CIMA

Final Level Management Accounting – Case Study

15 FLCS

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Thursday afternoon

INSTRUCTIONS TO CANDIDATES

You are allowed three hours to answer this question paper.
This booklet contains the examination question and both the pre-seen and unseen elements of the case material.
Answer the question. This is on page 17, which is detachable so that you can refer more easily to the question at the same time as the information within both the pre-seen and unseen material.
Maths Tables are provided on pages 23 and 24.
Write your examination number in the boxes provided on the front of the answer book. Write FLCS on the line marked "Subject" on the front of the answer book.
Do NOT write your name or your student registration number anywhere on your answer book.

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The organisations and characters featured in this scenario are entirely fictitious. Any similarity to any person living or dead, or any firm or organisation, is entirely coincidental."

Sparkle

The sports club marketplace

In every major European city there are large numbers of private sports clubs, offering their members a range of sports and relaxation facilities. In some capital cities there are in excess of 100 different clubs competing for members, all offering similar facilities.

Membership of a sports club, offering a well-equipped gym, some personal training and usually a swimming pool, is becoming increasingly in demand by many young people and families, who want better facilities than the "pay as you use" facilities offered by local government in various European countries. The monthly cost of membership at a sports club is still out of reach for many, but the market is rapidly growing and is highly competitive.

Leisure time and enjoyment of sports facilities are seen as important parts of the lifestyle of many people. Many sports clubs offer a high standard of facilities and service. Membership of a sports club may be regarded as a status symbol and many people aspire to join a particular chain of sports club, which attracts famous personalities, even if no notable personalities ever attend their local club. Sports clubs cost their members around €1,000 per annum, before additional coaching or personal training costs. Members also spend money in the bar and restaurant at the clubs.

There are a few very prestigious clubs in most of the European capitals that do attract famous sports personalities and show-business stars, but the prohibitively high joining fees and monthly membership fees are unaffordable to all but the very wealthy. However, the companies that own these prestigious clubs use them to promote their own brand of sports clubs to prospective new members. Branding also helps to retain existing members. Marketing promotes the "exclusivity" and high standards that such clubs offer.

There are a number of major companies in the sport and leisure industry which all report very healthy profits and whose share prices have grown strongly in the last few years. Inevitably, there is also a small number of companies who have not been able to deliver the level of growth in profitability that their shareholders expected; some companies' share prices have dropped and some have been acquired by other, more successful, sports club companies. In most towns and cities across Europe, clubs are opening up each month or existing sports clubs are being taken over by another company and re-branded.

Background to the start of Sparkle

James Lellee had been a successful athlete who achieved an Olympic gold for his 1,500-metre run when he was 21 years old. After retiring from competitive sport in his early 20s, he made a comfortable income from being a "sports personality", making speeches, attending promotional events and television sports presenting. However, commenting on sport bored him and he had always wanted to become more involved in a sports-related business.

One day in early 1986, while working out in the gym at the sports club he used regularly, an idea came to him and he wondered why he had not thought of it earlier. Every time he went to the sports club that he had joined years ago, there was always either a piece of gym equipment that was out of order or something minor that went wrong which spoiled his experience at the club. He was paying a substantial membership fee to an exclusive club and he felt that he was not being well looked after. He joked to his friends that he could run the club better. His friends at the club agreed that he probably could, and that set him thinking. After much consideration, he decided that he would like to operate the best ever sports club in the city.

James Lellee then set about researching which of the five clubs in the city he should try to buy and also how and where he could raise the necessary finance to acquire a sports club. He mixed in a social circuit where he had many very wealthy friends, including Charles Juan, a self-made multi-millionaire. After initial discussions, Charles Juan agreed that it would be a fun investment and agreed that he would take a share in the equity of the club that James Lellee planned to operate.

Charles Juan agreed to risk investing the equivalent of €10 million without requiring any security, if James Lellee were to give him a substantial share of the company. He agreed that Charles Juan could have a 40% stake in the company that they set up together. They called this company Sparkle.

They held initial informal discussions with the owners of two of the sports clubs in their home city, who were both sceptical as to whether a successful sportsman could actually have the business knowledge to run a sports club. Both sports club owners were reluctant to sell at the price James Lellee considered the clubs to be worth. He then decided that he would not acquire any of the existing clubs in his home city but would instead build his own sports club.

The first Sparkle club

James Lellee and his fellow director, Charles Juan, located a good accessible site in a respectable district of the city. They were both involved with the design of the club building and interior and exterior layout, and they agreed on the facilities to be offered. Within 18 months, the first Sparkle club was opened in 1988 and it was accompanied by much press coverage due to James Lellee's Olympic achievement some eight years earlier.

James Lellee had recruited a good team, and the service and the excellent facilities offered at the Sparkle club attracted a high number of members in a very short time. The new Sparkle club was recommended by members to their friends, and by the end of the first year membership was over 3,000, and the club was nearing break-even.

The growth of Sparkle clubs across Europe

On the basis of the very successful first year of the first Sparkle club, and the excellent reputation it had achieved in the very short period since it had been open, James Lellee decided that he would like to build other clubs in a number of European cities. An expansion programme was established and designs for a number of new Sparkle clubs in other cities were planned.

However, the company did not have sufficient funds to finance the expansion. James Lellee sought funding from Sparkle's bankers, using his personal property, as well as the first Sparkle club, as collateral for a substantial loan. This enabled him and Charles Juan to retain their original 60/40 share of the company.

James Lellee wanted to raise over €80 million to build Sparkle clubs in other cities, but was successful in raising only €60 million from Sparkle's bankers, who felt that the company should not expand too quickly. The bank insisted on holding the title deeds of the properties being acquired as security for the loan. The loan would be repayable in 15 years and was fixed at 12% interest per annum for the term of the loan. Loan interest is eligible for tax relief at 30%.

However, James Lellee wanted to press ahead with his plans and he had already located suitable sites for five of the planned new clubs. Furthermore, he did not want to build fewer new clubs, nor cut back on their specifications. Again, his fellow director Charles Juan came to the rescue and agreed to put together a loan, obtained from four of his wealthy friends. The terms of the loan required a fixed rate 3% higher than that of the bank loan. The full amount of this new loan of €20 million would be repayable in 15 years. As James Lellee wanted to expand rapidly, he accepted these terms on behalf of the company.

Within two years, the company was operating six Sparkle clubs. All were as successful as the first and membership was growing rapidly. All Sparkle clubs had a wide range of facilities including a large, well-equipped and properly-staffed gym, indoor and outdoor swimming pools, sauna and steam rooms, and a crèche facility. Some clubs had squash and badminton courts as well as indoor and outdoor tennis courts, and two of the clubs that were built on edge-of-town sites even had compact 9-hole golf courses and a golf driving range.

Sparkle clubs were recognised as being among the best of the sports clubs, but James Lellee did not want to have the membership costs set too high. Instead, he decided that the success of Sparkle clubs should not be based solely on profitability, but should also measure the growth in membership. If Sparkle clubs could attract and maintain a large enough membership base, he believed that profitability would take care of itself.

Sparkle's policy of allowing free access to promising sportspeople had also attracted a certain amount of funding from various sports organisations. These organisations paid for the facilities used by some promising juniors, and also helped fill off-peak use of some of the tennis courts and this helped to achieve better utilisation of facilities.

Many of the members of the Sparkle clubs had been members of other clubs in their respective cities and had switched to Sparkle clubs as the new facilities were better maintained and more competitively priced than other local sports clubs.

By the time that the sixth Sparkle club opened in 1990, James Lellee had recruited a good team of senior managers. He held the role of Chairman and Chief Executive and was actively involved in all areas of the business, especially the development of new clubs.

Charles Juan did not want to take on a full-time role with the company, but he held the role of Deputy Chairman. He helped James Lellee in the early years of the company's development by providing advice. James Lellee valued his judgement and often used him as a "sounding board" to discuss the company's future. Brief career histories of Sparkle's senior management team in 1990, who have since become directors, follow.

Charlotte Fine – Human Resources Director

Charlotte Fine, then aged 30, was previously HR manager at a leading international hotel chain, which had seen profitability rise significantly due to several factors, including the introduction of new working practices and increased staff loyalty due to an improved Employee Share scheme. Charlotte Fine was recruited into Sparkle when there were only 6 clubs, but she saw the HR Director role, her first directorship, as a great opportunity to enhance her career.

Adam Shah – Finance Director

Adam Shah had qualified as an accountant in his mid twenties while working for a software development company. Since qualifying, he has had three career moves in ten years. Before joining Sparkle, he had spent four years as Chief Accountant for a company that operated a chain of 30 restaurants across Europe. Adam Shah was a member of a Sparkle club in the city where he lived. When he was approached about the role of Finance Director for Sparkle, he seized the opportunity to move into a company while it was still developing. Although he was very commercially minded, he lacked some financial planning skills and had no personal contacts with many of the key financial institutions.

Trevor Smith – Development Director

Trevor Smith, then aged 45, had worked in the construction industry in his twenties. He had then transferred into property management, working for a chain of high street shops, where he was responsible for site selection and development. He then progressed to become Acquisitions Manager for a Europe-wide chain of retail outlets. He saw his move to Sparkle as a very exciting step, where he could help this newly-formed company grow rapidly. He was responsible for identifying suitable sites for expansion or other clubs in cities that Sparkle wished to expand to, which could possibly be acquired. He quickly formed a strong friendship with James Lellee and they worked well together in bringing the latter's ideas to life.

Ashley Wilkins – Marketing Director

Ashley Wilkins, then aged 33, had previously worked for a leading international advertising agency, followed by five years working as Marketing Manager for a smaller group of health clubs (Company D in competitor analysis shown in *Appendix 4*). He saw the opportunity at Sparkle as personally challenging and very exciting as the company had much potential. His remit was to promote the strong brand name that Sparkle had already created to boost membership numbers for all Sparkle clubs.

Stock market flotation in 1999

In 1993, after five years of operation and with 30 successful clubs across Europe, his management colleagues advised James Lellee that the company should consider flotation in a few years' time in order to raise additional finance to fund expansion. Initially, James Lellee was against the idea; with time, and discussions with Charles Juan, he agreed that it would be a logical way to grow the company.

By 1998, James Lellee recognised the need for a substantial injection of equity funds in order to reduce the burden of debt. The high levels of interest payments continued to cause cash flow problems as most of the expansion had been debt financed, and Sparkle had taken on a number of further loans from different financial institutions, since the original €80 million worth of loans. Indeed, on two occasions, interest payments had been rescheduled.

James Lellee and Charles Juan agreed to a flotation, and market analysts seemed to favour Sparkle as it had grown so rapidly since its formation only eleven years earlier. At the end of 1998, Sparkle had 42 operational clubs.

At the time of flotation in 1999, the company's stated ambitions were to have over 100 clubs in Europe by 2004, with expansion plans to operate over 200 clubs within 10 years. Sparkle publicised that it aimed to generate a return on capital employed of 20% and that it planned to reward its shareholders with both significant growth in share values and also annual dividends.

James Lellee wanted to retain a significant holding in the company, but Charles Juan, who already had personal wealth, agreed to reduce his shareholding down to 10%. Charlotte Fine proposed that a significant number of shares should be authorised for the use of staff performance-related purposes and that the six directors should also have share options.

The flotation of Sparkle was a public offer and Sparkle's advisers recommended an issue of 315 million shares of €1 nominal value, at a share premium of €0·26 per share because of Sparkle's good press coverage and the then buoyant state of the Stock Market. The issue was popular and was fully subscribed, although not as over-subscribed as analysts had expected. The shares initially traded at €1·41.

At the time of flotation in 1999, of the 400 million authorised shares, 315 million shares were issued and the main shareholdings were as follows:

	Number of shares 000s	*% shareholding*
James Lellee	100,800	32·00%
Charles Juan	31,500	10·00%
Sparkle's other four Directors	160	0·05%
Individual investors	40,950	13·00%
Institutional investors	135,290	42·95%
Employee shares *	6,300	2·00%
Total number of shares issued	315,000	100·00%

** Note:* The employee shares were purchased by Sparkle and given to employees free of charge.

Of the shares held by institutional investors, 20% of Sparkle is held by Wye Ltd, a private equity group, which considers Sparkle to be a fast growth company. Wye Ltd wants high returns for its substantial stake in the company.

With the new injection of equity capital, Sparkle was able to repay all of its high-interest loans in full. It also negotiated a new loan of €200 million, which would be used to assist in the financing of further planned new clubs in the next five years. This new bank loan was repayable in ten years at a rate of interest of 9% per annum.

At the time Sparkle was listed in 1999, the company had six directors. An Executive Share Option Scheme was established in order to reward these directors if the planned expansion produced the forecast results, which would lead to growth in the share price. The share option scheme allowed all six directors to purchase up to 1,000,000 shares each at any time up to 31 December 2009 at a price of €2·00 per share.

Sparkle in 2002

By the end of 2002, the group owned and operated 81 clubs around Europe. There were also 12 more that were in the pipeline to be built and opened in the next 18 months. By the end of 2002, most Sparkle clubs were continuing to be very successful and profitable, but growth in membership numbers was starting to slow down. The Sparkle management team had identified that some of the first Sparkle clubs opened had membership levels remaining static and in some clubs membership levels were even falling. This was partly due to these clubs not being equipped with "state of the art" gym equipment. This was particularly noticeable in certain cities where a competing chain of sports clubs had recently opened several clubs which were marketed at the same top level as Sparkle. Sparkle's response was to increase marketing spend to promote the corporate brand name and to run a series of promotional events at certain clubs.

At the end of 2002, Sparkle's membership numbers had reached 325,000 paying members. Many new Sparkle clubs were still establishing themselves in the marketplace and in these newer clubs, membership had not reached target numbers. The brand name of Sparkle was now widely recognised in the sports club marketplace as a premier brand. This had been achieved in two ways. First, the style and facilities of Sparkle clubs had been built to a very high standard and the clubs are exceptionally well maintained. Secondly, Sparkle clubs actually do value their members.

Many companies state that "the customer is king" but few companies in reality treat their customers well and take note of what they need and desire. Sparkle has a good track record of actively looking after its customers and reacting to their needs and wishes. James Lellee is especially pleased about this as this was his intention from the start.

James Lellee knows that most of his members come to Sparkle clubs to get away from the stress and hassle of life. They expect above average facilities that are in full working order and assistance to be available without having to go looking. Sparkle has set its staffing levels at a level whereby it is able to overcome any problems that occur. As with any business, sports centres have their problems such as faulty machines and staff sickness. Sparkle attempts to overcome these everyday problems with either no disruption to members, or with little noticeable inconvenience to members. Each club manager has full, delegated authority to take the necessary action to rectify the everyday problems that occur.

Accounting information and performance measures

Sparkle operates sports clubs in a number of European countries. Sparkle has separate operating companies for each country, which are wholly owned by the Sparkle group. In each country in which Sparkle operates, it has a small regional office, with administrative staff, managed by a regional manager (see Sparkle human resources, page 11).

The regional offices are responsible for all finance, administrative and human resource issues for that country, including the payment of all suppliers in that country. The regional offices are also responsible for the production of management information for Head Office, which they prepare with the help of individual club managers.

James Lellee had always been keen to look at non-financial performance measures. He felt strongly that high achievement in the areas covered by the non-financial performance measures would reflect positively in the financial data. Some of the key non-financial measures that the Sparkle management team reviews on a regular basis are:

- *membership statistics*. These include the number of new members, the number of members leaving and the overall growth, or reduction, in membership for each club;

- *utilisation of facilities.* The weekly statistics that are produced by each club include measures such as the number of people using the gym at certain times, the number of people attending exercise classes, and tennis, squash and badminton court usage at different time periods (including the hours when courts are not used);

- *the number of staff employed*. Staff numbers are expressed in full-time equivalents, as all clubs employ large numbers of part-time staff. For example, an employee who works half of the hours of a full-time employee is half a full-time equivalent;

- *ratio of staff numbers to membership numbers of each club.* James Lellee has always wanted sufficient members of staff to be around to help members and to actively encourage them to use the facilities more effectively;

- *average length of service for staff.* Charlotte Fine's objective was to build a good, high-quality team and she encouraged active participation in running and making improvements to each club. She felt that this helped to maintain good staff relations, so that each employee felt a part of the team and would not want to leave.

The key financial performance measures that Sparkle uses to monitor each club are growth in sales, profitability and return on capital employed (defined as operating profit for the club before interest and tax divided by net operating assets for the club).

Adam Shah is responsible for the company's IT strategy, but due to other demands on his time and demands on Sparkle's finances, the company does not use very sophisticated IT solutions. Sparkle operates some of its administrative systems centrally, such as the membership database, which all clubs are able to interrogate remotely. Each club's management has been left to develop its own forecasting and budgeting systems.

Each regional office operates a nominal ledger for the clubs in its own country, which can be accessed on a "read only" basis by both Head Office finance staff and individual club managers (for their club only). Therefore club management, and Head Office, can interrogate appropriate and relevant accounting information in the nominal ledgers, or membership details from the membership database, on demand. They can generate reports that analyse income and costs by club and cost code, as well as reports analysing the membership from the membership database.

During 2002, Adam Shah introduced an updated monthly financial report that management at each club, together with its regional manager, are responsible for completing and submitting to Head Office electronically. The report includes a profitability statement for the current month and financial year to date, a rolling 12-months' cash flow forecast and key financial performance indicators. These performance indicators include:

- average turnover per member;
- turnover per full-time equivalent employee;
- profit per full-time equivalent employee;
- return on capital employed;
- profitability per club.

Unfortunately, club management, regional offices and head office have problems producing and interpreting the monthly reports, due to errors with the basic data in the nominal ledgers. For instance, where employees have moved between clubs, there is often a timing problem with obtaining correct payroll details per club. Additionally, there are always large numbers of invoices that are not yet included in the nominal ledger system, as they have been incorrectly sent directly to the clubs by suppliers, instead of to the regional office accounts department. Furthermore, many of the utility bills (for heating and lighting) are invoiced quarterly. The accruals and prepayments, which need to be prepared to ensure that correct charges are incorporated into the monthly accounts, are not always done.

While the managers at each club play an important role in the preparation of accounting information for their respective clubs, there is a general feeling at club management level of a "lack of ownership" of the figures produced for club profitability. Furthermore, some club managers simply do not recognise many of the costs that appear in the nominal ledger for their club and produce alternative management information, which does not always reconcile with the company's nominal ledger. There is a lack of communication and co-ordination between club management, regional office administration staff and the Head Office finance team. The accounting problems are further exacerbated by the fact that many club managers are not very financially astute, despite financial awareness training that is regularly offered to them.

Adam Shah feels that the company needs to invest in improving, and thoroughly overhauling, its management reporting systems, as well as its marketing and membership databases, which are proving inadequate to support current membership numbers. A recent internal audit of one under-performing club demonstrated that not all of the existing databases held consistent records. For example, when a member resigns from a Sparkle club, the individual should be removed from the marketing database, as well as the membership and billing database. Another problem had also manifested itself: a very small number of members appeared correctly on the membership and marketing databases, but did not appear on the billing database and had never been billed.

Profitability analysis

In 2002, Sparkle clubs produced a net profit before interest and tax of €40·6 million, a return on turnover of 14·3% (2001 was 17·7%). However, net operating profit after interest and tax fell by €4·9 million to €21·3 million in 2002. This was mainly as a result of cash reserves falling, resulting in far lower interest receivable in 2002.

The company had capital employed of €686·7 million at the end of 2002 (average for 2002 was €681 million), which resulted in a return on capital employed of 6·0%. (Sparkle's total return on capital employed is defined as net profit before interest and tax divided by the average total assets less current liabilities for the year.)

The profit and loss account and balance sheet for Sparkle for the last two financial years are shown in *Appendices 1* and *2* (see pages 13 and 14).

New Sparkle clubs usually turn profitable by the end of their second year of operation. In the first year of operation, after opening, the average ROCE is around 20% negative, and the second year averages a small negative ROCE. Therefore, within two years of building a new club, that club should have attracted sufficient membership to produce an operating profit. After that, each new club should increase its profitability as its membership grows and the management of each club improves.

The company was looking to achieve a far higher return on capital employed than it was currently achieving. However, the number of newer clubs, which had not yet turned profitable, distorted this statistic. A few of Sparkle's popular city-centre clubs were producing a ROCE of over 30% in 2002, whereas most of the new clubs were either still making losses or producing a ROCE of around only 4%. Additionally, there were eight clubs that had been operational for more than two years that were under-performing and were still showing an average ROCE of 10% negative each year. These clubs had an average capital employed of €9·9 million each.

The turnover of sports clubs mainly comprises fees paid by members either monthly or annually in advance of using club facilities. There is usually an element of prepaid income, which is shown as a current liability in the balance sheet, and there are none of the usual business problems associated with debtors and bad debts. The remainder of the company's turnover is additional fees paid for coaching or income generated in the clubs' restaurants and bars, and rental income generated from space let out to retailers of sports equipment and clothing.

Sparkle analyses its operating costs into five main cost categories. The breakdown of operating costs for the last two years is shown below:

Breakdown of Sparkle's operating costs	*2002 € million*	*2001 € million*
Staff costs	82·1	63·7
Utilities costs	46·8	39·6
Depreciation	30·2	23·6
Marketing costs	27·1	20·0
Other operating costs	21·3	16·1
Total	207·5	163·0

Sparkle's depreciation policy is as follows:

- land and buildings (freehold and long leasehold) are depreciated over 50 years;
- equipment is depreciated over 10 years;
- furniture and fittings are depreciated over 10 years;
- there are no cars, as all vehicles are leased.

It is not possible, from information published by Sparkle's competitors, to fully determine their cost profile. However, as many of Sparkle's competitors provide a lower quality of service that is less manpower intensive, their staff costs are likely to be much lower. Some competitors simply offer a sports club that provides gym and swimming facilities only, with a very low staff force. They do not offer the many facilities and training that Sparkle clubs offer.

Sparkle is currently in negotiation with a small competitor, Company Z, which it is planning to acquire. Company Z has 12 clubs, which are operating profitably in a European country in which Sparkle has little presence. The owner of these clubs has given Sparkle's management access to some of the internal management accounts. These give a breakdown of their operating costs, as follows:

Breakdown of Company Z's operating costs	*Company Z 2002*
Staff costs	28·7%
Utilities costs	21·1%
Depreciation	18·2%
Marketing costs	23·6%
Other operating costs	8·4%
Total	100·0%

Capital expenditure

History to date

The cost of building a Sparkle club varies widely, although every Sparkle club is built to the same high specifications. Each club offers different facilities, depending on its location. Some sites are edge-of-town or city suburb sites, whereas others are prestigious city-centre clubs.

Sparkle's policy is to build new clubs on carefully selected sites and to construct purpose-built clubs to its own high specifications. However, on many occasions, a suitable site in a city that Sparkle had targeted had not been available. Where a sports club or a chain of clubs belonging to a competitor had suitable facilities, Sparkle has been able to acquire either an individual club, or a small number of clubs. In order to expand the number of clubs over the next five years, Sparkle plans to build around 60% from new, with the remainder through acquisitions. It has not yet been decided whether the acquisitions will be small numbers of clubs in different European countries or possibly a major acquisition of one of Sparkle's competitors.

The capital cost of building new clubs varies. A large club with tennis, fitness, swimming and golf facilities costs considerably more than the average site, depending on the location of the site itself and the cost of land, which varies depending on the city. Over the last few years, the average cost of newly-built Sparkle clubs has been around €11·5 million each. This average cost has been based on a smaller club costing around €10 million and larger clubs (which offer a greater range of facilities) costing around €15 million.

As a general measure, Sparkle has paid an average of €9 million for clubs acquired from competing companies, which have generally been smaller city-centre clubs with limited facilities, such as only fitness and swimming. Clubs that are acquired are re-branded after acquisition and require a significant amount of capital expenditure, averaging over €2 million per club, to bring facilities in line with Sparkle's corporate guidelines, and to maintain standards across the company.

An exception to these average costs is one club that Sparkle acquired in a major European city centre. This club was previously owned and operated by a competitor, which operates a very small number of high-profile, elite sports clubs, which are frequented by some very famous personalities and also minor members of royalty. For this prestigious club, Sparkle paid a high premium, as it was purchasing a high-profile club with luxury facilities and fittings in an excellent city-centre location. This club already had a large number of wealthy members who were largely insensitive to the country's economic conditions.

Sparkle paid in excess of €50 million for this prestigious club, which is now the "flagship" of the Sparkle clubs. This club generated a turnover of around €10 million in 2002. The elite membership of this club added to the prestige of the Sparkle brand and was marketed to promote membership of other Sparkle clubs across Europe. Ashley Wilkins was very enthusiastic about this acquisition as he felt that it would enhance Sparkle's standing and help boost membership at other Sparkle clubs. At the time of the acquisition, Adam Shah argued vehemently that the company was paying too much. However, James Lellee saw this as an opportunity to acquire the club and, after much negotiation, agreed to this price. The club was profitable and the previous owner was selling it to fund other activities.

Capital expenditure has been running at around €100 million per year for the preceding three years, with a record amount of capital expenditure in 2002 of over €160 million.

Future plans

The company's current five-year plan, prepared in January 2003, shows that the number of Sparkle clubs is planned to grow from 81 clubs at the end of 2002 to 200 clubs by the end of 2007. To achieve this growth in the number of clubs, Sparkle plans to build some new clubs itself, and its management is also looking to acquire existing sports clubs, and to re-brand them. The planned capital expenditure for the next five years is forecast to be around €1,500 million if Sparkle is to grow at the rate that James Lellee and Trevor Smith would like. Details of the five-year capital expenditure plan are shown in *Appendix 3* (on page 15).

Trevor Smith has been examining several small chains of clubs that are operational in cities across Europe where Sparkle has currently little, or no, presence. These could provide Sparkle with a fast entry into those cities, particularly where prime sites are not frequently available.

It is planned that nearly half of all new Sparkle clubs in the next five years will be acquired from a number of competitors around Europe, such as Company Z. Acquiring clubs from competitors has many advantages and also many disadvantages; the key is getting the right sized club in the right location, at an acceptable price. It also speeds up the process of clubs achieving profitability sooner, as clubs acquired already have large numbers of existing members. While the plan is to acquire a small number of clubs each year from competitors, Sparkle has not ruled out one or more major acquisitions (of large numbers of clubs) if the locations and the acquisition price are acceptable.

Since flotation of the company, Adam Shah has become increasingly worried about the continued fast rollout of new clubs. The loan of €200 million taken out in 1999 has almost entirely been exhausted, and existing clubs are not yet generating sufficient cash from operations to finance the continued capital expansion programme.

Trevor Smith feels that Sparkle ought to diversify into a complementary sphere, and consider acquiring a chain of restaurants. He is pleased that the restaurants that Sparkle currently operates within each club are profitable and he feels that this is an area that Sparkle should expand into. He has brought to the attention of James Lellee a chain of restaurants that has recently been offered for sale by an international company that wants to concentrate on its core business activities. The next Sparkle Board meeting will discuss this proposed acquisition.

Sparkle human resources

Charlotte Fine has been responsible for recruiting and training a large workforce in the past 10 years, which is employed in such diverse fields as fitness training and coaching, catering, sports club management, finance and administration, and marketing. The company's ethos is to deliver a high quality of service to members and each member of staff has been carefully recruited and trained and works as part of a team.

The staff structure of the company is that each club has a manager who is responsible for all staff and activities in that club. As the number of Sparkle clubs grew, covering a number of European countries, it was necessary for James Lellee to introduce a new layer of management between individual club managers and Sparkle's directors. In early 1996, Sparkle appointed its first regional manager, and by the end of 2002 Sparkle had six regional managers. Each regional manager is responsible for managing between 10 to 15 clubs, and reports directly to James Lellee, with a dotted line relationship to the other Sparkle directors. The regional managers are responsible for managing a small finance and administrative staff, and they manage all payroll and human resource issues for their region.

The regional managers oversee the running of clubs and particularly assist with all new clubs. Regional managers assist with staff recruitment and staff training needs and also help to monitor each club's growth in membership and financial results. They are responsible for identifying under-performing areas within a club. Furthermore, if a club fails to become profitable within two years of launch, the regional manager will assist the club manager with implementing remedial action.

James Lellee always wanted every area of his clubs to offer excellent service and he felt that the only way the club could deliver this was to recruit high-quality staff in the first place. The company then trains and rewards its staff, in order to foster good company relations and to enjoy the benefits of low staff turnover and good team morale. The company also offers its staff the ability to move internally within the company, either to a different role within the same Sparkle club or to transfer to other Sparkle clubs around the country or within Europe. This policy has been very popular with many of the staff.

In many areas, Charlotte Fine has recruited graduates and offered them a fast track to management. The recruitment of young, keen graduates followed by training in the goals and ambitions of Sparkle, enabled individuals to quickly learn the business and progress rapidly in terms of salary and responsibility. Growing its own management in this way is regarded by Charlotte Fine as cost effective, compared to the slow recruitment of managers from competitors or the recruitment of managers with little understanding of the sports club marketplace. The resultant Sparkle management team is young and responsive to the needs of members.

By the end of 2002, Sparkle employed nearly 5,700 staff, of whom 3,800 were full-time employees, with the remainder of the employees working part time (averaging 16 hours per week). The number of full-time equivalent employees at the end of 2002 was 4,610.

Since flotation in 1999, the company has adopted a policy of rewarding staff with free shares. The shares that are given to staff free of charge are purchased by Sparkle on the open market. An employee is entitled to free shares from the "Employee Share Scheme" each year in accordance with the following criteria:

- all staff receive a standard fixed allocation each year dependent on the overall profitability of the company;
- staff from each club can be nominated for additional free shares by club managers, based on their personal performance during the year;
- all staff at a club receive an allocation if that club's membership numbers and turnover targets are achieved.

In 2002, staff received a total of 4,300,000 shares. At the end of 2002, Sparkle employees held 18,900,000 shares, which represents 6% of the shares in issue. The total number of shares in issue remains at 315 million.

Competitor analysis

Sports clubs exist in a very crowded marketplace, in which there are many large companies operating chains of sports clubs similar to Sparkle's. There are also individual clubs in most cities that are successful as they differentiate their facilities and service to their members.

The type of customer who is attracted to sports clubs is looking to choose a club that meets several criteria. Some are simply looking for good value for money and will select a club with basic facilities at the cheaper end of the scale. Other, more discerning, customers want more extensive facilities. Location and convenience, as well as good service, remain important features, which is why Sparkle has chosen its sites so carefully.

Sparkle has consistently marketed itself as having the best facilities with excellent service and sports instructors. It is recognised as being at the top end of the private sports club market. Some other sports companies operate large numbers of clubs that provide a fairly basic gym and few other facilities, and have a substantially cheaper membership cost. They are also more profitable than Sparkle as their staff and running costs are lower.

A comparison of Sparkle with six of the many companies in the sports club market place is shown in *Appendix 4* (on page 16).

Sparkle

	2002	*2001*
Number of clubs – end year	81	67
Number of clubs – average for year	74	63
Profit and loss account	*€ million*	*€ million*
Turnover	284·2	231·0
Operating costs	207·5	163·0
Gross profit	**76·7**	**68·0**
Administration expenses	36·1	27·2
Net profit before interest and tax	**40·6**	**40·8**
Net interest payable	(11·6)	(5·9)
Taxation on ordinary activities	(7·7)	(8·7)
Net operating profit after interest and tax	**21·3**	**26·2**
Dividends paid and proposed	9·9	9·5
Retained profit for the financial year	**11·4**	**16·7**

Sparkle

Balance sheet

	End 2002	*End 2001*
	€ million	*€ million*
Tangible assets		
Gross book value	845·2	683·1
Depreciation	108·5	87·9
Net book value	**736·7**	**595·2**
Current assets		
Stock	2·8	2·0
Debtors	10·4	9·1
Cash and short-term investments	26·8	132·3
Total current assets	**40·0**	**143·4**
Current liabilities		
Amounts due within 1 year:		
Trade creditors	13·7	6·8
Corporation tax	7·1	8·0
Other tax creditors	2·8	2·2
Deferred income *	61·4	41·6
Proposed dividends	5·0	4·7
Total current liabilities	**90·0**	**63·3**
Net current assets / (liabilities)	**(50·0)**	**80·1**
Creditors falling due after 1 year:		
Bank loan	200·0	200·0
Net assets	**486·7**	**475·3**
Financed by:		
Called up share capital	315·0	315·0
Share premium reserve	81·9	81·9
Profit and loss reserve	89·8	78·4
Total equity shareholders' funds	**486·7**	**475·3**

* *Note:* Deferred income represents membership fees paid in advance

Sparkle – five-year plan

Analysis of number of clubs and capital expenditure

	2003	*2004*	*2005*	*2006*	*2007*
Number of clubs					
Number of clubs at start of year	81	95	115	139	168
Additions in the year:					
New build	9	10	12	17	20
Acquisitions	5	10	12	12	12
Number of clubs at end of year	95	115	139	168	200
Cost per club	*€ million*	*€ million*	*€ million*	*€ million*	*€ million*
New build	11·5	11·5	11·5	11·5	11·5
Acquisition	9·0	9·0	9·0	9·0	9·0
Re-branding per acquisition	2·0	2·0	2·0	2·0	2·0
Total forecast capital spend	*€ million*	*€ million*	*€ million*	*€ million*	*€ million*
New builds	103·5	115·0	138·0	195·5	230·0
Cost of acquisitions	45·0	90·0	108·0	108·0	108·0
Re-branding	10·0	20·0	24·0	24·0	24·0
Improvements	5·0	10·0	10·0	10·0	10·0
Major repairs	5·0	10·0	15·0	25·0	40·0
Total capital expenditure	168·5	245·0	295·0	362·5	412·0
Cumulative gross book value of tangible assets	1,013·7	1,258·7	1,553·7	1,916·2	2,328·2

Comparison of Sparkle to six competitors in the sports club market place

	Sparkle	*A*	*B*	*C*	*D*	*E*	*F*
Number of clubs in Europe [end of latest year]	81	49	148	45	20	18	62
Turnover (€ million) [latest year]	284	181	370	171	44	74	171
Annual % growth in turnover [latest two years]	23%	6%	18%	19%	5%	4%	22%
Share price:							
End December 2002	€1·60	€2·48	€2·09	€0·76	€0·90	€1·34	€4·43
Highest in 2002	€1·88	€3·19	€4·23	€1·18	€0·94	€3·42	€6·98
Lowest in 2002	€1·27	€2·04	€1·98	€0·45	€0·67	€1·29	€3·60
Earnings (€ million) [latest year]	21·3	13·4	32·9	11·8	3·7	8·9	15·3
Earnings per share	€0·0676	€0·1578	€0·0941	€0·0347	€0·1069	€0·1595	€0·1784
P/E ratio * [December 2002]	23·7	15·7	22·2	21·9	8·4	8·4	24·8
Gross book value of clubs' tangible assets (€ million)	845·2	480·2	710·4	418·5	262·0	181·8	316·2
Return on capital employed **	6·0%	8·2%	15·6%	7·9%	5·4%	13·1%	13·0%
Gearing ***	29%	35%	45%	28%	42%	30%	28%
Number of full-time equivalent employees	4,610	2,550	6,070	2,600	560	1,040	2,240

Notes:

* The industry average P/E ratio is 18·4.

** Return on capital employed is defined as net profit before interest and tax divided by the average total assets less current liabilities for the year.

*** Gearing is defined as loans and borrowings as a percentage of total equity shareholders' funds plus loans and borrowings.

End of the pre-seen material

[This page is detachable, for ease of reference]

Sparkle – Unseen material provided on examination day

Additional (unseen) information relating to the case is given on pages 18 to 22.

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

ANSWER THIS QUESTION – 100 MARKS

You are the consultant appointed by the Board of Sparkle to assist the new interim Finance Director, Roger White.

Prepare a confidential internal report for the Sparkle Board that

- briefly discusses the take-over proposal from the perspective of the different stakeholder groups;
- recommends strategies which would enable Sparkle to deliver a sustainable improvement in financial performance and growth in its share price. Evaluate your proposed strategies to demonstrate how Sparkle's share price and return on capital employed could be improved. State clearly the assumptions you have made.

Note: Assume, for simplicity, tax is payable at 30%.

Sparkle clubs since flotation

By May 2003, Sparkle had been a listed company for over three and a half years. In 1999, the company's stated ambitions were to have over 100 clubs in Europe within the next five years, growing to over 200 clubs within 10 years, and to be generating a return on capital employed of 20%. Sparkle planned to reward its shareholders with both significant growth in share values and growth in annual dividends.

The prospectus forecast for the 1999 flotation included high levels of membership growth and an ambitious capital expenditure programme to build, or to acquire, new clubs in cities across Europe. However, apart from acquiring small groups of five or fewer clubs, Sparkle has, to date, made no major acquisitions of clubs from competitors. It has continued to open new Sparkle clubs at the rate of eight each year over the last few years, except in 2002 when it opened fourteen new clubs. At the end of 2002, Sparkle operated 81 clubs.

Membership growth has not been as strong as anticipated. This is due to two main reasons. First, there has been a large increase in the number of competitors in the sports club marketplace, with many of them offering cheaper membership and more basic facilities. Second, at the top end of this market, there has been a significant amount of "churn", with strong growth in new members, but a decline in existing membership as members are attracted to join other, newer clubs.

Shareholders' expectations

For a long time, Adam Shah has argued with James Lellee that growth in operating profit and growth in membership numbers were insufficient to satisfy shareholders. Adam Shah had to keep reminding James Lellee that shareholders want to see a growth in their investment, and James Lellee was finding it difficult to continually defend the way he wanted to run Sparkle. He still saw the company as *his* company and his dominance of the Board irritated a number of his fellow directors.

Adam Shah was worried that James Lellee would continue to dictate the way he wanted the company managed. Sparkle was not producing the desired growth in share price that shareholders expected. Unless he could convince James Lellee to bring in new management to improve profitability in some clubs, he was worried that the company could fall into decline, despite being profitable at present. He also continued to worry about the ambitious expansion plan and how this could be financed and managed, as experienced management were already barely coping with their current responsibilities.

Adam Shah had introduced a number of new financial reporting performance measures, including growth in EPS and growth in share price, and was also focussed on Sparkle's return on capital employed ratios. The return on capital employed ratios were being studied by Sparkle's management on a country-by-country basis, as well as for each individual club, to identify areas of under-performance.

Market analysts and the financial press had been critical of Sparkle's financial performance for over 12 months, and the company's share price had fallen from its 2002 high of €1·88 to its current level of €1·51. James Lellee has assured the market analysts that Sparkle's profitability and its share price will improve significantly when many of the newer clubs establish themselves and membership grows.

Appendix 5 (on page 22) shows current share prices for Sparkle and for six of its competitors, as well as share prices during 2002 (that had been given previously in the pre-seen material). The share prices for all companies in this sector have dropped over the last 12 months. Senior management in Sparkle are particularly concerned at its share price, given the increase in the number of clubs operational and the profits being generated.

Cashflow projections

For many months, Adam Shah had been increasingly concerned over the cashflow projections, due to the high capital spend on the building of new clubs and the acquisitions made. Many of the new clubs being built were coming in over budget, as James Lellee would not have anything but the best built. James Lellee did not want to reduce the high specifications of the new clubs, which could damage the corporate image.

At the end of the last financial year in December 2002, Sparkle had cash and short-term investments of just under €27 million, but this had been used to finance the rapid capital expenditure programme. All of the cash generated to date by business operations had also been used to finance the expansion of new clubs, leaving Sparkle short of cash again.

The next quarterly interest payment on the €200 million loan, which had been taken out in 1999 to finance the building of new clubs, is due at the end of June 2003 and Adam Shah is increasingly worried that the company simply will not be able to pay it.

A similar situation had recently happened to another sports club company and its share price had seen a dramatic drop as the market lost confidence in its ability to generate cash returns. Adam Shah feared that this could happen to Sparkle and has tried to warn James Lellee and the Board. His warnings have gone unheeded. James Lellee made comments at a recent Board meeting that "Sparkle has come through worse cash shortages before, and the company is strong with a large asset base, so there is no need to worry".

Adam Shah was starting to consider whether to discuss rescheduling interest payments with the key banks involved, which had been done previously. However, since the flotation in 1999 the company has been in the public eye, and any rescheduling of interest payments would reflect badly on Sparkle's management. Instead, he sought Board approval in April 2003 for Sparkle to take out an additional loan. The Sparkle Board approved that negotiations should be commenced for a further loan of €100 million, but to date this new loan has not been finalised.

Adam Shah resigns

Following much media criticism of the Sparkle management and the company's falling share price, Adam Shah felt that it would be in the company's interests if he resigned.

He resigned on 2 May 2003. Despite James Lellee requesting him to stay on until a successor could be found, or at least completing his one-month notice period, Adam Shah asked to leave straight away, as he was concerned that the financial situation at Sparkle could get much worse. He wanted to sever his ties with the company. James Lellee reluctantly agreed to release Adam Shah from his contractual notice period.

His departure left a gap in the management structure, and there were no suitable candidates internally in Sparkle for the Finance Director role. The Board agreed to the external recruitment of a senior interim manager to act as Finance Director while the company started the process of recruiting a permanent Finance Director. The recruitment consultants identified a few suitable candidates for this temporary role, and the interim manager who was subsequently selected by the Sparkle Board was Roger White, who could start immediately.

Roger White was well respected in the financial community and had created much media attention in the past by being able to turn around companies that market analysts feared would decline into bankruptcy. His arrival at Sparkle was welcomed by most of the Sparkle Board, except that James Lellee feared that he would interfere too much in the way he was running the company. However, he agreed that Sparkle needed much tighter financial controls to ensure that it overcame its current cash flow problems and that it did not have repeated cash flow problems in the future.

James Lellee was finally starting to be concerned about the market analysts' reactions to Sparkle's results and the depressed share price. He also realised that the company now needed a senior and experienced Finance Director.

James Lellee falls ill

James Lellee continued to travel to visit Sparkle clubs throughout Europe, and it was on one of these trips that he felt unwell, but continued with his hectic schedule. On the way to one of the clubs, James Lellee suddenly collapsed, having suffered a major heart attack. Doctors advised that he would not be able to return to work for at least six months.

The Sparkle Board was notified and immediately one of the regional managers, Martin Hawkins, was appointed temporary Chief Executive. Charles Juan was appointed temporary Chairman during James Lellee's absence.

Martin Hawkins, aged 40, was the most experienced of the six regional managers, and his appointment was supported by Charles Juan. He was one of the few senior managers who had agreed with Adam Shah that Sparkle needed time to resolve problems with some of the existing clubs; he felt that the company was expanding too fast. Unlike many of his colleagues, he had spoken up against James Lellee on several occasions when they disagreed over particular issues or ways to tackle certain problems. He was an experienced, hands-on manager who had the ability to make tough decisions.

Proposed take-over by Company F

One of Sparkle's competitors, Company F, owns and operates 62 sports clubs in Europe. It has always stated that it wanted to expand rapidly and that by building its own clubs on new sites, expansion was not fast enough. *(Note: Company F is competitor F in Appendix 4 of the pre-seen material.)*

Company F offers its members lower standard fitness clubs with none of the extras, such as the extensive leisure facilities, offered at Sparkle clubs. Market analysts have, for a long time, been concerned that unless Company F "goes upmarket" there will not be enough growth at the bottom end of the private sports market to sustain Company F's current growth plans. The Chief Executive of Company F agreed with the analysts, and this has led the company to make a bid to acquire Sparkle.

Company F has access to sufficient cash resources to make an outright cash bid for Sparkle. Company F's Chief Executive, Derek Wright, stated that "we want to expand and we see the acquisition of Sparkle clubs as the right way to grow in today's buoyant market. Since we cannot grow fast enough by organic growth, we have decided that the time is right for us to acquire one of our competitors which is still struggling to succeed".

Coincidentally, the take-over bid for Sparkle was announced on the morning that James Lellee had been taken ill, which was 16 May 2003. Derek Wright had called a press conference to announce a cash offer of €1·90 per share, conditional on being assured of obtaining more than 51% of Sparkle's shares.

The rest of Sparkle's Board, led by its new temporary Chief Executive, Martin Hawkins, and its corporate advisers convened a hurried meeting to decide a course of action and to make a press statement. They announced to the financial press that, in their view, the bid should be rejected and that long-term growth prospects would be better if Sparkle were to remain independent.

The Board, including James Lellee's long-term friend and temporary Chairman, Charles Juan, was furious at the bid from Company F. Charles Juan was also angry that Derek Wright had stated that "Sparkle is struggling". Charles Juan considered that Company F's clubs were very basic bottom-of-the-range sports clubs that appeal to a very different sector of the market from the one in which Sparkle operates.

Charles Juan stated to his fellow Sparkle directors that James Lellee (who was still in hospital) would not want Sparkle to be taken over at all, least of all by Company F. However, he admitted that since its membership numbers were high (at over 350,000) and since it offered sports clubs with only basic facilities, its return on capital employed ratio was far better than Sparkle's.

The news of the proposed take-over and of James Lellee's sudden absence had mixed reactions in the financial press, but Sparkle's share price rose from €1·51 (where it had hovered for the past few months) to €1·72, mainly due to news of the bid. Also, the market analysts viewed that James Lellee's absence would force the company to make some difficult decisions. The market analysts considered that James Lellee might not be prepared to agree to some of the actions that may become necessary if he were still running the company.

The new interim Finance Director, Roger White, who was trying to grapple with Sparkle's expansion plans and cash flow problems, was now thrown into the sudden turmoil of preparing to help the Sparkle Board to defend the company from the proposed acquisition.

The Sparkle Board appointed a leading firm of corporate advisers to assist Roger White in defending itself against the proposed take-over. After several briefing meetings with the corporate advisers, Martin Hawkins and Roger White agreed on a series of short-term responses to all of the stakeholders to the proposed take-over bid.

James Lellee, Charles Juan and some of the employees are known to be supportive of the incumbent management and they would not sell their shares to Company F.

Martin Hawkins, Roger White and a representative from the firm of corporate advisers held meetings with some of the institutional investors. At these meetings, it was established that most institutional investors intended to stay loyal to Sparkle, but that the institutional investors were looking for reassurance from Sparkle's management that the company's growth in both dividends and share price would be substantial within the next two years.

The institutional investors requested that they be kept closely informed of the strategies that would be put in place by Sparkle to achieve this growth. Furthermore, they also stated that they could not give Sparkle's management any commitment of their loyalty should another higher bid occur or if Sparkle did not put in place convincing and deliverable strategies to increase growth in dividends and share price.

The Sparkle Board also appointed a consultant to assist the new interim Finance Director, Roger White. Together with Martin Hawkins, they are working to establish the strategies that are required in order to deliver a sustainable growth in share price that will enable Sparkle to defend itself from this, and any further, take-over bids.

Appendix 5

Share prices for Sparkle and six competitors

	Sparkle	*A*	*B*	*C*	*D*	*E*	*F*
Share price: 15 May 2003 (pre take-over bid)	€1·51	€2·41	€2·05	€0·73	€0·86	€1·31	€4·34
End December 2002	€1·60	€2·48	€2·09	€0·76	€0·90	€1·34	€4·43
Highest in 2002	€1·88	€3·19	€4·23	€1·18	€0·94	€3·42	€6·98
Lowest in 2002	€1·27	€2·04	€1·98	€0·45	€0·67	€1·29	€3·60

Note: Share price data for 2002 is the same material that was given as part of Appendix 4 in the pre-seen material.

End of unseen material

Maths tables follow

Present value table

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

Periods	Interest rates (r)									
(n)	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	0705	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	Interest rates (r)									
(n)	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

Periods	Interest rates (r)									
(n)	21%	22%	23%	24%	25%	26%	27%	28%	29%	30%
1	0.826	0.820	0.813	0.806	0.800	0.794	0.787	0.781	0.775	0.769
2	0.683	0.672	0.661	0.650	0.640	0.630	0.620	0.610	0.601	0.592
3	0.564	0.551	0.537	0.524	0.512	0.500	0.488	0.477	0.466	0.455
4	0.467	0.451	0.437	0.423	0.410	0.397	0.384	0.373	0.361	0.350
5	0.386	0.370	0.355	0.341	0.328	0.315	0.303	0.291	0.280	0.269
6	0.319	0.303	0.289	0.275	0.262	0.250	0.238	0.227	0.217	0.207
7	0.263	0.249	0.235	0.222	0.210	0.198	0.188	0.178	0.168	0.159
8	0.218	0.204	0.191	0.179	0.168	0.157	0.148	0.139	0.130	0.123
9	0.180	0.167	0.155	0.144	0.134	0.125	0.116	0.108	0.101	0.094
10	0.149	0.137	0.126	0.116	0.107	0.099	0.092	0.085	0.078	0.073
11	0.123	0.112	0.103	0.094	0.086	0.079	0.072	0.066	0.061	0.056
12	0.102	0.092	0.083	0.076	0.069	0.062	0.057	0.052	-	-
13	0.084	0.075	0.068	0.061	0.055	-	-	-	-	-
14	0.069	0.062	0.055	-	-	-	-	-	-	-
15	0.057	0.051	-	-	-	-	-	-	-	-

Cumulative present value of €1 per annum, Receivable or Payable at the end of each year for *n* years $\frac{1-(1+r)^{-n}}{r}$

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	7.793	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

Periods (*n*)	Interest rates (*r*)									
	21%	22%	23%	24%	25%	26%	27%	28%	29%	30%
1	0.826	0.820	0.813	0.806	0.800	0.794	0.787	0.781	0.775	0.769
2	1.509	1.492	1.474	1.457	1.440	1.424	1.407	1.392	1.376	1.361
3	2.074	2.042	2.011	1.981	1.952	1.923	1.896	1.868	1.842	1.816
4	2.540	2.494	2.448	2.404	2.362	2.320	2.280	2.241	2.203	2.166
5	2.926	2.864	2.803	2.745	2.689	2.635	2.583	2.532	2.483	2.436
6	3.245	3.167	3.092	3.020	2.951	2.885	2.821	2.759	2.700	2.643
7	3.508	3.416	3.327	3.242	3.161	3.083	3.009	2.937	2.868	2.802
8	3.726	3.619	3.518	3.421	3.329	3.241	3.156	3.076	2.999	2.925
9	3.905	3.786	3.673	3.566	3.463	3.366	3.273	3.184	3.100	3.019
10	4.054	3.923	3.799	3.682	3.571	3.465	3.364	3.269	3.178	3.092
11	4.177	4.035	3.902	3.776	3.656	3.544	3.437	3.335	3.239	3.147
12	4.278	4.127	3.985	3.851	3.725	3.606	3.493	3.387	3.286	3.190
13	4.362	4.203	4.053	3.912	3.780	3.656	3.538	3.427	3.322	3.223
14	4.432	4.265	4.108	3.962	3.824	3.695	3.573	3.459	3.351	3.249
15	4.489	4.315	4.153	4.001	3.859	3.726	3.601	3.483	3.373	3.268
16	4.536	4.357	4.189	4.033	3.887	3.751	3.623	3.503	3.390	3.283
17	4.576	4.391	4.219	4.059	3.910	3.771	3.640	3.518	3.403	3.295
18	4.608	4.419	4.243	4.080	3.928	3.786	3.654	3.529	3.413	3.304
19	4.635	4.442	4.263	4.097	3.942	3.799	3.664	3.539	3.421	3.311
20	4.657	4.460	4.279	4.110	3.954	3.808	3.673	3.546	3.427	3.316