The “Royal Sailor” of Cruising

Upbeat 2019 Outlook and more seas to triumph over

- The Cruise Industry is **fastest-growing** category in the leisure travel market. Having increased around **20.5%** over **2011-2016** and another **4.5%** between 2016 and 2017, the demand for cruising is estimated to **increase by 48% over the next 10 years**.

- In its 3Q18, Royal Caribbean Cruises Ltd (RCL) has indicated that its **business has remained healthy across the major markets** of the company. The Yield guidance is raised almost 100 basis points above the January estimates while **offsetting $0.55 per share** of headwinds from FX and fuel.

- Reported third quarter **revenues of $2.78 million went up 8.2% YoY**, and although they missed analyst expectations by $40 million, the **EPS of $3.98 beat expectations by $0.01**, which is **14% higher** than last year’s figure.

- Looking ahead, we believe that the Royal Caribbean economic outlook is very solid and that it will be able to capitalize on the continued expected growth projections for the global cruise industry.

- In general we believe that the current share price is not reflective of Royal Caribbean very solid fundamentals, which is why express a rather strong **buy recommendation**

- **All the missing data can be found in the model**

Company description

Royal Caribbean Cruises is an American global cruise company incorporated in Liberia and based in Miami, Florida. It is the world's second-largest cruise line operator, and it serves the contemporary, premium and luxury sector of the cruise industry.
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Company Profile

Royal Caribbean Cruises Ltd. (RCL), originally founded in 1968 as a partnership, is the world’s second largest cruise company, incorporated in the Republic of Liberia and headquartered in Miami, Florida.

Brands:

The company’s portfolio of brands comprises the cruise lines Royal Caribbean International (fully owned), Celebrity Cruises (fully owned), Azamara Club Cruises (fully owned), and, acquired in June 2018, Silversea Cruises (66.7% equity stake), all four of which are referred to as the company’s “Global Brands”. Moreover, RCL also has an equity stake in two other cruise lines, which are referred to as its ‘Partner Brands’, namely the German brand TUI Cruises (50%) and the Spanish brand Pullmantur (49%)¹.

The Royal Caribbean International brand is positioned to compete in the mass market and the premium segment of the cruise vacation industry. While the mass market segment is designed to appeal to everyone, exhibiting a large variety of different entertainment offerings on board of the massive vessels common in this segment, thus in particularly - but not exclusively - groups of people and families with children, the premium segment typically is characterised by a bit more elegance and sophistication on its - often - midsized ships, albeit in terms of quality the two segments can be considered more similar than different. The brand provides itineraries to destinations worldwide, including Alaska, Asia, Australia, Bahamas, Bermuda, Canada, the Caribbean, Europe, the Panama Canal, and New Zealand with cruise lengths that range from 2 to 23 nights. As of September 30, 2018, it operated 25 ships with an aggregate capacity of approximately 81,900 berths, thus making it the largest individual cruise line when measured by total passenger capacity, having outgrown its direct competitors in the sector such as Carnival Cruise Line or Norwegian Cruise Line. Furthermore, the brand is well-known for its megaships, as it operates eight of the 10 largest cruise ships in the world, including the world’s currently largest cruise ship, the Symphony of the Sea, which has had its maiden voyage in April 2018. Furthermore, due to its focus on both the mass and premium segment, the brand can be characterised by the fact that it reaches a market coverage that is among the broadest of any of the major cruise brands in the industry.

¹ Unlike its Global Brands, RCL does not fully consolidate the financial results of its Partner Brands. It rather accounts for these investments using the equity method. Therefore, as we forecasted e.g. revenues based on - among others - capacity, the Partner Brands are not included in statistics describing the company, such as e.g passengers carried.
The **Celebrity Cruises** brand offers itineraries to destinations, such as Alaska, Asia, Australia, Bermuda, Canada, the Caribbean, Europe, the Galapagos Islands, Hawaii, India, New Zealand, the Panama Canal, and South America with cruise lengths ranging from 2 to 19 nights. As of September 30, 2018, it operated 12 upscale ships with an aggregate capacity of approximately 23,170 berths, which provide destination-rich, modern luxury experiences as the Celebrity Cruises Brand is positioned within the premium segment, targeting more affluent and less price-sensitive consumers.

The **Azamara Club Cruises** brand offers cruise itineraries ranging from 4 to 21 nights to destinations, including Asia, Australia/New Zealand, Northern and Western Europe, the Mediterranean, Central and North America, and the less-traveled islands of the Caribbean. The brand is designed to serve the up-market segment of the North American, the United Kingdom and Australian cruise markets, which incorporates elements of both the premium as well as luxury segment, i.e. smaller ships, high standards of accommodation and service as well as more exotic destinations. As of September 30, 2018, the brand owned 3 ships with a total capacity of 2,100 berths.

**Silversea Cruises** is an ultra-luxury and expedition cruise line operating nine ships with a total of 2,996 berths as of September 30, whose acquisition in June 2018 closed a gap in RCL’s brand portfolio and enables the company to compete for brand leadership in ultra-luxury and expedition cruises against other cruise lines operating in the top tier of cruise industry such as Regent Seven Sea Cruises or Seabourn Cruises, which are part of RCL’s largest competitors, Norwegian Cruise Line Holdings Ltd. and Carnival Corporation & plc. The brand offers itineraries on all seven continents, visiting over 900 destinations, including exceptional destinations such as for instance the Galapagos Islands or the Arctic.

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**Exhibit 2: Number of berths marketed by Royal Caribbean 'Global Brands'**

![Exhibit 2: Number of berths marketed by Royal Caribbean 'Global Brands'](image)

*Source: Analysts computations and RCL annual reports*
Operating and financial highlights:

As of December 31, 2017, the global fleet of RCL’s Global Brands encompassed 41 cruise ships (capacities ranging from 20 up to 5,450 berths) with a total aggregate of approximately 110,070 berths. Over the whole calendar year, supported by an extensive on-land infrastructure, i.e. a large number of offices and a wide network of partner travel agents and international representatives distributed around the globe, the company’s ships carried 5,768,496 (5,754,747 in FY16) cruise guests on a wide selection of worldwide itineraries to approximately 540 destinations on all seven continents. In total, the FY17 yielded 40,033,527 Passenger Cruise Days (PCD) given a capacity of 36,930,939 Available Passenger Cruise Days (APCD), which equated to an occupancy of 108.4% for the year. In comparison to the FY16, these figures signified a decrease in PCD and APCD of 0.5% and 2.4%, respectively; the decrease of the latter can be attributed to the sale of the Legend of the Sea, which, effectively, caused the number of berths supplied by the company to drop (and thus also the number of APCD). However, the unproportional decrease in PCD resulted in a year-to-year increase in the fleet’s occupancy of approximately 2 percentage points, which indicates an increased efficiency in the company’s usage of its fleet in FY17. Thus, the comparatively small growth in the number of RCL’s annual cruise guests of 0.2% in comparison to the previous years (see Exhibit 3) seems to be ascribable to a reduction of the company’s berth supply, and less so due to a potentially stagnating demand for the product, RCL cruising. This is in line with the positive development registered in occupancy over the previous five years (see Exhibit 4) which strongly suggests that the growth in demand for RCL cruising has consistently outpaced company supply. Furthermore, the numbers of the first three quarters of FY18 further emphasize such optimistic sentiment, as the company is on pace to increase its occupancy even further (analyst estimate: 109.1%) whilst having expanded its fleet and thus its passenger capacity at the same time.

This positive development is also reflected in the company’s ‘Total revenues’, which totalled USD 8.8 bn in FY17, thus posting an annual growth of 2.7% compared to FY16 (2.5% growth p.a. cc.) and which are expected to surpass USD 9 bn in FY18 for the first time (analyst estimate: USD 9.4 bn). In general, the total revenues generated by RCL can be grouped into two different sources of income: ‘Passenger ticket revenue’ and ‘Onboard and other revenues’. The former includes revenues recognized from the sale of passenger tickets and the sale of air transportation to and from the company’s ships, whereas the latter mainly includes sale of goods and/or services onboard not included in passenger
ticket prices, cancellation fees, sales of vacation protection insurance and pre- and post-cruise tours. As can be seen in the revenue mix in Exhibit 5 which also highlights the importance of the U.S. market for RCL, as sales originating in the United States historically make up more than 50% of ‘Passenger ticket revenues’, the relationship between these two types of revenues has been fairly consistent over the last five years, with ‘Passenger ticket revenues’ accounting for the significantly larger portion hovering around 72% of ‘Total revenues’. Thus, ‘Passenger ticket revenues’ can also be identified as the main driver behind the growth in ‘Total revenues’ observable in the absolute numbers over the same time horizon (CAGR FY13-17: 2.5% & CAGR FY13-17 cc: 4.4%).

A slightly different picture emerges when assessing the intrinsic profitability of both sources of revenue. Whilst ‘Net passenger ticket revenues’ constitute the major constituency of ‘Total net revenues’ generated by the company, the development of the recent past highlights that the fraction of net revenues attributable to ‘Passenger ticket revenues’ has been in constant decline (on a relative basis) (Exhibit 6). However, an examination of RCL’s net revenues on a ‘per APCD’ basis reveal that this development cannot be explained by a plunge in the company’s ticket pricing performance, as is evidenced by the continuing increase in ‘Passenger ticket net yield’. Rather, it highlights that ‘Onboard and other revenues’ have become increasingly lucrative for RCL, as the company has managed to significantly increase the gross margin on the smaller of its two main streams of revenue over the past four years (Exhibit 6).

A similarly positive development can be discerned with regard to RCL’s cost management, which is highlighted by RCL posting a record low (in the recent past) ‘Net cruise costs in % of Total revenues’ of 48.1% in FY17. This margin has experienced a continuous decrease for the past five years, which can be considered a strong indication for an increased - and further increasing - operating cost efficiency on the part of RCL. Taking into account the net cruise costs incurred by RCL excluding fuel expenses, this development seems to be in particularly driven by a reduction of fuel expenses, which in turn partly seems to be driven by a decreasing annual average price per metric ton fuel, but more importantly also by an increasingly efficient fuel consumption within RCL’s global fleet, which is evidenced by a decreasing fuel consumption per APCD over the last five years ((Exhibit 7).

Consequently, the simultaneous increase in both revenue profitability and operating costs efficiency also are reflected in the income margins realised by RCL, which exhibit very strong growth numbers over the last five years. The ‘Adjusted EBIT margin’ (adjusted for non-recurring items) has increased from
10.8% in FY13 to 19.9% in FY17 (analyst estimate for FY18: 20.5%), whilst the ‘Adjusted net income margin’ experienced a spike of 11.4% over the same time frame, from 7.1% in FY13 to 18.5% in FY17 (analyst estimate for FY18: 19.7%) (Exhibit 8).

Overall, the recent development of the company - both in terms of operating as well as financial proficiency - suggest a very positive outlook for RCL’s immediate future.

Naturally, in order to make a fair assessment of RCL’s performance over the last five years, it is not sufficient to restrict the analysis to an independent inspection of RCL’s operating and financial development, but it also requires to put these observations into an adequate context in order to paint a more comprehensive and informative picture of the company. Hence, the following subchapter will measure some of the more important company characteristics as well as operating and financial metrics exhibited by RCL in the recent past against the ones posted by its closest competitors over a comparable time horizon.

Benchmark analysis:

RCL’s two main competitors are Carnival Corporation & plc (CCL) and Norwegian Cruise Line Holdings Ltd (NCLH).

CCL is a British-American cruise company operating a portfolio of 10 different cruise lines, thus making it the world’s largest cruise company. The company carries cruise passengers to a global range of destinations across all market segments; however, the large majority of the company’s fleet, which comprised 103 ships with a total of 232,000 berths as of November 30, 2017, is assigned to the mass and premium cruise market. In the FY17, carrying a total of approximately 12,130,000 cruise guests, the sales generated by the company amounted to USD 17.5 bn, of which 98.7% stemmed from its cruise business, of which in turn 74.9% originated from passenger ticket sales and 25.1% from onboard and other activities offered by the company. Furthermore, 52.5% of the USD 17.5 bn in revenues were sourced from guests from North America; Europe being the second largest source of CCL cruise guests as the region accounted for 30.9% of the company’s total revenues in FY17.

After CCL and RCL, NCLH is the third largest cruise operator in the world. Based in the U.S., the company was founded in 1966 operating a car-ferry between Southampton UK and Gibraltar. Nowadays, it operates three brands: Norwegian Cruise Line (Mass market), Oceania Cruises (Upscale segment) and Regent Seven Seas Cruises (Luxury segment). Collectively, the three brands operate a
fleet of 25 ships with a total of 50,400 berths as of December 31, 2017 offering itineraries to over 450 destinations worldwide. While the company’s offering encompasses all segments, it can be noted that NCLH has allocated a larger portion of its fleet to the more exclusive segments in the cruise industry compared to both RCL and CCL. In FY17, the company generated revenues amounting to USD 5.4 bn, thereof 69% originating from ticket sales, of which in turn 77% were sourced from U.S. cruise guests.

Taking a look at the metrics, it becomes evident that the positive development of RCL has not been an outlier within the cruise industry, but rather that the entire cruise industry seems to have enjoyed significant growth and increases in profitability over recent years. At the same time, it also can be noted that the development of RCL has to be considered noteworthy nevertheless, as indicated by superior growth rates exhibited across almost all metrics.

Industry and Economic Overview

The following chapter will provide an overview of and outlook for the industry RCL is operating: the global cruise industry.

General overview:

According to the F-CCA (The Florida-Caribbean Cruise Association), the cruise industry is the fastest-growing category in the leisure travel market. Over the period of 2013-2017, the demand for cruising - measured in the number of annual cruise guests - has increased by a total of 20.9%\(^2\), which represents a CAGR of 4.9% over the corresponding time horizon. The 25.8 mn global cruise passengers in 2017 marked a new record high; and this number is foreseen to continue rising as cruise travel is expected to further gain market share in the leisure industry. According to RCL, this development is partly driven due to a change in general perception of cruising as a means of vacation, as recorded in its second quarter earnings call in 2018: “One of the factors that continues to drive demand is increasing relevance of cruising as a mainstream vacation choice. In the past, cruising was seen by many as somewhat of a niche market. But today the industry has increasingly become a mainstream vacation alternative.” To underline this sentiment with numbers, it is expected that the number of annual cruise industry passengers will grow from an estimated 26.7 million passengers in 2018 to 41.4 million by 2028, which would represent a

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\(^2\) Estimates based on RCL annual reports
CAGR of 4.48% over that time horizon\(^3\). We believe that this estimate is slightly too positive, as according to our own projection, which we base on the current order book of the cruise industry, the global supply of berths will grow at an expected CAGR of 3.93% from 2018 until 2028. This means that there would need to be a rather significant increase in the overall occupancy of cruise ships in order to meet the projected cruise guest figures, which we do not anticipate. However, the projection illustrates the continued optimism regarding the future development of the cruise industry.

- Cruise industry comparison other sectors:

In order to compare the projected development of the cruise sector, which can be considered a hybrid of the hotel, travel and leisure sectors, relative to other sectors in the travel and leisure industry, we looked into the development of the worldwide international tourist arrivals and accommodation for visitors in hotels and similar establishments and compared the former to the historical and projected development of the global annual cruise guest numbers and the latter to the development in berths supplied by the cruise industry.

Comparing the historical development of both international tourist arrivals - data and estimated figures provided by the United Nations World Tourist Organisation (UNWTO) - and annual cruise guests, it becomes evident that the annual growth rates from 2013 to 2017 for both global cruise guests and global international tourist arrivals have been quite similar. International tourist arrivals were growing stronger in 2013, 2014 and 2015 and global cruise guests were exhibiting stronger growth in 2016 and 2017.

However, when we look into the long-term development expectations for international tourist arrivals, it becomes clear that the development observable in 2016 and 2017 seems to be expected to continue, as the annual number of global cruise guests - using either the projected CAGR of 4.48% or our projection for the berth supply with a CAGR of 3.93% as reference - is expected to outgrow (in relative terms) the annual figures for international tourist arrivals which is expected to grow at a CAGR of 2.38% in a similar time horizon. This, in turn, implies that cruising is expected to account for a higher portion of the travel market for the foreseeable future.

The second analysis performed looks at the annual growth rates for total berths marketed and the accommodation for visitors in hotels and similar establishments in terms of number of rooms over the period from 2012 to 2016 thus comparing the recent historical development in terms of capacity of the cruise industry and

\(^3\) Cruise Industry News
the hotel industry. The data was retrieved from UNWTO, Compendium of Tourism Statistics electronic dataset, and we have selected the regions we considered to be of the highest relevance for the analysis. The annual growth rate in total berths marketed has consistently exceeded the growth rate in accommodations for visitors in hotels and similar establishments, with the former posting a CAGR of 3.78% over the time horizon under inspection and the latter a CAGR of 2.39%. This historical development, combined with the insights gained from the analysis in the previous chapter allows to assume that the cruise industry can be expected to accommodate a growing portion of passengers seeking leisure relative to the hotel sector.

- Cyclicality in the cruise sector:

Similar to the other subsectors of the leisure industry, the global cruise sector is driven by factors such as GDP growth, economic cycles, interest rates, fuel prices, unemployment levels, consumer trends, etc. Being a part of the Consumer Discretionary sector, the cruise and leisure segments are very cyclical and closely tied to the economic environment of the countries of operations. Therefore, by definition, the good and services of this sector are not considered necessities and during contractions or recessions, people have less disposable income to spend on consumer cyclicals. Exhibit 9 shows the relationship between the broad market US index S&P500 and the Vanguard Consumer Discretionary ETF (VCR) with a beta value of 1.03 and R square of 0.72 (117 monthly data points since March 09’). Considering that the S&P500 can be considered a proxy for the broad market, a beta value of approximately 1 and a rather high R square illustrates the cyclicality of the consumer discretionary sector. Furthermore, the comparatively strong vulnerability of the cruise industry to general macro-economic developments & events implied by these statistical figures can also be exemplified looking at its development in the years of the financial crisis. During this period, the annual number of U.S. cruise guests - which back then almost accounted for 60% of total annual cruise guests - recessed & stagnated (as was also the case for RCL) in spite of growing capacity offered by the industry.

Regional market and macro analysis:

Being well established in North America and Europe and a developing sector in several other emerging markets, the cruise industry still exhibits relatively low penetration rates with a large portion of guests being first-time passengers. According to RCL’s data for 2017, annual cruise guests, as a proportion of the
population, accounted for only 3.56%, 1.21% and 0.12% in North America (US and Canada), in industry-relevant countries in Europe and Asia/Oceania, respectively, thus highlighting the growth potential described earlier.

The following section reviews the demand side of the global industry market and the main regions driving the demand for cruise travel vacations. It also shows the current and long-term economic prospects of those regions of operations for RCL, and provides basis for the growth rates cases used to support the valuations part (see section “Growth in Perpetuity” for further detail).

- U.S. market

Being the most developed and popular cruise market, North Americans represent 49% of the 2017 global ocean passengers, which - in absolute terms - is a little over 13 million passengers and signifies a 5% increase compared to the previous year. The North American cruise market is projected to grow close to 40% from 2018 to 2027, which is nearly 20 million expected annual U.S. passengers by 2027 according to the 2018-2019 Cruise Industry News Annual Report. For the years 2018 through 2023, the expected CAGR is 5.76%, which is then assumed to slow down a bit\(^4\). Given the cyclical nature of the cruise sector, which was highlighted in the previous subchapter, whether these forecasts hold true will also depend on the macro-economic development in the USA, an aspect which also applies to all other regional examinations.

In the case of the U.S. this can be considered even more critical, as its economy has one of the biggest impacts on the global markets, as was seen for instance along with the last two big financial crises, which thus make it not only relevant to the U.S. cruise market but also to the global cruise market.

Since the last financial crisis, the U.S. economy has witnessed one of the strongest and longest recoveries with GDP increasing from $14.19 trillion from 2009 to the $20.66 trillion figure mentioned above. The last quarter’s increase in GDP was 3.5%, mainly driven by the increase of 4% in consumer spending. According to the data source Statista, the forecasted real GDP growth rates of the U.S. are 2.9%, 2.5%, 1.8% and 1.7% for the years 2018 through 2021 respectively, after which it will continue slight deceleration, reaching stable rate of 1.5%. The anticipated inflation, derived from the yield on 10-year Treasury and the Treasury Inflation-Protected Securities (TIPS) 10-year yield as of December 31, 2018, is approximately 1.7%, which is fairly close to the U.S. long-term inflation target of 2%\(^5\). As far as unemployment, the percentage has been steadily declining since 2010, with levels of 3.7% reported in October 2018,

\(^4\) Cruise Industry News- North American Cruise Passenger Capacity Hike of 40 Percent from 2018 to 2027
\(^5\) US Treasury web data
which is a record low number for the period spanning the last 45 years. The unemployment rate is expected to remain at 3.7% in 2018, and 3.5% in 2019 and 2020, which is considerably lower than the Fed's 6.7% target. In October, the number of additional jobs added (nonfarm payroll) from the previous month was 250,000, with private payrolls rising by 227,000, and average hourly earnings surging 3.10%, breaking the 3.00% barrier for the first time since 2009.

All these parameters, combined with the performance in recent years, lead us to believe that the projections for the U.S. cruise market, as of today, are not unreasonable. Thus, we are also bullish on RCL’s growth potential in the U.S. cruise market, which accounts for the largest portion of RCL’s revenue (59% of the total passenger ticket sales was sourced from U.S. customers in 2017), which consequently is reflected in our revenue forecasts explained later on.

- **Europe Cruise Market**

As the global cruise industry continues to grow and open new ports and destinations, Europe is in the lead for cruising due to mainly to three reasons. Firstly, Europe is the world’s second biggest passenger source market with a total of around 6.96 million Europeans who made a cruise holiday worldwide in 2017. Secondly, it continues to be the world’s second most popular cruise destination after only the Caribbean. In 2017, 6.5 Million passengers had embarked on through European ports. Finally, European Shipyards are a major hub for the shipbuilding sector. Cruise companies have reportedly spent around EUR 5.6 billion in 2017 and there are currently 66 cruise ships on the order books of European shipyards for delivery by 2021, amounting to a total value of EUR 29.4 billion.

According to the CLIA Europe Market report for 2017, the volume of passengers in Europe went up by 2.5% mostly because of a strong performance coming from the German cruise market, which is the largest in Europe. In terms of volume, it is followed by the United Kingdom & Ireland, Italy and Spain. As revealed in the country overview, Germany has reached a record number of holidaymakers who chose to cruise last year - 2.19 Million - which represented the highest YoY increase in Western Europe (8.5%) as well as on a global level.

Since the global recession of 2007, Europe has experienced a few financial and economic challenges, starting with multi-year sovereign debt crisis, and continuing withdrawal of the United Kingdom from the European Union, also known as Brexit. The former began in the end of 2009 when a few Eurozone members started showing signs of insolvency and had to receive financial aid by

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6 The Balance- US Economic Outlook for 2019 and Beyond
7 Seatrade cruise News- Cruise industry contributes record €47.86bn to European economy
ECB (European Central Bank) and IMF (International Monetary Fund), as well as other Eurozone countries like Germany. The crisis itself had substantial economic ramifications as rising unemployment rate and subdued economic growth ensued ending in austerity measures being undertaken. The latter was started after a referendum held by UK’s former Prime Minister David Cameron on the potential withdrawal of the UK from the European Union, which was tipped in favour of Brexit after a 52% majority. Studies on the material effects of the Brexit referendum revealed potential annual losses in disposable income of GBP 404 for the average UK household due to increased inflation, and potential contractions of UK GDP in the range of 2% and 2.5%. However, in November 14, 2018, the EU reached a deal with the UK which outlines an agreement on exit terms which helped to reduce economic uncertainty over the withdrawal and boosted economic sentiment. Unemployment in the Eurozone has also hit its record low since 2008 with an average unemployment rate of 8.1%. In October, the inflation rate of the Euro area was registered at 1.9% in November. According to Statista, the forecasted real GDP growth for the Euro area over the upcoming years is expected to be 2.0%, 1.9%, 1.7%, 1.6% for the years 2018, 2019, 2020 and 2021, respectively. Thereafter, the it is estimated to grow at a stable 1.5% real growth rate. The United Kingdom’s real GDP growth is estimated to hover around the 1.5% - 1.6% area for the near future, however, as was already mentioned, is associated with some uncertainty due to the pending Brexit. Considering the above prospects, as well as the fact that regions such as China and Australia have relatively stronger real GDP growths, we assigned a slightly decreasing weight for Europe and UK for the long-term composition of the geographic revenue segmentation of RCL.

In general, it can be concluded that the macro-economic outlook for Europe allows for careful optimism with regard to the development of the cruise industry in the area, in spite of some of the political and consequently also economic instabilities. This is also due to the fact that the economic outlook underlying Europe’s biggest market, the German economy, is solid. Considering that the UK is RCL’s second largest single country revenue source, representing for instance 13% of the passenger tickets sales for the third quarter in 2017 and 2018, as well as the fact that RCL’s joint venture TUI cruises is the company’s primary operator in the German market, which; however, is not consolidated, our outlook on the growth potential of RCL’S Global Brands in Europe is fairly neutral.

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8 Vox- The consequences of the Brexit vote for UK inflation and living standards: First evidence
9 European commission Press Release Database- Brexit Negotiations: What is in the Withdrawal Agreement
10 Focust Economics- Economic Snapshot for the Euro Area
Asia-Pacific Cruise Market

The cruise industry in Asia has seen more rapid growth than any other continent. In 2017, the market produced 4.06m passengers, which represents a 20.5% increase from the previous year, and it made up around 15% of the global ocean passenger volume. More and more cruise lines deploy their resources to reap from the benefits of this fast-growth environment. In fact, since 2013, the number of cruise ships has almost doubled, from 43 to 78 ships, representing a compound annual growth rate (CAGR) of 12.6%, the number of operating days has more than doubled, and the passenger capacity has almost tripled from 1.51m in 2013 to 4.26m in 2018. Mainland China has been the main driver of the passenger growth in Asia; however, it has experienced deceleration in 2017. The proportion of passengers coming from Mainland China to the total volume of Asian passenger volume in 2017 is around 60% or around 2.4m passengers. The majority of the Asian passengers (around 91%) chose to sail within the region.

The trend in 2018 is that more ships are brought into Asian waters, with notably larger size of the ships (2,000 to 3,500 passenger) and offering greater variety of products. Exhibit 10 shows size of ships in 2018. RCL has also had major presence in the pacific region, mostly in Australia, which shows another great potential for revenue generation. According to the vice-president and managing director of Royal Caribbean Australia and New Zealand, Susan Bonner, Australia is the world’s leader for market penetration and it is the only country to have achieved more than 4% penetration with a remarkable penetration of 5.7%. This, combined with an expected real GDP growth of 2.6% for the long-term, has been a reason to assign increasing weight in the country’s presence in RCL’s long-term geo-segmentation, when it comes to estimating the long-term growth rate.

For the purposes of our analysis, we consider Mainland China to be a good proxy for Asia’s economy and revenue impact as shown in Exhibit 11. Since 1978, China has experienced unprecedented economic and social development as the country started shifting to a more market based economy. Lifting 800 million people out of poverty, on average, China’s annual growth reached almost 10%. Since 2010, China’s growth has kept decelerating; however, the year-on-year real GDP growth of 6.9% for 2017 is undoubtedly an impressive figure among the world’s biggest economies. In Q3, its GDP decreased further to 6.3%, however, the IMF forecasts year-end growth of 6.6%, which analysts believe clashes with

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11 Cruise Lines International Association- Asia Trends 2018
12 Sea Trade Cruise News- Susan Bonner sets her sights on growing Royal Caribbean's Australasian market
13 Statista- GDP growth rate in Australia
14 The World Bank In China
the deleveraging trend in China and the recent trade-war rhetoric mostly fuelled by the U.S. The average forecast real GDP growth for 2018, 2019, 2020 and 2021 is at 6.2% according to the IMF\textsuperscript{15}.

With its massive population and a small market penetration rate of 0.1% in 2017, the Chinese market certainly hold the largest growth potential for the global cruise industry. While it can be can be assumed that Chinese cruise market data will remain volatile in the near future, it is expected that - in the long-term - China’s growing middle class, an ongoing development fuelled by a continued positive economic outlook, will eventually create significant demand in the mass and premium cruise market. Hence, we are quite bullish on RCL’s long-term growth potential in the Chinese market through its brand Royal Caribbean, which is already one of the better positioned brands in the Chinese market\textsuperscript{16}.

### Forecasting of operating performance

**Operating revenues:**

In order to make an informed and well-grounded decision regarding the forecasting of RCL’s top line, the most significant value drivers for both ‘Passenger ticket revenue’ as well as ‘Onboard and other revenues’ were determined. They will be elaborated on in the following paragraphs.

- **Berths marketed:**

  The number of berths marketed by RCL, as well as the distribution of these berths among its four different brands are paramount to the forecasting of both ‘Passenger ticket revenues’ as well as ‘Onboard and other revenues’, as it not only provides information on the potential capacity available to RCL (‘Passenger ticket revenue’ & ‘Onboard and other revenues’), but also can serve as an indication for the average ‘Passenger ticket revenue’ the company generates per unit capacity metric. Below, a historical overview of the overall berth development and berth distribution among the RCL Global Brands as well the projected development is provided.

  The projections are based on the company’s orderbook and highlight that Royal Caribbean International - looking at the absolute numbers - is responsible for the majority of the upcoming additions in capacity. In relative terms, however, it becomes also evident that its share of the company’s total berths supply is

\textsuperscript{15} International Monetary Fund- Real GDP growth & Statista- GDP growth rate in China

\textsuperscript{16} https://skift.com/2018/04/02/3-big-challenges-cruise-lines-still-have-to-overcome-in-china/
projected to remain quite stable, or even to marginally decrease. After the FY24, we expect RCL’s total supply to grow linearly to the global supply, i.e. that RCL will maintain its expected market share of 22.2% in FY24. Furthermore we expect the relative distribution of the company’s berths among its brands to remain stable from that point onwards.

- **APCD:**

  Annual available passenger cruise days are a measure for the annual capacity of the company, and thus can be considered representative for the supply side of the revenue equation. They in turn can be modelled as a function of two other parameters: the number of berths marketed per year as well as the number of APCD per berth marketed, i.e. the former describes the capacity available to the company, whereas the latter is indicative of how efficiently the company makes use of these capacities. On the left hand side, an overview of the historical development of the annual APCD per berth marketed. It has to be mentioned that the metric was not calculated using the end-of-year numbers presented earlier in the report, as the use of those numbers in order to compute the ‘APCD per berth marketed’ figures would skew the results, as additions during the year cannot generate APCD for the whole period. Therefore, a weighted annual average using quarterly data (weighted according to the number of APCD generated in the period) was used for the berths marketed, which at least partly circumvents the imprecision described. Similarly, when forecasting the annual APCD, a multiplier has been applied to the end-of-year number of berths forecasted in order to account for new additions during the FY. (including the analyst estimate for FY18, which was determined using the data from the first three quarters of the FY18 and historical 4th quarter growth rates) as well as the annual number of APCD generated by the company over the last four years is provided.

As the expected decrease in APCD per berths marketed is primarily due to the increase in capacity late in the 1st quarter, which was thus not reflective in the APCD for the corresponding period, we expect the metric to remain stable, which is why we used the historical average of 359.22 APCD per berth marketed (including FY18E, but excluding FY16 and FY17 due to the fact that there was no material increase in capacity in the periods) in order to forecast the metric. Thus, from FY19F onwards, we expect APCD to grow linearly to RCL’s supply of berths.

- **Occupancy:**

  The average occupancy of RCL’s fleet can be considered a measure for the demand for RCL cruising. Based on the outlook on the expected future
development of the cruise industry provided in the previous chapter, we see no reason to assume that the planned increases in capacity in RCL’s fleet will not also be met by a similar increase in demand for RCL cruising. Thus we generally expect RCL to maintain high levels of occupancy, similar to the ones displayed over the previous years. For FY19F, however, we expect a small decrease in occupancy due to the acquisition of Silversea Cruises, an assumption we base on the precedence set by NHLC when it acquired the luxury cruise line Regent Seven Seas Cruises. Similarly, in the long-term we project RCL’s occupancy to marginally decrease, while still remaining at a very competitive, as we expect the company to slowly shift more of its capacity into the Chinese market, which to begin with can be expected to yield lower occupancy rates than for instance in the U.S. market, thus reducing the company-wide average, as well as due to the expected increases in global capacity which will hit the water in the upcoming years, that - even though we assume it to be fully met with demand - still can be expected to marginally reduce RCL’s average occupancy.

- **PCD:**

PCD are a function of both APCD and occupancy. Our forecast for the future PCD of RCL is calculated by multiplying the projected APCD with the projected occupancy.

- **Passenger ticket revenue per APCD:**

Due to the pricing practices common in the cruise industry, according to which cruise charge is typically based on double occupancy per cabin, i.e. prices are usually based on the assumption that the cabin will be occupied by two full fare paying adults (also referred to as 1s and 2s) and any additional guests per cabin generally sail at very reduced rates, we decided to inspect ‘Passenger ticket revenues’ on a per APCD basis, rather than on a PCD basis. Thus; however, when assessing year-to-year changes in this metric, changes in occupancy also have to be taken into account in order to determine the development of the metric independent of capacity effects.

Looking at the historical cc real growth rates, it becomes evident that RCL has managed to increase its ‘Passenger ticket revenue’ per APCD, independent of capacity effects and in excess of annual U.S. inflation, in the FY15 and FY17, whereby the increase in the FY17 can be mostly ascribed to the positive development of the company’s average ticket prices that year originating from the fact that Pullmantur no longer was consolidated in RCL’s accounts, and thus its financials and operational data also no longer were included in performance
metrics as well as annual financial statements. It also becomes evident, that the years in which ‘Passenger ticket revenue per APCD’ has decreased (independent of capacity effects and adjusted for U.S. inflation), i.e. in FY14 and 16, seem to coincide with years in which the berths supply by Royal Caribbean International was increased significantly, which seems reasonable considering its average ticket prices are lower than those of the other Global Brands.

Due to the fact that the projected capacity increases are mainly driven by Royal Caribbean International, we therefore expect slightly negative real growth rates (independent of capacity effects) for the metric. In addition, we also belief that the expected capacity increase in the Chinese market, where due to the increased number of ships operating in the market average prices for fares are expected to continue to fall17, as well as the general boom in capacity in the upcoming decade, will have a decreasing effect on the average ticket prices of Royal Caribbean International.

- Onboard and other revenues per PCD:

Unlike in the case of ‘Passenger ticket revenues’, we consider it more accurate to inspect ‘Onboard and other revenues’ on a PCD basis, rather than on an APCD basis due to the fact that no generally applying logical distinction can be made between full fare paying adults and any additional cruise guests with regard to onboard spending, among others due to a lack of information regarding the typical type composition among the additional cruise guest (e.g. children, friends, parents, etc.). In addition, using PCD for reference as capacity metric also allows to compare the annual figures irrespective of potential changes in ‘Occupancy’, which otherwise would have to be taken into account when assessing the company’s ability to generate onboard and other spending; and more importantly, also allows to forecast ‘Onboard and other revenues per PCD’ independent of the respective level in occupancy.

The historical real cc growth rates (nominal cc growth rates adjusted for U.S. inflation), which can be seen in highlights that in FY17 RCL has managed to increase ‘Onboard and other revenues per PCD’ significantly in excess of the general U.S. inflation, which can be attributed to the company’s conscious efforts to enhance onboard revenues by implementing special promotions, new gaming initiatives as well new strategies regarding onshore excursions; a development which has carried over into the first three quarters of the FY18 and which we expect to persist - among others due to the increasing average size of the company’s ships, which offer more opportunity to provide exceptional and original

17 https://skift.com/2018/04/02/3-big-challenges-cruise-lines-still-have-to-overcome-in-china/
onboard entertainment - albeit at a more moderate real growth rate of 0.35% (2.07% nominal) from FY20 onwards.

Operating costs:

When analysing the operating costs of RCL, there has to be a distinction made between the costs directly attributable to the two types of revenue generated by the company - and which are needed to determine the Net Yields presented earlier in this report - and the operating costs which can only be indirectly tied to RCL’s revenues, as both require a different approach when projecting their future developments.

As was already highlighted in the chapter ‘Company overview’, RCL has managed to increase the Net yields on both its ‘Passenger ticket revenues’, as well as on its ‘Onboard and other revenues’, a development which is reflected in both metrics used to forecast the cost positions: the cost positions in % of the respective revenues.

With regard to RCL’s Net yield on ‘Onboard and other revenues’, based on the recent development and an inspection of how CCL and NCLH performed on this metric, as well as no external factors to our knowledge that might have a substantial impact on the costs directly related to ‘Onboard and other revenues’, we project these costs to grow at a lower real growth rate than ‘Onboard and other revenues’. Thus our projected nominal growth for the Net yield on ‘Onboard and other revenues’ outpaces anticipated U.S. inflation, albeit only by a very moderate margin.

Regarding the future development of the Net yield on ‘Passenger ticket revenues’, we expect continued positive nominal growth rates; however, given our projection for RCL’s gross yield (i.e. on a per APCD basis) on ‘Passenger ticket revenue’, we expect these growth rates to be lower than the anticipated U.S. inflation.

All other cruise operating expenses were projected on a per APCD basis. Taking into account the recent development of RCL’s ‘Net cruise costs’ adjusted for capacity as well as an inspection of CCL’s and NHLC’s ‘Net cruise costs’ on a APCD basis and potential economies of scale in areas such as for instance costs for food and a more fuel efficient ships, we expect them to overall exhibit small negative annual growth rates for the immediate future, i.e. we expect future increases in capacity to not be fully reflected in the net cruise costs. In the long-run we expect most items within ‘Net cruise costs per APCD’ to grow at the anticipated inflation rate.
Operating performance:

From a historical perspective, as was already highlighted in the chapter ‘Company overview’, RCL has managed to increase its operating margin quite drastically over the last five years. Based on our projections, we expect this increase to continue at a slowing pace, before ultimately stabilizing. This is due primarily to the fact that we expect the growth of Net Yields on ‘Passenger ticket revenues’ to slow down in the long-run, thus slowing down growth in the overall Net Yield, which in turn we expect to stabilize our margins.

Capital Expenditure and Net Working Capital

Our CAPEX estimate is tightly related to the growth in Property and Equipment, which mostly comprises ships recognized at costs (on average over the last five years 84.1% of total ‘Net property equipment’), which is why tie its forecast closely to the number of berths marketed at year end, while also taking into account the fact that newer capacity can be expected to be costlier than the existing one. Below, our projected CAPEX expenditure can be found; the numbers in FY18 already reflect the acquisition of Silversea Cruises.

WACC Assumptions

The cost of capital of RCL was estimated using the Weighted Average Cost of Capital (WACC) formula. The starting point of the estimate is the capital structure assumed for the WACC. In order to arrive at a reasonable target capital structure, we first determined the current capital structure of RCL based on market values of the company’s net debt (assumption that book = market) and equity (market capitalization). As the most recent book values at our disposable stem from the 3rd quarter report, we used the adjusted closing price of the last days of trading in September 2018 of the RCL stock traded on NYSE to determine the corresponding market capitalization, which yields a capital structure of 28.2% debt and 71.8% equity. We now determined the weighted-average (according to market cap) capital structure of the industry (we used RCL, CCL, and NCLH as an industry proxy) – based on market values – over the last four years, using quarterly data, which yielded a capital structure of 26.8% debt and 73.2% equity. Considering that this average industry capital structure is pretty much in line with RCL’s current capital structure, as well as RCL’s average capital stricture over the last eight quarters (28.7%), we consider the leverage
ratio implicit in the average industry capital structure applicable to RCL’s future, which is why we used it as our target capital structure in our calculation of the company WACC.

The **Cost of Equity** used in the WACC formula can be determined based on the Capital Asset Pricing Model (CAPM) formula: \( ER_i = R_f + \beta_i(ER_m - R_f) \)

For the first element of the equation, the Risk-free rate \((R_f)\), we considered to be most fitting the yield on the 10-year U.S. treasury as the company’s cash flows (and thus the cash flows we consider in our valuation) are denominated in USD. The reference date for the rate is December 31, 2018, and on this day, the 10-year treasury yield is at 2.7%.

The next item in the CAPM formula is the company’s Beta \((\beta)\). It is a measure of how much risk an investment in RCL will add to a market portfolio of an investor. The raw beta of RCL was derived by regressing the weekly returns of RCL over the last five years \((y \text{ variable})\) on the same period’s returns of the S&P 500 Index, which we consider to be a reasonable proxy for the market, which yielded a raw beta of 1.3171 (upper bound 95% confidence interval: 1.5563; lower bound: 1.0779). As a comparison, using daily data over the corresponding time horizon we obtain a beta of 1.2978. The same regressions were done for the most comparable competitors, CCL and NCLH, after which we unlevered the betas using the respective average capital structure at market values over the last four years. Based on these unlevered betas, we then calculated the unlevered market cap-weighted (average of the last four years) industry beta of 0.8734 Exhibit X. In a last step we relevered this beta applying our target capital structure in order to ensure consistency with the assumed capital structure, which ultimately yielded a beta 1.1658 that we used in order to determine the cost of equity, which is fairly close to the adjusted version of the raw beta observed for RCL of 1.2124.

As far as the **Expected Market Return** \((ER_m)\) item in the formula, we considered a five-year average (monthly data) of the smoothed implied Equity Risk Premium \((ERP)\) provided by Aswath Damodaran from NYU Stern\(^{18}\). The methodology in deriving each year’s ERP is using the current level of the S&P500 index and its cash flow yield for the last 10 years (therefore smoothed) to back out the expected return on stocks. Once this number is retrieved, the risk free rate of the 10-year Treasury bond is subtracted to give the implied equity risk premium. We agree with this methodology; furthermore we used a five-year average and not the current implied equity risk premium due to the fact - according to Aswath Damodaran – the average implied premium of the last five years exhibits a higher correlation with the actual both short- and long-term returns.

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\(^{18}\) Damodaran Online data
Cost of Debt is estimated by the Default Risk Premium (Default Spread) method, widely used for rated firms, whereby the default spread is added to the risk-free rate. Taking into account RCL’s current credit rating on senior unsecured of Baa2 - lastly upgraded from Baa3 in June 2018 - which corresponds to a corporate default bond risk premium of 1.99% (data from December 28, 2018). Based on our projected outlook for the company’s future, we do not expect that rating to be downgraded in the foreseeable future. Adding the yield on the 10-year U.S. Treasury from observed in the market on December 31, 2018, as a proxy for the risk-free rate (2.7%), the average (pre-tax) cost of debt of RCL is estimated at 4.7%.19

Combining all these parameters, we arrive at a weighted cost of capital of 8.35%.

Growth in Perpetuity

For our long-term growth rate in perpetuity (“g”), we use the growth rate implicit in the Return on Capital (ROIC) and the Reinvestment Rate (RR) in the final year of our explicit forecasting horizon, which amounts to 4.4%. We do consider both parameters sustainable due to the consistency displayed over the last three years of our explicit forecasting horizon (FY26F-FY28F). Similarly, we also believe that in our projections the company has reached a steady state by FY28, as evidenced by the fact that the company’s projected core free cash flows in FY26, FY27, and FY28 grow at a very similar rate to the growth rate implicit in the corresponding ROIC and RR. Exhibit X indicates this convergence towards a stable long-term ROIC and RR.

To validate this rather high growth rate in perpetuity, we alternatively determined the long-term growth rate of RCL using macroeconomic data as well as our projection for the future development of the global cruise industry. Therefore, we assigned weights based on RCL’s current and expected geographic revenue distribution, which we partly based on insights gathered from our analysis of RCL’s macro- and market environment, presented in the chapter xx, as well as our understanding of RCL’s recent historical development and strategic priorities, to the expected real GDP growth rates for the company’s most important markets of operations. The computed “g” is derived by using the following formula “$g (nominal) = [(1 + weight real growth of GDPs) x (1 + future inflation US)] − 1” which considers the exposure of RCL to various real GDP growth rates and then applies the inflation rate tied to the currency ($) of our free cash flows. As we

19 Ycharts- US corporate BBB bond risk premium
here consider the long-term outlook, we do not use the anticipated inflation implicit in the yield of the 10 year Treasury Bond, which we use when projecting the future cash flows of the company, but rather resort to the U.S: 2% long-term inflation target. Thus we arrive at a projected GDP-based growth rate of 4.1%, which deviates only marginally from the one implicit in our projections of 4.4%, which is why assume it to be a reasonable assumption.

DCF analysis

In order to value RCL, a fundamental analysis is the form of a Discounted Free Cash Flow analysis was conducted. We considered a 9 year explicit forecasting period from FY20 – FY28, and a terminal value with a perpetual growth rate of 4.4%, which was elaborated on in the previous chapter. The core free cash flows projected are discounted at a WACC of 8.35%, and in sum yield a core enterprise value of USD 37,839 million. By addition of the projected ‘Net financial assets’ as well as the company’s investments in its non-core business, we consequently obtain a projected value of RCL’s equity for the valuation date December 31, 2019, of USD 25,606 million. Assuming a total number of shares outstanding of approximately 209 million, we expect a share price of USD 122.48.

Considering that 73.3% of our projected core enterprise value can be attributed to the terminal value, below a graph can be found highlighting the sensitivity of RCL’s stock price to changes in the assumed long-term growth rate, as well as a chart highlighting its sensitivity to changes in the WACC used to discount.

Final value considerations

To conclude, it seems pertinent to additionally assess the reasonability behind our projections by comparing the Return on invested capital implicit in our valuation with the company’s weighted cost of capital. This way it can be determined whether the company actually creates value for its shareholders.

As can be seen in the graph, based on our projections, RCL’s expected ROIC – with the exception of FY19, the first year Silversea Cruises will be fully reflected in the company’s financials, the WACC constantly hovers around 10%, before eventually stabilizing at around 10.7%. Thus it can be concluded that the company can indeed always be expected to generate value for its shareholders.
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Report Recommendations

<table>
<thead>
<tr>
<th>Buy</th>
<th>Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.</th>
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<tbody>
<tr>
<td>Hold</td>
<td>Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.</td>
</tr>
<tr>
<td>Sell</td>
<td>Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.</td>
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Fuel Cost and Consumption- Krasimir Kerliev

The following section describes the fuel cost development of Royal Caribbean Cruises (RCL) and provides further detail on the fuel consumption and expenditure in order to highlight the company’s ability to absorb drastic price changes. According to the company’s annual report, fuel costs have been in continuous decline due to energy and fuel efficiency improvements as well as declining oil price. The reported fuel cost as a percentage of revenues was 11.7%, 9.6%, 8.4% and 7.8% for the years 2014, 2015, 2016 and 2017 respectively. When excluding commission, transportation and other costs, which are a part of the gross revenue, the fuel cost is the second largest cruise operating expense item on the income statement, preceded by Payroll and related; therefore, it is of major focus for management when it comes to improving yields and the bottom-line. Fuel expenses include the at-the-pump fuel cost paid for the consumption of the vessels, the related delivery and storage costs of the fuel, the emission consumable costs, as well as the financial impact of fuel swap agreements. In an increasing fuel cost environment, there is also an adverse impact on crew travel, freight and commodity prices, as well as the destination of certain itineraries due to limitations on the availability and use of ports of call and shore excursions, and the service providers that are tied to the business operations. As outlined in the annual report, 10% change in the fuel prices has an estimated impact of $38 million or roughly $0.18 on the EPS figure. Therefore, this section attempts to provide estimation of the future costs related to the changes in fuel prices and improvement of consumption. This segment begins with quick review of the biggest influences and most recent developments in the oil price, after which consumption and price levels are forecast which provides basis for the valuation assumptions in our model.

Oil price influence and recent developments

The Oil and Gas industry has historically been one of the most intricate and tie-binding multi-trillion dollar businesses. The factors influencing the oil price include not only the simple demand and supply mechanics but also many economic, political, cross-national and geopolitical influences. Among cost of production, political instabilities, alternative sources and natural disasters, the factor with the biggest influence on the price of oil is the OPEC consortium (Organization of the Petroleum Exporting Countries). This is an international organization consisting of 15 countries, which controls an estimated 44% of the world’s oil production and holds 81.5% of the world’s “proven” oil reserves. Its mission is to coordinate and unify the petroleum policies of its member countries and ensure the stabilization of oil markets. The consortium uses the production level (or supply level) as its main instrument to affect the price, whereby production cuts lead to increase in the price of oil and vice versa. The graph on the right shows OPEC’s share of world supply.
Since 2014, the industry has experienced a major oil glut with many producers exceeding their production ceiling and U.S. doubling their production from 2008 levels. By January 2016, the OPEC Reference Basket was down $22.48/bbl, which was less than a quarter of its high in June 2014 of $110.48 and less than one-sixth of its record from July 2008 of $140.73, and back below the April 2003 level of $23.27. Currently, the price is experiencing pressures once more after its run-up since July 2016 reaching levels of $84/bbl in October 2018. Prolonged production cut discussions, sanctions on Iran and Trump pressure on the biggest OPEC producer-Saudi Arabia, to maintain low price levels have led the recent price (end of November 2018) to reach levels as low as $59/bbl. In the upcoming meeting in Viena between OPEC and its allies, which Donald Trump is also to attend, Russia and Saudi Arabia are expected to strike a deal on the production cuts to set a stable price above the current level, however, Russia has shown signs that they are content with the current level. Trump, in his interests to maintain low prices, has exerted pressure by backing Saudi Arabia in its recent controversies over the killing of journalist Jamal Khashoggi.

Fuel surcharges and margin elasticity

It used to be a common practice that cruise companies would implement additional fuel surcharge as it is almost always a reserve right in their contract terms. This was due to the high volatility of oil prices which led the companies with no choice but to pass the additional expenses through their clients in order to mitigate the unpredictability of their cash flows. Nowadays, however, the majority of the cruise lines no longer use this practice as this unpredictability is tackled with the use of derivative contracts (mostly futures). This is also showcased by looking into the development of the EBITDA margin of RCL over the past six years relative to the development of the WTI level for the same period as shown in the chart on the right. It becomes evident that despite the oil price drop in the period 2014-2016, RCL has maintained a stable level of its EBITDA margin. This is further outlined by the continuous increase in the margin over the last two years of rising oil prices, in spite of the rising fuel cost pressure. This is attributed not only to the effective hedging done on RCL’s side, but also the decreasing consumption and higher fuel and energy efficiency that newer ships and the industry in general is bringing about.

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20 OPEC Basket Price
21 Zero Hedge- Oil spikes after report that Russia accepts it need oil cuts
The below graph shows how the fuel consumption per Available Passengers Cruise Days (APCD) has developed, outlining a decline of close to 15%. This is driven both by decrease in the numerator and an increase in the denominator over the period. This appears to be a tendency that is also seen in the biggest competitor, Carnival\(^{22}\), as fuel consumption per APCD also displays a decreasing trend. As a result, RCL has experienced a declining fuel cost as a percentage of revenues, as the company has brought down the ratio from 11.6% in 2013 to 7.8% in 2017. In the next chapter, we observe the projected Fuel cost and consumption per APCD and the assumptions of the forecast.

![Fuel consumption (metric tons) per APCD](image)

Source: Analyst estimates

**Valuation assumptions**

Within our model, we have estimated the fuel cost by first looking into the fuel consumption. As described above, we have observed that the Fuel consumption per APCD has been in a continuous decline, and as a result, we decided to assume a sustained decline of this ratio, however, at a smaller rate. For the years from 2019 through 2028, this decline is at 0.25% based on a conservative belief in the energy and fuel efficiency. This, in turn, allowed us to calculate the projected consumption in metric tons based on the forecast APCD for RCL, which are increasing with increase in capacity. The consumption was then multiplied by the expected fuel price until the end of the forecast period. The future prices were based on the commodity prices forecast provided by the World Bank\(^ {23}\). The average price per metric ton is estimated at $544.58 for 2019 after which it drops to $507.78 in 2020 to be followed by a small increments of conversion toward $515.14 toward the end of the forecast period, as shown in the graph on the right.

![Fuel Price in $ per metric ton](image)

Source: Analyst estimates

The chart on the following page reveals the ratio of fuel costs to total revenues has seen continued decline though the end of forecast period. This is with the exception of FY 2019 where the fuel price is expected to prevail at a higher level due to the production cuts pressures described earlier.

\(^{22}\) Analyst calculations based on Carnival’s financial disclosures.

\(^{23}\) World Bank- Commodity Markets- Price Forecasts
Overall, it could be concluded that the initiatives taken by RCL, to mitigate the fluctuation in oil prices, as well as improve the fuel and energy efficiency of its ships, have brought about improved margins. All this is accomplished without the need to add surcharges onto customer’s ticket prices and any negative impact on demand.
Income Taxes- Florian Krieger

1. Income taxes paid in the cruise industry

When taking a first look at the income statement of Royal Caribbean Cruises Ltd. (RCL) or any of its competitors, such as Carnival Corporation Plc. or Norwegian Cruise Line Holdings Ltd., one of the first aspect that should catch the eyes of the analyst is the fact that they provide no separate line item for the companies’ income tax expenses, which normally can be found right above the line stating the net income for the period. This, however, is not due to the fact that the companies do not pay taxes on their income earned during the respective fiscal period, but rather due to the fact that the income taxes these companies have to pay are marginal, not even warranting a separate line item on the profit and loss statement.

In the case of RCL, for instance, the average effective tax rate over the last three fiscal years (2015-2017) was 1.4\%, which dwarves in comparison to the marginal nominal income tax rate of 21\% that U.S. corporations (or companies operating or having subsidiaries in the US) typically have to pay on income with source in the U.S., and which is also significantly lower than the effective tax rate of a percentage in the mid-teens (not yet observed in practice due to the fact that the U.S: federal corporate income tax has been reduced from 35\% to 21\% in the beginning of 2018) estimated to be average.

The reason therefore is the fact that the companies – legally – benefit from tax loopholes or a number of tax schemes specifically designed to lure the cruise companies under the respective jurisdiction of its inventor nations. These tax practices, in particular, the one applied for U.S: source income have previously raised the ire of politicians or provoked critical reporting from respected media outlets such as the New York Times; however, are still very much common practice. In the following chapter, a closer inspection of the income taxation practiced for U.S. sourced income will be conducted, as U.S: sourced income typically accounts for over 50\% of total revenues for the largest competitors, which is also the case for RCL, thus highlighting its particular relevance.

2. Income tax exemption in the US for income derived from or incidental to the international operation of ships

In the United States there is a special ruling in the Internal Revenue Code, which allows cruise companies to circumvent the nominal (or even effective) tax rates usually common in the country. To be precise, Section 883 of the Internal Revenue Code from 1986 provides that gross income derived by foreign corporations from the international operation of a ship or ships, including income from leasing such ships, are excluded from the gross income of such foreign corporations, and shall thus not be subject to U.S. taxation, but only if the following conditions are met:

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24 Analyst estimate
26 https://www.nytimes.com/2011/02/02/business/economy/02leonhardt.html
• the country in which the corporation is incorporated grants an equivalent exemption to U.S. corporations.
• the stock of the corporation (or direct or indirect corporate parent) also has to be primarily and regularly traded on an established securities market in a country fulfilling the criteria of the first condition or in the United States.

RCL qualifies for these benefits ruled in Section 883 of the Internal Revenue Code, as Royal Caribbean Cruises Ltd. and Celebrity Cruises Inc., which conduct a trade or business in the United States, including all its ship-operating subsidiaries sourcing income from the U.S., are incorporated in Liberia, which is considered a qualifying country, as it grants a similar exemption to U.S. companies. Furthermore, RCL’s stock is primarily and regularly traded on an established securities market in the United States, namely the New York Stock Exchange.

Hence, all income derived from or incidental to the international operation of ships generated by RCL with source in the United States can effectively be considered exempt from income taxation. While this ruling does not apply to other revenues sourced in the U.S., which do not qualify for the exemption, such as the sale of air and land transportation, shore excursions and pre-and post-cruise tours, and which therefore are taxed normally at the U.S: federal corporate tax rate of 21%, according to RCL, most of its U.S. sourced income is derived from or incidental to the international operation of ships. As a consequence, RCL’s U.S: taxable income can be expected to only account for a minimal portion of RCL’s actual U.S. sourced income, thus rendering it effectively free of income taxation. Hence, the ruling in Section 883 of the internal code of revenue can be considered the main “culprit” for the extremely low effective income tax rates typically paid in the industry.

3. Risks associated with the current taxation of RCL income and the impact of potential changes in the regulation

Given its significant impact on the company’s net income, the current U.S. income tax environment of RCL, which was described in the previous chapter, can consequently also be considered a potential risk factor surrounding the company. Furthermore, given the displayed erratic and unpredictable behavior of the current U.S. administration, potential changes in the regulation concerning the taxation of U.S. sourced cruise income cannot be completely excluded from potential future scenarios, albeit they appear very unlikely to happen at the time being. However, given that a change in - or a complete removal of - the ruling in the Section 883 of the Internal Revenue Code can be expected to have a significant impact on our valuation of RCL, it seems reasonable to try to quantify this risk.

This was attempted by designing two alternative scenarios:

• Scenario 1.1 assumes a removal of the current regulation in FY19, thus ensuring that all income sourced in the U.S. is subject to federal income tax. In order to determine U.S. sourced incomes over the forecasting period, the projected EBIT-margins were applied to the forecasted U.S. sourced revenues. Consequently the federal U.S. corporate tax rate of 21% was applied to the projected U.S: sourced incomes. Furthermore, the WACC was adjusted for the change in taxation. All other parameters of the valuation were kept the way they were.
• Scenario 1.2 assumes a change of the current regulation in FY19, thus ensuring that 50% of income sourced in the U.S. is subject to federal income tax. In order to determine U.S. sourced incomes over the forecasting period, the projected EBIT-margins were applied to the forecasted U.S. sourced revenues. Consequently the federal U.S. corporate tax rate of 21% was applied to the projected U.S. sourced incomes. Furthermore, the WACC was adjusted for the change in taxation. All other parameters of the valuation were kept the way they were.

• Scenario 2.1 assumes a removal of the current regulation in FY19, thus ensuring that all income sourced in the U.S. is subject to federal income tax. In order to determine U.S. sourced incomes over the forecasting period, the projected EBIT-margins were applied to the forecasted U.S. sourced revenues. Consequently an expected effective U.S. corporate tax rate of 15% was applied to the projected U.S. sourced incomes. Furthermore, the WACC was adjusted for the change in taxation. All other parameters of the valuation were kept the way they were.

• Scenario 2.2 assumes a change of the current regulation in FY19, thus ensuring that 50% of the income sourced in the U.S. is subject to federal income tax. In order to determine U.S. sourced incomes over the forecasting period, the projected EBIT-margins were applied to the forecasted U.S. sourced revenues. Consequently an expected effective U.S. corporate tax rate of 15% was applied to the projected U.S. sourced incomes. Furthermore, the WACC was adjusted for the change in taxation. All other parameters of the valuation were kept the way they were.

The following table highlights the result of the scenario analysis:

<table>
<thead>
<tr>
<th>Scenarios:</th>
<th>Tax rate</th>
<th>WACC</th>
<th>Equity value (in thousand USD)</th>
<th>Price per share (basic) (USD)</th>
<th>Change in value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base case</td>
<td>2.9%</td>
<td>8.35%</td>
<td>25,605,879</td>
<td>122.48</td>
<td>-</td>
</tr>
<tr>
<td>Scenario 1.1: US tax (nominal) - full</td>
<td>21%</td>
<td>8.12%</td>
<td>16,175,975</td>
<td>77.38</td>
<td>(36.8%)</td>
</tr>
<tr>
<td>Scenario 1.2: US tax (nominal) - 50%</td>
<td>21%</td>
<td>8.13%</td>
<td>22,313,548</td>
<td>106.74</td>
<td>(12.9%)</td>
</tr>
<tr>
<td>Scenario 2.2: US tax (effective) - full</td>
<td>15%</td>
<td>8.20%</td>
<td>19,098,487</td>
<td>91.36</td>
<td>(25.4%)</td>
</tr>
<tr>
<td>Scenario 2.2: US tax (effective) - effective</td>
<td>15%</td>
<td>8.20%</td>
<td>23,396,567</td>
<td>111.92</td>
<td>(8.6%)</td>
</tr>
</tbody>
</table>