

Weather Risk Management

Weather: An Issue in the Hospitality Industry

The Problem with Weather

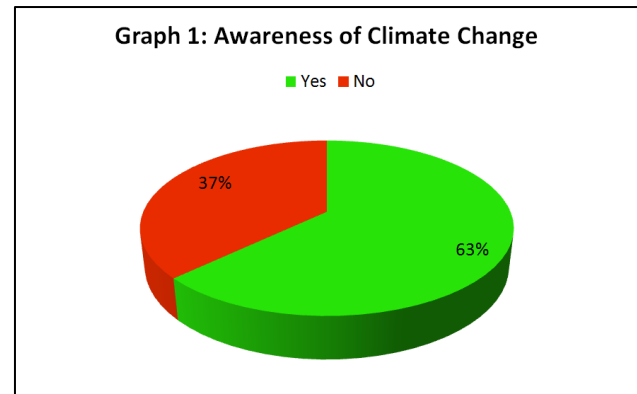
Weather affects everyone, and undoubtedly impacts most of the business world: from the energy sector to agriculture, the travel and leisure to the construction sector. Even though unfavorable weather rarely threatens the existence of a business, it can jeopardize growth and cause volatility in earnings and consequently have a significant negative impact in the long run. Risk Management Solutions Inc. states that over the past forty years financial losses from weather-related events have increased by an average of 2 percent per year, with climate change being a contributing factor (Hofmann, 2007). The Germanwatch Global Climate Risk Index reports that over the last decade Germany experienced an average yearly loss of US\$ 2.9 billion while Switzerland incurred losses of US\$ 551 million per year as a result of weather-related events (Harmeling, 2008).

It is apparent that weather risk has become a critical issue for companies, and demands their full attention. However, few studies have addressed the effect of weather fluctuations on the business performance of hotels in Europe. As a result of this, this paper includes a market research study, conducted by CelsiusPro and students of the Ecole hôtelière de Lausanne, investigating the effect of weather on hoteliers in Europe and how they manage its unpredictability.

The Impact of Weather on Hotels in Europe

A study by the United Nations Environmental Programme suggests that the travel and leisure sector will experience a loss in income due to alternations in global weather. Experts have suggested that the economic losses facing Switzerland, as a result of climate change and the decline in winter tourism, could eventually be as high as US\$1.2 to US\$1.5 billion annually (UNEP, 2003). This growing trend in long-term weather conditions has lead the industry to raise its concern about how certain weather events can impact its ability to generate revenue. The market study completed by

CelsiusPro and Ecole hôtelière de Lausanne illustrated that 63% of the 131 questioned hotels are aware of climate change and the risk for their industry.



Furthermore, recent examples in the tourism and leisure industry show how heavily businesses depend on day-to-day weather. Due to 2008's wet summer, camping sales of the British leisure equipment retailer, Blacks, dropped tremendously, resulting in a loss of £6.7 million for the first half of its financial year (Robert, 2008). In China, prolonged cold weather in 2008 put the chill on travellers' enthusiasm during the Spring Festival, the country's busiest vacation period. As weather and traffic concerns led many people to cancel their travel plans, China's tourism industry earned 6.2 percent less in revenue than during the 2007 spring festival (Haoting, 2008).

According to the study, 71% of the contacted hotels stated that they were impacted by weather. These findings are supported by Dr. Berno Stoffel, Tourism Director of Grächen in Valais, who states that the Swiss weather forecast for Valais supplied by Meteo is often incorrect, meaning that it occasionally illustrates the weather less favourable than it really is, which consequently prevents day tourists and short-term visitors from making travel plans. Dr. Stoffel continues in saying that the larger amounts of snow this winter (2008/09), compared to last year, actually created less revenue because travellers could frequently not reach their destination due to the excess of snow. There was actually about 20%



less revenue in February 2009 in Valais this year when compared to last year. Furthermore, Mr. Joseph Bonvin, owner of the Hotel Art de Vivre in Crans-Montana, Switzerland, mentions that he is heavily dependent on sunny weather during the winter months to maintain his profitability.

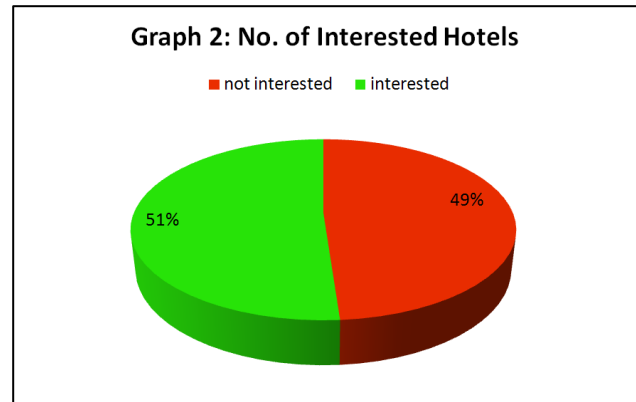
The Solution: Hedging with Weather Derivatives

Although there is no way to control weather, a growing upward weather derivatives market provides a new solution which can help control the impact of weather on businesses. In 2006, the weather risk management association (WRMA) commissioned PricewaterhouseCoopers (PwC) to conduct an annual survey of weather market activity. The survey found that the notional value of weather risk management contracts transacted from April 2005 to March 2006 increased nearly five times, from \$9.7 billion to \$45.2 billion. Significant growth can also be observed in the volumes of contracts, which rose from 44'000 in 2002 to more than 1'000'000 in 2006. The concept of weather derivatives originated and was first applied within the United States in 1997. Ever since then, the number of weather derivative contracts has been growing in the US. In Europe, however, the growth for the application has not been quite as staggering as in the United States. Although, according to PwC, the market for weather derivative contracts increased in the years 2000 to 2003, from 700 to 1'400 contracts. While in that same period the US market only slightly increased from 2'200 to 2'600, the total amount of US contracts emphasizes that the US market is considerably larger than its European counterpart (Stell, 2006). Buckley et al (2002) identify several possible reasons for this:

- There is a lack of quality. European weather data that is affordable for purchase.
- Energy companies in Europe have not been protecting themselves against adverse weather conditions, compared to companies in the US.
- The weather in Europe shows less variation than in the US and is thus more predictable.

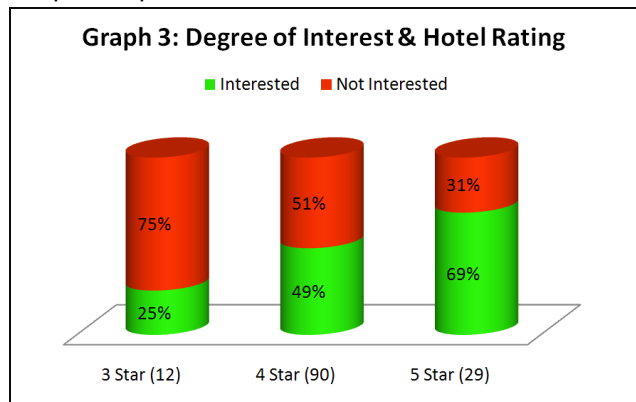
These theories coincide with the findings of the study, which states that a mere 67 hotels approached in Europe were potentially interested in protecting their business with weather derivatives. Fabien Fresnel, Professor of Finance at Ecole

hôtelière de Lausanne, stated that the European hospitality industry is presently lagging 10 to 15 years behind the United States. Consequently, the number of interested hotels is likely to augment in the near future, as weather derivatives continue to



gain more awareness in Europe.

Furthermore, it is interesting to note that 5 star establishments showed the most interest. The primary reason for this is that luxury hotels have more financial resources which can be allocated to adopt new products.



What are Weather Derivates?

A weather derivative is a financial tool that can be used to hedge earnings from undesirable weather events such as rain, snow or temperatures. These financial instruments are derived from various meteorological readings and are typically expressed as options. The key difference from an insurance policy is that they immediately pay out when the predetermined weather condition occurs, without the company having to state a claim. Additionally, whereas an insurance covers high-risk, low-probability events, weather derivatives offer



protection against low risk, high-probability events. The weather index is spawned by data supplied by national weather stations, which are selected according to their proximity to the client's location (Manfredo & Richards, 2009). The premise of weather derivatives symbolizes an essential prospect for the travel and leisure industry to practice risk management in order to protect their businesses against unseasonable weather. A primary example was famous Oktoberfest in Munich, which hedged itself against rain in 2002, because the excess of rain in the previous year caused a serious decline in profits (Timmons, 2003). The number of contracts is increasing in numerous industries, including hospitality, which is illustrated by the fact that the global market value of weather derivatives is estimated at \$45.2 billion and is forecasted to grow substantially in the future (Mitu, 2008). As mentioned there is still considerable growth potential in Europe. This indication was verified by the fact that a mere 12% of European hoteliers displayed previous knowledge of weather derivatives.

Application of Weather Risk Management Tools in the Hospitality Industry

To meet the growing demand for weather protection, several hospitality-tailored products have been developed, including corporate protection and weather guarantees as a marketing tool.

Corporate Protection

Businesses frequently utilize weather derivatives as corporate protection for their profits. For example, a farmer could blame exceedingly hot temperatures for a decline in crop profits during peak harvest (Manfredo & Richards, 2009). As this condition is one of the most serious issues that affect crop yields, weather protection presents an attractive option for farmers to hedge themselves.

Primary examples for the hospitality sector are ski resorts, where weather derivatives can not only be utilized against high temperatures (that prevent the use of artificial snow) but also against insufficient snowfall (Manfredo & Richards, 2009). Another deal was Corney & Barrow's corporate hedge against cold weather in London (see case study 1). This

contract was the first of its kind in the hospitality industry and provides a perfect example of how restaurants and hotels can protect their revenues against unfavorable weather during the summer months.

Utilizing weather derivatives as corporate protection provides travel and leisure businesses the opportunity to protect a certain period that is critical to its profitability. An additional advantage is that weather derivatives are paid-out automatically if the predefined weather conditions occur, without having to make a claim.

Buying a Financial Umbrella: Corney & Barrow

Case study 1

People enjoy the occasional drink after work. If it's a warm summer day, consumption of beer, wine and cocktails is likely to last all evening long. If it rains and it is cold outside; customers still drink, but not nearly as much and they tend shorten their stay. That's why in 1999 Corney & Barrow, a wine bar and restaurant chain with outlets in the city of London, decided to cover its business against losses caused by lower than average temperatures: Corney & Barrow has 12 restaurants of which six have outside terraces. The firm noticed that although it has a lot of regulars, one fifth of its summer profits stem from customers that come to enjoy the sun while having a drink. In order to avoid this volatility, Corney & Barrow bought "put" options (the right to sell) from a global energy firm. If the temperature fell below 24°C on a Thursday or Friday (heating degree days) between June and September, a payment of £15'000 (US\$22'500) per day, up to a maximum of £100'000 (US\$167'000) for the whole summer, would be made to Corney & Barrow. Eventually, payment was made on seven days which helped the business cover some of its losses. On the other hand, if the temperature rose above 24°C, Corney & Barrow benefited from increased sales above the amount of the premium. Although the Corney & Barrow deal was of relatively small proportion, the chain received huge publicity for having made the first deal of this kind within the European hospitality industry (The Economist, June 15, 2000).



Weather Guarantee as a Marketing Tool

Weather protection certificates can also be used as a marketing tool to attract guests by offering an additional incentive to make a purchase. The most notorious weather management contract created thus far was for the Canadian online travel agency I-Travel2000. The company stated that it would reimburse its customers that booked their trips via I-Travel2000 website for the entire cost of their trip, should there be heavy snowfall. The weather derivatives contract that I-Travel2000 was able to secure specified that I-Travel2000 would receive a payout of \$100 million should it snow more than 12.7 centimeters on New Year's Eve at the Airports of Calgary, Halifax, Montreal and Toronto. Although extremely unlikely, it actually did snow more than 12.7 centimeters which resulted in the largest payout in history. I-Travel2000 was not only able to use this deal as a marketing tool, but also received significant press coverage (Gersen, 2007).

A few innovative European hoteliers have already discovered the potential of offering weather guarantees to their guests. Three hotels of the properties that were contacted during the study offer a weather-related discount bearing the created risk themselves. "We are offering a 30% discount on our weekend winter package for each day it rains from 2:30pm until 7pm. As our occupancy rate is low from October until May we offer our guests an additional incentive to stay with us and make sure that weather does not negatively impact their hotel experience. All guests who benefited from the offer were pleased

and most importantly told their friends and family about it", explains Ms. Vittoria, Director of Marketing from the T Hotel, a four star design hotel in Cagliari, Sardinia. Moreover, the Hotel Weisses Rössl in Austria guarantees 100 km of open ski slopes for its guests during the Easter weekend.

However, hotels can reduce the risk that they bare through creating a customized marketing campaign by working with a weather risk management company. Hotel Ferienart Resort & Spa in Saas-Fee, Switzerland, worked with CelsiusPro to create a weather guarantee for its hotel guests. This concept is applied to all guests who stay in the hotel between June and October 2009 for more than two days. Should there be rain for more than two days during the holidays, the room charges will be waived for every additional rain day (a rain day is defined as a day with more than 5mm of rain measured at the weather station of Saas-Fee). "Thanks to the new tools in weather risk management, we discovered an opportunity to capitalize on the Valais' reputation of being the sunniest canton in Switzerland", says Ferienart owner Beat Anthamatten (CelsiusPro, 2009). Discussion with hoteliers showed that 67% percent would be interested in offering benefits or rebates to guests if adverse weather conditions occur.

After the hotel decides to adopt a weather guarantee, it has to define the weather condition it would like to guarantee and the reference weather station. The hotel then has to determine the amount it wishes to receive in case bad weather should

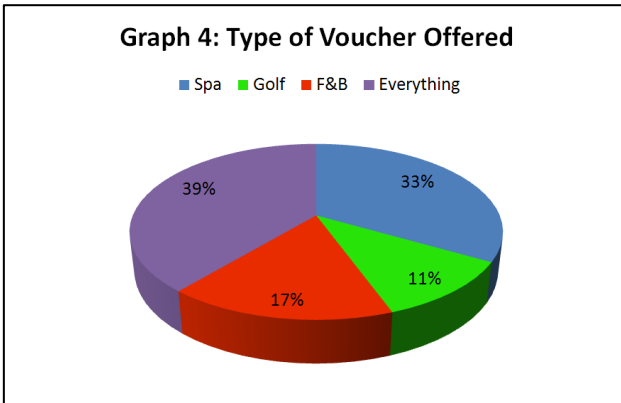
A Raincheck on your Vacation: Thomas Cook Canada

Case study 2

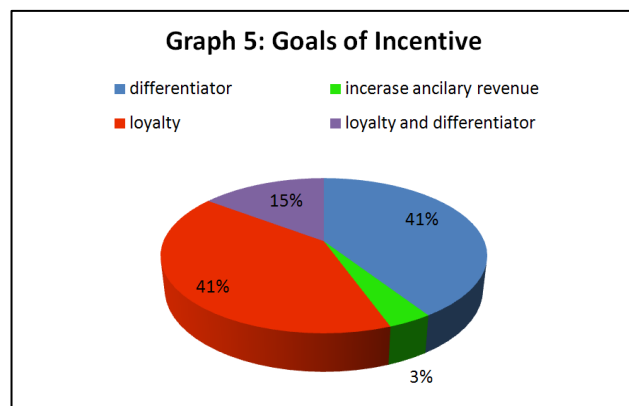
Weather conditions such as rain or clouds can ruin travellers' beach vacation. Thomas Cook Canada therefore worked with a weather risk management company in the US and responded to the above statement by introducing RainCheck. RainCheck is a weather protection guarantee that entitles the traveller to a future travel voucher representing the base cost of the holiday, should it rain for more than half of their holiday. This offer is available on package vacations (minimum 3 nights / maximum 21 nights) to the Caribbean, Mexico, Hawaii, Florida and California. If it rains half an inch (12.7mm) or more in a 24 hour period for at least half of their booked vacation, customers who purchased a RainCheck will get to replace that vacation with another one. The rain measurements will be taken at the closest official weather station to the customer's hotel. RainCheck is sold for \$39.95 per adult (kids under 12 are free provided that they are sharing a room with 2 full paying adults that bought RainCheck). As consumers are desperate to make the most of their short time off work to beach locations, using innovative marketing lead deals such as this proves the travel industry is a hot target for weather risk management firms (Travel Week, November 28, 2008).



occur, in order to offer an incentive to its guests. Below are the types of incentives that the contacted hotels indicated to be attractive benefits for their guests.



The results illustrate that hotels are in favour of offering vouchers to their guests as a form of rebate if the weather was unfavourable. The majority of hoteliers agree that the form of vouchers can vary, according to activities that the hotel offers. These incentives, which would result from a weather guarantee contract, have the potential to stimulate guest spending. Subsequently, the hotel will be able to create and launch the marketing campaign emphasizing clearly the weather guarantee and the incentive offered by the hotel. Accordingly, the hotel will purchase a corresponding weather certificate from a weather risk management company with the aggregate number of bookings sold as the hotel's protected amount of coverage.



There are convincing reasons why hotels like the idea of weather guarantees. The illustration above shows the main reasons why hotels would adopt a weather guarantee. The two main goals of offering a weather related incentive that hoteliers quoted were

loyalty and differentiation, which implies that these two components are essential for a hotel in terms of marketing the service to customer. Hotels cannot only increase sales, but also create competitive advantage over other hotels in its area. By developing and publishing the marketing campaign, it can generate additional press coverage in the market. This will increase the hotel's brand awareness from the differentiation achieved through weather protection.

Weather guarantees can not only be utilized for hotels, but also for other businesses operating in the travel and leisure industry. Travel agencies and tour operators in the United States have purchased weather certificates that can be customized for destination, weather and travel dates in order to create a strong weather marketing campaign that guarantees desirable weather for vacations (see case study 2). This helps the travel agencies and tour operators to differentiate themselves from competitors, and increase sales and customer satisfaction, while customers can get their money back when the predefined weather occurs. The rebate is based on the weather data provided from

Sunshine Guarantee: Tourism Victoria

Case Study 3

In the current economic crisis, it is evident that the tourism industry becomes especially challenging. Therefore Tourism Victoria needs to reach out directly to consumers in an innovative way. They are currently taking advantage of this spring's arrivals and are offering a special promotion for travellers looking for an April getaway. When guests book a minimum of two nights and if it rains more than 1.25 cm during any day of their stay, Tourism Victoria will pay out CAD\$500 to each traveller per rain day (rainfall levels will be monitored at Victoria International Airport). This sunshine guaranteed weather refund promotion can stimulate people's desire to go to Victoria at a time of year when the weather is traditionally unpredictable. As a result, it will increase bookings for hotels and encourage further traffic in the attractions and other retail and service establishment in Victoria, BC (Tourism Victoria, March 23, 2009).



the destination's weather station. In fact, some tourism organizations, such as Tourism Victoria (see case study 3) are presently using weather derivatives as a promotional tool to stimulate tourism traffic within the area.

Weather Risk Management - A New Opportunity

As apparent, the market for weather risk management in Europe is still lagging behind the United States, which implies that there is much room for potential growth for weather derivatives within various sectors in Europe.

The application of weather risk management allows the hospitality industry to reduce the volatility of their

revenues. Since the current economic crisis is likely to increase the number of price-sensitive travellers, weather derivatives give hotels a unique opportunity to target these individuals by supplying them with an extra incentive when booking their vacation. Both corporate protection and marketing weather guarantees represent tools that will enable hotels to expand their customer base, while simultaneously minimizing the impact of weather on their profits.

The members of the hospitality industry are given a new opportunity to protect their businesses and should therefore act now if they wish to reap the benefits.

May 12, 2009

About Ecole hôtelière de Lausanne

The Ecole hôtelière de Lausanne (EHL) is a leading hospitality school which is part of the University of Applied Sciences of Western Switzerland. This paper was written as part of the final project of five graduating students, namely Gloria Yan Tung Lee, Alex Ian Grindley, Aristeidis Vitalis, Dominic Marti and Sabine Herzog.

CelsiusPro

CelsiusPro is the first European company offering tailored weather derivatives online. With premiums starting as low as EUR 3'300, CelsiusPro offers small and medium companies easy access to this new risk management tool. Since the company was founded in 2008, it has benefited from a strategic partnership with the global market leader in reinsurance SwissRe.



Methodology

The impact of weather on hotels and how hoteliers deal with weather-related losses was assessed by conducting research calls with hoteliers in Europe as well as interviews with Swiss hoteliers and industry experts.

A total of 131 hotels were contacted throughout Europe, within the countries of Austria, France, Germany, Italy, Portugal, Spain and Switzerland. Hotels included in the research calls predominantly consisted of 4 to 5 star properties in both coastal and alpine locations. Out of 131 properties, 67 signalled a potential interest in weather risk management products. These hotels were subsequently contacted a second time in order to receive more detailed feedback about their motivations. The information supplied in graphs 1, 4 and 5, is based on the 27 hotels that allowed more in depth questioning.

In order to obtain opinions of hoteliers and tourism directors who are looking for solutions to limit the impact of weather on their business, or are already applying weather guarantees to protect and promote their business 3 in-depth interviews have been conducted. Additionally open-end questions have been asked to 4 hospitality experts from Ecole hôtelière de Lausanne.

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