

P10 – Test of Professional Competence in Management Accounting

Monday 6 March 2006

Instructions to candidates

You are allowed three hours to answer this question paper.
You are allowed 20 minutes reading time before the examination begins during which you should read the question paper and, if you wish, make annotations on the question paper. However, you will not be allowed, under any circumstances , to begin using your computer to produce your answer or to use your calculator during the reading time.
This booklet contains the examination question and both the pre-seen and unseen elements of the case material.
Answer the question on page 17, which is detachable for ease of reference.
The TOPCIMA Assessment Matrix, which your script will be marked against, is available on page 18.
Maths Tables and Formulae are provided on pages 25 to 28.
Your computer will contain two blank files – one Word file and an Excel file. Please ensure that you check that the file names for these two documents correspond with your candidate number.

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TURN OVER

Zubinos Coffee Shops

Market overview

The number of chains of coffee shops in the UK has increased four-fold in the last five years, with thousands of branded coffee shops now operating around the UK. The total turnover for all branded coffee shops in the UK exceeded £1 billion (£1 billion is equal to £1,000 million) during 2005. Over the last few years a number of UK based branded coffee shops have emerged to compete with the internationally recognised coffee shop brands.

A further shift in the market growth is that the coffee bar culture has extended beyond the UK's major cities and is now successfully penetrating smaller towns. This has mainly been driven by the larger of the coffee shop brands. Consumer awareness of branded coffee shops has also increased in the last few years.

The range of products offered has also changed over the last few years and branded coffee shops are now meeting customer demand for a larger range of foods and better quality products by using premium ingredients. Furthermore, branded coffee shops are able to command a higher average price for their products by using quality and service as differentiators, as price appears not to be a particularly sensitive factor.

In addition to the branded coffee shops, there is a large number of non-specialist food and beverage outlets including department stores, supermarkets and bookshops, which continue to expand their own cafes. They are enjoying the success of the "coffee culture" that has been established by the branded coffee shops.

Market research is very important in this fast moving consumer driven marketplace and the over-riding factor that continues to be the most important reason that consumers select a coffee shop is its convenience of location. There were over 500 branded coffee shops in London at the end of 2005.

Zubinos' personnel

The career histories of Zubinos' Directors and key employees are shown in **Appendix 1** starting on page 10.

The first Zubinos coffee shop

On returning to the UK in early 2001, Luis Zubino, the founder of Zubinos, bought a flat in London and set about locating suitable premises for his new business venture. His original plan was to have over five coffee shops opened within five years and he wanted the cash generated from each coffee shop to finance the opening costs for the next coffee shop. He had put together a business plan to get a personal loan, which was secured on both his own flat and his parents' house. This loan, together with his savings, was used to acquire £300,000 of equity in Zubinos.

Zubinos was formed in March 2001 with 2 million authorised shares of £1 each, of which 300,000 shares were allocated to Luis Zubino and these shares were fully paid up at par value in March 2001. At the time these shares were issued, £1 per share at par value was considered a fair value.

Luis Zubino opened the first Zubinos shop in June 2001 in London, in rented premises. He fully understood that it was location and convenience that would be critical to the success of the coffee shop. He had been lucky in being able to rent a large corner shop on a busy junction, which was surrounded by offices and on the route to nearby public transport, thereby having the

benefit of many passers by. Luis Zubino hired a large number of staff to ensure good customer service and to minimise waiting times during peak busy periods such as lunch breaks.

Most coffee shops only serve a selection of hot and cold drinks and a small range of snacks and cakes. What distinguished Zubinos from many of the other branded coffee shops back in 2001, was that Zubinos also sold a range of freshly made sandwiches, with high quality fillings and other food items. Zubinos also sold a specialised brand of ice cream, which Luis Zubino imported from Italy, as he considered that the quality and taste was far superior to many other ice cream brands available in the UK. He was convinced that ice cream, which is a product that is kept frozen, could generate high margins, as it would have very little waste and none of the problems associated with the short shelf life of other foods.

Within six months, the first Zubinos shop was generating a high turnover and had established a high level of repeat business. Zubinos became a popular meeting place. The level of profitability was below plan as more staff had been employed to meet demand and Luis Zubino considered that he did not want to lose customers' goodwill by increasing waiting times to be served. By December 2001, he handed the day-to-day management of the shop to Val Pline, who had proved herself to be the hardest working and most trustworthy of all the staff employed at the coffee shop.

Luis Zubino briefed Val Pline on his plans for the shop for the next few months and agreed to pay bonuses to her when the turnover reached a certain level and again when net profit (after staff and fixed costs) reached £100,000 in any financial year. Val Pline was impressed with the business plan and her new responsibilities. Only six months previously, she had joined a coffee shop with limited experience and now she found herself running the coffee shop with the possibility of earning bonuses when it became even more successful.

The growth of Zubinos

Within two and a half years, by the end of 2003, Luis Zubino had opened a further five coffee shops, which was twice as fast as his original business plan had envisaged. All five shops were in rented premises to reduce the initial set-up costs, but Luis Zubino had not reduced the level of expenditure on the coffee shops design and fittings. The atmosphere that the coffee shop design had created was good, and was attractive to the target market of young people. Early on, from his market research, and from personal experience in his parents' business, Luis Zubino wanted his coffee shops to appeal to the 20-to-35 year old age range. This was for several reasons:

- The target age range market segment has more time and more disposable money;
- They attracted other people of similar ages into the coffee shops, as they become the place to meet up;
- The target age range would be attracted to the "trendy" atmosphere that Luis Zubino has created at Zubinos.

Luis Zubino wanted to expand the number of Zubinos coffee shops, but could not find suitable premises to rent in the locations he wanted. By mid-2004 he appointed a management consultancy firm for financial planning advice on how he could expand the business. Zubinos had only been in existence, at that stage, for fewer than four years.

The consultant with whom he dealt with was George Shale, and the two quickly established good rapport and worked well together. It was George Shale's idea to open only a few more Zubinos coffee shops in the London area where sites were difficult to obtain and rent very expensive. George Shale recommended that Zubinos should start to expand into towns and cities elsewhere in the UK where shop location would not be such a problem, rather than continue to expand within the fiercely competitive London market.

TURN OVER

When Jane Thorp joined Zubinos in early 2003, she could immediately see the large potential of the Zubinos brand. By the end of 2003, Zubinos had six shops operational with plans for four further shop openings in 2004. Eight further shops were opened in 2005, resulting in eighteen coffee shops in total operational by the end of 2005. The geographical split of Zubinos coffee shops was ten in London and eight coffee shops outside of London. Zubinos has not had any problems with building up its customer base after each new shop opening in the smaller towns and cities into which it had expanded.

George Shale also suggested that Zubinos could consider opening Zubinos coffee shops on the premises of another retailer. He undertook to try to locate a chain of retailers who would rent out part of their shop space. This has been done with other coffee shop chains, which have coffee shops located in motorway service areas and chains of bookshops. Luis Zubino liked the idea of a Zubinos coffee shop in a chain of other shops and a search for a suitable retail chain started in May 2004. However, with the expansion of Zubinos into eight provincial towns and cities, Zubinos has not yet pursued the identification of a suitable retail chain into which it could open Zubinos coffee shops.

The Zubinos business has a high turnover. However, profitability was still lower than some of its competitors, for several reasons as follows:

- High rental costs for three of the ten London coffee shops;
- High staff costs, as good customer service remains a high priority for Zubinos;
- Lower than average gross margins on some products due to the higher than average procurement cost of the quality ingredients that Luis Zubino has selected;
- Lower margins on coffee products as over 80% of its coffee beans are procured from suppliers who deal only with "Fair Trade" coffee producers (see below).

Staffing issues and performance related bonuses

Luis Zubino was kept very busy with expanding the Zubinos business and left each of the coffee shop managers alone to run each Zubinos coffee shop. Most management responsibilities were devolved to the shop managers, who were responsible for local procurement of food supplies, staff recruitment and day-to-day staff management.

Vivien Zubino, Luis Zubino's wife, managed one of the London Zubinos coffee shops after they married in 2002. She also undertook much of the procurement of coffee supplies, together with Jane Thorp, until the full time Procurement Director, Maria Todd, joined Zubinos in September 2004. However, there were often duplication of orders or gaps in delivery of supplies as both Jane Thorp and Vivien Zubino were constantly busy with other responsibilities.

Payroll was operated by an out-sourced agency centrally and Luis Zubino managed all other staff issues. It was only with the appointment of Anita Wiseman in November 2004, that human resource (HR) matters were undertaken centrally. Zubinos employed over 360 staff (some part time) by 31 December 2005.

Anita Wiseman wants to formalise job responsibilities and recruitment and ensure that staff are offered promotion in newly opened branches of Zubinos. Following on from the dismissal of three employees during 2005 for minor thefts, of both produce and cash, she also suspected that staff management and the required control procedures were not in place in the coffee shops. Coffee is a high value product and one employee was dismissed for selling stolen bags of coffee beans. This theft was only identified because he had been foolish enough to steal, and then sell, the bags of coffee beans on the premises of the Zubinos coffee shop in which he worked. A fellow employee had reported the incident to Luis Zubino.

Anita Wiseman has introduced quarterly performance related bonuses for all employees based on the sales revenue and the net margin for each coffee shop. The bonus is paid quarterly to recognise the previous quarter's results and to motivate staff to stay with Zubinos, so reducing the high staff turnover. However, the bonuses paid for the last two quarters of 2005 were lower

than previously paid, as the targets were more challenging. Some coffee shop managers and other employees were disappointed with their reduced bonus payments despite working as hard as ever over the Christmas 2005 period.

Fair Trade produce

Luis Zubino, having a strong social conscience, felt that the coffee beans that Zubinos coffee shops should use should be bought from suppliers of Fair Trade coffee. Additionally, from his initial research into the industry, he was convinced that Zubinos could charge a price premium for the use of Fair Trade coffee.

Fair Trade benefits 800,000 farmers worldwide selling a wide variety of products. Farmers are organised into small co-operatives, whereby products are procured at an agreed minimum price, which is above the price that some small independent farmers would be able to achieve for their crops on the open market. Fair Trade produce is successfully breaking the cycle of poverty for farmers in many countries and the coffee industry is one where Fair Trade has been very successful. Luis Zubino felt strongly that in today's world where consumers are demanding more humane and more environmentally sensitive products, the use of Fair Trade coffee in Zubinos coffee shops is a responsible and sensible choice of supply.

From the opening of the first Zubinos in 2001, Luis Zubino bought 100% of all coffee from Fair Trade suppliers. As the range of coffees expanded in Zubinos coffee shops, he found that some coffee and cocoa beans were unavailable through Fair Trade suppliers. On average, Zubinos procures over 80% of its produce from Fair Trade suppliers. Luis Zubino would still like this to be 100%. When Maria Todd joined in September 2004, Luis Zubino requested her to increase the proportion of coffee supplies procured from Fair Trade suppliers. This necessitated a change from some of its current suppliers to achieve this objective. The extensive use of Fair Trade coffee is used in some of Zubinos' marketing literature, and it has raised the profile and awareness of Fair Trade with some of its customers.

IT development

Jane Thorp commissioned an IT company in early 2005 to completely update the Zubinos website. The total cost of this IT work was forecast to be £220,000, but the final cost was a little over £300,000 including new hardware equipment. The new website has helped to create stronger brand awareness. The new Zubinos website also has an on-line communications area which allows users to "chat" on line. Since November 2004, a range of Zubinos merchandise can also be ordered on-line. This range of merchandise includes coffee machines and coffee supplies, which have been selling well, despite little direct publicity.

George Shale is continuously frustrated by the lack of financial and business information in a usable format. The company had grown fast and he has prepared several proposals requesting that a new database financial forecasting system is implemented. He also wants the shop managers to be more involved in sales and profit forecasting and the system that he had proposed would allow shop managers to input their data for consolidation. However, Luis Zubino felt that the shop managers are already under a heavy workload and that the quality of the data that they could input into the proposed system would be little better than that currently submitted by e-mail to Zubinos Head Office. The current standard of forecasting by shop managers is not very good and has generally underestimated the growth in sales. The database proposal has been turned down previously on cost grounds, as Luis Zubino considers that the cost does not justify the slightly improved level of forecasting.

However, a new IT system to capture sales and product analysis data at source, which will also help with stock control, was commissioned in October 2005. This project has been scaled down from the original specification and is forecast to cost £110,000.

TURN OVER

Introduction of a business investor

By summer 2004, Zubinos had eight coffee shops open and had found suitable locations for two more. However, Zubinos' bankers, Kite Bank, were reluctant to increase the level of loans. At the end of June 2004, Zubinos had three loans in place, totalling £600,000. All loans were at 12% interest per year. These were:

- An initial five-year loan for £300,000 taken out in December 2001;
- A second five-year loan for £200,000 taken out in December 2002 to fund further expansion;
- A third five-year loan taken out in April 2004 for £100,000, to cover a shortfall in working capital due to all cash resources being used for expansion.

Instead, the bank introduced Luis Zubino to the manager of the bank's private equity provider, who is Carl Martin. Carl Martin and Luis Zubino established a good working relationship early on in their business meetings and Carl Martin was impressed with the business plan and the growth of the Zubinos business in the last few years. He felt confident that if Kite Private Equity (KPE) were to invest in the Zubinos business, the additional private equity finance, together with less expensive loan finance, would allow the Zubinos business to expand far more rapidly.

After many discussions and the preparation of additional, more detailed business plans, KPE agreed to invest in the Zubinos business in January 2005.

KPE invested £2.4 million in equity finance initially, but the agreement was to also provide loan finance when required by expansion plans. The agreed value of loan finance was up to £5.0 million over the next 4 years at an annual interest rate of 10% per annum, secured against Zubinos assets. KPE appointed Carl Martin as its representative on the Board of Zubinos.

The balance sheet, income statement and statement of changes in equity for Zubinos for the last two financial years are shown in **Appendix 2** on page 13.

Shareholdings at December 2005

Since the formation of Zubinos in 2001, other Directors have purchased shares in Zubinos. They have paid between £2 and £5 per share, based on the agreed fair value at the time they acquired shares.

Luis Zubino and the rest of the Zubinos shareholders welcomed KPE into the business. KPE purchased 400,000 shares at £6 each (£1 each plus a share premium, based on an agreed fair value, of £5 per share). The shareholdings at 31 December 2005 are shown below.

	<i>Number of shares</i>	<i>% shareholding</i>
Luis Zubino	300,000	30.0%
Vivien Zubino	120,000	12.0%
Jane Thorp	30,000	3.0%
Maria Todd	24,000	2.4%
Anita Wiseman	36,000	3.6%
George Shale	90,000	9.0%
KPE	400,000	40.0%
Total shareholdings	1,000,000	100.0%

The Zubinos Board comprises the above six shareholders plus Carl Martin, KPE's nominated representative. Luis Zubino is Chairman of the Board in addition to his role as Managing Director.

Analysis of gross margin

George Shale commissioned a new IT system in October 2005 that will capture and analyse sales and cost of sales data without all of the manual intervention and spreadsheet analysis that is currently required to produce management information. The system is due to be operational in early 2006.

The analysis of the gross margin across the eighteen Zubinos coffee shops for the year to 31 December 2005 is shown as follows. It should be noted that the figures below are for all eighteen Zubinos coffee shops, but eight of them were operational for only part of 2005.

	<i>Coffee products</i>	<i>Other drinks</i>	<i>Sandwiches</i>	<i>Ice-cream</i>	<i>Other foods</i>	<i>Total</i>
	<i>£000</i>	<i>£000</i>	<i>£000</i>	<i>£000</i>	<i>£000</i>	<i>£000</i>
Sales revenue	4,734	1,344	3,584	896	3,360	13,918
Cost of food & drinks	926	642	1,260	182	1,962	4,972
Gross margin	3,808	702	2,324	714	1,398	8,946
Gross margin %	80%	52%	65%	80%	42%	64%

Zubinos' expansion plans

The current five-year plan was approved by KPE, and subsequently the Zubinos Board, in December 2005. This plan includes the expansion of Zubinos to 75 coffee shops by the end of 2010. An extract from this current five-year plan is shown in **Appendix 3** on page 14.

Much of the expansion planned is due to be financed by cash generated by operations, as well as additional loan finance from KPE. The amount of loan finance will be determined by whether the new openings will be in rented premises or whether the company will be required to purchase the site. Much will depend on the location selected and the alternatives available in each town or city targeted for expansion.

During 2005, eight new Zubinos coffee shops were opened. Up to the end of 2004, all coffee shops, except one, were in rented premises. Zubinos has previously purchased one property in London in 2003, in which it has its head office above the coffee shop. During 2005, two of the newly opened Zubinos coffee shops were in large premises that had been purchased, as Luis Zubino was unable to locate a suitable site that could be rented. The cost of the two coffee shops that were purchased were over £1 million each, including the shop fitting costs.

Jane Thorp uses a number of criteria for the selection of new sites for future Zubinos coffee shops. These include:

1. *Competition* – the strength of the competition in the proposed market place and whether the competition will stimulate growth, but not be too strong so as to restrict profits.
2. *Resources*. Whether there are adequate resources, staff and supply links to set up a new coffee shop.
3. *Consumer demand*. Is there sufficient demand for a Zubinos coffee shop and what is the current level of demand and how is it being met? A further issue is whether the area has the income to create profitable demand for Zubinos.

TURN OVER

Some relevant factors in the Zubinos expansion plan are the population size and the population density. When population becomes concentrated it often tends to take on a different character. Urbanisation produces the need for a higher level of products and services. Jane Thorp uses a number of easy measures such as the presence, or absence, of well-known chains of clothes retailers, to determine the potential for a new coffee shop location.

Jane Thorp had prepared a paper for the December 2005 Zubinos Board meeting, proposing that each Zubinos coffee shop should have a few computers available for customers' use, for browsing on the internet or for passing business people to send e-mails. The proposal is for the computers to be available free of charge for all customers. The Board considered the proposal, but decided against it for several reasons, not just on cost grounds, but on space considerations and also concerns over damage or theft. Luis Zubino stated that Zubinos did not need to offer its customers such facilities, as Zubinos coffee shops already were very busy at peak times. Jane Thorp is confident that this innovative free service is a good way of retaining customer loyalty and for attracting new customers.

Labelling of foods

One of the London-based Zubinos coffee shops had just broken the barrier of sales of £1 million in a rolling 12 month period. The manager at this coffee shop decided to try to increase sales further by introducing additional nutritional data for some food and drink products. The coffee shop manager decided, without consulting anyone, to display the calorie information as a ploy to improve sales. However, when she calculated and displayed the calorie content of many of the coffee products and foods, she was disappointed to find the calorie content very high. Many customers were also very surprised and switched to other drinks and did not purchase any cakes or pastries. This led to a small reduction of sales revenue.

This Zubinos coffee shop manager then started a new initiative during summer 2005 in the Zubinos coffee shop in which she manages. She introduced a small range of low fat and low calorie snacks and meals, which proved to be very popular. However, when this was discussed with Jane Thorp in Marketing, a major disagreement arose concerning the range of foods that Zubinos should be offering, and Jane Thorp's view that there should be a standard menu at all Zubinos coffee shops. The manager was furious that Zubinos Head Office had not welcomed her low calorie meal initiative.

Other recent developments in the *Zubinos* business

In April 2005, Zubinos introduced its first delivery service from three of its central London coffee shops. This delivery service to local businesses provides coffee and a catering service on customers' premises. Customers place orders on-line to their local Zubinos coffee shop. Despite a few initial problems, the delivery service is working well, although sales are still very low. Customers are automatically invoiced after delivery, instead of the usual cash payments in the coffee shops. There has been some additional work caused by payments received not matching with the invoiced amounts, and shop managers have simply written off the small differences. There is no system yet in place to chase up payment for deliveries if the customer does not pay within Zubinos' 30-day terms.

Zubinos wants to continue to be innovative and to be ahead of its competitors in terms of the types of foods offered. Jane Thorp and Maria Todd are in contact with a number of food manufacturers to explore offering a wider range of foods. They need to ensure that any new food ranges fit in with Zubinos' current pricing and food quality levels.

Proposed expansion of Zubinos overseas

Jane Thorp and Luis Zubino believe that during 2007, when Zubinos plans to have over 26 shops open in the UK, it will be in a position where it could consider expanding overseas. Already, a number of contacts of Luis Zubino, who live in Europe, are keen to operate Zubinos coffee shops in Europe.

The current five-year plan, which was approved by KPE and the Zubinos Board in December 2005, is based on operating 50 coffee shops in the UK by 2010 and 25 coffee shops in Europe.

However, Luis Zubino would like to have more than 25 coffee shops operating in Europe by 2010. There are a number of reasons why Zubinos should consider expanding abroad and these include:

- Saturated home market where competition is so intense that it can no longer gain any significant market share improvement;
- Competition may be less intense in a different market;
- Comparative advantage in product against local competition, particularly in areas dominated by British people living and holidaying abroad, which is becoming increasingly popular in some areas of Europe, especially Spain.

Appendices follows on pages 10 to 15

TURN OVER

Zubinos' personnel

Luis Zubino – Chairman and Managing Director

Luis Zubino, now 29, had worked in his parents' café for two years after he left school. He did not want to go to university and instead saved enough money to travel extensively. He is an intelligent man, who has his father's entrepreneurial spirit. After spending several years abroad, he returned to the UK in 2001 and established Zubinos.

Vivien Zubino – Director

Vivien Zubino, now aged 30, married Luis Zubino in 2002, after the opening of the first Zubinos shop. She is a director of Zubinos and now works part time at one of the Zubinos coffee shops in London. She has assisted her husband in achieving his ambitious plans and has helped to create the designs for the Zubinos coffee shops and also some of the innovative menus available at Zubinos coffee shops. She has always supported her husband and his ideas, which has contributed to the high growth achieved to date. Vivien Zubino purchased shares in Zubinos during 2002.

Jane Thorp – Marketing Director

Jane Thorp was the first professional appointment that Luis Zubino made in early 2003. He knew by then that Zubinos had the potential to be successful, and understood the importance of branding, and the company needed a strong Marketing Director. Jane Thorp had previously worked in marketing for a mobile phone company and more recently for a leading high street fast food chain, which she did not like. Jane Thorp, aged 32, relished the challenges that Zubinos posed and was determined to help both Luis and Vivien Zubino to create a successful business. She invested personal funds into the company in 2003 when she bought 30,000 shares, which was then nearly 7% of the issued share capital.

Maria Todd – Procurement Director

Maria Todd, now 35, had worked in procurement for an international food retailer and was frustrated with the lack of initiative she was allowed to use. She had extensive procurement and contract experience and welcomed the challenges that a growing company, such as Zubinos, could offer her. Maria Todd invested £120,000 of personal funds to buy shares in the company.

Maria Todd joined Zubinos in September 2004 and is based in its Head Office, which is located above one of the London Zubinos coffee shops. The first floor above the shop accommodates around 28 employees including two junior procurement staff. Prior to Maria Todd joining Zubinos, most of the procurement decisions were made by a variety of people. She is frustrated by the lack of discipline in the company, as many coffee shop managers still order some supplies from local food wholesalers to meet demand. The coffee shop managers state that they need this flexibility to provide customers with the foods in demand. However, Maria Todd considers that the coffee shop managers are simply not planning their food ordering very well and are continuously running out of a variety of products. One shop even ran out of the specially mixed Zubinos coffee beans recently.

Anita Wiseman – Human Resources Director

Anita Wiseman, now 29, has known Luis Zubino since their school days. She has a degree in Human Resource management and has worked in human resources (HR) for a chain of department stores before joining Zubinos in November 2004. Prior to Anita Wiseman joining the company, much of the HR management work had been out-sourced or handled by Luis Zubino, who had delegated authority for hiring new employees to each coffee shop manager.

Zubinos' personnel (continued)

George Shale – Finance Director

George Shale, aged 39, had worked for a leading audit group for over 10 years before he moved into management consultancy. Zubinos appointed the consultancy firm that George Shale worked for in mid 2004 for financial planning advice. George Shale was the consultant in charge of the Zubinos case and worked closely with Luis Zubino on a new five-year plan. George Shale was so convinced by the business plan that he had helped to produce, and in Luis Zubino's ability to grow the Zubinos business, that he joined Zubinos in December 2004. He bought 90,000 shares in Zubinos. Prior to George Shale joining the company, much of the finance work was managed by Zubinos' external auditors, and supplemented by temporary finance staff. Since joining Zubinos, George Shale has recruited a small team and has taken all accounting and finance matters in-house.

Bob West – Business Planning Manager

Bob West, aged 35, used to work for George Shale at the management consultants and was recruited by George Shale to fill the new post of Business Planning Manager at Zubinos in June 2005. Bob West has always worked as a consultant and been involved with many young start-up business ventures, and has a lot of experience. However, he has not been involved in the food retailing business before joining Zubinos.

Jack Rayfield – Shop management and security

Jack Rayfield, aged 52, joined Zubinos in 2003 having worked in retail management for the past 20 years. He was recruited by Luis Zubino who considered him to be a reliable hard working manager who could take care of the day-to-day operations involved with the shops. Since Jack Rayfield joined, he has introduced many new procedures and tightened up some poor business practices. One of the procedures that he has introduced is daily banking of cash and reconciliations to records of revenue for each shop.

Jack Rayfield is very good on HR matters and has played an active role with shop managers in the recruitment of staff, particularly for new Zubinos coffee shops. However, recently he has clashed with Anita Wiseman over many issues.

Val Pline and Sally Higgins – Zubinos' Area Managers

Both Val Pline and Sally Higgins had originally joined Zubinos in junior supervisory roles in its early days and then progressed to coffee shop managers. In September 2005, they were both appointed to the new roles of area managers. Val Pline is responsible for all London and the South East-based Zubinos coffee shops and Sally Higgins has responsibility for all other UK coffee shops.

They have both received management training and have been rewarded with performance related bonuses linked to sales revenue and net margins. They are now responsible for the recruitment and management of all staff for the coffee shops that they manage. Due to high staff turnover, which is not unusual in this business sector, they have spent much time on staff recruitment and on staff training issues.

TURN OVER

Zubinos' personnel (continued)

Carl Martin - Investment Director, Kite Private Equity (KPE)

Carl Martin, aged 39, is the liaison manager at KPE who is responsible for a range of clients into which KPE has invested equity and loan finance. The companies that KPE has invested in vary greatly and are operating in a wide range of industries, including manufacturing, service and retail sectors. Carl Martin was appointed to the Zubinos Board in January 2005, to manage KPE's shareholding.

Due to Carl Martin's demanding role in many other companies, he has left the Zubinos management team to manage the Zubinos business. He is content that the monthly sales and profits that had been achieved during 2005 were ahead of the agreed forecast. Therefore, he has not been as "hands on" as he would have been if targets had not been met. Carl Martin gets on very well with Luis Zubino, and they both have much mutual respect for each other's roles. Luis Zubino appreciates that Zubinos would not have been able to grow as quickly without the KPE finance and is very pleased that Carl Martin has not really interfered with the way that Zubinos is run.

Appendix 2

Zubinos' Balance Sheet, Income Statement and Statement of changes in equity

Note: All data in this appendix is presented in international financial reporting format

Balance Sheet	As at 31 December 2005		As at 31 December 2004	
	£'000	£'000	£'000	£'000
Non-current assets (net)		7,025		2,958
Current assets				
Inventory	420		395	
Trade receivables and rent prepayments	209		124	
Cash and short term investments	391		85	
		1,020		604
Total assets		8,045		3,562
Equity and liabilities				
Equity				
Paid in share capital	1,000		600	
Share premium reserve	2,630		630	
Retained profits	1,751		854	
		5,381		2,084
Non-current liabilities				
Loans:				
Bank loan at 12% (repayable in 2006)	300		300	
Bank loan at 12% (repayable in 2007)	200		200	
Bank loan at 12% (repayable in 2009)	100		100	
KPE loan at 10% (repayable in 2010)	300		-	
		900		600
Current liabilities				
Trade payables	1,367		689	
Tax	283		160	
Accruals	114		29	
		1,764		878
Total equity and liabilities		8,045		3,562

Note: Paid in share capital represents 1 million shares of £1.00 each at 31 December 2005

Income Statement	Year ended 31 December 2005	Year ended 31 December 2004
	£'000	£'000
Revenue	13,918	7,962
Total operating costs	12,651	7,225
Operating profit	1,267	737
Finance costs	-87	-69
Tax expense (effective tax rate is 24%)	-283	-160
Profit for the period	897	508

Statement of changes in equity	Share capital £'000	Share premium £'000	Retained earnings £'000	Total £'000
Balance at 31 December 2004	600	630	854	2,084
New shares issued during 2005	400	2,000	-	2,400
Profit for the period	-	-	897	897
Dividends paid	-	-	-	-
Balance at 31 December 2005	1,000	2,630	1,751	5,381

Note: For the purpose of the case, it should be assumed that the accounts for the year ended 31 December 2005 are final and have been audited.

Extracts from Zubinos 5-year plan

	Actual	Plan				
	2005	2006	2007	2008	2009	2010
Number of coffee shops:						
Start of the year	10	18	26	36	48	60
New openings	8	8	10	12	12	15
End of the year	18	26	36	48	60	75
Average number of coffee shops for the year	14	22	31	42	54	68
Analysis of new shop openings:						
UK	8	8	9	5	5	5
Overseas	-	-	1	7	7	10
	£000	£000	£000	£000	£000	£000
Coffee shops revenue	13,498	22,176	37,072	57,378	82,553	110,751
Revenue from new product launches in each year	420	1,560	2,200	2,900	3,800	4,800
Total revenue	13,918	23,736	39,272	60,278	86,353	115,551
Pre-tax operating profit	1,267	2,160	3,613	5,606	8,203	10,977
Capital expenditure	4,800	2,700	3,400	3,800	4,100	5,000

Note: The extracts from the 5-year plan shown above were approved by KPE and the Zubinos Board in December 2005.

UK National News

TUESDAY DECEMBER 20 2005

ZUBINOS is winning a share of the coffee wars

THE coffee shops chain, Zubinos, renowned for its choice of coffees and fresh foods, today opened its eighteenth coffee shop and is now expanding nationwide.

Managing Director, Luis Zubino commented “our customers are very important to us and we provide them with the coffees that they want and a wide variety of top quality foods in an appealing atmosphere”.

Zubinos has eight coffee shops outside the capital. They are much larger than many of its competitors’ coffee shops. Zubino stated, “our customers want to feel as if they are at home and we have created the authentic European coffee house atmosphere. Our sales are growing rapidly, which confirms to us that our customers like what we provide”.

It is forecast that sales for 2005 will be over £14 million, which is nearly 75% up from sales of around £8 million during 2004.

Zubinos appears to have managed to compete effectively against the many coffee shops chains, most of which have nationwide coverage. However, as Zubinos expands, the market expects there to be some consolidation. A leading UK coffee shop chain, Café Café, recently bought 12 coffee shops from the global coffee shop chain Whistle.

When asked about Zubinos expansion plans, Luis Zubino stated, “it is our intention to continue to expand within the UK and to open Zubinos coffee shops overseas in the next few years”.

KPE, the private equity arm of Kite Bank, is financing much of the Zubinos expansion. KPE is quoted as being “very pleased with Zubinos operational and financial performance to date”.

End of pre-seen material

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Zubinos coffee shops – Unseen material provided on examination day

Additional (unseen) information relating to the case is given on pages 20 to 23.

Read **all** of the additional material before you answer the question.

ANSWER THIS QUESTION

You are the consultant appointed by the Zubinos Board.

Prepare a report that prioritises and discusses the issues facing Zubinos and makes appropriate recommendations.

Note: The TOPCIMA Assessment Matrix, which your script will be marked against, is on the next page for your reference.

March 2006 – Assessment Matrix for TOPCIMA - Zubinos

Criterion	Marks	Clear Pass	Pass	Marginal Pass	Marginal Fail	Fail	Clear Fail
Technical	5	Thorough display of relevant technical knowledge. 5	Good display of relevant knowledge. 4	Some display of relevant technical knowledge. 3	Identification of some relevant knowledge, but lacking in depth. 2	Little knowledge displayed, or some misconceptions. 1	No evidence of knowledge displayed, or fundamental misconceptions. 0
Application	10	Knowledge clearly applied in an analytical and practical manner. 9-10	Knowledge applied to the context of the case. 6-8	Identification of some relevant knowledge, but not well applied. 5	Knowledge occasionally displayed without clear application. 3-4	Little attempt to apply knowledge to the context. 1-2	No application of knowledge displayed. 0
Diversity	5	Most knowledge areas identified, covering a wide range of views. 5	Some knowledge areas identified, covering a range of views. 4	A few knowledge areas identified, expressing a fairly limited scope. 3	Several important knowledge aspects omitted. 2	Many important knowledge aspects omitted. 1	Very few knowledge aspects considered. 0
Focus	15	Clearly distinguishes between relevant and irrelevant information. 13-15	Information used is mostly relevant. 9-12	Some relevant information ignored, or some less relevant information used. 8	Information used is sometimes irrelevant. 5-7	Little ability to distinguish between relevant and irrelevant information. 1-4	No ability to distinguish between relevant and irrelevant information. 0
Prioritisation	10	Issues clearly prioritised in a logical order and based on a clear rationale. 9-10	Issues prioritised with justification. 6-8	Evidence of issues being listed in order of importance, but rationale unclear. 5	Issues apparently in priority order, but without a logical justification or rationale. 3-4	Little attempt at prioritisation or justification or rationale. 1-2	No attempt at prioritisation or justification. 0
Judgement	15	Clearly recognises alternative solutions. Judgement exercised professionally. 13-15	Alternative solutions or options considered. Some judgement exercised. 9-12	A slightly limited range of solutions considered. Judgement occasionally weak. 8	A limited range of solutions considered. Judgement sometimes weak. 5-7	Few alternative solutions considered. Judgement often weak. 1-4	No alternative solutions considered. Judgement weak or absent. 0
Integration	10	Diverse areas of knowledge and skills integrated effectively. 9-10	Diverse areas of knowledge and skills integrated. 6-8	Knowledge areas and skills occasionally not integrated. 5	Knowledge areas and skills sometimes not integrated. 3-4	Knowledge areas and skills often not integrated. 1-2	Knowledge areas and skills not integrated. 0
Logic	20	Communication effective, recommendations realistic, concise and logical. 16-20	Communication mainly clear and logical. Recommendations occasionally weak. 11-15	Communication occasionally unclear, and/or recommendations occasionally illogical. 10	Communication sometimes weak. Some recommendations slightly unrealistic. 5-9	Communication weak. Some unclear or illogical recommendations, or few recommendations. 1-4	Very poor communication, and/or no recommendations offered. 0
Ethics	10	Excellent evaluation of ethical aspects. Clear and appropriate advice offered. 9-10	Good evaluation of ethical aspects. Some appropriate advice offered. 6-8	Some evaluation of ethical aspects. Advice offered. 5	Weak evaluation of ethical aspects. Little advice offered. 3-4	Poor evaluation of ethical aspects. No advice offered. 1-2	No evaluation of ethical aspects. Unethical, or no, advice offered. 0
TOTAL	100	© CIMA – January 2006					

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Bad publicity for Zubinos

There have been several adverse national newspaper reports, as well as a national TV consumer programme, reporting that several of Zubinos' healthy food options are not what they seem. It has been reported that some of these foods, which have a low calorie count and are low in fat, contain high levels of salt, sugar and some additives which have had bad press over possible health concerns. Additionally, the calorie count on some foods sold at Zubinos has been shown incorrectly on its food label. The press has carried various reports from Zubinos' public relations (PR) company stating that "the adverse comments about Zubinos' healthy foods are mainly incorrect and minor problems have been vastly over-stated". Luis Zubino is also concerned that one of Zubinos' competitors could be trying to counter the success of Zubinos, by spreading incorrect rumours.

Zubinos out-sources its quality control to a leading food agency, QAIF, which has an excellent reputation. This agency also advises Zubinos' suppliers on the food labelling requirements and assists them with labelling when Zubinos procures food items for the first time.

The UK's Food Standards Organisation (FSO), which is responsible for all foods sold in the UK, is currently sampling a number of Zubinos food items following the recent bad press. The FSO has recently visited several Zubinos coffee shops and identified that there were several items being sold that did not have any food labels on and other food items that had incorrect or misleading data for ingredients and calorific values. Luis Zubino spoke very harshly to Maria Todd about these problems.

Maria Todd has been working very long hours and has been struggling to identify new suppliers for the planned shop openings in 2006, and was very upset by the way Luis Zubino reprimanded her over the food labelling problems. She feels that she can no longer cope with her growing role and is considering resigning.

A further embarrassing event for Zubinos occurred in early February 2006. Jane Thorp had approved each of the adverts in a routine advertising campaign promoting Zubinos. One of the adverts had stated, "*All coffee sold in Zubinos is Fair Trade coffee*". However, a former Zubinos Head Office employee, who had been dismissed for theft, recently stated in the national press that only around 60% of Zubinos coffee was procured from Fair Trade suppliers. Even though the ex-employee's claim was not totally correct, as Zubinos use around 82% of Fair Trade coffee, the press picked up on the story. The employee also claimed that he was wrongly dismissed. His story had led to much negative publicity for Zubinos. The Advertising Standards body has investigated the false claim in Zubinos adverts and Zubinos has had to admit that the claim that all of its coffee was Fair Trade coffee was incorrect. However, the damage has been done and in February 2006, sales across all Zubinos shops were down by around 7%.

Offer to operate Zubinos coffee shops in Jibbs stores

Jibbs plc (Jibbs) is a listed company, which operates 140 do-it-yourself (DIY) retail stores in the UK and around Europe. Most of Jibbs stores in the UK are located on large out-of-town retail parks. For a number of reasons, Jibbs has seen its revenue and its EPS decline slightly over the last few years. The Jibbs Board has decided on a number of innovative ways to try to stop the decline in its business and improve the outlook for the future. This has included selling some of its smaller stores, and it also has plans for a major refit of its stores, which will be followed by advertising campaigns. Jibbs is trying to make its stores more appealing to its customers. The Jibbs Board has also decided to rent out space in its stores to a small number of other retailers and it has approached Zubinos with a proposal to open Zubinos coffee shops in some of its stores.

Jibb's Marketing Director, Jenny Wright, has put the following proposal to Zubinos, inviting it to open Zubinos coffee shops in a minimum of 20 stores, over the next 6 months. The proposal is to open Zubinos coffee shops for a two-year trial period, at a fixed rental fee of £50,000 per store per year. Zubinos average rental costs are over £100,000 per annum, but the rental space on offer in Jibbs' store is about 30% smaller than most of the existing Zubinos coffee shops, which would preclude Zubinos from offering its full range of foods and drinks.

At the end of the two-year trial period, Jibbs will decide whether to invite Zubinos to open more coffee shops in its other stores. However, Jibbs reserves the right to decline to renew the rental agreement, which would result in Zubinos having to remove all of its equipment and fixtures and fittings. It was also agreed that the rental cost would not be increased by more than the rate of inflation after the two-year trial, assuming that the trial was successful. Jibbs would not take any share of revenues, but would only charge for rent. All other costs, such as water charges and electricity, would be separately billed directly to Zubinos.

The forecast capital expenditure would be lower than currently spent on new Zubinos shops, and is forecast to be £180,000 per Jibbs store. The forecast market value of fittings at the end of the two-year trial is £90,000 per Jibbs store.

Jane Thorp has prepared the following post-tax cash flow forecast, based on twenty Zubinos coffee shops. These figures exclude capital expenditure.

Based on a total of 20 Zubinos coffee shops in Jibbs' stores	Year 1	Year 2
	£000	£000
Post-tax operating cash flows	1,250	1,500

Note: These post-tax operating cash flows include the rental fees of £50,000 per store per year.

George Shale considers a suitable risk adjusted cost of capital, for this particular proposed project, to be 14% post-tax. Jack Rayfield considers that the proposed expansion into Jibbs' stores is an easy way for Zubinos to expand its number of outlets, and could save management time that is currently spent on locating and negotiating rental agreements for High Street rented premises. Also the cost of the rent is lower. Luis Zubinos has expressed his doubts as to the validity of the cash flow forecasts prepared by Jane Thorp, which are based on throughput data provided by Jibbs.

Recent events

New HR Director

In December 2005, Anita Wiseman, Zubinos HR Director resigned and left Zubinos at the end of January 2006. She had been with the company for only a little over one year. She resigned following a series of disagreements with Luis Zubino and her frustrations with developing a workable HR policy for the company. Also, she found the overlap with the roles of the Area Managers to be conflicting with her overall HR responsibilities. She has not yet disposed of her shares in Zubinos, but **only** other Directors have a right to buy the shares from her, at a negotiated price. Until she has sold her shares in Zubinos, she has voting rights.

Zubinos has recruited a new HR Director, Kingsley Nu, who joined Zubinos in the middle of February 2006, but he has not yet bought any shares in Zubinos. Kingsley Nu immediately met with all of the coffee shop managers in the London area and is due to meet the remaining shop managers in March 2006. Kingsley Nu is impressed by the loyalty and hard work put in by almost all employees, which in most cases is far in excess of their job contracts.

He proposes that a company share ownership scheme is launched and that a monthly reward scheme for outstanding customer service is commenced. He considers that the working environment, the lack of rest periods and the poor facilities for staff should be improved

TURN OVER

immediately. He has presented Luis Zubino with a draft of some of his proposals, in advance of preparing a paper for the April 2006 Zubinos Board meeting. The proposals include the recruitment of additional staff (to reduce the hours worked by existing staff, many of which are unpaid hours worked in addition to their contracted hours). He also wants to improve staff facilities. The forecast annual cost of the proposals presented is estimated by Kingsley Nu to be around £300,000 per year, at current staffing levels. Luis Zubino's immediate reaction was that some of the proposals are a luxury that a small company like Zubinos simply cannot afford. He also considers this cost to be similar to the amount required to open a further Zubinos coffee shop, and he does not want to spend finance on staff issues which could slow down the expansion programme.

Zubinos loyalty card

Following Zubinos Board approval in January 2006, Jane Thorp is planning to shortly launch a Zubinos loyalty card. This scheme will award customers points each time they spend money at Zubinos shops and present their loyalty card to the cashier. When a regular customer has saved enough points they can be redeemed against purchases. This scheme is forecast to cost Zubinos 2% of its revenues for those customers who regularly use their loyalty card. It is expected that less than 50% of Zubinos revenue will be generated by customers with a loyalty card.

Expansion into Europe

With the successful opening of three new Zubinos shops in cities around the UK in January and February 2006, Luis Zubino is enthusiastic about opening the first Zubinos coffee shop in Europe. One of Luis Zubino's contacts has located a prime city centre site in a European city and wants to operate the shop for Zubinos. The rental agreement for this shop is currently being negotiated. The first European Zubinos coffee shop opening has been brought forward and is now forecast to open in July 2006, which is an advance of its current five-year plan.

Proposed acquisition of Zubinos

The Whistle Coffee Bar (WCB) has 180 coffee shops in the UK and 140 in Europe and is trading profitably with a P/E ratio of 18. It is listed in the UK and has a current share price of £16-80.

WCB's Business Development Director for the UK, Matt Jenkins, has contacted Luis Zubino and requested a meeting. At first, Luis Zubino thought that WCB wanted to meet to discuss the site selection for new Zubinos coffee shops. Zubinos has been successful in obtaining rented sites for the most recent three Zubinos coffee shops, despite having to outbid WCB for the locations that they were also trying to secure. This has resulted in Zubinos getting the required rental location, albeit at a slightly higher rent than was originally forecast.

Luis Zubino, George Shale and Carl Martin attended the meeting with WCB, which was held at the end of February 2006. Matt Jenkins of WCB stated that they have followed the successful expansion of Zubinos with interest and that they would like to acquire Zubinos for a cash price of £15.00 per Zubinos share. Additionally, WCB stated that it would be willing to offer senior management positions in WCB (but not WCB Board positions) to many of the Zubinos management team. Matt Jenkins made a very attractive offer of a senior finance position to George Shale, if the take-over of Zubinos is successful.

Carl Martin of KPE considers this could be a possible exit route for KPE, and has taken the acquisition proposal back to his superiors at KPE.

Luis Zubino is adamant that he does not wish to sell his shares to WCB and wants to prepare a sound case to KPE to convince it (and other Zubinos shareholders) not to sell its shares to WCB either. He stated to Carl Martin of KPE that he considered that WCB had only contacted them as Zubinos had become more successful in some city suburbs and other towns than the local WCB coffee shops.

Forecast cash flows

The forecast post-tax cash flows for the next five years, based on the agreed current five-year plan, given in **Appendix 3** to the pre-seen material, is as follows:

Approved 5-year plan cash flows	2006	2007	2008	2009	2010
	£000	£000	£000	£000	£000
Operating post-tax cash flows	2,500	4,100	6,200	8,900	11,700

Note: These operating post-tax cash flows are cash generated from operations and do NOT include capital expenditure on new coffee shops and also do NOT include loan repayments.

Similar businesses to Zubinos, which are listed, have a P/E ratio of around 16. George Shale considers Zubinos overall cost of capital, to be 12%, post-tax.

Following the meeting with WCB, George Shale and Luis Zubino met and discussed how the five-year plan could be improved. Following their discussion, George Shale has prepared a draft of a new five-year plan which Luis Zubino has now discussed with other shareholders, including Carl Martin at KPE. The updated five-year plan includes a higher growth rate in sales than in the original plan and higher gross margins, based on Zubinos possible ability to negotiate further cost reductions from suppliers because of its increased level of purchasing. This revised plan also has a slightly higher growth of new Zubinos coffee shops, with a total of 80, instead of 75, by 2010.

However, the cost reductions factored into this forecast are rather optimistic as George Shale is aware that coffee prices are due to increase over the next year. Furthermore, George Shale is aware that Zubinos is likely to have an adverse currency exposure in 2006, due to changes in exchange rates, which have not been included in this updated forecast.

The post-tax cash flows generated by this updated forecast are shown below:

Updated five-year plan cash flows	2006	2007	2008	2009	2010
	£000	£000	£000	£000	£000
Post-tax cash flows	2,900	5,100	7,400	11,400	14,700

Appointment of a consultant

At the Zubinos Board meeting in early March 2006, it was agreed that a consultant would be appointed to prepare a report, which prioritises and discusses the issues facing Zubinos and makes appropriate recommendations.

End of Unseen material

Maths tables and formulae are on pages 25 to 28

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MATHS TABLES AND FORMULAE

Present value table

Present value of 1.00 unit of currency, that is $(1 + r)^{-n}$ where r = interest rate; n = number of periods until payment or receipt.

Periods (n)	Interest rates (r)									
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149

Periods (n)	Interest rates (r)									
	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.079	0.065
16	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045
18	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038
19	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026

Cumulative present value of 1.00 unit of currency per annum, Receivable or Payable at the end of each year for n years $\left[\frac{1-(1+r)^{-n}}{r} \right]$

Periods (n)	Interest rates (r)									
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201
19	17.226	15.679	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365
20	18.046	16.351	14.878	13.590	12.462	11.470	10.594	9.818	9.129	8.514

Periods (n)	Interest rates (r)									
	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
16	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870

FORMULAE

Valuation Models

- (i) Irredeemable preference share, paying a constant annual dividend, d , in perpetuity, where P_0 is the ex-div value:

$$P_0 = \frac{d}{k_{\text{pref}}}$$

- (ii) Ordinary (Equity) share, paying a constant annual dividend, d , in perpetuity, where P_0 is the ex-div value:

$$P_0 = \frac{d}{k_e}$$

- (iii) Ordinary (Equity) share, paying an annual dividend, d , growing in perpetuity at a constant rate, g , where P_0 is the ex-div value:

$$P_0 = \frac{d_1}{k_e - g} \text{ or } P_0 = \frac{d_0[1 + g]}{k_e - g}$$

- (iv) Irredeemable (Undated) debt, paying annual after tax interest, $i(1-t)$, in perpetuity, where P_0 is the ex-interest value:

$$P_0 = \frac{i[1 - t]}{k_{\text{dnet}}}$$

or, without tax:

$$P_0 = \frac{i}{k_d}$$

- (v) Future value of S , of a sum X , invested for n periods, compounded at $r\%$ interest:

$$S = X[1 + r]^n$$

- (vi) Present value of £1 payable or receivable in n years, discounted at $r\%$ per annum:

$$PV = \frac{1}{[1 + r]^n}$$

- (vii) Present value of an annuity of £1 per annum, receivable or payable for n years, commencing in one year, discounted at $r\%$ per annum:

$$PV = \frac{1}{r} \left[1 - \frac{1}{[1 + r]^n} \right]$$

- (viii) Present value of £1 per annum, payable or receivable in perpetuity, commencing in one year, discounted at $r\%$ per annum:

$$PV = \frac{1}{r}$$

- (ix) Present value of £1 per annum, receivable or payable, commencing in one year, growing in perpetuity at a constant rate of $g\%$ per annum, discounted at $r\%$ per annum:

$$PV = \frac{1}{r - g}$$

Cost of Capital

- (i) Cost of irredeemable preference capital, paying an annual dividend, d , in perpetuity, and having a current ex-div price P_0 :

$$k_{pref} = \frac{d}{P_0}$$

- (ii) Cost of irredeemable debt capital, paying annual net interest, $i(1 - t)$, and having a current ex-interest price P_0 :

$$k_{dnet} = \frac{i[1 - t]}{P_0}$$

- (iii) Cost of ordinary (equity) share capital, paying an annual dividend, d , in perpetuity, and having a current ex-div price P_0 :

$$k_e = \frac{d}{P_0}$$

- (iv) Cost of ordinary (equity) share capital, having a current ex-div price, P_0 , having just paid a dividend, d_0 , with the dividend growing in perpetuity by a constant $g\%$ per annum:

$$k_e = \frac{d_1}{P_0} + g \quad \text{or} \quad k_e = \frac{d_0[1 + g]}{P_0} + g$$

- (v) Cost of ordinary (equity) share capital, using the CAPM:

$$k_e = R_f + [R_m - R_f]\beta$$

- (vi) Weighted average cost of capital, k_0 :

$$k_0 = k_e \left[\frac{V_E}{V_E + V_D} \right] + k_d \left[\frac{V_D}{V_E + V_D} \right]$$

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*P10 - Test of Professional
Competence in Management
Accounting*

Monday 6 March 2006