Institute and Faculty of Actuaries

FRC Risk Reporting Requirements Working Party – Case Study (Hospitality Industry)

Table of Contents

Executive Summary

This case study uses publicly available information from a company in the hospitality industry to show potential variation in profit over a 1-year period. It discusses some risks which may be significant, how to model their financial impacts, as well as, possible mitigation options.

The risks considered include:

(i) Property and equity movement
(ii) Currency and bond movement
(iii) Reputation issues

The case study shows that under an extreme scenario, the company's net assets could be reduced by over 50%. The case study is intended to highlight a few of the areas where actuaries could help companies in the hospitality industry to comply with the new FRC risk-reporting guidelines by working with other professionals to build and analyse suitable risk models.

Background and Scope

The Financial Reporting Council (FRC) has increased the requirements for companies to report on the solvency risks they face. The company is expected to report on the effectiveness of both their risk management system and their internal controls. In particular, the company should identify any weakness in their business model, including solvency and liquidity risks and how these risks can be mitigated. Where appropriate, companies are expected to prepare business models and use them to study the financial impact of business risks by techniques such as scenario analysis and stress testing.

The actuarial profession possesses strong expertise in assessing risk in industries such as pensions, banking and insurance. We believe actuaries have the skills and experience required to help develop the risk management processes of other industries. The following case study has been produced to demonstrate some of the ways in which actuaries may be able to assist in risk assessment throughout the hospitality industry.

Only publicly available information has been used in the production of this report.
No discussions have been held with the company to gain additional information and therefore the analysis in this report should not be taken as applicable in practice to any company in the hospitality industry.

Company Background and Highlights

Throughout most of its history this well-established company focussed primarily on the pub and brewery industry. However, since the turn of the century, it has refocused its core business on hotels and restaurants.

The company has several brand names as part of its portfolio, with the businesses primarily located in the UK. They have seen rapid growth over the last few years. This rapid expansion is set to continue with aggressive growth plans expected in the UK as well as other areas worldwide over the next 5 years, giving it some geographical diversity.

Sample Risk Register and Risk Tolerance Statements

Risk Register

The following table highlights some of the risks that the company faces. It is not exhaustive and is only supposed to indicate a few of the potential risks that may have an impact on the solvency of the company.

Risk	**Risk Type**	**Chance of Occurrence**	**Financial Impact**	**Mitigation Strategy Available?**
PR advertising going wrong - Damage to brand image	Reputational Risk	Possible	Moderate	Yes
Foreign exchange rate fluctuations affecting tourism	Market Risk	Almost Certain	Moderate	Yes
Salaries -Minimum wage increases above inflation	Financial Risk	Likely	Moderate	Yes
Serious health or provenance issue relating to food	Health and Safety Risk	Possible	Major	Yes
Property Tax Increases (Mansion Tax for Businesses)	Market Risk	Possible	Major	Yes
Significant increase in the pension scheme's actuarial and/or accounting deficit resulting in higher pension contributions or the re–rating of the Company's credit.	Financial Risk	Possible	Moderate to major	Yes
Improvement in competitor's financial health and/or competitor activity results in a loss of market share.	Market Risk	Possible	Moderate	Yes
Fall in Property Prices	Financial Risk	Possible	Moderate	Yes
• Disruption to the business due to ineffective implementation of a major systems upgrade or installation; • Data security breach resulting in the loss of, or improper access to, customer or confidential data; or • Failure of the hotel booking system.	Information systems risks	Possible	Moderate	Yes

Description of Model

A simple deterministic model has been developed to re-create the company's annual financial report in specified stressed scenarios. Deterministic modelling is a well-established modelling technique, which uses sets of variables with given parameters to predict a result (in this case financial). Different scenarios can then be modelled by allowing for different risks within the parameters.

For this study, the model simulates the performance of a year of trading for a given profit and loss account and balance sheet. The output of the model could be used to compare with the original financial report so as to give an indication of the financial resilience of the company. This model uses historical records, industry data and publically available information.

This is a relatively basic model, aiming only to demonstrate ways in which the financial strength of the business in adverse scenarios could be tested. Should enough resources be granted, the model could be significantly improved to enhance its accuracy and provide the functionality to test more complicated and longer term scenarios.

Scenarios Tested

Several scenarios of significant financial impact were chosen to show a variety of risks and how they might affect the financial position of the company. The scenarios were chosen based on reports, which show that the company is highly concentrated in the UK hotel and property markets and also have a defined benefit pension scheme that is in deficit.

The scenarios were modelled independently of one another and then combined into a single scenario where they all occur.

Many different scenarios could be tested, from risks which are quite likely to occur but having only moderate financial impact, to catastrophic risks which are extremely rare but could have a significant impact on the future of the company.

The four scenarios chosen were:

- A fall in the yield of UK government bonds by 1% and appreciation in Sterling
- A fall in UK property prices and equity shares by 20%
- Adverse publicity due to the occurrence of major unfavourable events
- A combination of the above three scenarios

Description of the Scenarios Tested

Scenario 1: Public Relations Issue(PR)

This scenario assumes that due to serious failures in health and safety the company is exposed to severe negative publicity, with reputational damage to the company arising as a result.

Assumptions made in the model:

- There is an instantaneous impact on hotel revenue of up to 50% with a slow recovery thereafter

Scenario 2: Currency and Bond Movement (Currency)

This scenario assumes a fall in the yield of UK government bonds and an appreciation of the local currency (pound sterling).

Scenario 3: Property and Equity Movement (Property)

This scenario assumes a fall in the values of property and a fall in the stock market.

Assumptions made in the model:

- Market values of properties and shares fall by 20%

Scenario 4: Combined (All)

A scenario where all 3 scenarios mentioned above is combined along with the impact on retail sales.

Assumptions made:

- Hotel revenue fallen to 50%
- Current yield is 3.5% (2.5% after Government bond rate reduction of 1%)
- Market values of properties and shares fall by 20%

Results of Scenario-Testing

This section shows the results of the model. To illustrate the financial impacts the financial report of company X was stressed under each of the above mentioned scenarios, the results of which can be seen below.

The balance sheet under the “Base Position” from company X’s public account, but distorted to protect the company’s identity.

	Base Position	Scenario 1	Scenario 2	Scenario 3	Combined
£ m	Stress ----->	PR	Currency	Property	All
Intangible	223.0	134.5	223.0	223.0	134.5
Property	3,530.8	3,530.8	3,530.8	2,824.6	2,824.6
Others	36.2	36.2	36.2	36.2	36.2
Total Asset	3,790.0	3,701.5	3,790.0	3,083.8	2,995.3
Current Asset	231.3	231.3	231.3	231.3	231.3
Total Asset	**4,021.3**	**3,932.8**	**4,021.3**	**3,315.1**	**3,226.6**
Non Current Liabilities					
Financial Liabilities	541.3	541.3	541.3	541.3	541.3
Pension Assets	- 1,570.6	- 1,570.6	- 1,630.4	- 1,367.4	- 1,427.2
Pension Liabilities	2,104.9	2,104.9	2,456.9	2,104.9	2,456.9
Others	126.9	126.9	126.9	126.9	126.9
	1,202.4	1,202.4	1,494.7	1,405.6	1,697.8
Current Liabilities	617.9	617.9	617.9	617.9	617.9
Total Liabilities	**1,820.3**	**1,820.3**	**2,112.5**	**2,023.5**	**2,315.7**
Net Asset	**2,201.0**	**2,112.5**	**1,908.7**	**1,291.6**	**910.9**

All figures above are estimates provided for illustration purposes only.

Scenario 1

Assets: Due to reputational damage to the company, the Goodwill of the company is impacted which is part of the intangible assets and hence the total assets of the company. Therefore, the net worth of the company may be reduced.

Liabilities: This scenario will not impact the company’s liabilities. Hence the total liability of the company remains the same as in the case of base scenario.

Scenario 2

Assets: This scenario will not impact the company’s physical assets.

Liabilities: The pension liability will increase due to the fall in bond yields, and since the increment in pension liability is more than the increment in the value of the pension assets, the overall liability of the company increases.

Scenario 3

Assets: If this scenario takes place then it will impact the market value of the company's own properties which will fall by 20%, thus resulting in an overall reduction of total assets.

Liabilities: Pension assets mainly consist of company shares, commercial property, government bonds and corporate bonds. The equity and property component of the pension assets would decrease as property and equity falls by 20%. Hence the pension assets decrease which will result in an increase in company's total liabilities.

Scenario 4

Assets: If this scenario takes place then it will impact intangible assets and property. Both will fall resulting in overall reduction of total assets by approximately 20%.

Liabilities: In this scenario pension assets and pension liabilities will be impacted. Pension assets will fall and pension liabilities will increase. Both will result in an increase of the company's total liabilities and possibly have a negative impact on cash flow, if additional payments have to be made to the pension fund.

The overall impact would be a reduction in net assets of around 58%.

Risk Mitigation

Scenario 1: Public Relation Issue

To mitigate Health and Safety Risks the company will already be carrying out checks in line with current regulations. However, these precautions could perhaps be enhanced, to include risk assessments of suppliers, more frequent inspections, extra staff training, improved procedures, better equipment and keeping up to date with any developments of risks within the hospitality sector. Such measures may enable them to avoid or reduce future losses by adapting and improving their existing Health and Safety practices. The on-going costs of such changes will need to be estimated and a judgement made about whether these costs are worth incurring, having regard to the value of the reduction in risk.

Reputational risk is difficult to fully mitigate. Every employee or company associated with the company has the ability to damage its brand image. The damage can come from a range of sources, for instance employees not following procedures leading to food poisoning or fatal accidents. Alternatively issues can come from people's actions creating unwanted publicity. As we saw with the horse meat scandal, the external risks from suppliers is significant and could severely impact the profitability and reputation of a company, even if it is not directly at fault; however, with the correct strategy the risk of losses can be reduced. The risk can also be modelled, to allow suitable finances to be retained by the company to cover its losses if such an event were to occur. We know that diversification can reduce probability of occurrence of risk. Diversified portfolio of brands will potentially reduce the impact of risk events.

Scenario 2: Currency and Bond Movement

The risk may be mitigated by matching pension assets and liabilities for interest rate and currency risks. Financial hedging instruments may also be considered. Actuarial modelling can be used to determine sensitivity of business cash-flows to market risk and currency movements.

Scenario 3: Property and Equity Movement

The concentration of the company's assets in UK Property could also lead to liquidity issues in the future. The company could investigate the possibility of entering into a sale and lease back agreement for some of the properties it owns. This option would release cash, which could be held as a reserve to cover future risks or used to fund growth in other countries, leading to a more geographically diversified portfolio.

To further mitigate its cash-flow risks, the company could investigate the viability of contingency loans, which could be called upon if the company experienced liquidity problems. The loans could be secured against its property and the company would then have the knowledge that it would have access to immediate cash at a guaranteed rate. The loans could be contingent on an X% drop in occupancy or £X m drop in revenue.

Both of the property mitigation options would involve the modelling of future events, with the likelihood of each event and its effect on profitability being investigated.

Scenario 4: All combined

All of the mitigation options discussed above are obviously relevant. However, by studying the interaction between those risks and gaining a better understanding, a more detailed plan to mitigate against those risks with the greatest financial impact could be constructed.

Other Risks

The risks we have discussed and analysed above are only a small selection of the risks the company faces. There are many other risks that could be investigated for their likely impact on future profits.

For instance, inflation will impact many of the costs associated with running the business but if costs are rising faster than increases to revenue then this could impact profits. In particular, food prices dropped in real terms for a number of years, however since 2007 they have increased by 12%. Another example of rising costs could be if the restaurants experience higher prices for commodities such as pork, due to a rise in demand for meat products in the emerging markets. If this trend continues, this could have an impact on the profitability of the company's restaurant and may force it to make necessary increases in prices, which could lead to a reduction in the volume of customers.

By modelling these trends, actuaries could advise on long-term pricing strategies for food items, which could involve using derivatives to protect against unexpected increases in prices. This would provide stability to rising costs with would help reduce the volatility of any future dividends.

Conclusion

In this case study some of the risks that company X faces have been identified and a simple deterministic model has been developed to assess the financial impact on the business if one or all of those risks become a reality.

A fall in the UK Gilt Yields, drop in UK property prices and equity shares, adverse publicity and a combination of all three scenarios were all identified as possible risk scenarios to company X. Results of the impact of each risk scenario, as well as possible risk mitigation techniques, were described to help company X deal with each risk (need a new word here to avoid repetition) in the best possible way. The report has demonstrated that the projected combined impact of all scenarios on the company is a reduction in net assets of over 50%.

This report aims to increase the awareness of the strong expertise in risk management within the actuarial profession. We are aware of the increasing demand from FRC on risk management and believe that actuaries can be of assistance to industries other than our traditional areas of business.

Reliances and Limitations

This case study only looks at 3 key risks to demonstrate how modelling techniques can be used in the risk management of the company. This can be extended to cover the multitude of risks faced by a hospitality industry.

The distributions of the risks were chosen for illustrative purposes here. In practice the company would observe historical data (both internal and industry data) and then apply expert judgment regarding future trends to fit distributions to the model.