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

Field Lab: Equity Research on Adidas AG

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

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Abstract

Despite significant increases of Adidas' share price throughout the past years, the following report concludes that the stock is still undervalued. Based on an extensive analysis of Adidas' past performance and actions, the company's position within the industry, as well as current industry trends, the report concludes that Adidas is well set for the future with revenues that are expected to increase with a CAGR of 7.0% until 2025. The main drivers are the expansion of middle-class population in Asian economies, a shift towards more sustainable sportswear products, and increasing sports participation globally.

Keywords

Adidas, Sportswear, Valuation

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MASTER IN FINANCE

ADIDAS AG

COMPANY REPORT

FASHION AND APPAREL

3 JANUARY 2020

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Capturing the industry's growth momentum

With North America and China at the forefront

Our investment recommendation for Adidas is 'BUY' with a target share price of **EUR 383.13**, representing an **upside of 32.2%** compared to the current share price of EUR 289.80.

- The global **sportswear industry** is expected to **continue its climb** over the next years with a **CAGR of 6.1%** until 2023. Main drivers for this strong growth are Asia's growing middle class, a general shift towards a healthier lifestyle and increasing sports participation rates in developed economies.

- Despite **decelerating growth rates** from **+16% in Q1** over **+14% in Q2** and down to **+11% in Q3** 2019 in **China**, Adidas continues to defend its **strong market position** with higher growth rates than the Chinese market's 11%. Moreover, we expect that Adidas continues to gain market share in North America.

- We consider Adidas' strong **focus on more sustainable** materials and its valuable long-term **collaborations** with non-athlete fashion designers, such as Kanye West, Stella McCartney and Beyoncé, as **strong foundation to maintain and gain market share** in the global sportswear industry. Thus, we forecast revenues to increase with a CAGR of 7.0% until 2025.

- Our valuation is based on a DCF model with a **forecast period until 2025**, a **WACC of 6.67%**, and a nominal **terminal growth rate of 5.0%**, based on expected real economic growth in Adidas' geographical segments and the Euro area's inflation of 1.8% for 2025.

Company description

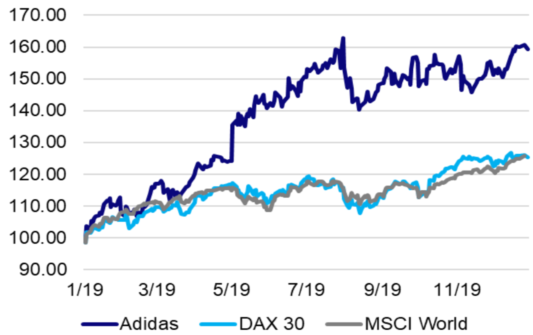
The Adidas Group is the largest European sportswear company with its headquarter in Herzogenaurach, Germany. Adidas designs, develops and markets athletic footwear and apparel as well as sport-inspired lifestyle products and branded sport accessories. The company's products are sold globally under its two main brands Adidas and Reebok.

Recommendation:	**BUY**
Price Target FY20:	**EUR 383.13**
Price (as of 31-Dec-19)	**EUR 289.80**

Reuters: ADSGn.DE, Bloomberg: ADS

52-week range (EUR)	181.35 - 296.75
Market Cap (EUR bn.)	57.34
Outstanding Shares (m)	197.86

Source: Yahoo Finance



Source: Yahoo Finance, Investing.com

(Values in EUR millions)	2018	2019E	2020F
Revenues	21,915	23,594	25,552
Gross margin	51.8%	52.1%	51.9%
EBIT	2,368	2,724	2,728
EBIT margin	10.9%	11.3%	10.5%
Net income	1,704	1,937	1,918
Earnings / Share	8.46	9.79	9.96
ROIC	19.1%	22.2%	20.2%

Source: Adidas (2019a), Analysts' estimates

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Executive summary

The global sportswear industry has been growing since 2014 with a CAGR of 7.1%, strongly driven by North America (CAGR 9.0%) and Asia-Pacific (CAGR 11.7%). The underlying trends are mainly a shift towards a more health-oriented lifestyle, accompanied by increasing sports participation rates globally, as well as a rapidly growing middle class in Asia, particularly stemming from China. Moreover, the so-called ‘athleisure’ trend fuels the industry with additional growth.

In its current five-year growth plan ‘Creating the New’, Adidas strongly focuses on further top-line growth and the expansion of its market shares in North America and China, as well as a stronger shift towards e-commerce. Based on the current strategy, Adidas increased its total sales by 29.6% between 2015 and 2018. Due to Adidas’ long-term collaborations with renown non-athlete designers, the company’s actions and ambitions regarding sustainability, a topic with increasing relevance, and the strong focus on digitalization and e-commerce, we expect that the company is in a good position to maintain and expand its market shares globally.

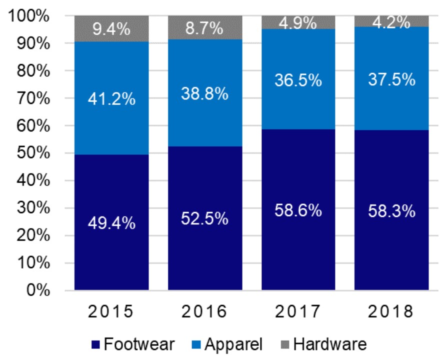
In the medium-term, the global sportswear industry is expected to grow with a CAGR of 6.1% between 2019 and 2023, mainly driven by Asian economies and their emerging middle class, as well as increasing sports participation rates and healthier lifestyles in developed economies. In Asia, the most relevant countries for Adidas’ future growth are China on a medium-term and India on a medium- to long-term perspective.

Given the high growth opportunities of the market and Adidas’ strong position within the sportswear industry, we forecast net sales to increase compared to the level of 2018 by 61% until 2025, which equals a CAGR of 7.0%. Most of the growth is expected to be attributable to the Adidas brand based on its brand recognition as well as the brand-related collaborations and initiatives. Considering the Reebok brand, we expect the industry’s environment to remain challenging. However, given the increasing relevance of fitness sports we see Reebok to follow the company’s climbing growth path, too.

Based on our forecast on the sportswear industry’s development, the competitive positioning of Adidas within the industry and our DCF valuation assumptions, our target share price for Adidas as of 31 December 2020 amounts to EUR 383.13.

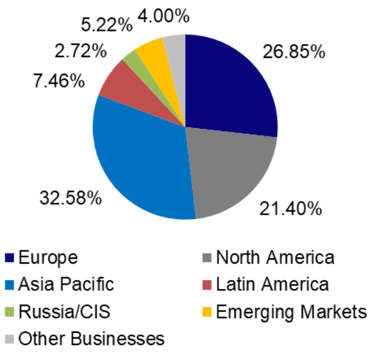
Company Overview

Figure 1: Relative sales by product category



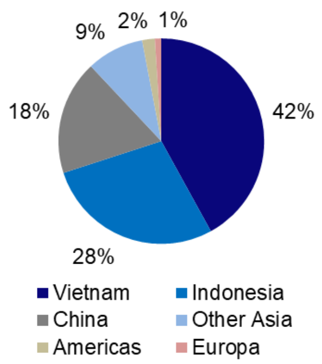
Source: Adidas (2019a)

Figure 2: Sales by geographical segment (2018)



Source: Adidas (2019a)

Figure 3: Footwear production by country



Source: Adidas (2019b, p. 76)

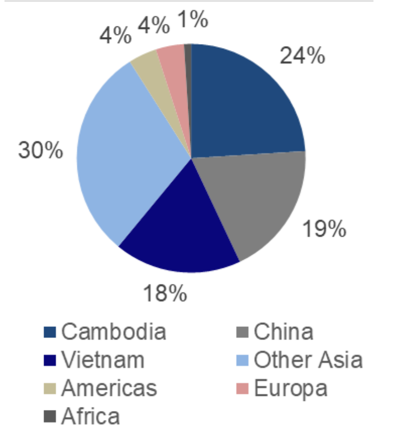
Business overview

In terms of product categories, Adidas differentiates its revenue sources into footwear, apparel and hardware. The latter refers to branded sports accessories such as balls, sports bags, and fitness equipment. In 2018, footwear accounted for 58.3% of net sales, which has made it the strongest growing segment over the past three years (+52.9%). Apparel sales have increased in absolute terms by 18% over the past three years, whereas its proportion of net sales decreased to 37.5% in 2018 compared to 41.2% in 2015. As a result of the Rockport, TaylorMade, Adams Golf, Ashworth and CCM Hockey divestitures in 2017, hardware sales decreased in absolute terms from EUR 1.6bn in 2015 to EUR 0.9bn in 2018, representing 4.2% of total sales (9.4% in 2015; Adidas, 2019a).

In 2018, Adidas reorganized its regional sales segments. Previously, Greater China, Japan and MEAA were reported separately. Since 2018, Adidas reports the new regional sales segments Asia-Pacific and Emerging Markets. (Adidas, 2019b, p. 125). Thus, an appropriate comparison of the 2018 figures to the figures prior 2017 of the Asia-Pacific and Emerging Markets segments needs to consider this strategic reorganization. In 2015, the European market represented Adidas' largest segment with a revenue share of 27%. Three years later, despite a similar share of total sales, the European market represents only the second largest segment due to Adidas' significant growth in Asia and China in particular. The segment Asia-Pacific accounts for almost 33% of Adidas' total revenues, of which around two thirds are attributed to the Chinese market (Bloomberg, 2019a). In the first three quarters of 2019, Asia-Pacific continues to be Adidas' major growth driver. Simultaneously, sales in North America have increased significantly over the last years, representing 21.4% of total sales in 2018. The other segments Latin America (7.4%), Emerging Markets (5.2%), Russia/CIS (2.7%) and 'Other Businesses' (4.0%) accounted for smaller proportions of total sales (Adidas, 2019b).

Adidas uses several distribution channels to sell its products: its own retail stores, mono-brand franchise stores, wholesale and e-commerce. While the number of its own retail stores has decreased since 2016, Adidas continuously extends the number of wholesale and mono-brand franchise stores. With the latter, Adidas aims at building a shopping narrative that focuses on a single brand, its products, and the image of lifestyle it promotes. Moreover, Adidas continues to invest into digital partners such as Amazon, Alibaba or Zalando, as well as in its own digital ecosystem. These measures help to extend Adidas' presence along the customer journey and to increase the company's market shares. Moreover, Adidas aims at increasing sales through controlled space[1], which refers to commercial spaces where the company can actively influence its brand and product presentation. By 2020, Adidas plans to generate more than 60% of its sales through controlled space compared to ca. 50% in 2015 (Adidas, 2015). We expect that the current initiatives require significant investments in appropriate brand presentation and the digital extension of Adidas's distribution network in the medium-term future. After Adidas recently announced that its two visionary Speedfactories in Ansbach, Germany, and Atlanta, U.S., will close latest by April 2020 (Bloomberg, 2019b), the high proportion of production in Asia[2] is expected to remain stable.

Figure 4: Apparel production by country

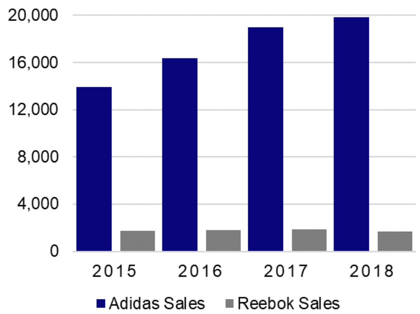


Source: Adidas (2019b, p. 76)

Brands

Adidas reports sales of its two main brands 'Adidas' and 'Reebok' separately. The brand Adidas focuses on a broad and diverse sports portfolio and sports-inspired lifestyle fashion, whereas the brand Reebok specifically targets the fitness and fashion-forward lifestyle products. Since past sales developments have been very different for the two brands, we forecast segment sales for each brand separately.

Figure 5: Sales by brand (EUR m)



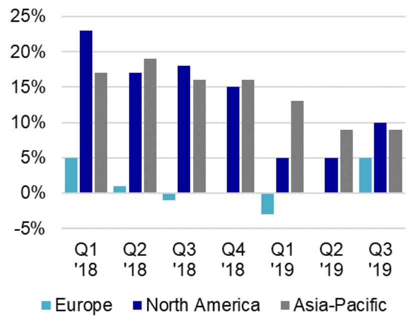
Source: Adidas (2019a)

Adidas

The Adidas brand is by far the most important brand for the group, accounting for 90.4% of total sales in 2018. Between 2015 and 2018, Adidas brand sales increased by 42% and continue to increase significantly in 2019 (see figure 6). The general brand can be divided into several sub-brands that are all based on the deep-rooted connection to sports but with different purposes.

In 2018, Adidas brand sales continued to grow significantly in North America and Asia-Pacific with quarterly currency-neutral growth rates ranging from 5% to 23% (see figure 6). Nevertheless, growth rates in these segments decelerated in 2019, reaching a minimum of 5% in the first two quarters in North America and 9% in Q2 and Q3 in Asia-Pacific. However, the lower growth rates in North America were mainly related to significant supply chain issues (Reuters, 2019). In the second half of 2019, these problems are partly solved, resulting in a currency-neutral sales growth of 10% in Q3 in the North American market. Despite low and even negative growth rates in Europe between Q2 2018 and Q2 2019 (see figure 6), Adidas returned to growth in Q3 2019 (+5%), indicating

Figure 6: Quarterly growth rates of Adidas brand sales by segment (2018/2019)



Source: Adidas (2019a)

[1] "Includes own-retail business, mono-branded franchise stores, shop-in-shops, joint ventures with retail partners and co-branded stores" (Adidas, 2019b, p. 243).

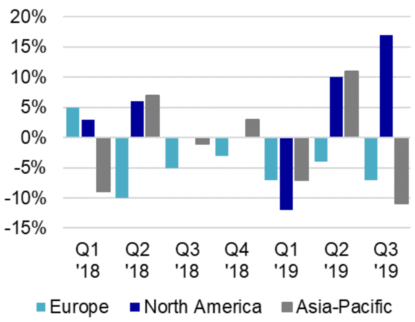
[2] 97% of footwear products and 91% of apparel products are sourced from suppliers in Asia (Adidas, 2019b, p. 76)

successful reinvestments and strategic initiatives within this segment (Adidas 2019a).

In addition to the core brand itself, Adidas has established long-term collaborations with famous designers such as Stella McCartney, Yohji Yamamoto, Pharell Williams and Kanye West to co-brand products addressing specific customer segments. Moreover, in early 2019 Adidas announced a new partnership with the American singer Beyoncé and her brand Ivy Park. First products will be released in early 2020. We expect that these collaborations will further increase brand desire, improve Adidas' credibility as a premium brand, as well as support and promote the shift toward a sustainable sports and fashion brand[3]. Especially Kanye West's Yeezy brand has become very important for Adidas within a short period of time[4]. Forbes estimates that sales of the Yeezy products will reach USD 1.5bn in 2019 (Forbes, 2019a). Based on these established collaborations, the ongoing growth in the highly relevant segments North America and Asia-Pacific as well as the return to growth in Europe from 2018 to 2019, we expect a high potential for strong financial performance and further growth. At the same time, we believe that the 2016 and 2017[5] growth rates were exceptional and unlikely to recur in the medium-term.

Reebok

Figure 7: Quarterly growth rates of Reebok brand sales by segment (2018/2019)



Source: Adidas (2019a)

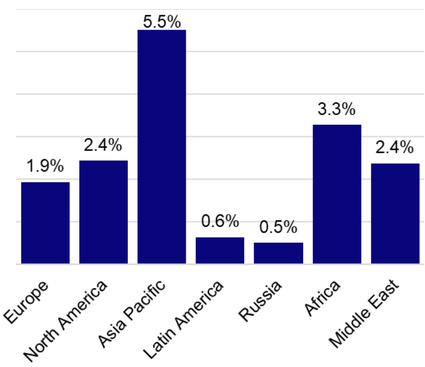
Compared to the Adidas brand, Reebok brand sales lag far behind by representing only 7.7% of total sales in 2018 (in 2015: 10.4%), as a consequence of a sales decrease by 4.0% compared to the sales level of 2015. Over the last years, Reebok's brand image has been reshaped from traditional sports to its origins in fitness in order to strengthen the brand's credibility and to address new customers. Additionally, Adidas tries to increase the brand's authenticity by entering various partnerships, such as the ones with CrossFit, Victoria Beckham, and fitness instructors (Adidas, 2019b, p. 71). Reebok brand sales fluctuate strongly between positive and negative growth rates[6] in the company's most important segments North America, Asia-Pacific and Europe. In North America, however, Reebok has experienced significant growth rates of +10% and +17% in the second and third quarter of 2019 (Adidas, 2019a). After the transformation of the brand back to its roots in fitness, the recent growth acceleration might indicate first successes of these measures. Nevertheless, we expect that Reebok continues to face significant challenges in the upcoming years.

[3] For example, the designer Stella McCartney is known for sustainable fashion designs.
[4] The collaboration was announced in December 2013, products started to be sold from 2015 onwards.
[5] North America: +30% (2016) and +35% (2017); Europe: +20% and +12%; Asia-Pacific: Greater China with +28% and +30%, Japan with +17% and +10% (all on a currency-neutral level) (Adidas, 2019a).
[6] Ranging from -12% (Asia-Pacific, Q1 2019) and +17% (North America, Q3 2019) since the beginning of 2018 (Adidas, 2019a).

Sector Development and Trends

The sportswear industry comprises athletic footwear and sports apparel but also includes sports-inspired fashion products. According to Euromonitor International (2019a), the global market size of the sportswear industry is EUR 279.9bn in 2018 and EUR 301.3bn in 2019, increasing with a CAGR of 7.1% over the past five years (2014-19). Main drivers of that development were the strong growth rates in North America (CAGR of 9.0%) and Asia-Pacific (CAGR of 11.7%). Euromonitor forecasts further growth with a CAGR of 6.1% on a global level, resulting in a total market size of EUR 382.2bn in 2023. A healthier lifestyle, increased participation rates in sports, an expanding middle class, and global fashion trends strongly contribute to the positive development in the sportswear industry (Deutsche Bank, 2019). The most relevant trends and drivers within the industry, the competitive landscape and the relevance for as well as the positioning of Adidas will be illustrated in the following section.

Figure 8: CAGR of real GDP by region (2014-2018)



Source: IMF (2019)

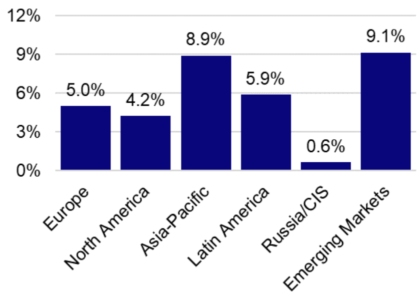
Key drivers and macro trends

While specific fashion trends often last only for a short period of time, the following trends represent sustainable developments within societies and sportswear markets. In order to understand the strong growth rates and positive outlook of the sportswear industry, it is crucial to analyse the key drivers for these trends.

General economic development and growing middle class

The general industry development, and therefore also Adidas' business performance, depends at least in parts on economic wealth and consumer spending. Since the global economic crisis between 2007 and 2009, the world economy has experienced continuous economic growth with real GDP growth rates between 3.4% (2016) and 5.4% (2010) (IMF, 2019). While advanced economies grew at only moderate rates, the global growth was mainly fuelled by the strong growth of Asian economies and the growing wealth of its population. After a slowdown in H1 2019, real economic growth in Europe, Asia, and the Middle East is forecasted to be the lowest in this decade, resulting in a global expected growth rate of 3.0% over the whole year. For the years 2021 until 2024, global economic growth is forecasted to be constant at ca. 3.6%. Asia will remain the main growth driver, as especially India (7.0% - 7.4%) and China (5.5% - 5.9%) will grow at significant pace. Africa is expected to experience growth of ca. 4% while advanced economies in Europe, North America, and the Middle East are expected to grow between 1.5% - 2.5%. Moreover, Latin America is expected to return to moderate but healthy growth of 2.4% - 2.8% from 2020 onwards

Figure 9: CAGR of forecasted real GDP by region (2019-2024)

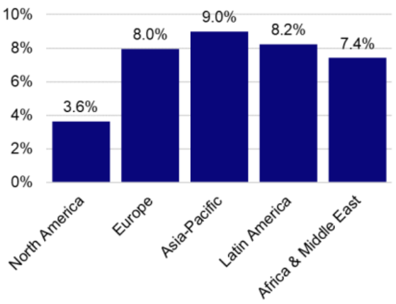


Source: IMF (2019)

(IMF, 2019). As a result of the recent and expected economic developments, the global middle class of consumers is expected to strongly expand, comprising ca. 5.2bn people in 2030, up from 3.6bn in 2019. This will reflect 61% of the world's population in 2030, compared to 47% in 2019 (CaixaBank, 2019, p. 35). Most of that growth will come from Asian economies which are expected to account for ca. 60% of middle class consumers in 2050, most of which will be from China and India (European Commission, 2016, p. 6). This development will result in higher consumer purchasing power which drives the sportswear industry's growth in the long-term.

Overall, general economic conditions are favourable for the sportswear industry's outlook. However, as already seen in the previous years, the relevance of the geographical market segments is expected to change significantly. While North America and Europe will remain important and attractive markets in absolute terms, Asian markets will become more and more important, particularly China in the short- to medium-term and India in the medium-to long-term perspective. This shift forces Adidas to continuously invest and promote its brands in those countries. As a result, we expect that improvements in marketing and point-of-sale expenses as a percentage of net sales are limited.

Figure 10: CAGR of gym members by region (2014-2017)

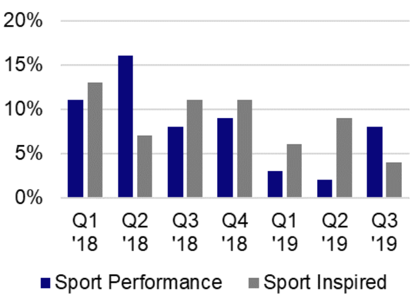


Source: Statista (2019a)

Healthy living

One of the global mega trends that shapes the consumer industry is called 'Healthy Living', with health prevention and self-care at its core (Euromonitor International, 2019b). The trend refers to a general movement where consumers increasingly focus on improving their physical and mental wellbeing. Beside healthier nutrition, better sleep, and general mental wellbeing, also regular physical exercise is considered key to support a healthier life (Forbes, 2019b). As a result, consumers increasingly participate in fitness classes and other physical workouts. According to the (American) Physical Activity Council (2019), especially participation in fitness and outdoor sports has considerably increased over the past years in the U.S.[7]. In addition, as illustrated in figure 10, gym memberships increased even stronger, indicating growing sports participation rates globally. As a direct consequence, this trend increases demand for sportswear and sports equipment, thereby driving market growth in the sportswear industry. Moreover, as physical activities are a key element of a healthier lifestyle, we expect increasing health awareness and sports participation to remain key drivers for the sportswear industry.

Figure 11: Quarterly sales growth of Sport Performance and Sport Inspired segments in 2018 and 2019



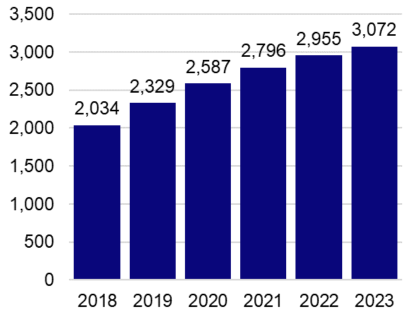
Source: Adidas (2019a)

[7] In fitness sports from 60.1% (2013) to 66.0% (2018), in outdoor sports from 53.9% (2013) to 59.2% (2018).

Athleisure

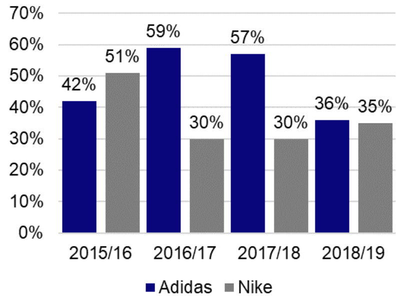
'Athleisure' has contributed significantly to the strong growth of the sportswear market (Deutsche Bank, 2019; Retail Insight Network, 2018). The trend describes casual clothing to be worn not only for exercising, but also for other occasions. Beside traditional sportswear, Adidas and its competitors are offering more and more fashionable products that increase competition with fashion brands outside of the sportswear industry. As illustrated in figure 11, Adidas' recent growth is significantly attributable to its lifestyle products. Growth rates of the 'Sport Inspired' product segment outperformed growth rates of 'Sport Performance' products in five of the last seven quarters. 'Sport Performance' figures in Q2 2018 were positively influenced by sales from the FIFA World Cup when global jersey sales even exceeded Q2 2014 levels[8]. Due to several collaborations with renowned fashion designers and non-athlete celebrities, we expect that Adidas is in a good position to continue to benefit from this trend and to maintain and further expand market shares. In addition, we believe that Adidas can continue to benefit from the current retro footwear trend thanks to the long tradition of the brand and its variety of classic designs.

Figure 12: Global market size of fitness apps in USD m



Source: Statista (2019b)

Figure 13: Annual growth of e-commerce sales



Source: Adidas (2019a), Nike (2019)

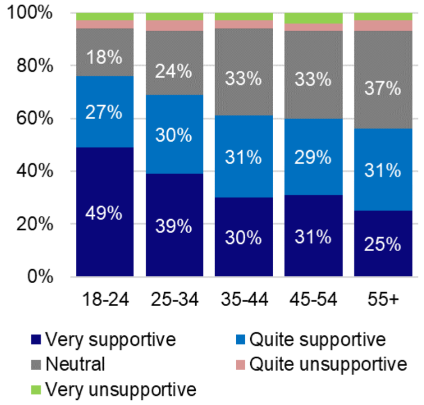
Digital and e-commerce

Adidas acquired the fitness app developer 'Runtastic' in 2015. Even though the expected global market sizes for fitness apps are small in comparison to the global sportswear market[9] (see figure 12), the apps enable sportswear companies to engage with their customers, to gather customer data, to create brand-awareness, and to motivate its users to exercise. Thus, increasing sport participation rates result in higher demand for sport products. By introducing and rolling out a reward system with its new 'Creators Club', Adidas enables users to actively collect points. These points can be converted into benefits, rewards, and access to exclusive offers (Adidas, 2019c), thereby increasing customer loyalty, brand desire and net sales. In addition to offering digital workout support, e-commerce has become even more relevant for companies in order to maintain and expand market shares as many consumers increasingly buy online. Adidas expects e-commerce sales to reach EUR 4bn in 2020 (Adidas 2019b, p. 66). According to the company's annual reports, e-commerce sales increased by 59% in 2016, 57% in 2017, and 36% in 2018. Growth rates in the first half of 2019 even exceeded growth in 2018, however, decelerating again in Q3 2019[10] (Adidas, 2019a). Based on the strong increase of e-commerce sales, we expect

[8] Adidas does not publish exact figures on its football segment, but emphasizes the importance of the events FIFA World Cup and UEFA European Championship (Bloomberg, 2018).
[9] Fitness app market is only approximately 1% in relation to the global sportswear market.
[10] Growth of e-commerce sales in 2019: Q1 +40%, Q2 +37%, Q3 +14% (Adidas, 2019a).

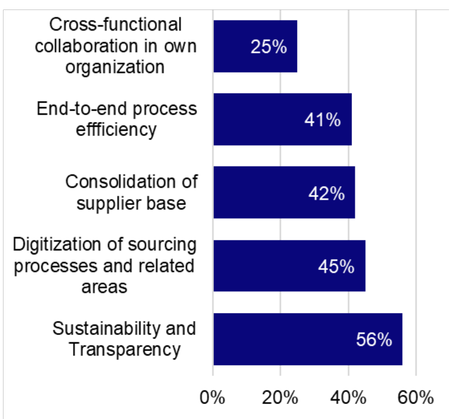
that Adidas needs to invest significantly in distribution channels and infrastructure, resulting in higher capital expenditures over the next years. This is especially important for Adidas' strategic growth segments China and North America as absolute market sizes and expected growth rates of e-commerce are particularly high in these segments[11] (Statista, 2019c). Consequently, a strong focus on e-commerce and the integration of physical and online retail are crucial for Adidas to sustain growth.

Figure 14: Responses of consumers of different age groups on: "How supportive are you of sustainable fashion?"



Source: KPMG (2019a, p. 6)

Figure 15: Survey among sourcing executives in the fashion industry: "What are the top three areas to adjust apparel sourcing within your company to cope with overall macrotrends?"



Source: McKinsey (2019, p. 6)

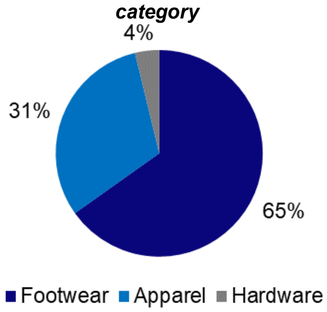
Sustainability

Many consumers have become more and more aware of the negative impact of consumptive behaviour and are looking for ways to reduce this impact. According to a survey conducted by KPMG (2019a, p. 6), at least half of its study participants in every age group described themselves as supportive of sustainable fashion (see figure 14). Among younger consumers, the appetite for more sustainable products increased heavily over the last three years and is even stronger than in older age groups (McKinsey, 2019, p. 11). Another survey by BCG (2019, p. 14) yields similar results, underlining that almost half of the study participants from the Founders generation[12] have already switched brands based on sustainability considerations. Adidas' sportswear products mainly consist of polyester[13], cotton, nylon, polystrene, and leather (Adidas, 2019d). To reduce the company's environmental impact, Adidas aims at replacing virgin polyester with recycled fibers obtained from post-consumer waste such as plastic bottles. Adidas announced that it will use only recycled polyester for all of its Adidas and Reebok products by 2024. Moreover, by 2018, the company had already achieved its goal of using 100% 'sustainable cotton', based on the standards of the 'Better Cotton Initiative' in its products (Adidas, 2019b, p. 94).

In 2015, Adidas entered a collaboration with the organization 'Parley for the Oceans', whose goal is to raise awareness for the plastic pollution of the oceans and to initiate mitigation measures. Since the fashion industry is still in its early steps to become more sustainable (BCG, 2019, p. 1) Adidas' ambitious goals and efforts are challenging its competitors (Forbes, 2019c). Consequently, Adidas' measures to communicate effectively and to emphasize its efforts regarding sustainability in fashion could be a significant advantage and distinguish itself from its competitors. In general, we consider Adidas' strong efforts a solid basis for its credibility regarding sustainability in fashion. Addressing new customers with positive attitudes regarding sustainability is an important measure for Adidas to keep and expand its market share. However, we

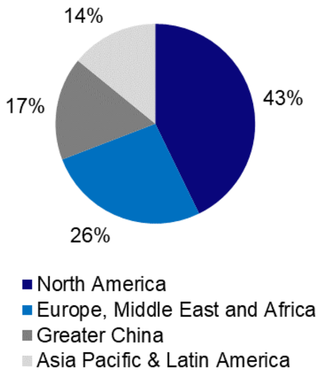
[11] Absolute market size of e-commerce in fashion is expected to reach USD 435bn in China and USD 180bn in the U.S. by 2023, compared to USD 922bn globally. Expected CAGRs (2018-2023): 12.2% (China) and 16.5% (U.S.) (Statista, 2019c, p. 7)
[12] Born between 1997 and mid-2000s, but the survey includes only participants older than 18 years.
[13] With polyester accounting for about 50% of materials used in Adidas' products (Forbes, 2019c).

Figure 16: Nike's sales by product category



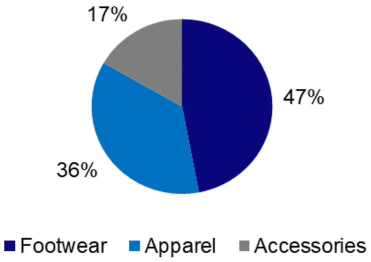
Source: Nike (2019)

Figure 17: Nike's sales by segment



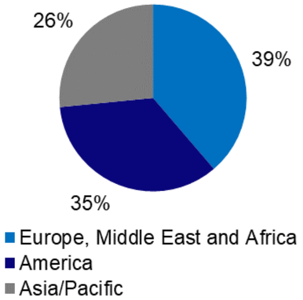
Source: Nike (2019)

Figure 18: Puma's sales by product category



Source: Puma (2019)

Figure 19: Puma's sales by segment



Source: Puma (2019)

also expect the pioneering position to come at a cost: as recycled polyester is estimated to be ca. 10% - 20% more expensive than virgin polyester (FT, 2018), we estimate the increase in material costs to have a negative impact of up to ca. 1% on the company's gross margin until 2025[14], compared to the level of 2019 (see appendix 1).

Competitive landscape

While Adidas offers a broad product portfolio for almost any kind of sport, many other companies are successful players in specific niche segments. Therefore, Adidas faces many different competitors in its various product segments. However, the competition with companies such as Li-Ning and Anta in China or the Sportsmaster Group in Russia is only limited to a specific geographical region. In the following we introduce the competitors we consider most relevant for Adidas on a global level. We identified these companies based on their product portfolios, their broad geographical reach and their strong market position in Adidas' core market segments.

Nike Inc.

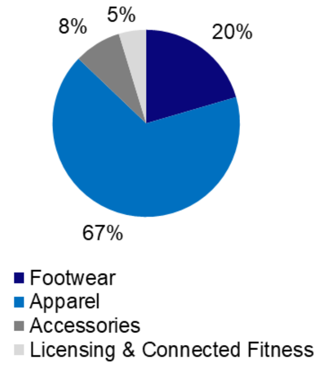
Nike is the global market leader in the sportswear industry with total revenues equaling USD 39.1bn in its latest fiscal year. Its product portfolio strongly resembles the one of Adidas and covers footwear and apparel products as well as branded accessories for almost any kind of sport, with footwear products as dominating product category (see figure 16). In terms of geographical distribution of sales, due to its strong growth particularly in China and the EMEA region, Nike is becoming less dependent on its domestic market in North America[15]. However, North America still accounts for 43% of Nike's total sales in 2019 (Nike, 2019). We consider Nike to remain Adidas' strongest competitor also in the future and expect intensified competition across almost all product categories and geographical markets.

Puma

Puma is considered to be Adidas' strongest European competitor. Over the past three fiscal years, Puma's revenues grew by 37% to EUR 4.6bn, while net income almost quadrupled after relatively low operating profitability in 2015[16]. While offering a similar product portfolio as the dominant players Adidas and Nike, Puma is more dependent on apparel and accessories. In terms of regional sales distribution, Puma has relatively balanced sales proportions in the three

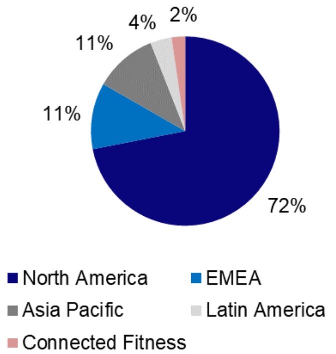
[14] Based on the share of polyester in the materials used in Adidas' products, the current proportion of recycled polyester, and the estimated proportion of materials costs of the cost of sales (see table in appendix 1).
[15] Greater China: +21% (2019) and +21% (2018); EMEA: +6% (2019) and +16% (2018) (Nike, 2019).
[16] EBIT margin in 2015 of 2.84% compared to 6.26% of Adidas and 13.91% of Nike in the same year.

Figure 20: Under Armour's sales by product category



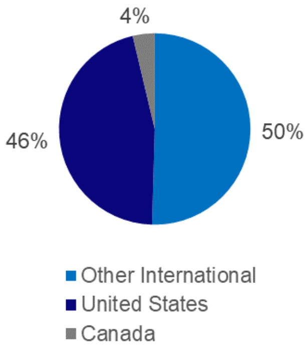
Source: Under Armour (2019)

Figure 21: Under Armour's sales by segment



Source: Under Armour (2019)

Figure 22: Skecher's sales by segment



Source: Skechers (2019)

segments EMEA, Americas and Asia Pacific with 39%, 35%, and 26% respectively (Puma, 2019). Due to Puma's deep roots and relevant partnerships in football[17], we believe that Puma will continue to be a strong competitor in the football segment and particularly in the European market.

Under Armour

When Under Armour started its operations in 1996, it strongly focused on developing functional athletic apparel mainly for U.S. sports, such as American football. Over the years, the company has continuously expanded its product portfolio. In contrast to Adidas, Nike and Puma, the majority of Under Armour's revenues is still based on apparel products (67%), while footwear sales represent only 20%. Total sales in 2018 amounted to USD 3.7bn, an increase by 8% since 2015. The majority of Under Armour's sales results from its domestic market North America (72% in 2018). Therefore, we believe that Adidas will face competition from Under Armour predominantly in North America. But we also expect competition to pick up in Europe and in Emerging Markets, where Under Armour gained popularity and grew strongly over the past years (EMEA CAGR 2015-2018: 42.6%) (Under Armour, 2019).

Skechers

Founded in 1992 in California, Skechers focuses on lifestyle and performance products. Between 2015 and 2018, Sketchers' sales increased by more than 47%. Particularly outside of North America sales numbers more than doubled due to strong growth in Western Europe and Asia (Skechers, 2019). While other companies are aiming at all types of products around their core sport categories, ranging from footwear to apparel and accessories, Skechers concentrates on footwear products and their functionality and comfort. Due to its increasing popularity in its 'Other International' segment, we consider Skechers to be a relevant competitor of Adidas not only in the North American market, but increasingly in Europe and especially in China, where Skechers increased its market share from 2.1% in 2015 to 5.8% in 2018 (Euromonitor, 2019a).

Competitive Performance

Adidas grew with a net sales CAGR of 9.0% (between 2015 and 2018) slower than its smaller competitors Puma, Under Armour and Skechers, but faster than industry leader Nike. In terms of currency-neutral sales in the years 2015 to 2018, Adidas (CAGR 12.9%) grew faster than both Nike (8.7%) and its German competitor Puma (12.7%). However, most of this growth stems from the years

[17] Relevant teams: Manchester City, Borussia Dortmund, AC Milan; relevant players representing Puma: Antoine Griezmann, Sergio Agüero, Romelu Lukaku, Luis Suárez (Puma, 2019).

Figure 23: Past performance of Adidas and its peers

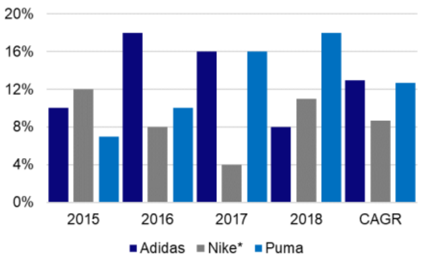
EBIT Margin	2015	2016	2017	2018
Adidas	6.26%	7.73%	9.76%	10.81%
Nike*	13.91%	13.83%	12.21%	12.20%
Puma	2.84%	3.52%	5.91%	7.26%
Under Armour	10.31%	8.65%	0.56%	-0.48%
Skechers	11.15%	10.40%	9.19%	9.43%
Industry	**10.31%**	**8.65%**	**9.19%**	**9.43%**

ROIC	2015	2016	2017	2018
Adidas	9.1%	13.2%	17.8%	22.1%
Nike*	24.2%	26.7%	13.1%	27.5%
Puma	4.7%	6.1%	11.1%	14.1%
Under Armour	12.1%	10.2%	-0.8%	-0.4%
Skechers	20.0%	18.1%	12.2%	17.4%
Industry	**12.1%**	**13.2%**	**12.2%**	**17.4%**

Sales Growth	2016	2017	2018	CAGR
Adidas	14.0%	10.0%	3.3%	**9.0%**
Nike*	6.1%	6.0%	7.5%	**6.5%**
Puma	7.1%	14.0%	12.4%	**11.1%**
Under Armour	21.8%	3.4%	4.1%	**9.4%**
Skechers	13.2%	16.9%	11.5%	**13.8%**
Industry	**13.2%**	**10.0%**	**7.5%**	**9.4%**

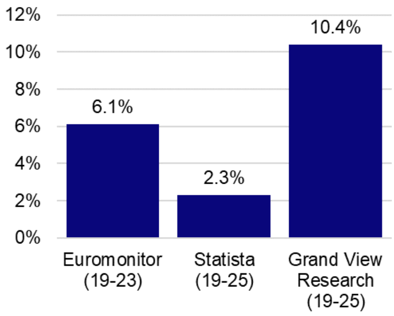
*for Nike: fiscal years 2016-2019
Source: Bloomberg (2019c)

Figure 24: Currency-neutral sales growth for Adidas, Nike and Puma (2015-2018)



*for Nike: fiscal years 2016-2019
Source: Adidas (2019a), Nike (2019), Puma (2019)

Figure 25: Forecasted CAGR global sportswear market from different studies



Source: Euromonitor (2019a), Statista (2019d), Grand View Research (2019)

2016 and 2017, while in 2018, growth was the slowest among its main competitors, both including and excluding currency effects (see figure 24). In terms of profitability, we saw significant progress for Adidas from 2015 to 2018. After comparably low performances in terms of ROIC (9.1%) and EBIT margin (6.3%) in 2015, both figures significantly increased throughout the following years up to 22.1% and 10.81% in 2018, respectively. Nevertheless, these profitability figures are still lower in comparison to industry leader Nike, indicating Nike's strong market position and competitive advantage. Overall, Adidas strengthened its market position as number two in the global sportswear market, but still lags behind industry leader Nike and is expected to face increasing competition from the smaller but faster growing competitors Puma and Skechers.

Valuation assumptions and forecasts

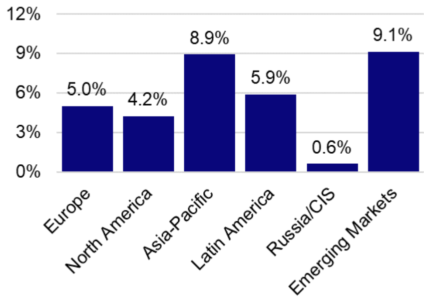
For the intrinsic valuation of Adidas, we applied a Discounted Cash Flow (DCF) model based on past developments, on-going trends, and our assumptions about the future. Moreover, we conducted an extensive reformulation of Adidas' financial statements in order to distinguish properly between operating and non-operating assets as well as the related incomes and expenses. The reformulation allowed us to forecast Adidas' future performance and to value its core business more accurately.

In order to account for alternative future developments, we applied a scenario analysis. Our final target price was obtained by weighting the outcomes of the individual scenarios with the assigned probabilities of occurrence. Additionally, we applied a sensitivity analysis to reflect the effect of potential changes in key metrics. Finally, we validated our final share price recommendation with a multiples approach based on selected peer companies.

Net sales on segment level

Forecasted net sales are the main driver of the DCF model because it is the original source of cash inflows and because many financial positions directly or indirectly depend on future sales. As basis for the underlying revenue model, we used Euromonitor International's (2019a) data regarding future market values of different geographical regions. Euromonitor forecasts the global sportswear market to grow at a CAGR (in nominal terms) of 6.1% between 2019 and 2023, based on market values in local currencies and expected fluctuation of exchange rates. Other projected CAGRs of comparable forecasts are 2.3% (Statista, 2019d) and 10.4% (Grand View Research, 2019). As Euromonitor's forecast is

Figure 26: Forecasted CAGR of market growth by segment for 2019-2025



Source: Euromonitor (2019a), Analysts' estimates

Figure 27: Adidas' sales growth in 2019 by segment (currency-neutral)

Sales development	Q1	Q2	Q3
Europe	-3%	0%	+3%
North America	+3%	+6%	+10%
Asia Pacific	+12%	+8%	+8%
Latin America	-3%	+5%	+5%
Russia / CIS	+22%	-4%	+13%
Emerging Markets	+10%	+12%	+14%

Source: Adidas (2019a)

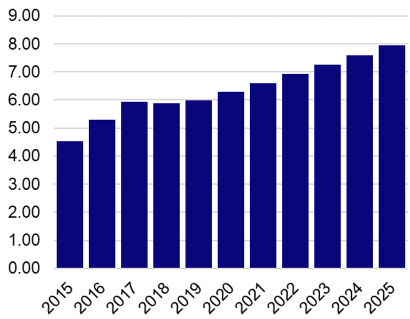
the most detailed and transparent one, with growth rates in between the figures of other studies, we consider Euromonitor's forecasts to be the most reliable one and thus, we use it as basis for our model. In order to extend Euromonitor's forecast period until 2025, we used the average of changes in growth rates for each geographical segment as benchmark[18]. We consider the approach to be reasonable as the underlying main drivers of growing middle class consumers as well as increasing sports participation and health awareness are not only temporary but rather long-term developments. Based on Euromonitor's market values, Adidas' competitive positioning and ongoing regional trends, we forecasted the changes in market shares of the brands Adidas and Reebok for each geographical segment until 2025. 2019 sales and market shares are based on the reported growth rates up to the third quarter and Euromonitor's market size figures. Moreover, we assumed a steady state scenario from 2025 onwards, implying that Adidas' and Reebok's market shares will remain constant by then the latest.

Figure 28: Segment forecasts Europe (table)

Segment Forecasts	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F
Europe	**5,885**	**5,990**	**6,281**	**6,601**	**6,919**	**7,258**	**7,601**	**7,942**
adidas brand sales	5,405	5,552	5,854	6,171	6,477	6,795	7,115	7,435
market share adidas	8.30%	8.06%	8.06%	8.06%	8.06%	8.06%	8.06%	8.06%
Reebok brand sales	480	439	426	430	442	463	485	507
market share adidas	0.74%	0.64%	0.59%	0.56%	0.55%	0.55%	0.55%	0.55%

Source: Adidas (2019a), Analysts' estimates

Figure 29: Segment forecasts Europe: total sales (graph)



Source: Adidas (2019a), Analysts' estimates

Figure 30: Most valuable football teams and their jersey sponsors

Most valuable football teams	
1. Real Madrid	Adidas
2. FC Barcelona	Nike
3. Manchester United	Adidas
4. Bayern Munich	Adidas
5. Manchester City	Nike
6. FC Chelsea London	Nike
7. FC Arsenal London	Adidas
8. FC Liverpool	New Balance
9. Tottenham Hotspurs	Nike
10. Juventus Turin	Adidas

Source: Forbes (2019d)

Regarding the European market, we expect it to remain competitive. Adidas brand's market share increased significantly between 2015 and 2017, but slightly dropped in 2018. Adidas returned to growth in Europe in the third quarter of 2019 after facing slightly negative growth in the four previous quarters (see figures 6 & 27). Due to the strong market position of Nike and the growth of the smaller competitors Under Armour, Skechers and Puma[19], we expect that Adidas will barely extend its market share in Europe. However, as a result of the growing environmental awareness (Nielsen, 2018a) and Adidas' ambitious sustainability measures, as well as the strong position in football sponsorships (see figures 30 & 31), the by far most relevant sport in Europe, we forecast Adidas' market share to remain constant from 2019 onwards.

The Reebok brand continues to struggle in the European market with negative growth rates over the last six quarters, resulting in a loss of market share. Thus, we expect that the brand will continue to struggle in the competitive environment and forecast market share losses to continue until 2022, but at decreasing pace. However, due to the ongoing increase of gym memberships (see figure 10) and the transformation of Reebok to a distinctive fitness brand, we expect that

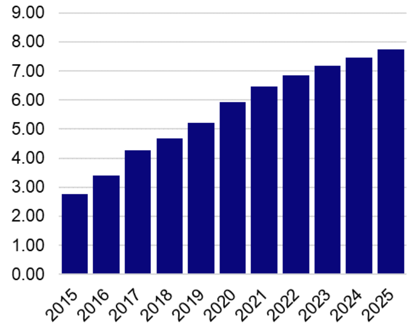
[18] Growth rates for 2024 and 2025 are based on the growth rate of 2023 +/- the average of the changes in growth rates over the three preceding years.
[19] See annual reports and revenues as well as notes to the respective segments (Nike, 2019; Under Armour, 2019; Puma, 2019; Skechers, 2019).

Figure 31: Sponsorship of relevant national teams

World Cup 2018 Team Sponsors	
Adidas	12
Nike	10
Puma	4
New Balance	2
Umbro	1
Hummel	1
Erreà	1
Uhlsport	1

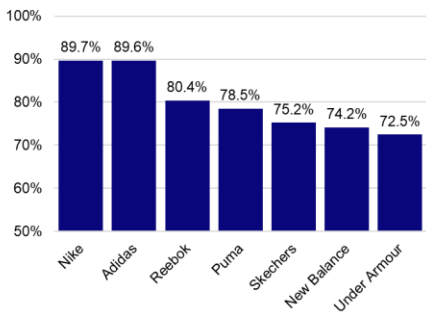
Source: Arch-USA.com (2018)

Figure 33: Segment forecasts North America (graph): total sales



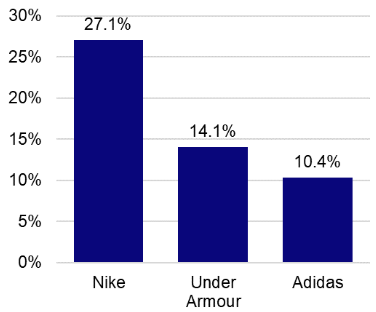
Source: Adidas (2019a), Analysts' estimates

Figure 34: Sport brands recognition in North America



Source: Statista (2019e)

Figure 35: Favourite sport brands in North America



Source: Statista (2019f)

Reebok can defend its market share in the long-term and forecast a constant market share after 2022.

Figure 32: Segment forecasts North America (table)

Segment Forecasts	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F
North America	**4,688**	**5,224**	**5,938**	**6,461**	**6,837**	**7,178**	**7,464**	**7,741**
adidas brand sales	4,277	4,746	5,378	5,850	6,201	6,516	6,775	7,027
market share adidas	4.13%	4.23%	4.58%	4.76%	4.85%	4.89%	4.89%	4.89%
Reebok brand sales	411	479	560	611	636	662	689	714
market share adidas	0.40%	0.43%	0.48%	0.50%	0.50%	0.50%	0.50%	0.50%

Source: Adidas (2019a), Analysts' estimates

In its 2020 growth plan, Adidas emphasizes its focus on growth in North America, which is the largest sportswear market with high growth potential for Adidas. As a result, its market share had increased significantly from 2015 onwards. However, in the first half of 2019, the company faced severe supply chain issues that limited its growth throughout the year. By the third quarter of 2019, the company solved most of these issues and returned back to significant growth at a rate of 10%. We believe that the Adidas brand can keep its momentum throughout the next years and forecast a further growth in market share for 2020 at the pace of 2018[20], but then decelerating and remaining constant after 2023. The key value drivers for further growth are expected to be mainly Adidas' prestigious collaborations and a high brand recognition (similar to Nike, see figure 34). We expect that especially the Yeezy products and its exclusivity will contribute to significant net sales increases in North America. Moreover, we believe that the new collaboration with Beyoncé will support growth in womenswear with the first products arriving in spring 2020.

After Reebok's sales decreases and losses in market share between 2015 and 2018, net sales increased significantly, and growth accelerated over the second and third quarter of 2019. Due to the brand's roots in fitness and the high relevance of fitness sports[21] in the U.S., we assume that Reebok's recent growth acceleration is a result of the brand's transformation back to its roots. However, it is hard to predict whether the sales increase was the beginning of a sustainable trend or whether it only reflects an intermediate recovery from the negative results of the previous years. Consequently, we forecast increases in market share for 2019 to 2021 but a constant market share from 2022 onwards.

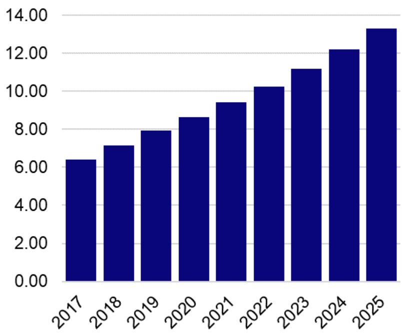
Figure 36: Segment forecasts Asia-Pacific (table)

Segment Forecasts	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F
Asia-Pacific	**7,141**	**7,918**	**8,622**	**9,413**	**10,247**	**11,175**	**12,190**	**13,281**
adidas brand sales	6,805	7,605	8,314	9,092	9,900	10,797	11,778	12,831
market share adidas	9.25%	9.45%	9.49%	9.53%	9.56%	9.56%	9.57%	9.55%
Reebok brand sales	336	313	308	320	347	378	412	450
market share Reebok	0.46%	0.39%	0.35%	0.34%	0.33%	0.33%	0.33%	0.34%

Source: Adidas (2019a), Analysts' estimates

[20] As 2019 is significantly biased through supply chain issues in H1.
[21] 66.5 million gym members in North America, compared to 174 million globally (more than one third in North America) (Statista, 2019a)

Figure 37: Segment forecasts Asia-Pacific (graph): total sales



Source: Adidas (2019a), Analysts' estimates

Since the Asia-Pacific segment is strongly driven by the Chinese market, we forecasted sales for the Chinese market and the remaining segment separately. Over the past years, Adidas and Nike significantly increased their market shares in the Chinese sportswear market and clearly dominated with market shares of almost 20%[22] each (Euromonitor, 2019a). After Adidas achieved growth rates of 28%, 29%, and 23% from 2016 to 2018, growth in China seems to significantly decelerate throughout 2019 with growth rates of 16%, 14%, and 11% from Q1 to Q3 2019[23]. At the same time, Nike seems to continue its growth at higher double-digit rates with 24% over the fiscal year ending in May 2019 and 27% and 23% (currency-neutral) in the two following quarters (Nike, 2019). Another relevant competitor in China is Skechers with a market share increase from 2.1% in 2015 up to 5.8% in 2018 (Euromonitor, 2019a). Moreover, the relevant local competitors Anta (40.3%) and Li-Ning (32.7%) grew at even higher rates in the first half of 2019 (Anta, 2019; Li Ning, 2019). Despite high growth rates of the market itself[24], we expect it will be a strong challenge for Adidas to increase its market share in China, especially with regard to the intensified competition with Nike, the two local competitors Anta and Li-Ning, and Skechers. Nevertheless, we assume that Adidas will remain a strong player, as we expect the company to strongly focus on further store expansion[25] as well as on e-commerce and digital offers, which is particularly important in China. We also expect that Chinese consumers will continue to prefer global sportswear brands, similar to consumer behaviours in other markets. Consequently, we modelled a slight increase in market share in 2019 and forecast market share to remain constant afterwards.

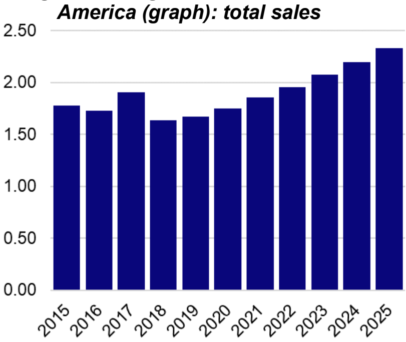
As Reebok holds only an insignificant market share of 0.2% in China, with both positive and negative growth rates over the past three years, we forecast its market share to remain constant.

Also in other Asian markets, Adidas is a strong player with leading positions (in terms of market share) in many markets, such as Japan and South Korea. However, strong growth is expected particularly in the Indian market which is still very fragmented and comparably small (EUR 6.6bn in 2018; see Euromonitor, 2019a). but with a population comparable to China. Since sustainability is generally very important to consumers in Asia-Pacific and particularly in India (Nielsen, 2018a), we expect that Adidas can continue to maintain its strong market position, even though growth in 2019 was mainly driven by higher growth rates in China. As Reebok faces a significant negative trend in this market, we expect this trend to continue at lower pace though, also softened by the

[22] Market shares in our forecast and those from Euromonitor differ. Our market shares are an approximation and based on the Adidas group's revenue divided by the total market value. Euromonitor's market shares also include revenues shares attributed to wholesale and franchises.
[23] all growth rates reflect currency-neutral changes (see Adidas' quarterly presentations)
[24] Forecasted at 11% in local currency for 2019 (Euromonitor, 2019a).
[25] The company operates 12,000 stores in 1,200 cities in China and plans to expand into additional 1,200 cities in the near future (China Daily, 2019)

company's sustainable product initiatives. From 2022 onwards, we forecast Reebok's market share to remain constant.

Figure 38: Segment forecasts Latin America (graph): total sales



Source: Adidas (2019a), Analysts' estimates

Figure 39: Segment forecasts Latin America (table)

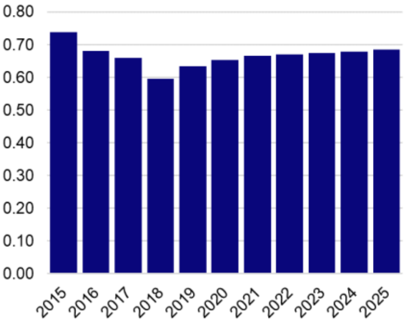
Segment Forecasts	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F
Latin America	**1,634**	**1,672**	**1,753**	**1,853**	**1,958**	**2,074**	**2,199**	**2,331**
adidas brand sales	1,463	1,519	1,603	1,701	1,797	1,903	2,018	2,139
market share adidas	7.78%	7.78%	7.78%	7.78%	7.78%	7.78%	7.78%	7.78%
Reebok brand sales	171	154	150	152	161	170	181	191
market share Reebok	0.91%	0.79%	0.73%	0.70%	0.70%	0.70%	0.70%	0.70%

Source: Adidas (2019a), Analysts' estimates

In Latin America, both Adidas brands lost market share in 2018. Yet the segment returned to growth of 5% on a currency-neutral level in the second and third quarter of 2019. Due to the high relevance of football in Latin American countries and the strong position of Adidas in the football segment with prestigious sponsorships[26], as well as the comparably high awareness for sustainability in Latin America (Nielsen, 2018b), we believe that particularly the Adidas brand will remain an important player in the regional sportswear market.

For the Reebok brand, however, we expect the previous negative trend to continue, but to soften throughout the next years, as the brand will benefit from higher participation in fitness sports. From 2022 onwards, we forecast Reebok's market share to remain constant.

Figure 40: Segment forecasts Russia/CIS (graph): total sales



Source: Adidas (2019a), Analysts' estimates

Figure 41: Segment forecasts Russia/CIS (table)

Segment Forecasts	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F
Russia/CIS	**595**	**633**	**654**	**666**	**670**	**674**	**680**	**686**
adidas brand sales	446	501	529	545	548	552	556	562
market share adidas	8.28%	9.28%	9.78%	10.03%	10.03%	10.03%	10.03%	10.03%
Reebok brand sales	149	132	124	121	121	122	123	124
market share Reebok	2.76%	2.45%	2.30%	2.22%	2.22%	2.22%	2.22%	2.22%

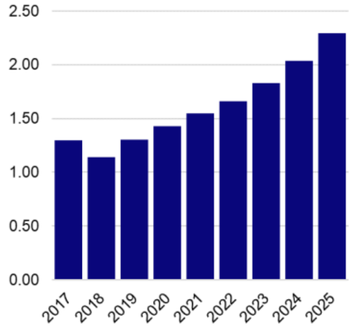
Source: Adidas (2019a), Analysts' estimates

As Russia is the major market within Adidas' segment Russia/CIS, we particularly focused on this market. Russia has been facing challenging economic conditions throughout the last years with low or even negative economic growth (The World Bank, 2019). As a result, many consumers prefer "accessible and low-cost sporting activities such as workouts and running" (Euromonitor, 2019c). This resulted in a significant loss of market share for Adidas as consumers chose cheaper product alternatives. In 2019, however, the company returned to significant growth of +22% in the first and +13% in the third quarter. A YoY decline of 4% in the second quarter is significantly biased by 2018's results as the FIFA World Cup was hosted in Russia that year. Based on the recent upward trend and the expected economic stabilization, we believe Adidas can continue this trend but at lower pace throughout the next two years. However, increasing competition with the local competitor Sportsmaster Group and Nike are expected to limit further growth potential.

[26] Such as the national football teams of Argentina, Colombia and Mexico, as well as the players Lionel Messi and James Rodríguez

For Reebok, however, we expect the negative trend to continue but to decelerate. The recent trend towards low-cost sporting activities (instead of fitness sports) is expected to limit a fast return to growth. We therefore forecast further losses of market share until 2022, but to remain constant afterwards.

Figure 42: Segment forecasts Emerging Markets (graph): total sales



Source: Adidas (2019a), Analysts' estimates

Figure 43: Segment forecasts Emerging Markets (table)

Segment Forecasts	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F
Emerging Markets	**1,144**	**1,305**	**1,429**	**1,548**	**1,662**	**1,829**	**2,036**	**2,296**
adidas brand sales	1,010	1,168	1,287	1,399	1,502	1,653	1,840	2,075
market share adidas	5.37%	5.77%	5.97%	6.07%	6.07%	6.07%	6.07%	6.07%
Reebok brand sales	134	137	142	149	160	176	196	221
market share Reebok	0.71%	0.67%	0.66%	0.65%	0.65%	0.65%	0.65%	0.65%

Source: Adidas (2019a), Analysts' estimates

Since the Emerging Markets segment was introduced in 2018, a general assessment of past performances is limited. Based on the sales increases of 10%, 12% and 14% from Q1 to Q3 2019, however, we forecast an increase of ca. 12% on a full-year basis in 2019 and assume most of it is attributable to the Adidas brand. Based on the resulting increase in market share for the Adidas brand, we forecast additional but smaller increases for the years 2020 and 2021. We consider these additional increases to be reasonable as sustainability (Nielsen, 2018b) and football (University of Richmond, 2017) are significant value drivers in Africa and Middle East. However, because of the strong dynamics in the market and the expected increase in competition as growth continues to attract competitors, we forecast Adidas' market share to remain constant from 2022 onwards.

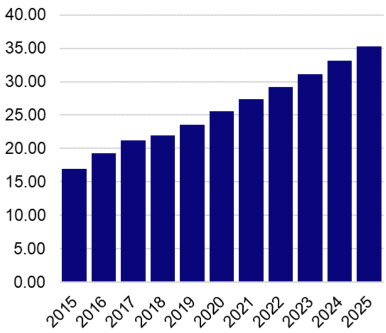
For Reebok, we assume a further decrease of market share following the trend of 2018 but decelerating and maintaining a constant market share from 2022 onwards, as fitness is also expected to become more relevant in the future.

Figure 44: Segment forecasts Other Businesses

Segment Forecasts	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F
Other Businesses	**877**	**851**	**876**	**904**	**932**	**961**	**991**	**1,023**
Forecasted Growth Rate		2.7%	3.0%	3.1%	3.1%	3.1%	3.2%	3.2%

Source: Adidas (2019a), Analysts' estimates

Figure 45: Total group sales forecast



Source: Adidas (2019a), Analysts' estimates

Adidas aggregates subordinated businesses in the segment 'Other Businesses'. As the company does not disclose further information on the incorporated businesses and the total revenue share of this segment is comparably small, we forecast the segment's sales based on the regional distribution of Adidas' sales multiplied by the economic growth rates in the respective region.

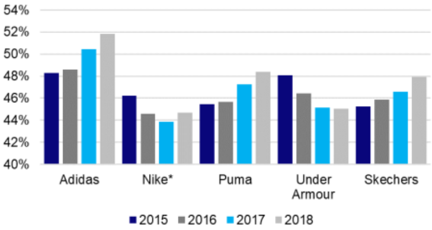
Based on our sales forecast on a segment level, net sales are expected to increase up to EUR 35.3bn in 2025, implying a CAGR of 7.0% from 2018 to 2025.

Gross Margin

Adidas continuously increased its gross margin between 2015 and 2018, with a total increase of 3.6%. However, Adidas' gross margin is expected to grow only slightly by 0.2pp. in 2019 (Adidas, 2019a) as a result of positive currency effects in Europe and Asia-Pacific in the first half of the year.

Our forecast of the company's gross margin until 2025 is expected to remain on a similar level as in 2018 and 2019. Changes are partly attributed to an expected increase in cost of sales due to a higher proportion of recycled materials, particularly recycled polyester. On the regional segment level, further increases in the gross margin of the North American segment, the segment with the lowest gross margin in 2018 (41.2%), are forecasted as a result of increasing focus on newly launched premium products (i.e. new Yeezy sneakers) and benefits from economies of scale in product sourcing and distribution. For the relatively profitable segment Asia-Pacific (gross margin in 2018: 56.2%), we expect higher pressure on prices with the increasing competition. Thus, we forecast slight decreases in gross margin similar to annual improvements throughout the last years. In general, our forecast is in line with the fact that Adidas already has the highest gross margin among its peer group (see figure 46) and the increasing competition in crucial segments, particularly in Asia-Pacific. Overall, we forecast gross margin to decrease to 51.6% in 2025, compared to 52.0% in 2019 (-0.4%) as a result of the changes on segment level and the higher material costs.

Figure 46: Peer group gross margins

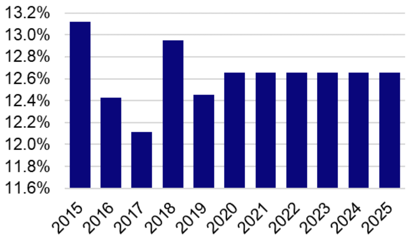


Source: Bloomberg (2019c)

Operating Expenses

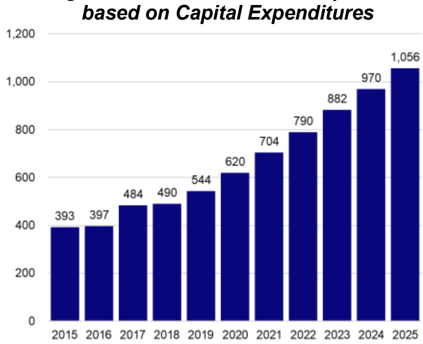
Adidas' operating expenses consist of the line items marketing and point-of-sales expenses, distribution and selling expenses, general and administrative expenses, sundry expenses, as well as impairment losses of accounts receivable and contract assets. These items collectively include also depreciation and amortization (D&A) expenses. As D&A expenses depend on non-current assets and future capital expenditures, we forecast D&A and other operating expenses separately and then add back D&A to other operating expenses. After a careful reformulation and analysis of the individual line items and the past developments, we expect that the proportions of operating expenses in relation to net sales will remain similar and forecast the positions as a fixed percentage of net sales. This seems to be the most reasonable approach as many potential improvements are expected to be equalized by cost increases. While we expect potential operational improvements as a result of Adidas' investments in its logistics infrastructure, additional services such as shipments between stores or 'Click and Collect' will result in additional costs. Similarly, lower R&D expenses related to the 'Speedfactory' concept are expected to be outweighed by increased R&D

Figure 47: Marketing and point-of-sales expenses (excluding estimated D&A expenses)



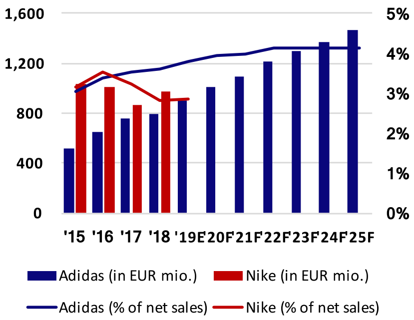
Source: Adidas (2019a), Analysts' estimates

Figure 48: Forecast of D&A expenses, based on Capital Expenditures



Source: Adidas (2019a), Analysts' estimates expenses for sustainable materials. Moreover, we expect marketing expenses to remain high as Adidas increasingly communicates the sustainability of its products, in addition to traditional product advertising and event campaigns. Furthermore, the promotion of the brand in rapidly growing consumer markets and the continuing expansion of market share in the U.S. will continuously require high marketing expenditures. As a result of the strong increases in D&A through increasing CAPEX, we forecast a slight increase in operating expenses up to 42.9% until 2025, compared to an average of 42.2% between 2015 and 2018.

Figure 49: Capital Expenditure of Adidas and Nike in total values and as a percentage of revenue



Source: Bloomberg (2019c), Analysts' estimates

Capital Expenditures

Adidas' capital expenditures (CapEx) have increased even stronger than the company's sales throughout the last years. Despite no significant acquisitions after 2015, CapEx related to trademarks and other intangible assets almost doubled. We assume that this increase will continue as the extension of Adidas' digital offers and e-commerce activities will require high investments. Moreover, the focus on increasing sales through controlled space (Adidas, 2019b, p.73) requires significant investments in store equipment throughout all segments. As Adidas increasingly focuses on the Asian markets, investments in local store infrastructure are necessary to capture the growing demand. We expect that especially the expansion in the rapidly growing consumer markets in China and India but also in other populous Asian countries will require significant investments in the medium-term. As a result, we forecast Adidas' CapEx to continuously increase up to a level of 4.15% in 2025, 0.5% above the level of 2018. Compared to Nike, these figures are higher in relation to net sales, but similar to Nike's recent investment levels in absolute terms (see figure 49).

Figure 50: Cash Conversion Cycle of Adidas and its peers

Days Receivale	2016	2017	2018
Adidas	40.2	38.8	39.4
Nike	36.8	36.0	36.3
Puma	49.4	44.3	41.5
Under Armour	40.0	45.1	44.4
Skechers	34.4	32.1	35.7
Asics	64.1	62.9	63.5
Median	**40.1**	**41.5**	**40.5**

Days Payable	2016	2017	2018
Adidas	83.2	77.6	73.9
Nike	40.6	38.6	41.2
Puma	101.9	102.6	102.8
Under Armour	43.1	64.7	71.8
Skechers	94.1	84.1	89.4
Asics	41.4	45.0	54.9
Median	**63.2**	**71.2**	**72.9**

Days Inventory	2016	2017	2018
Adidas	126.6	129.4	123.4
Nike	94.8	92.1	91.8
Puma	127.4	125.3	128.8
Under Armour	120.1	138.4	139.3
Skechers	125.0	129.0	131.0
Asics	153.8	146.9	155.5
Median	**125.8**	**129.2**	**129.9**

CCC	2016	2017	2018
Adidas	83.6	90.6	88.9
Nike	91.0	89.4	86.8
Puma	75.0	66.9	67.5
Under Armour	116.9	118.8	111.9
Skechers	65.2	77.0	77.3
Asics	176.4	164.8	164.0
Median	**87.3**	**90.0**	**87.8**

Source: Bloomberg (2019c)

Operating Working Capital

In 2018, Adidas' operating working capital significantly decreased as a result of a lower inventory level and a significant increase in provisions related to personnel, customs risk, returns, allowances and warranty, partly due to the introduction of new accounting standards. Consequently, we assume that this effect is not sustainable. Furthermore, following a supply shortage in North America in the first half of 2019, we believe that a further reduction in relative inventories is unlikely in the near future. Based on Adidas' past figures and compared to its peer group, we forecast the ratios of days receivable, days payable, and days in inventory at 40, 75, and 125 days respectively. This results in a cash conversion cycle of 90 days, which reflects the median of Adidas' peer group, but which is lower than the peer group's average (in 2018: 99.4). Moreover, since Adidas' cash conversion cycle is close to Nike's value, we consider it reasonable in the long-term perspective.

Valuation

Cost of Capital

Figure 51: WACC

Component	Value
Total Equity	EUR 54,601
Total debt	EUR 3,624
Risk-free rate	(0.30%)
Market risk premium	5.75%
Country risk premium	1.34%
Weighted YTM	0.42%
Relevered Beta	1.04
Tax rate	29.07%
Cost of debt	0.25%
Cost of equity	7.10%
WACC	**6.67%**

Market data as of 15 December 2019
Source: Yahoo Finance, Analysts' estimates

Looking at Adidas and its peers, all industry players alike use low levels of (net) financial debt relative to the enterprise value. Since we assume that the level of debt relative to Adidas' enterprise value will not significantly change in the long-term, we apply the WACC in order to discount Adidas' future cash flows.

We estimated Adidas' cost of debt by deriving the debt yield based on the weighted Yield-to-Maturity (YTM) of Adidas' outstanding bonds[27] and subtracting a credit loss premium based on Adidas' probability of default and recovery ratio. As Adidas' debt is not rated, we assume an approximated credit rating of 'A' since the company's capital structure resembles the one of its main competitor Nike which is also 'A' rated by Moody's (2019). Adidas' assumed credit rating would yield an annualized default probability of 0.39% (S&P, 2019a). Moreover, the average recovery rate of senior secured debt as of March 2019 equals 58% (S&P, 2019b). By combining both components, Adidas' estimated cost of debt is 0.25%.

Adidas' cost of equity is derived by applying the Capital Asset Pricing Model (CAPM) plus an additional country risk premium (CRP). Our risk-free rate reflects the current YTM of the German 10-year treasury bond of -0.30% (as of 15/12/2019). The market risk-premium of 5.75% is based on the most recent recommendation of KPMG (2019b). The weighted country risk premium based on Adidas' net sales in each geographical region and the respective country default spreads (NYU, 2019) equals 1.34%. In order to obtain the company beta, Adidas' weekly returns were regressed against the weekly[28] returns of the MSCI World index over the past five years. The regressed beta of Adidas equals 0.78 with a 95% confidence interval between 0.56 and 1.01. In addition, we implemented an industry comparables approach based on Nike, Puma, Under Armour, Skechers and Asics as peer group in order to account for industry-specific risks[29]. There are only a limited number of sportswear companies with a product mix and a geographical reach similar to Adidas. Accounting for these very few direct

Figure 52: Peer-group betas

Firm	Weight	Adj. Beta (5y)
ADDS	33%	0.86
NKE	13%	0.94
PUMG	13%	0.79
UAA	13%	1.39
SKX	13%	1.05
ASICS	13%	1.14
Relevered Beta		**1.04**

Source: Analysts' estimates

[27] Adidas has two bonds outstanding (maturing in 2021 and 2026) with a weighted Yield-to-Maturity of 0.42% (As of 23 December 2019).
[28] In order to increase sample size, as Adidas can be considered a highly liquid stock with on average >500,000 stocks traded every trading day (investing.com, 2019)
[29] As company-specific betas vary too widely over time to be used reliably, it is recommended to use the peer-group beta approach (McKinsey, 2010, p. 249-251)

comparables, we applied the Bloomberg beta smoothening formula to mitigate extreme outliers from the overall average.[30] As we believe that, based on the peer betas, the general market risk in the industry is higher than reflected in the beta of Adidas, we built a weighted average of all peers. In order to still account for Adidas' specific risk profile we weighted Adidas' beta twice as much as the betas of the other peers. After unlevering all adjusted company betas based on the peer's individual capital structures, the weighted-average beta was relevered to Adidas' capital structure, resulting in a company beta of 1.04. All inputs for the WACC calculation yield to 6.67% as Adidas' cost of capital.

Terminal Growth Rate

As the global middle class will continue to emerge throughout the next decades, incomes will increase, and new consumers will continue to incorporate sports in their daily lives. As a result, they will demand additional sportswear products to support their activities. Simultaneously, in developed economies consumers will continue to replace worn out shoes and apparel or products that are no longer considered fashionable with new products. Moreover, as wealth increases, premium products become more affordable, resulting in higher demand. Consequently, we assume that the market for premium sportswear will continue to grow considerably also in the long-term, being closely linked to economic growth as driver of wealth and disposable incomes.

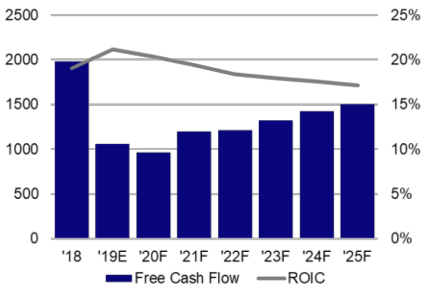
Figure 53: Terminal growth rate

Segment	Sales by 2025	Exp. Growth
Europe	23.2%	1.6%
North America	22.6%	1.7%
Asia Pacific	38.7%	5.2%
Latin America	6.8%	2.7%
Russia/CIS	2.0%	1.8%
Emerging Markets	6.7%	3.2%
Weighted economic growth		**3.2%**
Expected Inflation in Euro area		1.8%
Terminal growth rate		**5.0%**

Source: IMF (2019), Analysts' estimates

As our detailed forecast period ends in 2025, we project Adidas' cash flows to grow with a constant rate from 2026 onwards. This growth rate is based on the forecasts of real GDP growth for 2024[31] (IMF, 2019), which we use as an approximation for the expected growth in 2025, weighted with Adidas' expected revenue distribution in 2025 by geographical segments. The resulting expected long-term growth rate in real terms equals 3.2%. Furthermore, we add the Euro area's forecasted inflation of 1.8% for 2024, an approximation for the expected inflation in 2025. Thus, our expected long-term growth rate for Adidas in nominal terms is 5.0%.

Figure 54: ROIC and FCF forecasts



Source: Analysts' estimates

The results are generally in line with the ROIC (17.2%) and reinvestment rate (36.2%) projected for 2025 as they would yield a value close to our terminal growth rate of 5.0% when multiplied with each other (6.2%). In addition, a ROIC of 17.2% is reasonable as Adidas has a significant competitive advantage in the industry, given the strength and recognition of its brand. However, Adidas' ROIC levels are considerably lower compared to Nike's > 20%[32] (Bloomberg, 2019c), implying a significantly higher competitive advantage of Nike. Moreover, Adidas'

[30] Especially because of Under Armour's and Asics' adjusted betas of 1.39 and 1.14 respectively.
[31] No growth projections for 2025 onwards yet
[32] Between 2013 and 2019, Nike's ROIC levels were continuously > 20%, except for 2017 (13.1%) (Bloomberg, 2019c)

RONIC of 9.3% in 2025 indicates lower returns on new capital, which we consider to be reasonable as the growth of the middle-class population is expected to decelerate in the middle of the century (European Commission, 2016).

Valuation Outcome

Figure 55: Enterprise-Equity-Bridge

Enterprise Value	EUR 76,764
+ Non-operating assets	EUR 1,217
- Financial debt	EUR 2,086
- Debt equivalents	EUR 106
- Deferred Tax Liab.	EUR 79
- Unfunded pensions	EUR 246
- Leases liabilities	EUR 3,459
+ Excess cash	EUR 1,515
Equity Value	**EUR 73,521**

Source: Analysts' estimates

Adidas' free cash flow is forecasted to amount EUR 1.5bn in 2025. By applying the long-term real growth rate of 5.00%, Adidas' undiscounted terminal value equals EUR 95.1bn. After discounting all the cash flows until 2025 at cost of capital of 6.67%, Adidas' forecasted Enterprise Value is EUR 76.8bn. In order to calculate Adidas' equity value, we adjusted the enterprise value for all interest-bearing liabilities and excess cash. The position net financial debt includes financial debt and debt equivalents. In addition, the deficit liability of unfunded pensions needs to be deducted when establishing the warranted equity value. Furthermore, we deducted lease liabilities in accordance to IFRS 16. Lastly, excess cash must be added back. As a result, Adidas' equity value equals EUR 73.5bn. By dividing the forecasted equity value by the expected 192.5m shares outstanding (considering Adidas' share buyback program until 2020), our calculated share price ('base scenario') as of 31 December 2020 is EUR 381.86.

Scenario Analysis

Figure 56: Scenario analysis

Scenario	Weight	Share Price
Optimistic	25%	571.76
Base	50%	381.86
Pessimistic	25%	197.05
Weighted Share Price		**383.13**

Source: Analysts' estimates

Our revenue forecasts are based on the expected market share developments of Adidas' and Reebok's brand sales and the underlying market in each segment. Trends (e.g. athleisure or healthy living) can significantly influence consumer confidence or spending behaviours. Consequently, market growth rates can change significantly and directly impact Adidas' share value. In addition, Adidas is strongly dependent on the Chinese market as a result of its high market share and the comparably high gross margin in Asia-Pacific. Correspondingly, we conducted a scenario analysis in order to simulate alternative developments within the global sportswear market and particularly within China. Independent variables that will be adjusted in our model are the growth rate of the global sportswear market and Adidas' market share development in the Chinese sportswear market.

In the optimistic scenario, we assume that Adidas continues to increase its market share in China until 2025, but at decelerating pace. This will be the result of successful expansion into emerging lower-tier cities, attractive digital offers and e-commerce development, as well as a generally superior perception of the Adidas brand over domestic brands. At the same time, the scenario reflects growth rates of the sportswear market to increase by 2.0% globally, reflecting higher consumer confidence and unexpected reinforcement of the athleisure and healthy lifestyle trends. The optimistic scenario yields a share price of EUR 571.76.

The pessimistic scenario reflects a more negative development where growth rates of the global sportswear market decrease by 2.0%. This will be the result of a dilution of the global athleisure and healthy living trends as well as economic uncertainties that result in decreasing consumer confidence. Simultaneously, as the on-going growth of Nike and the even stronger growth of local Chinese brands might cause a general decrease of Adidas products' popularity among Chinese consumers, we forecast Adidas' market share in China to decrease by one third of its expected 2019 level until 2025. This development reflects the strong competition in the Chinese market and an improvement of the consumers' quality and status perception of domestic brands. Nevertheless, Adidas would remain a valuable alternative for consumers seeking more sustainable products and would keep a significant but not dominating market share. The pessimistic scenario yields a share price of EUR 197.05. By weighting the base scenario with 50%, the optimistic scenario with 25% and the pessimistic scenario with 25%[33], our final share price recommendation is EUR 383.13.

Sensitivity Analysis

Figure 57: Sensitivity analysis

		Terminal growth rate		
		4.5%	**5.0%**	**5.5%**
WACC	**5.7%**	561.23	977.29	3898.02
	6.7%	295.21	**381.86**	542.81
	7.7%	197.24	233.10	285.50
		Beta		
		0.94	**1.04**	**1.14**
Risk-free rate	**-0.80%**	1227.50	537.19	340.04
	-0.30%	645.51	**381.86**	268.68
	0.20%	434.86	294.75	221.22

Source: Analysts' estimates

The discounted cash flow model based on the CAPM approach is generally very sensitive to its input variables. In order to quantify changes of the input variables risk-free rate, beta and terminal growth rate, we conducted a sensitivity analysis in order to measure the impact on the final share price.[34] Figure 57 illustrates the results, implying a high impact of marginal changes on Adidas' share value. Particularly as terminal growth and WACC are relatively close to each other (difference of 1.7%), marginal changes in one of these variables in the direction of the other variable (increase in terminal growth/decrease in WACC) would significantly increase Adidas' share price.

Multiples Valuation

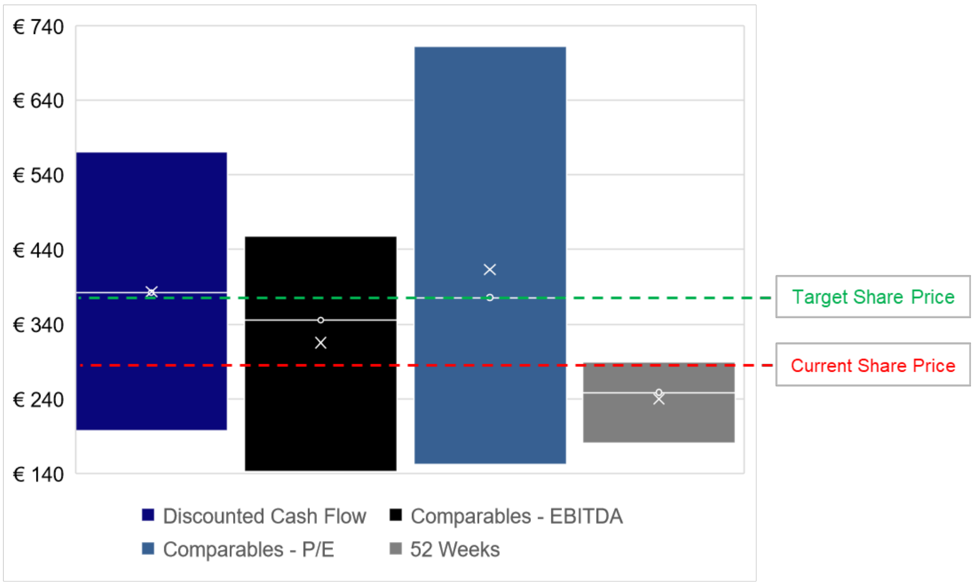
In addition to the intrinsic valuation, we conducted a multiples valuation. The analysis is based on the multiples of the previously introduced peer group Nike, Puma, Under Armour, Skechers, and Asics. In this context, we consider EV/EBITDA and P/E multiples to be the most valid ones. Figure 58 illustrates the valuation outcome when applying the respective multiples on Adidas' forecasted earnings and EBITDA for 2020. Based on the median values of the respective

[33] We consider the optimistic and pessimistic scenario to be equally likely, but attribute the highest weight to our base scenario.
[34] Final share price obtained by weighting the base, optimistic and pessimistic scenarios (see figure 56); Sensitivity analysis illustrates changes on share price in the base scenario.

multiples, the resulting share value of Adidas in both cases is above the current market price. Moreover, also the average of the maximum, minimum, and median values yield share prices above Adidas' current share price. Consequently, the multiples valuations' results are in line with our results from the DCF approach and support our investment thesis.

Valuation Summary and Final Recommendation

Figure 58: Valuation summary



Source: Analysts' estimates

Figure 58 graphically illustrates the outcomes of the different valuation approaches. In comparison to Adidas' share price as of 31 December 2019, all valuation approaches yield a median target price which is significantly higher. Based on our DCF valuation and the conducted scenario analysis, our final share price as of 31 December 2020 equals EUR 383.13. Combined with an expected dividend of EUR 3.95 in 2020 and the forecasted share buybacks for 2020, the final share price implies an expected return of 30.84%. Consequently, our analysis demonstrates that the market underestimates the future potential of Adidas' stock and we therefore conclude our analysis with a 'BUY' recommendation.

Appendix

Appendix 1: Expected effect of recycled polyester on CoS margin

	2019E	2020F	2021F	2022F	2023F	2024F	2025F
Proportion of recycled polyester	40%	47%	54%	63%	74%	86%	100%
Total effect of recycled polyester on CoS margin*	0.72%	0.84%	0.98%	1.14%	1.33%	1.55%	1.81%
Difference to 2019		0.12%	0.26%	0.42%	0.61%	0.83%	1.08%
Difference to previous year		0.12%	0.14%	0.16%	0.19%	0.22%	0.26%

Underlying Assumptions	Assumed Value	Source(s)
Proportion of material costs in Cost of Sales	50%	Solereview (2016), Columbia University (2005), Portland Business Journal (2014), Sencileo (2018)
Proportion of polyester in Adidas' products	50%	Financial Times (2018)
Additional Costs of recycled polyester**	15%	Financial Times (2018)
Increase in product costs through recycled polyester	**3.75%**	
Current proportion of recycled polyester / total polyester	40%	Business Insider (2019)
(Necessary) CAGR of recycled polyester proportion	16.5%	

***Formula:** $Total\ effect\ of\ recycled\ polyester\ on\ Cost\ of\ Sales\ margin$
$= Increase\ in\ product\ cost * Proportion\ of\ recycled\ polyester * Cost\ of\ Sales\ margin\ in\ 2019$

2018 as basis, as it is the last officially reported gross margin and in order to avoid circular references.
**Average of upper and lower value (10%-20%); in comparison to virgin polyester

Appendix 2: Financial Statements – Reformulated Balance Sheet

Total Funds Invested: Assets

Operating Assets

	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F
Operating Cash	507	579	637	657	708	767	823	877	934	995	1,059
Accounts receivable	2,049	2,200	2,315	2,418	2,586	2,800	3,008	3,202	3,414	3,634	3,868
Inventory	3,113	3,763	3,692	3,445	3,874	4,205	4,519	4,827	5,144	5,477	5,844
Income tax receivables	97	98	71	48	79	79	79	79	79	79	79
Other current assets	489	580	498	725	853	911	968	1,021	1,078	1,138	1,202
Current Operating Assets	**6,255**	**7,220**	**7,213**	**7,293**	**8,099**	**8,761**	**9,396**	**10,005**	**10,649**	**11,323**	**12,052**
Accounts payable	2,024	2,496	1,975	2,300	2,325	2,523	2,712	2,896	3,087	3,286	3,506
Accrued liabilities	1,804	2,143	2,265	2,324	2,616	2,894	3,110	3,313	3,533	3,761	4,004
Other provisions	506	617	821	1,360	1,487	1,371	1,467	1,555	1,651	1,753	1,861
Income taxes	359	402	424	268	363	363	363	363	363	363	363
Other operating liabilities	410	568	593	612	617	670	720	767	817	870	927
Current Operating Liabilities	**5,103**	**6,226**	**6,078**	**6,864**	**7,407**	**7,821**	**8,371**	**8,893**	**9,451**	**10,034**	**10,661**
Operating Working Capital	1,152	994	1,135	429	691	940	1,026	1,112	1,198	1,289	1,391
Right-of-Use-Assets	2,263	2,424	3,083	3,154	3,175	3,459	3,750	4,047	4,347	4,648	4,946
Property, plant and equipment, net	1,638	1,915	2,000	2,237	2,546	2,885	3,224	3,587	3,948	4,310	4,678
Intangible assets other than goodwill and trademarks, net	188	167	154	196	240	289	344	404	453	497	538
Deferred tax assets, operating	444	490	452	486	624	664	715	765	817	871	928
Other non-current assets	124	94	108	94	105	105	105	105	105	105	105
Invested capital (excluding goodwill and trademarks)	**5,809**	**6,084**	**6,933**	**6,597**	**7,381**	**8,342**	**9,164**	**10,019**	**10,868**	**11,720**	**12,585**
Goodwill	1,392	1,412	1,220	1,245	1,245	1,245	1,245	1,245	1,245	1,245	1,245
Trademarks	1,628	1,680	806	844	844	844	844	844	844	844	844
Invested capital	**8,829**	**9,176**	**8,959**	**8,686**	**9,470**	**10,431**	**11,253**	**12,108**	**12,957**	**13,809**	**14,674**
Non-Operating Assets											
Other current (financial) assets	367	729	393	542	578	626	672	716	763	812	865
Assets held for sale	12	0	72	0	0	0	0	0	0	0	0
Tax-loss carry forwards	56	76	30	14	14	14	14	14	14	14	14
Deferred tax assets, non-operating	137	166	148	151	156	160	163	167	171	174	179
Non-consolidated investments	140	194	236	276	276	276	276	276	276	276	276
Other non-operating assets	99	96	219	256	258	258	258	258	258	258	258
Non-operating liabilities	(61)	(113)	(287)	(96)	(116)	(116)	(116)	(116)	(116)	(116)	(116)
Total funds invested	**9,579**	**10,324**	**9,769**	**9,828**	**10,635**	**11,648**	**12,520**	**13,423**	**14,323**	**15,227**	**16,150**

Total funds invested: Sources

	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F
Financial Debt	1829	1618	1120	1675	1,894	2,086	2,251	2,422	2,591	2,762	2,935
Debt Equivalents	61	22	30	126	116	106	103	100	78	75	72
Deferred Tax Liabilities, Non-operating	65	69	46	55	76	79	83	86	89	92	96
Unfunded pensions	273	355	298	246	246	246	246	246	246	246	246
Lease Liabilities	2,263	2,424	3,083	3,154	3,175	3,459	3,750	4,047	4,347	4,648	4,946
Excess cash	(863)	(936)	(966)	(1,978)	(1,884)	(1,515)	(2,334)	(3,166)	(4,042)	(4,999)	(5,995)
Net financial position	**3,628**	**3,552**	**3,611**	**3,278**	**3,624**	**4,461**	**4,098**	**3,734**	**3,309**	**2,824**	**2,300**
Deferred Tax Liabilities, Operating	303	318	144	186	298	323	349	376	404	431	459
Shareholders' Equity	**5,666**	**6,471**	**6,029**	**6,377**	**6,726**	**6,878**	**8,086**	**9,325**	**10,624**	**11,985**	**13,403**
Minority interests	(18)	(17)	(15)	(13)	(13)	(13)	(13)	(13)	(13)	(13)	(13)
Total funds invested	**9,579**	**10,324**	**9,769**	**9,828**	**10,635**	**11,648**	**12,520**	**13,423**	**14,323**	**15,227**	**16,150**

Note: Minor differences to reported values in the past are attributable to rounding differences in the annual reports.

Appendix 3: Financial Statements – Income Statement

	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F
Net Sales	16,915	19,291	21,218	21,915	23,594	25,552	27,445	29,222	31,149	33,160	35,300
Cost of Sales	8,748	9,912	10,514	10,552	11,313	12,279	13,196	14,095	15,021	15,994	17,065
Gross Profit	**8,167**	**9,379**	**10,704**	**11,363**	**12,281**	**13,273**	**14,249**	**15,127**	**16,128**	**17,166**	**18,235**
Gross Margin	48.3%	48.6%	50.4%	51.9%	52.1%	51.9%	51.9%	51.8%	51.8%	51.8%	51.7%
Royalty and commission income	119	109	115	129	142	153	165	175	187	199	212
Other Operating Income	96	266	17	48	96	98	101	104	108	111	115
Other Operating Expenses	7,278	8,251	8,750	9,156	9,795	10,796	11,641	12,446	13,314	14,208	15,149
of which Marketing and Point-of Sale expenses	2,348	2,521	2,724	3,001	3,128	3,449	3,718	3,973	4,249	4,534	4,835
of which Distribution and Selling Expenses	3,429	3,863	4,275	4,417	4,655	5,109	5,512	5,897	6,311	6,736	7,181
of which General and Administrative Expenses	1,350	1,690	1,568	1,576	1,812	2,021	2,178	2,327	2,489	2,656	2,832
of which Sundry Expenses	108	132	130	105	142	154	166	176	188	200	213
of which Impairment Losses on A/R and Contract Assets	31	32	37	41	42	45	49	52	55	59	63
Goodwill Impairment Losses	34	0	0	0	0	0	0	0	0	0	0
Operating Profit	**1,070**	**1,503**	**2,086**	**2,384**	**2,724**	**2,728**	**2,873**	**2,961**	**3,109**	**3,268**	**3,413**
Financial Income	46	28	46	57	25	25	25	25	25	25	25
Financial Expenses	78	86	109	63	63	65	66	68	69	71	72
Income before Taxes	**1,038**	**1,445**	**2,023**	**2,378**	**2,685**	**2,688**	**2,832**	**2,918**	**3,065**	**3,222**	**3,366**
Income Taxes	353	426	668	669	748	770	818	853	901	953	1,003
Net income from continuing operations	**685**	**1,019**	**1,355**	**1,709**	**1,937**	**1,918**	**2,015**	**2,065**	**2,164**	**2,269**	**2,363**
Gains/Losses from discontinued operations, net of tax	(46)	1	(254)	(5)	0	0	0	0	0	0	0
Net income	**639**	**1,020**	**1,101**	**1,704**	**1,937**	**1,918**	**2,015**	**2,065**	**2,164**	**2,269**	**2,363**
Other Comprehensive Income	24	98	(817)	150	0	0	0	0	0	0	0
Total Comprehensive Income	663	1,118	284	1,854	1,937	1,918	2,015	2,065	2,164	2,269	2,363

Note: Minor differences to reported values in the past are attributable to rounding differences in the annual reports.

Appendix 4: Discounted Cash Flows (Base Scenario)

	2021F	2022F	2023F	2024F	2025F
Net sales	**27,445**	**29,222**	**31,149**	**33,160**	**35,300**
EBITDA	**3,527**	**3,697**	**3,933**	**4,177**	**4,405**
EBIT	**2,822**	**2,907**	**3,051**	**3,207**	**3,348**
Less: Taxes at 30.7%	(820)	(845)	(887)	(932)	(973)
Net operating profit or loss after taxes (NOPLAT)	**2,002**	**2,062**	**2,164**	**2,275**	**2,375**
+ Depreciation, Amortization and Impairment losses	1,483	1,631	1,786	1,936	2,084
- Investing Cash Flow	(2,305)	(2,487)	(2,635)	(2,787)	(2,950)
Free Cash Flow	**1,181**	**1,206**	**1,315**	**1,424**	**1,509**
Terminal Value					95,129
Discount Factor	0.968	0.908	0.851	0.798	0.748
PV Core Cash Flow	**1,143**	**1,095**	**1,119**	**1,136**	**72,272**

Enterprise value	**76,764**
+ Nonoperating assets	1,217
- Financial debt	2,086
- Debt equivalents	106
- Deferred tax liabilities, non-operating	79
- Unfunded pensions	246
- Lease liabilities	3,459
+ Excess cash	1,515
Equity value	**73,521**

Shares outstanding	192,533,891
Share price as of 12/31/2020	**381.86**

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The Increasing Relevance of Uncertainties and Developments in China's Sportswear Market for Adidas' Share Value

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Abstract

The following analysis presents findings on the impacts of uncertainties and potential evolutions in the Chinese economy and its sportswear market on Adidas' share value. Based on a short analysis of the economic landscape and the sportswear market, a SWOT analysis on Adidas and its position in the Chinese market was conducted. Furthermore, the simulation of several scenarios related to uncertainties in market growth, currency risks and the development of Adidas' market share quantifies the impact on Adidas' share value. The analysis concludes that despite the high potential of the Chinese market in the long-term, Adidas is also strongly exposed to the current uncertainties in the Chinese market.

Keywords

Adidas, Sportswear, Chinese consumers

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Introduction and Relevance

As described in the main report, Adidas' value depends more than ever on its performance and the economic conditions in the Chinese market. According to CEO Kasper Rorsted, Adidas does currently 23% of its total business in China (Bloomberg, 2019), compared to approximately 15% in 2015. In addition to the high revenue proportion, the China businesses' share in gross profit is even higher, as the general gross margin in Asia-Pacific (2018: 56.2%) significantly exceeds the group's overall gross margin (2018: 51.8%). As a result, the still dynamic economic environment, the transition from an export-based growth model to a more consumption-driven one, the current political and trade-related tensions between China and the U.S., as well as the increasing strength of Nike and the local competitors Anta and Li-Ning significantly influence Adidas' share value. The following analysis aims to identify and illustrate the main risks and opportunities for Adidas in China and to quantify the impact of alternative developments on Adidas' share value.

China's economic landscape and its current challenges

China has become the second largest economy in the world (IMF, 2019a), with around 1.4 billion inhabitants (IMF, 2019b). Its real GDP is expected to grow by at least 5.5% annually until 2024 (Euromonitor, 2019a; Handelsblatt, 2019, p. 54; IMF, 2019a). Apart from the absolute size of the economy, the per capita values are still considerably lower than in western economies in North America and Western Europe (OECD, 2019), indicating the still enormous growth potential in the medium- to long-term. However, the long relied on growth model based on exports of rather cheap mass products for the western world, construction, and heavy industry has reached its limits (Marketline, 2017, p. 31; Euromonitor, 2019b, p. 4). Following the strong economic growth and the increasing wages in China, some companies have already relocated production facilities to other cheaper countries (McKinsey, 2018). Simultaneously, already existing infrastructure limits the potential for new investments as further growth drivers

(The NY Times, 2019). Consequently, China heavily invests in R&D with the goal to substitute the manufacturing of cheap products with high-tech products (Marketline, 2018, p. 37) and becomes more dependent on domestic consumption to sustain high growth. However, domestic consumption growth strongly depends on high consumer confidence and the increase in disposable income (McKinsey, 2018). While disposable incomes rose by 8% in 2018 and the current outlooks are mainly positive, the current trade tensions between the U.S. and China along with job losses in decelerating industries may cause decreasing consumer confidence and may have negative impacts in the medium-term (McKinsey, 2018). As a result, and despite positive expectations, the current economic situation leaves space for many uncertain developments that can significantly influence the market development in the Chinese sportswear market and the share value of Adidas.

The Chinese Sportswear Market

Over the past years, the global players Adidas and Nike have significantly increased their market shares, clearly dominating the Chinese sportswear market and outperforming the domestic players Anta and Li Ning (Euromonitor, 2019c). Adidas' recent success is mainly based on the sale of its fashionable lifestyle products and the launch of limited trainer and sneaker collections, particularly from the Yeezy product line, to fashion-conscious millennials (South China Morning Post, 2019). This success of Adidas and Nike is generally in line with the traditionally perceived higher quality and the higher ability to express status with products from foreign premium brands (Hofer and Ebel, 2007, p. 16; Jap, 2010), supported by the growing incomes of China's middle-class consumers. However, when looking at general market share developments of multinational corporations in other Chinese consumer markets, the development of foreign sportswear companies in China (over the last decade) seems exceptional, as multinational corporations in other product categories have benefitted significantly less (McKinsey Global Institute, 2019, p. 97).

The 2019 growth figures of Adidas and its competitors Nike, Li Ning and Anta (see main report, p. 16) give the impression that Adidas' brand momentum in China decreased throughout the year. Moreover, the strong performance of the domestic players Anta and Li Ning may indicate a structural shift and an increasing attractiveness of domestic brands. This could also be a result of the already high market share of the foreign premium brands: once a high number of consumers already possesses premium sportswear by foreign brands, the effect to express status and differentiate oneself with a particular brand becomes limited. In addition, the aspired transition from China as a manufacturer of cheap products for the western world to a high-tech-focused economy, may also improve the perceived quality of its domestic brands in the medium- to long-term and could help them to take market share from global brands such as Adidas. As these developments are very recent, a long-term trend cannot yet be determined, but the potential implications still have to be taken into account in the valuation. In the context of the current developments and in the Chinese economy and its sportswear market, a SWOT analysis was conducted. Table 1 summarizes the main strengths and weaknesses as well as the major opportunities and threats for Adidas in China, with regard to market developments and expectations on future consumer preferences.

Table 1: SWOT analysis: Adidas in China

Strengths	Opportunities
▪ Multi-(sub-)brand strategy allows to address consumers more individually ▪ Celebrity collaborations enhance brand ▪ More sustainable products make Adidas a good choice for environmentally-conscious consumers	▪ Emerging demand from and expansion to lower-tier cities ▪ High relevance of e-commerce allows to build more direct connections to consumers (potential to increase customer loyalty and brand connection)
Weaknesses	**Threats**
▪ Reebok of no considerable relevance in China ▪ Premium price range can make Adidas vulnerable as competition increases and consumer confidence decreases	▪ Increasing competition with Nike and higher attractiveness of domestic brands ▪ On-going transition towards consumption-based growth in China could become more challenging as economic challenges may arise or continue (e.g. trade conflicts) ▪ An economic downturn may lead to a significant loss in consumer confidence and a shift towards cheaper alternatives from domestic brands

Source: Own analysis

Scenario Analysis

The scenario analysis is based on the previously analyzed risks and opportunities for Adidas and aims to quantify the isolated effects of potential alternative developments in the Chinese economy and sportswear market on Adidas' share value. The analysis includes three scenarios (base, optimistic, pessimistic) for both of the dimensions market growth rate and Adidas' market share development. In addition, alternative currency developments are included[1] in order to account for an additional risk dimension, especially in the light of China's ongoing trade tensions with the U.S..

Regarding the general market development, the base scenario reflects the market size development forecasted by Euromonitor International. As included in the main report, the optimistic scenario incorporates growth rates 2% above the base scenario, reflecting also a successful and rapid transition of the economy towards a more consumption-based growth. In contrast, the pessimistic scenario models growth rates 2% below the base scenario, as a result of major challenges in this transition and lower consumer confidence. The following table illustrates the isolated effect of alternative market developments on Adidas' share value, also combined with the alternative currency scenarios.

Table 2: Scenario analysis: alternative market growth and currency evolutions

		Market Growth		
		Optimistic	Base	Pessimistic
Currency Evolution	Optimistic	464.04	419.09	379.79
	Base	420.84	381.86	347.67
	Pessimistic	362.64	331.48	304.01

Source: Analyst's estimates

With regard to Adidas' market share developments, the base scenario reflects an increase in market share for 2019, with Adidas' market share remaining constant afterwards, as described in the main report. The optimistic scenario instead confirms the trend of increasing market share beyond 2019 and until 2025, but at decelerating pace, particularly driven by ongoing growth in demand for foreign premium brands and Adidas' successful expansion to lower-tier cities. In contrast, the pessimistic scenario reflects a limitation of foreign brands to express status, even

[1] When forecasting market sizes in Euro terms, Euromonitor assumes the Yuan to slightly depreciate to a level of 8.176 RNB/EUR in 2023, which serves as our base scenario for the currency development. In an optimistic scenario, an appreciated Yuan of 7.00 RNB/EUR is assumed (similar to 2015). Contrary, in a pessimistic scenario, depreciation of the Yuan is expected to be even more significant, resulting in 9.00 RNB/EUR in 2025 (a level similar to 2010/2011 (ECB, 2019)). Since Adidas sources most of its products for the Chinese market from local suppliers (Bloomberg, 2019a), the effect on the gross margin is neglected.

stronger competition with Nike and a significant trend that Adidas missed out. The pessimistic scenario simulates a loss of one third of Adidas' (2019) market share by 2025.

Table 3: Scenario analysis: alternative market growth and market share evolutions

		Market Share		
		Optimistic	Base	Pessimistic
Market Growth	Optimistic	485.01	420.84	395.24
	Base	437.07	381.86	279.76
	Pessimistic	395.24	347.67	259.18

Source: Analyst's estimates

The scenario analysis illustrates that Adidas' share value is strongly exposed and very sensible to changes in the Chinese market. Given no changes in market share, a 2% lower market growth would result in a share value 9% below the base case (EUR 347.67). Combined with a loss of one third of Adidas' market share in China, the loss in value would even equal 32.1% (259.18), compared to the base scenario. In addition, alternative currency developments, especially with regard to the recent developments in the trade war between the U.S. and China, may also have a significant influence on Adidas' share value in the medium-term. At the same time, a further expansion of its market share in China as well as more favorable market conditions or currency developments may allow Adidas to further boost its share value. With regard to the conducted SWOT analysis, it will be crucial for Adidas to capture the growing demand from lower-tier cities. Moreover, the high relevance of e-commerce for Chinese consumers may also allow Adidas to directly interact with customers, thereby increasing customer loyalty and gaining additional market share. Consequently, the expansion of its physical store infrastructure and a strong focus on further improving the digital shopping experience are crucial levers for future value creation in China. In contrast, economic uncertainties or even an economic downturn that results in a reduction of consumer confidence and stronger orientation towards domestic brands may cause a significant loss in market share for Adidas. In combination with a slower market growth, the isolated effect of the Chinese market alone would be enormous.

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