of tomorrow (Robertson & Breen, 2013).

In 1942 a fire destroyed the toy factory including the inventory and blueprint for new toys. Despite the setbacks, Ole Kirk managed to rebuild his company in the sense of obligation towards his employees. New construction was built, which was a larger and more modern factory. Furthermore, the company was converted to a limited private toy manufacturing corporation named "Legetøjsfabrikken Lego Billund A/S".

"*Only the best is good enough*" is a cornerstone of how Lego produces and operates, and this motto aims to summon all Lego employees towards exceptional performance. In 1945 the concept of the Lego system was born. The idea of offering a comprehensive toy system appeared due to a demand in the industry as the industry was dominated by one-off toys. In 1946, Lego was the first in Denmark to buy a plastic injection-molding machine for toy production and therefore proceeded to start producing plastic equivalents of the wooden toys that the company had successfully produced for years as the company. The stud-and-tube coupling system that is seen in the Lego bricks today was invented and in 1955 Lego managed to provide building blocks correlated with the idea of "Lego System of play" as they were part of an integrated toy system. The building blocks held the most promise regarding an integrated system why the company chose to focus on these solely. It was now possible for the consumer to purchase different Lego sets with the knowledge of these being part of an integrated system why the bricks would fit together. Lego had secured that when a child assembled two bricks, they would stick with a satisfying sound due to the brick being produced using acrylonitrile butadiene

styrene (ABS). The significance of the system of play was its elasticity which allows a great amount of innovation with a very tight amount of constraint. In the continuing years, Lego experienced steady growth and sales and appeared as very successful. The year of 1955 was also when Lego's first real export of the company began with the first country being Sweden (LEGO.com, A).

Lego initially applied for a patent over the plastic brick in Denmark in 1958, but the company was quick to see the significance of international patent protection. The most important feature of the brick was, and is still, the stud-and-tube coupling system which allows stable construction with relatively easy disassembly. Subsequent utility patents were granted over various new elements in the Lego system, and Lego developed large scale patent portfolios in countries where it marketed its products. The patent system provided the company with a monopolistic control, which changed when the international portfolio of patents began expiring in the late 1970s and early 1980s. A number of competitors sought to take advantage of the installed user base of Lego users by producing competing bricks that were compatible with the ones of Lego (Hunter & Thomas, 2016).

In early 2003 the Lego empire began to crack as they were struggling to keep revenue at a satisfying level due to decreasing sales. Furthermore, Lego experienced Christmas sales, which is the most important season for the company, below forecasted expectations. Big retailers of toys such as Walmart and Target experienced a backlog of unsold Lego products. In 2004 Lego had a loss of DKK 1,931 billion, which had the consequence of disposing of several activities and a greater focus upon costs (Borsen.dk). The near bankruptcy resulted in Lego appointing a new CEO, Jørgen Knudstorp, who had the main task to staunch the bleeding.

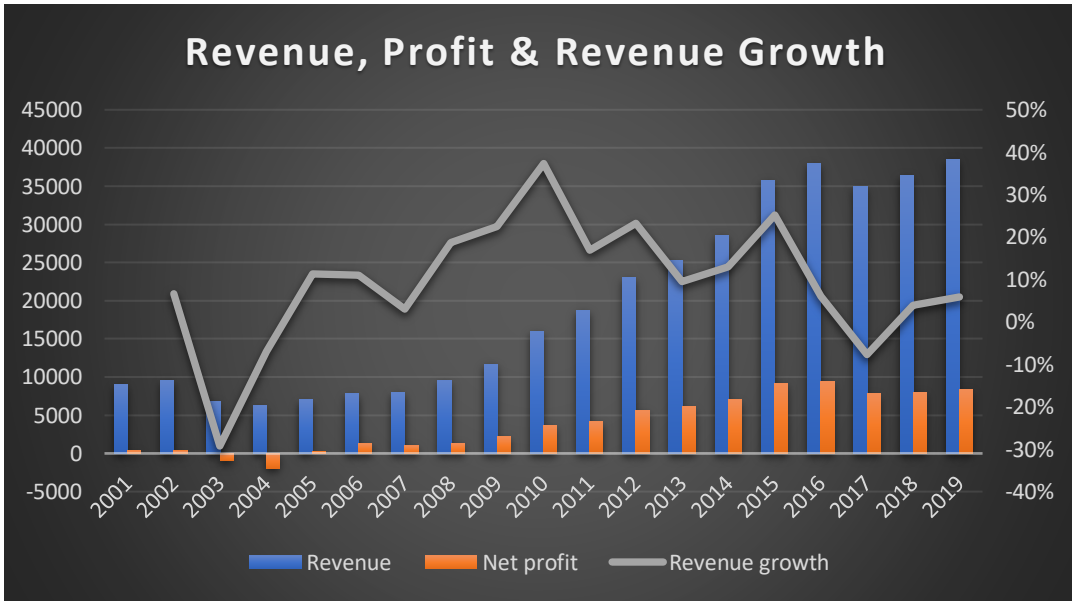
The problems identified by Mr. Knudstorp was that the company's designers and their developers chronically failed to grasp the business consequences of their actions as well as managers acting poorly regarding allocating responsibility as well as carrying out decisions. The accountability in Lego was very low, and the general knowledge and control of investments were lacking.

These finding resulted in Knudstorp establishing several phases and adopting new ways of working. In the first phase by Mr. Knudstorp, he adopted a strict focus upon cash. Furthermore, he focused on selling off the peripheral business, such as the theme park Legoland and videogames. Mr. Knudstorp also focused on cutting the number of Lego parts produced. In the second phase, the focus was upon productivity and identity, why a significant amount of Lego's production was moved to Hungary and Mexico. These initiatives were essential to secure the survival of Lego in the upcoming years. One of the reasons Mexico and East Europe was chosen to outsource to was due to their close location to Lego's essential markets as the aim was to have a fast and effective distribution.

Instead of having an in-house production, Lego chose to collaborate with Flextronics, which would have the responsibility for the production. The strategy of outsourcing was aiming to change a selection of their fixed costs to variables by outsourcing to low-income countries (Godske, 2008). The collaboration ended in 2009 due to Lego needing more flexibility in their production chain, which was cheaper to achieve within the walls of the company (LEGO.com, B). Lego bought the production plant from Flextronics and continued to produce by collaborating with smaller companies instead.

As Lego continued to increase, their challenges changed. In 2012 the issue was regarding respondence to growth rates which was handled by establishing a circular management team which met once a month. The aim was to allow the Lego's supply chain to develop further as it expanded into new areas (Milne, 2016).

In 2017, just a few years after the big turnaround for Lego, once again the company was profoundly challenged and pressured on sales and net earnings as seen in graph 2.1 below (Jasper & Nielsen, 2018).



Graph 2.1: Own creation – Lego Annual reports

Due to the unsatisfying level, the company focused on establishing sustained growth on a long term from 2018. The decreasing revenue in 2017 of 8% is explained as a result of a cleanup process in inventories. Another aim for Lego due to decreasing sales and net earnings was to adopt a smaller and simpler organization which would be more aligned with the need of the consumers of today. Furthermore, this initiative had the consequence of Lego, reducing their number of employees by 8 per cent, which approximately would be 1,400 employees to lay off. The efforts mentioned helped secure

better conditions for Lego and the company committed to continuing to invest in amazing products, improved operation and global marketing (Bitsch, 2018).

Knudstorp stepped down from his position as CEO in 2017 and has been succeeded with the present CEO of Lego is Niels B. Christiansen.

Today Lego faces new challenges as the outbreak of the COVID-19 is affecting economies around the world. The COVID-19 is forcing companies to throttle down or temporarily shut assembly and manufacturing plants in the U.S. and Europe and has disrupted the global supply chains (Haren & Simchi-Levi, 2020). A temporary shutdown of Lego's factory in China and several offices across China has been the result of COVID-19 (Flittner, 2020).

Today Lego sells its products in more than 140 countries and have more than 570 stores around the world. In response to the Coronavirus outbreak, Lego has closed all its branded stores around the world, excluding the stores in China (Buttler, 2020).

2.2 Markets

Lego is a highly international company that sells its products in more than 140 countries through retailers, branded stores, and e-commerce. The revenue split of the company is shown in the table below.

	2014	2015	2016	2017	2018	2019
Western Europe	37.7%	36.2%	36.5%	35.7%	35.8%	34.9%
North America	31.3%	33.2%	32.1%	30.3%	30.0%	29.7%
Asia Pacific	11.9%	12.6%	13.5%	14.5%	15.8%	17.3%
Latin America	4.7%	4.2%	3.5%	3.8%	3.6%	3.7%
Eastern Europe	9.9%	8.7%	9.1%	9.9%	9.1%	9.0%
Middle East & Africa	1.9%	2.3%	2.6%	3.2%	3.2%	3.2%
Australasia	2.7%	2.7%	2.8%	2.7%	2.4%	2.3%

Table 2.1: Own creation – Euromonitor

Western Europe and North America are the most revenue generating market for Lego but the Asian Pacific market is making up a larger share of the revenue of the company. This is primarily due to the double-digit growth in the Chinese market in the past 5 years as Lego has made several investments in the markets which will be elaborated further in part 3 (LEGO Annual Reports).

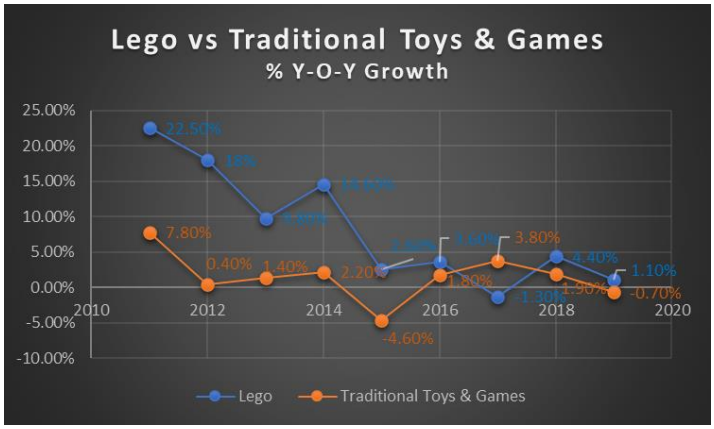
Table 2.2 illustrates the revenue growth in Lego's markets which indicates a high growth in Asia Pacific and a stagnating growth in its largest markets, Western Europe and North America.

Growth in markets	2015	2016	2017	2018	2019
Western Europe	20.4%	6.8%	-9.7%	4.3%	3.1%
North America	33.0%	2.4%	-12.9%	3.0%	5.1%
Asia Pacific	32.2%	13.7%	-0.6%	12.7%	16.1%
Latin America	12.8%	-12.1%	-0.4%	0.9%	6.7%
Eastern Europe	11.1%	10.0%	0.4%	-3.9%	4.3%
Middle East & Africa	52.0%	20.3%	11.4%	5.6%	3.2%
Australasia	25.2%	7.2%	-11.2%	-5.5%	-0.2%

Table 2.2: Own creation - Euromonitor

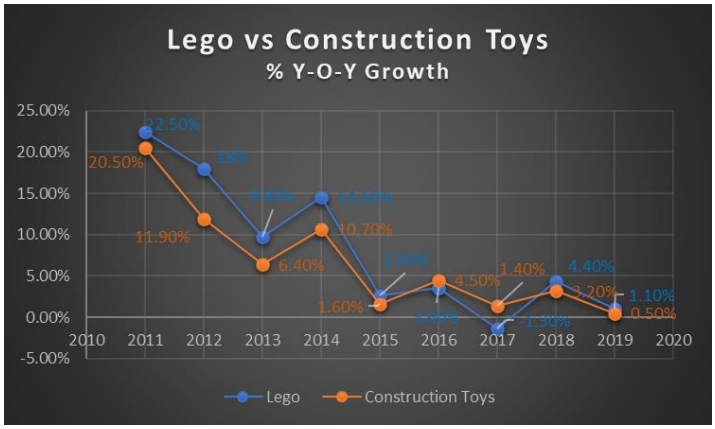
As mentioned, sales decreased in 2017 as a result of a cleanup process in inventories, but this was also the year one of the biggest toy retailers Toys R Us filed for bankruptcy and announced that it would close all its stores in the United States which roiled the toy industry. The wind down of the retailer was a major blow to the toymakers (Isidore, Wattles & Kvilanz, 2018). The landscape of the toy retail has changed dramatically as eCommerce toy sales have increased significantly (The eCommerce Toy Story, 2019).

As Lego distributes its products to more than 140 countries, the company prefers to have their production near their markets and has five production factories around the world. The most recent factory officially opened in 2016 in Jiaxing, China and produces around 80 percent of all Lego products sold in Asia. Lego also has factories in Denmark, Check Republic and as previously mentioned, Hungary and Mexico (LEGO.com, C).



Graph 2.2: Own creation – Euromonitor

Lego is operating in the industry of traditional toys and games, and as previously mentioned, the company appears as a market leader in the category of construction toys with a market share of 65.1%. In graph 2.2 above, the year to year growth of Lego and the industry is shown where it appears as Lego through the years has performed better or similar to the industry. In graph 2.3, the year to year growth of Lego and the category of construction toys is shown. It can be concluded that Lego is performing at a level similar to the category and in several years slightly higher thus it must be noted that Lego has more than 60 % of the market shares, why they are a main driver of the market.



Graph 2.3: Own creation – Euromonitor

2.3 Products

Lego has built its product portfolio to a wide span of products targeted to people from the age of 18 months and above. Although Lego products can be used by consumers of all ages, the company's core business offerings are "*fun and engaging play materials of the highest quality and safety for children*" (LEGO Company Profile).

The Lego bricks are not just a toy for children but are today used by many adults, including Google managers who use them as an element of their Mensa level hiring tests (Robertson & Breen, 2013). Lego has a much cult-like devotion which has never been experienced before except for Apple.

The product portfolio includes physical products based on the traditional plastic brick and sets which include compatible elements such as mini-figures, motors, sensors etc. Lego also offers digital products, including video games and apps for phones and tablets which are compatible with selected products (LEGO Company Profile).

Lego also offers licensed products based on movies and TV series including Star Wars, Marvel superheroes and Harry Potter.

Lego Theme is a line of themed construction sets which provide storytelling settings that children can immerse themselves into and further shape their own stories around. These themes can be Lego owned themes or themes based on licensed products.

Lego Duplo is a product range designed for consumers in the age of 18 months to 5 years. Duplo bricks are twice the size of the traditional Lego brick which prevents kids from swallowing the toys making Duplo bricks safe to play with for the young consumers. Although the Duplo brick is twice the size of the traditional brick, they are still interchangeable due to the compatible stud-and-tube coupling system. Duplo has been part of Lego's product portfolio for many years and is thought to evolve children's' skills and encourage their imagination and curiosity.

Lego Classic is aimed at consumers from the age of 4 to 99 years. Classic offers sets consisting of basic Lego elements but without the instruction manuals which are featured in most other Lego sets. The collections contain ideas to help the consumer to get started but aim to develop creativity, and only the imagination sets the boundary.

Lego Friends was introduced in 2012 and is primarily aimed at girls from the age of 5 to 12 years, as a study conducted by the company reported a low number of female consumers. Lego wanted to reach the other 50 pct. of the world's children why the product launch became their most prominent in a decade spending $40mn to market the line (Jackson, 2012).

Lego also has a broad line of licensed products which also are themed sets and are built around well-known characters and stories including Star Wars, Jurassic Park, Marvel superheroes, Harry Potter, amongst others. Licensed theme sets have been an excellent success for Lego but are also highly used by competitors.

Lego Advanced includes Lego Mindstorms, Lego Technic, Lego Architecture and Lego Creator Expert aimed at consumers in the age of 7+, 10+, 12+ and 16+, respectively. Lego Advanced provides a challenge for the more experienced Lego builders and therefore require more skills and time to assemble than other brick sets (LEGO Company Profile).

Lego Technic is inspired by vehicles from the real world and includes realistic, working features why it is aimed at older kids and adults. Lego Mindstorms enables the consumer to build and program the behavior of robots with mechanical systems which can be controlled by voice and phones through the

Robot Commander app. Lego Architecture offers iconic buildings from around the world in micro-scale designed by architect Adam Reed Tucker. In contrast, Lego Creator Expert provides the ultimate building challenge as the sets feature advanced building techniques and large piece counts. The sets are full of decorative elements and intricate and authentic details which make an impressive display piece that takes hours to build aimed at adolescents and older consumers.

Lego Education products are aimed at teachers and students in preschool, elementary and middle school. Lego Education provides a variety of hands-on STEAM solutions with standard-aligned lessons that are adaptable to the needs of the students across all ages and abilities. It can be used to educate in a wide range of subjects from humanities to science, to enable every student to succeed by encouraging active and collaborative learners (ibid).

Digital offerings by Lego include computer and console games which combines the open-ended play of Lego toys with the excitement of video gaming. The games immerse players in stories featuring characters from blockbuster movies and other Lego themes including Star Wars, Lego Movie, Marvel Superheroes amongst others. None of the video games is created or owned by Lego itself but by a third party, TT Games. Lego has increasingly incorporated apps with the physical play of Lego bricks including their movie maker app where the consumer can build their own movie set of Lego bricks and record their own movie, edit, and share it. An app is also created for Lego Duplo amongst many others.

Lego products are more expensive than its direct competitors which are due to the higher quality of their products (Espiner, 2018). The average price of Lego bricks is estimated to be 10.4 cents for example a 3,803-piece Lego Death Star set cost around $400, which amounts to a piece-price of 10,5 cents (Capriola, 2019). Lego is therefore considered to be sold at a premium price, which will be elaborated in part 3.

2.4 Ownership

LEGO Group is a privately held company which is still owned by the Kirk Kristiansen family, who founded it in 1932.

LEGO Group is owned by KIRKBY A/S and LEGO Foundation, which owns 75 % and 25 %, respectively. KIRKBY A/S is a holding and investment company which is owned by the Kirk Kristiansen family, also known as the LEGO group owner family. To ensure an active and engaged family ownership, the family has one person in each generation who takes the role as the most active owner who will, on behalf of

the whole family, be close to the LEGO Group and other entities in the LEGO Family. Thomas Kirk Kristiansen assumed this role in the fourth generation in 2016 (Kirkby.com).

The LEGO Group owner family is actively engaged in the LEGO Foundation and has chosen to transfer ownership of 25 % of the Group to the LEGO Foundation which is how the foundation fund their activities (Legofoundation.com).

2.5 Competitors

Lego operates in the traditional toys and games industry with its main competitors being Hasbro and Mattel (Euromonitor, LEGO in Toys and Games).

Hasbro is a global toy company based in Pawtucket, Rhode Island. The company was founded in 1923 and is today the owner of a strong Hasbro-owned portfolio as well as a strong license branded portfolio. The Hasbro-owned portfolio includes brands such as G.I. Joe, Play-Doh, Transformers, My Little Pony and Power Rangers while the licensed brand portfolio includes partnerships with Walt Disney's Star Wars, Marvel and Frozen and DreamWorks features. As of 2019, the company has more than 2,000 licensees (HASBROa).

The majority of the company's sales are to large chain stores and e-retailers, and in 2019, net revenues from Hasbro's top five customers accounted for approx. 38 % of the consolidated global net revenues. The biggest customers, Wal-Mart Stores, Target Corporation and Amazon.com, represented 18 %, 9 % and 8 %, respectively, of total global net revenues and accounted for approx. 59 % of net revenues in the North American Region alone (ibid).

Hasbro has since 2017 been the leading company in the industry of traditional toys and games followed closely by Mattel and Lego (Euromonitor).

Mattel is a global toy company based in El Segundo, California. The company was founded in 1945 and is today the owner of a strong portfolio of childrens' and family entertainment franchises as Mattel's products are among the most widely recognized toy products in the world. Their portfolio includes Mattel-owned brands such as Barbie, Fisher-Price and American Girl but also contains licensed partner branded toys based on Walt Disney, Warner Bros. movies, Nickelodeon characters and the popular Minecraft video game amongst others. Mattel's mission is to "*create innovative products and experiences that inspire, entertain, and develop children through play"* (MATTELa).

Mattel's products are mainly sold through retailers, and a small number of customers account for a large share of the company's net sales. In 2019, the two largest customers, Walmart and Target, accounted for approx. 32 % of net sales and its ten largest customers accounted for approx. 49 % of net sales. The company also sells through their own online retail channels and is looking to build a more extensive e-commerce and direct-to-consumer business (ibid).

Mattel has for years been the leading company in the traditional toys and games industry but lost its leading position in 2017 to competitor Hasbro. Today, the company is the second-largest company in the industry, right before Lego.

Mattel is assessed to be Lego's largest competitor, given the companies significant market overlap (Euromonitor, LEGO in Toys and Games). In 2014, the company acquired Mega Brands which produces its own building toys Mega Bloks which are known as the larger, less expensive toddler-friendly version of Lego bricks. Mega Bloks are the biggest challenger to Lego in the construction-toy market (Townsend & Dmitrieva, 2014). Hasbro and Mattel both operate in the category of construction toys where Mattel has a market share of 4.0% whereas Hasbro has a market share of 0.6% (Euromonitor).

Part 3

Strategic analysis

3 Strategic Analysis

This part of the thesis will include the strategic analysis which has the purpose of analyzing Lego's internal and external environment within which it operates. The analysis will correlate and serve as a foundation for the budgeting and forecasting in a later part of the thesis.

3.1 External strategic analysis

The external strategic analysis explores the factors which impact Lego's operations and which are out of the company's control. This analysis will cover the macro environment through a PESTEL analysis and will cover the meso environment through a Porter's Five Forces which will cover the industry environment including its competitive structure, competitive position, and dynamics. This will help to identify the opportunities and threats for Lego.

3.1.1 PESTEL Analysis

The external strategic analysis explores the factors which impact Lego's operations and which are out of the company's control. This analysis will cover the macro-environment through a PESTEL analysis and will include the meso environment through a Porter's Five Forces which will cover the industry environment, including its competitive structure, competitive position, and dynamics. This will help to identify the opportunities and threats for Lego.

3.1.1 PESTEL Analysis

This analysis will explore the factors on a macro-environmental level, which affect Lego and the industry within which it operates. The primary focus in this analysis will be on the Western European market, the North American market, as well as the Asia Pacific, specifically China, as these markets, generates the main part of Lego's revenue.

3.1.1.1 Political

The toy industry is profoundly affected by the political environment as this influence strategic and operational decisions as well as a company's earning opportunities.

No-Deal Brexit

Since the United Kingdom voted 52%-48% in 2016 to quit the EU, there have been many uncertainties regarding the future political relationship and its effects. The UK left the EU on January 31, 2020. However, as the government in the UK passed the EU Withdrawal Agreement Bill at the end of 2019, the UK has entered a transition period until December 31, 2020, unless the UK asks for an extension by July 1, 2020. Until then, the UK will remain in the EU's customs union and single market until the end

of the transition period. The priority for both parties is to negotiate a free trade agreement that will form the future economic relationship, with the objective being zero-quota, zero-tariff trade in goods. This has shown to be challenging as several Brexit deals by former Prime Minister Theresa May have been voted down. If an agreement cannot be agreed upon with the EU, then the UK will default to the World Trade Organization (WTO) terms which would mean tariffs on goods and border checks. A no-deal Brexit will cause severe disruption in trading relationships and have serious logistical and economic consequences (Henley & O'Carrol, 2020).

The toy industry in the UK has three years in a row, seen a decline in sales, allegedly because of politics has affected consumer confidence. Predicting a return to growth is difficult due to the future relationship between the UK and the EU (Peachey, 2020).

The UK is the fourth largest revenue-driving country for Lego, why the future trade relationship between the UK and EU is essential for the company (Euromonitor, LEGO in Toys and Games). The Brexit vote in 2016 caused a sharp devaluation of the British pound why Lego raised wholesale prices by 5 % (Thomas, 2019). A no-deal Brexit can be expected to affect Lego as tariffs will be imposed increasing the price of Legos further, which can result in decreasing revenues.

China-U.S. Trade War

The trade war between the two largest economies, the United States and China have weighted on the global economy while uncertainties about the future continue, as tariffs have been imposed on several imported goods. In 2019, the Trump administration announced to impose a 15 pct. tariff on toys imports from China which has created much uncertainty about the future of the toys and games industry as it is expected to lead to higher consumer price which can destroy the industry (Miller, 2019). The tariffs on Chinese imports have been delayed in the declaration of a preliminary trade agreement which is a deal in principle meaning that the Trump administration has the ability to re-implement tariffs if China breaks any part of the agreement (Hutchins, 2019).

The increasing uncertainty has led toy manufacturers seeking to move their production out of China to other Asian countries to avoid future tariffs to keep consumer prices low as they are not able to absorb cost increases and would have to raise prices. In terms of production standards, China is way above other Asian countries, as suppliers have been trained to meet rigorous American and European safety standards, why it can be challenging to find suppliers in other countries. Competitor Hasbro produces two-thirds of goods sold in the American market in China, why they are aiming to reduce this to half by the end of 2020, as they are expected to be affected significantly (Swanson, 2019). Mattel is expected to be affected marginally by tariff implementation, while smaller manufacturers can expect a major

effect (Muller, 2018). Lego, on the other hand, has minimum exposure to China, as it only represented 1 % of its U.S. imports in 2019, protecting them from any future tariffs on imported goods from China to the American market (Rogers, 2020). The main part of products sold in the North American market is produced in Mexico.

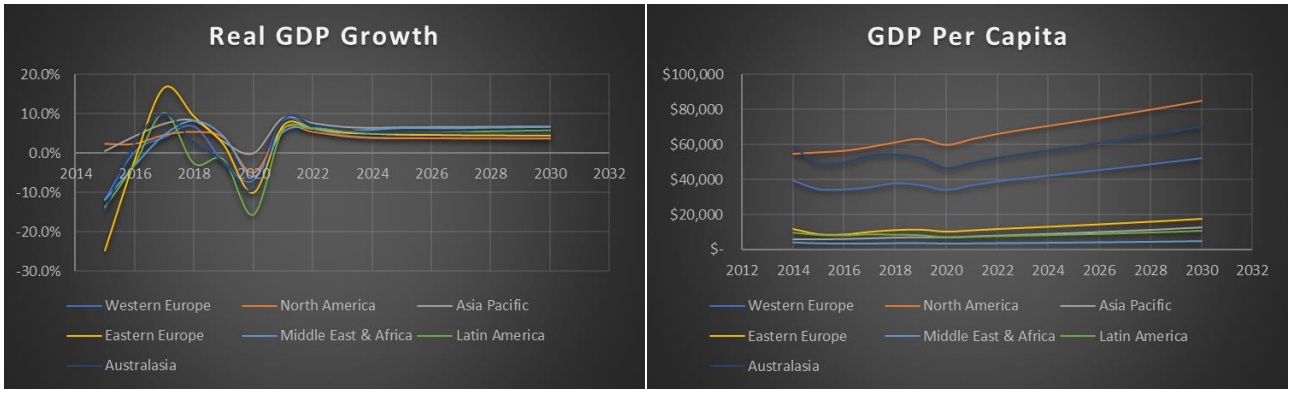
3.1.1.2 Economic

Economic growth

As previously mentioned, Lego products are considered expensive quality toys and toys, in general, are not considered a necessity. When customers are economically pressed, it can be assumed that they would seek to buy cheaper alternatives, or they would restrain from buying the products at all. The economic growth is therefore considered important for the future expectations for the demand for toys and games.

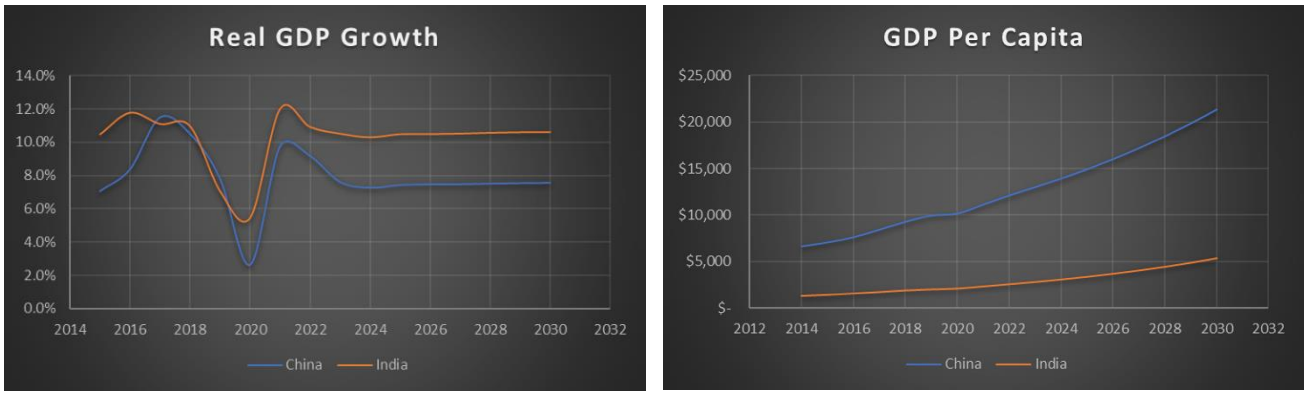
Lego has previously proven that they are able to sustain increasing sales despite the economic crisis, e.g. their increasing sales despite the financial crisis in 2008, however, economic growth can reveal new growth opportunities for Lego.

The graph below illustrates an expected decrease in the GDP growth in all regions due to the COVID-19. The Asia Pacific is expected to decrease the least as large markets such as China and India are expected to grow 2,6 % and 5,5 %, respectively, as seen in graph 3.2 below. The prospects for growth of real GDP from the year 2022-2030 are highest for Asia Pacific, Middle East, and Africa, as these regions' real GDP growth is expected to be around 7 % and 6 %, respectively.



Graph 3.1: Own creation – Euromonitor

North America and Western Europe are among the regions with the highest GDP per capita. In contrast, the Asia Pacific and the Middle East and Africa are among the regions with the lowest GDP per capita. These are however expected to increase at a higher rate than North America and Western Europe.



Graph 3.2: Own creation – Euromonitor

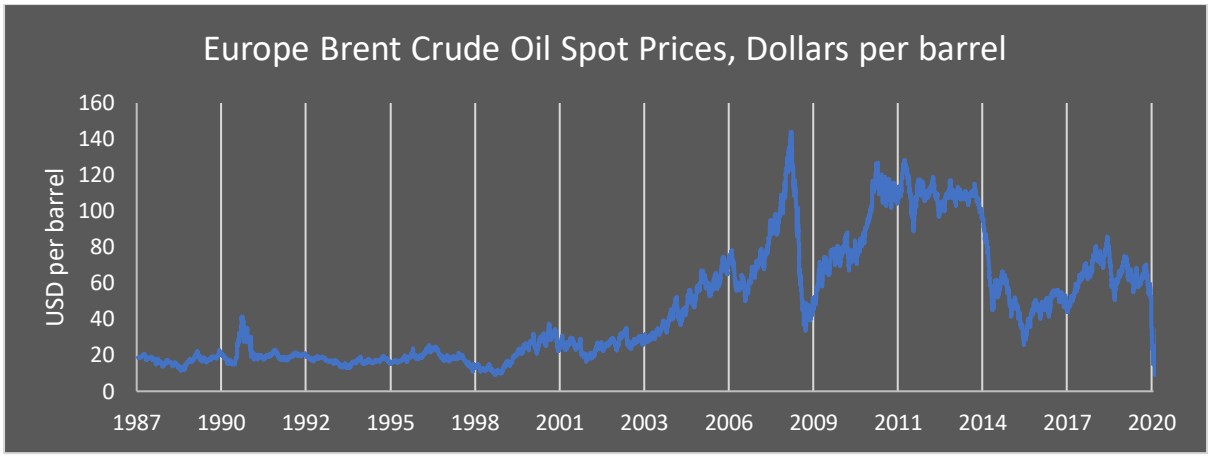
China and India are amongst the markets with the highest expectations for growth in both real GDP growth and growth in GDP per capita. These markets are expected to increase approx. 7.5 % and 10 %, respectively.

Raw materials

Since 1963, LEGO bricks have been made of acrylonitrile butadiene styrene (ABS) which is a fossil fuel-based plastic. The plastic has a high carbon footprint as it takes about two kilograms of crude oil to produce one kilogram of ABS, of which 90 pct. of Lego pieces consists of (George & McKay, 2018). In 2017, Lego used around 90,000 tons of plastic resin which all came from fossil fuel-based raw material, to produce about 70bn Lego pieces (Oelbaum, 2018).

In 2019, 98 % of Lego's plastic granulates were fossil fuel based, containing large quantities of oil, why it is the most important raw material for the company. The price of oil is therefore not without importance for Lego, as profitability can be affected through increasing expenses in respect of raw materials, energy and transportation which furthermore can influence the pricing of the toys (Schrøder, 2010).

The price of oil is a highly volatile commodity, as seen in the graph below. Crude oil prices are determined by global supply and demand with the economic growth as one of the most significant factors affecting the demand (eiv.gov).



Graph 3.3: Own creation – eiv.gov

Using the plastic consumption of 2017 as a benchmark, it would require 180,000 tons of crude oil to produce 90,000 tons of plastic granulates which the company consumed that year. One ton of crude oil is equivalent to about 7.2 barrels and a barrel weighs approximately 138.9 kg (Dahiya, 2015). To produce 90,000 tons of plastic material it would require 1,295,896 barrels of crude oil (180,000 tons/ ~ 138.9 kg). Every dollar price change on a barrel of crude oil would, therefore, change the cost by ~ DKK 8.5mn [1]. Based hereof, the oil prices are considered a risk factor for Lego, as the price of plastic is highly dependent on the volatile oil prices.

Foreign exchange risk

Although Lego's presentation currency is the Danish Krone most of the company's activities and investments are denoted in other currencies why there is a substantial risk of exchange rate fluctuations having an impact on the reported cash flow and profits/losses. Lego seeks to eliminate some of the risks by using derivatives such as forward contract and options to hedge currency exposure (LEGOa).

Lego does not need to hedge Euro positions as Denmark conducts a fixed exchange rate policy against the Euro, meaning that the value of the Danish Krone is kept stable against the Euro (Nationalbanken.dk). Lego hedges currencies of forecast transactions, cash flow hedging, for a period of 12 months with the USD as the most hedged currency followed by GBP, CAD, CNY, AUD, JPY, and others (LEGOa).

Interest rate risk

[1] Yearly average exchange rate in 2017: 659.5303 (Nationalbanken.dk, A)

The interest rate risk of Lego is considered immaterial and is not expected to have a significant impact on the company's results. An increase in the interest level of 1 pct. point would have had a positive effect on the LEGO Group's profit for the year of approx. DKK 28.5 million in 2019 (LEGOa).

3.1.1.3 Sociocultural

The influence of children

A study released in 2018 which focused on kids' role in American spending emphasized that their role has become more significant than in earlier years. 76 pct. of the parents in the study believed that their kids have an influence when it comes to family purchases. Furthermore, the research conducted that this influence is especially significant when the household has only one child (Dahl, 2018). When the child favors a brand, they will often argue and make a case for the purchase. Their voice is listened to in the household, why they have a higher saying in household purchases. Children are influenced highly through digital platforms as they spend an increasing amount of time with electronic gadgets while they have become more financially savvy (ibid).

A similar study has been made for European children, where it appears that 98 percent of children are involved in the purchase decisions of the household. The areas where children have significant influence are purchases of toys, fashion, and activities. The more considerable influence is a result of parent and children having a relationship which is closer than generations have had before. Furthermore, parents today have greater trust in their children and often ask their childrens' opinion regarding purchases. The study conducts that 6 out of 10 children gets pocket money why their spending power is more significant (Taylor, 2015).

Lego is mainly targeting children in the age of 1-15 why the study above is of considerable significance to the company (Pratap, 2019). To grow the knowledge of Lego, the company is using social media channels such as YouTube, Instagram and Facebook. Their desired goal by using these platforms is to target their audience as well as to inform and inspire these (Handley, 2018).

The use of plastic in toys

Parents today have become more strongminded towards limiting the purchase of plastic toys. The alternative that parents instead seeks to buy is environmentally friendly toys such as wood toys as these can be recycled (Settembre, 2019). Cheaply produced plastic toys might include a vast amount of lead content which is a danger for children. In 2018 the US Consumer product safety commission recalled more than 30.000 toys due to lead contamination.

In 2015 Lego allocated resources to research on the production of sustainable Lego bricks. Furthermore, the company has committed to, by the year 2030, only to produce Lego bricks of durable plastic from materials such as wood or sugar cone. The initiative taken is to replace the fossil fuel-based products with toys made from sustainable plastic (Ritzau, 2020). Today the company only produces 2 % of their toys with environmentally friendly materials.

Changes in demography

As mentioned earlier, Lego is operating worldwide why the development of demography on their operating markets is an essential factor for future earnings. A study estimating the future world demographic development, by the year of 2030, has been conducted by Euromonitor which reveals that the population in the age of 0-14 will represent 24 % of the future global population by 2030. The population in the age of 15-64 will represent 64.2 %.

The largest community will be in the age range of 0-23 years old and equal approximately 3.2 billion people, thus 37,6% of the global population in 2030 (Euromonitor, The World in 2030).

As mentioned earlier, the GDP development is of importance for Lego. The combination of GDP per capita and the growth of the population aged 0-14 years gives an indicator of market potentials in the future.

A slight decrease will occur in the number of children between 0-14 thus the regions with the most extensive distribution will continue to be Asia Pacific, Middle East and Africa and Latin America. The development indicates which market would be the largest though it is essential to consider that in some regions, the GDP per capita is low. Eastern Europe, Western Europe, and North America have smaller expected populations though these regions have a high GDP per capita which is vital to note.

Lifestyle changes, increased urbanization, access to contraception and female labour participation has contributed to an overall drop in the global fertility rate. The fertility rate varies depending on the region where the Middle East & Africa has a rate of 3.9 children per female. In the European areas and Australasia, the level of fertility is of 1,7 children per female, which is the lowest rate expected. In the Asia Pacific, the fertility rate is currently 2.1 children born per female which is expected to decrease to 1.9 children born per female by 2030 (Euromonitor, The World in 2030).

It is expected that the United States of America will become the 3rd most populated country in the world as it will reach 354 million by 2030. The population of the age 0-14 will represent 17,7% of the total population, whereas the most populous age rage will be in the range 23-45. The fertility rate is expected to stay at 1.9 children per female in the years 2017-2030 (Euromonitor, USA in 2030).

In 2030, both India and China are expected to populate a significant number of children, although the young population is expected to decrease from 2015-2030. GDP per capita for these countries is low but is expected to increase gradually why they are of potential value for Lego.
China is expected to be the 2nd most populated country as the population is expected to be 1.4 billion by 2030 and will, therefore be home to 17 % of the world's total population. In 2018 the fertility rate was 1.1 children per female which is expected to increase to 1.2 children born per female in 2030. (Euromonitor, China in 2030).

STEAM

STEAM is short for Science, Technology, Engineering, Art and Mathematics and is highly demanded by parents to stimulate new skills and competencies (Kestenbaum, 2020). STEAM toys can be used in different context and can benefit children in many ways as playing with the toys can educate the child to develop perseverance, teach collaboration and to improve skills (Thegeniusofplay.org).

Lego offers products focusing on STEAM for early learning, in both primary and secondary school. The focus is to prepare the children in early education to build their social skills and begin their STEAM journey early on. Their primary Lego STEAM products focus on improving the children's collaboration, problem-solving skills and communication. Lastly, the secondary STEAM Lego products focus on helping the children develop critical thinking skills and to expand their creativity (LEGO.com, D).
The increase in demand for STEAM toys is, therefore seen as an opportunity for Lego.

3.1.1.4 Technology

Digitalization and product life cycles

The digitalization influences the way people play, why it has been necessary for the industry of traditional toys and games to adapt to the change and incorporate and offer digital and physical play in their portfolio and products.
Interactive toys have become increasingly popular as these products are able to bridge the gap between real life and toys (MarketLine, Global Toys & Games). Digital and video games are becoming more

attractive and are taking customers away from traditional toys and games why technology has become more important than ever to incorporate in traditional toys.

Lego offers products which integrate the use of apps to continue further play after the Lego model has been building. In 2019 Lego launched LEGO Hidden Side, which is a combination of a creative building toy, AR game and a tech toy. The Lego product allows the children to first built a model, then use an interactive augmented reality app to and trap the ghosts in their build model. This product intends to create a bridge between the physical and virtual play (LEGO.com, E). Furthermore, Lego offers Lego Boost, which is a product portfolio enabling children to build models which include motors and sensors. After building the models, it is possible by coding to bring the models to live.

The company is highly focused on continuing to offer innovative ways to combine their products with the trends of the market as well as provide new ways to play (LEGOa: 4).
Innovation is essential for Lego, and new products are launched every year and consist of approximately 60% of its portfolio (LEGOa: 8). The need for innovation is a consequence of the industry being affected by short product life cycles and seasonality.

Media, especially YouTube, has become a source for innovation in toys. As mentioned above, children tend to spend more time on devices why platforms as YouTube indicates the firm of what the children prefer and like in regard to toys (Kestenbaum, 2020).
These platforms are used for product development and have increased the intense competition. Furthermore, the competition is intense on these platforms due to electronic entertainment and games, which is sharpening the need for innovation. Today, children spend
more time on phones and the internet than before. A survey conducted about children under the age of 14 in the UK reveals that they spent an average of 3 hours and 18 minutes a day on electronic devices (Donnelly, 2019).
Lego has met the market changes and has integrated LEGO play which includes digital games, apps and voice-based intelligent home assistant to offer a range of digital experiences as well
(LEGOa: 6).

Data driven design and Ecommerce

Factors that are important for future innovation is data-driven design. Access to real-time data and advanced data analysis is one important key factor (Danskdesigncenter.dk). Data which can be collected to gain further knowledge on consumer preferences can be the amount of time the customer spends

playing with the toy and similar data on sales of different product. This data reveals information about new trends and consumer preferences which are essential in a seasonal industry as the toy industry. The toy retail market is profoundly reshaped by the digitalization as well as the growth of e-commerce. The customers are asking for new experiences from new channels, involving an increased brand experience in physical stores as well as convenience and value online. (LEGOa: 6). Lego has, in their work to achieve the demand, made a significant investment in their retail ecosystem, where they upgraded their e-commerce platform LEGO.com. Furthermore, Lego opened 150 new branded stores in 2019, including flagship stores, to offer the customers a different experience which included personalized Minifigures and self-portraits, which was made from Lego bricks (ibid).

3.1.1.5 Environmental

Contribution to the environment

Toys are often made from plastic or metal which harms the environment as they are not clean to produce. A reason trend towards producing more environmentally friendly products appear as mentioned earlier where new substitutes to produce plastic is in focus.

The fight against environmental destruction and climate crisis has also left its mark on the toy industry. Even children in kindergarten are receptive to topics of environmental awareness and sustainability. Pressure from customers is growing, and the toy industry is in the process of reacting (Brechlin, 2019). Lego is committed to contributing to a more sustainable future and making a positive impact. As mentioned, the company aims to use durable materials in their core products and packaging by the year 2030. The products and packaging will change to include recycling or sustainable bio-based material for all the current plastic-based packaging. Lego aims to make all packaging sustainable by the year 2025 (Pflum, 2019). In 2018 the company launched a sustainable brick that was made from plant-based plastic and has committed to replacing all their bricks to a more environmentally friendly plastic instead e.g. plastic from sugar cone. In August 2019 Lego launched a new Lego set which contained 180 elements which were made according to their environmental aims.

In 2018 Lego joined the How2recycle in the US initiative which helps with guidance and encouragement on how to label their packaging to show the customers how to recycle it. The organization aims to reduce confusion by creating a nationally recognized label (Workman, 2018).

In 2017 Lego achieved its target on renewable energy through investments in wind power which is now used as an energy source in the production of Lego bricks. The energy used for the production is now balanced by the production of renewable energy (Workman, 2018).

Furthermore, Lego extended its partnership with the World Wildlife Fund for nature in 2017. They extended the collaboration as a part of their effort to continue to act on climate change and to reduce carbon dioxide emissions in the production and supply chain activities (ibid).

Signatory to the UN Global Compact and sustainability report

As mention earlier, society is demanding greener solutions and less increase in carbon dioxide. The toy industry, therefore, faces the challenge of a change in production methods and materials they are using.

In 2003 Lego, as the first toy manufacturer joined the UN Global Compact. The firm signalled to its customers, competitors and shareholders that it had a desire to meet the social responsibility in the field of environment, labour standards, anti-corruption and human rights (UN Global Compact, 2005). Lego releases a sustainability report each year informing about their targets and development areas concerning children, employees and the environment. Another report is likewise conducted which inform of the global footprint the company has on the environment and the targets they have set to minimize their influence.

The environmental goals that Lego reached in 2019 were to start their project on phasing out the plastic bags to the alternative of a paper bag. Lego recycled 93% of their waste and continues to be 100% balances by renewable energy (LEGO.com, G).

Lego has initiated a new program Lego replay in the United Stated where the customer can return their used Lego brick to Lego that will donate these to children's non-profits in the united states (LEGO.com, H). The program was established on behalf of putting the Lego bricks to use again as studies show that most of the customers do not throw their Lego bricks away but instead, keep these for an extended period.

3.1.1.6 Legal

Toy Safety Laws

The toy industry is amongst one of the most regulated industries in the world, and toy safety is the industry's number one priority. Different legislations are enforced by various governments to protect children. The regulations profoundly influence the strategic and operational decision as well as earning opportunities since toy manufacturers' credibility, and reputation depend on the commitment to toy safety (Toyindustries.eu). Not complying with legislation can result in product recall as well as the ban of products which can potentially lead to substantial costs, interruption of the supply chain affecting

players across the manufacturing spectrum as well as disruption and damage to reputation, especially in a highly seasonal industry (Ni et al., 2016). As an announcement of a recalled toy can change customers' perception of the brand and damage brand loyalty, customers may purchase replacements from toy competitors while distributors may reduce future orders from the toy manufacturer, leading to reduced revenues further resulting to reduced stock price. Research also shows that toy recall announcements with a more significant hazard have a more substantial market reaction (ibid).

The European and North American toy safety regulations especially have an impact on LEGO, as these are their most important markets. The European Union legislation aims to ensure that toys meet safety requirements that are amongst the strictest in the world, especially in relation to the use of chemicals in toys (ec.europa.eu, B). All toys intended to be sold in the EU to children by the age of 14 and under, regardless of where they are manufactured, must comply with EU legislation. Toys must comply with the demands in the Toy Safety Directive and hold technical documentation and declaration of conformity. The toy must further carry a CE marking[2], warnings, user instructions, amongst other requirements (Toy Safety Directive). All toys sold in the United States must comply with safety requirements of Standard Consumer Safety Specification for Toy Safety (ASTM F963) which incorporates relevant safety measures required under federal law as well as additional guidelines (ASTM.org).

Bisphenol A (BPA), which is a chemical used to harden plastic, has since 2008 made headlines due to the possible health risks, including increased risk of cancer and disruptive normal hormone levels and development in babies and children, amongst others (webmd.com). In 2010, the National Board of Food and Agriculture introduced a national ban on BPA in products in contact with food, specifically aimed at 0-3 years old. This led to LEGO fearing for their DUPLO line which contained BPA as it was an important revenue driver for the company, but the toys complied with the EU Toy Safety Directive's migration limit, which has since further been restricted (Sundhedsguiden.dk).

The most important thing for LEGO is that children can play safely why the company is working towards a zero-product recall policy. LEGO toys are tested by independent laboratories to meet or exceed all toy safety laws in the 140 countries where their toys are sold. In 2009, LEGO recalled a remote control due to danger for overheating after batteries were inserted, which has been their most recent product recall. The impact on the recall was limited, as only 997 units were sold, and no injuries have occurred

[2] A CE marking is a manufacturer's declaration that a toy satisfies the essential safety requirements.

(LEGO.com, F). However, as stated, product recalls can be very costly in terms of financial results and reputation. It is, therefore, a high priority of LEGO's to comply with toy safety laws. Lego has an advantage in securing their standards as they have in-house production, maintaining a high quality.

Intellectual property rights

Trade in counterfeit goods has risen steadily in recent years although overall trade volumes of legitimate goods stagnated over the past few years and now stands at 3.3 % of global trade. Globally, the toy industry is the eighth industry most hit by counterfeiting and is an increasing problem. A recent report by the OECD and the EU's Intellectual Property Office states that the imported counterfeited goods valued at $509bn in 2016. In contrast, the toy industry accounted for 3 % hereof, amounting a value of $15bn globally (oecd.org).

In 2018, EU custom borders detained counterfeit goods worth €738mn measured by the manufacturer's suggested retail price (MSRP) of the legitimate good. China was the overall leading country of provenance for products suspected of violating IPR arriving in the EU, as the country accounted for 50 % of all goods detained by EU customs closely followed by Hong Kong which accounted for 9 % (European Commission, 2019). The European Union Intellectual Property Office estimates that €1.4bn of revenue is annually lost by the toys and games sector due to counterfeiting products (euipo.europa.eu). In 2018, toys were the second largest category for detained articles due to violation of intellectual property rights (IPR) in the EU and accounted for 14,2 % of the total articles seized. EU customs detained 26.7mn articles which amounted to 3.8mn counterfeited toys being seized equivalent to a retail value of almost €26mn (European Commission, 2019).
In 2018, the United States seized goods worth of $1.4bn MRSP whereas over 85 % of the goods seized arrived from China and Hong Kong. Toys accounted for only 1 % of the total value equivalent to a value of nearly $11mn measured in MSRP (Homeland Security, 2020).

Counterfeits pose a severe threat to human health and safety as well as diminishing the reputations, trustworthiness, and revenues of toy manufacturers. As counterfeit goods unfairly compete with legitimate products, it reduces the incentive to innovate (thetoyassociation.org). In January 2020, President Donald Trump signed an executive order aimed at preventing e-commerce websites from selling counterfeit goods from abroad in the U.S. as the digital commerce sites must ensure that the goods they sell are safe and legal in order to protect consumers and IPR holders amongst others (Reuters, 2020).

The 'Directive on the Enforcement of Intellectual Property Rights' (IPRED) exists to prevent infringements of IPR in the EU. It is evaluated by the European Commission to further improve the application and enforcement of IPRs (ec.europe.eu, C).

As previously mentioned, Lego's international portfolio of utility patens over the stud-and-tube coupling system began expiring in the late 1970s and early 1980s, increasing the number of competitors producing competing brick systems. LEGO has especially felt the increasing competition from the 'Mega Bloks' which were initially jumbo bricks designed for infants, decided to produce Lego-sized blocks. The company is very cautious about their intellectual property right and have for years tried to police them and fight competitors whom they see as copying the stud-and-tube coupling in order to gain as much control as possible over their business. LEGO had their three-dimensional 2x4 shaped brick registered as an EU trademark in 1999 which was objected by Mega Brands, maker of Mega Bloks, due to violation of trademark law. The European Court of Justice (ECJ) ruled in 2010 that the eight-stud bricks did not qualify for a trademark as the blocks served a functional purpose and therefore not qualify for trademarking the design of the Lego brick (Farrell, 2010).
The expiry of the brick patents led to the rise of thematically linked sets shifted part of their intellectual property control from bricks to the control of sets and themes and investing heavily in its trademarks and branding portfolio (Hunter & Thomas, 2016).

As mentioned, LEGO has, in recent years, increased their presence in the Chinese market to establish higher brand affinity as it is still comparatively low. It can be expected that Lego products and brand will grow in popularity, which will fuel the growth of counterfeiting and put further pressure on legal activities.
In 2018, the State Administration for Market Regulation announced to fight against the manufacture and sale of counterfeit goods, and as of January 1, 2019, a comprehensive e-commerce law took effect. The law aimed to discourage counterfeiting in China through more massive fines and placing more responsibility on digital platforms to remove sellers of counterfeited goods. Platform operators are furthermore jointly liable with the merchants for selling counterfeit goods whereas individual merchants previously were liable. The law aims to help clean up the reputation as major source of counterfeit goods and protect intellectual property rights (Soo, 2019).

Intellectual property protection in China is a significant concern for foreign businesses. As Chinese firms focus on global expansion abroad, they have increasingly demanded sufficient IP protection from the government. China has refined its laws and regulation on IPR by increasing the cost of IPR infringement.

Trademark laws have strengthened its law enforcement on IPR infringement by increasing damages to protect IPR in their rulings as well as increasing damage awards as average damages awarded for patent infringement have increased more than three-fold (Weightman, 2018).

As China has made efforts to increase its reputation for strong and effective intellectual property protection, LEGO can expect stronger protection in the market. LEGO sees China as having shown protecting its brand as the company, in 2017, won a landmark copyright case against Chinese company Bela that manufactured and sold toys almost identical to the LEGO Friends line. This was the first time that Lego had succeeded in a copyright competition case in China supported by an earlier ruling that recognized the LEGO name and logo as "well-known" trademarks in China improving their position to act against infringement of its trademarks (bbc.com, 2017). The Chinese authorities further demonstrated their efforts to protect intellectual property rights as the Guangzhou Yuexiu District Court in 2018 ruled in favor of LEGO in intellectual property infringement lawsuit against local companies copying 18 Lego sets that have been found protectable by the court. In 2019, the Chinese police, uncovered counterfeit Lego as they seized 630,000 completed pieces worth more than $30mn (bbc.com, 2019).

Sub conclusion

The scope of this analysis was to conduct an analysis of Lego's macro environment providing an overview of its external environment. It was found that the possibility of a no-deal Brexit can become a significant threat to Lego as the UK is the fourth largest revenue-driving country for the company. The toy industry in the UK has seen decline in sales, allegedly because of politics affecting consumer confidence. The China-U.S. trade war represent a big threat to the toys and games industry as the Trump administration announced to impose a 15 pct. tariff on toys imports from China. Lego however has minimum exposure to China, as it only represents 1 % of its U.S. imports. The outbreak of COVID - 19 has had a significant impact on the global economy why real GDP is expected to decrease significantly posing a threat to Lego's revenue. Additionally, is has been found that Lego is highly dependent on fluctuating oil prices as 98 % of Lego's plastic granulates are fossil fuel based. The demand for environmentally friendly toys has increased why Lego aims to use 100 % sustainable materials by 2030 why they are expected to be less exposed to the fluctuation oil prices. The changes in demographics are a great opportunity for Lego as children increasingly are involved in the purchase decision of the household especially when it comes to purchases of toys and activities. Demographics in China is furthermore of significant weight as the country is expected to populate a significant number

of children while the GDP per capita is expected to grow. Demand for STEAM toys is increasing which is an advantage for Lego as they already offer a range of STEAM products. Increasing digitalization furthermore affect the expectations for Lego as this puts a continuous pressure on the company to be highly innovative. Lastly, counterfeited toys have become an increasing threat to Lego, with China as producing most counterfeited toys. New legislation in China is expected to hit hard on manufacturing and selling of counterfeit toys protecting Lego products from being counterfeited.

3.1.2 Porters Five forces

The meso environment is explored through a Porter's Five forces analysis as it identifies the competitive forces that shape an industry.

3.1.2.1 Threats from new entrants

The industry of traditional toys and games consists of several barriers for new entrants, including supply-side economics of scale, capital requirements, unequal access to distribution channels and restrictive government policies to prevent accessible entrance to the industry.

The industry of traditional toys and games consists of a few big competitors and a substantial number of smaller competitors – This will be elaborated on in section 3.2.1.5 – which suggests economies of scale for the most prominent players in the industry, including Lego. Through the economics of scale, the companies can produce or purchase large volumes while keeping costs at a lower level per unit.

It will be possible for new entrants to enter the industry on a small scale by focusing on a niche market or the latest digital toy trends. The challenge for these entrants would be to compete with already established brands on the market as they have gained a vital size, market share and acknowledge in the industry which has accordingly secured those advantageous positions and benefits from economic of scale (MarketLine, Global Toys & Games). The economics of scale in the industry forces the new entrants to either focus on above-mentioned markets or to enter on a large scale which would either require dislodging entrenched competitors or the acceptance of a cost disadvantage (Porter, 2008).

New entrants should be prepared for relatively high fixed costs when entering this industry. Costs regarding sales and storage spaces are among these. When a new entrant enters the market, they should have a high amount of capital as they would need a production space, equipment, warehouse, materials, working capital and licenses and registration. As the industry is highly seasonal storage space

is highly important in order to supply the retailers and consumers with toys when it is demanded. It is therefore highly costly to enter and produce toys in the industry, which becomes a barrier towards new entrants (Hill, 2018).

Companies with high market shares and well-established reputation and brand can negotiate for better contracts and conditions which is favorable for the companies' margins and shelf space in the retail stores (MarketLine, Global Toys & Games). New entrants will experience hard conditions when negotiating access to shelf space and prices, which might result in less visibility and lower margins. Retailers are profound to favor brands and organizations which are likely to generate a sale why the uncertainty of a new brand is creating uncertainty concerning sales (Williams, 2018). Beside traditional brick and mortar retailers, internet retailing of toys is becoming more predominant. Amazon and eBay are among the most prominent internet retailers and generates a high volume of sales why it can be challenging for new entrants to negotiate favorable contracts. The industry is, however, facing the direct-to-consumer revolution as the way consumers makes purchases has changed. Manufacturers are interacting and communicating with the consumers, which can be challenging for new entrants to compete with if they have not established a brand and have less opportunity for visibility (Mörs, 2020).

As previously mentioned, the toy industry heavily contains legislation and politics regarding toy safety and chemicals. There are numerous requirements to be fulfilled for a toy to be allowed to be sold in different markets which as safety test and certain certificates. The consequences for not complying with the legislation can be severe why new entrants might find it tough to enter the industry.

When it comes to traditional toys and games, the consumers have low switching costs as these toys often are one-off toys. This imposes an opportunity for new entrants, although low switching costs make it challenging to keep loyal consumers as it is easy for consumers to switch products occasionally. The level of product differentiation in the industry is high why it can be difficult for new entrants to compete with already well-established brands (MarketLine, Global Toys & Games).

Social media has become a popular source of advertising and have resulted in toys becoming extremely popular thus, no likelihood of being a hit. This channel is cheaper than other options why for new entrants it would be easier to advertise and become known through these. Furthermore, influencers on YouTube and other social media platforms are attractive advertising platforms. The influencers have a high range of followers, and therefore they can generate a significant impact (MarketLine, Global Toys & Games). A recent trend of unboxing has tremendous potential as YouTubers, or influencers unbox packages they receive and give their honest opinions on the matter. It would be essential for new

entrants to send packages or pay for advertising among these. However, they should be aware of the quality, price and functionality of their products as the influencers are very honest in opinion as some only have children as their targets why they can be more careful in their recommendations (Kestenbaum, 2019). Children are vital in introducing their parent to new toys why the new entrants must be advertising among these. Furthermore, it has been found that parents are informed about new toys through advertising, exclusive offers/ discount sales, recommendation with online search being predominant. It can, therefore, be concluded that is not only essential to advertise among the children but also towards the parents (Statista.com, A).

The threat of new entrants is primarily driven by counterfeiters and retailers entering the industry. As previously mentioned in the PESTEL analysis, Counterfeit toys are new entrants who are a severe threat to the toy industry. The toys often contain chemicals and are not produced or aligned with the safety standards set in the markets (Trecul, 2020). The big retailers of toys can become a substantial threat to the existing companies in the industry as they have the means and channels to distribute their products on a wide range. Retailers Hamley's and The Entertainer are selling a range of own-branded toys and the interest from other retailers has increased (MarketLine, Global Toys and Games).

Based on the above, the threat of new entrant is assessed as moderate.

3.1.2.2 Buyer Power

The competition in the toy industry is heavily influenced by the fact that a small number of retailers account for a large portion of all toy sales. Such retailers sell various brands of toys, including retailers promoting private-label toys creating in-store competition among the brands (MATTELa). In 2018, Amazon held the lion's share of online toy sales representing 81 % of all US online transactions and is expecting to be the biggest toy retailer in the UK within the next five years (The eCommerce Toy Story, 2019).

As the big retailers purchase in volume, it provides them with negotiation leverage over the toy manufacturers. Competitors Mattel and Hasbro have until recently been operating under a 100 percent B2B business model relying heavily on retailers why the closure of massive retailers has represented a significant challenge for the manufacturers (etail.com). The manufacturers have, therefore created their own e-commerce platforms and adopted to direct-to-consumer model (ibid). Smaller manufacturers that rely more heavily on large retailers are more vulnerable to the market changes and are becoming more accessible targets for larger manufacturers.

Retailer Toys R Us has previously been a platform for small brands and allowed smaller toy manufacturers to be discovered. Since the bankruptcy of the retailer in 2017, smaller companies have been hard-pressed to get their toy lines into the remaining large market retailers who usually only carry the top few brands (Williams, 2018). Mattel, Hasbro, and Lego experienced a drop in sales after the bankruptcy of Toys R Us was announced in the U.S., proving the importance of the retailer. Lego, being one of the top brands and having a highly differentiated product, retailers cannot exchange it with similar products expecting similar sales, decreasing the retailers' negotiation power. The brand value of Lego and competitors ensure them some negotiation leverage as retailers want to offer the products that the consumers are demanding. The switching cost for the retailers can be expected to be low, as it is easy to buy toys from other manufacturers and as expenses related to constructing contracts and agency costs are considered to be low (MarketLine, Global Toys & Games).

The threat from retailers to integrate backwards and produce toys themselves have been increasing as retailers are promoting private-label toys alongside the branded toys, which improve their negotiation leverage. Retailers Hamley's and The Entertainer are selling a range of own-branded toys while Walmart has a variety of 1,000 toys that are exclusive to the retailer (MarketLine, Global Toys & Games). Toy manufacturers are focusing more on forward integration, mainly through online sales, which negate buyers' negotiation leverage. Lego is making significant investments in upgrading their e-commerce platform and expanding the number of brick and mortar stores. As of the end of 2019, Lego operated 570 branded stores around the world, opening almost 150 stores in 2019 alone (LEGOa). Lego has announced they will increase its total fleet by more than 25 % in 2020 as they plan to open 150 stores around the world in 2020, which will further protect them from blows like Toys R Us (Schoulberg, 2020). The upgrading of the e-commerce platforms is especially important in times of the COVID-19 as Lego has closed all its store outside of China, as previously mentioned. These investments result in Lego relying less on retailers decreasing their negation leverage against the company.

As the manufacturers are increasing their B2C sales, the end-consumers are identified as buyers. Their negotiation leverage is assessed to be low as the loss of any one buyer's custom is unlikely to have a significant effect on the revenue of the manufacturer. The standing of any individual customer is further diminished due to the sheer volume of potential customers while the high degree of differentiation in the toys market works against the buyer. There is a lack of switching cost amongst one-off toys which increases buyers' negotiation leverage. However, Lego is built on a System of Play, meaning the consumer can connect all their kits and create their own personal collection through generations. This increases the switching cost for the consumer as money spend on other toys will not add to an existing collection. Although being an inherently part of the childhood, toys are not an essential good as

consumers can forego them in times of financial adversity, increasing buyer power (MarketLine, Global Toys & Games).

Overall, buyer power is assessed as moderately high.

3.1.2.3 Supplier power

Sub-contractors are important suppliers for most toy manufacturers, primarily Chinese subcontractors, as the country accounts for over 70 % of world's total toy production (ibisworld.com). Competitor Mattel uses both in-house production as well as outsourcing, whereas Hasbro has outsourced all their production (Spencer, 2019).

After Lego insourced their production after a failed attempt of outsourcing, the company found that molding Lego bricks is a core competence and should not be handed over to a third-party. Previously, Lego had around 5 to 10 % of the company's total production outsourced to Chinese contract manufacturers which have been minimized since their establishment of the Chinese factory in 2016 (LEGO.com, C). The primary supply Lego needs is found to be plastic granules, which are highly controlled by the price of oil, as previously described. As of now, 98 % of Lego products are made of ABS plastic why the company is highly dependent on their ABS suppliers. The market for ABS plastic granules is in the presence of several players why the market is assessed as highly fragmented, decreasing supplier negotiation leverage (apnews.com). ABS is an undifferentiated raw material why switching costs of suppliers are generally low. The suppliers do not provide a credible threat for integrating forward into the toy industry, decreasing the supplier power. Additionally, Lego has invested highly in developing a sustainable substitute for ABS, making them less dependent on the raw material.

The toy industry is fickle – some trends and brands can last a long time, but often they change rapidly. Connecting licensed properties to toys has become a key trend in the industry replicating characters associated with movies and tv shows. The manufacturers leverage from the popularity of the characters to increase toy sales (Kestenbaum, 2019). The licensed property business model has become increasingly crucial to Lego in order to stay relevant for consumers as they enhance product offerings and increases brand awareness. Licensing has helped the company to remain top of mind and has become highly dependent on licensing partnerships, increasing the negotiation leverage of the suppliers (Licenseglobal.com). As shown in the table below, several licensed products have been in the

top 5 most sold Lego products from 2015-2018, indicating the importance of licensing partnerships.

	2015	2016	2017	2018
1	Lego Disney Princess	Lego Star Wars	Lego City - Police Station	Lego City
2	Lego Star Wars	Lego Friends	Lego City - High Speed Chase	Lego Technic
3	Lego City	Lego Technic	Lego Star Wars - Millennium Falcon	Lego Star Wars
4	Lego Mindstorms	The Disney Series	Lego Star Wars - BB-8	Lego Friends
5	Lego Friends	Lego City	The Lego Batman Movie	Lego Ninjago

Table 3.1: Own creation – Euromonitor

The licensed entertainments are highly differentiated, increasing supplier power further. However, Lego is in a fortunate position that allows them to be selective and picking partnerships that are more relevant to their core consumers and values (Licenseglobal.com). As the operations of manufacturing new licensed toys differ slightly from the company's existing operations, the switching costs are assessed to be low.
Based on the above, the power of suppliers is assessed as moderate.

3.1.2.4 Threats from substitutes

The industry of traditional toys and games is affected by the threat of several different substitutes.

E-sport has become a significant threat towards the industry as gaming consoles are owned by more than 50% of children in Europe and America. This development aligns with previously mentioned trends towards the usage of more digitalization. Today, children have easier access to tablets and consoles, and also at an earlier age. Consequently, these substitutes result in declining demand for traditional toys and games. The threat of digital substitutes has resulted in Lego, focusing on modernizing their product portfolio by integrating physical and digital play (Euromonitor, Lego in Toys and Games).

The alternative of 'compound craziness' is also a threat to traditional toys. Slime, dough, and sand appear to have increased in popularity as it encourages children towards original thinking due to the products being shapeable. The creativity is, therefore, vital in these products and a threat to Lego (Kestenbaum, 2019).

Giving children new toys have been a core value for many families, whereas secondhand toys have been considered as tacky, cheap, or just inappropriate to give. In recent years secondhand toys have become an increasing trend due to growing environmental concerns. The demand for secondhand toys has increased due to its easy access through social media and due to change in how it is perceived.

These toys have become more acceptable to receive as new toys also are worn out easily due to the short product life cycle (McCormack, 2019).

The American consumers mostly buy secondhand toys from Amazon, eBay and Facebook, signalling the easy access as transactions are done through distribution channels which are well-known in society (Statista.com, B).

Lego has incorporated the System of Play in their organization which ensures that each brick of Legos can be put together and continue the play and creative thinking of children. If old Lego bricks are bought secondhand, the consumers would have no concern whether these would fit with already owned Lego sets. The threat of this trend is therefore significant to Lego hence second-hand does not generate new revenue. It should be noticed that the consequence of buying secondhand bricks is that there might be old brick which isn't aligned with the latest standards regarding production and chemicals why buying old bricks should be done with caution (Sandeman, 2018). Studies show that secondhand toys would fail the safety standards of today and that old Lego bricks are one of many plastic toys which could contain a dangerous level of chemicals. Especially bricks from the 70's and 80's are of risk, why parents should be aware of the risk when buying old bricks. Lego's target group is primary children why these would be of particular risk from the toxins and can result in a bad reputation for the company (ibid).

It is essential to mention that substitutes as experiences are a threat to the industry of traditional toys and games as well. Experience is seen upon as a new memory made together whereas a new toy might be forgotten after some time. The consumers, therefore, tend to value experiences such as going to the cinema, swimming etc. more than receiving or giving gifts. These substitutes are, therefore acknowledged as a threat (Kornerup, 2016).

Due to low switching costs for consumers and several substitutes, the threat is assessed as significant as new trends and products are appearing, which threatens the future revenue and attractivity of traditional toys and games. These substitutes are forcing traditional toys manufacturers to innovate and adapt their products towards more digital play and introduce a new way of playing.

Overall, the threat is assessed as high.

3.1.2.5 Rivalry among existing competitors

As previously mentioned, the traditional toys and games industry consists of a few big competitors and a substantial number of smaller competitors. In 2019, the three biggest competitors Hasbro, Mattel, and Lego, accounted for 28 % of the industry, while the biggest ten companies accounted for 40 % of

the industry's revenue. The three biggest competitors are noticeably more sizable than the competitors in the industry, which, according to Porter (2008) decreases the intensity of the rivalry.

Market shares, Traditional Toys and Games	2014	2015	2016	2017	2018	2019
Hasbro Inc	9.1%	9.7%	10.6%	10.4%	9.7%	10.5%
Mattel Inc	12.5%	12.3%	11.1%	10.0%	9.3%	9.2%
LEGO Group	7.6%	8.1%	8.2%	7.8%	8.0%	8.2%
MGA Entertainment Inc	1.2%	1.2%	1.2%	1.6%	2.6%	2.8%
Spin Master Ltd	1.2%	1.4%	1.6%	2.0%	2.1%	2.1%
VTech Holdings Ltd	1.5%	1.5%	1.8%	2.0%	2.0%	1.9%
Takara Tomy Co Ltd	1.6%	1.6%	1.9%	1.9%	2.0%	1.9%
BANDAI NAMCO Group	2.1%	1.8%	1.8%	1.5%	1.9%	1.4%
Hallmark Cards Inc	1.5%	1.6%	1.5%	1.4%	1.4%	1.4%
Geobra Brandstätter GmbH & Co KG	1.1%	1.0%	1.0%	1.1%	1.1%	1.0%

Table 3.2: Own creation – Euromonitor

Accumulated Market Shares	2014	2015	2016	2017	2018	2019
Top 3	29.2%	30.1%	29.9%	28.2%	27.0%	27.9%
Top 5	31.6%	32.7%	32.7%	31.8%	31.7%	32.8%
Top 10	39.4%	40.2%	40.7%	39.7%	40.1%	40.4%

Table 3.3: Own creation – Euromonitor

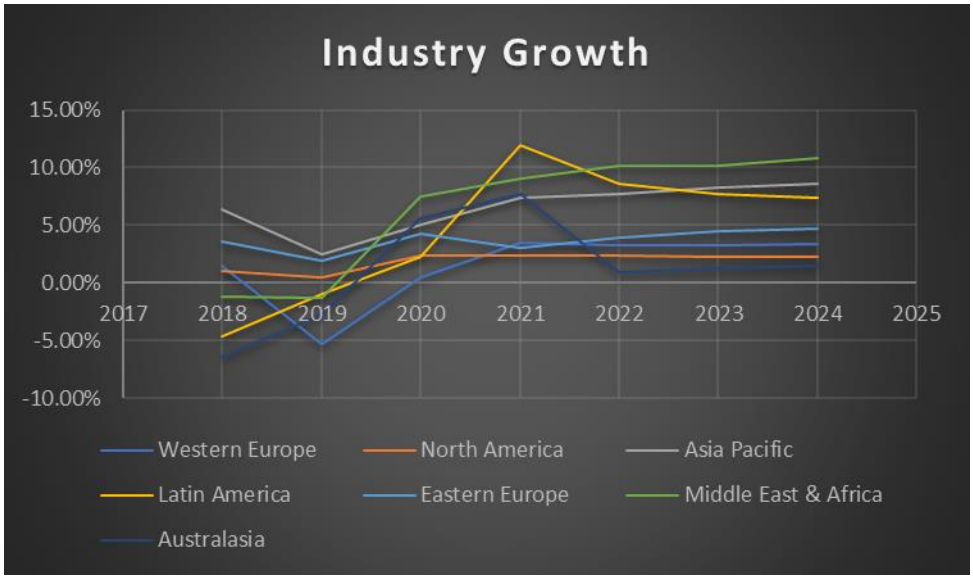
In 2017, market leader Hasbro made a takeover approach for rival Mattel, which was rejected by the company. Hasbro has approached to acquire Mattel on two other occasions in 1996 and 2015, whereas the deal was not materialized on either occasion (bnn.bloomberg.ca). With the bankruptcy of Toys R Us ravaging Mattel's revenues, it might be advantageous for the Mattel to accept an offer which will increase the competitive environment for Lego and other competitors in the industry (Bnn.bloomberg.ca).

As previously mentioned, Lego is also in the sub-industry of construction toys which consists of numerous rivals. However, it should be noted that Lego has a significant market share in this industry, as shown in the table below.

Market shares, Construction Toys	2014	2015	2016	2017	2018	2019
Lego	65.7%	66.3%	65.7%	64.0%	64.7%	65.1%
Mattel	6.0%	6.1%	5.7%	4.6%	4.1%	4.0%
BANDAI NAMCO Group	2.4%	2.2%	2.3%	2.3%	2.2%	2.4%
Spin Master Ltd	1.4%	1.4%	1.4%	1.4%	1.3%	1.3%
K'NEX Industries Ltd	1.5%	1.5%	1.3%	1.1%	1.0%	0.8%
Ravensburger AG		0.8%	0.8%	0.7%	0.7%	0.7%

Table 3.4: Own creation – Euromonitor

The global market for toys and games amounted to USD 224,7bn in 2019, whereas the global market for traditional toys and games amounted to USD 86.4bn. The market for traditional toys and games decreased by 1 % from 2018 to 2019, whereas Lego increased its revenue by 6 %. The global market for traditional toys and games industry is projected to grow at CAGR of 4.13 % during the forecast period 2020 to 2024 and is expected to have a market size of US$ 108.7bn by 2024 (Euromonitor). The growth in the industry varies greatly among geographical markets. The North American and Western European markets are witnessing slow growth, indicating that the markets are saturated. The CAGR for the North American and Western European markets is projected to be 1.85 % and 2.66 % respectively. The slow growth in the markets is primarily caused by the growing inclination towards smartphone games and prevalence of video games, and according to Porter (2008), slow growth precipitates competitors competing for existing market shares which intensifies the rivalry. The most prominent players in the industry have for years generated most of their revenue from the North America and Western Europe markets.



Graph 3.4: Own creation – Euromonitor

Emerging markets Asia Pacific, Latin America and the Middle East, have shown big growth opportunities and are projected to grow at the CAGR of 6.34 %. 7.04 % and 7.96 %, respectively. As shown in the graph, Asia Pacific is projected to be the biggest market for traditional toys and gifts by 2023. The Chinese industry of traditional toys and games is projected to grow at a CAGR of 8.5 % showing high potential (Euromonitor). In these markets, the competitors do not need to capture market shares from each other decreasing intensity of rivalry. This market has, in recent years, become of increasing importance for Lego as the market has taken a larger share of the overall company revenue. The company has made several investments in the market why the Chinese market has had double-digit

growth through the last five years. Furthermore, the category of construction toys is projected to grow at a CAGR of 5.53% by 2024 (Euromonitor).

The competitors' brands are highly differentiated, which, according to Porter (2008) indicates that price competition is less likely to occur and increases the profitability in the toy industry. The companies are competing highly on brand image, which improves customer value and support the higher prices in the industry. Lego has a highly recognized brand and has the highest brand value amongst its competitors, supporting the profitability of the company. As mentioned, many companies have counterfeited Lego products and sell them to a much lower price than offered by Lego. However, these products are looked upon as inferior due to the brand value of Lego and the increasing hazards connected to counterfeited toys. Therefore, brand image is a reason for the companies to be able to charge premium prices.

The exit barriers are assessed to be high due to the high investments required in capital and assets such as machinery and storage. This makes companies reluctant to leave the industry, although they may be earning low or negative returns which increase the rivalry among existing competitors.

As mentioned, the toy industry is highly fickle and is changing rapidly. Innovation and creativity are critical to the success of the companies and for staying relevant for the consumers. To remain relevant, the companies are continuously in the lookout for the right license partnerships as they have driven the revenue for several manufacturers. This increases the rivalry amongst existing competitors. As previously mentioned, Lego replaces 60 % of their product portfolio each year, and the company has integrated Lego Play into a wide range of digital experiences to stay relevant in the changing industry.

The overall rivalry among existing competitors is assessed to be moderate.

Sub conclusion

The scope of this analysis was to conduct an analysis of Lego's meso environment providing an overview of industry of traditional toys and games. It was found the threat from new entrants is assessed as moderate due to unequal access to distribution channels, restrictive government policies prevent accessible entrance to the industry, high fixed cost as a manufacturer but simultaneously high degree of differentiation entering the industry on a small scale by focusing on a niche market. The threat from buyers has increased in recent years due to the changing landscape of the toy retail market causing retailers to close. This has resulted in restricted access to distribution channels but due to Lego's continuous investments in Lego branded stores and e-commerce platform, the company is less vulnerable to such changes. The threat from buyers is however increasing as more retailers

manufacture their own-branded toys. Connecting licensed properties to toys has become a key trend in the industry as these help toy manufacturers to remain top of mind why Lego has become highly dependent on licensing partnerships. However, Lego is in a fortunate position that allows them to be selective and picking partnerships that are more relevant to their core consumers and values. Threats form substitutes pose a great thereat to the industry as children have increasingly easy access to electronic gadgets and as a consequence hereof the amount of attention paid to traditional toys and games is decreasing. Lego however has been capable of modernizing the traditional toys by integrating physical and digital play.

The industry of traditional toys and games is characterized as a few big competitors and a substantial number of smaller competitors decreasing the intensity of rivalry. The three biggest competitors Hasbro, Mattel, and Lego, account for 28 % of the industry. Lego is however the market leader in the sub-industry of construction toys posing 65.1 % of the market shares.

The global market for traditional toys and games is expected to grow at a CAGR of 4.13 % from 2020-2014 indicating potential for growth.

3.2 Internal Analysis

The microenvironment is explored through an organizations internal environment in order to assess its resources, competencies and competitive advantages. This will help to identify the strengths and weaknesses of Lego.

3.2.1 VRIO

For a resource to be determined as a sustainable competitive advantage, four factors must be fulfilled. The elements are whether the resource can meet the requirement of being valuable, rare, costly to imitate and if the company is able to capture the value of the resource. If all the criteria are fulfilled, the resource would have the possibility of providing a competitive advantage for the company.

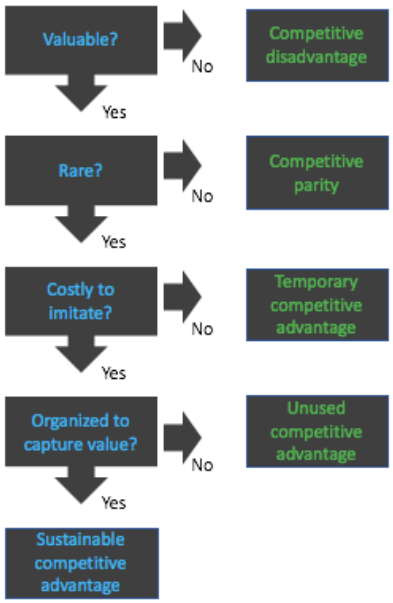


Figure 3.1: Own creation

3.2.1.1 System of Play

Before Lego introduced the System of Play in 1955, the company had a wide-spread portfolio of more than two hundred wooden and stand-alone plastic toys. As one-off products dominated the toy market, Lego focused on developing a cohesive system with interrelated toys with the Lego brick as its unifying element (Robertson & Breen, 2013). The System of Play involves that all Lego elements can fit together and can be used in multiple ways, given them the potential of being part of a larger whole. The system enables every Lego kit to be expandable as the customers can buy any Lego kit at one time and then combine that with another set at another time. The system opens nearly infinite possibilities as only six standard 4x2 Lego bricks can yield more than 915 million different combinations (Higgins, 2017).

Additionally, the system enables the user to derive play value from the single set itself but also adding play value by combining it with other sets because they can build more diverse things as their Lego collection increases.

Besides from a System of Play, it is also thought to be a business system as the expandable universe of toys have built familiarity and sense of community around the company which has enabled a cross-selling strategy. Cross-selling involves the sales of additional items related to a previously purchased item, e.g. a customer buying kit A but is also encouraged to buy kit B from Lego (Kamakura, 2008). The challenge in cross-selling is identifying the products the customer wants to buy next, and it is found that product ownership, and satisfaction hereof, is the single most valuable factor for predicting the customer's acquisition sequence (Knott, Hayes & Neslin, 2002).

Cross-selling is thought to be a valuable strategy for the customer development of Lego as there is a belief that it costs five times less to serve an existing customer than to acquire a new one. It can, therefore, be argued that the System of Play enables Lego to optimize their marketing efforts and lower marketing costs as existing products purchased by customers will encourage customers buying more products with less marketing efforts from the company. Cross-selling is also thought to lead to an increasing "share of mind" with the customers, and by broadening the scope of the relationship, cross-selling increases the actual and psychological costs of switching (Kamakura, 2008). The System of Play is therefore thought to improve the retention of Lego as it reduces the customers wanting to purchase other toys than Lego, which will generate more revenue for the company.

Moreover, the System of Play is thought to be a successful business system as it has shielded Lego from a highly changeable toy industry and rapid shifts in children's taste. As competitors continuously must identify the next "must-have" toys and retrofit their factories to produce something different, Lego only has had to change sets and themes while many of the components remain the same. As most components are compatible across different kits, Lego can reap cost savings from not having to change manufacturing operations dramatically as trends in the industry change (Robertson & Breen, 2013).

As previously mentioned, the System of Play is built on the notion that 'everything connects to everything else', which distinguishes Lego from its competitors. Several competitors have tried to turn to construction toys and produce stud-and-tube coupling but have not managed to create a system close to the one of Lego (Schmidt, 2015). Competitors have not been able to imitate the System of Play as it is thought to be hard to imitate due to historical conditions and social complexity. Lego is one of the only modern companies – let alone toy companies – that has designed a product meant to be

passed down from generation to generation as the System of Play enables bricks from the past to fit perfectly with bricks in the future. The customers are excited to pass their products down to the next generation, which builds a lifelong loyalty to Lego (Coleman, 2018).

As the System of Play integrates every Lego kit, it has created a Lego Universe that generates a unique building experience that fosters creativity and imagination. Firms and institutions from various industries use Lego products in areas such as education, talent development, design and creative problem solving, including Google, NASA, Coca-Cola, Toyota, and Unilever (Choi, 2015). The system has established a foundation for an ecosystem including extensive networks of users of all ages, parents, educators, retailers, licensing partners, and journalists. The ecosystem flows from the self-initiated activity of Lego enthusiasts sharing knowledge and inspiration, creating an innovation culture around Lego and the System of Play. Therefore, Lego is not perceived as 'just a toy' but can help to build a mindset that is creative, and willing to try out new things, making it hard for competitors to imitate the System of Play (Gauntlett, 2014).

The System of Play is one of the cornerstones of the company and is an important part of the success of the Lego brick. The process of developing the philosophy has helped the company obtaining a more precise direction for the company as its core focus is the Lego brick and System of Play. Godtfred Kirk Christiansen, the founder of the System of Play, said: "We will always make sure that all bricks – from yesterday, today and tomorrow – fit together" which is still a critical philosophy of the company (LEGO.com, I). The system has allowed Lego a great deal of innovation within a tight set of constraints enable them to balance tradition with innovation as the company has stayed relevant for several decades by associating itself with the most trendy movies and cultural phenomena (Coleman, 2018).

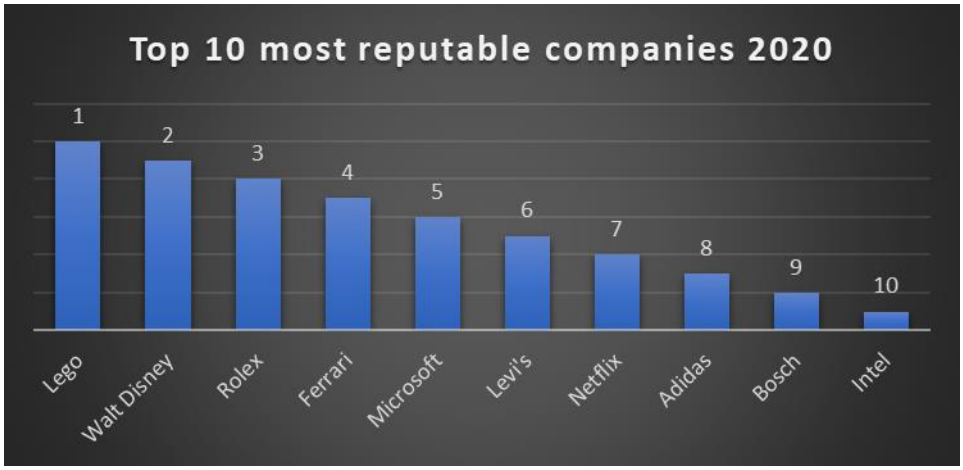
In 2002 Lego introduced the Galidor line that featured its own building system which omitted the brick. The line was gone from the shelves less than a year after its introduction as it did not fit with the System of Play philosophy and has been called Lego's "worst-selling" theme of all times (Robertson & Breen, 2013).

The System of Play is, therefore, the cornerstone of Lego which enables easy cross-selling, optimization of marketing costs as well as manufacturing cost and increasing play value for the user. As all four parameters are fulfilled, sustained competitive advantage is obtained from the System of Play.

3.2.1.2 The LEGO Brand

Two essential cornerstones of the Lego brand framework are their belief of children being the role models as well as only the best being good enough. The mission of the brand is to inspire and develop the builders of tomorrow, and the vision is to become a global force regarding learning through play (LEGO.com, J).

In 2020 Lego was recognized as the most highly regarded company in the world when it comes to company reputation by the Reputation Institute. The ranking is based on the reputation of the emotional appeal of the company and scores on factors such as Products & Services, Innovation, and Performance. Lego has achieved a robust perception over the last decade as the company has been rated among the top 10 most reputable companies in the world for 10 consecutive years (LEGO.com, K). Lego is effectively adapting and expanding its core products and can offer and meet customer expectations. Lego has become a top brand in the market of traditional toys for children and has improved the sustainability of its products. New trends in technology have been implemented in Lego products, and some sets now offer ways to play in real life and includes virtual reality.



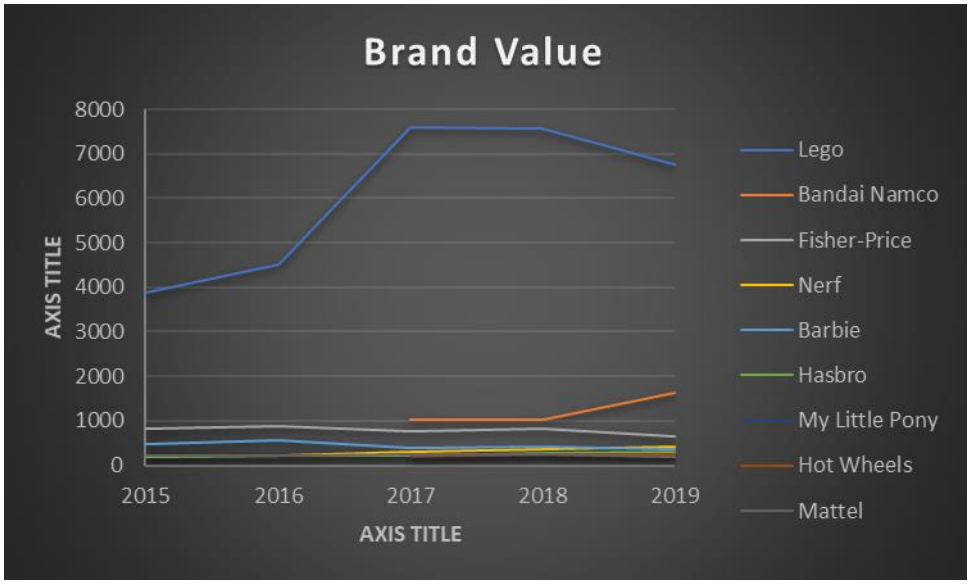
Graph 3.5: Own creation – Reputation Institute[3]

CEO of the Reputation Institute, Kylie Wright-Ford, explains Legos high ranking as following:

"… The LEGO Group is a shining example of how to do this purposefully and consistently. An iconic brand that nourishes its heritage, LEGO also innovates with a proven commitment to communities via educational programs and sustainability through the reinvention of their products" (LEGO.com, K).

[3] Reptrak.com

Even amongst the competitors in the traditional toys and games industry, Lego has secured a rarely high brand value which is several levels higher than its peers Hasbro and Mattel – See graph 3.6 below. The development through the years appears as comparable, but the level of the value of LEGO is extremely higher than its peers. This significant difference can be explained by the way LEGO is organized differently from its peers. LEGO has licenses on a contract basis, i.e. in a constraint time period providing them with flexibility with the themes and products they offer but still with the Lego brand in focus. Their peers, on the other hand, often buy trademarks and therefore have a portfolio with different brands providing them with less flexibility. Lego's focused brand strategy and global presence are thought to retain a competitive advantage in brand strength (Brandfinance.com). Lego is working highly on securing a high commitment between its brand and its consumers through initiatives such as Lego Ideas which allows users to submit ideas for new Lego products to be turned into potential sets available commercially. Furthermore, the Lego brand represents a clear history and a sound set of values that can meet the high requirements from its customers and its external environment. Customers perceive the Lego brand as highly differentiated providing them with a high company reputation (Interbrand.com).



Graph 3.6: Own creation – Reputation Institute

The Lego brand has been valued to increase from USD 5,362mn in 2015 to USD 6,884mn in 2019 which is a growth rate of 28 %.

The Lego brand has been an essential factor in the success of Lego. The brand is assessed to be difficult or rather impossible to imitate due to the need for extensive resources and the time and high costs associated with the process. Lego has an ability to engage with people which has enabled the company

to weather difficult seas and strengthened its brand, which is difficult to imitate. The brand is further strengthened trough creating new entities and by partnering with the right people (Davis, 2017).

Lego has established the Lego Brand Group, which works to protect and develop the Lego brand (LEGO.com, L). The aim of the Lego Brand Group is to facilitate the governance of all the activities associated with the Lego brand. The organization is working towards protecting and further ensure the high value and rarity of the brand as well as ensuring its compatibilities is effectively used in the organization.

A high brand reputation and value can be translated into business outcomes as Lego has an excellent reputation which helps generate sales, get qualified employees and establish customer loyalty. As all four parameters are fulfilled, sustained competitive advantage is obtained from the System of Play.

3.2.1.3 Stores

The toy retail landscape has changed dramatically in recent years due to digitalization and increasing growth of e-commerce with roughly a third of all toys bought online. In 2019, the overall online revenue in the toy industry grew by around 17 % as compared to the previous year and is expecting to increase further in the future (Businesswire.com). The bankruptcy of Toys R Us in 2017 has impacted toymakers negatively as the third-party retailer has been an essential distributor for the manufacturers, including Lego in 2017 reporting their first drop in sales in 13 years.

Although e-commerce in the industry is increasing, it is found that the customers are seeking different experiences from different distribution channels – Convenience and value is sought online while immersive brand experiences are sought in physical stores. Therefore, Lego is making significant investments in upgrading their e-commerce platform as well as expanding the number of brick and mortar stores. As of the end of 2019, Lego operated 570 branded stores around the world, opening almost 150 stores in 2019 alone (LEGOa). Lego has announced they will increase its total fleet by more than 25 % in 2020 as they plan to open 150 stores around the world in 2020, which will further protect them from blows like Toys R Us (Schoulberg, 2020). This is planned despite the outbreak of the COVID-19, which has caused Lego to close all its stores outside of China. The Lego stores enable the company to control their distribution, to control the relationship with the customer and capturing market trends regarding their products first-hand, which can provide valuable feedback for product innovation. The stores allow Lego to eliminate in-store competition as they only promote Lego branded products as well as showcasing the brand and displaying a broader assortment of its products than their distributors such as Walmart and Target are able to (Verdon, 2019). In 2019 Lego opened 80 stores in China and

expect to open another 80 in 2020. The Chinese customers love when they buy Lego products in a branded store as they are guaranteed its authenticity as the market in China is filled with counterfeit goods, why buying from a branded Lego store in China eases fears of counterfeit products (ibid). The branded Lego stores are assessed to be valuable for the company as they differentiate themselves from their competitors.

The branded stores are rare in the industry, as most manufacturers sell their products through independent retailers. Branded stores are costly to implement as they require capital expenditure. Still, it is expected that competitors can imitate branded stores at the same reasonable price, why the resource is assessed as partly costly to imitate. Lego is organized to capture the value of their branded stores as they continuously increase their investment in expanding the number of stores globally to offer more buyers an immersive brand experience.

Based on the above-mentioned reasons, the Lego stores provide Lego with a temporary competitive advantage.

3.2.1.4 Innovation

Lego has successfully built a culture that fosters innovation as it allows the employees to focus on delivering profitable innovation and gives the employees the freedom to be creative. In the aim of increasing Lego's global footprint, the company has adopted the use of open innovation, widen its target audience and by focusing on defining its long-term product strategy (Markowitz, 2018). Open innovation defines the concept of Lego not entirely relying on its own internal knowledge and resources regarding innovation of products but also by applying multiple external sources to push innovation (Oxford-review.com).

Innovation is a vital key driver for the company's profit and future survival, why the company launches new products and sets every year. Lego's product portfolio includes approx. 60% of new products each year. In 2019 Lego included new sets in their core themes LEGO® City, LEGO® Technic, LEGO® Friends and LEGO® Creator. Digitalization has become a vital key to Lego's innovation as forces in the industry of traditional toys and games have resulted in Lego offering several digital solutions into their products (LEGOa)

Lego's Chief Transformation Officer, Ulrik Gernow, revealed that especially five factors are crucial in the company's future innovation. These are speed to market, Earlier user involvement, Data-driven design, Agile design sprints and Empowered design teams (Danskdesigncenter.dk).

Lego incorporates consumer feedback from customers, partners, and suppliers as their drive for innovation, which aligns with Lego's philosophy that "*People don't have to work for us to work with us".* In 2008 Lego established a crowdsourcing platform "LEGO Ideas" that encourages and allows their fans to share their ideas and own Lego designed sets (LEGO.com, M). The Lego fans are able to submit their designs and gather support when they have gained at least 10,000 votes, Lego will eventually produce the set and sell it (Markowitz, 2018). This platform has resulted in more than hundreds of new product ideas and with some being produced commercially. Furthermore, the platform is used to employ social media to further generate actionable data. This platform indicates the trends and interest in the market and from their consumers, and it thereby helps Lego to produce products that will be in demand. LEGO Architecture and LEGO Friends are two successful efforts that were generated from customer ideas and have resulted in Lego gaining increased popularity with adults as well as increased Lego's female presence (ibid).

Previously Lego has not been keen on launching risky products as these could result in damage in their brand reputation for quality. In response to allowing mistakes to happen relatively cheaply and gaining new learnings, the future lab was created.
The future lab embraces rapid prototyping to test several ideas fast and inexpensively.
The future lab works with small budgets and small projects, where their focus is to create prototypes and introduce new products to the market on a scale at a low speed. The future lab cultivates intrapreneurship and is similar to an incubated start-up in their way of working and their business model (TheLeadershipNetwork.com).

Innovation is a vital resource for Lego and not only in their product portfolio but also in their way of working and regarding their employees. To increase innovation and creativity, Lego is focused on creating a workplace that has a pleasant atmosphere. This is done by giving their employees ownership of their way of working and by building an environment that is optimal for the employee in order to complete tasks and foster innovation (Ebitani, 2019). Another method used by Lego to increase innovation is the concept of "hot-desking" that eliminates fixed seats so that the employee is in charge of where they want to work. The aim of this concept was for Lego to create an environment where it would become easier to generate new ideas while the company at the same time saves physical office space (ibid).

Legos ability to adapt to changes and experiment quickly, cheaply and silently have strengthened their ability to develop, evolve and discover new ways of playing. The innovation is considered of high value, and the organization is focused on continuing to deliver innovative solutions and have a culture which gives freedom to creativity. This resource is rare as a few companies can only acquire it as Lego has built a platform and know-how on how to generate innovation which would be costly to acquire for the peers. As all four parameters are fulfilled, sustained competitive advantage is obtained from the System of Play.

Sub conclusion

The conducted VRIO analysis illuminates the key resources of Lego that obtains sustainable competitive advantages. The resources which fulfilled all four requirements are the System of Play which provides the company with a revenue generating and cost saving business model, the Lego brand which is valued at a much higher level than its competitors, and the company's innovation as this is the source to remaining relevant to the consumers. The Lego branded stores are perceived as a temporary competitive advantage as it is thought that this resource can be imitated in the long run.

The table below summarizes the findings from the VRIO analysis.

Ressource	Valuable	Rare	Imitability	Organization	Competetive implication	Economic implication
System of play	Yes	Yes	Yes	Yes	Sustainable competitive advantage	Above normal
The LEGO brand	Yes	Yes	Yes	Yes	Sustainable competitive advantage	Above normal
Stores	Yes	Yes	No	Yes	Temporary competetive advantage	Above normal
Innovation	Yes	Yes	Yes	Yes	Sustainable competitive advantage	Above normal

Table 3.6: Own creation

3.2.2 Ansoff's growth matrix

The Ansoff's growth matrix is a tool which is used by companies to analyze their current growth strategy and determine their future actions.

The strategies of Lego will be analyzed using the matrix however, the strategies relevant to examine regarding Lego is the product development, market penetration and the market development strategies.

3.2.2.1 Product development

Product development strategies are claimed to be part of the Lego growth strategy as they focus on their existing customers by introducing new products.

Digital solutions

Progression of digitalization is pushing boundaries and changes the way the children play as there is an increasing demand for digital play that are adding value beyond simple traditional toy and games. Increasing demands from the customers put pressure on Lego to develop solutions that provide more digital products and to minimize the gap between traditional toys and digital play. Lego must offer solutions that meet the customers' requirements and therefore focus on elements that are valued when introducing new products in their existing markets. In recent years Lego has introduced a combination of traditional and digital play in their products, and it is therefore assessed that Lego has a strong understanding of their current market and can provide innovative solutions to meet the needs of the future market.

Augmented reality and interactive experiences

Children today have greater exposure to technology and digitalization. This tendency has resulted in Lego adapting several of their products to fit the recent technological trends (Euromonitor, Lego in Toys and Games).

In February 2019 Lego launched Lego Hidden Side which fully and seamlessly integrates augmented reality. By using an app, it is possible to reveal a hidden world of interactive play. The augmented reality app brings the model to life and reveals a world of mysteries and challenges which the child must solve. Lego has focused on providing a new type of play where the physical world influences the augmented reality version, instead of the opposite. This creates a dynamic form of gameplay where the child is required to keep one hand in each of the worlds in order to progress the play. To continue to play and keep the child amused, the app will continue to expand with new additions such as new ghosts, new challenges and experiences so that the child will gain a different experience when playing (LEGO.com, N).

Lego® Duplo® and Amazon Alexa

Lego has brought audio into the equation of play where they combine physical and digital play in their Lego Duplo sets by introducing stories. Lego has collaborated with Amazon to enable Lego stories in Alexa so that the demand from parents on inspiration is fulfilled. Amazon Alexa will become an interactive storyteller which will create an experience of fun explorative play for children in the age 2-5 years.

Parents and child can choose between 10 themes, including five vehicle and five animal stories. The child will gain constructive, explorative and roleplay skills and accomplish numeric exercises, color

recognition, creative building challenges and articulation practices. This is one of the first products which combines physical play and interactive audio (Webwire.com).

STEAM – Educational Spike

As previously mentioned in the PESTEL analysis, Lego has a product portfolio containing STEAM products which encourage and teaches children several significant abilities. STEAM toys are a category of high interest in developed markets why it continues to receive attention from many traditional toy manufacturers as well. STEAM products are categorized either as mass STEAM or as speciality STEAM. Mass market STEAM toys have an educational benefit and are the largest category. Speciality STEAM is primarily targeting parents who are passionate about what their child play with (Euromonitor, STEM Opportunities in Toys and Games).

The strong growth in STEM products is a result of an increased parental desire of parents on having a more active hand in their child's education in the aim of fostering greater early educational developments in their child. The aim of the parents is to prepare their child for college better and hopefully their future careers. Mass STEM toys are primarily marketed for entertainment purposes and are created mainly through construction, games, and puzzle products which Lego especially offers.

In August 2019 Lego launched a new STEAM product, Education Spike, which is specifically targeting the grades from sixth to eight. Education Spike combines the traditional Lego bricks with motors, speakers, input/output ports, sensors and the "Prime Hub" (Heater, 2019). Education Spike is a system which can be controlled through a mobile device app and features several 45 minutes lessons. The digital solution is heavily appearing in this STEAM product and focuses on encouraging children to learn and develop their skills. Education Spike is mentioned as the Spike Prime and conducts that it aims at helping the student learn the essentials and gain the skills needed to become more confident and the innovative minds of tomorrow (ibid).

Nintendo – New Physical play

Nintendo and Lego both have a passion for innovation and play, which have resulted in a product collaboration. The companies have innovated and created a new way to play which is inspired by the video game, Super Mario (LEGO.com, O). The new product is neither a traditional Lego brick set nor a video game. Lego Super MarioTM is enabling a unique building experience where the product contains features of interactive play. The product includes a Lego Super Mario figure which is used to collect coins in a real-life game which is created with Lego bricks (ibid).

The fantasy of the child is a key factor as the sets will allow the child to build their own levels, hidden places where coins have to be collected, include enemies to challenge and add a flag to reach at the end of the game, so it becomes very similar to the video games. Furthermore, besides the display, Lego and Nintendo have also included various iconic sounds and music from the game, which will be played around the world (Cowley, 2020).

The purpose of the collaboration has been to introduce a new way of playing, and there is a great excitement of the figure becoming a real friend to the child as well as them playing in the worlds they imagined themselves. With the products, Lego Group has created an app with supporting features that encroaches the child to further rebuilding. Furthermore, the app provides instructions and suggestions on other creative ways to play and build (Nintendo.com).

3.2.2.2 Market development

Expansion to new markets

The market development has early on been a highly exploited strategy by Lego as they firstly exported to Sweden in 1955 and established their first foreign sales company in Germany the following year. The company has since expanded through most of Europe. Sales in the U.S. and Canada started in 1961 through a license agreement while sales in Asia, Africa, and Australasian began in 1962 (LEGO.com, P). As export has increased, Lego has invested in factories around the world to be closer to its most important markets. Most recently, the company inaugurated a factory in Jiaxing, China which is expected to produce 80 % of all Lego products sold in the Asian market.

Emerging markets – China

Emerging markets continue to grow, and by 2032, 90 % of the world's two billion children will live outside Europe and North America, with more than three-quarters of these living in Eastern Asia which host significant opportunities of market development for Lego (LEGOa). The company is investing in the growth markets of tomorrow with China as their growth priority due to the markets double-digit growth in revenue through the past years. Over the period of 2015 to 2018, Lego considerably increased its sales by approximately 95 %, making China the third-largest country (Euromonitor, LEGO in Toys and Games).

The company has expanded its presence in China through traditional retail channels, branded stores and e-commerce and digital platforms. As previously mentioned, Lego expanded the number of branded stores in 2019 and is expected to open more in 2020. This market has a strong consumer demand for culturally relevant products why Lego has had great success with sets designed to celebrate

Chinese New Year (LEGOa). Although the Coronavirus outbreak has impacted the global economy, it does not change the attractiveness and growth opportunities of the Chinese economy in the long run, according to Lego CEO Niels Christiansen. Lego will, therefore, not change its strategy in China and therefore continue its investments in the country (cgtn.com). The pandemic will not scupper the plans to open 80 new stores across China as the company is committed to following through and has not changed its target (Hutchins, 2020).

As the biggest markets for Lego, Europe and North America, are stagnating, the company is focusing on new markets with great potential for growth in order to keep the company profitable why it can be concluded that market development is an essential strategy for Lego and its future.

3.2.2.3 Market penetration

Product portfolio

Market penetration is understood by when a company uses its products in the existing market, aiming to increase its market share. Lego highly uses this strategy as new products make up approximately 60 % of the company's product portfolio each year (LEGOa). The System of Play is the perfect setup for market penetration due to its elasticity as any Lego set can be accessorized with any number of additional sets why the existing consumers' Lego collections can grow to infinity through generations. As mentioned, the success of Lego relies on collaborating with popular or promising licenses, e.g. new Harry Potter sets and Toy Story 4 as their more recent releases. Lego is also working with licenses with their adult consumers, e.g. the launch of Lego Stranger Things in collaboration with Netflix (Euromonitor, LEGO in Toys and Games). The strategy is highly used to increase revenues through existing consumers.

Mindfulness

As consumers lead increasingly fast-paced lifestyles and mindfulness has become a key element in reducing stress and nourishing tranquillity, Lego is increasing its presence in the wellness market and pitching its products as a form of mindfulness for adult consumers (Euromonitor, LEGO in Toys and Games). A book titled 'LEGO Build Yourself Happy: The Joy of LEGO Play' was released in 2019 and serves a guide to using Lego products as a means of relaxing and serves ideas to help reader finds calmness and wellbeing (ibid). This appeals to both existing adult consumers, but it also appeals to consumers who have never touched Lego products since their childhood but are attracted to the products due to their meditating attributes (Bhattarai, 2020). The company has furthermore released

LEGO Forma, a building set to help reduce stress and anxiety, which is built on the System of Play and can be taken apart and rebuild repeatedly.

Opening stores in existing markets

Lego is furthermore using the strategy of market penetration by opening more stores in their existing markets. The company opened 65 stores in 2019 globally, excluding China and is expecting to open 70 in 2020 globally (ex. China). Lego is bringing new stores to execution during a period when many merchants have to cut back, indicating a strategy to increase market share by attracting existing consumers in existing markets (Pymnts.com).

It can hereby be concluded that market penetration is an integrated growth strategy for Lego why it also can be expected to be implemented in the future of the company.

Sub conclusion

Lego pursues three different growth strategies identified by the Ansoff's Growth Matrix. Market penetration is achieved through the elasticity of the System of Play as the consumers' Lego collections can grow to infinity which generates more sales. The strategy of using licensing properties is also used to increase revenues through existing consumers. Legos has furthermore introduced Lego bricks as a means of mindfulness among its adult consumers achieving increased revenue through market penetration. Furthermore, Lego is using the strategy of market penetration by opening stores in already existing markets in the aim of gaining a higher market share by attracting existing consumers. Market development is achieved through its investments in emerging markets, especially in China. The company has expanded its brand and retail presence in the market and has achieved strong double-digit growth in China. Product development is a key driver for Lego and is essential in their growth strategy. The company focus on delivering high innovative products meeting the changeable consumer demands and trends through modernizing their traditional toys by integrating physical and digital play and through STEAM toys.

Part 4

Financial analysis

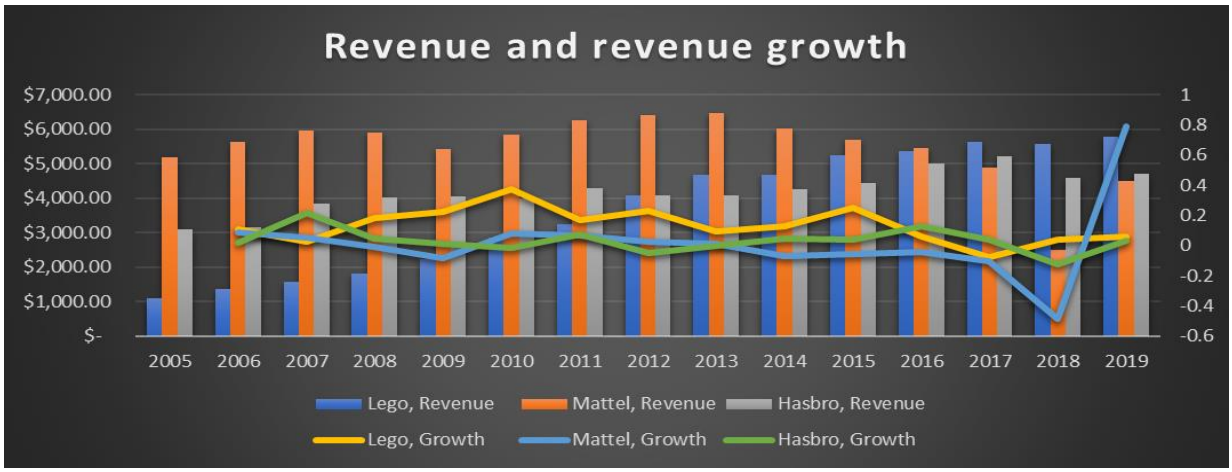
4 Financial Analysis

The scope of this chapter is to conduct a comprehensive analysis of Lego's historical financial performance to provide an overview of the company's financial situation. The primary tool for evaluation of a firm's financial performance is the calculation of financial ratios. These ratios are based on numbers conducted from analytical income statements and balance sheets. The analytical income and balance sheet are based on figures stated in the public annual reports published by Lego and its peers in the period from 2013 to 2019. Such a period allows for analyzing a business cycle which provides information about a company's ability to adapt to upturns as well as downturns (Petersen et al., 2017: 105).

4.1 Peer Group

A cross-sectional analysis of Lego's peer group is essential to evaluate the true performance and value of the company. By analyzing the performance of the peers, it enables a comparison with the performance of Lego which will provide information on whether the success can be ascribed to the industry or the company itself.

Hasbro and Mattel have been identified as peers due to the close competition to Lego in terms of current revenue and market size. The growth and development over the analyzed period, however, shows little resemblance among the firms. As no other companies in the industry of traditional toys and games are similar to revenue and market size to Lego, it is assumed that Mattel and Hasbro are the best possible candidates available.



Graph 4.1: Own creation – Annual reports

4.2 Accounting policies

The financial year for Lego extends from January 1, to December 31, throughout the analyzed period. All the consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS) as adopted by the EU and additional requirements in the Danish Financial Statements Act (LEGOa: 63).

PricewaterhouseCoopers have audited the annual reports, and the Independent Auditor's reports conclude there is nothing to report as they state that the Consolidated Financial Statements give a true and fair view of the LEGO Group's financial position and the results in the given years (LEGO Annual Reports). Therefore, it can be concluded that the company meet the IFRS standards and that annual reports provide a truthful portrayal of the financial situation of Lego. New standards of accounting were implemented in the annual report for 2019, which are deemed noteworthy for the financial analysis. IAS 17 regarding leasing is replaced by IFRS 16 Leases which entered into force on January 1st, 2019, meaning that all leases – with a few exceptions – must be recognized in the balance sheet of companies that report according to IFRS (Deloitte, IFRS 16). Implementation of IFRS 16 Leases has affected the financial statements in 2019, and the company does not restate comparison figures for previous years due to the modified retrospective approach (LEGOa: 10). The comparable figures regarding leases will be elaborated further down.

In contrast to Lego, the peer companies Mattel and Hasbro employ the United States Generally Accepted Accounting Policies (US GAAP) which can lead to comparison problems as various items in the financial statements could be treated differently using US GAAP in contrast to IFRS. As an example, IFRS only permits inventories to be treated on the cost method using the First-In, First-Out (FIFO) accounting method. In contrast, US GAAP also allows Last-In, First-Out (LIFO) accounting method. Using the LIFO method may result in artificial low net income and may not reflect the actual flow of inventory items through a company (Deloitte, 2019). Both peer companies are using the FIFO-method why comparison in the matter is not considered an issue (MATTELa: 61 & HASBROa: 68).

Similarly, intangibles are treated differently, such as development costs. These are capitalized under IFRS when specific criteria are met including consideration if the asset will generate future economic benefits whereas under the US GAAP development costs are expensed as incurred, with the exception of internally developed software (Deloitte, 2019). In the analyzed period, Lego has capitalized development projects, but these are of insignificant value why comparison of peer companies' financial statements in relation to intangibles has raised no concerns.

New standards for addressing the accounting for leases have been issued for both IFRS and US GAAP (IFRS 16 and ASC 842, respectively) with the primary objective being to require lessees to recognize assets and liabilities on the balance sheet with a few exceptions. Assets with a leasing contract less than 12 months are covered by the exemption for both standards whereas IFRS 16 also exempt assets with a new value of less than $ 5,000 if it can be used independently and thus does not form a part of a larger unit of assets whose use is highly interdependent (Deloitte, 2019). This difference is assessed to have an insignificant value in comparison to the companies in question.

In conclusion, Lego and its peers differ in their accounting principles of IFRS and US GAAP. Still, these differences are in this thesis assumed not to have a significant impact on the common-size analysis.

All financial statements, including reformulations, are reported in their respective nominal currencies which is DKK for Lego and USD for Mattel and Hasbro. All numbers are rounded in presentation, but all underlying calculations are made with all available decimals.

4.3 Reformulation Financial statement

When calculating financial ratios to measure a company's profitability, it is beneficial to reformulate the financial statements which are conducted by separating operating activities from financing activities. Operating items are to be separated from financial items as a company's operation is the primary driving force behind value creation and therefore, essential to isolate (Petersen et al., 2017: 107). The numbers from the analytical financial statement will be used to conduct a DuPont analysis to evaluate Lego's profitability and conducting a cross-sectional analysis with peer companies.

4.3.1 Reformulation of the balance sheet

The balance sheet is a financial statement that summarizes a company's assets, liabilities, and shareholders' equity at a specific point in time. It classifies the assets on a liquidity criterion in current and non-current assets, and liabilities on a duration criterion in short-term or long-term liabilities. The reformulation of the balance sheet classifies the items in operating assets and liabilities, and financial assets and liabilities. The overall aim of reformulating the balance sheet is to isolate various financial ratios such as the Invested Capital (IC) which is calculated as a sum of Net Operating Working Capital (NOWC) and Net Operating Non-Current Assets (NONCA). NOWC is calculated as the difference between operating current assets and liabilities, whereas NONCA is the difference between operating non-current assets and liabilities.

Appendix 3 specifies the line items for the reformulated balance, and the line items classification follows the guideline indicated by Petersen et al. (2017). Items that qualify as operating current assets are, e.g. inventories, trade receivables, prepayments, whereas operating current liabilities consist of trade payables, provisions amongst others. Items that qualify as operating non-current assets are, e.g. property, plant and machinery, capitalized operating leases, right-of-use assets whereas the operating non-current liabilities consist of deferred tax liabilities, provisions and deferred revenue (Petersen et al., 2017: 118). Financial liabilities consist of interest-bearing liabilities such as borrowings from credit institutions and lease liabilities and financial assets consist of cash and cash equivalence, whereas Lego's financial assets also include loans to related parties, as they are defined as a loan investment by the company (LEGO Annual Reports).

Cash and cash equivalence are often considered as excess cash, however reported cash may include cash that is needed in the day-to-day operations i.e. operating cash. Lego and its peers have not disclosed how much cash they deem necessary for operations or their excess cash in their financial statements. The companies have, however, stated combined cash and cash equivalent (CCE). In practice, different rules of thumb are used to estimate operating cash, however, it must be noted that such rules lead to imprecise and vast different results. As no additional information from the companies is supplied, cash and cash equivalence are treated as excess cash (Petersen et al., 2017: 118).

4.3.1.1 Capitalization of operating leases

As previously mentioned, new standards for addressing the accounting for leases have been issued for both IFRS and US GAAP, with the primary objective being to require lessees to recognize assets and liabilities on the balance sheet. Before January 1st, 2019, Lego and its peers employed these as operating leases with an annual lease payment which were recognized as an operating expense in the income statement. This enabled the companies not to recognize lease assets and their off-setting lease liabilities, which can produce skewed financial ratios, hiding the true performance of the companies and making comparison difficult. When leases are employed as an expense, companies can keep their debt-to-equity and financial leverage ratios low as they will appear "capital light" (Koller et al., 2010: 159). Neither of the companies restate comparison figures for previous years why it is found necessary to adjust for the historical period and counter for any imbalanced financial ratios by estimating the asset value, as the present values of the operating leases. The operating leases are valued using the following equation (ibid):

$$Asset\ Value_{t-1} = \left(\frac{Rental\ Expense_t}{k_d + \frac{1}{Asset\ Life}} \right)$$

Where *t* is time, k_d equals the cost of debt on the lease and *asset life* is the expected life of the leased asset. The cost of debt for leases as of January 1st, 2019, is stated in the annual reports for Lego and its peers and are summarized in table 1 below. These costs of debt are used to capitalize the operating leases.

	Cost of debt	Average asset life
Lego	3,6%	5,5
Mattel	7,9%	6,6
Hasbro	4,5%	6,2

Table 4.1: Own creation – LEGOa, MATTELa & HASBROa

All companies state in their annual reports that their operating leases consist of a mix of property, plant and equipment whereas Lego, Hasbro and Mattel further state the average asset life of their leases as seen in table 4.1.
The components of the equation above applied for reviewing asset value in 2019 are used with retroactive effect for previous years to estimate capitalization of operating leases.

As all necessary components of the equation have been found to calculate the asset value for capitalizing of operating lease, the values are shown in appendix 6.

The effect of treating operating leases as capital leases is that the company no longer expenses the operating leases why the reported operating profit increases. The previous operating lease expenses have been replaced with depreciation and financial expenses accordingly, why the net profit does not change. The balance sheet increases by the leased asset and corresponding lease liability (Petersen et al., 2017).

4.3.2 Reformulation income statement

An income statement shows a company's revenues and expenses and indicates how the revenues are transformed into a net profit during a period of time. The reformulated income statement requires every accounting item to be classified as belonging to either operations or finance to obtain a better knowledge of the different sources of value creation in a firm and will classify items in order to calculate Net Operating Profit After Taxes (NOPAT) (Petersen et al., 2017: 111).

Firstly, operating expenses are adjusted for depreciation and amortization to calculate Earnings Before Interest, Taxes Depreciation and Amortization (EBITDA) whereas these are deducted to calculate Earnings Before Interest and Taxes (EBIT).

To obtain the value of NOPAT, tax on EBIT is to be estimated. The accrued taxes for the year, corporation taxes, are stated in the reported income statement as well as the net financial expenses for the companies. The corporation tax is positively affected by net financial expenses as these are tax-deductible why it is necessary to add back the tax advantage that the net financial expenses offer and is defined as a tax shield. The effective tax rate used to calculate the tax shield is computed as:

$$Effective\ tax\ rate = \frac{Corporation\ tax * 100}{Net\ profit\ before\ tax}$$

Calculating the effective tax rate on operating profit is complicated, however the simplified calculation above is found to be a good proxy for the real effective tax rate (Petersen et al., 2017: 113). When the tax on EBIT is estimated, the NOPAT for the period can be calculated.

The reformulated income statements for Lego and its peers are found in Appendix 7.

4.4 Profitability analysis

The profitability analysis of Lego aims to assess and inform about the sustainability of the company's business model and determine how well the company is managed. The value of a company is highly driven by the level and growth in its operating profit.

Lego's capability to obtain a sufficient level of profitability is essential due to their future survival and to ensure an adequate return to their shareholders. A sufficient level of profitability indicates a strong economical position and helps Lego maintain their relationships with their stakeholders. When defining the future expectations of the company, it is furthermore important to view their historical profitability.

The profitability analysis is based on the DuPont model in order to make a detailed assessment of the profitability and to decompose their profitability into drivers regarding Lego's operating and financing activities. The Return on Equity (ROE) is affected by these activities why the underlying factors will be examined (Petersen et al., 2017).

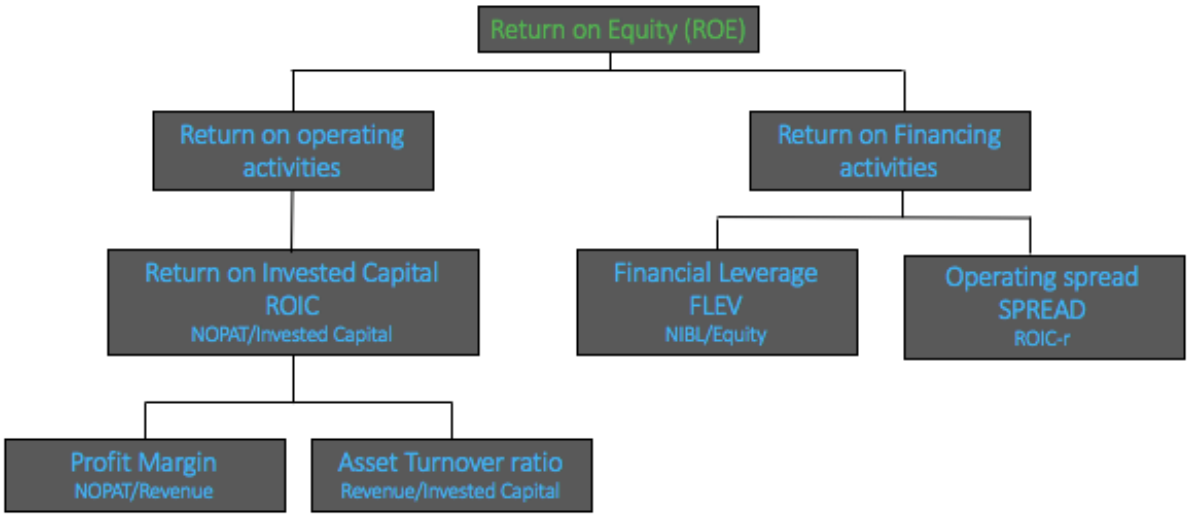


Figure 4.1: Own creation

The core operations of the firm are illustrated and expressed through the return on invested capital, whereas the return of the financial activities is expressed through the financial leverage and the operating spread in the company.

The entire DuPont framework breakdown is found in Appendix 10-12.

4.4.1 Return on Equity

The return on equity, ROE, is a measure of how effectively management is to generate profit from the investor's investment in the company.

The ROE measures the rate of return which owners from a common stock of a company would receive on their shareholdings.

ROE is calculated as follows (Petersen et al., 2017: 168):

$$ROE = \frac{Net\ profit\ after\ tax}{Average\ equity}$$

In this calculation the average equity is applied, thus the equity from the current year and the equity from the past year due to determining a more accurate indicator of performance, as the key figures from the balance sheet are snapshots and reflecting only an instant moment. By calculating the average, the development over time is taken into account.

The ROE is also calculated with the following components:

$$ROE = ROIC + (FLEV * SPREAD)$$

As Lego and Hasbro have had minority interest in the analysis period a correction has to be made in the above formula as follows:

$$ROE = ROIC + (FLEV * SPREAD) * MSR$$

Where

$$MSR = \frac{Comprehensive\ income}{Comprehensive\ income\ before\ minorities} + \frac{Average\ Equity}{Average\ Equity + Average\ Minority}$$

$$ROIC = \frac{NOPAT}{Average\ Invested\ Capital}$$

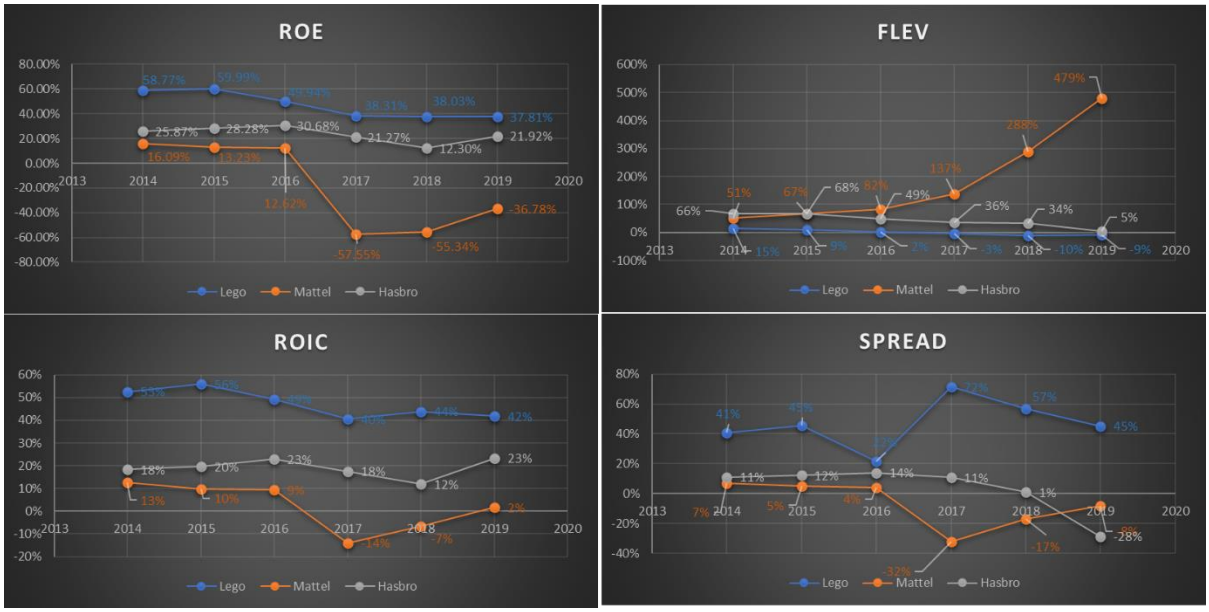
$$FLEV = \frac{Average\ Net\ Interest\ Bearing\ Liabilities}{Average\ equity + Average\ minority}$$

$$SPREAD = ROIC - NBC$$

All equations are adapted from Petersen et al. 2017

The underlying components of ROE are Return on invested capital (ROIC), Financial leverage (FLEV), and SPREAD. ROIC expresses the overall profitability of operations, whereas FLEV measures the impact of financing sources as it shows to which degree a company's invested capital is financed by borrowing through net bearing liabilities (NIBL) or equity. The SPREAD shows the difference between ROIC and net borrowing cost and MSR is the Minority shares ratio.

Graph 4.2 illustrates the comparison of ROE and its components for Lego and its peers and is described below.



Graph 4.2: Own creation – Annual report

From 2015 to 2019 there is seen a decline in the ROE of Lego although the company maintains a higher ROE than its peers. As of 2019, Lego generated a return of DKK 0.38 for each DKK 1 invested in equity in comparison to Hasbro who generated USD 0.22 per invested Dollar and Mattel losing USD 0.37 per invested Dollar. Therefore, it can be concluded that Lego is better at generating a return of the invested equity and has outperformed its peers in the analyzed period.

The financial leverage is the concept of borrowing money to finance the purchase of assets. As illustrated in the graph above, Lego has had a significantly lower financial leverage compared to its peers due to decreasing NIBL and increasing equity. Lego has in the analyzed period focused on minimizing their net financial liabilities as the company wants to become less reliant on external financing and is mainly driven by the increase in their loans to related parties (LEGOa: 42). In 2017 to 2019 the company managed to realize net financial assets as the financial assets exceeded their interest-bearing liabilities why the financial leverage is negative.

Hasbro appears to have a steady decrease in their financial leverage and is as low as 5 % in 2019. Opposite, the development of the financial leverage at Mattel is heavily increasing due to increasing net financial liabilities but mainly due to the significant drop in the company's equity as the company has suffered net profit loses for the past three years. The company has for the past three years had a NIBL which exceeded their equity, causing their FLEV to be higher than 1.

It must be noted that the capitalization of operating leases previous affect the financial leverage for the firms, as their value impacts the NIBL to a higher degree.

Lego's ROIC increases more than its net borrowing costs and therefore are yielding a positive SPREAD, and when the SPREAD is positive, an increase in financial leverage will improve ROE. Lego has an increasing SPREAD in the analyzed period due to their focus on minimizing their NIBL resulting in decreasing net borrowing costs. For Mattel, however, their net borrowing cost significantly exceed ROIC resulting in a negative SPREAD why an increasing financial leverage decreases their ROE.

The graphs above also illustrate the ROE and ROIC metrics for Lego which have a minor variance in the analyzed years. The reason for the minor variance is due to the low degree of financial leverage. From 2017-2019 the ROIC has exceeded ROE because the company has net interest bearing assets.

It is argued by Koller et al. (2010) that ROIC is a better indicator than the return on equity regarding understanding a company's performance as it, opposite ROE, only focuses on the operations whereas ROE is including operating performance with the capital structure. Due to the mixed focus in ROE, the peer group analysis and trend analysis appears as less meaningful, why ROIC might be better as an indicator (Koller et al., 2010: 202).

4.4.2 Return on Invested Capital

Neither NOPAT nor Invested Capital (IC) includes any income from financial activities why ROIC is independent of capital structure.

ROIC shows a continuous decline from 2015-2017 with a slight increase thereafter. Although ROIC has decreased from 53% to 42 % in the period, Lego have managed to maintain a high level compared to peers as they have a ROIC significantly lower than Lego. Mattel had negative ROIC in 2017 and 2018 but have managed to generate a ROIC of 2 % in 2019.

To gain a greater understanding of the reason ROIC the Profit Margin and turnover rate of invested capital can be investigated.

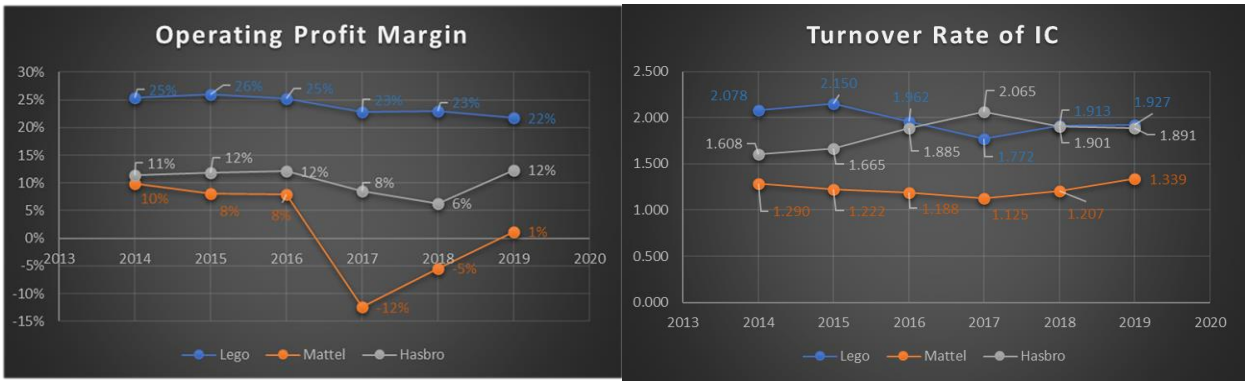
The operating profit margin measures how a company's activities generate profit i.e. how much profit each DKK or USD of sale generates.

$$Operating\ profit\ margin, after\ tax = \frac{NOPAT}{Revenue}$$

The turnover rate examines the value of the company's revenue relative to its value of assets. It examines a company's efficiency in managing its invested capital.

$$Turnover\ rate\ of\ invested\ capital = \frac{Revenue}{IC}$$

In graph 4.3 the development in the profit margin and turnover rate is presented for LEGO and its peers.



Graph 4.3: Own creation

The profit margin for Lego has been decreasing since 2015 from 26 % to 22 % in 2019, indicating that Lego has become less efficient in managing their operating expenses in relation to their revenues. However, the level of the profit margin is significantly higher than of Mattel and Hasbro, why the margin is considered at a satisfying level.

The turnover rate for Lego is also at a higher level than its peers in the analyzed period, with a single exception in 2017 as the rate decreased to 1.772 indicating that the company generated only DKK 1.772 for each DKK the company had invested in its operations in comparison to DKK 2.150 two years prior. This decrease is caused by a decline in revenue which was higher than the decline in IC. The graph illustrates that Lego and Hasbro have similar turnover rates, whereas Mattel has a significantly lower rate.

To further investigate the development of these parameters, an analysis upon the underlying drivers for the profit margin and asset turnover ratio is made for Lego.

4.4.3 Net operating profit margin and Invested Capital

Net operating profit margin

The net profit margin is calculated as an estimate of the net operating profit relative to the sales. Table 4.2 demonstrates the underlying drivers for the development of the margin.

Operating Profit Margin	2013	2014	2015	2016	2017	2018	2019
Revenue	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Production costs	27.0%	25.6%	25.0%	25.3%	25.7%	25.0%	24.9%
Gross-margin	**73.0%**	**74.4%**	**75.0%**	**74.7%**	**74.3%**	**75.0%**	**75.1%**
Operating expenses	37.0%	35.5%	36.2%	36.8%	38.8%	39.4%	41.9%
EBITDA margin	**36.0%**	**38.9%**	**38.8%**	**37.9%**	**35.5%**	**35.6%**	**33.2%**
Depreciation	3.0%	4.7%	4.3%	4.8%	5.6%	5.7%	5.1%
EBIT-margin	**33.0%**	**34.2%**	**34.5%**	**33.1%**	**29.9%**	**29.9%**	**28.1%**
Tax on EBIT	8.5%	8.9%	8.4%	7.9%	7.0%	6.9%	6.4%
NOPAT-margin	**24.5%**	**25.3%**	**26.0%**	**25.2%**	**22.9%**	**23.0%**	**21.7%**

Table 4.2: Own creation

It can be concluded that Lego has been able to decrease their production cost, in relation to revenues, from 27% in 2013 to just below 25% in 2019. Lego maintains stable production costs as the company continuously invest in improving their factories e.g. introducing automated warehousing and processing facilities, including factories in countries with lower wage costs (LEGO.com, Q).

This level is significantly lower than of Lego's peers as Mattel has increasing cost of sales, in relation to revenue, from 46 % to 56 % in the analyzed period whereas Hasbro maintains a level around 39 %. This might indicate that it is an advantage for Lego to have in-house production as they are able to keep costs lower than its competitors, as they, in a high degree, have outsourced their production. Lego is furthermore built around the System of Play, which, as previously mentioned, allows them to reap cost savings from not having to change manufacturing operations dramatically as trends in the industry changes as does most of their competitors.

The operating expenses for Lego have increased from 37 % to 42 % from 2013-2019. Lego has had an increasing number of newly established stores that require more expenses while the company also has increased their IT efforts e.g. improving their e-commerce platform and increasing their integrated digital play. The EBITDA-margin has, therefore decreased somewhat over time. As mentioned, the operating profit margin has decreased over time but is still at a satisfying level compared to Lego's peers. It can, therefore, be concluded that Lego is effectively returning a higher bottom-line on its revenues compared to Mattel and Hasbro. For a full overview of the peers, see Appendix 11-12.

Inverse Asset turnover ratio

The underlying components of the inverse asset turnover rate inform of how much capital is required to generate DKK 1 of revenue.

The inverse asset turnover ratio has two primary components the net working capital (NOWC) and the net operating noncurrent assets (NONCA). In table 4.3, the decomposition of both NOWC and NONCA is presented.

1/Asset Turnover Ratio	2014	2015	2016	2017	2018	2019
Net Operating Working Capital						
Inventories/Revenue	0.070	0.069	0.076	0.077	0.068	0.068
Trade receivables/revenue	0.188	0.172	0.179	0.193	0.180	0.181
Other current operating assets/Revenue	0.049	0.045	0.055	0.057	0.051	0.054
Trade payables/Revnue	-0.083	-0.079	-0.079	-0.081	-0.083	-0.086
Other current operating liabilities/Revnue	-0.086	-0.085	-0.093	-0.101	-0.102	-0.101
Working capital/Revnue	**0.138**	**0.121**	**0.138**	**0.145**	**0.114**	**0.117**
Net Operating Non Current Assets						
Intangible assets/Revenue	0.009	0.008	0.009	0.009	0.007	0.010
Tangible assets/Revenue	0.340	0.337	0.362	0.410	0.401	0.393
Other non current operating assets/Revenue	0.016	0.017	0.018	0.022	0.021	0.020
Other non-current operating liabiilities/revenu	-0.009	-0.006	-0.003	-0.005	-0.006	-0.006
Total non-current assets/Revenue	**0.357**	**0.358**	**0.386**	**0.435**	**0.423**	**0.417**
Invested capital	**0.495**	**0.479**	**0.524**	**0.580**	**0.537**	**0.533**

Table 4.3: Own creation

The table above analyzes the period from 2014-2019 due to the use of average numbers on the balance sheet figures.

Lego has some fluctuations in their NWOC but is overall stable. More capital is tied up in 2017, mainly due to the decreasing revenues. NONCA has increased in the analyzed period, mainly due to increasing tangible assets including increasing Property, plant and machinery as Lego doubled the size of their factory in Hungary in 2016 and opened the factory in China the same year as well as the establishment of new stores. Hasbro is nearly at the same level as Lego in both NOWC and NONCA, whereas Mattel has had significant increases in their NONCA increasing from 0.57 in 2014 to 0.64 in 2019, explaining their decreasing turnover rate. For a full overview of the peers, see Appendix 11-12.

Sub conclusion

Based on the financial analysis, it can be concluded that Lego manages to prepare an annual report each year without remarks from the auditors. It has been necessary to reformulate the income statement and balance sheets for Lego and its peers as these have helped assess the companies' profitability in the best way.

The profitability analysis has provided an insight into the company's financial situation as well as its peers. It can be concluded that Lego's ROE is at a satisfactory level compared to its peers although the ROE has been decreasing in the analyzed period. The financial leverage shows a decreasing trend as Lego is equity financed close to its peer Hasbro whereas Mattel has a significantly higher financial leverage.

Furthermore, Lego has had an overall decrease of its ROIC indicating but is sustained at a satisfactory level compared to its peers. The decrease in ROIC is caused by decreasing operating profit margin as

well as a decreasing turnover rate of invested capital. The decrease in operating profit margin is caused by increasing operating expenses which are believed to be affected by the company's increased IT efforts and increasing sales and marketing costs in relation to new established stores. The decreasing turnover rate of invested capital is mainly caused by increases in tangible assets due to increasing investments in production facilities. However, the level of Lego's operating profit margin is relatively higher than its peers whereas the level of turnover rate of invested capital is rather similar to its peer, Hasbro.

4.5 SWOT analysis

As previously mentioned, the SWOT analysis is conducted as a summary of Lego's Strengths, Weaknesses, Opportunities and Threats. Critical factors identified in the external, internal and profitability analysis are summarized in the SWOT matrix.

Internal	
Strength	**Weaknesses**
Strong brand - High brand reputation System of play LEGO branded stores + e-commerce In-house production High level of Innovation Great amount of Know-how The Lego community High Return on Invested Capital High NOPAT margin	Premium prices Negative impact on the environment - Crude Oil Narrow category focus - Bricks Dependent on external licensing rights
External	
Opportunities	**Threats**
Digitalization Children influencing household purchases Changing demographics Emerging market - especially China - is growing Environment-friendly products Collaborations	Counterfeit products No Brexit plan - Tariffs on goods Foreign exchange risk Toy safety laws - Very regulated market Secondhand toys is trending Competition Short product life cycle

Figure 4.2: Own creation

4.5.1 Internal factors

The internal analyses of Lego's resources and competences, conducted through a VRIO analysis and Ansoff's Growth Matrix, has led to a better understanding of the company's strengths and weaknesses and its competitive advantage relative to its peers. The financial analysis furthermore illuminates the strengths and weaknesses of Lego's profitability.

4.5.1.1 Strengths

Lego's brand is an important resource for the company as it is recognized and respected by people around the world. The strength of the brand has been built over a span of many years and has today resulted in the company being recognized as the most reputable brand in 2020. Furthermore, Lego is the company in the industry of traditional toys and games with the highest brand value.

Lego has managed to create a cohesive product portfolio of bricks targeting different age groups and implemented a System of Play which secures that all bricks fit together and secures continuous play and construction. The System of Play is a business model which provides Lego with continuous sales and keeps production costs of new Lego sets low.

Lego, in comparison to its peers, has its own stores providing them with their own distribution channels in times where retail of toys has changed through recent years. The branded stores eliminate in-store competition with other toys while Lego can offer its customers with a 'Lego experience'. Lego has furthermore invested in their e-commerce and has been front-runner relative to its peers which is an advantage as toys are purchased online in a much higher degree. It is furthermore an advantage in times of the COVID-19 as Lego has closed all its stores outside of China.

Lego has all its production in-house in relation to its peers. This enables the company to secure that all conditions the company sets are applied and that all safety requirements are met. This has resulted in Lego hot having to recall any products back in more than ten years. Furthermore, the production facilities are placed close to the markets they serve why the company can minimize their transportation cost and ensure more efficient operations as the industry they operate in is highly seasonal.

In the industry of traditional toys and games, innovation is vital to secure future survival, hence innovation has become a crucial part of Lego's strategy.

A whole community around Lego has been built by loyal customers which Lego benefits highly from, especially in regard to product development. Lego has successfully established 'Lego Ideas' which facilitates Lego with new ideas as the platform allows customers to share ideas.

The financial analysis concluded that Lego is outperforming its peers significantly. Firstly, the company has a high ROIC, low NIBL that provides them with a high liquidity. This indicates that Lego can generate high returns on its investments which signals a profitable company. The company's financial leverage has also decreased as the company is equity financed. Furthermore, Lego has secured a high NOPAT margin relative to its peers.

4.5.1.2 Weaknesses

Lego offers many different sets in a wide price range but is generally perceived as premium-priced products. The company is able to charge premium prices due to their high-quality products that last for generations and because of the Lego brand. The higher prices have the weakness of excluding potential customers as the high prices are not affordable or are perceived as unreasonable for some. It is furthermore perceived as a weakness as new competitors can enter the market with cheaper products stealing customers from Lego.

98 % of Lego products are made of a material that is based on crude oil which is harming the environment. A trend towards purchasing more sustainable toys has been increasing, which can harm the way Lego is perceived.

However, Lego has set some goals regarding sustainability, but the company still has several years before realizing a neutral footprint. Lego has committed to having 100 pct. sustainable bricks by 2030, which can be questioned. As of today, plant-based plastic bricks only represent 2 pct. of Lego's total production why the aim of realizing 100 pct. in only ten years appears as a challenge.

Lego offers a narrow category of products as everything the company sells is related to the Lego brick whereas the competitors offers a diverse product portfolio. The narrow portfolio is putting a pressure on Lego to keep the brick relevant at all times as this is their key product. As the industry is highly fickle Lego must ensure that capabilities of the Lego brick meet the new ways of playing.

Lego has therefore become highly dependent on external licensing rights as much of the company's revenue is generated from licensed products. This dependence puts Lego on an equally footing as its competitors worrying for the next licensing contract.

4.5.2 External factors

The external analyses conducted through a PESTEL and Porter's Five Forces has led to a better understanding of Lego's opportunities and threats and ultimately, the attractiveness of the industry of traditional toys and games.

4.5.2.1 Possibilities

Digitalization has, in recent years been challenging the industry of traditional toys and games to innovate and adopt new ways of playing. Lego has introduced sets, including augmented reality and apps to allow more digital play and creates a unique experience for the children. The opportunity of the growing use of digitalization is for Lego to combine their Lego brick with the latest digital trends,

which result in innovative ways to use the Lego brick. This is an opportunity to keep the brick relevant without using licensing rights.

Children have today a higher saying in household purchases than ever before, which is an outstanding opportunity for Lego with children as its primary target customer segment. An increase in children's influence on household purchases could imply an opportunity for increasing sales for Lego if exploited successfully. To do so, Legos must be able to understand and advertise through distribution channels that are reaching the children and offer products that children find interesting.

The global demographic of children is changing, and Asia Pacific – especially China – is estimated to become the biggest market regarding the population of children. This proposes a vital opportunity for Lego to invest in this market as its most revenue generating markets are stagnating.
Furthermore, China is expected to have increasing GDP per capita while the political situation in China regarding intellectual property rights have improved significantly, offering Lego a tremendous opportunity. The company has, in recent years experienced double-digit grown in the Chinese market why they continue to invest in the market.

The demand for more environmental-friendly products is viewed as an opportunity for Lego. As previously mentioned, the company has already set goals for producing sustainable products which show potential for Lego will exploit this opportunity.

Collaborations with external business partners have proven to be a success for Lego why future collaborations are viewed as an opportunity for the company to generate future sales. Collaborations allow Lego to enter areas of business which are out of their regular business e.g. the collaboration between Lego and Nintendo. Such collaborations keep Lego relevant and have been accepted well by the company's customers why new collaborations are viewed as an opportunity for the future of Lego.

4.5.2.2 Threats

Counterfeit products have become a rising problem as Lego has become more well-known. The threat is especially towards Lego's image as consumers might wrongly think they have bought a Lego set meeting the safety criteria which can cause harm to the consumer. Counterfeit products can contain dangerous chemicals why Lego is focusing on limiting these products as they damage the brand value of Lego and is of danger to the consumers' expectations of quality products. Counterfeit is also a threat to the revenue of Lego.

A no-deal Brexit is a great threat to Lego due to the possibility of tariffs on goods. If no-deal is settled and the United Kingdom leaves the EU, it would have the consequence of the terms from the world trade organization being applied. These terms would result in tariffs on goods and border checks which would have considerable economic consequences for Lego. The UK is the fourth largest revenue-driving country, why the future trade relationship between the UK and EU is important for Lego.

Lego has activities in several markets with different currencies. Lego is thus facing a substantial risk of exchange rate fluctuations which could have a high impact on its profitability. In the future, China is expected to be one of Legos larger markets why this threat of fluctuation is a great risk to Lego. The company focuses on eliminating some of the risks by using derivatives.

Lego operates in a market formed by legislation on toy safety which is vital due to the safety of children. Changing regulations which affect the operations of Lego is a threat to Lego e.g. changes in legislation on ABS threatened the future of Lego Duplo. The credibility and reputation of Lego are also at risk due to a breach in the legislation can result in dismissing sales and damage in the brand value and status.

The increasing trend in secondhand toys is an increasing threat to Lego due to the high quality of its products which allows them to be handed down for generations. This threatens Lego's future revenues as consumers buy secondhand toys instead of generating new sales. Furthermore, the System of Play allows for new and old bricks to fit together why secondhand Legos are more advantageous.

The product lifecycle of the traditional toys and games industry is rather short, which is a threat to the operations of Lego as it puts a constant pressure to develop new and exciting products. This puts significant pressure on the innovation of Lego.

Part 5

Budgeting & forecasting

5 Budgeting & Forecasting

This part of the thesis will contain the budgeting and forecasting in order to conduct a valuation of Lego based on a present value approach.

The forecasting system is based on a sales-driven forecasting approach as recommended by Petersen et al. (2017).

The budgeting and forecasting are based on the findings in the strategic and financial analysis as the historical period is used as a foundation for the forecasts and provides insights about the trends and levels of the financial value drivers to be estimated.

5.1 Forecast period

Several aspects are essential when considering the length of the forecast period. The forecast period should be long enough for the growth in revenue to reach a steady-state level, in which the company's growth will reach a constant long-term economic growth rate. The profit margin must be held constant when the steady state has been reached to ensure that the operating expenses are growing correspondingly with revenue (Koller et al., 2010: 188).

A short forecast period would typically result in an undervaluation of the company, whereas a long period is more difficult to forecast due to uncertainty in the individual line items. The forecast period for Lego is determined at ten years, as it is assumed that the company will reach a form of steady state. When the steady state is in effect at the end of the forecast period, the free cash flow will grow at a constant rate and can be valued using a growth perpetuity as the company is expected to going concern. The value of this period is called the terminal value.

5.2 Forecast of Income Statement

The income statement forecast will project the sales growth, expenses, depreciation, and tax rate, which will provide a projected EBITDA, EBIT and thereafter a projected NOPAT.

The complete forecasted income statement can be found in appendix 13, where forecasting of best- and worst-case scenarios are also found.

5.2.1 Sales Growth

The fundamental factor that affects the valuation is the projected growth in revenue as the remaining ratios are highly dependent on this projection.

Historically, Lego has had an average growth rate of 7.7 % over the past six years, but there have been significant fluctuations. The revenue in 2017 decreased by 7.7 % whereas it increased in 2018 and 2019 by 4 % and 6 %, respectively. As previously mentioned, the decline in 2017 was caused mainly by the

company's most significant regions, Western Europe and North America experiencing a decline in revenue growth of 9.69 % and 12.95 %, respectively, and due to inventory clean ups. Asia Pacific has been the region with the most tremendous growth potential with China generating double-digit growth.

The company's sustainable competitive advantages, its investments in growth markets and industry expectations are the key contentions for the forecasts.

Lego operates in the industry of traditional toy and games why the industry expectations mentioned in the strategic analysis are relevant to consider when determining the sales growth. The expectation for the sales growth in Lego's geographical regions is determined based on historical figures and the strategic analysis hereunder industry expectations.

The Chinese market has provided Lego with double-digit growth due to more extensive investments in new stores, e-commerce, and economic growth in the market. The branded Lego stores are assessed to be valuable for the company as they can differentiate themselves from their competitors and as they ease fears of counterfeit products. It is expected that the Chinese market will continue to be an important market for Lego to invest in due to its growth prospects and changes in legislation which ensures improved terms for businesses including increased focus on fighting manufacturing and sales of counterfeit goods. Based on these observations the sales growth in the Chinese market is expected to continue at a high level which will drive the sales growth in the Asian Pacific region.

As concluded in the external analysis the most extensive distribution of the young population will continue to be Asia Pacific, Middle East and Africa and Latin America. This provides opportunities for Lego though it is essential to consider that in some regions, the GDP per capita is low, why expectations to these markets are not all high.

In addition, the external analysis concluded stagnation of Lego's most generating geographical regions, Western Europe and North America while these markets are also expected to have a low future growth in the industry of traditional toys and games. This is also impacted by the increasing uncertainty with Lego's fourth largest market, the UK, due to a possibility of a no-deal Brexit. Although the future expectation to these markets are low, they are still expected to be some of the most generating regions for Lego in the future.

Expectations for the future sales growth are additionally based on findings in VRIO analysis. The brand value of Lego, in comparison to its competitors, is at a considerably higher level. The Lego brand represents a clear history of quality and innovation. The company rely on its own resources regarding

innovation as well as making use of collaborations and open innovation generating the company with new ideas. In order to maintain a strong competitor in the industry, innovation is vital key to survival due to the industry's changeable nature. Innovation is assessed as a sustainable competitive advantage for Lego why it is thought that Lego will be able to meet the changing consumer needs and fickle industry. Today, Lego aims to offers a product portfolio which contains approx. 60 % new products each year demonstrating their ability of innovation. Lego's ability to ensure innovation is thought to be a source of the future sales growth.

Lego is a market leader in the industry of construction toys and had 65.1% of the market shares in 2019. This sub-industry is expected to grow at a CARG of 5.53% from 2020-2024 and has been applied when projecting the revenue growth.

											Terminal
	E2020	**E2021**	**E2022**	**E2023**	**E2024**	**E2025**	**E2026**	**E2027**	**E2028**	**E2029**	**E2030**
Revenue growth	5.24%	5.99%	6.91%	6.92%	6.54%	5.96%	4.84%	3.99%	3.55%	3.00%	3.00%

Table 5.1: Own creation

The sales growth is projected to increase and will reach a steady state at 3% which is based on the long-term economic growth rate (Euromonitor). The projected sales growth for Lego is split into geographical regions and can be found in Appendix 14.

5.2.2 Operating costs

It is recommended to generate the forecasted operating expenses based upon the revenues. Operating expenses include the cost of goods sold, research and development and selling, general, and administrative expenses (Koller et al., 2010: 30). The cost of Lego contains of production cost, sales and distribution expenses, administration and IT expenses and other operating expenses which have been forecasted for the years 2020 to 2029. It is expected that a steady state appears after the year 2029. In figure 5.4, the forecasted costs of Lego appear.

											Terminal
	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	E2030
Production costs	-25.50%	-25.50%	-25.50%	-25.50%	-25.50%	-25.50%	-25.50%	-25.50%	-25.50%	-25.50%	-25.50%
Operating expenses	-41.90%	-41.90%	-40.00%	-39.50%	-39.00%	-39.00%	-38.50%	-38.50%	-38.50%	-38.50%	-38.50%

Table 5.2: Own creation

5.2.2.1 Production costs

The production costs for Lego are projected to be 25.5% over the forecast period as well as the terminal period. The 25.5% is relative to the sales and is determined as the historical average. Lego identifies its production costs as both direct and indirect costs. The direct costs are composed of raw materials,

direct labor and consumable costs. The indirect costs are composed of other costs related to the production of goods and supply chain related costs (LEGOa: 22).

The production costs are forecasted to be consistent due to Lego's organizational structure as they have in-house production which is considered to keep costs down. Lego has full control on minimizing their costs, and due to the economics of scale, it has been possible to produce at a large volume while keeping the costs at a lower level. Furthermore, Lego continuously invest in solutions to keep their production costs low e.g. automated warehousing why it is thought that the costs can be maintained at a stable level.

The reason for the ratio not being forecasted as a lower ratio is due to Lego's continuous expansion of new production facilities e.g. the expansion of the factory in Hungary, launching facility in China as well as an on-going expansion of the factory in Mexico due to increasing demand for Lego products (LEGO.com, P & LEGO.com, Q).

Due to the conditions mentioned above, it is estimated that the average historical production costs relative to revenue are the most truthful to use.

5.2.2.2 Operating expenses

The operating expenses are a combination of sales and distribution, administration and IT and other operating expenses. The operating expenses are forecasted as a ratio relative to the revenue and it is forecasted based on historical figures and future expectations.

Operating expenses for 2020 to 2021 represents an expected increase in expenses due to expansion of facilities which is expected to require an increase in administrative costs.

The sales and distribution expenses are expected to increase due to increasing sales and marketing efforts in new and existing markets. Efforts in the Chinese markets are expected to increase operating costs as well as increased IT investments e.g. e-commerce platform. Operating expenses are assumed to decrease thereafter at a slow rate as it can be expected that the investments require fewer resources to implement.

5.2.3 Tax

Furthermore, the tax rate is to be forecasted as it is an important driver for the calculation of NOPAT. The effective tax rate in 2013 was 25.73% decreasing to 22.75 % in 2019 as shown in appendix 7. This indicates a development against the current Danish corporate tax rate of 22 %. The forecasted effective tax rate has therefore been set to 22 % assuming that the tax rate will be constant through the time period.

5.2.4 Depreciation

The depreciation can be forecasted using three different methods. It is possible to forecast through a percentage of revenue or by using a percentage of property, plant and equipment (PP&E). The third method requires access to the company and their equipment purchases and depreciation schedules (Koller et al., 2010: 231). The method used to determine the forecasted depreciation is to estimate a depreciation as a percentage of tangible assets (Petersen, et al., 2017: 257).

	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal E2030
Depreciation	-13.40%	-13.40%	-13.40%	-13.40%	-13.40%	-13.40%	-13.40%	-13.40%	-13.40%	-13.40%	-13.40%

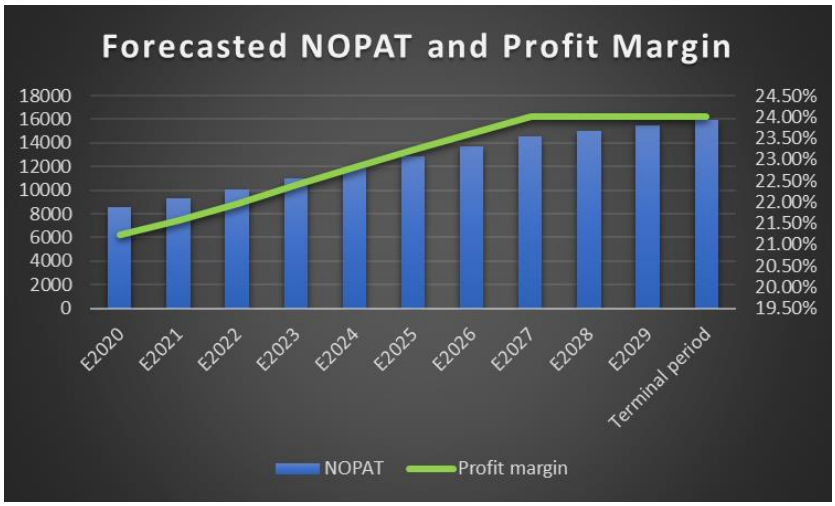
Table 5.3: Own creation

The depreciation is expected to stand at a constant level through the years due to Lego's continuous aim to be innovative and ensure the demand in the market are met why continuous investments are expected. It is assumed that depreciation as a percentage of tangible assets remains at a level of 13.4 % in line with the historical average.

5.2.5 NOPAT

After forecasting the items in the income statement, the forecasted NOPAT can be computed.

Furthermore, it is possible to determine a profit margin to illustrate the expected development. Graph 5.1 illustrates the development for both NOPAT and the profit margin through the forecast period as well as the terminal period.



Graph 5.1 – Own creation

It can be concluded that Lego is expected to have an increasing NOPAT which can be explained as a result of increasing revenue. The profit margin appears as slowly increasing and reaching a steady state as it is expected that Lego will be better at generating profit from its revenue.

5.3 Forecast of the Balance Sheet

The aim of forecasting the balance sheet is to compute a future invested capital which is used regarding valuing the firm. The items are divided into Net working capital (NWC) and Non-current operating assets (NONCA) and are projected as a percentage of revenue.

5.3.1 Net operating working capital (NOWC)

The operating working capital for Lego is driven by items as inventory, trade receivables, other current operating assets, trade payables and other current operating liabilities. None of these items have shown a particular trend why all items remain in line with the historical average. The forecast of NOWC appears in table 5.4.

Net working capital decomposed	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal E2030
Inventories	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Trade receivables	0.185	0.184	0.183	0.182	0.181	0.18	0.18	0.18	0.18	0.18	0.18
Other current operating assets	0.06	0.058	0.057	0.057	0.056	0.056	0.056	0.056	0.056	0.056	0.056
- Trade payables	0.088	0.087	0.086	0.085	0.084	0.083	0.083	0.083	0.083	0.083	0.083
- Other current operating liabilities	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NOWC	0.127	0.125	0.124	0.124	0.123	0.123	0.123	0.123	0.123	0.123	0.123

Table 5.4: Own creation

5.3.2 Net operating Non-current assets (NONCA)

NONCA is computed through intangible assets, tangible assets, other current operating assets and other non-current operating liabilities. The tangible assets consist of capitalized operating leases, land, building and installations, property, plant and machinery, other fixtures, fittings, tools and equipment as well as fixed assets under construction. The forecast is based upon historical averages.

Investment drivers	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal E2030
Intangible assets	0.011	0.01	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009
Tangible assets	0.4	0.4	0.4	0.395	0.393	0.39	0.39	0.39	0.39	0.39	0.39
Other non current operating assets	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
- Other non-current operating liabilities	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
NONCA	0.425	0.424	0.423	0.418	0.416	0.413	0.413	0.413	0.413	0.413	0.413

Table 5.5: Own creation

5.3.2.1 Invested capital and ROIC

The invested capital is computed based on NOWC and NONCA as illustrated in figure 5.6. It can be concluded that the invested capital slowly decreases due to a slight decrease in NOWC and NONCA through the period and appears as reaching 53.60% in the terminal period.

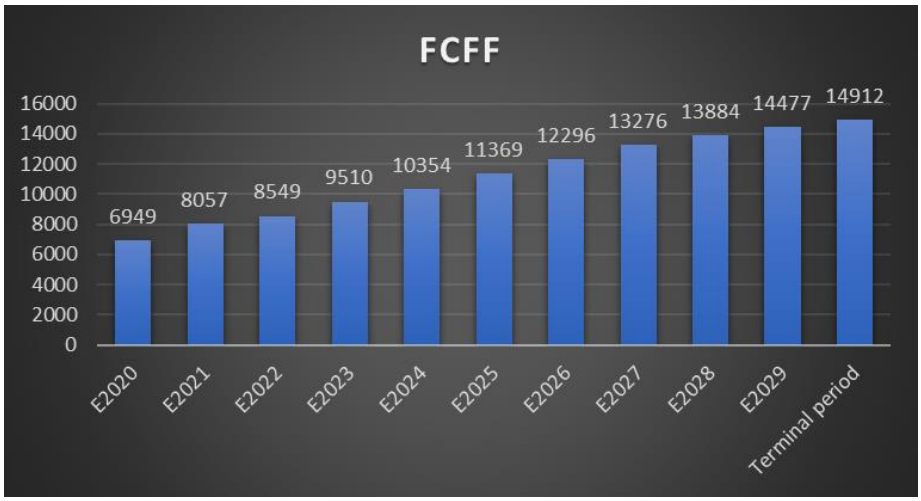
	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal E2030
NOWC	0.127	0.125	0.124	0.124	0.123	0.123	0.123	0.123	0.123	0.123	0.123
NONCA	0.425	0.424	0.423	0.418	0.416	0.413	0.413	0.413	0.413	0.413	0.413
Invested Capital	0.552	0.549	0.547	0.542	0.539	0.536	0.536	0.536	0.536	0.536	0.536

Table 5.6 – Own creation

These forecasts align with previous analysis of the profitability of Lego and their ability to maintain a strong position.

5.3.3. Forecasted Free Cash Flow

Based on the forecasted values, the free cash flow has been computed where a detailed calculation can be found in appendix 13. It can be concluded that Lego is expected to have a steady increasing free cash flow as shown in graph 5.2.



Graph 5.2: Own creation

5.4 Weighted Average Cost of Capital

In order to execute a valuation of a company using the enterprise discounted cash flow (DCF), the forecasted free cash flow must be discounted by the weighted average cost of capital (WACC). Free

cash flow is the cash flow available to all financial investors why the WACC of the company must include the required rate of return for each investor. The WACC represents the opportunity cost that investors face for investing their funds in one particular business instead of others with similar risk (Koller et al., 2010: 236). The cost of equity will reflect the risk that equity investors see in the investment, and the cost of debt will reflect the default risk that lenders perceive from that same investment.

The weighted average cost of capital equals the weighted average of the after-tax cost of debt and the cost of equity:

Where:

$$WACC = \frac{NIBL}{NIBL+MVE} * r_d * (1-t) + \frac{MVE}{NIBL+MVE} * r_e$$

Three components of WACC are to be estimated based on the table below.

Component	Methodology	Data requirements	Considerations
Cost of equity	Capital Asset Pricing Model (CAPM)	Risk-free rate	Use a long-term government rate denominated in the same currency as cash flows
		Market risk premium	Pablo Fernandez conducts a yearly survey on market risk premium and risk-free rates in several countries
		Company beta	Lever the company's industry beta to company's target debt-to-equity ratio
After-tax cost of debt	Expected return proxied by yield to maturity on long-term debt	Risk-free rate	Use a long-term government rate denominated in the same currency as cash flows
		Default spread	Default spread is determined by a company's bind rating and amount of physical collateral
		Marginal tax rate	In most situations, use company's statutory tax rate. Should match the marginal tax rate used to forecast NOPLAT
Capital structure	Proportion of debt and equity to enterprise value		Measure debt and equity on a market, not book, basis. Use a forward-looking target capital structure

Table 5.7: Own creation – Koller et al. (2010)

5.4.1 Capital structure

As a weighted average is used in the calculation of WACC, the company's capital structure must be determined. This is done by determining the value of equity and debt capital, respectively. As previously mentioned, Lego has no net financial liabilities. The company does not rely on external financing as it seeks to maintain its strong financials which are applied to fund investments via equity funding. The dividend payment furthermore reflects the strategy behind the capital structure as any surplus liquidity, free cash flow, is distributed as dividends to the owners (LEGOa: 42). It is therefore concluded that Lego aims at continuing to maintain the capital structure of today and will, therefore, be 100 % equity

financed today and in the future. The calculation of WACC will, therefore, be determined by estimating the required rate of return on equity.

5.4.2 Cost of equity

The cost of equity refers to the required rate of return on equity investor expect from investing in a company. It reflects the risk that equity investors see in the investment and therefore represents the return requirements that the investor demands in compensation for owning an asset and bearing the risk of ownership.

The most used model to estimate the cost of equity is the Capital Asset Pricing Model (CAPM). The model is based on several assumptions, including that markets are perfectly efficient, that investors can borrow and lend at the risk-free interest rate, that investors can buy and sell at competitive prices and face no transaction costs and that they only care about return and risk (Brealey et al., 2017: 206). Although CAPM is based on several assumptions that are considered unrealistic, it is still considered a sustainable model for estimating the cost of equity when developing a WACC to use in a company valuation (Koller et al. 2010: 239). The model is composed as follows:

$$CAPM = r_f + \beta_e * risk\ premium$$

The risk-free rate in the CAPM formula accounts for the time value of money while beta and market risk premium accounts for the investor taking on additional risk. The market premium is defined as the difference between the expected return on a market portfolio and the risk-free rate and is together with the risk-free rate common to all companies, whereas only the beta varies across companies.

5.4.2.1 Risk free rate

The risk-free rate represents the theoretical rate of return an investor would expect from an investment with no risk, i.e. risk-free rate is the minimum return an investor expects for any investment as the investor will not accept additional risk unless the potential rate of return is greater than the risk free rate.

An investment can only be risk free if it is issued by an entity with no default risk, and if the specific instrument used to derive the risk free rate will vary depending upon the period over which one wants the return to be guaranteed, see appendix 15 (Damodaran, B). Koller et al. (2010) argue that each cash flow should be discounted using an instrument, e.g. government bond with a matching maturity as the cash flow. In practice, the risk free rate does not exist as even the safest investments carry a small

amount of risk, but it is believed that using a 10-year government bond rate as the risk free rate is a good practice in valuation, at least in mature markets (Damodaran, B).

The risk-free rate used should furthermore be measured consistently with the cash flows measured. When a currency is chosen, the risk-free rate should be for that currency and should not be a function of where a company is incorporated. Thus, the cash flows are estimated in nominal Danish Kroner, the risk-free rate shall be the nominal Danish 10-year zero-coupon government bond rate. It is furthermore believed that the Danish government bond holds low default risk as Denmark, according to Moody's Global Long-Term and Short-Term Rating Scale, is rated Aaa and Prime-1, respectively (Moodys.com, A). Aaa ratings are judged to be of the highest quality, subject to the lowest level of credit risk, whereas the Prime-1 rating represents a superior ability to repay short-term debt obligations (Moodys.com, B). The risk-free rate is estimated at 1.21% based on a 10-year arithmetic average of the Danish 10-year zero-coupon government bond – See appendix 15 (Statistikbanken.dk). A survey conducted by Fernandez et al. (2019) reveals that the average risk-free rate used in Denmark by professors in finance and economics, analysts and managers was 1.2 % supporting the estimated risk-free rate at 1.21 %.

5.4.2.2 Market risk premium

The market risk premium (MRP) is defined as the additional return on the market portfolio of shares in relation to the risk-free interest rate. The additional return compensates the investor for the additional risk that arise from acquiring a given asset rather than risk-free investments such as government bonds. The market risk premium is not constant but rather varies over time.

The topic of market risk premium is widely debated, and the academic literature does not yet provide an agreement on the topic. Therefore, there does not exist an exact method to estimate the market risk premium and the different methodologies can lead to significantly different estimates. Koller et al. (2010) have found the appropriate range for the market risk premium to be 4.5 - 5.5 pct, which is based on research on market risk premiums using measurement and extrapolation of historical data, using current financial ratios and with forward-looking models. This market risk premium is considered to be outdated why the premium will be assessed based on newer empirical data.

A survey about the market risk premium was in 2019 conducted where professors in finance and economics, analyst and managers were asked to disclose the MRP and risk-free rate used to calculate the required return to equity in their country. The result conducted for Denmark was based on 135 answers and resulted in an average MRP of 6 % and a risk-free rate of 1.2 % in 2019. Similar surveys in 2018 and 2017 resulted in MRP of 6 % and 6.1 % respectively (Fernandez et al., 2019). A market risk

premium for Denmark is furthermore taken into consideration which has been calculated to be 5.67 % (Damodaran, 2019). By using an arithmetic average of 6 % and 5,67 % it yields a market risk premium of 5,84 %, which will be used in the calculation of CAPM.

5.4.2.3 Beta

The beta value β represents the systematic risk of an asset in comparison to the market portfolio. The beta measures the sensitivity of an asset's movement in relation to the market, and furthermore explains whether a stock moves in the same direction as the rest of the market.

If beta is	Then it
0	Indicates that an investment is equal to a risk-free investment.
0 < β < 1	Indicates that an investment has lower risk than the market. It is less volatile.
1	Indicates that an investment has the same risk as the market.
> 1	Indicates that an investment has higher than the market. It is more volatile.
< 0	Indicates that an investment is invers correlated to the market.

Table 5.8: Own creation

The standard procedure for estimating the beta in the CAPM involves running a regression of stocks returns against market returns as the slope of the regression corresponds to the beta and measures the risk added on by that investment to the index used to capture the market portfolio. This information is absent in the case with Lego as a private company, and according to Damodaran, there are three other ways to estimate beta for private companies (Damodaran, C).

Accounting beta refers to the regression of changes in a private company's accounting earnings against changes in earnings for an equity index such as the S&P 500 to estimate accounting beta. Using operating earnings would yield an unlevered beta, whereas using net income would yield a levered beta. This approach is limited as private firms, Lego included, only measure earnings once a year which leads to regressions with few observations and limited statistical power (ibid).

Fundamental beta relates the beta of comparable publicly traded firms to observable variables such as earnings growth, debt ratios and variance in earnings. The approach is simple but is only as good as the underlying regression (ibid).

Bottom-up beta can be estimated by running a regression of stock returns from comparable companies in the industry against a market return (ibid). This approach will be applied to estimate the beta for Lego is based on the betas of peer companies, Mattel and Hasbro.

There is no common standard for the choice of estimation period or choice of return intervals for conducting a regression analysis. Academic literature offers different recommendations for estimating beta, whereas, in practice, data providers also use different estimation periods and return intervals. Early empirical tests of the capital asset pricing model suggest using five years of monthly data to obtain estimates of beta (Jensen et al., 1979 and Fama & MachBeth, 1973) whereas subsequent test of optimal measurement periods found four-year and six-year estimation periods to be most optimal (Alexander & Chervany, 1980). Daves et al. (2000) conclude that an estimation period of two to three years is more appropriate to use when estimating beta with weekly returns, as weekly returns provide a smaller standard error or greatest precision of the beta estimate than when using weekly or monthly returns. Choosing a long time period for estimating beta has the advantage of having more observations in the regression, but this can be offset by the fact it can result in a higher likelihood that there will be a significant change in beta which will result in a biased beta. Changes in corporate strategy can lead to changes in risk why using a long estimation period would underestimate the changes in risk (Koller et al., 2010: 252). Shorter return intervals increase the number of observations in the regression, but these can be problematic when a stock is rarely traded. An illiquid stock will have many reported returns equal to zero as it has not traded, which can affect the beta estimated. Using longer-dated returns will lessen this effect (ibid). Based on above-mentioned reasons, it is assessed that conducting a two-year, weekly and five-year, monthly regression analysis for Mattel and Hasbro is appropriate.

As the true market portfolio is unobservable, a proxy representing the market portfolio is necessary (Koller et al., 2010: 253). The most well-diversified indexes are highly correlated, why the choice of the index will have a small effect on the estimated beta. The S&P 500 Index is the most commonly used proxy for U.S. stocks why this is used for the regression analysis. The regression analysis is to be found in appendix 16.

The beta values conducted reflect beta value for equity, i.e. a levered beta, why they must be adjusted for financial leverage, by using the following equation:

$$\beta_{unlevered} = \frac{\beta_{levered}}{(1 + (1 - T) * \left(\frac{debt}{equity}\right)}$$

The unlevered betas for Mattel and Hasbro are shown in the table below.

Firm	Beta levered	NIBL	Share price (USD)	Number of shares (mn)	Equity (mn)	Net Debt/Equity	Tax rate	Beta unlevered
Mattel	1.3281	2864	13.7	346.9	4742	60.39%	21%	0.8991
Hasbro	0.8979	-312	103.5	137.0	14183	-2.20%	21%	0.9137
Average numbers	1.113							0.9064
Lego calculation	0.9064					0	22%	0.9064

Table 5.9: Own creation

The beta for Lego is determined based on an arithmetic average of the beta values for Mattel and Hasbro, as shown in the table above.

The future net debt to equity ratio for Lego is estimated to be 0, as it is expected that the company will have no debt, due to the supposed target capital structure. The levered beta for Lego is therefore expected to be equal to the estimated unlevered beta. This beta is estimated to be 0.9064.

Calculating the cost of equity

Based on the estimated values for the risk-free rate, the market risk premium, and the beta, the cost of equity can be determined.

The WACC can due to above mentioned and estimated factors be calculated as:

$$E(r_i) = 1.21 + (0.9064 * 5.84)$$

$$E(r_i) = 6.51\%$$

The cost of equity is estimated to be 6.51 %. As previously mentioned, the capital structure of Lego is assessed to be 100 % equity financed why the cost of equity constitutes the WACC for Lego.

Part 6

Valuation

6 Valuation

This part of the thesis will make use of previous analysis, forecast and estimations, to compute a fair value of the LEGO Group as of March 31, 2020.

This part will examine the two selected present value approaches, Discounted Cash Flow model and the Economic Value-Added model where after a sensitivity analysis is conducted. Lastly, the relative valuation approach is assessed.

6.1 Valuation models

In the following table, the valuation of LEGO Group in the DCF model is estimated. The valuation is projected with the assumption of going concern, as previously stated.

In million DKK DCF - Analysis		1 E2020	2 E2021	3 E2022	4 E2023	5 E2024	6 E2025	7 E2026	8 E2027	9 E2028	10 E2029	11 Terminal
Free cashflow		6,949	8,057	8,549	9,510	10,354	11,369	12,296	13,276	13,884	14,477	14,912
WACC		6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%
Discount factor		0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.57	0.53	0.50
PV of FCF		6,524	7,102	7,075	7,389	7,553	7,786	7,906	8,014	7,869	7,704	7,449
Terminal value	424,541											
WACC	6.51%											
Terminal growth rate	3.0%											
Valuation												
Sum of PV FCF (Budget)	74,920											
Sum of PV FCF (Terminal)	225,900											
Enterprise value	300,821											
Equity value	300,821											
Compounded Equity value as of March 31, 2020												
Equity value	**305,718**											

Table 6.1: Own creation

The enterprise value of LEGO Group is estimated to be DKK 300,821mn as of December 31, 2019. The required rate of return on equity is used to project the value of LEGO Group as of March 31, 2020. The projection is based on the following equation:

$$Equity\ value * (1 + r_e * p)$$

Where r_e is the required rate of return on equity and p is the share of the year between the last date of the balance sheet and the date of the valuation (Sørensen, 2012: 264).

$$300{,}821 * \left(1 + 6.51\% * \frac{3}{12}\right) = 305{,}718$$

The value of LEGO Group as of March 31, 2020 has been estimated to be DKK 305,718mn.

In the following table the valuation of Lego through the EVA model is estimated. It can be concluded that both models yield the same equity value, which was anticipated.

In million DKK EVA - Analysis		1 E2020	2 E2021	3 E2022	4 E2023	5 E2024	6 E2025	7 E2026	8 E2027	9 E2028	10 E2029	11 Terminal
NOPAT		8,611	9,269	10,089	11,004	11,940	12,885	13,735	14,519	15,034	15,485	15,949
Invested capital primo		20,728	22,390	23,602	25,142	26,637	28,222	29,738	31,177	32,420	33,570	34,577
WACC		6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%
Cost of capital		1,350	1,458	1,537	1,637	1,735	1,838	1,937	2,030	2,111	2,186	
EVA		7,261	7,810	8,552	9,367	10,205	11,047	11,799	12,488	12,922	13,298	13,697
Discount factor		0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.57	0.53	0.50
PV of EVA		6,817	6,885	7,077	7,278	7,444	7,566	7,586	7,539	7,324	7,076	6,843
Terminal value	389,965											
WACC	6.51%											
Terminal growth rate	3.0%											
Valuation												
Sum of PV EVA (Budget)	72,591											
Sum of PV EVA (Terminal)	207,502											
Invested capital primo	20,728											
Enterprise value	300,821											
Equity value	300,821											

Compounded Equity value as of March 31, 2020	
Equity value	**305,718**

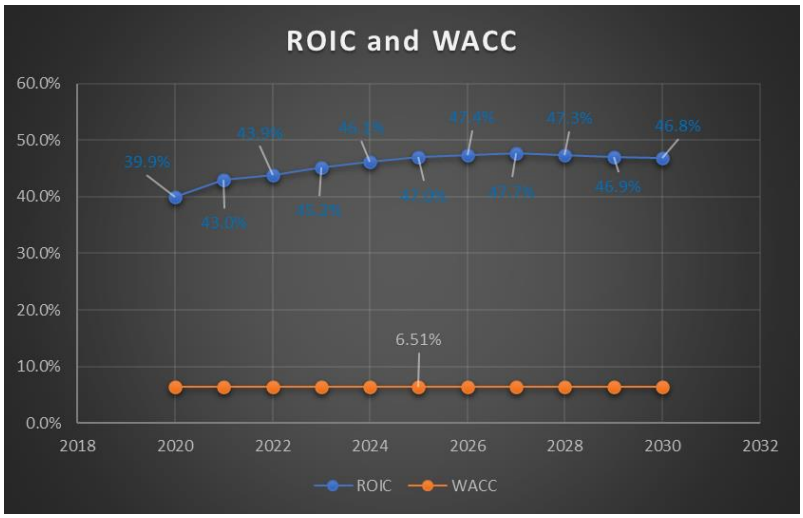
Table 6.2: Own creation

The DCF-model is the primary approach applied where the EVA-model is included as a control as both models should conduct the same value as they are based on the same assumptions. As mentioned in the delimitation, the financial numbers are based on yearly annual reports why the valuation had to be projected. The CAPM was used to project the value of LEGO Group as of March 31, 2020.

The best- and worst-case scenarios of the valuation are found in Appendix 17.

In the DCF and EVA models, NIBL has not been incorporated due to Lego having Net financial Assets. The capital structure is assessed to be 100 % equity financing why free cash flow is paid as dividend to the investors. This is explicit shown in the forecasting of the balance sheet where the Invested Capital and Equity appear as the same value. The net financial assets are paid out as dividends for 2019 for this to be applicable.

It is possible to determine if the company can create economic value by comparing ROIC and WACC. If ROIC exceeds WACC then value has been created, opposite if WACC exceeds ROIC then value is being destroyed. Graph 6.1 below illustrates the forecasted ROIC and estimated WACC for Lego. It shows that the forecasted ROIC is at a greater level than WACC why it can be concluded that it is expected that value will be created.



Graph 6.1: Own creation

It should be noted that according to Damodaran, the estimated values will change according to new information being available even when carefully attaining inputs and applying structured models (Damodaran, A). To gain a further understanding of the valuation of the LEGO Group parameter influencing the valuation will be examined though a sensitivity analysis while a multiple analysis is conducted to compare Lego with its peers.

6.2 Sensitivity analysis

A valuation should be accompanied by a sensitivity analysis that examines the consequences on the valuation when changing some of the key value parameters. The sensitivity analysis will test the validity of the valuation as it can disclose the flaws in the estimations. The analysis will, therefore, bound a valuation range when there is uncertainty about the key value parameters (Petersen et al., 2015: 334). The sensitivity analysis will be conducted as a two-dimensional model, which will demonstrate the effect from two parameters simultaneously.

The parameters that will be examined for uncertainty are WACC and terminal growth rate in relation to the estimated enterprise value of Lego. Determining the required rate of return can be difficult, as it required detailed knowledge of the individual parameters. The terminal growth rate is especially vital in the estimation of equity value, as the terminal value usually accounts for 60-80 % of the estimated enterprise value. Thereafter, parameters from WACC will be examined further.

WACC and terminal growth rate

	WACC										
Terminal growth	5.74%	5.89%	6.04%	6.19%	6.35%	**6.51%**	6.54%	6.71%	6.88%	7.05%	7.22%
2.64%	359,645	342,603	326,666	311,735	297,723	284,553	282,059	270,099	258,806	248,128	238,022
2.71%	365,920	348,237	331,732	316,298	301,838	288,268	285,702	273,401	261,801	250,849	240,495
2.78%	372,656	354,271	337,148	321,167	306,221	292,220	289,574	276,906	264,977	253,729	243,109
2.85%	379,901	360,748	342,948	326,370	310,898	296,428	293,697	280,632	268,348	256,783	245,878
2.93%	387,713	367,714	349,174	331,944	315,896	300,919	298,094	284,599	271,932	260,024	248,812
3.00%	396,159	375,226	355,870	337,925	321,250	**305,718**	302,793	288,831	275,749	263,470	251,928
3.08%	405,081	383,139	362,905	344,195	326,848	310,727	307,695	293,237	279,716	267,046	255,156
3.15%	414,763	391,700	370,496	350,942	332,860	316,094	312,944	297,947	283,948	270,855	258,588
3.23%	425,303	400,990	378,709	358,222	339,329	321,855	318,577	302,990	288,471	274,918	262,243
3.31%	436,818	411,103	387,620	366,098	346,308	328,055	324,636	308,402	293,314	279,260	266,142
3.39%	449,443	422,149	397,319	374,642	353,857	334,743	331,169	314,223	298,512	283,910	270,309

Table 6.3: Own creation

The estimated WACC and the terminal growth rate are clarified in the table above. By maintaining a WACC of 6.51%, which is used for the valuation of LEGO Group, and changing the terminal growth rate from 2.64 % to 3.39 %, the equity value changes from DKK 284,553mn to DKK 334,743mn. This difference demonstrates the degree to which the estimated valuation is sensitive to changes in growth in the terminal period.

If the growth rate is maintained at 3 %, which is estimated for the valuation, and WACC changes from 5.74 % to 7.22 %, the value of equity changes from DKK 396,159mn to DKK 251,928mn. This highlights that the determination of WACC has significant consequences for the valuation, whereas the sensitivity analysis can shed light on other alternative estimates.

Beta and risk-free rate relative to WACC

As WACC has a considerable impact on the estimated value, its components are analyzed further to measure its sensitivity.

	Beta										
Risk free rate	0.80	0.82	0.84	0.86	0.88	**0.91**	0.93	0.95	0.98	1.00	1.03
0.90%	5.572%	5.692%	5.815%	5.941%	6.070%	6.202%	6.335%	6.471%	6.610%	6.753%	6.899%
0.95%	5.622%	5.742%	5.865%	5.991%	6.120%	6.252%	6.385%	6.521%	6.660%	6.803%	6.949%
1.00%	5.672%	5.792%	5.915%	6.041%	6.170%	6.302%	6.435%	6.571%	6.710%	6.853%	6.999%
1.21%	5.882%	6.002%	6.125%	6.251%	6.380%	**6.512%**	6.645%	6.781%	6.920%	7.063%	7.209%
1.50%	6.172%	6.292%	6.415%	6.541%	6.670%	6.802%	6.935%	7.071%	7.210%	7.353%	7.499%
2.00%	6.672%	6.792%	6.915%	7.041%	7.170%	7.302%	7.435%	7.571%	7.710%	7.853%	7.999%
2.50%	7.172%	7.292%	7.415%	7.541%	7.670%	7.802%	7.935%	8.071%	8.210%	8.353%	8.499%

	Beta										
Market risk premium	0.80	0.82	0.84	0.86	0.88	**0.91**	0.93	0.95	0.98	1.00	1.03
5.42%	5.540%	5.651%	5.765%	5.882%	6.002%	6.125%	6.247%	6.373%	6.503%	6.635%	6.770%
5.56%	5.651%	5.765%	5.882%	6.002%	6.125%	6.251%	6.377%	6.506%	6.638%	6.774%	6.913%
5.70%	5.765%	5.882%	6.002%	6.125%	6.251%	6.380%	6.509%	6.642%	6.777%	6.917%	7.059%
5.85%	5.882%	6.002%	6.125%	6.251%	6.380%	**6.512%**	6.645%	6.781%	6.920%	7.063%	7.209%
5.97%	5.975%	6.098%	6.223%	6.351%	6.483%	6.618%	6.754%	6.892%	7.034%	7.180%	7.329%
6.12%	6.095%	6.220%	6.348%	6.480%	6.615%	6.754%	6.892%	7.034%	7.180%	7.329%	7.482%
6.27%	6.217%	6.345%	6.477%	6.612%	6.750%	6.892%	7.034%	7.180%	7.329%	7.482%	7.639%

Table 6.4: Own creation

By maintaining the beta of 0.91 and changing the risk-free rate from 0.9 % to 2.5 % WACC will change from 6.20 % to 7.80 %. By changing the market risk premium from 5.42 % to 6.3 %, WACC changes from 6.13 % to 6.89 %. By changing beta from 0.8 to 1.03 WACC will change from 5.88% to 7.21%. This

highlights that the beta has significant consequences for its estimation of WACC, whereas the sensitivity analysis can shed light on other alternative estimates. Hence, a thorough estimation of beta is needed.

6.3 Multiples

The discounted cash flow model is recognized as an accurate and flexible relative valuation approach. However, a multiple analysis provides a perceptiveness on earnings multiples relative to peers and tests the valuation (Koller et al., 2010: 331). Companies within the same industry and with similar performance should be trading at the same multiple, why it is necessary to ensure that a comparison is done on an apples-to-apples basis.

The peer group, Mattel and Hasbro, do as Lego operate in the industry of toy and games industry, and they all operate in the subindustry traditional toys and games. Relative to sales and market shares, Hasbro and Mattel, have been the companies most comparable to Lego. It should be noted that even in similar subindustries, the companies might vary in return on invested capital and growth, causing a variation in the multiples (Petersen et al., 2017: 322). Although the most comparable companies are chosen as the peer group, slight differences in prospects of ROIC and growth appear why variations can be expected in the multiples. Lego is an unlisted company why the ratios are estimated through a present value approach conducting an enterprise value as of March 31, 2020. The peers' enterprise value has been calculated based on their share price and outstanding shares as of March 31, 2020. The multiples estimated are Enterprise value/sales, Enterprise Value/EBITDA and Enterprise Value/EBIT.

The multiples have been estimates and are shown in table 6.5.

	EV/Sales	Thomson One Banker
Mattel	1.7	1.5
Hasbro	2.9	2.9
Lego	7.9	-
	EV/EBITDA	Thomson One Banker
Mattel	26.5	24.0
Hasbro	17.3	14.5
Lego	23.9	-
	EV/EBIT	Thomson One Banker
Mattel	191.5	160.9
Hasbro	21.1	20.0
Lego	28.2	-

Table 6.5: Own creation

The enterprise value to sales is a multiple, which compares the total value of the firm with the annual revenue. The multiple estimates how much a company's sales would be worth in case of a takeover. In table 6.5, the EV/Sales for Lego is at 7.9 whereas Mattel is 1.7 and Hasbro 2.9. Lego has a higher multiple than its peers why Lego would be more costly to acquire.

The EV/EBITDA is independent of capital structure why it is considered a more accurate measure. EV/EBITDA for Lego has estimated to be 23.9, whereas the peers Mattel and Hasbro have EV/EBITDA multiples of 26.5 and 17.3, respectively. It can be concluded that Lego is at a level similar to their peers.

The EV/EBIT for Lego is estimated to be 28.2 whereas Hasbro and Mattel have multiples on 21.1 and 191.5, respectively. EV/EBIT for Mattel can be explained by the company's significant low EBIT, which generates a high margin. This is not comparable to Lego and Hasbro.
The multiple for Lego still exceeds the one for Hasbro, which can be described through the higher prospects for Lego than for its competitors. As previously mentioned in the profitability analysis, Lego has outperformed its peers while exploiting their sustainable competitive advantages.

Sub conclusion

This part concerning the valuation is the focal point of this thesis as it utilizes all the information conducted throughout the thesis to estimate the enterprise value of the LEGO Group.
Two present value approaches were applied based on pro forma from previous part of the thesis as well as an estimated WACC of 6.51%. The DCF- and EVA-model estimate the same value of the LEGO Group as they are based on the same assumptions. The value LEGO Group as of March 31, 2020 is estimated to be DKK 305,718mn.
A sensitivity analysis has been applied in order to account for the uncertainty associated with key parameters of the valuation. It was found that changes to the WACC was affecting the valuation the most whereas changes in beta have significant effect on the WACC.
Lastly, a relative valuation approach was conducted by comparing the calculated multiples of Lego to its peers. The multiple comparison showed that Lego is valued highly but can be justified as it is assumed that peers must have similar characteristics e.g. similar growth rates, which they are not in this case.

Part 7

Conclusion & perspectivation

7 Conclusion and perspectivation

7.1 Conclusion

The main purpose of this thesis has been to estimate the theoretical fair value of LEGO Group as of March 31, 2020.

This thesis uses the present value approaches, the discounted cash flow model, and the economic value-added model, to carry out the value estimation. These models presuppose that proforma analyzes are prepared which form the basis for the valuation. The forecasting and pro forma are based on a thorough strategic and financial analysis of LEGO Group as these analyzes provides an understanding of the external and internal factors of the company.

The external analysis consists of a PESTEL and Porter's Five Forces analysis that scrutinizes the macro- and meso environments whereas the internal analysis consists of a VRIO analysis and Ansoff' Growth Matrix to assess the microenvironment of the LEGO Group.

It was found that the LEGO Group is highly influenced by increasing digitalization as increasingly easy access to electronic gadgets and as a consequence hereof the amount of attention paid to traditional toys and games is decreasing. However, LEGO Group has been able to modernize their traditional toys by integrating physical and digital play.

The Chinese market has shown great potential in terms of demographics and real GDP growth why the LEGO Group continue with investing in building the company's brand presence in the country.

The industry for traditional toys and games is expected to increase at a CAGR of 4.13 % during 2020 to 2014 whereas the growth varies greatly among geographical markets e.g. the Chinese market is expected to grow 8.5 %.

Additionally, it was found that four key resources of the LEGO provided them with competitive advantages which is the System of Play, the LEGO brand, LEGO stores and innovation. It was found that besides the stores, the remaining resources had the potential of providing a sustainable competitive advantage.

It was found that LEGO Group pursues three different growth strategies: product development, market development and market penetration. Product development is vital the LEGO Group. The company focus on delivering high innovative products meeting the changeable consumer demands and why each year the product portfolio of LEGO Group consists of approximately 60% new products. Furthermore, Lego is focusing on expanding to a new market here included China, which has become a great focus of Lego and caused a two-digit growth in the market in 2019. Market penetration is achieved through the elasticity of the System of Play as the consumers' Lego collections can grow to infinity which

generates more sales and by and pitching its products in new ways to the consumers i.e.as a way to reduce stress and anxiety.

The financial analysis showed that the LEGO Group had a decreasing ROE in the analyzed period, however at a satisfactory level compared to its peers. The financial leverage showed a decreasing trend as LEGO Group is 100 % equity financed. The company had an overall decrease in ROIC caused by decreasing operating profit margin and a decreasing turnover rate of invested capital. However, the level of the company's ROIC was at a significantly higher level than its peers, why it can be concluded that LEGO Group outperformed its peers.

The strategic and financial analysis enabled a forecast of LEGO Group's financial statements for the next ten years, as well as a terminal period. The pro forma analysis contributes with estimating a theoretical fair value of the LEGO Group as of March 31, 2020. The expected revenue growth was based on growth expectations for the industry of traditional toys and games as well as findings in the internal and external strategic analysis. The terminal growth rate was found to be 3%, whereas the WACC was determined to be 6.51%.

The projections of the sale growth were forecasted using geographical expectation in the industry and by applying the information from the previous analysis. The value of Lego was estimated using the Discounted Cashflow model and the Economic Value-Added model, which estimated an equity value for the LEGO Group as of December 31, 2019. To estimate the value on March 31, 2020, the estimated equity value was projected with the required rate of return on equity. The calculated value of the LEGO Group as of March 31, 2020 was estimated to be DKK 305,178mn.

A sensitivity analysis was furthermore conducted to determine the uncertainty of the parameters in the value estimation. It was found that the estimated value is rather sensitive to changes in WACC whereas a further sensitivity analysis of the WACC illustrates that WACC is rather sensitive to the beta estimate, why it would be more accurate to assess that an equity value would be in a range rather than a precise estimate. Lastly, a multiple analysis was conducted comparing the peers, Mattel and Hasbro in regard to their EV/Sales, EV/EBITDA and EV/EBIT where it was found that Lego has a high EV/EBIT due to higher prospects and profitability than its competitors.

7.2 Perspective

This part will discuss a variety of perspectives which were not taken into consideration in the thesis. The fair value of LEGO Group has been assessed as of March 31, 2020, why information beyond this point of time has not been considered in the valuation. New information has surfaced after the cut-off

date, which would have had impacted the estimated value of LEGO Group. The COVID-19 pandemic has in recent months had a major impact on the global economy, including the industry of traditional toys and games here included construction toys. Governments have been forced to quarantine entire countries, disrupting global supply chains and slashing businesses and consumer confidence. The industry has met challenges in the form of supply chains, stores closures, and shifts in consumer demand due to depressed incomes (Euromonitor, The Impact of Coronavirus on Toys and Games). Consumers are demanding digital solutions that support at-home education why an increase in scientific and educational toys have been monitored, indicating increasing demand for LEGO products. This information would have affected the expectations of the projected sales positively, why a higher value could be expected.

Although the thesis assess e-commerce to be an important distribution channel for the industry of traditional toys and games, it has become increasingly more vital as LEGO Group has had its stores closed for a long period of time outside of China. It is assessed that LEGO Group would continue to survive the challenges the limited distribution channels cause.

The market risk premium applied in the calculation of CAPM was estimated prior to March 31, 2020 and therefore, prior to the impact from COVID-19. A survey conducted about the market risk premium indicates that respondents increased their MRP by 2 % after the outbreak of COVID-19 (Fernandez al., 2020). An increase in market risk premium by 2 % would result the calculated WACC to increase to 6.618 % which would further cause the estimated equity value to decrease to DKK 297,027mn, thus a change of DKK 9,243mn from the value estimated in the base case scenario.

It has been found that the lockdown has caused boredom which has resulted in a higher purchase of toys to stay entertained, here including construction toys. The value of sales of building set from January 1, to May 23, 2020, increased by 17 % compared to the same period the year prior why e-commerce platforms has become more important than ever (Peachey, 2020, B).

Lego has joined forces with foundations all over the world here included in Hungary, the U.S., the United Kingdom and China to support children impacted by the COVID-19. 90 % of the world's student population have been out of school while families face financial or medical insecurities why the global impact of COVID-19 on children's wellbeing and development is unprecedented. Lego has been donating money in the aim of helping foundations to reach crisis-affected children in need of vital support and opportunities to learn through play. The aim of Lego has been to support the wellbeing of children and their development of vital life skills (LEGO.com, R). Such a strategic movement can be expected to impact the future perception of the Lego brand and its value.

The valuation has been made in regard to the interest of conducting a valuation of a private company from an external perspective. A sale of LEGO Group as a whole is thought to be unlikely to happen due to the company's rooted family history, however, such a perspective is additionally thought to be of interest.

The paper would, in this perspective, have included an analysis on which actions Lego could take to increase its sales maturity. An in-debt analysis would have been required regarding the external and internal dependency in order to evaluate which factors would influence the value and marketability (Nørbjerg & Plenborg, 2009). Such a perspective would also include the steps to be taken in a sales process. This would include a thorough due diligence of the company which would give access to information that have not been accessible in this thesis. Such information could undoubtedly result in a different estimation of value of the LEGO Group.

When a private company is traded to either private companies or private investors, the matter of illiquidity becomes an issue as assets and shares in a private company are more costly and problematic to convert to cash than publicly traded shares. Petersen et al. (2006) find that investors adjust the required rate of return on equity to account for the lack of liquidity, attaching a liquidity premium of up to 3-5 pct. points (Petersen et al.,2017: 363). Moreover, an illiquidity discount for a private company of 20-30 % is thought to be a rule of thumb used by practitioners (Damodaran, E). Such additions would affect the estimated value of the LEGO Group significantly.

No illiquidity discount should however be given to a public acquirer since investors in the buying company can sell their holdings in a market (ibid).

The findings in this thesis are based on secondary data and best assumptions yielding a possible value of LEGO Group viewed from an external perspective. The access to primary data would have been desirable in conducting the valuation based on more thorough fundamental analysis with access to the internal information.

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LEGOe: Lego Annual Report 2015

LEGOf: Lego Annual Report 2014

LEGOg: Lego Annual Report 2013

Mattel Annual reports

MATTELa: Mattel Annual Report 2019

MATTELb: Mattel Annual Report 2018

MATTELc: Mattel Annual Report 2017

MATTELd: Mattel Annual Report 2016

MATTELe: Mattel Annual Report 2015

MATTELf: Mattel Annual Report 2014

MATTELg: Mattel Annual Report 2013

Hasbro Annual reports

HASBROa: Hasbro Annual Report 2019

HASBROb: Hasbro Annual Report 2018

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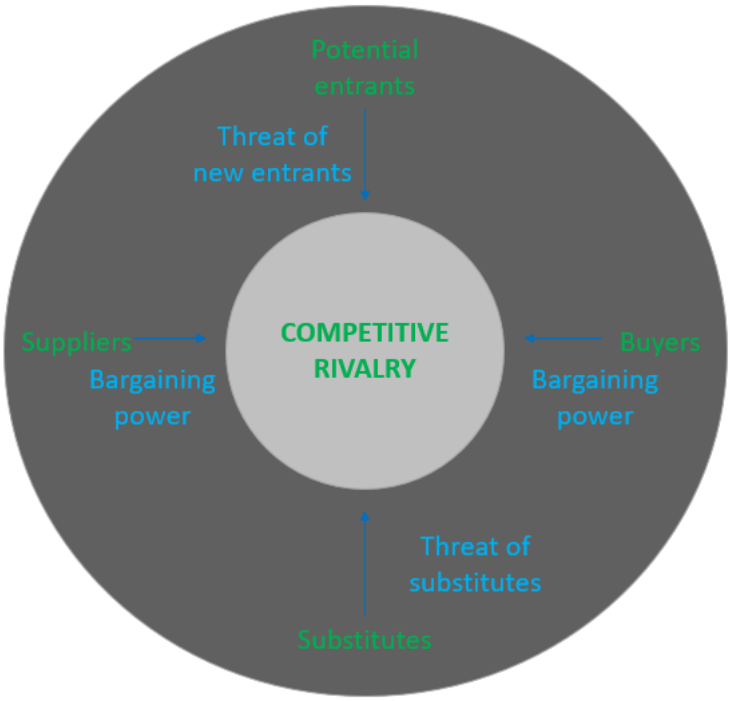
Table of Appendix

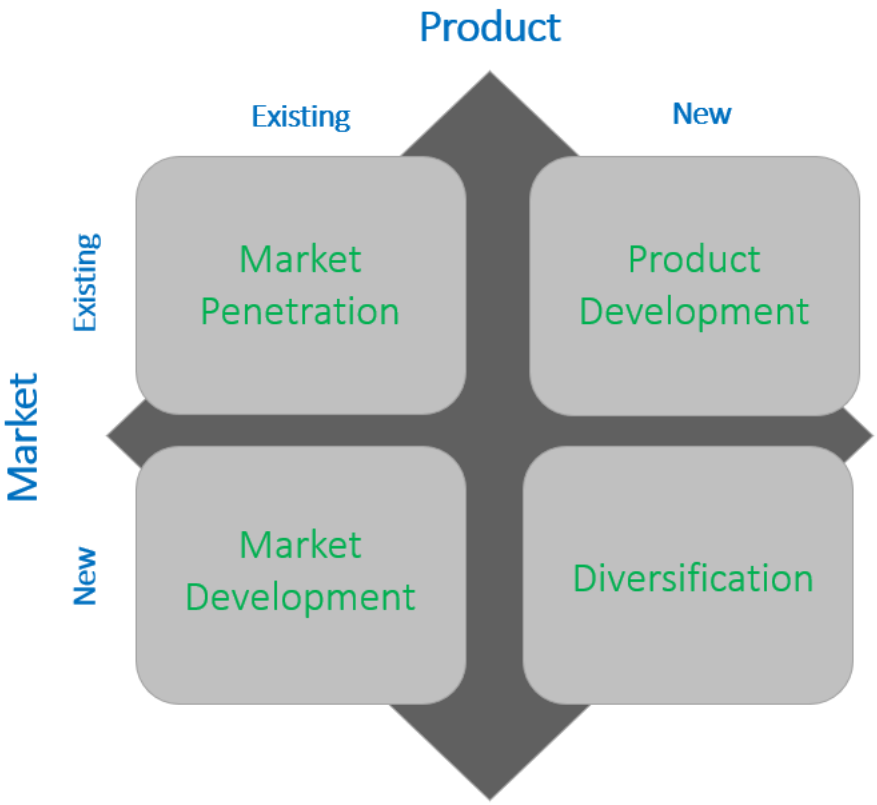
Appendix 1 – Porter's Five Forces

1.1 – Porter's Five Forces



Appendix 2 – Ansoff's Growth Matrix

2.1 – Ansoff's Growth Matrix



Appendix 3 – LEGO - Balance sheet

3.1 – REPORTED

LEGO - BALANCE SHEET - AS REPORTED

Consolidated Balance Sheet	2013	2014	2015	2016	2017	2018	2019
ASSETS							
Non-current assets							
Development projects	71	85	139	39	71	93	13
Software	131	126	138	270	192	147	185
Licenses, patents and other rights	58	60	55	42	24	13	6
Goodwill							284
Intangible assets	260	271	332	351	287	253	488
Land, buildings and installations	1777	3299	5016	5,352	5,300	5,253	6,182
Plant and machinery	2114	2494	3033	3,710	3,536	3,136	3,098
Other fixtures and fittings, tools and equipment	846	1072	1176	1,193	1,304	1,192	1,724
Fixed assets under construction	1553	1591	1076	1,457	1,386	2,140	1,352
Property, plant and equipment	6290	8456	10301	11712	11526	11721	12356
Deferred tax assets	140	494	419	611	591	638	738
Investments in associated companies	3	3	3	3	3	-	-
Prepayments	146	162	169	159	146	142	-
Right of use Assets							3,123
Other non-current assets	289	659	591	773	740	780	3861
Total non-current assets	**6839**	**9386**	**11224**	**12836**	**12553**	**12754**	**16705**
Current assets							
Inventories	1824	2182	2747	2,991	2,383	2,579	2,672
Trade receivables	4870	5891	6410	7,174	6,333	6,766	7,201
Other receivables	946	733	920	1,036	868	931	974
Prepayments	74	99	179	134	146	250	376
Current tax receivables	65	48	254	510	178	249	284
Receivables from related parties	2310	2598	4932	4,350	6,688	6,858	5,876
Cash at banks	1024	482	1211	906	762	1,098	858
Total current assets	**11113**	**12033**	**16653**	**17101**	**17358**	**18731**	**18241**
TOTAL ASSETS	**17952**	**21419**	**27877**	**29937**	**29911**	**31485**	**34946**

Consolidated Balance Sheet	2013	2014	2015	2016	2017	2018	2019
EQUITY AND LIABILITIES							
EQUITY							
Share capital	20	20	20	20	20	20	20
Reserve for hedge accounting	94	-158	6	-80	34	-32	-35
Reserve for currency translation	-374	-362	-283	-338	-581	-571	-417
Retained earnings	11335	13332	18008	20,437	21,241	22,336	22,615
LEGO A/S' share of equity	11075	12832	17751	20039	20714	21753	22183
TOTAL EQUITY	**11075**	**12832**	**17751**	**20039**	**20714**	**21753**	**22183**
LIABILITIES							
Non-current liabilities							
Borrowings	205	196	187	178	167	157	147
Lease liabilities						-	2,523
Deferred tax liabilities	126	209	29	40	158	134	168
Pension obligations	57	82	95	198	184	161	209
Provisions	88	95	64	54	56	60	78
Deferred revenue				36	36	12	14
Debt to related parties	600	600	600	600	-	-	-
Other long-term debt	68	96	98	197	80	139	176
Total non-current liabilities	**1144**	**1278**	**1073**	**1303**	**681**	**663**	**3315**
Current liabilities							
Borrowings	88	162	189	41	11	10	10
Lease liabilities						-	573
Trade payables	2201	2530	3143	2,837	2,811	3,207	3,422
Current tax liabilities	85	154	230	223	200	257	347
Provisions	110	228	158	72	219	54	9
Debt to related parties				-	600	-	-
Deferred revenue				237	178	249	248
Other short term debt	3249	4235	5333	5,185	4,497	5,292	4,839
Total current liabilities	**5733**	**7309**	**9053**	**8595**	**8516**	**9069**	**9448**
TOTAL LIABILITIES	**6877**	**8587**	**10126**	**9898**	**9197**	**9732**	**12763**
TOTAL EQUITY AND LIABILITIES	**17952**	**21419**	**27877**	**29937**	**29911**	**31485**	**34946**

3.2 – REFORMULATED

LEGO - BALANCE - REFORMULATED

Operating Assets	2013	2014	2015	2016	2017	2018	2019
Operating current assets							
Inventories	1824	2182	2747	2991	2383	2579	2672
Trade receivables	4870	5891	6410	7174	6333	6766	7201
Other receivables	946	733	920	1036	868	931	974
Prepayments	74	99	179	134	146	250	376
Current tax receivables	65	48	254	510	178	249	284
Total operating currents assets	7779	8953	10510	11845	9908	10775	11507
Operating current liabilities							
Trade payables	2201	2530	3143	2837	2811	3207	3422
Current tax liabilities	85	154	230	223	200	257	347
Wage related payables and other charges	1084	1282	1844	1618	1411	1768	1663
VAT and other indirect taxes	266	330	408	403	405	371	381
Provisions	110	228	158	72	219	54	9
Deferred revenue				237	178	249	248
Discounts	676	698	768	1061	1029	1266	1154
Total operating current liabilities	4422	5222	6551	6451	6253	7172	7224
Net operating working capital	3357	3731	3959	5394	3655	3603	4283
Operating non-current assets							
Deferred tax assets	140	494	419	611	591	638	738
Development projects	71	85	139	39	71	93	13
Goodwill							284
Software	131	126	138	270	192	147	185
Licenses, patents and other rights	58	60	55	42	24	13	6
Land, building and installations	1777	3299	5016	5352	5300	5253	6182
Property, plant and machinery	2114	2494	3033	3710	3536	3136	3098
Other fixtures, fittings, tools and equipment	846	1072	1176	1193	1304	1192	1724
Fixed assets under construction	1553	1591	1076	1457	1386	2140	1352
Prepayments	146	162	169	159	146	142	0
Investments in associates	3	3	3	3	3	0	0
Right of use assets							3123
+ Capitalized operating leases	2174	2536	2843	2637	2811	3123	
Total operating non-current assets	9013	11922	14067	15473	15364	15877	16705
Operating non-current liabilities							
Deferred tax liabilities	126	209	29	40	158	134	168
Provisions	88	95	64	54	56	60	78
Deferred revenue				36	36	12	14
Total operating non-current liabilities	214	304	93	130	250	206	260
Net Operating Non Current Assets	8799	11618	13974	15343	15114	15671	16445
Invested capital	12156	15349	17933	20737	18769	19274	20728

Financial Assets	2013	2014	2015	2016	2017	2018	2019
Financial assets							
Cash and cash equivalents	1024	482	1211	906	762	1098	858
Loans to related parties	2310	2598	4932	4350	6688	6858	5876
Total financial assets	**3334**	**3080**	**6143**	**5256**	**7450**	**7956**	**6734**
Financial liabilities							
Borrowings, credit institutions - non-current	205	196	187	178	167	157	147
Borrowings, credit institutions - current	88	162	189	41	11	10	10
Financial leasing	31	28	27	23	16	10	0
Debt to related parties	915	974	1121	1042	1043	504	570
Pension obligations	57	82	95	198	184	161	209
Other interest bearing liabilities	945	1619	1863	1835	1273	1512	1247
Lease liabilities						-	3,096
+ Capitalized operating leases	2174	2536	2843	2637	2811	3123	
Total financial liabilities	4415	5597	6325	5954	5505	5477	5279
NET FINANCIAL LIABILITIES	**1081**	**2517**	**182**	**698**	**-1945**	**-2479**	**-1455**
EQUITY INCL. MINORITIES	**11075**	**12832**	**17751**	**20039**	**20714**	**21753**	**22183**
Invested capital	**12156**	**15349**	**17983**	**20737**	**18769**	**19274**	**20728**

Appendix 4 – MATTEL - Balance sheet

4.1 – REPORTED

MATTEL BALANCE SHEET - AS REPORTED							
Balance Sheet - USD mn	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
ASSETS							
Current assets							
Cash and cash equivalents	1039	972	893	870	1079	594	630
Trade receivables	1260	1093	1145	1115	1129	970	936
Inventories	569	562	588	614	601	543	496
Prepaid expenses	510	559	571	342	303	245	186
Total current assets	**3378**	**3186**	**3197**	**2940**	**3112**	**2352**	**2248**
Non-current assets							
Property, plant and equipment	659	738	741	774	785	658	550
Right of use assets, net							303
Goodwill	1083	1394	1385	1388	1397	1386	1391
Other non-current assets	1319	1404	1230	1392	945	847	833
Total non-current assets	**3062**	**3536**	**3356**	**3554**	**3127**	**2891**	**3077**
TOTAL ASSETS	**6440**	**6722**	**6553**	**6494**	**6239**	**5243**	**5325**
Balance Sheet - USD mn	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
EQUITY AND LIABILITIES							
EQUITY							
Common stock	441	441	441	441	441	441	441
Additional paid-in capital	1784	1767	1790	1791	1808	1813	1826
Retained earnings	3918	3896	3746	3545	2179	1629	1413
Treasury stock	-2449	-2534	-2495	-2427	-2390	-2355	-2319
Accumulated other comprehensive income	-444	-622	-849	-943	-782	-859	-869
TOTAL EQUITY	**3252**	**2949**	**2633**	**2408**	**1257**	**669**	**492**
LIABILITIES							
Current liabilities							
Short term borrowings	4	0	17	192	0	4	0
Current portion of long-term debt			300		250		
Trade payables	375	430	652	665	572	538	459
Taxes payable	98	19	19	20	9	10	48
Accrued liabilities	570	640	658	629	792	700	770
Other current liabilities	0	0	0	0	0	0	0
Total current liabilities	**1047**	**1089**	**1646**	**1506**	**1624**	**1253**	**1277**
Non-current liabilities							
Long-term debt	1600	2100	1800	2134	2873	2852	2847
Non-current lease liabilities							271
Other long-term liabilities	541	584	474	446	484	470	439
Total non-current liabilities	**2141**	**2684**	**2274**	**2580**	**3357**	**3321**	**3557**
TOTAL LIABILITIES	**3188**	**3773**	**3919**	**4086**	**4981**	**4574**	**4834**
TOTAL EQUITY AND LIABILITIES	**6440**	**6722**	**6553**	**6494**	**6239**	**5243**	**5325**

4.2 – REFORMULATED

MATTEL BALANCE SHEET - REFORMULATED							
Operating Assets	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Operating current assets							
Inventories	569	562	588	614	601	543	496
Trade receivables	1260	1093	1145	1115	1129	970	936
Prepaid Expenses and Other	510	559	571	342	303	245	186
Total operating currents assets	**2339**	**2214**	**2304**	**2071**	**2032**	**1758**	**1618**
Operating current liabilities							
Trade payables	375	430	652	665	572	538	459
Income taxes payable	98	19	19	20	9	10	48
Accrued liabilities	570	640	658	629	792	700	695
Total operating current liabilities	**1043**	**1089**	**1329**	**1313**	**1374**	**1248**	**1203**
Net Operating Working Capital	**1296**	**1125**	**975**	**757**	**659**	**510**	**415**
Operating non-current assets							
Property Plant & Equipment	659	738	741	774	785	658	550
Goodwill	1083	1394	1385	1388	1397	1386	1391
Other non-current assets	1319	1404	1230	1392	945	847	833
Intangible assets	681	739	700	660	639	588	553
Deferred income taxes	374	385	317	508	77	50	68
Other	265	280	212	223	229	210	212
Right of use assets, net							303
+ Added: Capitalized operating leases	525	499	478	596	551	345	
Total operating non-current assets	**3586**	**4035**	**3834**	**4150**	**3678**	**3236**	**3077**
Operating non-current liabilities							
Non current tax liabilities	186	171	109	97	124	151	126
Other non current liabilities	162	183	169	157	191	132	101
Total operating non-current liabilities	**348**	**354**	**278**	**254**	**316**	**283**	**227**
Net Operating Non Current Assets	**3239**	**3681**	**3556**	**3896**	**3363**	**2953**	**2851**
Invested capital	**4534**	**4806**	**4531**	**4653**	**4021**	**3462**	**3266**
Financial Assets	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Financial assets							
Cash and cash equivalents	1039	972	893	870	1079	594	630
Total financial assets	**1039**	**972**	**893**	**870**	**1079**	**594**	**630**
Financial liabilities							
Short term debt	4	0	17	192	0	4	0
Current portion of long-term debt			300		250		
Long term debt	1600	2100	1800	2134	2873	2852	2847
Benefit plan liabilities	193	230	196	192	169	186	212
Lease liabilities							345
+ Added: Capitalized operating leases	525	499	478	596	551	345	
Total financial liabilities	**2322**	**2828**	**2791**	**3115**	**3843**	**3387**	**3404**
NET FINANCIAL LIABILITIES	**1283**	**1857**	**1898**	**2245**	**2764**	**2793**	**2774**
EQUITY INCL. MINORITIES	**3252**	**2949**	**2633**	**2408**	**1257**	**669**	**492**
Invested capital	**4534**	**4806**	**4531**	**4653**	**4021**	**3462**	**3266**

Appendix 5 – HASBRO - Balance sheet

5.1 – REPORTED

HASBRO BALANCE SHEET - AS REPORTED

Consolidated Balance Sheet - USD mn	2013	2014	2015	2016	2017	2018	2019
ASSETS							
Current assets							
Cash and cash equivalents	682	893	977	1282	1581.23	1182	4580
Accounts receiveables	1094	1095	1218	1320	1405	1188	1411
Inventories	349	340	384	388	433	443	446
Prepaid expenses and other current assets	356	392	287	238	214	269	310
Total current assets	2480	2719	2866	3228	3634	3083	6748
Non-current assets							
Property, plant and equipment	236	237	238	267	260	256	382
Goodwill	594	593	593	571	573	486	495
Intangible assets	376	325	281	246	217	694	646
Other long-term assets	715	658	744	780	606	744	585
Total non-current assets	1922	1813	1855	1864	1656	2180	2108
TOTAL ASSETS	4402	4532	4721	5091	5290	5263	8856

Consolidated Balance Sheet - USD mn	2013	2014	2015	2016	2017	2018	2019
EQUITY AND LIABILITIES							
LIABILITIES							
Current liabilities							
Short-term borrowings	8	252	165	173	155	10	1
Current portion of long-term debt	428	0	0	350			
Accounts payables	199	213	241	320	348	334	344
Accrued liabilities	728	610	659	776	748	931	913
Total current liabilities	1363	1075	1065	1618	1252	1274	1257
Non-current liabilities							
Long-term debt	960	1560	1547	1199	1694	1695	4046
Other long-term liabilities	351	389	405	389	515	539	557
Total non-current liabilities	1357	1992	1992	1588	2208	2234	4603
TOTAL LIABILITIES	2720	3066	3057	3206	3460	3509	5860
Redeemable non-controlling interest	45	43	40	23			
EQUITY							
Common stock	105	105	105	105	105	105	110
Additional paid-in capital	734	806	894	985	1050.605	1275	2276
Retained earnings	3432	3630	3852	4149	4260	4184	4355
Treasury stock	-2555	-2980	-3041	-3182	-3346	-3515	-3561
Accumulated other comprehensive income	-34	-95	-146	-195	-239	-295	-184
TOTAL EQUITY	1682	1466	1664	1863	1830	1754	2996
TOTAL EQUITY AND LIABILITIES	4448	4575	4761	5091	5290	5263	8856

5.2 – REFORMULATED

HASBRO - REFORMULATED BALANCE SHEET							
Operating Assets - USD mn	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Operating current assets							
Inventories	349	340	384	388	433	443	446
Trade receivables	1094	1095	1218	1320	1405	1188	1411
Prepaid Expenses and Other	356	392	287	238	214	269	310
Total operating currents assets	**1798**	**1826**	**1889**	**1945**	**2053**	**1900**	**2167**
Operating current liabilities							
Trade payables	199	213	241	320	348	334	344
Accrued liabilities	728	610	659	776	748	931	913
Total operating current liabilities	**927**	**822**	**900**	**1096**	**1097**	**1265**	**1257**
Net Operating Working Capital	**871**	**1003**	**989**	**850**	**956**	**636**	**911**
Operating non-current assets							
Property Plant & Equipment, net	236	237	238	267	260	256	382
Goodwill	594	593	593	571	573	486	495
Other intangibles, net	376	325	281	246	217	694	646
Other long-term assets	715	658	744	780	606	744	585
Right-of-use assets (lease)							127
+ Added: Capitalized operating leases	228	221	255	308	316	127	
Total operating non-current assets	**2150**	**2034**	**2110**	**2172**	**1972**	**2307**	**2235**
Other non current liabilities	351	389	405	389	515	539	557
Total operating non-current liabilities	**351**	**389**	**405**	**389**	**515**	**539**	**557**
Net Operating Non Current Assets	**1798**	**1645**	**1705**	**1783**	**1457**	**1768**	**1678**
Invested capital	**2670**	**2649**	**2694**	**2633**	**2413**	**2404**	**2589**
Financial Assets - USD mn	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Financial assets							
Cash and cash equivalents	682	893	977	1282	1581	1182	4580
Total financial assets	**682**	**893**	**977**	**1282**	**1581**	**1182**	**4580**
Financial liabilities							
Short term borrowings	8	252	165	173	155	10	1
Long term debt	1388	1560	1547	1548	1694	1695	4046
Lease liabilities							127
+ Added: Capitalized operating leases	228	221	255	308	316	127	
Total financial liabilities	**1625**	**2033**	**1967**	**2029**	**2165**	**1832**	**4174**
NET FINANCIAL LIABILITIES	**942**	**1140**	**990**	**747**	**583**	**649**	**-406**
Redeemable noncontrolling interests	45	43	40	23	0	0	0
EQUITY INCL. MINORITIES	**1682**	**1466**	**1664**	**1863**	**1830**	**1754**	**2996**
Invested capital	**2670**	**2649**	**2694**	**2633**	**2413**	**2404**	**2589**

Appendix 6 – Capitalization of operating leases

6.1 – LEGO

LEGO - OPERATING LEASES

Operating lease - Dec 31 - DKK mn	2013	2014	2015	2016	2017	2018	2019
Operating lease expense	437	474	553	620	575	613	681
Asset value	2174	2536	2843	2637	2811	3123	3123
Interest expense		78	91	102	95	101	112
Depreciation		396	462	518	480	512	569

Lego	
Asset life	5.5
Discount factor	3.60%

6.2 – MATTEL

MATTEL - OPERATING LEASES

Operating lease - Dec 31 - USD mn	2013	2014	2015	2016	2017	2018	2019
Operating lease expense	111	121	115	110.1	137.4	127.1	79.5
Asset value	525	499	478	596	551	345	345
Interest expense		41.4	39.4	37.7	47.1	43.6	27.2
Depreciation		79	76	72	90	84	52

Mattel	
Asset life	6.6
Discount factor	7.90%

6.3 – HASBRO

HASBRO - OPERATING LEASES

Operating lease - Dec 31 - USD mn	2013	2014	2015	2016	2017	2018	2019
Operating lease expense	45	47	46	53	64	65	26
Asset value	228	221	255	308	316	127	127
Interest expense		10	10	11	14	14	6
Depreciation		37	36	41	50	51	20

Hasbro	
Asset life	6.2
Discount factor	4.50%

Appendix 7 – LEGO - Income statement

7.1 - REPORTED

LEGO INCOME STATEMENT- REPORTED							
Consolidated Income Statement - DKK mn	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Revenue	25294	28578	35780	37934	34995	36391	38544
Production costs	-7423	-8071	-9814	-10640	-10239	-10417	-10791
Gross profit	**17871**	**20507**	**25966**	**27294**	**24756**	**25974**	**27753**
Sales and distributions expenses	-7026	-7782	-9765	-10584	-10208	-10740	-11893
Administrative and IT expenses	-1200	-1444	-2239	-2321	-2352	-2246	-2848
Other operating expenses	-1309	-1584	-1718	-1941	-1837	-2214	-2175
Operating profit	**8336**	**9697**	**12244**	**12448**	**10359**	**10774**	**10837**
Financial income	13	12	12	15	13	9	29
Financial expenses	-110	-218	-108	-72	-171	-273	-114
Profit before income tax (EBT)	**8239**	**9491**	**12148**	**12391**	**10201**	**10510**	**10752**
Tax on profits for the year	-2120	-2466	-2974	-2955	-2395	-2434	-2446
Net profits	**6119**	**7025**	**9174**	**9436**	**7806**	**8076**	**8306**
Allocated as follows							
Parent company shareholders	6076	7025	9174	9436	7806	8076	8306
Non-controlling interests	43	0	0	0	0	0	0
	6119	7025	9174	9436	7806	8076	8306

7.2 - REFORMULATED

LEGO INCOME STATEMENT- REFORMULATED							
Reformulated Income Statement - DKK mn	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Revenue	25294	28578	35780	37934	34995	36391	38544
Production costs	-7423	-8071	-9814	-10640	-10239	-10417	-10791
Production costs adjustments	598	763	854	1034	1236	1329	1206
= Gross profit	**18469**	**21270**	**26820**	**28328**	**25992**	**27303**	**28959**
Sales and distributions expenses	-7026	-7782	-9765	-10584	-10208	-10740	-11893
Sales and distributions expenses, adjusted	109	122	131	134	151	137	507
Administrative expenses	-1200	-1444	-2239	-2321	-2352	-2246	-2848
Administrative expenses, adjusted	57	62	96	127	103	96	250
Other operating expenses	-1309	-1584	-1718	-1941	-1837	-2214	-2175
Other operating expenses, adjusted	0	0	0	0	0	0	0
Added: Operating lease expenses	*0*	*474*	*553*	*620*	*575*	*613*	
= EBITDA	**9100**	**11118**	**13878**	**14363**	**12424**	**12949**	**12800**
Depreciation and amortization	-764	-947	-1081	-1295	-1490	-1562	-1963
Added: Depreciation on financial leasing		*-396*	*-462*	*-518*	*-480*	*-512*	
= EBIT	**8336**	**9775**	**12335**	**12550**	**10454**	**10875**	**10837**
Taxes							
Tax on profits for the year	-2120	-2466	-2974	-2955	-2395	-2434	-2446
Tax shield, net financial income/expenses	-25	-74	-46	-38	-59	-85	-19
Total tax	-2145	-2540	-3020	-2993	-2454	-2519	-2465
NOPAT	**6191**	**7235**	**9315**	**9557**	**7999**	**8356**	**8372**
Net financial expenses	-97	-206	-96	-57	-158	-264	-85
Added: Interest expense (Leases)		*-78*	*-91*	*-102*	*-95*	*-101*	
Total interest expenses	-97	-284	-187	-159	-253	-365	-85
Tax rate (Effective tax rate)	25.7%	26.0%	24.5%	23.8%	23.5%	23.2%	22.7%
Tax shield, net financial expenses	-25	-74	-46	-38	-59	-85	-19
Net financial expenses, after tax	-72	-210	-141	-121	-194	-281	-66
Net profit for the year	**6119**	**7025**	**9174**	**9436**	**7806**	**8076**	**8306**

Appendix 8 – MATTEL - Income statement

8.1 - REPORTED

MATTEL - INCOME STATEMENT - AS REPORTED							
Consolidated Income Statement - USD mn	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Net sales	6485	6024	5703	5457	4881	4515	4505
Production costs	-3006	-3023	-2896	-2902	-3057	-2716	-2524
Gross profit	**3479**	**3001**	**2806**	**2554**	**1825**	**1799**	**1981**
Advertising and promotion expenses	-750	-733	-718	-635	-642	-524	-552
Other selling and administrative expenses	-1561	-1614	-1548	-1400	-1518	-1509	-1390
Operating income	**1168**	**654**	**541**	**519**	**-336**	**-234**	**39**
Interest Expense	-79	-79	-85	-95	-105	-182	-201
Interest Income	6	7	7	9	8	7	6
Other Non-Operating Income/Expense - Net	4	5	1	-24	-68	-7	-3
Income Before Income Taxes	**1099**	**587**	**464**	**410**	**-501**	**-417**	**-158**
Provision for Income tax	-195	-88	-94	-92	-553	-116	-55
Net profits	**904**	**499**	**369**	**318**	**-1055**	**-533**	**-214**

8.2 - REFORMULATED

MATTEL - INCOME STATEMENT - REFORMULATED							
Reformulated Income Statement - USD mn	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Revenue	6485	6024	5703	5457	4881	4515	4505
Production costs	-3006	-3023	-2896	-2902	-3057	-2716	-2524
= Gross profit	**3479**	**3001**	**2806**	**2554**	**1825**	**1799**	**1981**
Advertising and promotion expenses	-750	-733	-718	-635	-642	-524	-552
Other selling and administrative expenses	-1561	-1614	-1548	-1400	-1518	-1509	-1390
Total	*-2311*	*-2347*	*-2265*	*-2035*	*-2160*	*-2033*	*-1942*
Added: Operating lease expenses		121	115	110	137	127	
= EBITDA	**1364**	**1023**	**921**	**892**	**76**	**165**	**284**
Depreciation	-179	-208	-233	-236	-241	-233	-204
Amortization	-17	-41	-32	-27	-34	-39	-40
Depreciation and amortization, net	-196	-249	-265	-262	-275	-272	-245
Added: Deprecition for financial leasing	0	-79	-76	-72	-90	-84	
= EBIT	**1168**	**695**	**580**	**557**	**-289**	**-191**	**39**
Taxes							
Tax on profit for the year	-195	-88	-94	-92	-553	-116	-55
Tax shield, net financial expenses	-12	-16	-24	-33	235	63	69
Total tax	-207	-104	-118	-125	-319	-53	14
NOPAT	**961**	**591**	**462**	**432**	**-607**	**-244**	**53**
Net financial expenses	-69	-67	-77	-109	-166	-183	-198
Operating interest expense (Leases)		-41	-39	-38	-47	-44	
Total interest expenses	-69	-108	-116	-147	-213	-226	-198
Tax rate (Effective tax rate)	17.8%	15.0%	20.4%	22.4%	-110.4%	-27.9%	-34.9%
Tax shield, net financial expenses	-12	-16	-24	-33	235	63	69
Net financial expenses, after tax	**-57**	**-92**	**-93**	**-114**	**-447**	**-289**	**-266**
Net profit for the year	**904**	**499**	**369**	**318**	**-1055**	**-533**	**-214**

Appendix 9 – HASBRO - Income statement

9.1 – REPORTED

HASBRO INCOME STATEMENT - REPORTED							
Consolidated Income Statement - USD mn	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Net revenue	4082	4277	4448	5020	5210	4580	4720
Cost of sales	-1673	-1698	-1677	-1905	-2034	-1851	-1808
Royalties	-339	-305	-379	-410	-405	-352	-415
Product development	-208	-223	-243	-266	-269	-246	-262
Advertising	-398	-420	-409	-469	-502	-440	-414
Amortization of intangibles	-78	-53	-44	-35	-29	-29	-47
Program production cost amortization	-48	-47	-42	-36	-36	-44	-86
Selling, distribution and administration	-872	-896	-961	-1111	-1125	-1288	-1037
Total expenses	-3615	-3642	-3756	-4232	-4399	-4249	-4068
Operating profit	**467.091**	**635.375**	**692**	**788**	**810**	**331**	**652**
Non-operating income/expense							
Interst expense	-106	-93	-97	-97	-98	-91	-102
Interest income	5	4	3	9	22	22	30
Other income/expense, Net	-15	-6	6	-8	52	8	14
Total non-operating expense, net	-115	-95	-88	-96	-24	-61	-58
Earning before income taxes (EBIT)	**352**	**540**	**604**	**692**	**786**	**270**	**594**
Income taxes	-68	-127	-157	-159	-390	-50	-74
Net earnings	**284**	**413**	**447**	**533**	**397**	**220**	**520**
Net loss attributable to noncontrolling interests	2	3	5	18	0	0	0
Net earnings attributable ti Hasbro, Inc.	282	411	442	515	397	220	520

9.2 – REFORMULATED

HASBRO - REFORMULATED INCOME STATEMENT							
Reformulated Income Statement, USD mn	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Revenue	4082	4277	4448	5020	5210	4580	4720
Production costs	-1673	-1698	-1677	-1905	-2034	-1851	-1808
Gross profit	2409	2579	2770	3114	3176	2729	2912
Royalties	-339	-305	-379	-410	-405	-352	-415
Product development	-208	-223	-243	-266	-269	-246	-262
Advertising	-398	-420	-409	-469	-502	-440	-414
Selling, distribution and administration	-872	-896	-961	-1111	-1125	-1288	-1037
Added: Operating lease expenses	0	47	46	53	64	65	0
Adjusted depreciation	103	106	112	120	134	139	143
= EBITDA	**696**	**888**	**935**	**1031**	**1072**	**608**	**928**
Depreciation & Amortization	-103	-106	-112	-120	-134	-139	-143
Amortization of intangibles & Product program cost	-126	-100	-86	-71	-65	-73	-133
Added: Depreciation for financial lease		-37	-36	-41	-50	-51	
Other operating expenses, net	-15	-6	6	-8	52	8	14
= EBIT	**452**	**640**	**708**	**792**	**876**	**353**	**666**
Taxes							
Tax on profits for the year	-68	-127	-157	-159	-390	-50	-74
Tax shield, net financial income/expenses	19	23	27	23	45	15	9
Total tax	-87	-150	-184	-182	-434	-65	-83
NOPAT	**365**	**490**	**524**	**610**	**442**	**288**	**583**
Net financial expenses	-101	-89	-94	-88	-76	-68	-72
Added: Operating interest expense (Leases)		-10	-10	-11	-14	-14	
Total interest expenses	-101	-100	-104	-100	-90	-83	-72
Tax rate (Effective tax rate)	-19.3%	-23.5%	-26.0%	-23.0%	-49.6%	-18.5%	-12.4%
Tax shield, net financial expenses	19	23	27	23	45	15	9
Net financial expenses, after tax	-81	-76	-77	-77	-45	-67	-63
Net profit for the year	**284**	**413**	**447**	**533**	**397**	**220**	**520**

Appendix 10 – LEGO – DuPont

10.1 – LEVEL 1 – ROE

LEGO - DUPONT ANALYSIS, LEVEL 1

ROE	2013	2014	2015	2016	2017	2018	2019
IC	12156	15349	17933	20737	18769	19274	20728
IC avg		13752	16641	19335	19753	19022	20001
NOPAT	6191	7235	9315	9557	7999	8356	8372
ROIC (NOPAT / IC avg)		52.6%	56.0%	49.4%	40.5%	43.9%	41.9%
Net interest bearing Liabilities	1081	2517	182	698	-1945	-2479	-1455
NIBL (avg)		1799	1350	440	-623	-2212	-1967
Equity	11075	12832	17751	20039	20714	21753	22183
Equity (avg)		11954	15292	18895	20377	21234	21968
Minority, avg		22					
Financial leverage		15.0%	8.8%	2.3%	-3.1%	-10.4%	-9.0%
Net financial expenses (after tax)	72	210	141	121	194	281	66
NBC		11.7%	10.5%	27.6%	-31.0%	-12.7%	-3.3%
SPREAD (ROIC - |NBC|)		40.9%	45.5%	21.9%	71.5%	56.6%	45.2%
MSR		1.000	1	1	1	1	1
ROIC		52.6%	56.0%	49.4%	40.5%	43.9%	41.9%
Financial leverage		15.0%	8.8%	2.3%	-3.1%	-10.4%	-9.0%
SPREAD		40.9%	45.5%	21.9%	71.5%	56.6%	45.2%
ROE		58.8%	60.0%	49.9%	38.3%	38.0%	37.8%
ROE (Net profit after tax / average equity)		58.8%	60.0%	49.9%	38.3%	38.0%	37.8%

10.2 – LEVEL 2 – ROIC

LEGO - DUPONT ANALYSIS, LEVEL 2

ROIC	2013	2014	2015	2016	2017	2018	2019
Revenue	25294	28578	35780	37934	34995	36391	38544
Net Operating Profit Margin (NOPM)	24.5%	25.3%	26.0%	25.2%	22.9%	23.0%	21.7%
IC	12156	15349	17933	20737	18769	19274	20728
IC avg		13752	16641	19335	19753	19022	20001
Asset turnover ratio = Revenue / IC avg		2.08	2.15	1.96	1.77	1.91	1.93
1 / Asset turnover ratio		0.481	0.465	0.510	0.564	0.523	0.519
ROIC = NOPM * Asset turnover ratio		52.6%	56.0%	49.4%	40.5%	43.9%	41.9%
Verification, ROIC		52.6%	56.0%	49.4%	40.5%	43.9%	41.9%

10.3 – LEVEL 3 – NOPAT-MARGIN

LEGO - DUPONT ANALYSIS, LEVEL 3

Operating Profit Margin	2013	2014	2015	2016	2017	2018	2019
Revenue	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Production costs	27.0%	25.6%	25.0%	25.3%	25.7%	25.0%	24.9%
Gross-margin	**73.0%**	**74.4%**	**75.0%**	**74.7%**	**74.3%**	**75.0%**	**75.1%**
Operating expenses	37.0%	35.5%	36.2%	36.8%	38.8%	39.4%	41.9%
EBITDA margin	**36.0%**	**38.9%**	**38.8%**	**37.9%**	**35.5%**	**35.6%**	**33.2%**
Depreciation	3.0%	4.7%	4.3%	4.8%	5.6%	5.7%	5.1%
EBIT-margin	**33.0%**	**34.2%**	**34.5%**	**33.1%**	**29.9%**	**29.9%**	**28.1%**
Tax on EBIT	8.5%	8.9%	8.4%	7.9%	7.0%	6.9%	6.4%
NOPAT-margin	**24.5%**	**25.3%**	**26.0%**	**25.2%**	**22.9%**	**23.0%**	**21.7%**

10.4 – LEVEL 3 – INVESTED CAPITAL

LEGO - DUPONT ANALYSIS, LEVEL 3

1/Asset Turnover Rate	2013	2014	2015	2016	2017	2018	2019
Net Operating Working Capital							
Inventories/Revenue		0.070	0.069	0.076	0.077	0.068	0.068
Trade receivables/revenue		0.188	0.172	0.179	0.193	0.180	0.181
Other current operating assets/Revenue		0.034	0.031	0.040	0.041	0.036	0.040
Trade payables/Revnue		-0.083	-0.079	-0.079	-0.081	-0.083	-0.086
Other current operating liabilities/Revnue		-0.086	-0.085	-0.093	-0.101	-0.102	-0.101
Working capital/Revnue		**0.1240**	**0.107**	**0.123**	**0.129**	**0.100**	**0.102**
Net Operating Non Current Assets							
Intangible assets/Revenue		0.009	0.008	0.009	0.009	0.007	0.010
Tangible assets/Revenue		0.340	0.337	0.362	0.410	0.401	0.393
Other non current operating assets/Revenue		0.016	0.017	0.018	0.022	0.021	0.020
Other non-current operating liabiilities/revenue		-0.009	-0.006	-0.003	-0.005	-0.006	-0.006
Total non-current assets/Revenue		**0.357**	**0.358**	**0.386**	**0.435**	**0.423**	**0.417**
Invested capital		**0.481**	**0.465**	**0.510**	**0.564**	**0.523**	**0.519**

Appendix 11 – MATTEL – DuPont

11.1 – LEVEL 1 – ROE

MATTEL - DUPONT ANALYSE LEVEL 1

	2013	2014	2015	2016	2017	2018	2019
IC	4534	4806	4531	4653	4021	3462	3266
IC avg		4670	4668	4592	4337	3742	3364
NOPAT	961	591	462	432	-607	-244	53
ROIC (NOPAT / IC avg)		12.7%	9.9%	9.4%	-14.0%	-6.5%	1.6%
Net interest bearing Liabilities	1283	1857	1898	2245	2764	2793	2774
NIBD (avg)		1570	1877	2072	2505	2778	2783
Equity	3252	2949	2633	2408	1257	669	492
Equity (avg)		3100	2791	2521	1833	963	581
Financial leverage		50.6%	67.3%	82.2%	136.7%	288.4%	479.4%
Net financial income/expenses (after tax)	-57	-92	-93	-114	-447	-289	-266
NBC		5.9%	4.9%	5.5%	17.9%	10.4%	9.6%
SPREAD (ROIC - |r|)		6.8%	5.0%	3.9%	-31.9%	-16.9%	-8.0%
ROIC		12.7%	9.9%	9.4%	-14.0%	-6.5%	1.6%
Financial leverage		50.6%	67.3%	82.2%	136.7%	288.4%	479.4%
SPREAD		6.8%	5.0%	3.9%	-31.9%	-16.9%	-8.0%
ROE		16.1%	13.2%	12.6%	-57.5%	-55.3%	-36.8%
ROE (Net profit after tax / average equity)		16.1%	13.2%	12.6%	-57.5%	-55.3%	-36.8%

11.2 – LEVEL 2 – ROIC

MATTEL - DUPONT ANALYSE, LEVEL 2

ROE	2013	2014	2015	2016	2017	2018	2019
Revenue	6485	6024	5703	5457	4881	4515	4505
Net Operating Profit Margin (NOPM)	14.81%	9.81%	8.10%	7.92%	-12.44%	-5.40%	1.18%
IC	4534	4806	4531	4653	4021	3462	3266
IC avg		4670	4668	4592	4337	3742	3364
Asset turnover ratio = Revenue / IC avg		1.290	1.222	1.188	1.125	1.207	1.339
1 / Asset turnover ratio		0.775	0.819	0.842	0.889	0.829	0.747
ROIC = NOPM * Asset turnover ratio		12.65%	9.90%	9.41%	-14.00%	-6.52%	1.57%
Verification, ROIC		12.65%	9.90%	9.41%	-14.00%	-6.52%	1.57%

11.3 – LEVEL 3 – NOPAT-MARGIN

MATTEL - DUPUNT, LEVEL 3

Operating Margin	2013	2014	2015	2016	2017	2018	2019
Revenue	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Production costs	46.35%	50.18%	50.79%	53.19%	62.62%	60.16%	56.03%
Gross-margin	**53.65%**	**49.82%**	**49.21%**	**46.81%**	**37.38%**	**39.84%**	**43.97%**
Operating expenses	35.63%	38.97%	39.73%	37.30%	44.25%	45.03%	43.10%
EBITDA margin	**21.04%**	**16.99%**	**16.15%**	**16.34%**	**1.57%**	**3.65%**	**6.30%**
Depreciation	3.03%	4.13%	4.65%	4.81%	5.63%	6.02%	5.43%
EBIT-margin	**18.01%**	**12.86%**	**11.50%**	**11.53%**	**-4.06%**	**-2.38%**	**0.87%**
Tax on EBIT	3.20%	1.73%	2.07%	2.28%	6.53%	1.18%	-0.30%
NOPAT-margin	**14.81%**	**11.13%**	**9.43%**	**9.25%**	**-10.59%**	**-3.55%**	**1.18%**

11.4 – LEVEL 3 – INVESTED CAPITAL

MATTEL - DUPONT ANALYSE, LEVEL 3

1/ Asset Turnover Rate	2013	2014	2015	2016	2017	2018	2019
Net Operating Working Capital							
Inventories/Revenue		0.094	0.101	0.110	0.124	0.127	0.115
Trade receivables/revenue		0.195	0.196	0.207	0.230	0.232	0.212
Other current operating assets/Revenue		0.089	0.099	0.084	0.066	0.061	0.048
Trade payables/Revnue		-0.067	-0.095	-0.121	-0.127	-0.123	-0.111
Other current operating liabilities/Revnue		-0.110	-0.117	-0.121	-0.149	-0.167	-0.161
Working capital/Revnue		**0.201**	**0.184**	**0.159**	**0.145**	**0.129**	**0.103**
Net Operating Non Current Assets							
Intangible assets/Revenue		0.323	0.370	0.379	0.418	0.444	0.435
Tangible assets/Revenue		0.201	0.215	0.237	0.277	0.259	0.172
Other non current operating assets/Revenue		0.108	0.105	0.116	0.106	0.063	0.094
Other non-current operating liabiilities/revenue		-0.058	-0.055	-0.049	-0.058	-0.066	-0.057
Total non-current assets/Revenue		**0.574**	**0.634**	**0.683**	**0.744**	**0.699**	**0.644**
Invested Capital		**0.775**	**0.819**	**0.842**	**0.889**	**0.829**	**0.747**

Appendix 12 – HASBRO – DuPont

12.1 – LEVEL 1 - ROE

HASBRO - DUPONT ANALYSIS, LEVEL 1

ROE	2013	2014	2015	2016	2017	2018	2019
IC	2670	2649	2694	2633	2413	2404	2589
IC avg		2659	2671	2663	2523	2408	2496
NOPAT	365	490	524	610	442	288	583
ROIC (NOPAT / IC avg)		18.4%	19.6%	22.9%	17.5%	12.0%	23.4%
Net interest bearing Liabilities	942	1140	990	747	583	649	-406
NIBD (avg)		1041	1065	868	665	616	121
Equity	1682	1466	1664	1863	1830	1754	2996
Equity (avg)		1574	1565	1763	1846	1792	2375
Financial leverage		66.1%	68.1%	49.3%	36.0%	34.4%	5.1%
Net financial income/expenses (after tax)	-81	-76	-77	-77	-45	-67	-63
NBC		7%	7%	9%	7%	11%	52%
SPREAD (ROIC - NBC)		11%	12%	14%	11%	1%	-28%
MSR		1.00	1.01	1.03	1.00	1.00	1.00
ROIC		18.4%	19.6%	22.9%	17.5%	12.0%	23.4%
Financial leverage		66.1%	68.1%	49.3%	36.0%	34.4%	5.1%
SPREAD		11.1%	12.4%	14.1%	10.7%	1.0%	-28.4%
ROE		25.9%	28.3%	30.7%	21.3%	12.3%	21.9%
ROE (Net profit after tax / average equity)		25.9%	28.3%	30.7%	21.3%	12.3%	21.9%

12.2 – LEVEL 2

HASBRO - DUPONT ANALYSIS, LEVEL 2

ROIC	2013	2014	2015	2016	2017	2018	2019
Net revenue	4082	4277	4448	5020	5210	4580	4720
Net Operating Profit Margin (NOPM)	8.95%	11.45%	11.78%	12.15%	8.48%	6.29%	12.36%
IC	2670	2649	2694	2633	2413	2404	2589
IC avg		2659	2671	2663	2523	2408	2496
Asset turnover ratio = Net revenue / IC avg		1.608	1.665	1.885	2.065	1.901	1.891
1 / Asset turnover ratio		62.17%	60.06%	53.05%	48.43%	52.59%	52.88%
ROIC = NOPM * Asset turnover ratio		18.41%	19.61%	22.90%	17.52%	11.95%	23.37%
Verification, ROIC		18.41%	19.61%	22.90%	17.52%	11.95%	23.37%

12.3 – LEVEL 3 – NOPAT-MARGIN

HASBRO - DUPONT ANALYSIS, LEVEL 3

Operating Margin	2013	2014	2015	2016	2017	2018	2019
Revenue	100%	100%	100%	100%	100%	100%	100%
Cost of sales	40.98%	39.71%	37.71%	37.96%	39.04%	40.41%	38.30%
Gross-margin	**59.02%**	**60.29%**	**62.29%**	**62.04%**	**60.96%**	**59.59%**	**61.70%**
Operating expenses	41.98%	39.54%	41.26%	41.50%	40.39%	46.31%	42.04%
EBITDA margin	**17.04%**	**20.76%**	**21.03%**	**20.54%**	**20.58%**	**13.28%**	**19.66%**
Depreciation	5.96%	5.80%	5.11%	4.76%	3.76%	5.57%	5.55%
EBIT-margin	**11.08%**	**14.95%**	**15.92%**	**15.78%**	**16.82%**	**7.71%**	**14.11%**
Tax on EBIT	2.14%	3.51%	4.14%	3.63%	8.33%	1.42%	1.75%
NOPAT-margin	**8.95%**	**11.45%**	**11.78%**	**12.15%**	**8.48%**	**6.29%**	**12.36%**

12.4 – LEVEL 3 – INVESTED CAPITAL

HASBRO - DUPONT ANALYSIS, LEVEL 3

1/Asset Turnover Rate	2013	2014	2015	2016	2017	2018	2019
Net Operating Working Capital							
Inventories/Revenue		0.080	0.081	0.077	0.079	0.096	0.094
Trade receivables/revenue		0.256	0.260	0.253	0.262	0.283	0.275
Other current operating assets/Revenue		0.087	0.076	0.052	0.043	0.053	0.061
Trade payables/Revnue		-0.048	-0.051	-0.056	-0.064	-0.074	-0.072
Other current operating liabilities/Revnue		-0.156	-0.143	-0.143	-0.146	-0.183	-0.195
Working capital/Revnue		**0.219**	**0.224**	**0.183**	**0.173**	**0.174**	**0.164**
Net Operating Non Current Assets							
Intangible assets/Revenue		0.221	0.201	0.168	0.154	0.215	0.246
Tangible assets/Revenue		0.108	0.107	0.106	0.111	0.105	0.081
Other non current operating assets/Revenue		0.160	0.158	0.152	0.133	0.147	0.154
Other non-current operating liabiilities/revenue		-0.087	-0.089	-0.079	-0.087	-0.115	-0.116
Total non-current assets/Revenue		**0.403**	**0.377**	**0.347**	**0.311**	**0.352**	**0.365**
Invested Capital		**0.622**	**0.601**	**0.531**	**0.484**	**0.526**	**0.529**

Appendix 13 – Forecasting

13.1 – LEGO – BASE CASE

BASE CASE	Historical 2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal
						Forecasting Period						
Growth driver												
Revenue growth	5.92%	5.24%	5.99%	6.91%	6.92%	6.54%	5.96%	4.84%	3.99%	3.55%	3.00%	3.00%
Cost drivers (margins)												
Production costs	-0.249	-0.255	-0.255	-0.255	-0.255	-0.255	-0.255	-0.255	-0.255	-0.255	-0.255	-0.255
Operating expenses, includes:	-0.419	-0.419	-0.415	-0.410	-0.405	-0.400	-0.395	-0.390	-0.385	-0.385	-0.385	-0.385
Sales & distribution, Administrative and other												
EBITDA	0.332	0.326	0.330	0.335	0.340	0.345	0.350	0.355	0.360	0.360	0.360	0.360
Depreciation and amortization (incl. financial leasing)	-0.127	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134
EBIT	0.281	0.272	0.276	0.281	0.287	0.292	0.298	0.303	0.308	0.308	0.308	0.308
Tax rate	22.7%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
Net working capital decomposed												
Inventories	0.069	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Trade receivables	0.187	0.185	0.184	0.183	0.182	0.181	0.180	0.180	0.180	0.180	0.180	0.180
Other current operating assets	0.042	0.060	0.058	0.057	0.057	0.056	0.056	0.056	0.056	0.056	0.056	0.056
- Trade payables	0.089	0.088	0.087	0.086	0.085	0.084	0.083	0.083	0.083	0.083	0.083	0.083
- Other current operating liabilities	0.099	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
NOWC	0.111	0.127	0.125	0.124	0.124	0.123	0.123	0.123	0.123	0.123	0.123	0.123
Investment drivers												
Intangible assets	0.013	0.011	0.010	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009
Tangible assets	0.402	0.400	0.400	0.400	0.395	0.393	0.390	0.390	0.390	0.390	0.390	0.390
Other non current operating assets	0.019	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
- Other non-current operating liabilities	0.007	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
NONCA	0.427	0.425	0.424	0.423	0.418	0.416	0.413	0.413	0.413	0.413	0.413	0.413
Invested Capital	**0.538**	**0.552**	**0.549**	**0.547**	**0.542**	**0.539**	**0.536**	**0.536**	**0.536**	**0.536**	**0.536**	**0.536**

	Historical 2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal
						Forecasting Period						
Revenue	38544	40562	42991	45964	49146	52361	55482	58167	60485	62630	64509	66444
Costs												
Production costs	-9585	-10343	-10963	-11721	-12532	-13352	-14148	-14833	-15424	-15971	-16450	-16943
Gross Margin	28959	30219	32029	34243	36614	39009	41334	43334	45061	46659	48059	49501
Operating expenses, includes:	-16159	-17005	-17841	-18845	-19904	-20944	-21915	-22685	-23287	-24113	-24836	-25581
Sales & distribution, Administrative and other												
EBITDA	12800	13214	14187	15398	16710	18064	19419	20649	21775	22547	23223	23920
Depreciation and amortization (includes financial leasing)	-1963	-2174	-2304	-2464	-2601	-2757	-2899	-3040	-3161	-3273	-3371	-3472
EBIT	10837	11040	11883	12934	14108	15307	16519	17609	18614	19274	19852	20448
Tax	-2465	-2429	-2614	-2846	-3104	-3368	-3634	-3874	-4095	-4240	-4367	-4498
NOPAT	8372	8611	9269	10089	11004	11940	12885	13735	14519	15034	15485	15949
Net financial expenses, before tax		0	0	0	0	0	0	0	0	0	0	0
Tax shield		0	0	0	0	0	0	0	0	0	0	0
Net earnings		8611	9269	10089	11004	11940	12885	13735	14519	15034	15485	15949
Inventories	2672	2839	3009	3217	3440	3665	3884	4072	4234	4384	4516	4651
Trade receivables	7201	7504	7910	8411	8945	9477	9987	10470	10887	11273	11612	11960
Other current operating assets	1634	2434	2494	2620	2801	2932	3107	3257	3387	3507	3612	3721
-Trade payables	3422	3569	3740	3953	4177	4398	4605	4828	5020	5198	5354	5515
-Other current operating liabilities	3802	4056	4299	4596	4915	5236	5548	5817	6048	6263	6451	6644
NOWC	4283	5151	5374	5700	6094	6440	6824	7155	7440	7703	7935	8173
Intangible assets	488	446	430	414	442	471	499	524	544	564	581	598
Tangible assets	15479	16225	17197	18386	19413	20578	21638	22685	23589	24426	25158	25913
Other non current operating assets	738	811	860	919	983	1047	1110	1163	1210	1253	1290	1329
- Other non-current operating liabilities	260	243	258	276	295	314	333	349	363	376	387	399
NONCA	16445	17239	18228	19443	20543	21782	22914	24023	24980	25866	26642	27441
Invested Capital	**20728**	**22390**	**23602**	**25142**	**26637**	**28222**	**29738**	**31177**	**32420**	**33570**	**34577**	**35614**
Change in IC	1454	1662	1212	1540	1495	1585	1516	1439	1242	1150	1007	1037

	Historical 2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal
						Forecasting Period						
NOPAT	8372	8611	9269	10089	11004	11940	12885	13735	14519	15034	15485	15949
Change in Invested capital	1454	1662	1212	1540	1495	1585	1516	1439	1242	1150	1007	1037
FCFF	**6918**	**6949**	**8057**	**8549**	**9510**	**10354**	**11369**	**12296**	**13276**	**13884**	**14477**	**14912**
DECOMPOSITION												
NOPAT	8372	8611	9269	10089	11004	11940	12885	13735	14519	15034	15485	15949
Depreciation	1963	2174	2304	2464	2601	2757	2899	3040	3161	3273	3371	3472
Change in Net working capital	-680	-868	-223	-326	-395	-346	-384	-330	-285	-264	-231	-238
Net investments	-2737	-2968	-3294	-3678	-3701	-3997	-4031	-4149	-4118	-4159	-4147	-4272
FCFF	**6918**	**6949**	**8057**	**8549**	**9510**	**10354**	**11369**	**12296**	**13276**	**13884**	**14477**	**14912**
Equity, primo	19274	20728	22390	23602	25142	26637	28222	29738	31177	32420	33570	34577
Net earning	8372	8611	9269	10089	11004	11940	12885	13735	14519	15034	15485	15949
Dividends	6918	6949	8057	8549	9510	10354	11369	12296	13276	13884	14477	14912
Equity, ultimo	20728	22390	23602	25142	26637	28222	29738	31177	32420	33570	34577	35614

Investments, Intangible and tangible assets	Historical 2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal
						Forecasting Period						
Intangibles and intangible assets, end of period	16445	17239	18228	19443	20543	21782	22914	24023	24980	25866	26642	27441
Depreciation	1963	2174	2304	2464	2601	2757	2899	3040	3161	3273	3371	3472
Intangibles and intangible assets, beginning of period	-15671	-16445	-17239	-18228	-19443	-20543	-21782	-22914	-24023	-24980	-25866	-26642
Investments	**2737**	**2968**	**3294**	**3678**	**3701**	**3997**	**4031**	**4149**	**4118**	**4159**	**4147**	**4272**

13.2 – LEGO – BEST CASE

BEST CASE	Historical 2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal
						Forecasting Period						
Growth driver												
Revenue growth	5.92%	7.99%	8.82%	8.86%	7.87%	7.78%	6.77%	6.01%	4.86%	3.93%	3.50%	3.50%
Cost drivers (margins)												
Production costs	-0.249	-0.245	-0.240	-0.240	-0.240	-0.240	-0.240	-0.240	-0.240	-0.240	-0.240	-0.240
Operating expenses, includes:	-0.419	-0.375	-0.375	-0.375	-0.375	-0.375	-0.375	-0.375	-0.375	-0.375	-0.375	-0.375
Sales & distribution, Administrative and other												
EBITDA	0.332	0.380	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
Depreciation and amortization (includes financial leasing)	-0.127	-0.129	-0.129	-0.129	-0.129	-0.129	-0.129	-0.129	-0.129	-0.129	-0.129	-0.129
EBIT	0.281	0.330	0.335	0.336	0.336	0.337	0.337	0.337	0.337	0.337	0.337	0.337
Tax rate	22.7%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
Net working capital decomposed												
Inventories	0.069	0.068	0.067	0.067	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066
Trade receivables	0.187	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175
Other current operating assets	0.042	0.058	0.057	0.056	0.055	0.053	0.052	0.052	0.052	0.052	0.052	0.052
- Trade payables	0.089	0.086	0.086	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087
- Other current operating liabilities	0.099	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102
NOWC	0.111	0.113	0.111	0.109	0.107	0.105	0.104	0.104	0.104	0.104	0.104	0.104
Investment drivers												
Intangible assets	0.013	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008
Tangible assets	0.402	0.390	0.385	0.380	0.380	0.370	0.370	0.370	0.370	0.370	0.370	0.370
Other non current operating assets	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019
- Other non-current operating liabiilities	0.007	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
NONCA	0.427	0.411	0.406	0.401	0.401	0.391	0.391	0.391	0.391	0.391	0.391	0.391
Invested Capital	**0.538**	**0.524**	**0.517**	**0.510**	**0.508**	**0.496**	**0.495**	**0.495**	**0.495**	**0.495**	**0.495**	**0.495**

	Historical 2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal
						Forecasting Period						
Growth driver												
Revenue	38544	41626	45298	49311	53190	57328	61207	64885	68038	70716	73191	75752
Costs												
Production costs	-9585	-10198	-10871	-11835	-12766	-13759	-14690	-15572	-16329	-16972	-17566	-18181
Gross Margin	28959	31427	34426	37476	40424	43569	46517	49312	51709	53744	55625	57572
Operating expenses, includes:	-16159	-15610	-16987	-18491	-19946	-21498	-22953	-24332	-25514	-26518	-27446	-28407
Sales & distribution, Administrative and other												
EBITDA	12800	15818	17440	18985	20478	22071	23565	24981	26195	27226	28178	29165
Depreciation and amortization (includes financial leasing)	-1963	-2094	-2250	-2417	-2607	-2736	-2921	-3097	-3247	-3375	-3493	-3616
EBIT	10837	13724	15190	16567	17871	19335	20643	21884	22947	23850	24685	25549
Tax	-2465	-3019	-3342	-3645	-3932	-4254	-4542	-4814	-5048	-5247	-5431	-5621
NOPAT	8372	10704	11848	12923	13939	15081	16102	17069	17899	18603	19254	19928
Net financial expenses, before tax		0	0	0	0	0	0	0	0	0	0	0
Tax shield		0	0	0	0	0	0	0	0	0	0	0
Net earnings		10704	11848	12923	13939	15081	16102	17069	17899	18603	19254	19928

	2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal
Inventories	2672	2831	3035	3304	3511	3784	4040	4282	4491	4667	4831	5000
Trade receivables	7201	7284	7927	8629	9308	10032	10711	11355	11907	12375	12808	13257
Other current operating assets	1634	2414	2582	2761	2925	3038	3183	3374	3538	3677	3806	3939
-Trade payables	3422	3580	3896	4290	4628	4988	5325	5645	5919	6152	6368	6590
-Other current operating liabilities	3802	4246	4620	5030	5425	5847	6243	6618	6940	7213	7465	7727
NOWC	4283	4704	5028	5375	5691	6019	6366	6748	7076	7354	7612	7878
Intangible assets	488	333	362	394	426	459	490	519	544	566	586	606
Tangible assets	15479	16234	17440	18738	20212	21211	22647	24007	25174	26165	27081	28028
Other non current operating assets	738	797	867	944	1018	1098	1172	1242	1303	1354	1401	1450
- Other non-current operating liabiilities	260	250	272	296	319	344	367	389	408	424	439	455
NONCA	16445	17114	18398	19781	21337	22424	23941	25380	26613	27660	28628	29630
Invested Capital	**20728**	**21818**	**23426**	**25156**	**27028**	**28443**	**30306**	**32128**	**33689**	**35015**	**36240**	**37509**
Change in IC	1454	1090	1608	1730	1873	1415	1863	1821	1561	1326	1226	1268

	2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal
NOPAT	8372	10704	11848	12923	13939	15081	16102	17069	17899	18603	19254	19928
Change in Invested capital	1454	1090	1608	1730	1873	1415	1863	1821	1561	1326	1226	1268
FCFF	**6918**	**9614**	**10240**	**11192**	**12066**	**13667**	**14238**	**15248**	**16337**	**17278**	**18029**	**18660**
DECOMPOSITION												
NOPAT	8372	10704	11848	12923	13939	15081	16102	17069	17899	18603	19254	19928
Depreciation	1963	2094	2250	2417	2607	2736	2921	3097	3247	3375	3493	3616
Change in Net working capital	-680	-421	-324	-347	-316	-328	-346	-382	-328	-278	-257	-266
Net investments	-2737	-2763	-3533	-3800	-4164	-3823	-4439	-4536	-4481	-4422	-4461	-4618
FCFF	**6918**	**9614**	**10240**	**11192**	**12066**	**13667**	**14238**	**15248**	**16337**	**17278**	**18029**	**18660**
Equity, primo	19274	20728	21818	23426	25156	27028	28443	30306	32128	33689	35015	36240
Net earning	8372	10704	11848	12923	13939	15081	16102	17069	17899	18603	19254	19928
Dividends	6918	9614	10240	11192	12066	13667	14238	15248	16337	17278	18029	18660
Equity, ultimo	20728	21818	23426	25156	27028	28443	30306	32128	33689	35015	36240	37509

Investments, Intangible and tangible assets	Historical 2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal
						Forecasting Period						
Intangibles and intangible assets, end of period	16445	17114	18398	19781	21337	22424	23941	25380	26613	27660	28628	29630
Depreciation	1963	2094	2250	2417	2607	2736	2921	3097	3247	3375	3493	3616
Intangibles and intangible assets, beginning of period	-15671	-16445	-17114	-18398	-19781	-21337	-22424	-23941	-25380	-26613	-27660	-28628
Investments	**2737**	**2763**	**3533**	**3800**	**4164**	**3823**	**4439**	**4536**	**4481**	**4422**	**4461**	**4618**

13.3 – LEGO – WORST CASE

	Historical	Forecasting Period										
WORST CASE	**2019**	**E2020**	**E2021**	**E2022**	**E2023**	**E2024**	**E2025**	**E2026**	**E2027**	**E2028**	**E2029**	**Terminal**
Growth driver												
Revenue growth	5.92%	-4.80%	-2.89%	3.17%	4.69%	4.32%	3.96%	3.73%	3.06%	2.50%	2.50%	2.50%
Cost drivers (margins)												
Production costs	-0.249	-0.255	-0.260	-0.265	-0.265	-0.265	-0.265	-0.265	-0.265	-0.265	-0.265	-0.265
Operating expenses, includes:	-0.419	-0.419	-0.419	-0.420	-0.420	-0.420	-0.420	-0.420	-0.420	-0.420	-0.420	-0.420
Sales & distribution, Administrative and other												
EBITDA	0.332	0.326	0.321	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315
Depreciation and amortization (includes financial leasing)	-0.127	-0.134	-0.140	-0.140	-0.140	-0.140	-0.140	-0.140	-0.140	-0.140	-0.140	-0.140
EBIT	0.281	0.272	0.265	0.259	0.259	0.259	0.259	0.259	0.259	0.259	0.259	0.259
Tax rate	22.7%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
Net working capital decomposed												
Inventories	0.069	0.070	0.072	0.072	0.074	0.074	0.074	0.074	0.074	0.074	0.074	0.074
Trade receivables	0.187	0.187	0.187	0.186	0.186	0.186	0.186	0.186	0.186	0.186	0.186	0.186
Other current operating assets	0.042	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062
- Trade payables	0.089	0.085	0.084	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
- Other current operating liabilities	0.099	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
NOWC	0.111	0.134	0.137	0.137	0.139	0.139	0.139	0.139	0.139	0.139	0.139	0.139
Investment drivers												
Intangible assets	0.013	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Tangible assets	0.402	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Other non current operating assets	0.019	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021
- Other non-current operating liabiilities	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
NONCA	0.427	0.424	0.424	0.424	0.424	0.424	0.424	0.424	0.424	0.424	0.424	0.424
Invested Capital	**0.538**	**0.558**	**0.561**	**0.561**	**0.563**	**0.563**	**0.563**	**0.563**	**0.563**	**0.563**	**0.563**	**0.563**

	Historical	Forecasting Period										
	2019	**E2020**	**E2021**	**E2022**	**E2023**	**E2024**	**E2025**	**E2026**	**E2027**	**E2028**	**E2029**	**Terminal**
Growth driver												
Revenue	38544	36695	35636	36766	38489	40153	41745	43304	44629	45745	46888	48060
Costs												
Production costs	-9585	-9357	-9265	-9743	-10200	-10641	-11062	-11475	-11827	-12122	-12425	-12736
Gross Margin	28959	27338	26370	27023	28290	29512	30682	31828	32802	33622	34463	35324
Operating expenses, includes:	-16159	-15384	-14940	-15442	-16165	-16864	-17533	-18188	-18744	-19213	-19693	-20185
Sales & distribution, Administrative and other												
EBITDA	12800	11954	11431	11581	12124	12648	13150	13641	14058	14410	14770	15139
Depreciation and amortization (includes financial leasing)	-1963	-1967	-1996	-2059	-2155	-2249	-2338	-2425	-2499	-2562	-2626	-2691
EBIT	10837	9987	9435	9522	9969	10400	10812	11216	11559	11848	12144	12448
Tax	-2465	-2197	-2076	-2095	-2193	-2288	-2379	-2467	-2543	-2607	-2672	-2738
NOPAT	8372	7790	7359	7428	7776	8112	8433	8748	9016	9241	9472	9709
Net financial expenses, before tax		0	0	0	0	0	0	0	0	0	0	0
Tax shield		0	0	0	0	0	0	0	0	0	0	0
Net earnings		7790	7359	7428	7776	8112	8433	8748	9016	9241	9472	9709

	2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	Terminal
Inventories	2672	2569	2566	2647	2848	2971	3089	3204	3303	3385	3470	3556
Trade receivables	7201	6862	6664	6839	7159	7468	7765	8054	8301	8509	8721	8939
Other current operating assets	1634	2275	2209	2280	2386	2489	2588	2685	2767	2836	2907	2980
-Trade payables	3422	3119	2993	3052	3195	3333	3465	3594	3704	3797	3892	3989
-Other current operating liabilities	3802	3670	3564	3677	3849	4015	4174	4330	4463	4574	4689	4806
NOWC	4283	4917	4882	5037	5350	5581	5803	6019	6203	6359	6517	6680
Intangible assets	488	353	343	353	370	386	401	416	429	440	451	462
Tangible assets	15479	14678	14254	14707	15396	16061	16698	17321	17852	18298	18755	19224
Other non current operating assets	738	771	748	772	808	843	877	909	937	961	985	1009
- Other non-current operating liabiilities	260	257	249	257	269	281	292	303	312	320	328	336
NONCA	16445	15545	15096	15575	16304	17009	17684	18344	18905	19378	19862	20359
Invested Capital	**20728**	**20462**	**19978**	**20612**	**21654**	**22591**	**23486**	**24363**	**25109**	**25737**	**26380**	**27039**

	2019	**E2020**	**E2021**	**E2022**	**E2023**	**E2024**	**E2025**	**E2026**	**E2027**	**E2028**	**E2029**	**Terminal**
NOPAT	8372	7790	7359	7428	7776	8112	8433	8748	9016	9241	9472	9709
Change in Invested capital	1454	-266	-484	634	1043	936	896	877	746	628	643	659
FCFF	**6918**	**8056**	**7843**	**6794**	**6733**	**7176**	**7538**	**7871**	**8270**	**8614**	**8829**	**9050**
DECOMPOSITION												
NOPAT	8372	7790	7359	7428	7776	8112	8433	8748	9016	9241	9472	9709
Depreciation	1963	1967	1996	2059	2155	2249	2338	2425	2499	2562	2626	2691
Change in Net working capital	-680	-634	35	-155	-313	-231	-221	-217	-184	-155	-159	-163
Net investments	-2737	-1066	-1547	-2538	-2885	-2953	-3012	-3085	-3061	-3034	-3110	-3188
FCFF	**6918**	**8056**	**7843**	**6794**	**6733**	**7176**	**7538**	**7871**	**8270**	**8614**	**8829**	**9050**
Equity, primo	19274	20728	20462	19978	20612	21654	22591	23486	24363	25109	25737	26380
Net earning	8372	7790	7359	7428	7776	8112	8433	8748	9016	9241	9472	9709
Dividends	6918	8056	7843	6794	6733	7176	7538	7871	8270	8614	8829	9050
Equity, ultimo	20728	20462	19978	20612	21654	22591	23486	24363	25109	25737	26380	27039

	Historical	Forecasting Period										
Investments, Intangible and tangible assets	**2019**	**E2020**	**E2021**	**E2022**	**E2023**	**E2024**	**E2025**	**E2026**	**E2027**	**E2028**	**E2029**	**Terminal**
Intangibles and intangible assets, end of period	16445	15545	15096	15575	16304	17009	17684	18344	18905	19378	19862	20359
Depreciation	1963	1967	1996	2059	2155	2249	2338	2425	2499	2562	2626	2691
Intangibles and intangible assets, beginning of period	-15671	-16445	-15545	-15096	-15575	-16304	-17009	-17684	-18344	-18905	-19378	-19862
Investments	**2737**	**1066**	**1547**	**2538**	**2885**	**2953**	**3012**	**3085**	**3061**	**3034**	**3110**	**3188**

Appendix 14 – Regional sales growth

14.1 – BASE CASE

BASE				Budget period										Terminal Period
Growth in markets	2017	2018	2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	E2030
Western Europe	-9.69%	4.31%	3.12%	3.50%	4.10%	3.80%	3.70%	3.70%	3.60%	3.50%	3.50%	3.30%	3.00%	3.00%
North America	-12.95%	3.03%	5.08%	4.00%	4.80%	4.80%	4.20%	3.80%	3.80%	3.50%	3.50%	3.30%	3.00%	3.00%
Asia Pacific	-0.57%	12.74%	16.08%	12.00%	12.00%	17.00%	17.00%	15.00%	12.00%	8.00%	5.00%	4.00%	3.00%	3.00%
Latin America	-0.38%	0.89%	6.72%	6.00%	8.00%	8.00%	8.00%	7.00%	7.00%	6.00%	5.00%	4.00%	3.00%	3.00%
Eastern Europe	0.42%	-3.89%	4.33%	4.25%	4.25%	4.00%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.00%	3.00%
Middle East & Africa	11.38%	5.61%	3.24%	5.50%	6.50%	7.00%	7.50%	6.50%	6.00%	5.00%	4.00%	3.50%	3.00%	3.00%
Australasia	-11.18%	-5.49%	-0.23%	-1.00%	4.00%	3.00%	3.00%	3.00%	3.50%	3.50%	3.50%	3.50%	3.00%	3.00%

14.2 – BEST CASE

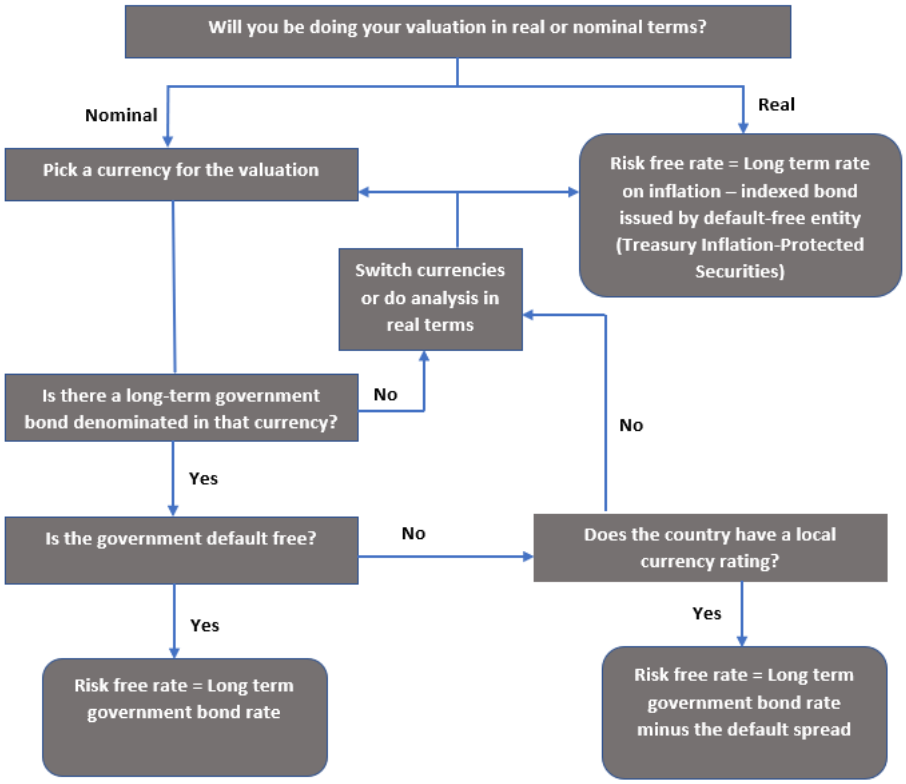
BEST														Terminal Period
Growth in markets	2017	2018	2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	E2030
Western Europe	-9.69%	4.31%	3.12%	5.00%	6.00%	6.00%	5.00%	5.00%	4.00%	4.00%	4.00%	3.50%	3.50%	3.50%
North America	-12.95%	3.03%	5.08%	6.00%	7.00%	7.00%	6.00%	6.00%	5.00%	5.00%	4.00%	3.50%	3.50%	3.50%
Asia Pacific	-0.57%	12.74%	16.08%	20.00%	18.00%	18.00%	16.00%	15.00%	13.00%	10.00%	7.00%	5.00%	3.50%	3.50%
Latin America	-0.38%	0.89%	6.72%	8.00%	12.00%	10.00%	8.00%	8.00%	7.00%	6.00%	5.00%	3.50%	3.50%	3.50%
Eastern Europe	0.42%	-3.89%	4.33%	5.00%	6.00%	5.00%	4.50%	4.50%	4.00%	4.00%	3.50%	3.50%	3.50%	3.50%
Middle East & Africa	11.38%	5.61%	3.24%	6.00%	8.00%	8.00%	7.00%	6.00%	6.00%	5.00%	4.50%	3.50%	3.50%	3.50%
Australasia	-11.18%	-5.49%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%

14.3 – WORST CASE

WORST				Budget period										Terminal Period
Growth in markets	2017	2018	2019	E2020	E2021	E2022	E2023	E2024	E2025	E2026	E2027	E2028	E2029	E2030
Western Europe	-9.69%	4.31%	3.12%	-5.00%	-4.00%	2.00%	3.50%	3.00%	2.80%	2.80%	2.80%	2.50%	2.50%	2.50%
North America	-12.95%	3.03%	5.08%	-7.00%	-5.00%	3.00%	4.00%	3.50%	3.00%	3.00%	2.80%	2.50%	2.50%	2.50%
Asia Pacific	-0.57%	12.74%	16.08%	-2.00%	1.00%	5.00%	9.00%	9.00%	8.00%	7.00%	4.00%	2.50%	2.50%	2.50%
Latin America	-0.38%	0.89%	6.72%	-5.00%	-2.00%	4.00%	4.00%	3.50%	3.50%	3.00%	3.00%	2.50%	2.50%	2.50%
Eastern Europe	0.42%	-3.89%	4.33%	-3.00%	-1.00%	4.00%	3.50%	3.00%	3.00%	2.80%	2.80%	2.50%	2.50%	2.50%
Middle East & Africa	11.38%	5.61%	3.24%	-4.00%	-1.00%	5.00%	5.00%	4.00%	4.00%	3.00%	3.00%	2.50%	2.50%	2.50%
Australasia	-11.18%	-5.49%	-0.23%	-2.00%	-1.00%	1.00%	1.00%	1.00%	1.00%	1.50%	2.00%	2.50%	2.50%	2.50%

Appendix 15 – Risk-free rate

15.1 – HOW TO ESTIMATE RISK-FREE RATE



15.2 – RISK-FREE RATE

10Y zero coupon gov. bond	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
	2.90%	2.70%	1.40%	1.70%	1.30%	0.70%	0.30%	0.50%	0.50%	0.10%	1.21%

Appendix 16 – Beta

16.1 – MATTEL - BETA REGRESSION ANALYSIS

Mattel - 2 year analysis

Regression Statistics	
Multiple R	0.35707561
R Square	0.12750299
Adjusted R S	0.1189491
Standard Err	0.06456146
Observations	104

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.06213027	0.06213027	14.9058445	0.00019851
Residual	102	0.42515454	0.00416818		
Total	103	0.4872848			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	-0.0014402	0.00635359	-0.2266767	0.82112883	-0.0140425	0.01116211	-0.0140425	0.01116211
X Variable 1	1.17762301	0.30501977	3.86080878	0.00019851	0.57261774	1.78262828	0.57261774	1.78262828

Mattel - 5 year analysis

Regression Statistics	
Multiple R	0.40169693
R Square	0.16136042
Adjusted R Square	0.14664745
Standard Error	0.11743989
Observations	59

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.15126129	0.15126129	10.9672192	0.00161355
Residual	57	0.78615132	0.01379213		
Total	58	0.93741261			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	-0.0139872	0.01578547	-0.8860824	0.37929624	-0.0455971	0.01762263	-0.0455971	0.01762263
X Variable 1	1.47865177	0.44649608	3.31167921	0.00161355	0.5845588	2.37274474	0.5845588	2.37274474

16.2 – HASBRO - BETA REGRESSION ANALYSIS

Hasbro - 2 year analysis

Regression Statistics	
Multiple R	0.3599793
R Square	0.12958509
Adjusted R S	0.12105162
Standard Err	0.04174941
Observations	104

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.02646851	0.02646851	15.1854932	0.00017448
Residual	102	0.17778734	0.00174301		
Total	103	0.20425585			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	0.0013949	0.00410862	0.33950657	0.7349262	-0.0067545	0.00954434	-0.0067545	0.00954434
X Variable 1	0.76863374	0.19724454	3.89685684	0.00017448	0.37740013	1.15986735	0.37740013	1.15986735

Hasbro - 5 year analysis

Regression Statistics	
Multiple R	0.46908008
R Square	0.22003612
Adjusted R S	0.20635254
Standard Err	0.06736971
Observations	59

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.07298334	0.07298334	16.0803072	0.0001786
Residual	57	0.25870466	0.00453868		
Total	58	0.33168799			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	0.00707204	0.00905538	0.78097626	0.43804807	-0.011061	0.02520512	-0.011061	0.02520512
X Variable 1	1.02710269	0.25613368	4.01002583	0.0001786	0.51420383	1.54000154	0.51420383	1.54000154

Appendix 17 – Valuation

17.1 – LEGO – BEST CASE VALUATION

BEST CASE

in million DKK DCF - Analysis		1 E2020	2 E2021	3 E2022	4 E2023	5 E2024	6 E2025	7 E2026	8 E2027	9 E2028	10 E2029	11 Terminal
Free cashflow		9,614	10,240	11,192	12,066	13,667	14,238	15,248	16,337	17,278	18,029	18,660
WACC		6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%
Discount factor		0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.57	0.53	0.50
PV of FCF		9,027	9,026	9,262	9,375	9,969	9,751	9,804	9,862	9,792	9,593	9,322
Terminal value	619,425											
WACC	6.51%											
Terminal growth rate	3.5%											
Valuation												
Sum of PV FCF (Budget)	95,463											
Sum of PV FCF (Terminal)	329,599											
Enterprise value	425,062											
Equity value	425,062											

Compounded Equity value as of March 31, 2020		
Formula		
Equity value *(1+re*p)	**431,982**	cirka - undersøg
re	**6.51%**	
p	**0.25**	

in million DKK EVA - Analysis		1 E2020	2 E2021	3 E2022	4 E2023	5 E2024	6 E2025	7 E2026	8 E2027	9 E2028	10 E2029	11 Terminal
NOPAT		10,704	11,848	12,923	13,939	15,081	16,102	17,069	17,899	18,603	19,254	19,928
Invested capital primo		20,728	21,818	23,426	25,156	27,028	28,443	30,306	32,128	33,689	35,015	36,240
WACC		6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%
Cost of capital		1,350	1,421	1,526	1,638	1,760	1,852	1,974	2,092	2,194	2,280	
EVA		9,354	10,427	11,397	12,301	13,321	14,249	15,096	15,807	16,409	16,974	17,568
Discount factor		0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.57	0.53	0.50
PV of EVA		8,782	9,191	9,432	9,557	9,717	9,759	9,706	9,542	9,300	9,032	8,776
Terminal value	583,185											
WACC	6.51%											
Terminal growth rate	3.5%											
Valuation												
Sum of PV EVA (Budget)	94,019											
Sum of PV EVA (Terminal)	310,315											
Invested capital primo	20,728											
Enterprise value	425,062											
Equity value	425,062											

Compounded Equity value as of March 31, 2020	
Formula	
Equity value *(1+re*p)	**431,982**
re	**6.51%**
p	**0.25**

Multiples	
EV/Sales	**11.03**
EV/EBITDA	**33.21**
EV/EBIT	**39.22**

17.2 – LEGO – WORST CASE VALUATION

WORST CASE

in million DKK

DCF - Analysis		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
		E2020	**E2021**	**E2022**	**E2023**	**E2024**	**E2025**	**E2026**	**E2027**	**E2028**	**E2029**	**Terminal**
Free cashflow		8,203	7,907	6,866	6,844	7,331	7,699	8,038	8,443	8,791	9,011	9,236
WACC		6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%
Discount factor		0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.57	0.53	0.50
PV of FCF		7,702	6,969	5,682	5,318	5,347	5,273	5,169	5,097	4,982	4,795	4,614
Terminal value	230,183											
WACC	6.51%											
Terminal growth rate	2.5%											
Valuation												
Sum of PV FCF (Budget)	56,333											
Sum of PV FCF (Terminal)	122,481											
Enterprise value	178,814											
Equity value	178,814											

Compounded Equity value as of March 31, 2020

Formula	
Equity value *(1+re*p)	**181,725**
re	**6.51%**
p	**0.25**

in million DKK

EVA - Analysis		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
		E2020	**E2021**	**E2022**	**E2023**	**E2024**	**E2025**	**E2026**	**E2027**	**E2028**	**E2029**	**Terminal**
NOPAT		7,790	7,498	7,571	7,926	8,268	8,596	8,917	9,190	9,420	9,655	9,897
Invested capital primo		20,728	20,315	19,906	20,612	21,693	22,631	23,528	24,407	25,153	25,782	26,427
WACC		6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%
Cost of capital		1,350	1,323	1,296	1,342	1,413	1,474	1,532	1,589	1,638	1,679	
EVA		6,440	6,175	6,275	6,583	6,856	7,122	7,385	7,601	7,782	7,976	8,176
Discount factor		0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.57	0.53	0.50
PV of EVA		6,046	5,443	5,193	5,115	5,001	4,878	4,748	4,588	4,410	4,244	4,084
Terminal value	203,756											
WACC	6.51%											
Terminal growth rate	2.5%											
Valuation												
Sum of PV EVA (Budget)	49,667											
Sum of PV EVA (Terminal)	108,419											
Invested capital primo	20,728											
Enterprise value	178,814											
Equity value	178,814											

Compounded Equity value as of March 31, 2020

Formula	
Equity value *(1+re*p)	**181,725**
re	**6.51%**
p	**0.25**

Multiples

EV/Sales	**4.71**
EV/EBITDA	**13.97**
EV/EBIT	**16.77**