

MEASURING RISK  
RISK ANALYSES AND RISK VALUATION FOR SPECIAL REAL ESTATE PROJECTS  
IN THE TOURISM AND LEISURE INDUSTRY

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ABSTRACT

Risk Management is an essential component in the development of tourism and leisure real estate projects. The valuation of identified single risks and aggregated risk positions is fundamental for decision making after investment appraisal. In common real estate projects risks analyses and management are on professional scale – but they are not in the tourism and leisure sector. The paper shows the specific risks of investing in leisure real estate integrated in a risk management model. An introduction to risk identification and risk measurement methods is given. Common used methods to value risks are explained in two case studies.

Key words: risk management investment leisure real estate

World tourism is steadily growing. The WTO is forecasting a doubling of international arrivals up to 2020. A tremendous demand is facing a sometimes poor tourism infrastructure especially in the developing countries of Asia. And even in the developed countries of Europe and America offer and demand is spread widely in terms of quality. Developers all over the world are building new tourism and leisure facilities to satisfy the rising demand. The investors are driven by spectacular opportunities for investment yields. Since high yields are always facing high risks, not every project is on the welcome list of banks and investors. Looking at the new conditions on the financing markets, especially in terms of the Basel II act, financing leisure real estate becomes even harder.

Based on specifically high risks we can state that financing leisure real estate whether through equity or through capital markets is more difficult than financing common real estate. The risk analysis and risk management of developers in the field of leisure and lodging therefore has to be more professional than for common real estate. But reality in Germany and Europe is vice versa. Due to the fact that market data is not available, German developers in the leisure market are mainly using very thumb methods to analyse their project risks. And that is one of the reasons why over 80% of projects brought to the banks are denied (cp. Spandl, F. 2003, p. 56). Professional risk analysis and management can help developing appropriate tourism infrastructure for the high quality demand of 21 century consumers.

## **1. The imperative of risk analysis for tourism and leisure real estate development projects**

There are several arguments why developers and investors analyse the risks of their real estate projects. All the reasons combined can be seen as one: maximising the return on investment for every project.

First step of every real estate development is a profound feasibility study with investment appraisal as a basis for the investment decision. So risk analysis is an argument in the process of decision making for investments. The investment decision may even be positive although risks were identified. The risk analysis turns to a risk management system throughout the development process. Identified risks have to be managed, hedged or diversified. That is the second purpose of risk analysis.

Another important course for risk analysis can be identified in the environment of dept capital financing. Financing real estate in general is facing new market conditions. Also the investment market for leisure and lodging real estate is facing new determinant factors. First focus is on the new Basel Convention called Basel II about the underlying equity of the bank for loans and mortgages. Once Basel II is national law, credit institutions have to value every loan in terms of its specific risk profile. The banks equity for a loan for high-risk investments has to be higher than the banks equity of a loan in non perilous investments. Either the bank accepts a lower return on equity or it has to charge higher interest rates for risky projects, and that is what banks do. The process of valuating the risk of a project is called rating. Different methods are allowed concerning who conducts the rating and for what purpose the rating is needed (cp. Konsultationspapier des Basler Ausschuss für Bankenaufsicht). It can be stated that a sound risk analysis as part of a feasibility study through developer and investor brings credit points for the project rating, and may in this form lower interest rates.

The second innovation with impact on leisure real estate development is the International Financial Reporting Standards (IFRS). Depending on in which position real estate is located on the balance sheet, there are different types of valuation methods required. If developers hold real estate as current asset, investors do not have to announce the fair market value. The real estate is in the balance sheet with investment sum reduced for depreciation. If the real estate is reported under fixed assets, the fair value has to be announced. Valuation method is normally DCF (cp. Hardegen, V. 2005, p. 40). Disadvantage of the system is that leisure real estate generates rather poor cash flows in the first periods (ramp up). So the risk in case of leisure real estate as a financial investment is that fair value is much below investment sum or construction cost. For investors with a small portfolio this could become a big problem on their balance sheet.

Last reason for conducting risk analyses studies are requirements by national laws or public standards. This is often relevant when projects are financed through public capital markets, like through open ended or closed funds, through real estate investment trusts or through stock market listed companies.

## 2 Specifics of the tourism and leisure real estate market

Compared to common real estate markets investors think that the leisure and tourism real estate market is just a small piece of the cake. In Germany in fact market share for leisure and tourism real estate is about 3 to 4% of the whole real estate market. But what is leisure and tourism real estate? Tourism and leisure real estate can be seen as every built construction for any value case of travel for any purpose or to spend leisure time. The following scheme shows a classification of leisure facilities in the real estate market.

**Fig 1: Leisure and tourism facilities in the real estate market**

Real Estate Market							
<u>Residential real estate</u>	<u>Industry and trade real estate</u>						
	Office real estate	Retail real estate	<u>Special real estate</u>				
			Distribution Real estate	Industrial real estate	<u>Managed real estate</u>		
	Senior living / senior residences	Social public / health care			<u>Leisure real estate (wider definition)</u>		
Lodging (hotel, accommodations)			Leisure real estate (closer definition)				

Leisure real estate e.g. can be:

- hotels and resorts, every type of accommodation
- special restaurants, discotheques, bars, pubs
- urban entertainment centres, mixed use centres
- cinemas, multiplex and IMAX theatres
- Event places, open air theatres and festivals
- arenas, theatres, operas, cabaret, stages, musicals
- cultural facilities, museums, open air museums
- theme parks, science center, leisure parks, amusement parks, attractions, indoor ski centre
- brand lands, corporate lands
- indoor playgrounds, experience exhibitions
- aquariums, zoos, zoological gardens
- public swimming pools, gyms and sport facilities, spas and health care centers, thermal bath
- golf courses

In most cases leisure facilities share their characteristics with common real estate objects. Such characteristics are: bounding to location, matchlessness/singleness, heterogeneity, long production phase, high capital commitment, durability and high transaction cost (cp. Brauer, K.U. 2003 p. 11-13). Furthermore, there are some special characteristics of leisure real estate (cp. Bienert 2006, p. 8-14). Those special characteristics are contemporaneously special risks, as chapter 3 shows.

- Alternative use / fungibility

Leisure real estates are often built for just one purpose. There is hardly another use for the building once the intrinsic use is not given any more. Has the managing company failed, deconstruction is often following.

- Market mechanisms and formation of prices

The investment market for tourism and leisure real estate is an imperfect market. Most objects are only attractive for supraregional or international investment markets with only few market participants. The small number of objects, failing market transparency and subsidies are reasons for a not market driven formation of prices for both investment and even consumption of products.

- Relevance of operators and of the concept

Concept and management skills of the operator of the facility are constitutionally important for the success of the investment. In office markets e.g. the success of a tenant is just important as it concerns his ability to pay the lease. This is basically different in leisure real estate markets. The concept of the facility, the marketing concept and the ability of the operator to transport emotions to the customer are basic.

- Product life cycle and relevance of trends

The underlying trends for the concepts of leisure real estate are often short-lived, while the investment in real estate is long term. If updating or refurbishment for the facility is possible, it is a question of economic advantage, otherwise the facility is out of the market.

- Market transparency

Compared to the general real estate markets there is only few market data available for leisure real estate. There are several continuous market surveys for hotel investment markets and the lodging industry, but none for special real estate in the leisure industry. In terms of operating cost there is hardly any valid database.

### **3 Risk management model for developing tourism and leisure real estate**

#### **3.1 The concept of risk**

Risk is more than a financial figure. Risk is a factor of production. And risk is a threat as well as an opportunity. Risk is defined as a deviation of a value from an expected value (Maier K.M. 2004 p. 5). Investment decisions and risks are highly correlated. Defaults in investment decisions are identified through comparison of a target value or benchmark with the true value. In most cases this will be a measurement figure of return or Cash Flow. Risks arise out of uncertainties before investment decisions. Uncertainties arise out of the need to set assumptions about conditions in any environment for investment appraisals. Market participants expect a premium for taking risks.

The concepts of risk and uncertainty are related, but yet they are very different. Uncertainty involves variables that are constantly changing, whereas risk involves only the uncertain variables that affect or impact the system's output directly (Mun, J. 2004 p. 13).

Risks can be differentiated by many items, such as:

- Risks in the company's environment or risks in the projects environment
- Internal or external risks
- Monetary or non monetary risks
- One dimensional or two dimensional risks
- Quantifiable or non quantifiable risks
- Systematic or unsystematic risks

The first three dimensions for differentiation of risk are self-explaining. The fourth point refers to the underlying character that risk could also be an opportunity. But as a matter of fact, not all risks include an opportunity for a project, e.g. a natural hazard. Depending on if there is an opportunity within the risk, it is one-dimensional or two-dimensional (Maier, K.M. p. 11). Frequently used differentiation criteria for risks are the last two of the list. Risks can be differed by their ability to be measured. Risks like financial risks can easily be quantified, while other risks e.g. the failure of a concept are usually non quantifiable. The same matter is described by differing risks in quantitative and qualitative risks. Quantitative risks can usually be measured while others can be analysed qualitatively. The differentiation of systematic and unsystematic refers to their reference to the market or the object. The systematic risk, also called market risk, is the same for all market participants in the same asset class. The systematic risk can not be reduced through diversification. Unsystematic risks are based on micro economic and object specific matters. Unsystematic risks can be reduced through portfolio management.

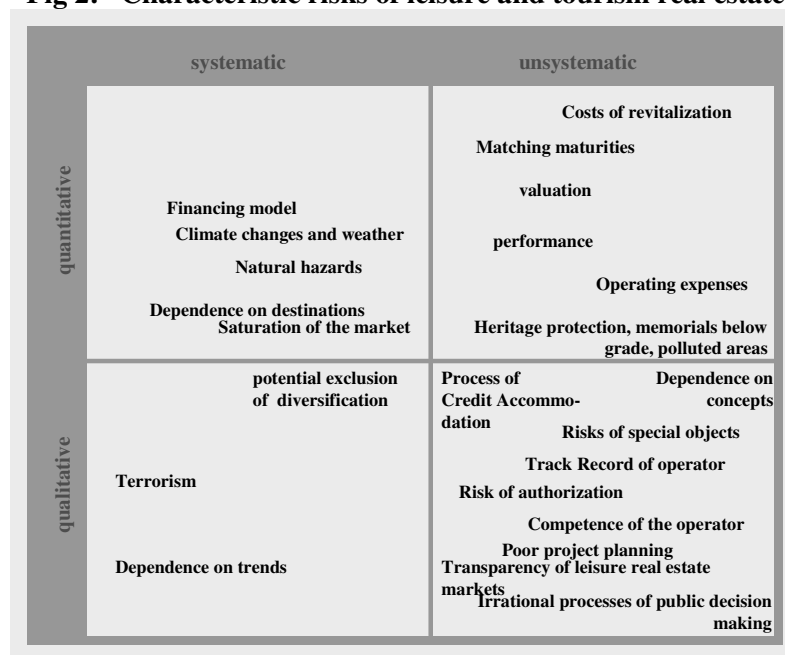
### 3.2 Characteristic risks for leisure real estate

Understood that common real estate risks are also evident for the leisure and tourism industry, some of the underlying risks are:

- Financing risks – changing of interest rates, missing equity, exceedance of budget decisions
- Time risks – odd time will cost penalties
- Quality risks – promised or contractually guaranteed attributes are not obtained

Since there are specific characteristics of leisure real estates also specific risks can be distinguished. The following figure shows a synopsis of those characteristic risks. The figure stretches a portfolio with four fields. On the one axis the principal differentiation of risk in a systematic and an unsystematic risk is shown. The second axis divides risks in their basic attribute if they can be measured or not.

**Fig 2: Characteristic risks of leisure and tourism real estate**



The figure above shows that the specific risks of leisure real estate are basically unsystematic risks, while half of them can only be described in a qualitative analysis.

The most outlining risk of leisure real estate is the fact that financiers invest in an object just as well as in an enterprise. Tourism and leisure real estate is a production facility for happiness and emotion, similar to a chemical plant producing crude materials. Real estate and the managing company can not be divided as for example in the office market.

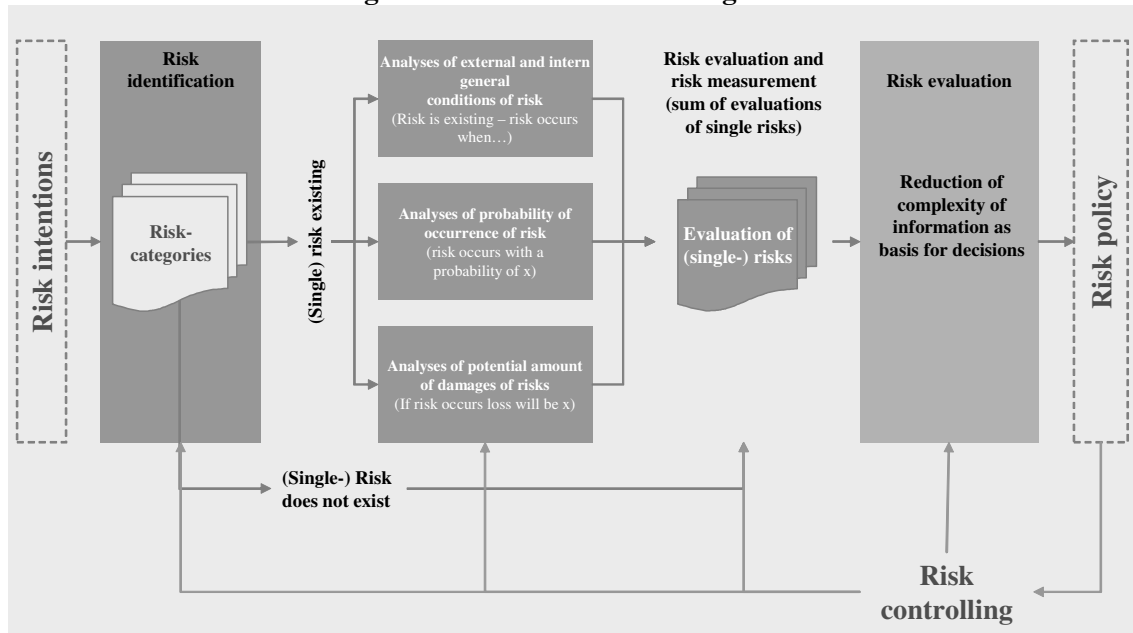
### 3.3 Risk management model

Risk management systems have first been implemented in the huge American insurance companies in the sixties, while first concepts were made in the beginning of the last century. The concept of risk management can roughly be described by a cycle of risk identification, risk valuation, risk policy and risk controlling. The flow chart underneath shows a more sophisticated model.

First step is the definition of objectives of the risk management model. The aim of a development project could be very different: many times it will be the maximisation of profits, but it could also be the the creation of more desirability of a basis offer through new investments, or in case of public investments the provision of public goods, conservation and maintenance of cultural heritage or a policy of indirect profitability and investment effects. Depending on the top aim of the project,

different expected values such as project yield, quality or new jobs can be defined as the basis of the risk management system. Parallel to the definition of the risk management intentions, investor and developer have to sketch their own risk profile. Some may take more risks while others are avoiding any risks.

**Fig 3: Flow Chart Risk Management**



The next steps of the management model are risk identification and risk valuation. On the basis of catalogues containing risk categories the existence of risks in the development project can be identified. Methods to identify risks are described in the following chapter. For every single identified risk several analyses should be made. Those should include analyses of the external and internal general conditions of risk, the probability of occurrence and the valuation of potential loss caused by the risk. Chapter 3.4 deals with some specific techniques to value quantitative risks.

All the single risks then have to be added to an integrated risk positioning of the project. As a basis for the decision making process a reduction of complexity is needed, as the board does not want to value all analysis findings. Common used techniques are risk maps, a portfolio technique where risk positions are described by the axis probability of occurrence and the expected loss. After diligent audit of the integrated risk position of the project investors and developers have to compare the findings to the defined risk intentions and their expected values. If they come to the conclusion to realise the project, they can use several risk policies to reduce the risk exposure of the project. Risk policy gives a wide range of possible actions, like (Maier, K.M. 2004 p. 19-21):

- Risk prevention
- Acceptance of risk
- Limiting risks
- Sharing risks
- Dislocation / Displacement of risks
- Insurance
- Shifting risks to thirds through treaties
- Hedging
- Diversification

The risk controlling process during the development phase of the project has two aims: At first constant observations of possible environmental changes for identified risk positions and second the evaluation of usefulness for the inserted risk policies according to effectiveness and efficiency.

### 3.4 Methods to identify and to measure risk

In the centre of risk management stands the risk analysis phase including risk identification and risk measurement. It is the aim of both methods to recognize and to value prophylactically annoying factors for an expected value. Basically the following requirements are underlying every used technique:

- Principle of completeness – gap free identification of risks.
- Timeliness of used data – adherence of the dynamic of environmental changes.
- Efficiency of the process – with increasing level of security the costs of risk prevention are increasing disproportionately. The optimum of security is in the intersection point of both curves.
- Opposition of stake holder – psychological and organisational irrational decision making about valuating risks should be avoided, risks have to be measured objectively.

The techniques to identify risks are of more descriptive character. A very common method is the SWOT (strengths – weaknesses – opportunities – threats) analysis. For conducting SWOT analyses several techniques are used, more or less objective in style. SWOT analysis is not only used for risk identification. As matter of fact it is a very rough method for this purpose. A more useful technique is a checklist. Standardised lists with underlying risk classification systems are easy to work with, but they are not very specific for a single project. More sophisticated methods are Flow Chart Analysis and Fault Tree Analysis. While the first method is useful for analysing impacts, the second method is more adequate to find causes of risks, but both can identify risks. Other methods are creativity techniques like brainstorming or workshops. Round table workshops with internal and external experts are a very effective approach. If experts are not available for a personal meeting, a multilevel questionnaire (Delphi method) is an appropriate way to identify risks (Hinterhuber, H.H. 2005 S. 196). Scenario techniques are often used to forecast variations of expected values. Scenario models develop different consistent pictures of the future using different assumptions. A disadvantage of the technique is the complexity if conducted seriously.

The measurement of risk in the phase of investment appraisal should simulate new circumstances for chosen assumptions. Very common used methods are Sensitivity analyses. Sensitivity analyses show what happens to the output of an investment appraisal, if one or more (scenario analysis) parameters of the calculation are changed. More sophisticated methods use probabilities of occurrence. Often used models use random samples, but there are also methods of complete numeration (cp. Ropeter 1998, p. 204). Most common are Latin Hypercube and Monte Carlo Simulation, using random samples. For risk analysis with random sample methods several computer simulation programs exist. For both sensitivity and Monte Carlo Simulation a case study is described in chapter 4.

Risk in investment appraisals is also considered through an appropriate discount rate. For the weighted average cost of capital the concept of “Capital Asset Pricing Model” gives a way to value the right level of risk premium for equity. The beta factor in the formula is the expression of risk. Beta compares the risk of a single investment to the risk of the complete market. The Beta factor can be described by the volatility of the market, which is calculated through the standard deviation multiplied by the square root of periods (cases) used. Beta describes the proportion of systematic to unsystematic risk (cp. Maier K.M. 2004, p. 37-38, Woehe, G. 2002 p. 660 & 776).

## 4 Case studies

Beneath many other methods of identifying, measuring and valuating risk quantitative methods are commonly used in investment decisions. Part of every investment appraisal should be an appropriate risk analysis. In two case studies in the health care sector we want to demonstrate which methods are used in the process of investment appraisal und what advantages and disadvantages they have.

#### 4.1 Sensitivity analyses for the Wellness Resort Hegyeshalom, Hungary

“Health” as a megatrend seems to have stirred a world-wide mobilization for the new health-conscious customer. The engines of this development are social trends like demographic changes, the increasing deficit in psychosocial health or the increasing importance of health in the value system of society. One of the answers to these developments is the intensified growth of the wellness market everywhere in Europe.

The project Hegyeshalom tries to be exceptional in the mass of newly launched projects. It builds on aspects like quality, multi-functionality, attractiveness and a mix of relaxation and activities.

Hungary as a location promises to tie to old traditions of the cure and health tourism. Hungary looks back on a long history as a country of baths. After the downfall of communism and the reopening to the west, the traditionally positive image has appreciably developed.

The concept plans the building of an integrated resort with 300 beds as a first step. A four stars plus hotel and a four stars hotel are to be developed. In addition there will be a thermal bath, several zones for wellness and treatments at different levels, restaurants and arranged external areas for sport and relaxation.

The predicted economy of the project guarantees a net yield which is above usual ranges to the investor. According to the calculations, an average net yield (ROI) of 14% can be paid on participation capital over a period of 20 years. The calculated investment sum was 77 Mio. € including planning costs and interest rates for the construction phase.

Primary market research has highly approved to the concept. Both the willingness to travel and the spending behaviour in the representatively questioned source markets have been above expectations. But yet the investment appraisal had some uncertainties in its basic assumptions. Amongst many other identified uncertainties, for the sensitivity analyse the following specific risks of the project were chosen:

- Could occupancy rates for the hotel and entries in the spa reach the predicted level?
- Could the comparative advantages in the construction costs be realised before Hungary joins the European Union and prizes will rise?
- How will wages and salaries increase after joining the European Union?
- How will currency exchange rates between Hungarian Forint and EURO develop after joining the European Union?
- Will Hungary change the - at this point highly - depreciation rates?

For every variable of the identified main risks a scenario was built. The following table shows the result of the scenario analysis for the values:

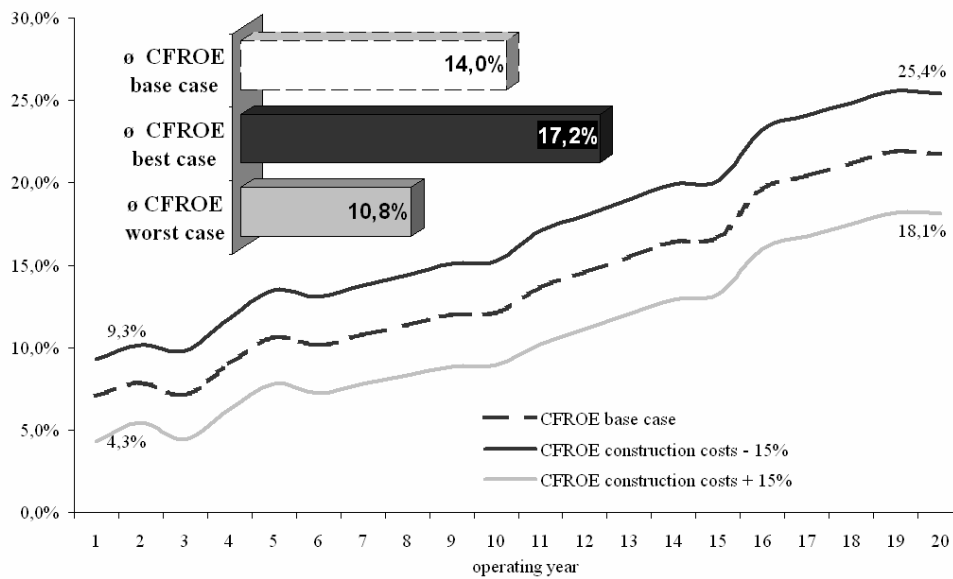
**Fig 4: Assumptions for Sensitivity analyses**

	Worst Case	Base Case	Best Case
Occupancy rates hotel and thermal bath	- 5% - 10%		+ 5% + 10%
Construction costs	- 15%		+ 15%
Annual increase of wages and salaries	+6%	+5%	+4%
Development of exchange rates	+5%	0%	-5%
depreciation rates	2%	5%	6%

Every scenario was calculated separately, and the results were shown on graphs like in figure 5. Every graph shows the development of the Cash Flow return on investment for 20 operating years of the resort. The upper line shows the best case, the middle line the base case and the lower line the worst case. In the chosen example graph for construction costs, best and worst case are parallel graphs to the base case at different levels. That result has to be expected, as the differentiation of business cases was an up or down of 15%.



**Fig 5: Sensitivity analyses construction costs**



The developer chose a sensitivity analysis to get new results for the investment appraisal. The result was that he got a large number of different cases, which were not connected to each other. And of course he had no idea what would happen, if not the worst case occurs, but something in between worst and base case. And there was no likelihood of the cases. The sensitivity analysis was effective and helpful in order to see what happens to cash flows and return on investment, but the result was fairly imprecise. The method is most easy to use, once a spread sheet for calculating the return of the project is constructed. No other data is needed except an upper and a lower value for the identified risk variables. Those values can be chosen by expert opinion, which is the most common case, or by systematic scenario analyses. Looking to German and European investment markets in tourism and leisure, even this thumb method is not used in every calculation. But in fact, it is better than just saying that there are risks without valuating them.

#### 4.2 Monte Carlo Simulation for the Health Care Center Brilon, Germany

The health care centre Brilon is a small investment project compared to the first case study. The investment sum is roughly 4.5 Mio. €. The health care centre is an innovative project focussing on new medical methods using essential oils of spruces, combined with wellness treatments and a gym. Furthermore a small office area for a visitor and information centre, a restaurant and a small shop are supposed to be built. The location is in the centre of Germany in a mid range region with high tourist importance, but rather poor economic power.

The investment appraisal has shown an internal rate of return on equity for the project of 18.73%. But as a matter of fact in this early stage of the development process there are many uncertainties concerning the used input data. The main uncertainty was that the key tenant had not yet been found. Negotiations with several tenants were in process, but not closed. So the space allocation plan could not be finally made. On the one hand the space allocation plan and on the other hand the final plan for fixed furniture and expenditures are the basis for the estimate of construction costs. Furthermore the tenancy was not negotiated, no contract was signed. In that time, the European Central bank was going to rise the interest rates to lower inflation, so that EURIBOR (European Interbank Borrowing Rate) could rise up to 25 Base Points. At this point of the development it was not sure at which rate dept capital could be borrowed.

At the same time a new government of the federal state was elected. Several subsidies for regions with underperforming economical power became uncertain.

But all those figures were significant for the developer's investment appraisal, and the investment appraisal was the basis for all negotiations with the bank.

Identified uncertainties were:

- Construction costs
- Tenancy (treatment area, office space, food & beverage)
- Interest rates
- Subsidies

So the developer decided to make assumptions on all forecasted values. The expected values, in this case those values with the highest probability of occurrence were used for the investment appraisal. But those values were uncertain, the expected IRR on equity of 18,8% (ROI 8,16%) was depending on the arrival of the expected values. In other words, the return was venturous. Borrowing banks would not accept the appraisal. In the conclusion, the developer had to valuate the risks of uncertainty of the used assumptions. It was decided to use the Monte Carlo Simulation to carry out a new appraisal with consideration of all uncertainties. New assumptions for every identified uncertain value were made, using appropriate market data to define the lower and upper values of the variables. The following table shows the values:

**Fig 6: Assumptions for Monte Carlo Simulation**

	Minimum	Likeliest	Maximum	Correlated with	Coefficient
Construction costs	3.600.000 €	4.050.000 €	4.850.000 €		
Net rent office per m <sup>2</sup>	4.50€	5.00€	8.40€	Net rent treatment Net rent shop/f&b	0.80 0.80
Net rent treatment per m <sup>2</sup>	12.00€	16.00€	18.00€	Net rent office Net rent shop/f&b	0.80 0.80
Net rent food & beverage per m <sup>2</sup>	8.20€	12.50€	16.00€	Net rent office Net rent treatment	0.80 0.80
Subsidies in % of construction costs	10%	15%	25%		

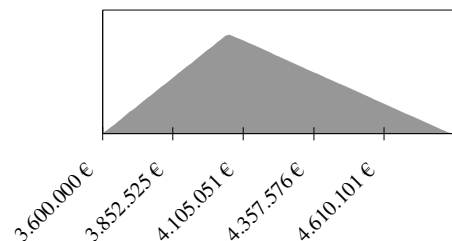
For all assumptions a triangular distribution was used with parameters as shown above. The most likely values were chosen with caution, so that maximum values for the rent were much higher than those chosen for the base case. For the construction costs, the maximum value has also a bigger difference to the likeliest value. The experience shows that architects and quantity surveyors often tend to predict low construction costs.

**Fig 7: Assumptions for construction costs**

**Assumption: construction costs**

Triangular distribution with parameters:

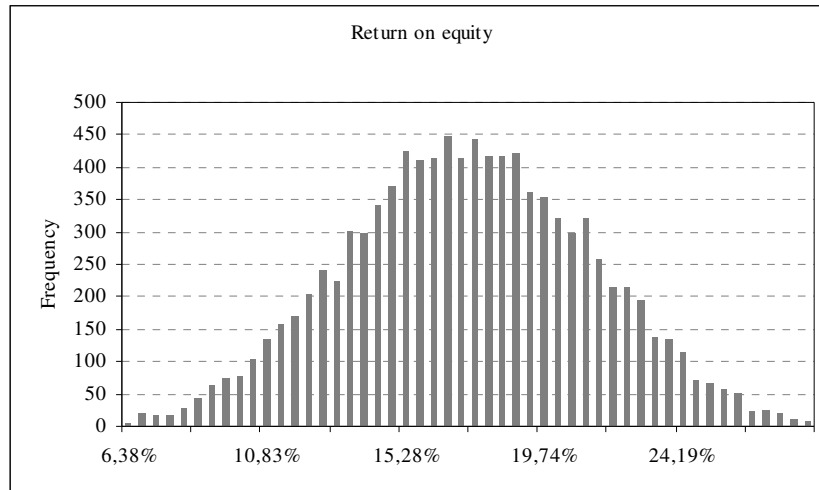
Minimum	3.600.000 €
Likeliest	4.050.000 €
Maximum	4.850.000 €



Finance model for the investment was at 20% equity, a senior loan at 65% and subsidies of 15% in the most likely case. Negotiations with the local government about the subsidies took place.

After the simulation with 10.000 trials (95% confidence level) the return on equity showed the following result:

**Fig 8: Result of Monte Carlo Analyses**



While the base case of the investment appraisal was at 18.73%, the mean of the simulation showed a value of 17.29% with a standard deviation of 3.98%. The minimum result for the return on equity of the simulation was 4.44%, the maximum was 32.81%.

In the end, the simulation had calmed investor and credit institutes. Even in the worst case, the return would not be negative, so that debt service could be generated by the project. The simulation had also shown that results have the biggest sensitivity to the level of the net rent. The construction costs and subsidies were less important, while interest rates had only a very marginal importance.

Although the developer, investor and credit institutes were calmed, the most important step before final realisation was to negotiate the final lease agreement with at least the tenant for the treatment and spa area.

The risk analysis did not show what would happen if the management company of the spa and treatment area will go to bankruptcy due to failing entries. The problem could be in the companies default (bad marketing, bad management, bad controlling), or it could be a default of the location or market.

The risk analysis was made at the point of view of the real estate investor, not at the point of view of the management company as the tenant. But at the end, the number of visitors / number of given treatments is not only a problem of the tenant, but also a problem of the real estate investor. If the management company fails, and it was caused by bad market conditions or bad location, tenancy would not be paid for months, and most probably a new tenant would not pay a rent as high as the first.

The method used in the case study is a very sophisticated one, which can really give a good impression on the importance of variables on the investment appraisal and the expected return. On the other hand the method requires excellent skills in statistics, and furthermore good market knowledge to presume the assumptions. As a matter of fact, we do not really know if the distribution of construction costs is triangular, or if this variable is distributed in any other way (same for all other values). The Monte Carlo Simulation implies that the modified variables are not continuous but discrete. Maybe we can assume this for subsidies, for construction costs in the sense of guaranteed maximum price agreements, even for interest rates. It is harder to assume this for tenancy rates, and nearly impossible for e.g. visitors.

## **5 The use of risk analysis for tourism and leisure development projects**

Financing tourism and leisure projects has always been hard and it is getting harder. The specific risks of managed properties are much higher than in office or housing buildings. Investors do not take the risk of market and object easily; they are also taking a bit of an entrepreneurial risk in terms of the welfare of tenancy. The Real Estate and the managing company can not be divided in the tourism and leisure sector. But yet a lot of investors take that risk due to the high yields which can be earned in this sector.

The experience shows especially for the German and European market that investors in leisure act not as professional in terms of risk analysis and risk management as other real estate investors do. This might be rooted in the fact that many leisure investments are made either by public companies or by general real estate companies to diversify their portfolios. In both cases the specific knowledge for leisure investments and their specific risks might not be very distinctive. In those cases a profound risk analysis as a part of a holistic risk management process could help to avoid failures. There are a lot of methods to identify and to measure risks. Some of them are thumb methods, some are very sophisticated. Monte Carlo Simulation is one of the more expertise methods requiring a lot of input data, which is not always available at a valid level. For tourism and leisure projects the lack of data is therefore the biggest problem to be solved in future.

Generally spoken, for every investment project the risk management should be part of an investment appraisal. The higher the investment sum the more effort should be made in analysing the risks. There is no formula to calculate how much an investor should spend for the risk identification. This depends on the very subjective risk profile of every real estate investor. Risk taking investors may be satisfied with sensitivity analysis, while risk averse investors tend to analyse projects more thoroughly.

In the bank's point of view, the risk analysis is the basis of every loan or mortgage negotiation. That has been a rule before implementing the act of Basel II, and it is actually becoming a stronger rule.

Recapitulating it could be stated that risk analysis is a profound instrument for investment decisions, for steering investment projects in the realisation phase and as a basis for interest rate negotiations.

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