# **Equity Research Report**

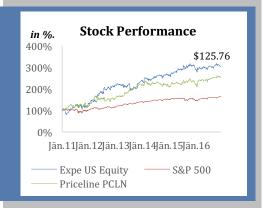
W U T I S

Consumer Goods Discretionary Tourism/Hospitality/Leisure NASDAO This report is published by: WUTIS - Trading and Investment Society

# Expedia Inc.

Date: 11/03/2017 Current Price: \$125.76 Target Price: \$146.2 / +16.3% Headquarters: Bellevue Washington, U.S. Recommendation: BUY

This report is published for educational purposes only by students being an Analyst at WUTIS.



Market Profile	
Closing Price	\$125,8
52-Week High/Low	96.6/133.6
Avg. Volume (3M)	1,973,320
Dil. Shares Outst.(MM)	154,5
Market Cap.	\$19.432,1
Dividend Yield	0,9%
Beta	1,10
EV / Revenue	2,3x
EV/ EBITDA	15,8x
P/E	49,3x
Inst. Holdings	17,3%
Insider Holdings	8,9%

Valuation							
	DCF	Multiples					
Est. Price	\$115.4	\$177.1					
Weights	50%	50%					
Target Price	\$146.2						



# **Highlights**

We issue a **BUY** recommendation on Expedia Inc. (EXPE) based on a one-year target price of **\$146.2**, offering a 18.5% upside potential from its closing price of \$125.76 on March 11, 2017. Our recommendation is primarily driven by:

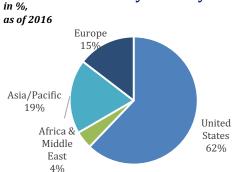
- Macroeconomic Outlook As we see a worldwide declining unemployment rate and an expected U.S. GDP growth rate of 2.3%. in 2017, consumer spending is set to increase by 2.7% this year and by 1.8% YoY until 2023.
- **Brand diversity** Expedia Inc. operates a strong brand portfolio with global reach, targeting a broad range of travelers, travel suppliers and advertisers. Expedia's multi-brand strategy, and wide variety of channels, allows the company to grow its customer base extensively and maintain customer loyalty. Expedia's main growth drivers are technology, product innovation, global expansion and new channel penetration.
- **Growth Strategy** For the full year 2016, total gross bookings excluding eLong increased by 21%. Various mergers & acquisitions helped Expedia to grow its product portfolio significantly. Gross bookings increased \$1.2 billion or 8% year-over-year to \$16.1 billion in the fourth quarter of 2016. Revenue increased by 23% YoY to \$2.1 billion in the fourth quarter. Expedia Inc. will further pursue a takeover strategy to secure its competitive advantage.
- Valuation Valuation methods indicate a current intrinsic value of \$149.1 per share. Expedia Inc. offers a long-term upside of 18.5% through strategic acquisitions and the ability to maintain an overall high number of traveler transactions in a cost-effective manner as well as the ability to attract repeat customers to their sites.
- Main Risk factors Expedia Inc. faces not only the growing competition
  in the online-travel industry, coming mainly from Google (Alphabet Inc.)
  but also increasing political risk due to Trump's recent travel ban.

#### **Recent news**

- Expedia's subsidiary Trivago reached \$183m in revenue in the fourth quarter of 2016, an increase of 65% YoY, and completed its IPO and listing on the Nasdaq Global Select Market in December 2016
- Room nights stayed increased 15% year-over-year in the fourth quarter of 2016, with growth of 16% excluding Orbitz Worldwide.
- The recently acquired firm HomeAway saw a 46% (up to \$6bn) rise in online bookings income and a rise of 47% (up to 22M) room nights stayed.

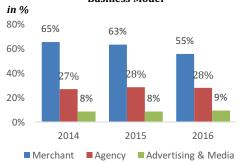
<b>Key Financials and Ratios</b>	2011	2012	2013	2014	2015	LTM 2016	2017E	2018E	2019E
Total Revenue	\$ 3.449,0	\$ 4.030,3	\$ 4.771,3	\$ 5.763,5	\$ 6.672,3	\$ 8.773,6	\$ 10.586,1	\$ 12.804,8	\$ 15.527,0
EBITDA Margin (%)	20,2%	15,6%	13,6%	15,0%	13,7%	14,3%	11,4%	10,9%	10,4%
EBIT Margin (%)	13,9%	10,7%	7,7%	9,0%	6,2%	5,3%	4,7%	4,3%	3,8%
Net Income Margin (%)	13,7%	7,0%	4,9%	6,9%	11,5%	3,2%	4,0%	3,6%	3,3%
Interest Coverage (x)	0,1x	0,1x	0,1x	0,1x	0,1x	0,1x	N/A	N/A	N/A
Return on Equity (ROE)	19,4%	12,5%	10,5%	20,3%	23,0%	6,3%	4,6%	3,6%	4,0%
Eearnings per Share (EPS)	1,7x	3,0x	5,7x	1,8x	2,8x	3,0x	3,3x	3,6x	3,9x
PEG (%)	70,6%	-55,0%	-137,7%	42,0%	28,3%	-107,7%	95,1%	265,7%	207,6%
LT Debt to Assets (x)	19,2%	17,5%	16,1%	19,4%	20,6%	20,0%	9,7%	10,0%	N/A
Total Debt / Equity (x)	19,2%	17,5%	16,1%	19,4%	20,6%	20,0%	24,8%	24,8%	0,0%

# **Revenue by Country**



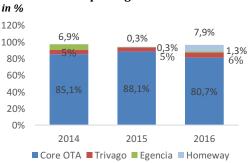
Source: Company Data

# Revenue Breakdown Business Model



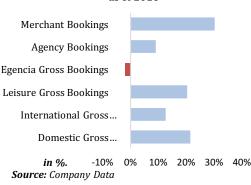
Source: Company Data

### Revenue Breakdown per Segment



Source: Company Data

#### Booking Performance as of 2016



## **Business Description**

**Expedia, Inc. (EXPE),** was founded in 1996 and is headquartered in Bellevue, Washington. Expedia is the world's largest online travel company with more than 20,000 employees and gross bookings representing 6% of total worldwide travel spending (4% in 2014) and a market-share of 20% in the U.S. Together with its subsidiaries, Expedia operates in the United States and internationally and serves leisure, corporate travelers, offline retail agents, and travel service providers through a wide supply portfolio. It includes more than 350,000 properties and over 1.2 million online bookable vacation rental listings in 200 countries, over 500 airlines, packages, rental cars, cruises, as well as destination services and activities.

Most revenue is generated in the United States (62%), albeit Europe (15%) and Asia/Pacific area (19%) are also important revenue drivers.

One of the **key competitive advantages** of Expedia is that it operates three business models, Merchant (55%), Agency (28%) and Advertising & Media (9%). It also generates earnings through subscription-based rental listings and other ancillary services provided to property owners and managers as well as from traveler service fee.

**Merchant model** – The majority of revenue here comes from hotel room bookings. However, the model also serves the facilitation of airline seats, car rentals and destination services from hotel suppliers.

**Agency Model** – Expedia Inc. facilitates travel bookings and act as agent in transaction, passing reservations booked by the traveler to the relevant travel provider. It generates earnings through commissions or ticketing fees from travel suppliers and/or traveler.

Furthermore, the company operates mainly through **four segments**: Core OTA, Trivago, Egencia, and HomeAway, with Trivago and HomeAway have been added last year.

**Core OTA** has been the primary revenue driver since its foundation providing a full range of travel and advertising services through a variety of brands including: Expedia.com and Hotels.com in the United States and localized Expedia and Hotels.com websites throughout the world, Orbitz.com, Expedia Affiliate Network, Hotwire.com, Travelocity, Wotif Group, CarRentals.com, and Classic Vacations.

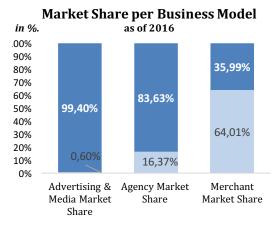
The **Trivago** segment generates advertising revenue primarily from sending referrals to online travel companies and travel service providers from its hotel metasearch websites. It is one of the best known travel brands in Europe and North America.

Lastly, the **Egencia** segment, which also includes Orbitz for Business, provides managed travel services to corporate customers worldwide. Our HomeAway segment operates an online marketplace for the vacation rental industry.

#### Strategy

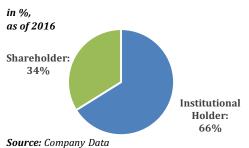
The company's main strategy is to expand its global reach through further strategic acquisitions into technology related brands, investments into brand building, operations and supplier relationships.

- **Increasing profitability in regional brands** Expedia intends to secure its leading brand position (Orbitz.com, Travelocity, CheapTickets.com, ebookers, Wotif.com) in the U.S. by focusing on profitability.
- Top-line growth in global brands Expedia will make higher investments into global brands such as Trivago to expand its customer base and add additionally points of sale. The company sees long-term growth opportunities in emerging markets (Africa & middle East) by selling its marketing efficiency business there.

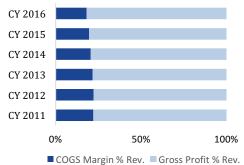


Source: Company Data

#### **Shareholder Structure**



## COGS Margin/ Gross Profit Margin (%)



Source: Company Data

Going Asia Pacific – Asia Pacific currently contribute to 19% to the company's revenues. Expedia Inc. recently (2015) increased its stake in AAE Travel Pte. Ltd. From 25% to 75%, forming a joint venture. It is expected that Expedia will increase its stake and acquire AAE Travel Pte. Ltd. With all of its brands.

- New Channel Penetration Expedia has and will invest further into mobile device applications as mobile bookings via smartphones present an incremental growth opportunity, despite that most bookings are completed within one or two days before the travel or stay. One in three bookings were made via mobile devices in December 2016.
- Reducing economics in various geographic areas The decrease in the company's generated revenues in the merchant model can be explained with recent developments in the Expedia Traveler Preference (ETP) program. It offers customers the choice to either pay Expedia in advance (under merchant model) or to pay at the hotel at time of stay (Hotel collect). Expedia has to compensate for higher credit card fees and customer service costs Hotels faced. Therefore, Expedia will make adjustments on economics in various geographies and revenues generated per room night are expected to further decline.

#### **Comment on Supply chain**

Expedia makes travel products and services available from a variety of hotel companies, large and small commercial airlines, car rental companies, cruise lines and destination service providers.

**Important note:** Expedia's success of business depends heavily on building and maintain strategic relationships with travel suppliers and global distribution system ("GDS").

# **Management and Governance**

Expedia Inc.'s executive management team has been a key driving force behind the company's overall success. With the completion of the Company's spin-off from IAC/InterActive Corp. in 2005, the board of directors were almost entirely acquired with Barry Diller (74 – Chairman and CEO), Dara Khosrowshahi (47 – President, CEO), Jonathan L. Dolgen (71 – nonex. Director) and Peter M. Kern (49 – nonex. Director). The entire executive management team averages more than 10 years of experience with Expedia and in the media and internet industry.

In terms of Corporate Governance, Expedia Inc. is highly rated. Disclosure and Transparency is very good assessed due to regular held earnings calls where a variety of key metrics can be discussed. Also, management has successfully navigated Expedia Inc. through the economic wind down in 2008-09 by taking corrective actions, increasing efficiency, leveraging global presence and a diversified portfolio and adopting its business model to increase customer loyalty which led to share gains and cost savings. However, the threats in Expedia's Corporate Governance can be seen in the following area:

- Conflict of Interest The fact that Mr. Diller and Mr. Kaufman hold positions with and securities of both companies could create, or appear to create, potential conflicts of interest for them when facing decisions that may affect both IAC and Expedia.
- Ownership interest and voting power As a result of Mr. Diller's ownership interest and voting power and Liberty's upon Mr. Diller's permanent departure from Expedia, Mr. Diller is currently, and in the future Liberty may be, in a position to control or influence significant corporate actions, including, corporate transactions such as mergers, business combinations or dispositions of assets and determinations with respect to our significant business direction and policies.
- **Company Code of Ethics** Created code of ethics for entire company as well as one charter for senior financial officers to follow.

# **Industry Overview and Competitive Positioning**

#### **Key External Drivers**

The Global Travel Agency Services industry has experienced rapid growth over the five years to 2017, though it is to be considered that it has already reached its mature stage. Demand for the Global Travel Agency Services industry is derived from both domestic and international travel.

According to data from IBISWorld, we expect the industry revenue to increase at an annualized rate of 4.6% to \$166.3 billion over the five years to 2017. However, multiple economic factors were examined in order to understand the impact of Expedia's reliance on travel bookings. WUTIS has therefore analyzed the following **key industry drivers** accordingly:

#### Strong U.S. and European Economic growth

While the wealth effect from the QE program in Europe has lifted consumer spending and reduced unemployment rates to their current level of 8.5%, the unemployment rate in the U.S. has reached a record low of 4.7% U.S. which will lead the FED to hike interest rates for 4 times this year with 250 bps each.

#### **GDP** of the BRIC nations

International tourist arrivals in emerging economies, including Brazil, Russia, India and China (the BRIC nations), and travel from emerging nations is expected to grow rapidly in the coming years. Travel agencies such as Expedia which are planning to expand their business there and manage to design their travel packages accordingly, will benefit most from this growing opportunity.

#### Global tourist arrivals

Trends in international and domestic trips and length of stay influence demand for travel agency services. A rise in international and domestic trips positively affects demand for travel agency services because travel agencies are needed to book various aspects of the trip (e.g. accommodations and transportation). Global tourist arrivals are expected to increase in 2017.

#### Global internet usage

Rising internet usage allows consumers to bypass brick-and-mortar travel agents and make travel arrangements online by either using online travel agents or purchasing directly from travel operators' websites, bypassing industry operators entirely. This includes purchasing domestic and international airline tickets, accommodations and tours. Global internet usage is expected to increase in 2017.

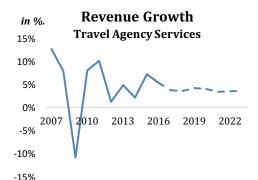
#### Global consumer sentiment index

Changes in consumer sentiment influence decisions that individuals make concerning expenditure on entertainment and traveling, particularly during an economic recession. Global consumer sentiment is expected to increase marginally in 2017; however, given the volatility of consumer sentiment, it is still a potential threat for the industry.

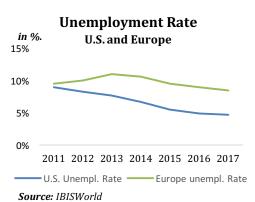
#### Global per capita income

Changes in per capita disposable income have a direct impact on travel demand and corresponding demand for travel agency services. As disposable incomes increase around the world, the Global Travel Agency Services industry will benefit from consumers having more funds available for travel and accommodation. Global per capita disposable income is expected to increase during 2017.

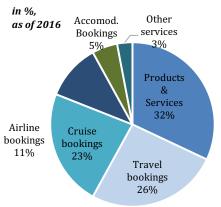
With Products & Services (32%), Travel bookings (26%) and Cruise bookings (23%) having the biggest market share, Expedia is well ahead to leverage best the upcoming opportunities in 2017.



Source: IBISWorld



**Industry Revenue Breakdown** 



Source: IBISWorld

#### **Competitive Positioning**

We estimate that in 2017, the industry's top four player, Expedia Inc. and Priceline Inc., one of Expedia's biggest competitor, will account for 21.1% of the available market, giving the travel agency industry a medium level of concentration. However, the majority of players are small, independent and privately owned companies, serving niche markets. We expect that over the next years, the industry consolidation will intensify and continue, making smaller players vulnerable to takeovers.

#### Recent trends:

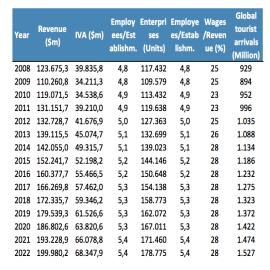
- High competition and trend is increasing The number of travel websites
  has increased dramatically with over 50% of U.S. and European leisure, unmanaged and corporate travel expenditures occur online. Competition in
  this industry has become largely price based. Competitive entrants such as
  "metasearch" companies, including Kayak.com (which Priceline Group acquired in May 2013), trivago (majority ownership of Expedia Inc. in 2013) as
  well as TripAdvisor, introduced new pricing schemes.
- **SEO companies are entering the market** Search Enginge companies such as Google (Alphabet Inc.) are trying to enter the market with recent innovations including direct booking functionalities and proposed acquisitions.
- Online ticket price and booking services have increased consumer awareness of travel prices and have introduced more price-based competition to the industry.
- Globalization of players in the industry is low but increasing The industry depends on international movement for a substantial proportion of its revenue, although domestic travel is the most significant revenue driver.

We identified **Key Success Factors** in the industry:

- Reducing operating costs and sharing information by being part of a group buying, promotion and marketing scheme. At Expedia Inc. this is the whollyowned subsidiary Trivago which has gone public recently.
- The Ability to provide goods/services in diverse locations, having a wide variety of packages to suit the specialized or niche needs of travelers. Expedia Inc. launched several programs to achieve this.
- Having a web-based communication, reservation, business operations and information technology. Expedia Inc. meets all of these requirements.
- Access to multiskilled and flexible workforce. Excellent product knowledge is essential.
- Understanding seasonality in travel demand and patterns and tailoring products accordingly. Despite the fact of Expedia's diverse offerings and

As said before, Operators must offer customers the best price for domestic and international travel. The increasing number of travel websites has led to an increasing number of customers browsing to find the best deal and booking with the best-priced agency. Therefore, the **bargaining power of customers** is considered to be high. However, non-price elements such as quality of products, detailed knowledge about their products and destinations is also important. Furthermore, the Global Travel Agency Services industry has **low barriers to entry**, with no restrictive factors prohibiting new players from entering the industry. Indeed, there are no obstructive licensing requirements that preclude new travel agents from opening for business, and capital requirements are relatively low compared with other industries which will accelerate competition in the future. The **level of substitutes** is considered to be moderate as Expedia has achieved to negate this by focusing on niche sectors – the corporate sector - as well, which is one of its main revenue drivers.

As mentioned earlier, **competition** in this industry is extremely high and changing. Since travel agencies depend on long-term relationships with hotels, car rentals, property owners, cruises, airlines etc. the **bargaining power of suppliers** is also considered to be moderate to high, despite especially at Expedia the fact, that it had to lower economies for hotels during the ETP program

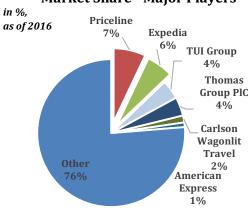


Source: IBISWorld, Team Estimates

#### Porter's Five Forces



## Market Share - Major Players

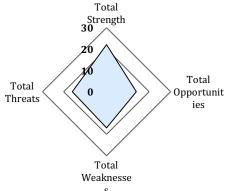


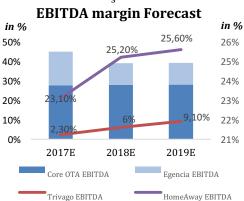
Source: IBISWorld

By having a closer look on the competitors itself, we can easily identify that Priceline Group Inc. is the biggest competitor in terms of size, profitability, geography and product offerings.

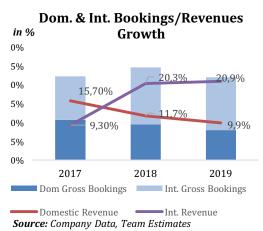
					Return on Investment			LTM Leverage Ratios			Other Ratios					
	Current		% of					Implied.	Total Debt /	Total Debt /	Net Debt /	LT Debt /	Current	Interest	<b>EBITDA</b>	Gross Profit
in Millions USD	Share	Market	52-wk.	Predicted	ROIC	ROE	ROA	Div. Yield	Equity	<b>EBITDA</b>	<b>EBITDA</b>	Asset	Ratio	Coverage	Margin	Margin
Company	Price	Cap.	High	Beta	(%)	(%)	(%)	(%)	(x)	(x)	(x)	(x)	(x)	(x)	(%)	(%)
Expedia Inc.	127,1	16.996	1,0	1,1	4,8%	6,3%	2,3%	0,9%	0,6x	2,9x	1,2x	0,4x	0,6x	6,2x	14,3%	81,8%
Tripadvisor	43,3	6.682	0,6	1,9	7,9%	8,2%	5,5%	0,0%	0,1x	1,2x	-2,2x	0,1x	2,2x	0,2x	14,5%	95,2%
Priceline Group Inc.	1.764,0	72.113	1,0	1,6	14,4%	22,9%	11,5%	0,0%	0,7x	0,2x	0,9x	0,3x	1,9x	0,2x	38,6%	96,0%
Rakuten	9,5	13.535	0,7	1,1	4,9%	5,7%	0,9%	0,0%	1,0x	4,7x	1,1x	0,5x	11,4x	16,6x	19,2%	80,2%
Ctrip.com	48,3	24.039	1,4	1,5	-1,4%	-2,5%	-1,1%	0,0%	0,6x	N/A	N/A	0,2x	1,1x	N/A	-6,5%	75,4%
Alphabet Inc.	861,4	589.294	1,0	1,3	30,6%	15,0%	9,4%	0,0%	0,0x	0,1x	N/A	0,0x	6,3x	240,8x	33,1%	2,4%
Liberty TripAdvisor Inc.	14,0	1.128	0,6	1,2	1,0%	2,6%	0,3%	0,0%	0,1x	2,6x	-0,1x	0,1x	2,3x	9,8x	16,0%	78,4%
			Mean	1,4	9,6%	8,7%	4,4%	0,0%	0,4x	1,8x	-0,1x	0,2x	4,18x	53,51x	19,1%	71,3%
			Median	1,4	6,4%	7',0%	3,2%	0,0%	0,3x	1,2x	0,4x	0,2x	2,23x	9,80x	17,6%	79,3%

#### **SWOT Analysis of Expedia Inc.**





Source: Company Data, Team Estimates



Expedia Inc. is the only one company of the competitor universe who distribute dividends to its shareholders.

If we look on profitability metrics such as ROI, ROE and ROA, on the first sight, it seems that Expedia Inc. is not as profitable as its competitors. However, in terms of profitability ratios (ROIC, ROE, ROA), only Priceline and TripAdvisor – who are operating in the same industry – yield higher returns. EBITDA margin of Ctrip.com is negative, meaning that EBITDA is negative which states that its operating business model is not profitable, also demonstrated in other profitability metrics. Google (Alphabet Inc.) only competes with Expedia Inc. in terms of online advertising with its SEO business. But, still, Google has to be considered as a probable competitor in the future.

## **Investment Summary**

We issue a **BUY** recommendation on Expedia Inc. (EXPE) with a target price of **\$146.2** using a Discounted Cash Flow Analysis and a Public Company Comparable Analysis valuation model. This valuation is supported by numerous merits, as outlined below, as well as concerns taken into consideration:

Merits

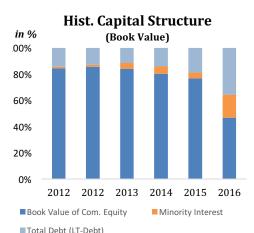
#### **Improving Efficiency and Operations**

The company is making a maximum effort to become cloud based. It expects to spend about \$110M on this effort in 2017. It believes this will substantially cut its technology costs, while improving operations. The cost factor plays an extremely important role in the business model of online travel agencies since the price factor customers is critical. Customers compare – as mentioned earlier – various site-offerings before they finally book (mostly 1-2 days before stay) and therefore, to maintain profitability in such dynamic pricing schemes, a substantial focus goes to the costs of revenues metric. HomeAway is a major focus, seeing expected high EBITDA margins in the next years. Expedia feels confident it will achieve its 2018 \$350M EBITDA target for the company. It generated \$163M (total EXPE \$1,616M) in 2016.

#### Strong Portfolio of Brands and International Revenue generation

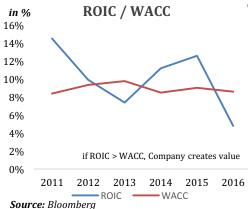
Expedia has a portfolio of strong brands with significant global scale and is focused on growing its hotel business and continuing to shift its bookings mix to international markets. We believe Expedia is investing to expand its international footprint through its various brands, including Hotels.com, Hotwire, among many others as international travel is expected to increase in 2017.

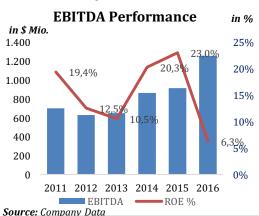
EXPE attributes its hotel strength to "great" websites, growing repeats and conversions, good marketing teams and new hotel additions. We see this as the basic attraction of the company, the expectation of adding content and increasing conversions and (particularly very profitable) repeat business.



Source: Company Data, Team Calculations

Recent Acquisitions		In MM USD
Regional Focus		
North America	20	5.200,0
Western Europe	8	624,1
Asia Pacific (Devel.)	3	632,8
Latin America & Carib.	1	270,0
Asia Pacific (Emerging)	1	
Industry Focus		
Communications	17	5580
Consumer, Cycl.	10	989,4
Technology	2	
Consumer, Non-cycl.	2	
Financial	1	228,9
Industrial	1	11





It is expected that Expedia's revenue stream from international travel bookings will increase over the next 3 years by approx. 20% YoY up to \$5,943M in 2019, while the growth rate of domestic bookings is set to decrease slightly due to the expected FED interest hike which could affect consumer spending on traveling.

#### Concerns

So despite the positive facts above mentioned, what can an investor worry about?

#### **Intense Competition**

Given the intensive competition in this industry and the fact that Expedia relies heavily on its relationships with suppliers, Expedia is increasing its marketing & tech investments which is expected to pressure margins in the near term. Additionally, EXPE will need to find the right resource allocation across its numerous brands to grow efficiently. Brand buildings is expensive. Therefore, even a wide diverse portfolio has its negative sides.

The significant increase in Expedia's long-term debt and minority interest proportions can be attributed to the large amount of acquisition Expedia has pursued, despite its aggressive growth strategy in 2015 and 2016.

In the past, we have seen a significant slowdown in the global travel industry; Expedia brand performing below expectations post platform migration; increased competition in the U.S. and International markets resulting in significantly higher sales and marketing investments; Google's travel products or search ad changes leading to a reduction in bookings and online traffic

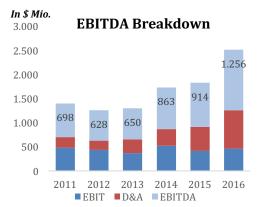
#### Trump's Travel Ban

Despite the fact that Trump recently announced and implemented a travel ban for various Muslim countries, foreign tourism may decrease by 6.8% this year, according to "Travel Weekly". Additionally, the tourism industry could also suffer outside the U.S. as the European Commission intends to require U.S. citizens to have visas when visiting Europe.

## **Financial Analysis**

Key Ratios			Historic	al Data				Forcast	
	2011	2012	2013	2014	2015	2016	2017E	2018E	2019E
Profitability									
EBITDA margin	20,2%	15,6%	13,6%	15,0%	13,7%	14,3%	11,4%	10,9%	10,5%
EBIT margin	13,9%	10,7%	7,7%	9,0%	6,2%	5,3%	4,7%	4,3%	3,9%
Net profit margin	13,7%	7,0%	4,9%	6,9%	11,5%	3,2%	4,0%	3,6%	3,3%
Return on Assets	7,2%	4,1%	3,1%	4,8%	6,2%	1,8%	4,0%	3,6%	3,3%
ROIC	14,5%	9,9%	7,4%	11,2%	12,6%	4,8%	1,4%	1,4%	1,5%
Return on Equity	19,4%	12,5%	10,5%	20,3%	23,0%	6,3%	4,6%	3,6%	4,0%
Liquidity									
Current Ratio	0,90	0,90	0,70	0,70	0,50	0,60	0,10	0,90	
Quick Ratio	0,70	0,80	0,60	0,60	0,50	0,50	0,70	0,90	
Cash Ratio	0,50	0,60	0,40	0,40	0,30	0,30	0,60	0,80	
Activity									
Total asset turnover	52,4%	59,1%	64,2%	68,8%	54,4%	56,1%	32,5%	40,5%	
Financial Leverage									
LT-Debt/Assets	0,2x	0,2x	0,2x	0,2x	0,2x	0,2x	0,1x	0,1x	
LT-Debt/Equity	0,4x	0,3x	0,3x	0,4x	0,4x	0,4x	0,2x	0,2x	
Total Debt/Equity	0,2x	0,2x	0,2x	0,2x	0,2x	0,2x	0,3x	0,3x	
Interest Coverage	7,7x	7,1x	7,4x	8,8x	7,2x	7,3x	N/A	N/A	
Shareholder Ratios									
Earnings per Share (EPS)	3,41	2,00	1,67	3,0%	5,70	1,80	2,76	3,01	3,30
Dividend payout ratio	0,16	0,47	0,33	21,3%	0,14	0,53	N/A	N/A	N/A
Key Ratios & Multiples									
EV/Sales	1,1x	1,9x	2,0x	0,0x	3,1x	2,3x	2,2x	1,9x	1,7x
EV/EBITDA	5,6x	12,3x	14,5x	0,1x	22,9x	15,8x	11,8x	9,8x	8,3x
EV/EBIT	8,1x	17,9x	25,7x	22,2x	50,5x	43,0x	21,4x	15,2x	12,6x
P/E	11,9x	22,7x	33,2x	25,6x	73,3x	49,3x	23,4x	18,3x	14,7x
P/FCF	6,4x	8,2x	20,7x	10,6x	27,8x	20,9x	23,4x	7,8x	6,5x
P/EBITDA	5,6x	13,1x	14,5x	12,7x	17,7x	13,6x	15,2x	6,1x	4,6x
Source: Company data. Team es	timatas								

Source: Company data, Team estimates



Source: Company Data

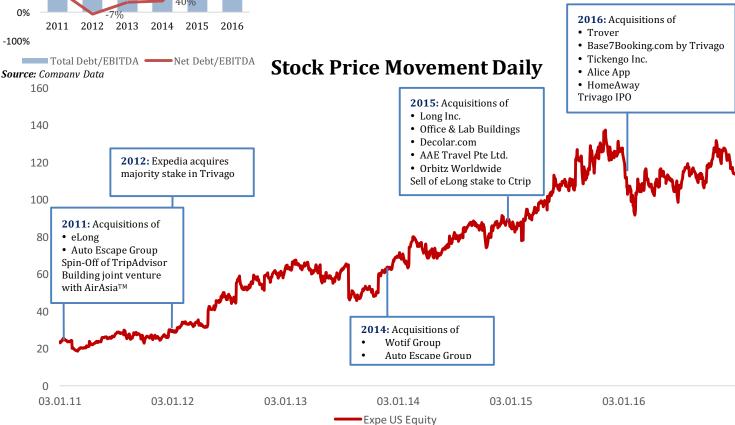
# in % Net Debt/EBITDA Comparison 300% 200% 100% 80% 2011 2012 2013 2014 2015 2016 -100%

#### Overview

The financial condition chart above reveals Expedia's prospects moving forward, highlighting our assumptions (See Appendix for full financial projections). Based on our vertical analysis of historical financials of the past 5 years, 2011 is a moderate starting point for our estimations, given the fact that the industry is in its mature phase, currently. However, it is not set in stone how the industry will develop over the next 5 years. Furthermore, the heavy numbers of acquisitions in the past makes it difficult to predict numbers. We expect Expedia to pursue a further growth strategy, though with fewer acquisitions in the future as the company has to focus on its core brands.

Since 2012, Expedia's operating business was very stable in terms of profitability, though EBIT margins where slightly decreasing with a 5-year CAGR of -17.7%, whereas EBITDA margins decreased by a 5-year CAGR of -6.7% making it a good example for the downside side of acquisitions, namely Goodwill (intangible asset) that has to be depreciated over the years. See chart on the left-hand side.

In terms of Net Debt to EBITDA, Expedia's debt burden has increased over the year with a 5-year CAGR of 19.5% up to a total Net Debt burden of \$1,363 in 2016, whereas EBITDA has also increased by a 5-year CAGR of 12.5%. However, as this can be explained with the large amount of acquisitions and since this has been well below an alarming level over the past years, Expedia is able to handle its debt burden.



#### Optimistic Outlook for Expedia Inc.

Given an overall growing economy, a steadily growing market share of 1.2% YoY (Team estimate), a \$1.7tn Market in the online travel industry which is expected to grow by a 5-year CAGR of 4.5% until 2022, we are optimistic that Expedia Inc. can leverage this opportunity with view of its profitability, financial healthiness and brand diversity. Nevertheless, Expedia is deemed to invest

WACC - Calculation	
Risk free rate 13/3/2016	2,62%
+ 3 times interest rate hike, 250bps each	0,75%
Risk free rate 12/2017 - 12/2021	3,37%
Risk Premium (S&P 500 - rf)	5,81%
Beta Trading Comps	1,51
Cost of Equity (CAPM)	12,14%
Cost of Debt (interest exp. / Net Debt)	5,92%
Tax rate	20,00%
Equity Ratio	79,98%
Debt Ratio	20,02%
WACC	10,01%
Perpetual growth	1,25%
Source: Team Calculations	

Enterprise Value	
Cumulative Sum of PV	5.804
Perpetuity Growth Method	
Terminal Value Perpetuity Growth	24.226
Discount Factor	0,62
PV of Terminal Value	15.034
% of Enterprise Value	72,1%
Implied Equity Value and Share Price	

Implied Equity Value and Share Price					
Enterprise Value EEM	\$26.032				
Less: Total Debt	3.159				
Less: Preferred Securities	-				
Less. Non-Controlling Interest	1.561				
Plus: Cash and Cash Equiv.	1.797				
Implied Equity Value PGM	\$17.914				
Fully Diluted Shares Outstand. Million (mm.)	155				
Implied Share Price PGM	\$115,94				
Current Share Price	127,1				
Return Potential %	-9%				
Implied EV / EBITDA					
Enterprise Value	24.226				
LTM CY 2016 EBITDA	1.256				
Implied EV / EBITDA	19,3x				

	Implie	d Share Pri	ice Range	(Perpetuity	Growth M	ethod)						
	WACC											
		8,0%	9,0%	10,0%	11,0%	12,0%						
	0,5%	145,6	124,9	108,5	95,3	84,5						
	1,0%	155,2	132,0	114,0	99,6	87,9						
5	1,5%	166,2	140,1	120,1	104,4	91,7						
•	2,0%	179,1	149,3	126,9	109,6	95,8						
	2,5%	194,3	159,9	134,7	115,5	100,4						

	Revenue growth								
	5,0%	10,0%	15,0%	20,0%	25,0%				
13,0x	132,6	132,6	132,6	132,6	132,6				
14,0x	141,3	141,3	141,3	141,3	141,3				
15,0x	150,1	150,1	150,1	150,1	150,1				
16,0x	158,9	158,9	158,9	158,9	158,9				
17,0x	167,6	167,6	167,6	167,6	167,6				

Implied Share Price Range (Revenue Growth)

Steadily into technology and marketing, sharing not only the market mainly with Priceline Corp. but facing also growing competition from Alphabet Inc. and other technology firms as barriers of entry are low.

#### Valuation

Valuation Price Target: \$146.2

A number of valuation methodologies were utilized in deriving a target price for Expedia Inc. (EXPE), including a 5 year DCF, a Relative Multiple Valuation using Public Comparable Company Analysis and Monte Carlo Simulation to model the probability of possible outcomes of stock prices.

#### **DCF Model**

A Discounted Cash Flow Analysis was used to estimate the intrinsic Value of Expedia Inc. due to the predictability of cash flows in relation to growth and profitability. The base case for this model was formulated using guidance from historical performance, industry outlook, an assessment of EXPE's competitive positioning, and company guidance on acquisitions, revenue, and earnings growth.

This model is driven by Unlevered Free Cash Flow as this represents cash that is available for debt and equity holders and is calculated as EBIT minus taxes, plus D&A, minus CaPEx and change in Net Working Capital. The historical horizon is five years (2011 to 2016), where we have seen steady sales growth rates and margins, making FCF forecasts more predictable and reliable.

The model is forecasted five years, mainly because the industry of online travel agencies is considered to be in its mature phase, which allows a sound predictability of the company's Free Cash Flows. We assumed COGS margins growing by 0.5% YoY as we expect Expedia to spend more money on marketing and technology, as outlined earlier. Our model generated a target price of \$110.2 per share.

The DCF is most sensitive to the following factors, the derivations of which are explained below:

#### Weighted Average Cost of Capital (WACC)

As a common discount rate, we used the WACC as this metric represent best the equity and debt holders interest. However, as the FED has planned three interest rate hikes of about +250bps each in 2017, since its last hike in Dec. 2016 to 0.5%, we also took this into account and included the hikes accordingly in our analysis. To calculate Cost of Equity, we utilized the traditional CAPM, while we used the unlevered Beta of our trading comparable universe and relevered it with Expedia's target capital structure as we think this is more inline with how risky similar companies are.

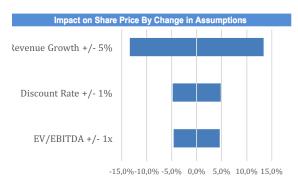
#### **Terminal Value**

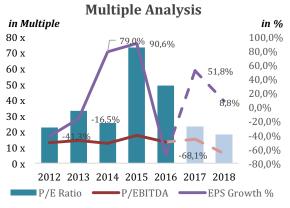
Using the Perpetuity Growth Method, we get a terminal value which represents 72.1% of the total estimated Enterprise Value, making it a substantial number with more than 2/3 portion in our model. For this and various other reasons, we utilized the relative multiple approach as well to combine our findings.

The implied EV/EBITDA multiple by using the Perpetuity Growth Method is 19.3x which is in line with the industries average.

#### **Sensitivity Analysis**

As we never rely on one number due to the fact that with DCF modelling lots of assumptions are involved, we conducted sensitivity analysis to get a range of potential values, at which change in revenue growth and exit multiple (industry multiple) as well as change in perp. Growth rate and WACC were most important.





Source: Company Data. Team Estimates

We also conducted indirect sensitivity analysis. See chart on the left-hand side.

With sensitivity analysis, we can clearly see that even small changes in the discount rate or growth rate can have a heavy impact on the share price. With a spread of 108.2 points (WACC & Perp. Growth), the range of potential values is significantly high, which also backs our approach to use more than one single valuation methodology.

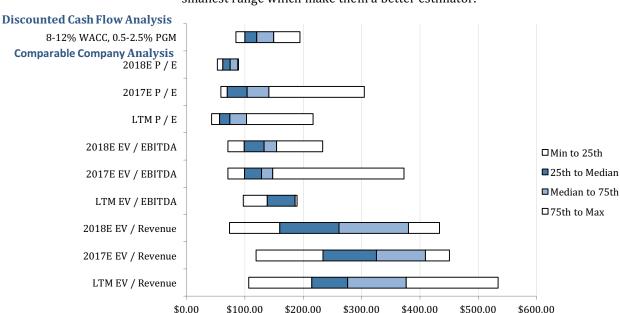
#### **Relative Valuation**

For our comparable universe we tried to select companies who are similar to Expedia Inc. in terms of profitability, geographic area, size, product offerings, customer base and capital structure or who compete with Expedia in some segment. However, extensive research had not yield the success in finding comparable companies as we wanted since the majority of companies in this industry are serving a niche market, are typically very small and therefore adequate data is publicly not available.

Our universe of trading comps consists of Priceline (PCLN) (biggest U.S. competitor of Expedia), TripAdvisor (TRIP), Rakuten (RKUNY), Ctrip.com (CTRP), Alphabet (GOOGL) and Liberty TripAdvisor Holding (LTRPA).

For this reason, we concentrate us on the EV/EBITDA multiple as a comparable pre-interest, pre-depreciation and amortization cash flow figure. We also used a P/E multiple approach and used consensus earnings estimates to calculate a potential share price range for the years of 2018 and 2019.

A EV/EBITDA multiple range from 22.9x to 19.6x from its mean to median, and a P/E multiple range from 40.7x to 54.1x in 2016 has led to a relative value of \$177.1 per share, representing a 40% premium to its current share price. The ranges are displayed in the chart below, describing the extensive range of possible values. EV/EBITDA or P/E multiples in LTM 2016 data represent the smallest range which make them a better estimator.

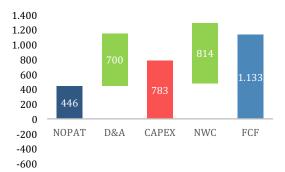


#### **Monte Carlo Simulation**

A Monte Carlo Simulation was utilized in analyzing the potential outcomes of Expedia's growth prospects. This methodology simulates a range of possible outcomes for the multiple variables determining the intrinsic value of Expedia's stock price.

# W U T I S

#### FCF Breakdown as of 2017



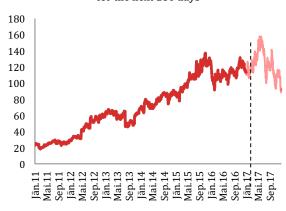
<b>Monte-Carlo Simulation Statistics</b>	
Average	137,73
25%	117,07
Median	137,73
75%	158,39
Stdev	22,90

# EV/EBITDA & P/E Historical



Source: Company Data, Team estimates

# Stock Price Simulated for the next 180 days



10,000 simulations were run which accounted for each possibility of a feasible change in important company specific, industry macroeconomics factors. The Monte Carlo Simulation gives us a target stock price of \$137,73 in our BUY recommendation.

#### **Monte-Carlo Simulation 5-year Base Case**



#### **Price Target and Range**

The Price Target of \$146.2 is primary derived from using a 5-year DCF which gave us a Target Price of \$115.4 and a Relative Multiple Approach with a Target Price of \$177.1. With these models, many assumptions where included in our models which can significantly disturb our models. Therefore, we combined the two methodologies and weighted each outcome with 50%. All of these models were designed to account for market conditions, historical financial information, industry trends, and other macroeconomic factors. The \$146.2 Target Price results in a BUY recommendation. Appreciation towards this price target combined with Expedia's current dividend yield would result in a yield of  $\sim$ 17.1% yield.

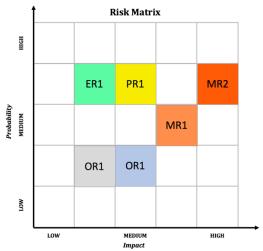
#### **Impact and Application**

The BUY recommendation is based on our analysis that the market has inade-quately priced Expedia's current and future growth expectations. Expedia was able to grow significantly over the last few years and to keep up with technology change which was mainly due to acquisitions (and to overcome competition), the introduction of pricing sensitive programs, the ability to gain foothold internationally and, of course, its extensive range of brands. As we expect international and domestic revenue to grow by a 5-year CAGR of 3.8%, we are confident that Expedia with a current market share of 6% and expansion plans into emerging market, we are confident that Expedia can benefit from these expectations and continue to grow its . Therefore, we issue the BUY recommendation.

#### **Investment Risks**

However, Expedia Inc. has to focus on its core brands in the upcoming years. Brand building, acquisitions and the fact that Expedia is constantly forced to invest into technology lead to a constantly decreasing margins and a higher level of debt. Furthermore, Expedia is exposed to the following risks:



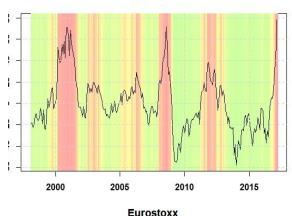


CHINA CORPORATE LEVERAGE MOMENTUM & MSCI WORLD correlation: 0.74



Source: https://twitter.com/CyrilRcube

#### Citi Inflation Surprise Index - Eurozone



2000 2005 2010 2015

Source: https://twitter.com/CyrilRcube

#### **Political Risk**

Trump Administration (PR1)

As an online travel agency, Expedia Inc. is exposed to any political distress. The best example here is the policy of the Trump Administration who recently announced a travel ban for some Muslim states. This might influence Expedia's operating business, even though CEO Mr. Diller declined that it will have major impact, so far. Therefore, 2017 and the years ahead could have an impact when we see booing rates decreasing. These developments should be carefully watched.

#### **Economic Risk**

Interest Rate Hike Risk (ER1)

After the FED announced in late 2016 and years before that it will soon hike interest rates to damping the economy, the year has come were this promises will come true. Unemployment rates in the U.S. are at lowest level since decades which has given the FED the goosebumps to probably hike interest rates step-by-step 4 times over 2016 and 2017 by 250bps. The first rate hike happened in Dec. 2016, the second on Mar 2017 and the other dates are still outstanding. FED meetings should therefore be carefully watched. We still think that a tightening monetary policy was not really necessary even though global economic growth accelerated recently. An idea could be that the FED wanted to create more confidence about the healthiness of the U.S. economy. Interest hikes have many implications not only on the U.S. government since debt levels are at all-time highs of \$20tn (a debt limit expansion has to be approved in march 2017, otherwise the government is illiquid), but also on a stronger Dollar which makes it for U.S. tourists cheaper to travel internationally.

#### **Market Risks**

Highly volatile stock price (MR1)

The market price of Expedia is highly volatile with a historical daily Standard Deviation of 2.04%. Changes in market behavior can influence Expedia's share price.

#### China is de-leveraging (MR2)

Engine for worldwide market growth has been credit expansion. China has created 80% of that credit and now, China is heavily deleveraging. With a correlation of 74%, the world has historically followed China on their movements. When China de-levered, soon, the world has reacted. Furthermore, worldwide is at all-times high, similar to that level as in 2009, when the economy was in turmoil.

#### **Operational Risk**

Credit rating of BBB-(OR1)

Expedia's liquidity has been under pressure in recent years which lead to a credit rating of BBB-. A lower credit rating would push Expedia into the junk-bond status forcing them to pay penalties in the form of higher interest rates. This constrains Expedia to pursue major acquisitions in the near term.

#### Other Risks:

Lack of Independence among Board of Directors (OR 2)

The fact that Mr. Diller and Mr. Kaufman hold positions with and securities of both companies could create, or appear to create, potential conflicts of interest for them when facing decisions that may affect both IAC and Expedia.

#### **Disclosures:**

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# **Appendix A:**

# Trading Comps Universe and Input Data

		Market V	/aluation						Fi	nancial S	tatistics 1	nput Dat	a								LTN	I Profitab	ility Ma	rgins			Growth	Rates		
					Revenue		G	ross Profi	t		EBITDA			EBIT		N	et Incom	e	EP	s	Gross			Net	Reve	nue	EBIT	DA	EP	'S
Company	Ticker	Equity Value	EV	LTM 2016	2017E	2018E	LTM 2016	2017E	2018E	LTM 2016	2017E	2018E	LTM 2016	2017E	2018E	LTM 2016	2017E	2018E	LTM 2016	2017E	Profit (%)	EBITDA (%)	EBIT (%)	Income (%)	Hist. 1-year	Est. 1-year	Hist. 1-year	Est. 1-year	Hist. 1-year	Est.
Expedia Inc.	EXPE US EQU				\$ 10.586	\$ 12.805	\$ 7.177	\$ 8.391	\$ 10.150		\$ 1.203	\$ 1.393	\$ 462	\$ 502	\$ 546	\$ 282	\$ 427	\$ 464	\$ 2	\$ 5	81,8%	14,3%	5,3%	3,2%	31,5%	20,7%	37,4%	-4,2%	21,4%	26,2%
Tripadvisor	Trip US Equity	\$ 6.682	\$ 6.107	\$ 1.480	\$ 1.650	\$ 1.853	S 1.409	\$ 1.569	\$ 1.761	\$ 267	\$ 312	\$ 348	\$ 166	\$ 211	\$ 247	\$ 120	\$ 93	S 120	0,8	0,6	95,2%	18,0%	11,2%	8,1%	-0,8%	11,5%	-17,8%	16,9%	-39,9%	-28,0%
Priceline Group Inc.	PCLN US Equ	72.113	74.951	10.743	12.431	14.289	10.315	11.992	13.841	3.215	4.730	5.490	2.906	4.521	5.226	2.135	3.511	4.141	42,7	70,8	96,0%	29,9%	27,1%	19,9%	16,5%	15,7%	-8,9%	47,1%	-13,9%	66,0%
Rakuten	RKUNY US E	13.535	13.467	7.207	7.738	8.597	0	6.969	7.743	1.127	1.487	1.720	719	1.074	1.269	350	669	367	0,3	0,5	N/A	15,6%	10,0%	4,9%	9,6%	7,4%	-9,3%	32,0%	-17,6%	51,5%
Ctrip.com	CTRP US Equi	24.039	25.907	2.785	3.939	5.144	2.184	3.026	3.974	-182	541	1.000	-243	541	1.000	-215	239	603	-0,5	0,4	75,4%	-6,5%	-8,2%	-7,4%	20,4%	30,6%	N/A	0,0%	N/A	-98,5%
Alphabet Inc.	Googl US Equi	589.294	506.896	90.272	87.339	101.621	55.134	65.705	75.924	29.860	43.353	50.403	23.716	36.291	42.264	19.478	23.392	27.574	27,9	0,6	61,1%	33,1%	26,3%	21,6%	20,4%	-3,2%	22,3%	45,2%	22,5%	-98,0%
Liberty TripAdvisor Inc.	LTRPA US Eq	1.128	5.612	1.532	1.695	1.857	N/A	N/A	N/A	245	328	355	23	106	133	21	N/A	N/A	0,3	N/A	N/A	16,0%	1,5%	1,4%	-2,1%	10,6%	-13,4%	33,9%	53,8%	-10,8%
Maximum		589.294	506.896	90.272	87.339	101.621	55.134	65.705	75.924	29.860	43.353	50.403	23.716	36.291	42.264	19.478	23.392	27.574	42,7	70,8	96,0%	33,1%	27,1%	21,6%	20,4%	30,6%	22,3%	47,1%	53,8%	66,0%
75th Percentile		60.094	62.690	9.859	11.258	12.866	10.315	11.992	13.841	2.693	3.919	4.547	2.359	3.659	4.237	1.689	3.511	4.141	21,1	0,6	95,4%	27,0%	22,5%	16,9%	19,4%	14,7%	-2,2%	42,4%	16,9%	35,9%
Mean		117.799	105.490	19.003	19.132	22.227	13.808	17.852	20.648	5.755	8.459	9.886	4.548	7.124	8.357	3.648	5.580	6.561	11,9	14,6	81,9%	17,7%	11,3%	8,1%	10,6%	12,1%	-4,5%	29,2%	0,8%	-19,7%
Median		18.787	19.687	4.996	5.838	6.870	2.184	6.969	7.743	697	1.014	1.360	442	807	1.135	235	669	603	0,6	0,6	85,3%	17,0%	10,6%	6,5%	13,0%	11,1%	-9,1%	33,0%	-6,9%	-19,4%
25th Percentile		8.396	7.947	1.845	2.256	2.679	1.409	3.026	3.974	251	381	516	59	294	435	46	239	367	0,3	0,5	71,8%	15,7%	3,6%	2,2%	1,8%	8,2%	-12,4%	20,7%	-16,6%	-80,5%
Minimum		1.128	5.612	1.480	1.650	1.853	0	1.569	1.761	-182	312	348	-243	106	133	-215	93	120	-0,5	0,4	61,1%	-6,5%	-8,2%	-7,4%	-2,1%	-3,2%	-17,8%	0,0%	-39,9%	-98,5%

		Current	% of							Ente	rprise Va	lue /				LTM	Total		Price /		LT
		Share	52-wk.	Predicted	Equity	Enterprise	LTM	2017E	2018E	LTM	2017E	2018E	LTM	2017E	2018E	EBITDA	Debt /	LTM	2017E	2018E	EPS
Company	Ticker	Price	High	Beta	Value	Value	Revenue	Revenue	Revenue	EBITDA	EBITDA	EBITDA	EBIT	EBIT	EBIT	1argin (%	EBITDA	EPS	EPS	EPS	Growth
Expedia Inc.	EXPE US EQU	127,1	95,1%	1,1	\$ 16.996	\$ 19.847	2,3x	1,9x	1,5x	15,8x	16,5x	14,2x	43,0x	39,5x	36,3x	14,3%	2,5x	49,3x	55,3x	18,2x	26,2%
Tripadvisor	Trip US Equity	43,3	60,4%	1,9	\$ 6.682	\$ 6.107	4,1x	3,7x	3,3x	22,9x	19,6x	17,6x	36,8x	28,9x	24,7x	18,0%	0,6x	56,2x	52,5x	29,6x	-28,0%
Priceline Group Inc.	PCLN US Equ	1764,0	100,0%	1,6	\$ 72.113	\$ 74.951	7,0x	6,0x	5,2x	23,3x	15,8x	13,7x	25,8x	16,6x	14,3x	29,9%	2,2x	23,5x	28,3x	20,3x	66,0%
Rakuten	RKUNY US E	9,5	67,8%	1,1	\$ 13.535	\$ 2.810	1,9x	1,7x	1,6x	12,0x	9,1x	7,8x	18,7x	12,5x	10,6x	15,6%	5,8x	40,7x	21,3x	17,6x	51,5%
Ctrip.com	CTRP US Equi	48,3	95,8%	1,5	\$ 24.039	\$ 25.907	9,4x	6,6x	5,0x	N/A	47,9x	25,9x	N/A	47,9x	25,9x	6,4%	44,6x	N/A	46,8x	28,2x	66,0%
Alphabet Inc.	Googl US Equit	861,4	99,3%	1,3	\$ 589.294	\$ 506.896	5,6x	5,8x	0,9x	17,0x	11,7x	10,1x	21,4x	14,0x	12,0x	-6,5%	0,1x	30,9x	24,2x	21,3x	-98,0%
Liberty TripAdvisor Inc.	LTRPA US Equ	14,0	56,6%	1,2	\$ 1.128	\$ 5.612	3,7x	3,3x	3,0x	22,9x	17,1x	15,8x	244,0x	52,9x	42,2x	16,0%	2,6x	118,9x	110,2x	29,6x	-10,8%
Maximum		\$ 1.764	100,0%	1,9	\$ 589.294	\$ 506.896	9,4x	6,6x	5,2x	23,3x	47,9x	25,9x	244,0x	52,9x	42,2x	0,3x	44,6x	118,9x	110,2x	29,6x	66,0%
75th Percentile		658	98,5%	1,6	60.094	62.690	6,6x	6,0x	4,6x	22,9x	18,9x	17,1x	45,1x	43,2x	25,6x	0,2x	5,0x	56,2x	51,1x	29,3x	62,3%
Mean		457	80,0%	1,4	117.799	103.714	5,3x	4,5x	3,2x	19,6x	20,2x	15,1x	65,8x	28,8x	21,6x	0,1x	9,3x	54,1x	47,2x	24,4x	7,8%
Median		46	81,8%	1,4	18.787	16.007	4,9x	4,8x	3,2x	22,9x	16,5x	14,7x	31,3x	22,7x	19,5x	0,2x	2,4x	40,7x	37,6x	24,8x	20,3%
25th Percentile		21	62,2%	1,3	8.396	5.736	3,8x	3,4x	1,9x	17,0x	12,7x	11,0x	22,5x	14,6x	12,6x	0,1x	1,0x	30,9x	25,2x	20,5x	-23,7%
Minimum		9	56,6%	1,1	1.128	2.810	1,9x	1,7x	0,9x	12,0x	9,1x	7,8x	18,7x	12,5x	10,6x	-0,1x	0,1x	23,5x	21,3x	17,6x	-98,0%

## Valuation Implied by EV/EBITDA

(\$ in Million (mm.), except per share data)

						Less:			Fully		
	Financial			lmp	lied	Net	lmp	olied	Diluted	Imp	lied
EBITDA	Metric	Multiple	Range	Enterpri	se Value	Debt	Equity	<b>Value</b>	Shares	Share	Price
LTM	\$ 1.256	22,9x	19,6x	\$ 28.728	\$ 24.627	\$ 1.363	\$ 27.365	\$ 23.264	155	\$ 177	151
2017E	1.203	16,5x	20,2x	19.816	24.281	\$ 1.363	18.453	22.918	155	119	148
2018E	1.393	14,7x	15,1x	20.528	21.092	\$ 1.363	19.165	19.729	155	124	128

#### Valuation Implied by P/E - Share Price

(\$ in Million (mm.), except per share data)

						Fully		
	Financial			lmp	lied	Diluted	lmp	lied
Net Income	Metric	Multiple	Range	Equity	Value	Shares	Share	Price
LTM	\$ 282	40,7x	54,1x	\$ 11.471	\$ 15.234	\$ 155	\$ 74	\$ 99
2017E	427	37,6x	47,2x	16.033	20.157	155	104	130
2018E	464	24,8x	24,4x	11.495	11.348	155	74	73

# **Appendix B:**

DCF Model and Sensitivity Analysis

			Historical	Period					Pro	jection Period	d	
	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015	CY 2016	Averages	CY 2017F	CY 2018F	CY 2019F	CY 2020F	CY 2021F
Revenue	\$ 3.449	\$ 4.030	\$ 4.771	\$ 5.763	\$ 6.672	\$ 8.774		\$ 10.586,1	\$ 12.804,8	\$ 15.527,0	\$ 18.874,5	\$ 23.000,3
% growth rate		16,9%	18,4%	20,8%	15,8%	31,5%	20,7%	20,7%	21,0%	21,3%	21,6%	21,9%
COGS	761	899	1.038	1.179	1.310	1.597		2.167	2.621	3.178	3.863	4.708
% Margin		22,3%	21,8%	20,5%	19,6%	18,2%	20,5%	20,5%	20,5%	20,5%	20,5%	20,5%
EBIT	480	432	366	518	414	462		502	546	594	647	704
% Margin	13,9%	10,7%	7,7%	9,0%	6,2%	5,3%	8,8%	8,8%	8,8%	8,8%	8,8%	8,8%
Taxes	76	47	84	92	203	15		100	109	119	129	141
% tax rate	15,8%	10,9%	23,0%	17,7%	49,1%	3,3%	20,0%	20.0%	20,0%	20,0%	20,0%	20,0%
EBIAT	404	385	282	426	210	446		402	437	476	517	563
Plus: D&A	219	196	283	345	500	794		700	847	1.027	1.249	1.522
% of revenue	6,3%	4,9%	5,9%	6,0%	7,5%	9,1%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%
Plus/Less: Chng Working Cap	232	718	107	549	525	169		814	984	1,193	1.450	1.768
% of revenue	6,7%	17,8%	2,3%	9,5%	7,9%	1,9%	7,7%	7,7%	7,7%	7,7%	7,7%	7,7%
Less: CAPEX	(\$208)	(\$236)	(\$309)	(\$328)	(\$787)	(\$749)		\$783	\$947	\$1.148	\$1.396	\$1.701
% of revenue	-6,0%	-5,8%	-6,5%	-5,7%	-11,8%	-8,5%	-7,4%	-7,4%	-7,4%	-7,4%	-7,4%	-7,4%
Unlevered Free Cash Flow	428	867	81	646 -	52 -	134		1.133	1.321	1.548	1.821	2.151
WACC	10,6%											
Present Value of Free Cash Flow								\$1.024	\$1.080	\$1.144	\$1.217	\$1.300
Cumulative Sum of PV								1.024	2.104	3.248	4.465	5.765

Enterprise Value	
Cumulative Sum of PV	5.765
Perpetuity Growth Method	
Terminal Value Perpetuity Growth	23.994
Discount Factor	0,60
PV of Terminal Value	14.499
% of Enterprise Value	45,1%
Exit Multiple Method	
CY 2021F Terminal Period EBITDA	2.225
Terminal Value Exit Multiple Method	43.631
PV of Terminal Value	26.366
% of Enterprise Value	82,1%
Enterprise Value PGM	\$20.264,0
Enterprise Value EEM	\$32.130,9

Enterprise Value PGM	20.264
Enterprise Value EEM	\$32.131
Less: Total Debt	3.159
Less: Preferred Securities	-
Less. Non-Controlling Interest	1.561
Plus: Cash and Cash Equiv.	1.797
Implied Equity Value PGM	\$17.341
Implied Equity Value EEM	\$29.208
Fully Diluted Shares Outstand. Million (mm.)	155
Implied Share Price PGM	\$112,23
Implied Share Price EEM	\$189.02

Terminal Year FCF CY 2021F	2.151
WACC	10,6%
Terminal Value	43.631
Implied Perpetuity Growth Rate	5,409
Implied EV / EBITDA	
Enterprise Value	23.994
	1.256

	Implied Share Price Range (Perpetuity Growth Method)										
				WACC							
		8,0%	9,0%	10,0%	11,0%	12,0%					
	0,5%	148,2	127,1	110,5	97,0	86,0					
Growth	1,0%	158,0	134,3	116,0	101,4	89,5					
Growth	1,5%	169,2	142,6	122,2	106,2	93,3					
G	2,0%	182,3	152,0	129,2	111,6	97,5					
	2,5%	197,8	162,8	137,2	117,6	102,2					

		Implied S	hare Price Rang	ge (Exit Multiple	e Method)	
				WACC		
		8,0%	9,0%	10,0%	11,0%	12,0%
	13,0x	148,7	141,8	135,3	129,1	123,2
Ĭ.	14,0x	158,5	151,2	144,2	137,6	131,4
multiple	15,0x	168,3	160,5	153,1	146,2	139,5
E	16,0x	178,1	169,9	162,1	154,7	147,7
	17,0x	187,9	179,2	171,0	163,2	155,9

	Implied Share Price Range (Revenue Growth)											
				Revenue growth								
		5,0%	10,0%	15,0%	20,0%	25,0%						
	13,0x	84,0	96,6	111,5	129,0	149,5						
multiple	14,0x	89,7	103,1	118,9	137,5	159,3						
<b>#</b>	15,0x	95,4	109,6	126,3	146,1	169,2						
3 8	16,0x	101,2	116,1	133,8	154,6	179,0						
	17,0x	106,9	122,6	141,2	163,2	188,9						

Revenue Gro	Revenue Growth +/- 5%							
Change	\$/Share							
0,0%	189,02							
-5%	163,65							
+5%	218,76							

COGS +/- 5%	
Change	\$/Share
0,0%	189,02
-5%	189,02
+5%	189,02

Discount Ra	te +/- 1%
Change	\$/Share
0,0%	189,02
-1%	198,03
+1%	180,49

EV/EBITD	A Exit +/- 1%
Change	\$/Share
0 x	189,02
-1 x	180,32
1 x	197,73

Assumptions	-5% ∆	Abs. Change	Rank	Output Driver	Positive	Negative
Revenue Growth +/- 5%	-13%	13%	1	0% COGS +/- 5%	0%	0%
COGS +/- 5%	0%	0%	2	5% EV/EBITDA +/- 1x	5%	-5%
Discount Rate +/- 1%	5%	5%	3	5% Discount Rate +/- 1%	5%	-5%
EV/EBITDA +/- 1x	-5%	5%	4	13% Revenue Growth +/- 5%	13%	-13%

# **Appendix C:**

Working Capital Schedule and Multiples

Multiples / Ratios Section	BB - API											
Profitability												
EBIT margin	OPER_MARGIN	13,9%	10,7%	7,7%	9,0%	6,2%	5,3%	4,7%	10,9%	10,4%	10,0%	9,7%
Net Income margin	PROF_MARGIN	13,7%	7,0%	4,9%	6,9%	11,5%	3,2%	4,0%	3,6%	3,3%	2,9%	2,6%
Return on Assets	RETURN_ON_ASSI	7,2%	4,1%	3,1%	4,8%	6,2%	1,8%	4,0%	3,6%	3,3%	2,9%	2,6%
Return on Investment	RETURN_ON_CAP	14,5%	9,9%	7,4%	11,2%	12,6%	4,8%	1,4%	1,4%	1,5%	1,6%	1,6%
Return on Equity	RETURN_COM_EQ	19,4%	12,5%	10,5%	20,3%	23,0%	6,3%	4,6%	3,6%	4,0%	4,3%	4,7%
Liquidity												
Current Ratio	CUR_RATIO	0,9x	0,9x	0,7x	0,7x	0,5x	0,6x	0,1x	0,9x			
Quick Ratio	QUICK_RATIO	0,7x	0,8x	0,6x	0,6x	0,5x	0,5x	0,7x	0,9x			
Cash Ratio	CASH_RATIO	0,5x	0,6x	0,4x	0,4x	0,3x	0,3x	0,63	0,80			
EBIT to LT Debt	OPER_INC_TO_LT_	38,4%	34,6%	29,3%	29,6%	12,9%	14,6%	0,16	0,17			
EBIT to Total Debt	OPER_INC_TO_TO	38,4%	34,6%	29,3%	29,6%	12,9%	14,6%	0,16	0,17			
Activity												
Total asset turnover	ASSET_TURNOVEI	52,4%	59,1%	64,2%	68,8%	54,4%	56,1%	0,3x	0,4x			
LT-Debt / Assets		19,2%	17,5%	16,1%	19,4%	20,6%	20,0%	0,1x	0,1x			
LT-Debt / Equity	LT_DEBT_TO_TOT	35,1%	34,2%	32,3%	41,6%	36,4%	35,7%	0,2x	0,2x			
Debt / Equity	TOT_DEBT_TO_TO	19,2%	17,5%	16,1%	19,4%	20,6%	20,0%	25%	25%			
EBITDA Int. Coverage	EBITDA_TO_TOT_	7,7%	7,1%	7,4%	8,8%	7,2%	7,3%	#DIV/0! <b>▼</b>	#DIV/0!			
Shareholder Ratios												
Earnings per share		3,41	2,00	1,67	2,99	5,70	1,82	2,76	3,01			
Dividend payout ratio		-16,21%	-46,55%	-32,54%	-21,28%	-14,20%	-53,3%	0,0%	0,0%			
Dividend 12 Month Yld	EQY_DVD_YLD_:	1,9%	1,6%	0,8%	0,8%	0,7%	0,9%	0,87	0,94	0,94		
Key Ratios												
EV/Sales		1,1x	1,9x	2,0x	2,0x	3,1x	2,3x	2,2x	1,9x	1,7x		
EV/EBITDA		5,6x	12,3x	14,5x	13,3x	22,9x	15,8x	11,8	9,8x	8,3x		
EV/EBIT		8,1x	17,9x	25,7x	22,2x	50,5x	43,0x	21,4x	15,2x	12,6x		
P/E	PE_RATIO	11,9x	22,7x	33,2x	25,6x	73,3x	49,3x	23,4x	18,3x	14,7x		
P/B	PX_TO_BOOK_RA	1,8x	3,6x	4,2x	6,1x	3,8x	4,1x	3,6x	3,2x	2,8x		
P/FCF	PX_TO_FREE_CAS	6,4x	8,2x	20,7x	10,6x	27,8x	20,9x	23,4x	7,8x	6,5x		
P/EBITDA	PX_TO_EBITDA	5,6x	13,1x	14,5x	12,7x	17,7x	13,6x	15,2x	6,1x	4,6x		
Enterprise Value		3.893	7.748	9.415	11.504	20.892	19.847	14.190	13.670	13.394		
Industry P/E		15,1x	24,5x	22,6x	22,1x	22,0x	22,2x					

# **Appendix D:**

## Three Statements

Income Statement															
in Million (mm.)	Bloomberg	Currency	ncy Historical							Projections					
• • • •	API		CY 2011	CY 2012	CY 2013	CY 2014	CY 2015	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020	CY 2021		
Revenue		USD	3.449	4.030	4.771	5.763	6.672	8.774	10.586	12.805	15.527	18.875	23.000		
← COGS  ←								1.597					4.769		
Gross profit		USD	2.688	3.132	3.733	4.584	5.363	7.177	8.391	10.150	12.308	14.961	18.231		
Operating expenses															
Research and development (R&D)								1.235							
Sales, General and administrative (SG&A)			2.208					6.715				13.703	16.777		
Total operating expenses			2.589	3.185	3.945	4.753	5.779	7.950	8.735	10.704	13.098	15.976	19.547		
Operating income (EBIT)		USD	480	432	366	518	414	462	502	546	594	647	704		
Interest Expense								173							
Other income (expense)		USD						-9							
Foreign Exch Losses (Gains)								15							
Net Non-Oper Loss(Gains)								-3							
Min Ints (Credits)								-21							
Income before taxes (EBT)		USD	402	350	301	465	926	277	494	538	586	638	695		
Provision for income taxes								15	78	85	92	100	109		
Net Income		USD	472	280	233	398	764	282	78	85	92	100	109		
Earnings per share															
Basic EPS			3.5					1,9	0.52	0.56			0,73		
Diluted EPS			3,4	2,0			5,7	1,8	0,50	-32.87			0.71		
F/E Ratio								49							
Weighted average shares outstanding															
Basic Shares Outstanding		USD		134				150							
Diluted Shares Outstanding								155							
€ EBITDA		USD	698	628	650	863	914	1.256	1.203	1.393	1.622	1.895	2.225		

in Million (mm.)	Bloomberg	Currency		CO	Histor						Projections	CT1 4 4 4 4	
Assets	API		CY 2011	CY 2012	CY 2013	CY 2014	CY 2015	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020	CY 202
Assets Current assets													
Cash and Cash Equivalents		USD	689	1.293	1.021	1.403	1.676	1.797	5.052	7.854	11.129	14.979	19.531
		TIED				356		72					
Short-Term Investments	BS_MKT_SEC_OR	TIED	649	645	326 1,347	1 759	34 1 710	72	34 5.086	34 7 999	34	34 15.012	34 19 565
l'otal Cash Accounts Receivables		USD	339	462	615	778	1.082	1.343	290	351	425	517	630
Inventories		USD		102			0	1.545					
Other Current Assets		USD				388	186	238					
Total Current Assets	BS_OTHER_COR	USD	2.274	2.642	2.219	2.924	2.979	3.450	5.562	8.425	11.774	15.715	20.381
Non-current assets													
JA													
Property Plant and Favin Green		USD	873	1.065	1.262	1.564	2.266	2.971	2.971	2.971	2.971	2.971	2.971
Property Plant and Equip Gross													
Accumulated Depreciation	BS_ACCUM_DEPR	מפט	552	655	781	1.011	1,202	1.576	1.803	2.180	2.644	3.214	3.916
Property, Plant & Equip, Net LT Investments & Receivables		USD	320 289	409 224	481 251	287	1.064 658	1.395 520	721	790 872	1.057	1.285	· 940 1.566
Total Intangible Assets		USD	3.621	3.837	4,775	5,246	10.787	10.389					
Goodwill		USD	2.877	3.016	3.664	3.956	7.993	7.942	7.942	7.942	7.942	7.942	7.942
Other Intangible Assets		USD	744	821	1.111	1.290	7.993 2.794	2.447	2.794	2.794	2.794	2.794	2.794
Deferred Income Taxes		USD	/44 #N/A N/A	821 20	1.111	1.290	2.794	2.447		2.794	2.194	2.794	2.794
Other Long-Term Assets		USD	#N/A N/A 3.621	3,857	4,789	5,256	10.802	10.412	10.802	10.802	10.802	10.802	10.802
Total Non-current Assets	BS_OTHER_ASSET	USD	#VALUE!	8.347	10.309	11.352	23.327	22.740	27.033	23.201	22.923	22.581	22.159
Fotal Assets			6.505	7.133	7.739	9.021	15.504	15.778	32.595	31.626	34.697	38.296	42.540
Liabilities and stockholders' equity													
Short-Term Debt								0					
Payables & Accruals					1.643		2.868	2.645					
Accounts Payable		USD	778	954	1.044	1.188	1.330	1.509	2.216	2.715	3.292	4.002	4.876
Interest & Dividends Pavable		USD	0	0	0	0	0	0					
Accrued Taxes		USD	ō	62	62	60	68	50	96	127	156	190	233
Other Payables & Accruals		USD	333	556	537	754	1.470	1.086					
Other Short-Term Liabilities			1.776	2.056	2.250	2.998	4.596	4.618	5.702		8.504	10.337	12.597
Deferred revenues		USD	849	26	40	1.823	236	2.900	1.664	1.569	1.903	2.313	2.819
Total Current Liabilities	BS_CUR_LIAB	USD	2.553	3.010	3.294	4.187	5.926	6.127	8.014	9.855	11.952	14.529	17.706
Non-current liabilities													
Long-term debt			1.249	1.249	1.249		3.201	3.159	3.159		3.159		
Other long-term Liabilities		USD	397	470	572	633	788	798	788	788	788	788	788
Pension Liabilities		USD	0	4/0	0	033	0	798					
Accrued Liabilities		USD	0	0	0	0	0	0					
Other LT Liabilities		USD	117	127	138	180	314	313	313	313	313	313	313
Deferred Revenue			0	0	136	0 0	0	313	313	313	313	313	313
Deferred Tax Liabilities		USD	280	344	434	453	474	485	- 485	485	485	- 485	- 485
Total non-current liabilities	BS_DEFERRED_II	USD	1.647	1.720	1.821	2.380	3.990	3.957	3.948	3.948	3.948	3.948	3.948
Fotal liabilities		USD	4.200	4.730	5.116	6.567	9.916	10.084	11.962	13.803	15.899	18.477	21.654
Stockholders' equity													
Preferred Equity								0					
Pressury Stock		USD	2.535					4.511					
Preferred Equity Treasury Stock Retained Earnings			-722	-442	-209		508	129					
Other Equity		USD	-17	0	18		-285	-280					
Other Equity Minority/Non Controlling Interest		USD			478	670	724	1.561			1.561		
Share Capital & APIC		USD	5,475	5.675	5.802	5,921	8.697	8.794		5.283	4.309	3.287	2.220
Commmon Stock		USD	3.473	0.073	3.602	3.921 0	0.097	8.794			4.505	3.201	
Additional Paid-in Capital		USD	5,475	5.675	5.802	5,921	8.697	8.794	8,697	8.697	8.697	8.697	8.697
Total Stockholders' Equity	BS ADD PAID IN TOTAL EQUITY	USD	2,305	2.403	2.624	2.454	5,588	5.693	14.312	19,596	18.622	17.599	16.532
otal Stockholders Equity		USD	2,303	2.403	2.024	2.454	3,300	5.093	14.312	19.390	10.022	17.599	10.532
otal Liabilities & Stockholders' Equity		USD	6.505	7.133	7.739	9.021	15.504	15.778	32.595	31.626	34.697	38.296	42.540

Cash Flow Statement													
in Million (mm.)	Bloomberg API	Currency	CT1 4044	CY 2012	Histo CY 2013	rical CY 2014	CT1 4045	CY 2016	CY 2017		Projections	CY 2020	CY 2021
Operating Activities	API		CY 2011	CY 2012	CY 2013	CY 2014	CY 2015	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020	CY 2021
Net Income		USD	472	280	233	398	764	282	402	437	476	517	563
Depreciation & Amortization								794		1.124	1.363	1.657	
Stock-Based Compensation			#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	242					
Changes in Operating Assets & Liabilities													
Changes in Non-Cash Work Cap								169					
								-276					
								0					
Accounts Payable													
Other Working Capital		USD						-					
Other Non-Cash Adjustments	CF_OTHER_	USD	-97	43	139	75	-421	320	0	0	0	0	0
Cash Flow from Operating Activities				1.237			1.368	1.564	2.356	2.219			
Cash Flow from Investing Activities													
Capex Property								-749 -					
Acquisitions, Net		USD						-					
NA		USD											
Decrease in Investments				#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	0					
Increase in Investments			-1.723		0			0					
Oth Investing Activities	CF_OTHER_	USD	1.468	-132	-217	-596	-1.584	31	-	-	-	-	-
Cash Flow from Investing Activities		USD	-463	-368	-526	-924	-2.371	-718 -	812 -	982 -	1.191 -	1.448 -	1.764
Cash Flow from Financing Activities													
Inc(Dec) In ST Borrow								0					
Increase in LT Borrowings								0					
Reimburse Of LT Borrow								-404					
Increase in Capital Stocks/Stocks Issued								140					
Decrease In Cap Stocks/Share Repurchasements								-456 -					
								-150 -					
Other Financing Activities	CF OTHER	USD	34	0	-33	-118	-122	144					
Cash Flow from Financing Activities		USD	-277	-280	-479	48	1.404	-691 -	466 -	466 -	466 -	466 -	466
		USD	68	604	-272	382	274	121	1.078	770	214	718	763
Cash Paid for Taxes		USD	54	10	73	70	97	124					
Actual Cash Paid for Interest on Debt			87	86	84	88	110	154					
Cash & Cash Equivalents		USD				1.403	1.676	1.797					5.340
Free Cash Flow													
Free Cash Flow				1.001				815	1.132.8	1.321.3	1.547,6	1.820.5	2.150,9
Free Cash Flow/Basic Shr								5					