

# Clifford Chance Pension Scheme

# Actuarial Valuation as at 30 April 2004

**Prepared for** 

The Trustee of Clifford Chance Pension Scheme



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# 1 - Introduction

# 1.1 Background

I am pleased to present my report on the actuarial valuation of Clifford Chance Pension Scheme ("the Scheme") as at 30 April 2004 ("the valuation date"). I have carried out this valuation in accordance with Clause 17.1 of the Scheme's Trust Deed and Rules.

This report complies with version 7.0 of *GN9: Funding Defined Benefits – Actuarial Reports* issued by the Institute and Faculty of Actuaries. While it is addressed to the Trustee, the report has been prepared with the knowledge that it will also be of interest to Clifford Chance and other participating employers ("the Employer").

Throughout the valuation, I have relied on the accuracy of the information provided by or on behalf of the Trustee.

This report has been prepared to enable me to provide information to the Trustee and the Employer as set out above and for no other purpose. To the fullest extent permitted by law, neither I nor Aon Limited accept or assume responsibility to anyone other than the Trustee and the Employer for the content of this report.

# 1.2 Purpose

An actuarial valuation is normally undertaken at least every three years for a number of purposes. The main purposes are to:

- determine the Scheme's funding position on an ongoing basis, by comparing the Scheme's assets with the benefits earned by all categories of members up to the valuation date; and
- determine the contribution rate that needs to be paid to the Scheme in future so that the benefits are funded in accordance with the Trustee's and Employer's objectives.

# Other purposes are to:

- estimate how much the assets of the Scheme would meet its liabilities if it were to wind up;
- determine the financial position of the Scheme on the Minimum Funding Requirement (MFR) basis;
- determine the financial position of the Scheme on the statutory surplus basis set by the Inland Revenue; and
- complete various statements and certificates needed by law.

# 1.3 Power to set contribution rates

Rule 5.1 of the Trust Deed and Rules, states that the contribution rate must be set by the Principal Employer (Clifford Chance London Limited) after consultation with the actuary. Thus, although this report is addressed to the Trustee of the Scheme, it sets out advice to the Principal Employer on an appropriate level of contributions to the Scheme. The Principal Employer has confirmed that contributions will be made to the Scheme in accordance with our recommendations.

# 2 - Intervaluation period

I carried out the previous actuarial valuation as at 30 April 2001.

At the previous valuation, I recommended that the Employer should pay contributions to the Scheme at a rate of 8.0% of Pensionable Salaries with effect from 1 May 2002. Since the last valuation, the Employer has contributed at the following rates.

From	То	Employer
30 April 2001	30 April 2002	5.8%
1 May 2002	31 August 2003	8.0%
1 September 2003	30 April 2004	9.0%

The following developments also took place during the intervaluation period or since:

- The Scheme was closed to new 'fee earners' on 1 January 2003. The Scheme was also closed to new 'non-fee earners' from 1 January 2005.
- The Employer has ended the practice of permitting unreduced early retirement from active service.
- After a review of investment strategy in 2002 a revised Scheme-specific investment benchmark was introduced in October 2002. This included appointing additional specialist fund managers (Frank Russell Company Ltd in October 2002; Aegon Asset Management UK Plc in October 2002; Liontrust Asset Management in December 2003) to the Overseas Equity, Corporate Bond and half of the UK Equity portfolios respectively. These appointments replaced HSBC Asset Management who previously managed the whole fund. HSBC Asset Management continues to manage 50% of the Scheme's UK Equities.

# 3 - Data and benefits

#### 3.1 Introduction

In this section, I have set out summaries of the data I have used in the valuation. This data relates to the membership of the Scheme and also the assets held by the Scheme. The benefits of the Scheme are summarised in Appendix 1. A full description is given in the trust documentation. I have made no allowance for discretionary benefits to be granted.

# 3.2 Membership

Membership data was provided to me by the administrators of the Scheme on behalf of the Trustee and is summarised in the remainder of this section. The data is used to calculate the benefits earned by each member of the Scheme at the valuation date.

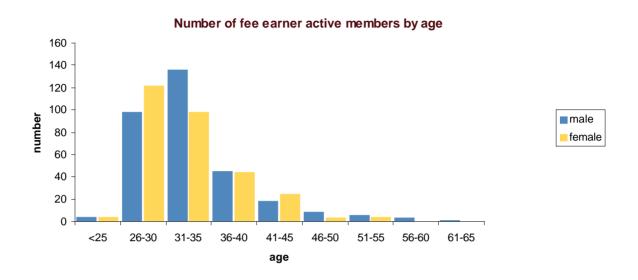
The membership data was provided in August 2004 and reflects the Scheme's membership at that date. As such it does not represent the Scheme at the valuation date but allows for membership movements to August 2004. I am satisfied that there were no significant developments in this period and that the data is suitable for assessing the position of the Scheme as at 30 April 2004.

The data excludes Money Purchase members of the Scheme and any Additional Voluntary Contributions (AVCs) held by members. Correspondingly, the assets relating to the Money Purchase section and any AVCs have been excluded, except for the Minimum Funding Requirement valuation where they are included as both assets and liabilities.

#### Active members – fee earners

The total number of fee earner active members was 616 and total Pensionable Salaries was £46,820,302 pa. The average age of the fee earner active members was 34.0 years.

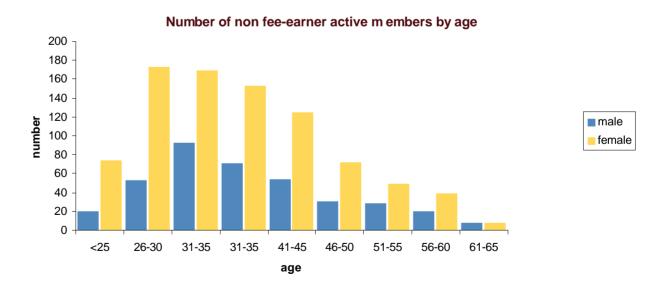
At the previous valuation there were 707 fee earner active members with total Pensionable Salaries of £49,031,272 pa. The average age of the fee earner active members at that time was 32.5 years.



# Active members - non-fee earners

The total number of non-fee earner active members was 1,238 and total Pensionable Salaries was £43,077,412 pa. The average age of the non-fee earner active members was 38.2 years.

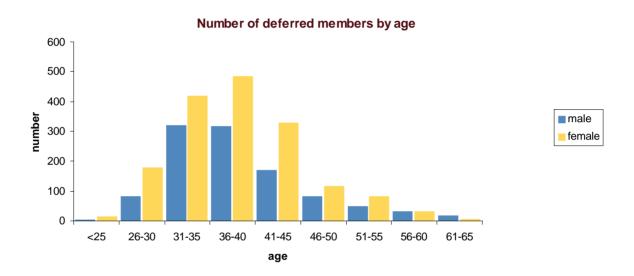
At the previous valuation there were 1,202 non-fee active members with total Pensionable Salaries of £35,352,688 pa. The average age of the non-fee active members at that time was 37.8 years.



# Deferred pensioners

The total number of deferred members was 2,730 and the total of pensions accrued was £8,889,976 pa. The average age of the deferred members was 39.6 years.

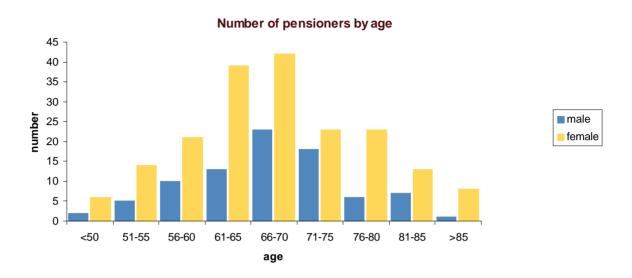
At the previous valuation there were 1,809 deferred members with total pensions accrued at the date of valuation of £5,242,224 pa. The average age of the deferred members at that time was 38.9 years.



# **Pensioners**

The total number of pensioners was 274 and the total of pensions payable was £1,205,714 pa. The average age of the pensioners was 65.4 years.

At the previous valuation there were 200 pensioners with total pensions payable of £780,073 pa. The average age of the pensioners at that time was 66.6 years.



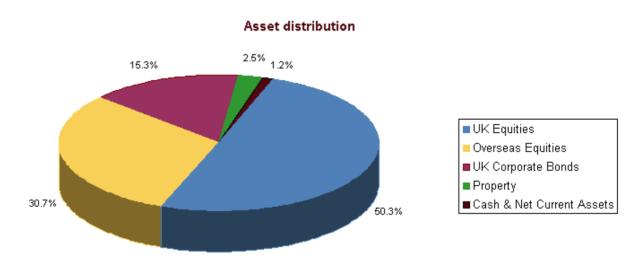
# 3.3 Assets

I have received the audited accounts for the Scheme as at the valuation date.

At the valuation date, the Scheme's assets were invested with HSBC Asset Management, Liontrust Asset Management, Frank Russell Company Ltd and Aegon Asset Management UK Plc.

The total market value of the Scheme's assets in respect of the Final Salary section at the valuation date was £105,429,000. This excludes any assets held in respect of the Money Purchase section or Additional Voluntary Contributions (AVCs). At the previous valuation, the total market value of the Scheme's assets in respect of the Final Salary section was £90,112,000.

The distribution of the Scheme's assets (excluding AVCs) is summarised in the following chart.



# 4 - Funding objectives

#### 4.1 Introduction

In order to carry out the actuarial valuation, I must first consider the funding objective; this needs to make it clear where the money will come from and how the benefits will be met.

The money to pay benefits is expected to come from:

- the existing assets of the Scheme at the valuation date;
- future contributions; and
- the investment return on existing assets and future contributions.

If the Scheme continues, the benefits will be paid, as and when they fall due, from the assets of the Scheme at that time. If there is insufficient money in the Scheme, additional contributions will need to be paid by the Employer to meet the benefits due. Provided the Employer is able to make these payments, then benefits will be paid in full. This principle underlies the "ongoing funding" valuation in Section 5.

The position would be different if the Scheme were to discontinue with no further money available from the Employer. In these circumstances, it is only the assets of the Scheme at that point that would be available to provide benefits. The extent to which the assets of the Scheme are enough to meet the cost of securing benefits is important and is examined in the "solvency" valuation in Section 6.

# 4.2 The funding objective

The primary long-term funding objectives for the Scheme are:

- that the existing assets of the Scheme should be sufficient to cover fully the value of the benefits in respect of service already completed, based on projected Final Pensionable Salary, and
- that the contribution rate before any reduction or increase to reflect any surplus or deficit in the accrued position should reflect the cost of the benefits accruing.

As the Scheme is now closed to all new entrants as of 1 January 2005, the second funding objective has been revised from the previous valuation. Previously the objective was for the contribution rate to remain a stable percentage of Pensionable Salaries. It is now expected that the contribution rate will increase over time as the average age of the membership increases.

# 4.3 Secondary funding objectives

Given the funding objective, it is likely that the Scheme will not always be fully funded on a solvency basis (as set out in Section 6). The Trustee should recognise that in such circumstances they must rely on future investment returns and contributions to improve the security of members' benefits. A secondary funding objective is therefore to improve the funding level (ie the ratio of assets to liabilities) on a solvency basis over time.

In addition, the Trustee must make sure that the Scheme complies with the Minimum Funding Requirement (MFR). In particular, if the funding level of the Scheme on the MFR basis falls below 90% then this may trigger the requirement for additional contributions to the Scheme in the short term. Another secondary objective is therefore that the MFR funding level should be at least 100%.

### 4.4 Future contributions

The calculation of the contribution rate is described in Section 5 and is consistent with the funding objective set out in Section 4.2. The requirements of the secondary funding objectives may increase this rate in the short term.

# 5 - Ongoing funding

#### 5.1 Introduction

To meet the funding objective discussed in Section 4.2, I now need to consider an actuarial funding method and a set of assumptions that I consider appropriate for the Scheme.

The Scheme's future finances will depend on a number of unknown factors such as future investment returns, salary and pension increases, rates of mortality and employee turnover. I have therefore made assumptions about the long-term future covering the period until no more benefits are payable by the Scheme. The results of the valuation are heavily dependent on these assumptions.

The method and assumptions I have used for the valuation only affect the timing of contributions, not the actual cost of the Scheme. The ultimate cost of the Scheme will depend on the benefits paid, which in turn depend on the actual experience of the Scheme. If the method and assumptions prove to be too cautious, this simply means that more than necessary is paid into the Scheme in the early years, so that less can be paid later; the converse applies if the method and assumptions are too optimistic. The ultimate cost of the Scheme can only be known when the last benefit is paid.

For the purposes of this section, I have considered the Scheme as an ongoing arrangement, with active members continuing to accrue further benefits.

#### 5.2 Method

The valuation method I have used is the "Projected Unit Method" (PUM) and is described in more detail below. This is the same as the method used in the previous valuation.

#### Past service

First, service prior to the valuation date (past service) is considered. Liabilities for active members (based on service to the valuation date), deferred pensioners and current pensioners are expressed as a capital value by discounting the assumed benefit payments back to the valuation date. It is assumed that the Scheme is ongoing so that active members' salaries are assumed to grow until they retire or, if earlier, the date they leave or die.

### Future service

Second, the benefits earned by active members in the year after the valuation date, incorporating salary growth to their retirement (or, if earlier, the date they leave or die), are expressed as a capital value and divided by the total pensionable payroll to give a future service contribution rate.

# Funding level adjustment

Any surplus (deficit) that emerges from the past service calculations is usually spread over a suitable period and deducted from (added to) the future service contribution rate. Premiums for death-in-service benefits and expenses are payable by the Employer in addition to the future service contribution rate.

#### Asset valuation

The invested assets of the Scheme have been valued using a smoothed market value. This method is consistent with the method used to value the liabilities. It uses market value as its base but spreads unanticipated investment gains or losses over a period of five years.

The purpose of this method of valuation of assets is to smooth out the volatility in market value of assets. As at 30 April 2004 the smoothed market value of assets used in the valuation was £117,579,000 compared with a market value of £105,429,000.

This method is the same as used for the previous valuation.

# Stability of the contribution rate

Under the PUM, the future service contribution rate is sensitive not only to the assumptions but also to the age, sex and earnings profile of the active members.

With the Scheme now closed to all new entrants, we would expect the average age of the active membership to increase over time. We would therefore expect the future service contribution rate to increase over time, although it would be applied to a reducing total pensionable payroll.

# 5.3 Assumptions

The assumptions can be broadly split into two categories – economic and demographic.

# Economic assumptions

The main economic assumptions are those relating to price inflation, salary inflation and investment returns. The most crucial of these assumptions is that of investment return which is, unfortunately, the most difficult to predict.

I have derived the economic assumptions taking into account:

- historical data; and
- current long-term expectations based on market indicators.

It is important to note that the differences between the economic assumptions have more of an impact on the results of the valuation than their absolute values.

#### Price inflation

At the valuation date, gilt markets implied that the long-term expected rate of price inflation was approximately 3.0% pa. Price inflation is important, as it is a key component used in determining the level of other economic variables, in particular pension increases. These are set out in Appendix 2.

# Salary inflation

I have assumed that salary inflation will be 2.5% pa above price inflation, or 5.5% pa. In addition a promotional salary scale has been used for fee earners. Further details of the promotional salary scale are set out in Appendix 2.

### Pre-retirement investment return

I have assumed that the investment return before retirement will be 7.5% pa. This is based on a long-term return on equities, determined at the valuation date.

#### Post-retirement investment return

I have assumed that the investment return after retirement will be 5.5% pa. This is based on the long-term returns from corporate bonds.

At the previous valuation a single investment return of 7% pa was used both pre- and postretirement. This reflected the expected long-term equity based investment strategy for the Scheme, with allowance for a small proportion of the assets being held in non-equity assets. Now the Scheme is closed to new entrants we would expect the proportion of pensioner liabilities to increase over time. As such we would expect the non-equity holding to increase over time. To allow for the future investment strategy being less equity based we have adopted different pre- and post-retirement interest rates at this valuation.

#### Demographic assumptions

These are assumptions relating to mortality, ages at which members retire or leave the Scheme, the proportion of members who are married, etc.

The Scheme does not have sufficient members to determine some of these assumptions reliably based on its own experience (for example, mortality), so I have used statistics based on larger populations or from published tables.

The assumption for withdrawal from the Scheme is the same as used at the previous valuation and reflects the high level of staff turnover experienced.

A comprehensive list of the economic and demographic assumptions is set out in Appendix 2.

#### 5.4 Results

#### Past service

The table below sets out the results of the valuation based on the funding objective described in Section 4.2. The results from the previous valuation are shown for comparison purposes.

	30 April 2004 £000s	30 April 2001 £000s
Actuarial value of past service liabilities		
Active members	64,241	45,852
Deferred pensioners	56,206	27,812
Current pensioners	21,329	10,885
Total past service liabilities	141,776	84,549
Total value of assets	117,579	90,413
Past service surplus / (deficit)	(24,197)	5,864
Funding Level	83%	107%

The assets and the corresponding liabilities for the Money Purchase section and AVCs have been excluded from this section.

# Future service

The contribution rate required to fund for the future accrual of benefits for active members is 10.1% of Pensionable Salaries.

The death-in-service lump sum is insured and the cost of this is met separately by the Employer. In addition the Employer meets the cost of Scheme expenses (other than investment management expenses).

# Funding level adjustment

The full deficit could be removed by an immediate payment or by a series of payments spread over a number of years.

If deficit repair payments of £3m pa are made (increasing in line with price inflation) then this is expected to remove the deficit over ten years from the valuation date. Ten years is broadly the expected future working lifetime of the active membership.

# Reasons for the change in financial position

The change in the Scheme's financial position since the previous valuation is the net result of:

- the differences between actual experience and the assumptions made at the previous valuation; and
- any change in the method or assumptions.

The main items of experience which have resulted in the change in deficit are:

- the smoothed value of the Scheme's assets has increased by 3.1% pa which is less than the 7% pa assumed at the previous valuation (this has resulted in a reduction in the funding level)
- the Employer has contributed at a rate less than the Future Service Contribution Rate
   (this has resulted in a deterioration in the funding level)

The table below shows a reconciliation.

	£m's
Surplus / (Deficit) at 30 April 2001	6
Interest on Surplus	1
Investment return lower than assumed	(14)
Contributions less than cost of accrual	(6)
Other items (salary growth, pension increases, withdrawal)	(1)
Current Surplus / (Deficit) on 2001 basis	(14)
Change in assumed investment return	(14)
Change in assumed mortality	(6)
Change in early retirement provision	10
Current Surplus / (Deficit) at 30 April 2004 on 2004 basis	(24)

# Sensitivity of results

The results of the actuarial valuation depend on all the assumptions made but some assumptions are more critical than others.

We have carried out an Asset Liability Modelling exercise to assess the impact of any future deviation from the valuation assumptions. The results of this are summarised in Appendix 4. This model identifies economic scenarios (such as prolonged high inflation) that may result in a deterioration of the funding level or require significant future contributions.

# 6 - Solvency

# 6.1 Introduction

In accordance with GN9 and the secondary funding objectives, I have provided an estimate of the Scheme's funding position if it had been discontinued at the valuation date i.e. with no further accrual of benefits. For this purpose the liabilities need to be valued in accordance with the principles adopted by an insurance company for determining the cost of buying out the benefits.

### 6.2 Method

To assess the solvency level of the Scheme, I have not contacted an insurance company for a quotation but have instead adopted a simplified approach in accordance with Section 2.6 of GN9.

This approach uses a discount rate (for valuing the liabilities) equal to the long-term Government Bond yield less 1.0% pa. I have also included a realistic allowance for expenses.

The assets of the Scheme are taken at market value.

The estimate of the solvency level is only a guide to the actual cost of securing the benefits with an insurance company. Market changes in both interest rates and supply and demand for this type of business mean that no one estimate can be completely accurate and ultimately the true position can only be known if an exercise to secure the benefits is completed. Indeed insurance cover may not be available.

# 6.3 Assumptions

The main assumption relates to the discount rate used to assess the value of the liabilities. I have used a figure of 3.95% pa, which is calculated as the yield on long-term Government Bonds less 1.0% pa.

As required, the mortality assumptions I have used include an appropriate allowance for future increases in longevity. The table used is the PMA/PFA 92 table projected by year of birth allowing for the medium cohort effect.

### 6.4 Results

# Solvency level

The solvency level of the Scheme is shown in the table below.

	30 April 2004 £m's	30 April 2001 £m's
Discontinuance liabilities		
Active members	126	54
Deferred pensioners	159	49
Current pensioners	28	13
Expenses	2	2
Total liabilities	315	118
Total value of assets	105	90
Surplus / (Deficit)	(210)	(28)
Funding Level	33%	76%

The assets and the corresponding liabilities for the Money Purchase Section and AVCs have been excluded from in this section.

The solvency level has reduced significantly since the last valuation. This is partly due to poor investment returns, but mainly due to substantial increases in the cost of buying annuities. These increases in buyout costs reflect reductions in market yields on index-linked bonds that would be used by an insurance company to match the liabilities, longer life expectancy, and higher margins to cover the risks associated with the Scheme liabilities.

# Impact of priority order

The following table illustrates the percentage of the benefits payable to each class of Scheme beneficiary, based on the above estimate of the solvency level.

GN9 requires that I make this comparison as if the Scheme has been wound up on the valuation date although I can depart from this if it is appropriate. Regulations<sup>1</sup> amended the priority order applying to schemes that start winding up from 10 May 2004 and it would therefore be this revised priority order that would apply if the Scheme were now wound up. Accordingly, although the following comparison is made at the valuation date, I have used the revised priority order. The comparison is based solely on the audited assets of the Scheme on the valuation date. In addition, it is worth noting that the priority coverage would be different if

<sup>&</sup>lt;sup>1</sup> The Occupational Pension Schemes (Winding Up) (Amendment) Regulations 2004 (Statutory Instrument 2004 No. 1140)

winding-up had commenced prior to 15 February 2005 **and** the Employer was treated as being insolvent when the Scheme started winding up, as the regulations set out a different basis for valuing the liabilities in these circumstances.

Priority class	Value of liabilities £m's	Assets available £m's	Percentage cover for liability class
Expenses	2	2	100%
Level pensions in payment	19	19	100%
Other accrued benefits (without increases)	195	84	43%
Increases to pensions in payment	9	0	0%
Increases to accrued benefits	90	0	0%
Total	315	105	33%

# Future solvency level

As set out in Section 4.3, the Trustee has a secondary funding objective of improving the funding level on a solvency basis over time. If this is not achieved by immediate settlement of the deficit it is important to consider how the contribution rate set out in Section 5.4 will meet this objective.

In order to consider this I have projected the solvency position in three years time assuming experience in the intervening period is in line with the assumptions set out in Section 5.3.

My calculations show that, on these assumptions, contributions in line with my recommendation in Section 9 is expected to increase the solvency funding level.

This assessment does not take account of possible future market changes in both interest rates and other market forces which affect the cost of securing the benefits with an insurance company. Consequently, even if the above assumptions were borne out in practice, the position at the next valuation date may be very different from that assessed above.

As the liabilities on the buy-out basis (or solvency measure) are determined using gilt or bond yields, but the assets are invested in a range of investments, then the solvency level (or deficit) will prove to be **very volatile**. This should be considered when the Trustee determines the appropriate asset allocation.

# 7 – Statutory requirements

# 7.I Minimum Funding Requirement (MFR)

### Introduction

The MFR was introduced by the Government in the Pensions Act 1995. The Government has decided to replace the MFR with a scheme-specific statement of funding principles with which schemes must comply. However, the precise implementation of this change is not yet known. In the meantime, the Scheme must continue to comply with all the MFR requirements. In particular, a statement of the Scheme's position against the MFR ("the MFR Statement") must be provided within one year of the valuation date.

# Method and assumptions

The method and assumptions for measuring the Scheme against the MFR are prescribed<sup>2</sup>. The assumptions are set out in Appendix 2.

Broadly speaking, the MFR assumes that the Scheme discontinues at the valuation date. The liabilities (and hence the funding position) are then calculated taking into account the current level of the UK equity and UK Government Bond markets. It should be noted that the MFR does not measure the ability to secure the benefits in full with an insurance company.

The MFR is recognised as a weak measure and so should not be seen as giving a realistic assessment of the Scheme's liabilities.

<sup>&</sup>lt;sup>2</sup> The requirements are set out in sections 56 to 60 of Pensions Act 1995, The Occupational Pension Schemes (Minimum Funding Requirement and Actuarial Valuations) Regulations 1996 (SI 1996/1536) and the Faculty & Institute of Actuaries' Actuarial Guidance Note GN27, Retirement Benefit Schemes – Minimum Funding Requirement.

#### Results

The table below sets out the results of the valuation on the MFR basis. The MFR statement is given in Appendix 3.

	30 April 2004 £000s	30 April 2001 £000s
MFR liabilities		
Active members	30,655	30,066
Deferred pensioners	35,984	28,581
Current pensioners	18,713	11,121
AVCs & Money Purchase liabilities	15,597	10,453
Expenses	3,519	2,907
Total liabilities	104,468	83,128
Assets in respect of Final Salary liabilities	105,429	90,112
Assets in respect of AVCs & Money Purchase liabilities	15,597	10,453
Total value of assets	121,026	100,565
Surplus / (Deficit)	16,558	17,437
Funding level	116%	121%

As the table shows, the Scheme is over 100% funded on the MFR basis. At the valuation date, the minimum Employer contribution rate to satisfy the MFR would have been 2% of Pensionable Salaries plus expenses and life assurance costs.

#### Schedule of contributions

Following the valuation, and within 12 weeks of signing the MFR statement, the Trustee needs to put a Schedule of Contributions for the Scheme in place. At that time, I must certify that the contribution rates on the Schedule of Contributions satisfy the MFR. This certification will be based on market conditions at that date and may possibly result in a minimum Employer contribution rate higher than that set out above.

# 7.2 Statutory surplus test

#### Introduction

Under the Income and Corporation Taxes Act 1988, I must work out the Scheme's funding position at the valuation date to make sure that the Scheme does not have what is deemed to be an 'excessive' surplus in accordance with regulations and to provide an actuarial certificate, which the Trustee must send to the Inland Revenue.

# Method and assumptions

As the assumptions and method of the statutory surplus test are prescribed<sup>3</sup>, I have not detailed them in this report.

#### Results

I can confirm that, as at the valuation date, the Scheme does not have an excessive surplus. The certificate is given in Appendix 3 and I will arrange for this to be sent to the Inland Revenue.

<sup>3</sup> The Pension Scheme Surpluses (Valuation) Regulations 1987 (SI 1987/412)

# 8 - Volatility and investment issues

As required under GN9 I have commented below on the sensitivity of funding to future investment market changes. The Trustees obtain specific investment advice from their investment adviser.

# 8.1 Stability and Investment Issues

GN9 requires information to be provided regarding the assumptions and investments to which the valuation results are most sensitive. This sensitivity can be best understood from an asset/liability modelling study (details of which are included in Appendix 4) however this section highlights some of the most significant matters for the Trustee.

Sensitivity arises because the economy is not totally predictable and actual experience may vary from reasonable assumptions at the valuation date on all aspects ranging from mortality to inflation and investment return. The potential degree of variation over the short term depends upon the item under consideration, and over a single year market values of investments are likely to experience far greater volatility than items such as price inflation. However, pension scheme liabilities are long term and the cumulative effect of long-term trends can be significant. For example, if salary increases exceeded expectations by 1% pa over a 20-year period this would increase pension liabilities by in the region of 20% in the absence of any mitigating effects from other factors.

Market values of investments would be expected to exhibit the greatest short-term volatility; even if over the long term the results were consistent with expectations. The extent of potential variation can be witnessed from variations in the UK equity market, which experienced returns of -51.7% in 1974 followed by 150.9% in 1975. Such variation may not directly alter the valuation position (to the same extent) because it may be reasonable to assume that the outlook for future investment returns is increased when market values are low and decreased when market values are high. However, any such adjustment is subjective and requires a view to be taken on the relative level of asset prices.

The Trustee needs to be aware of certain matters that impact risk and volatility. These are:

- Diversification
- Liability matching, and
- Gearing

Diversification is simply the need to avoid over concentration in individual investments with the associated risk that the investment performance will be linked to fortunes of those investments rather than the market as a whole.

Liability matching is the concept that if assets can be found that either partly or fully change in value with the change in the value of the liabilities, then investing in such assets removes the risk of volatility. For example, a policy of insuring all pensions in payment removes exposure to these liabilities, however it must be remembered that protection against potential investment loss is also protection against investment gain.

Matching is also dependent on the basis of liability measurement. For example, the Minimum Funding Requirement defines the matching assets for active members as a combination of UK equities and Government securities. In contrast accounting standards such as FRS17 or IAS19 measure liabilities based on the redemption yield on high quality corporation bonds. This has the result that it is not possible to match the assets to both of these liability measures at the same time.

The final factor is that of the effect of gearing. Contribution rates are comprised of payments necessary to cover the cost of accruing benefits as well as any imbalance in respect of past service. The result of this is that a change, which has the result of increasing liabilities without increasing asset values, could result in a significantly increased contribution requirement to cover any imbalance in respect of past service.

# 9 - Conclusion and recommendations

On the ongoing funding basis, the assets cover 83% of the Scheme's liabilities and the deficit is £24,197,000.

The future service contribution rate for the Employer has been calculated as 10.1% pa of Pensionable Salaries. This rate excludes an allowance for expenses and death in service premiums as the Employer meets these separately. Contributions in respect of the Money Purchase section are payable in addition to the contributions set out above.

To remove the deficit over the next ten years additional contributions of £3m pa increasing in line with price inflation are required. Ten years is approximately the average future working life of the active membership.

Subsequent to the actuarial valuation, a decision was made by the Employer to close the Scheme to all new entrants. Whilst this does not alter the funding position at the valuation date, this will have an impact on the speed at which the Scheme matures.

Based on the results of the valuation, I recommend that the Employer pay contributions to the Scheme at the rate of 10.1% of Pensionable Salaries plus £3m pa (increasing in line with price inflation) with effect from the valuation date. These contributions are due at the end of the Scheme Year but in practice will be estimated and paid monthly by the Employer. A further payment is then made at the end of the Scheme Year in respect of any underpayment over the year. This includes the Scheme Year ending 30 April 2005, where contributions have been paid at 9% of Pensionable Salary from 1 April 2004 until the results of the valuation were finalised.

Expenses and death in service premiums are met separately by the Employer in addition to the recommended contributions above. Contributions in respect of the Money Purchase section are also payable in addition to the contributions recommended above.

The next valuation of the Scheme must be carried out with an effective date no later than 30 April 2007.

Name
Simon Head
Fellow of the Institute of Actuaries
Date
24 March 2005
Address
Aon Limited,
Carnegie House,
21 Peterborough Road,
Harrow, Middlesex. HA3 8HT

# **Appendix 1 – Scheme history and benefit summary**

The Scheme is defined benefit in nature and is not contracted out of the State Second Pension (S2P). The benefits of the Scheme are summarised in the following table (there is a full description in the Scheme's Trust Deed and Rules).

Benefit	Definition
Eligibility	Scheme closed to new entrants with effect from 1 January 2005. New entrants are permitted at the discretion of the Employer
Normal Retirement Age	65
Pensionable Service	complete years and months of Scheme membership plus any earlier service credited under previous schemes
Pensionable Salaries	basic annual salary (limited to the Earnings Cap, which was £102,000 at the valuation date, for Post 1 June 1989 joiners) including any guaranteed bonus
Final Pensionable Salaries	Pensionable Salaries received in the 12 months immediately before leaving, death or retirement
Members' contributions	Nil
Normal retirement	<ul> <li>i. 1/100<sup>th</sup> of Final Pensionable Salaries below the Upper Earnings Limit for each year of Pensionable Service; plus</li> </ul>
pension	ii. 1/60 <sup>th</sup> of Final Pensionable Salary above the Upper Earnings Limit for each year of Pensionable Service
Normal retirement lump sum	pension can be exchanged for cash in accordance with the rules of the Scheme
Early retirement	members may take benefits from age 50 with Trustee consent; the benefit will be reduced actuarially for early payment
Pension increases (in payment)	RPI (with a maximum of 5% pa)
Death after retirement spouse's pension	50% of the member's pension at date of death before any exchange for cash
Death after retirement lump sum	balance of first 5 years pension instalments
Death in service spouse's pension	50% of member's pension at date of death based on service to Normal Retirement Date
Death in service lump sum	4 x Pensionable Salaries
Early leavers	if more than 2 years' Pensionable Service, a deferred pension with RPI increases (with a maximum 5% pa)
Early leaver's death benefits	spouse's pension of 50% of the member's pension revalued to the date of death

# **Appendix 2 – Assumptions**

I have detailed the demographic and economic assumptions used in the valuation in the table below. I have also shown the corresponding values at the previous valuation for comparison purposes.

	Current valuation basis 30 April 2004	Previous valuation basis 30 April 2001	MFR basis
Price inflation	3.0% pa	3.0% pa	4.0% pa
Salary inflation	5.5% pa	5.5% pa	6.0% pa
Investment return pre-retirement	7.5% pa	7.0% pa	9.0% pa
Investment return post-retirement	5.5% pa	7.0% pa	8.0% pa
Pension increases in payment	3.0% pa	3.0% pa	3.5% pa
Pension in deferment increases	3.0% pa	3.0% pa	4.0% pa
Mortality pre-retirement	AM/AF 80	AM/AF 80	PA90 (rated down 2 years)
Mortality post-retirement (actives and deferreds)	PA92 Birth year	PA92 Calendar year 2010	PA90 (rated down 2 years)
Mortality post-retirement (current pensioners)	PA92 Birth year	PA92 Calendar year 2000	PA90 (rated down 2 years)
Early Retirement	no allowance for unreduced early retirement	for every 100 in-service members reaching age 55 we have assumed the following rates of unreduced early retirement:  age 55 10 age 56 to 59 5 pa age 60 30 age 61 to 64 5 pa age 65 20	no allowance for unreduced early retirement

	Current valuation basis 30 April 2004	Previous valuation basis 30 April 2001	MFR basis
Marital status	as per previous valuation	age dependent unisex scale, a sample of the proportions married is as follows:  age 30 or below: 67% age 40 88% age 50 91% age 60 or above 93%	Males 80% / Females 70%
Age difference	husbands 3 years older than wives	husbands 3 years older than wives	husbands 3 years older than wives
Withdrawals	as per previous valuation	see below	no allowance
Salary Scale	as per previous valuation	no allowance for non-fee earners for fee earners a promotional scale as follows:  age 22 to 24  20% pa age 25 to 29  13% pa age 30 to 35  5% pa	no allowance
Expenses	paid by company	paid by company	4% on first £50m, 3% on next £50m, then 2% of liabilities
Proportion of pension exchanged for cash	no allowance	no allowance	no allowance
Discretionary Benefits	no allowance	no allowance	no allowance

# Withdrawal assumption

For the ongoing valuation bases an underlying assumption that after 10 years of service 25 of every 1000 fee earners and 10 of every 1000 non-fee earners will leave each year was used. In addition there is a service related withdrawal assumption that is set out below.

Complete years of service	Expected numbers of fee earners remaining	Expected numbers of non-fee earners remaining
0	100	100
1	85	80
2	72	68
3	61	60
4	52	54
5	42	49
6	31	45
7	22	42
8	15	39
9	11	37
10	9	36

# **Appendix 3 – Actuarial statements**

Actuarial Statement made for the purposes of Regulation 14 of the Occupation Pension Scheme (Minimum Funding Requirement and Actuarial Valuations) Regulations 1996

Actuarial Statement made for the purposes of Regulation 30 of the Occupation Pension Scheme (Minimum Funding Requirement and Actuarial Valuations) Regulations 1996

Certificate made for the purposes of Paragraph 2(3) of Schedule 22 to the Income and Corporation Taxes Act 1988

# Actuarial Statement Made for the Purposes of Regulation 14 of the Occupational Pension Schemes (Minimum Funding Requirement and Actuarial Valuations) Regulations 1996

Name of scheme Clifford Chance Pension Scheme

Effective date of valuation 30 April 2004

1. Compliance with minimum funding requirement

In my opinion, on the effective date the value of the assets of the scheme is between 115 per cent and 120 per cent of the amount of the liabilities of the scheme

# 2. Valuation principles

The scheme's assets and liabilities are valued in accordance with section 56(3) of the Pensions Act 1995, the Occupational Pension Schemes (Minimum Funding Requirement and Actuarial Valuations) Regulations 1996 and the mandatory guidelines on minimum funding requirement (GN27), prepared and published by the Institute of Actuaries and the Faculty of Actuaries.

Signature	 Date:

Name: Simon Head Qualification: Fellow of the Institute of Actuaries

Address: Carnegie House Name of employer: Aon Limited

21 Peterborough Road

Harrow

Middlesex HA1 2AJ

#### Note:

The valuation of the amount of the liabilities of the scheme does not reflect the cost of securing those liabilities by the purchase of annuities if the scheme were to have been wound up on the effective date of the valuation.

# Actuarial Statement Made for the Purposes of Regulation 30 of the Occupational Pension Schemes (Minimum Funding Requirement and Actuarial Valuations) Regulations 1996

Name of scheme Clifford Chance Pension Scheme

Effective date of valuation 30 April 2004

Security of prospective rights

In my opinion, the resources of the scheme are likely in the normal course of events to meet in full the liabilities of the scheme as they fall due. This statement assumes the scheme continues and does not mean that should the scheme wind up there would be sufficient assets to provide the full accrued benefits.

I have made assumptions consistent with market values, prospective investment returns and economic conditions at the effective date. However significant changes in market values of the assets after the effective date may mean that the assumptions and market values on which it is based are no longer appropriate. Depending on the circumstances, alternative assumptions may be appropriate or contributions may need to be reviewed at or before the next valuation. It should also be noted that the actuarial investigation does not include an examination of the Employer's ability to meet future contribution requirements.

In giving this opinion, I have assumed that the following amounts will be paid to the scheme:

#### **Employer contributions:**

- 10.1% of Pensionable Salaries in respect of members of the Final Salary Section of the Scheme from 1 May 2004
- Contributions of £3m per annum from 1 May 2004 increasing annually in line with price inflation
- Contributions in respect of members of the Money Purchase Section of the Scheme in accordance with the rules of that Section

In addition, the Employer will meet the cost of insured death benefits and the expenses of administering the Scheme (other than investment management expenses)

The above contributions may be reviewed at any time, and in any event no later that the next actuarial valuation which is due as at 30 April 2007.

# Summary of methods and assumptions used

Valuation method	Projected Unit
Pre-retirement investment return	7.5% per annum
Post-retirement investment return	5.5% per annum
Salary growth	5.5% per annum
Pension increases	3.0% per annum
RPI inflation	3.0% per annum

Further details of the methods and assumptions used are set out in my actuarial valuation addressed to the Trustee dated 24 March 2005.

Signature		Date:
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Name: Simon Head Qualification: Fellow of the Institute of Actuaries

Address: Carnegie House Name of employer: Aon Limited

21 Peterborough Road

Harrow

Middlesex HA1 2AJ

# **Certificate**

Address: Carnegie House

Harrow

21 Peterborough Road

Middlesex HA1 2AJ

# This certificate is given to the Commissioners of Inland Revenue for the purposes of paragraph 2(3) of Schedule 22 to the Income and Corporation Taxes Act 1988.

Name	of scheme		Clifford Chance P	ension Scheme			
Inland	l Revenue Re	eference No:	SF3/16464				
A.	I hereby ce	ertify that:-					
i.	in my opinion as at 30 April 2004 the value of the assets of the scheme did not exceed 105 per cent of the value of the liabilities of the scheme;						
ii.	the assets and liabilities to which paragraph (1) refers have been determined in accordance with principles and requirements prescribed by the Pension Scheme Surpluses (Valuation) Regulations 1987.						
Signa	ture			Date:			
Name	: Simon	Head		Qualification: Fellow of the Institute of Actuaries			

Name of employer: Aon Limited

# Appendix 4 – Asset and Liability Modelling

This section aims to illustrate how the results may differ if assumptions are not borne out in practice. This enables a greater understanding of the sensitivity of the results to the actual experience of the Scheme. In order to do this, we have used an asset liability model to project the future funding level of the Scheme and the level of contributions required. The results of this model are summarised below.

For the purpose of this model, we have assumed that contributions are made at the balancing contribution rate, that is the cost of accrual of benefits, adjusted to run off any surplus or deficit over the future working lifetime of the membership. In reality, the treatment of any surplus or deficit would be agreed at each valuation but this projection gives an illustration of the impact of future experience. We have also assumed no asset smoothing and no change in the investment strategy adopted. With no asset smoothing, the initial level of funding shown is 74% on the ongoing basis.

#### 1. Valuation scenario

Should the valuation assumptions be borne out in practice then the funding level of the Scheme (on both ongoing and buyout bases) will increase over time.



The top right graph shows the funding level over time. The bottom right graph shows the balancing contribution rate over time.

After 20 years the Scheme approaches full funding. This is a longer period that the 10 years over which the current deficit is being made up following the valuation because the modelling assumes deficits are re-spread over the future working lifetime at each valuation leading to a lower contribution to meet the deficit. In reality if the £3m pa deficit contribution continues the deficit is repaired faster than shown above.

The basis used to determine the value of the liabilities is market-related. This means that, for example, if corporate bond yields fall then a lower post retirement rate of investment return is assumed in valuing the liabilities. The valuation of the liabilities is therefore consistent with the projection of the assets.

# 2. Current long-term conditions



The assumptions used in this scenario for long-term returns have been derived by Aon Consulting's investment department after considering information from several different sources. The group has analysed returns over the last century, has taken the views of leading City analysts represented by Aon's City survey and also the views of non-City agencies such as the Bank of England, HM Treasury and Lombard Street Research. These forecasts suggest a slightly more favourable outcome than the actuarial valuation assumptions.

# 3. Low bond yield scenario



In this scenario, bond yields (for corporate bonds, index-linked and fixed-interest gilts) are decreasing. This increases the value of the liabilities and so the funding level of the Scheme remains weak, despite increasing employer contributions.

# 4. Equity Market Crash scenario



In the event of a sudden fall of 25% in the capital value of equity investments, the funding level of the Scheme suffers an initial shock, reducing to under 60%. As the equity markets recover, the Scheme's funding position returns to around 100% after 20 years.

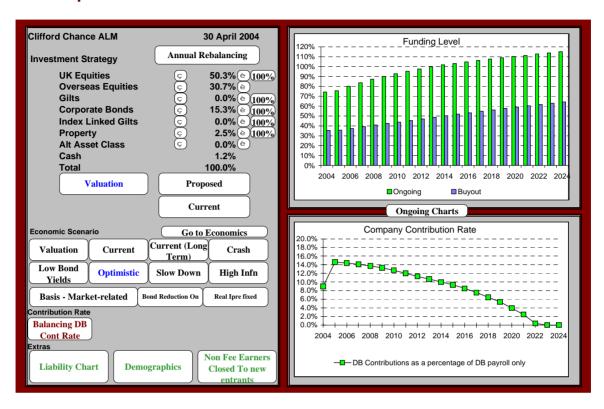
# 5. High inflation scenario



High inflation reduces the cost of providing pensions as pension increases are capped at 5% pa, and increasing numbers of active members have their benefits limited by the Inland Revenue earnings cap. This produces an initial improvement in the funding level.

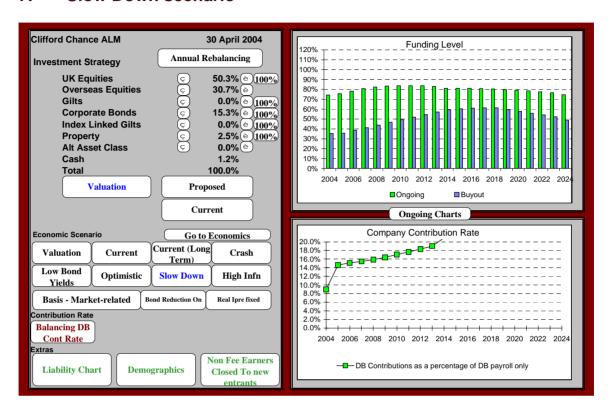
However the real return on the assets in this scenario becomes negative after 10 years of prolonged inflation. The contributions are then insufficient given the low real returns achieved by the assets. The funding level falls as a result.

# 6. Optimistic scenario



Consistently good returns on the equity portfolio provide an increase in the funding level and the Scheme reaches 100% funding after 10 years.

# 7. Slow Down scenario



In this scenario the economy slows down, coupled with a period of deflation. Inflation falls and becomes negative and real equity returns fall. Despite an initial increase in the funding level caused by higher contributions, the lower returns on the assets cause a fall in the funding level and a significantly increased employer contribution rate.



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