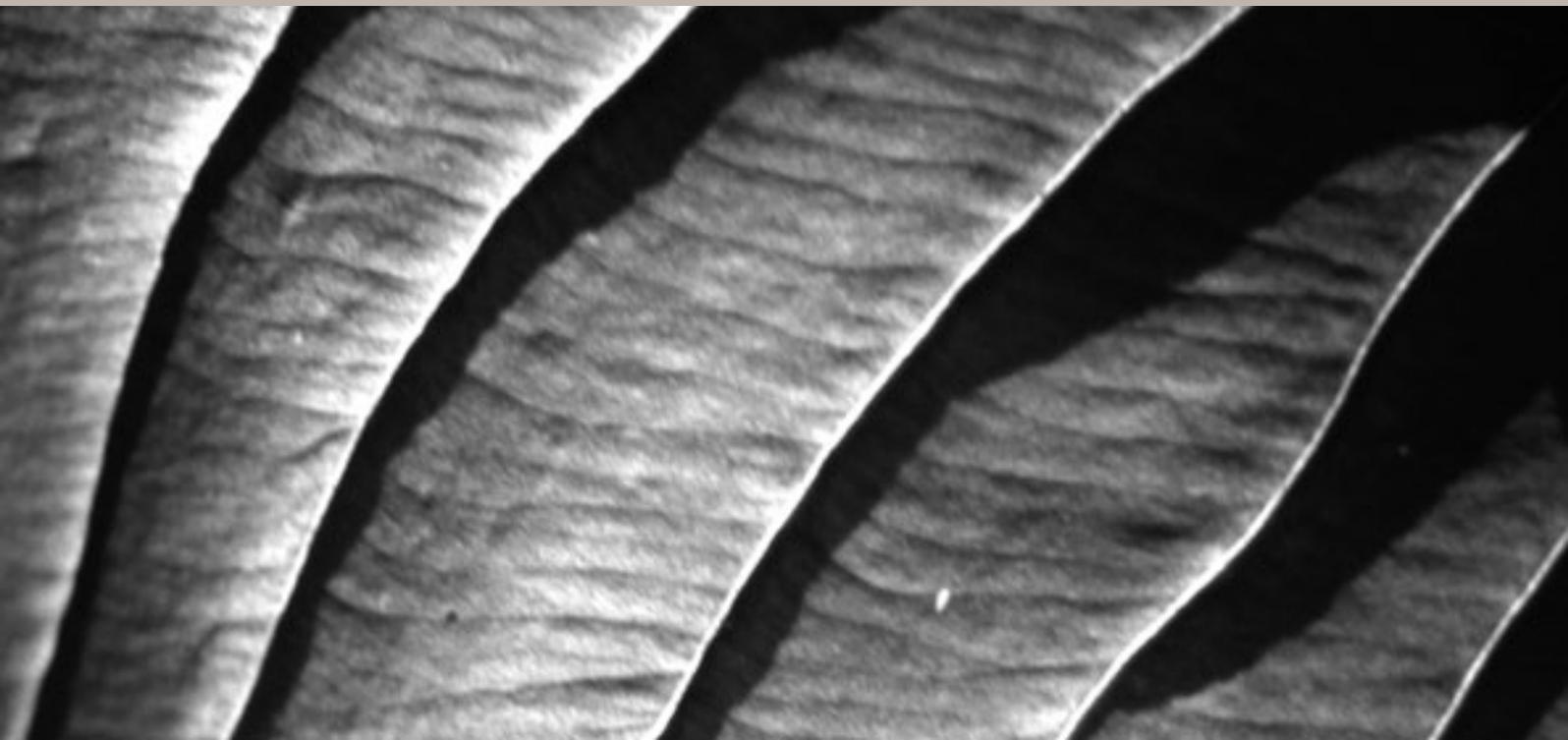


# Adoption of IAS 19 by Europe's Premier Listed Companies





# **Adoption of IAS 19 by Europe's Premier Listed Companies: Corridor Approach versus Full Recognition**

Jan.D.Fasshauer  
Justus-Liebig-Universität Giessen

Professor Martin Glaum  
Justus-Liebig-Universität Giessen

Professor Donna L. Street  
University of Dayton



# Contents

<b>Executive summary</b>	<b>5</b>
<b>1. Introduction</b>	<b>11</b>
<b>2. Evolution of accounting for defined-benefit pension plans</b>	<b>13</b>
<b>3. Literature review</b>	<b>18</b>
<b>4. Methodology</b>	<b>22</b>
<b>5. Findings</b>	<b>26</b>
<b>6. Summary, conclusions and policy implications</b>	<b>34</b>
<b>Appendix 1: Tables</b>	<b>39</b>
<b>Appendix 2: Sample companies by index/country</b>	<b>73</b>
<b>Appendix 3: Sample screen shots of the IAS 19 tool screens used for data collection</b>	<b>76</b>
<b>Appendix 4: IAS 19 paragraph 120A defined-benefit pension disclosures collected in Step 1 and Step 2 (ie the IAS 19 Tool)</b>	<b>78</b>
<b>Appendix 5: Model for estimation of the impact on shareholders' equity and P&amp;L of immediate recognition of actuarial gains and losses through SORIE for companies currently using the corridor approach under IAS 19</b>	<b>80</b>
<b>References</b>	<b>81</b>



## Executive summary

While for several years a significant number of European companies have prepared consolidated financial statements using International Financial Reporting Standards (IFRS), 2005 represented the first year of IFRS adoption by thousands of additional European listed companies. For many of the latter, adoption of IFRS significantly changed the way they account for pension plans, especially defined-benefit plans. Our study provides an in-depth analysis and evaluation of the defined-benefit pension plan disclosures provided in 2005 by companies constituting the premier segments of 20 European stock exchanges. Most importantly, our study identifies the method companies select under International Accounting Standard (IAS) 19 for the recognition of actuarial gains and losses, provides insight into factors affecting the policy choice between the three methods allowed under IAS 19 for the recognition of actuarial gains and losses, and assesses the impact on profit and loss (P&L) and the balance sheet of using the new IAS 19 full recognition option, in contrast to the traditional corridor approach.

The 2004 IAS 19 amendment, which provided a new option for the **full recognition of actuarial gains and losses through the SORIE**, is based on the UK's Financial Reporting Standard (FRS) 17. Under FRS 17, companies are required to recognise fully any actuarial gains and losses that arise on the periodic re-measurement of the companies' defined-benefit pension plan obligations and plan assets. FRS 17 mandates that recognised gains and losses be charged against owners' equity via the Statement of Total Recognised Gains and Losses; thus, recognised actuarial gains and losses do not affect the P&L.

Prior to issuance of the new option, companies selecting full recognition had to **recognise actuarial gains and losses fully in P&L**; hence, this method was not popular.

The vast majority of IAS 19 companies thus elected to utilise the corridor approach. Under the **corridor approach**, actuarial gains and losses are temporarily deferred (ie unrecognised) and their accumulated balance is tracked off-balance sheet, thereby leading to smoothing (ie gradual recognition) and a reduction in income statement and balance sheet volatility.

### THE NEW IAS 19 OPTION

Following the 2004 amendment of IAS 19 'Employee Benefits', companies with defined-benefit pension plans may choose one of three methods to account for the recognition of actuarial gains and losses. A primary objective of our research is thus to determine the method selected in 2005 by European blue chip companies:

- full recognition through the Statement of Recognised Income and Expense (SORIE) (ie through shareholders' equity)
- full recognition through Profit & Loss (P&L), or
- the 'standard' corridor approach.

During its development, FRS 17 spurred tremendous opposition owing to the standard's potential, inter alia, both to increase reported pension liabilities and to decrease shareholders' equity, significantly. Sometime thereafter, the US Financial Accounting Standards Board (FASB) faced similar opposition when mandating a movement from the corridor approach to the full recognition of actuarial gains and losses in Statement of Financial Accounting Standard (SFAS) 158 (FASB 2006b).

Therefore, expectations may have been that few European companies would voluntarily adopt full recognition of actuarial gains and losses under the new IAS 19 option.

On the other hand, companies face pressure from regulators, politicians, and the press, to incorporate more transparency into pension accounting, and this may influence decision making on pension accounting policies. For example, financial analysts have a strong preference for immediate recognition (Credit Suisse First Boston 2005; JP Morgan 2006). According to a Shuttleworth actuary: 'Make no mistake these FRS 17 deficits are real – they represent the company's probable future contributions and no amount of clever smoothing can cover this up' (Dovovan 2003).

Furthermore, the International Accounting Standards Board (IASB) currently has a project on its agenda to converge with the US's SFAS 158. In light of the views expressed in the IASB's March 2008 Discussion Paper *Preliminary Views on Amendments to IAS 19 Employee Benefits*, some IFRS companies may well view mandatory immediate recognition as the unavoidable next wave of pension accounting and may choose to be among those companies voluntarily embracing transparency prior to its being mandated.

## SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

Our sample selection began with the 549 companies constituting Europe's 20 premier stock market indices in the year 2005. Some companies were deleted for various reasons, including being cross-listed, using US GAAP, and not providing an English language annual report. Of the remaining 481 companies, 265 had material defined-benefit pension plans (defined as having a Defined-benefit Obligation (DBO) representing 2% or more of total assets) that additionally provided the required pension disclosures needed for our study. Based on total assets, the mean/median size of our final sample companies is €36,937.0/€9,292.0 million. Excluding companies in the finance industry, mean/median total revenues is €14,307.1/€6,734.3 million.

Based on the mean/median, sample companies have on average underfunded pension plans, (ie the DBO exceeds the fair value of plan assets); the mean/median funding deficit is €913.9/€247.8 million. For companies with underfunded defined-benefit pension plans, the deficit represents 17%/9% (mean/median) of total shareholders' equity. Sub-dividing companies with underfunded plans into those using the corridor approach versus those using full recognition, the corresponding numbers are 16%/9% and 19%/10%, respectively.

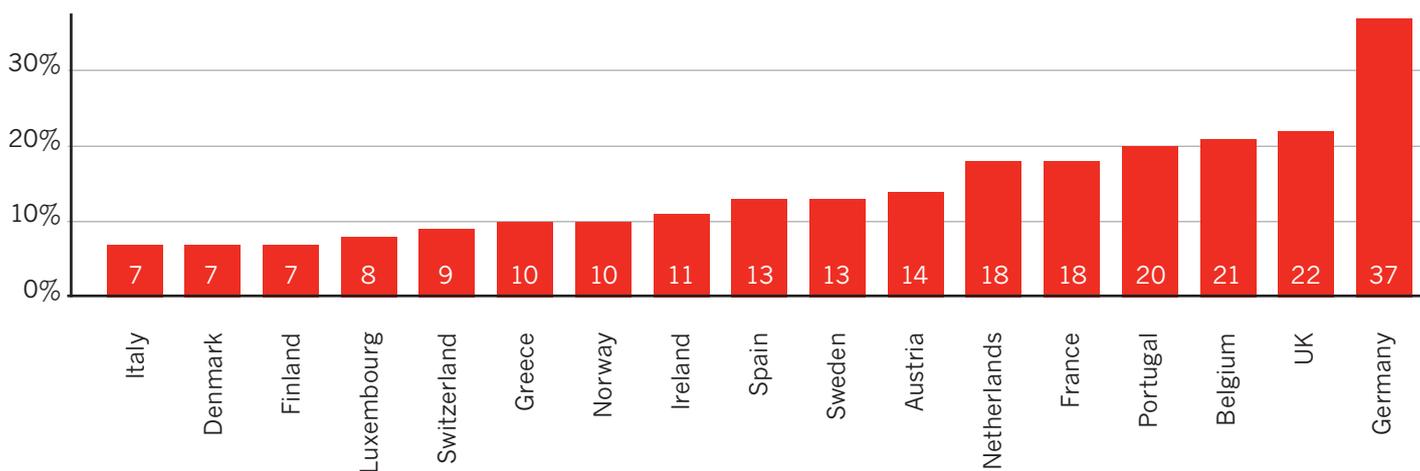
The ratio of underfunding to total shareholders' equity is highest for German (37%), UK (22%), Belgian (21%), and Portuguese (20%) companies. The underfunding ratio is lowest for companies based in Switzerland (9%), Luxembourg (8%), Italy (7%), Denmark (7%), and Finland (7%).

Before turning to the primary focus of our study and discussing what IAS 19 methods companies select for the recognition of actuarial gains and losses, and the impact on P&L and the balance sheet of using the new IAS 19 full recognition option, we present our findings regarding the assumptions used by sample companies to measure defined-benefit obligations. We also consider a few best-practice disclosures.

## ASSUMPTIONS USED TO MEASURE DEFINED-BENEFIT OBLIGATIONS

Our review of the benefit trend, interest rate, and salary progression assumption disclosures of the sample companies reveals that most of them differentiate the rates provided on the basis of the various geographic areas where their main pension plans are located. Therefore, this presentation format is used for our benchmarking analysis.

### Ratio of underfunding to total shareholders' equity



IAS 19 (paragraph 120A (n)) requires companies to disclose the assumptions underlying their pension accounting in absolute terms (ie as an absolute percentage) and not just as a margin between different percentages or other variables. In terms of transparency, most of the sample companies using geographic presentation comply with this requirement by disclosing specific rates/assumptions for their respective home countries and for other countries/regions. Nonetheless, some disclose only ranges or spans for benefit trend, interest rates and salary progression rates. Disclosing ranges or spans, without additional disclosure to guide the financial statement user, may hinder comparability and decrease transparency, thereby not adhering to the spirit of IAS 19.

A considerable number of sample companies did not disclose a benefit trend rate. Therefore, our benchmarking focuses on interest rate and salary progression rate assumptions. The mean/median interest rate used by the companies is 4.52%/4.60% with a standard deviation of 0.49. Since meaningful comparisons of interest rates can be made only within countries, our benchmarking compares reported assumptions to the national median in countries where we have at least five observations.

Although most companies cluster close to their national median, our benchmarking reveals that several use rather aggressive interest rate assumptions. Generally, it is estimated that a one per cent upward change in the interest rate leads to a 15% decrease in the pension obligation. Thus, unusually high interest rates enable companies to arrive at relatively low pension obligation estimates. Therefore, the aggressive rates reported by a few of our sample companies probably merit scrutiny by financial statement users and suggest the need for future research in this area.

Salary progression rates are benchmarked against SIC industry averages, with full appreciation that, among other things, country of domicile also plays an important role. The mean/median salary progression rate is 3.43%/3.50%; the standard deviation is 0.85. While the median salary progression rate is between 3% and 4% for each industry presented, the ranges within industry are substantial. The finance, insurance, and real estate industries and the services industry report the highest salary progression rates with medians of 3.99% and 3.92%, respectively. The lowest salary progression rates are found in the wholesale trade industry with a median of 3.0%. We also find that the maximum salary progression rates are reported by UK companies.

## BEST PRACTICES

Throughout our analysis, we have identified certain best-practice disclosures. We encourage companies using IFRS to consider these in an effort to improve the transparency and usefulness of their pension disclosures. Examples include, but are not limited to:

- disclosing the accounting policy change from the IAS 19 corridor approach to full recognition through the SORIE option, in a manner that clearly sets forth the impact on both equity and net income (Linde)
- using a 'matrix' format to combine four important reconciliations/tables required under IAS 19 (L'Oreal)
- disclosing an estimate of future payments to the plan that clearly specifies the payment recipient(s) (WPP and Scottish Power)
- providing detailed disclosure of the allocation of the plan assets that includes a description of the target allocation (Smith & Nephew)
- voluntarily providing a sensitivity analysis for the assumptions used in pension valuation (Bayer).

Our identification of best practices suggests some areas where pension disclosures can be improved. We encourage companies to disclose the procedures used for selecting actuarial assumptions in a more transparent manner (eg Bayer). This additionally holds for the selection of the relevant bond market for determining the 'market' interest rate, as well as the determination of the maturity of pension schemes. We furthermore encourage the IASB to require sensitivity disclosures for a few key assumptions (eg interest rate) used for measuring defined-benefit pension plans in the next version of IAS 19.

It is also important to stress that we have identified several examples of boiler plate disclosures. Notably, some companies disclosed the accounting policy for defined-benefit plans when a careful review of the footnotes and financial statements did not reveal any evidence of material defined-benefit plans. We also had to exclude a few companies from our study because, despite the clear existence of a material defined-benefit plan, sufficient disclosures were not provided to complete our analysis. While such omitted disclosures were very limited, there should be no such examples among companies on Europe's premier exchanges.

## IAS 19 METHOD SELECTED FOR RECOGNITION OF ACTUARIAL GAINS AND LOSSES

Turning to the primary focus of our research, we find that of the 265 companies with material defined-benefit plans, a slim majority (136) use the corridor approach. Of those using a full recognition method, seven recognise actuarial gains and losses in P&L, while 122 utilise the new IAS 19 option and report such gains and losses in the SORIE.

We find considerable cross-country variation in the acceptance of the new option, with relatively high voluntary use of the option occurring primarily in UK and Irish companies. For these companies, the new IAS 19 option is 'home grown' and consistent with the FRS 17 disclosures provided under UK GAAP prior to IFRS adoption in 2005. Indeed, 90% of the UK companies and 76% of the Irish companies in our sample use a full recognition method for actuarial gains and losses, compared with 29% (51 of 176)

in all other countries. Use of the option is, however, also widespread in Portugal (67%), Denmark (64%) and Germany (55%). Given that German companies traditionally have high unfunded pension obligations, this finding may be somewhat surprising.

## DISCLOSED RATIONALE FOR SELECTING THE IAS 19 OPTION

In search of a more complete understanding of why some companies voluntarily adopt the option, we reviewed the pension policy footnotes of the 122 companies that elected full recognition through the SORIE, to identify the rationale, if any, posited for this policy decision. Only 31 give a specific rationale; 22 of these are UK companies stating that the new option is consistent with FRS 17. Alliance UniChem states: 'All actuarial gains and losses arising on defined-benefit pensions schemes have been recognised in equity ... to maintain consistency with the

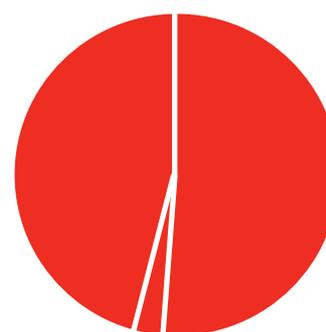
## IAS 19 methods adopted across countries

Index	Country	Corridor	Full recognition through P&L	Full recognition through SORIE
FTSE 100	UK	7	1	64
ISEQ 20	Ireland	4	0	13
DAX 30	Germany	8	0	10
OMXC 20	Denmark	3	1	7
CAC 40	France	23	0	5
AEX	Netherlands	11	0	4
ATX	Austria	8	1	4
PSI-20	Portugal	2	0	4
BEL 20	Belgium	6	0	3
SMI	Switzerland	14	0	3
OMXS 30	Sweden	12	0	2
IBEX 35	Spain	2	0	1
MIB-30	Italy	4	2	1
OBX	Norway	8	0	1
Athex 20	Greece	2	1	0
LuxX	Luxembourg	1	1	0
OMXH 25	Finland	21	0	0
	<b>Total</b>	<b>136</b>	<b>7</b>	<b>122</b>

## IAS 19 method selected for recognition of actuarial gains/losses

Full recognition through SORIE:  
122 companies  
(46%)

Corridor:  
136 companies  
(51%)



Full recognition through P&L:  
7 companies  
(3%)

treatment under FRS 17 and the policy going forward of taking actuarial gains and losses directly to reserves via the statement of recognised income and expense'. DSG International PLC notes that the new IAS 19 option 'is similar to the equivalent UK accounting standard FRS 17 and accordingly, the figures shown for the comparative period ... are the same as those disclosed under UK GAAP last year'.

Another possible reason for selecting the IAS 19 option may be to protect future earnings. Full recognition through the SORIE eliminates the possibility that future earnings will be reduced by the amortisation of currently unrecognised net actuarial losses and, furthermore, reduces P&L volatility on a year-to-year basis. Nonetheless, only a few companies broached the topic of P&L volatility. AstraZenca states, '... we recognise all actuarial gains and losses immediately through reserves. This methodology results in a less volatile income statement charge than under the alternative approach of recognising actuarial gains and losses over time'. SABMiller PLC notes that under the new IAS 19 option 'The more volatile components of movements in surpluses and deficits (actuarial gains and losses) are recorded as a movement in shareholders' funds'.

Somewhat to our surprise, very few companies refer to the enhanced transparency associated with the option. Exceptions include Bayerische Motoren Werke; this company states, 'to improve transparency in its financial reporting, the BMW Group has elected to apply the option made available by the IASB to change the accounting treatment for pension obligations'. InBev indicates 'full recognition of the actuarial gains and losses enhances the transparency of its financial statements'. TUI AG notes that 'the new option under IAS 19 ... was exercised in order to enhance the clarity of the presentation of the net asset position'. Royal & Sun Alliance Insurance Group states 'This policy ... provides the most relevant basis of recognition of such gains and losses'.

Although few companies using the IAS 19 option stress enhanced transparency in their footnotes, transparency still may directly, or indirectly, affect such policy decisions. As noted previously, companies face pressure from regulators, politicians and the press to incorporate greater transparency into pension accounting.

Next, we address the impact of moving from the IAS 19 corridor approach to the full recognition through SORIE option for seasoned IFRS users. Then we estimate the impact of adopting the option for companies currently using the corridor method. These analyses cast some additional light on companies' policy choices regarding IAS 19.

## **ACTUAL IMPACT OF ADOPTING THE FULL RECOGNITION THROUGH SORIE OPTION**

---

Of those companies electing the new option, 19 are seasoned IFRS users. In their footnotes on change of accounting policy, these companies discuss the impact of moving from the corridor approach to the new full recognition option on their financial statements. Unfortunately, only a few provide a comprehensive assessment of the impact of adopting the option (ie Linde, Bayer and Roche). Alternatively, most provide very heterogeneous disclosures. The inconsistencies in format and the mixed types of information provided make it difficult to arrive at general conclusions regarding the impact of adopting the option. Nonetheless, we infer from the change in policy disclosures that all 19 companies had net unrecognised actuarial losses. Using the option thus resulted in an increase in the recognised pension liability and a decrease in shareholders' equity. For those providing information on the equity impact, the result tended to be a decline of less than 5%.

## **ESTIMATED IMPACT OF ADOPTING THE FULL RECOGNITION THROUGH SORIE OPTION FOR COMPANIES CURRENTLY USING THE CORRIDOR APPROACH**

---

IAS 19 does not require disclosure of a 'pro forma' nature that would enable financial statements users to determine easily the impact that moving from the corridor approach to full recognition through the SORIE would have on a company's financial statements. Thus, for companies using the IAS 19 corridor approach, we estimate the impact of adopting the option on P&L and the balance sheet.

To begin to understand the impact of adopting the option for companies currently using the corridor, we first calculated the ratio of unrecognised actuarial gains and losses to shareholders' equity. Ignoring taxes, the mean/median impact of the recognition of currently unrecognised actuarial gains and losses would be to reduce equity on average by 4%/2% (mean/median). The ratio of unrecognised actuarial gains and losses to equity based on the mean is greatest for four Irish (16%), eight German (11%) and two Portuguese (11%) companies. Given the widespread adoption of the full recognition option in these countries (ie a majority of the companies in these countries used the option), the potential impact on equity for these companies may represent their rationale for deviating from the national norm.

We also use an estimation procedure that enabled us to incorporate, among other things, the impact of taxes and, accordingly, to develop a more complete understanding of the impact of moving from the corridor to the new option of full recognition through SORIE. The estimation procedure reveals that both for companies with net unrecognised actuarial losses and for companies with net unrecognised actuarial gains, the mean/median impact on P&L would be immaterial. The balance sheet impact would, on average, also be immaterial for companies with net unrecognised gains.

For companies with net unrecognised losses, on average the balance sheet impact would, however, be material. Our estimation procedure indicates that for these companies (assuming a standard tax rate of 30%) the mean/median decrease in equity would be 3.43%/1.50%, and the mean/median increase in the recognised pension liability would be 41.02%/27.36%. Thus, several of these companies may have selected the corridor approach because it enables them to achieve material levels of off-balance sheet financing.

Our research provides somewhat limited direct evidence on what drives companies' decisions to follow the corridor versus a full recognition approach in accounting for actuarial gains and losses. Nonetheless, for corridor companies, our review of net balances of unrecognised actuarial gains and losses, coupled with our estimation of the impact of adopting the option, provides some indirect evidence of what may be driving this decision for some companies.

## **CONCLUSION AND RECOMMENDATIONS**

---

The IASB acknowledges that it is undesirable to allow different choices for the recognition of actuarial gains and losses. Our findings strongly support the Board's position by providing evidence that the financial statement impact of using different methods for the recognition of actuarial gains and losses is frequently material, particularly from a balance sheet perspective. For companies with material defined-benefit pension plans, our findings clearly reveal a lack of financial statement comparability, which stems from the flexibility allowed under IAS 19. Specifically, our findings highlight that IAS 19 enables some European companies to achieve material amounts of off-balance sheet financing by using the corridor approach. Sample companies using the corridor are overstating equity by 3.43% on average and understating recognised net pension liability on average by 41.02%.

On a more positive note, we find that the new IAS 19 option, which is based on FRS 17, is widely accepted not only in the UK and Ireland, but also in countries with high unfunded pension obligations (eg Germany).

We encourage the IASB to move forward with the proposal set forth in the Board's recently issued discussion paper to eliminate the corridor approach and require full recognition of actuarial gains and losses. This would make the IASB standard more consistent with SFAS 158, thereby enhancing international comparability. Otherwise, many European companies will continue to use the corridor approach to achieve off-balance sheet presentation of large parts of their pension liabilities.

# 1. Introduction

While for several years a significant number of European companies have prepared consolidated financial statements using International Financial Reporting Standards (IFRS), 2005 represented the first year of the Standards' adoption by thousands of additional European listed companies. For many of the latter, adoption of IFRS significantly changed the way they account for pension plans, especially defined-benefit plans. This report provides an in-depth analysis and evaluation of the defined-benefit pension plan disclosures provided in 2005 by companies constituting the premier segments of 20 European stock exchanges.

Since the 2004 amendment of *International Accounting Standard 19 'Employee Benefits'* (IAS 19), companies with defined-benefit pension plans may choose one of three methods to account for the recognition of actuarial gains and losses.<sup>1</sup> A primary objective of our research is thus to determine the method selected in 2005 by European blue chip companies:

- the 'standard' corridor approach,
- full recognition through profit and loss (P&L), or
- full recognition through the Statement of Recognised Income and Expense (SORIE) (ie through shareholders' equity).

As shown in more detail later in this report, our investigation reveals that in 2005 about half of the European blue chip companies with material defined-benefit pension plans accounted for actuarial gains and losses using the corridor approach. Slightly fewer than half adopted the new IAS 19 option to recognise actuarial gains and losses fully through the SORIE. Very few companies – about 3% with material defined-benefit pension plans – recognised actuarial gains and losses through P&L. Therefore, the analysis in this report focuses on companies' choice between the corridor approach and recognising actuarial gains and losses through the SORIE.

Our research also considered the transparency of the key pension assumptions disclosed under IAS 19; 'best practice' disclosures are highlighted in this report. For seasoned, experienced IFRS users with defined-benefit pension plans that select the full recognition through the SORIE approach for actuarial gains and losses, we have analysed the footnotes to identify the rationale, if any, posited for this important policy change (ie moving from the IAS 19 corridor approach to the new option). We also report the impact of applying the new IAS 19 option on these companies' balance sheets and P&L statements in 2005. Our investigation of the rationale provided within the policy notes, coupled with our analysis of the balance sheet and performance measure impact of adopting the option, may shed some light on the motivation for this voluntary change in accounting policy.

---

1. Actuarial gains and losses are unexpected changes in the value of the plan assets/liabilities. They can be large and volatile (McGeachin 2004). See IAS 19 (para. 7) for a definition.

Finally, for companies using the IAS 19 corridor method in 2005, we estimate the balance sheet and P&L impact that would result if these companies elected to adopt the approach of full recognition of actuarial gains and losses through SORIE.

## THE 2004 IAS 19 AMENDMENT

---

The 2004 IAS 19 amendment, which provides a new option for the full recognition of actuarial gains and losses through the SORIE, is based on the UK Accounting Standards Board's (ASB) Financial Reporting Standard 17 (FRS 17). Under FRS 17, companies are required to recognise fully any actuarial gains and losses that arise on the periodic re-measurement of the companies' defined-benefit pension plan obligations and plan assets. FRS 17 mandates that the recognised gains and losses be booked against owners' equity via the Statement of Total Recognised Gains and Losses; thus, actuarial gains and losses do not affect the P&L. In oscillating financial markets, however, FRS 17 can cause substantial volatility in companies' shareholders' equity. Thus, FRS 17 has initiated a trend whereby several UK companies have shifted to defined-contribution plans (Veysey 2004). Additionally, many of those still operating defined-benefit plans raised the amounts that employees contribute to these plans. As a consequence, during its development phase and following its release, the UK standard became a lead media story and was cited as the cause of the demise of numerous pension schemes (Chitty 2002). Politicians and union leaders attacked the standard and called for its withdrawal. Critics have pointed to economic consequences as several UK employers have become reluctant to provide employees with traditional defined-benefit plans. According to Hawkins (2003), plunging share prices, less favourable tax rules, and FRS 17 combined to turn 'a pre-2000 pension feast' into 'a post-2000 famine'.

The negative reaction to FRS 17 in the UK reflects 'history repeating itself' as corporations were an important lobbying group that successfully prevented the US Financial Accounting Standards Board (FASB) from mandating immediate recognition in Statement of Financial Accounting Standard (SFAS) 87 during the 1980s (Seaman 1995; see also Chapter 2 of this report). Similarly, commentary letters sent to the International Accounting Standards Board (IASB) before the 2004 amendment of IAS 19 claimed that 'adding options to Standards is not desirable and obstructs comparability' and that 'deferred recognition is preferable to immediate recognition' (IAS 19 Basis for Conclusions, para. 48j). Therefore, expectations may have been that few European companies will voluntarily adopt full recognition of actuarial gains and losses under IAS 19.

On the other hand, companies face pressure from regulators, politicians and the press to incorporate more transparency into pension accounting, and this may influence decision making regarding pension accounting policies. For example, financial analysts very strongly prefer immediate recognition (JP Morgan 2006; and Credit Suisse First Boston 2005). Dovovan (2003) quotes a

Shuttleworth actuary who stated: 'Make no mistake these FRS 17 deficits are real – they represent the company's likely future contributions and no amount of clever smoothing can cover this up'.

In the US, the Securities Exchange Commission (SEC) urged the FASB to remove the deferred recognition approach from US GAAP, and as part of the Commission's 'Roadmap for Convergence', encouraged the IASB and FASB to 'tackle the toughest, most intractable and problematic standard setting issues' (Erhardt 2005), including accounting for pensions. In 2006, the FASB responded to the SEC's challenge by issuing SFAS 158 and requiring full recognition of actuarial gains and losses. The IASB currently has a project on its agenda to converge with US GAAP for accounting for retirement plans, including pensions. In light of the IASB's tentative decisions on pension accounting, some companies that use IFRS may view mandatory immediate recognition as the unavoidable next wave of pension accounting and choose in 2005 to be among those companies voluntarily embracing transparency before it is mandated.<sup>2</sup>

## SAMPLE

---

Based on a review of the 2005 financial statements and footnotes of 481 European blue chip companies, we identified 406 with defined-benefit plans. For 265 of these companies, the DBO represented at least 2% of total assets, and the companies disclosed all the information required to complete our analyses. For these companies, the defined-benefit pension obligation is considered material for purposes of our study, and they are included in further analyses.

For companies with material defined-benefit plans that have selected the option of full recognition through SORIE, we have analysed the pension policy footnote to identify the rationale, if any, posited for this important policy selection. For example, companies may want to signal transparency. Theoretical support for this position is provided by Diamond (1985), who argues that corporations aim for transparency to reduce investors' private information search costs. Empirical evidence supporting this position further indicates that a clear presentation of the firm's financial situation reduces information complexity for investors (see, for instance, Hirst and Hopkins 1998; Hope 2003a). By investigating the rationales provided within the accounting policy footnotes, we hope to gauge whether this theory is supported in regard to accounting for defined-benefit pension plans.

While opponents of FRS 17 and the IAS 19 option have argued that recognition of pension liabilities and assets based on immediate recognition would have a devastating balance sheet impact, this has remained a question to be addressed by empirical research. Our research thus provides the first comprehensive evidence about the actual impact of full recognition on the financial statements of companies that provide defined-benefit plans.<sup>3</sup> For experienced, seasoned IFRS users with defined-benefit plans material at 2% of total assets and voluntarily selecting the new option in 2005, we report the impact of adoption on the balance sheet and P&L. Additionally, for sample companies with material plans using the corridor approach for the recognition of actuarial gains and losses in 2005, we estimate the impact that adopting the option would have on P&L and the balance sheet (the recognised net pension liability and total shareholders' equity).

On the basis of our review of the 2005 pension footnotes of European blue chips, for companies with material defined-benefit plans, we consider the transparency of actuarial assumptions. We have collected data on the assumptions that companies use when estimating defined-benefit obligations and fair values of plan assets. In particular, we have analysed whether companies disclose the actuarial assumptions in absolute terms (eg as point value percentages) or as ranges.<sup>4</sup> Where absolute levels are disclosed, we compare the disclosed assumptions across country and industry sub-samples and benchmark them against the relevant country/industry averages to ascertain the homogeneity (or heterogeneity) of the companies' approaches. Best practice disclosures of actuarial assumptions are highlighted.

The remainder of our report is organised as follows. Chapter 2 provides an overview of the evolution of accounting for defined-benefit pension plans (ie SFAS 87 and 158, the original IAS 19 and its revisions, FRS 17, and the current IASB project). A review of the relevant literature follows in chapter 3. This includes a brief summary of the relevant academic literature as well as an overview of the findings of a UK Review Panel assessment of 2005 IAS 19 disclosures, and relevant findings of recent assessments of IFRS implementation in Europe published by the Institute of Chartered Accountants in England and Wales (ICAEW) and Committee of European Securities Regulators (CESR). The methodology, including the sample selection process, is described in chapter 4. Chapter 5 reports our findings. A summary of our findings and a discussion of the policy implications are provided in Chapter 6.

---

3. Amen (2007) also focuses on accounting for unfunded defined-benefit pension plans according to IAS 19 and on companies' choice between the corridor approach and recognising actuarial gains and losses in the SORIE. Using a Monte-Carlo-simulation approach, he analyses long-term differences caused by the accounting policy choice.

4. IAS 19, para. 120 (n) requires that companies disclose 'each actuarial assumption in absolute terms ... and not just as a margin between different percentages or other variables'.

---

2. Views expressed in the IASB's March 2008 discussion paper *Preliminary Views on Amendments to IAS 19 Employee Benefits* confirm that the Board plans to move to full recognition of actuarial gains and losses.

## 2. Evolution of accounting for defined-benefit pension plans

This chapter reviews the evolution of accounting for defined-benefit pension plans. First, we focus on the US SFAS 87 (FASB 2006b), which provided the blueprint for IAS 19's corridor approach. Then we consider the development in the UK of FRS 17 and the full recognition approach to accounting for actuarial gains and losses through the Statement of Total Recognised Gains and Losses. Next we address the international move to full recognition via the issuance of SFAS 158 in the US and the amendment of IAS 19 by the IASB in 2004. We conclude with a discussion of the current IASB project aimed at improving accounting for pensions and other retirement benefit plans and convergence with US GAAP.

### US SFAS 87

Historically, pension accounting standards provided great flexibility in the choice of actuarial methods and assumptions (see Camfferman and Zeff 2007; Hansen 2004; Harper and Strawser 1993; Rue and Tosh 1987; Street and Shaughnessy 1998). Then, in 1985, the FASB adopted SFAS 87, setting forth a market-based approach to pension accounting. SFAS 87 eliminated the choice between accrued benefit valuation methods and required that a single method (Projected Credit Unit Method) be used to calculate the projected-benefit obligation (PBO).

The market-based approach of SFAS 87 requires that future pension cash flows be estimated and discounted to derive pension liabilities and pension expenses. Therefore, actuarial assumptions are made about workforce demographics, longevity, future salary and benefits increases, and the discount rate. Moreover, the market-based approach implies that pension liabilities and assets are re-measured, using updated assumptions, on a regular basis, leading to the creation of 'actuarial gains and losses'.<sup>5</sup> During the SFAS 87 deliberations, constituents lobbied heavily against immediate recognition (Seaman 1995) of these actuarial gains and losses. In response to intense lobbying, the FASB developed the corridor approach.<sup>6</sup>

Under the corridor approach, actuarial gains and losses are temporarily deferred (ie unrecognised) and their accumulated balance is tracked off-balance sheet. SFAS 87 required the recognition of accumulated unrecognised actuarial gains and losses only if the net balance eventually exceeded a pre-specified threshold (ie the corridor), thereby leading to smoothing (ie gradual recognition) and a reduction in income statement and balance sheet volatility. When the net value of actuarial gains and losses exceeded the corridor, an additional smoothing component was introduced and the excess over the corridor was only gradually recognised in pension expense over the average expected working life of

employees. Additional smoothing was possible in determining the fair value of plan assets when calculating the expected rate of return of plan assets.

Although the FASB initially intended to introduce a market-valuation approach to measurement, SFAS 87 evolved to set forth an income statement approach. This is because a key feature of the corridor approach is that volatility from period to period is minimised, primarily in the income statement, but also in the balance sheet. SFAS 87 thus represented an income statement approach even though the standard required recognition in the balance sheet of a minimum liability for unfunded pension benefits. This minimum liability was determined by subtracting the fair value of plan assets from the accumulated benefit obligation (ABO). The ABO represented the actuarial value of benefits attributed to employee service rendered to date, and was based on current and past compensation levels.

While the pension obligation reported on the balance sheet under SFAS 87 was based on the APO, the most current and representationally faithful economic value of the pension liability is the PBO, which was relegated to the footnotes. The PBO represents a measure of benefits attributed to service to date, assuming that the plan continues in effect and that expected future events (including compensation increases, turnover, and mortality) occur.<sup>7</sup> Additional disclosures required by SFAS 87 included the fair value of plan assets and the funded status of the plan (ie the net of the PBO and the fair value of the plan assets).

In paragraph 5 of SFAS 87, the FASB stated that the standard continued the evolutionary search for more meaningful and useful pension accounting. The Board further emphasised that the conclusions reached in SFAS 87 were not likely to be the final step in this evolution. In the basis for conclusion to SFAS 87, the FASB specifically acknowledged that delayed recognition of actuarial gains and losses excludes the most relevant information from the balance sheet (see para. 104). The FASB further argued that the most relevant and reliable information about pension asset/liability is based on the fair value of plan assets and a measure of the present value of the obligation using current, explicit assumptions. Therefore, the Board concluded that it:

*... would be conceptually appropriate and preferable to recognize the difference between the projected-benefit obligation and plan assets, either with no delay in recognition of gains and losses, or perhaps with gains and losses reported currently in comprehensive income<sup>8</sup> (SFAS 87, para. 107).*

5. Actuarial gains and losses are unexpected changes in the value of the plan assets/liabilities. They can be large and volatile (McGeachin 2004). Also see IAS 19 (para. 7) for a definition.

6. Later the IASB faced a similar situation and incorporated the corridor in IAS 19.

7. In the terminology introduced by SFAS 157 'Fair Value Measurement', the PBO is considered a level-three-fair-value (a model fair value), calculated using, wherever applicable, level-one-valuation-inputs (ie market-derived inputs).

8. Emphasis added.

In 1985, while emphasising that footnote disclosure is not an adequate substitution for recognition, the FASB concluded that the conceptually preferable approach represented too great a change from past practice to be adopted at that time.

Despite the standard's limitations, as explained in Hansen (2004), the disclosure and expense recognition requirements of SFAS 87 set the trend for most ensuing retirement benefit accounting standards around the world and withstood the test of time for approximately two decades. For example, the International Accounting Standards Committee (IASC), Canada, Mexico and Japan followed the US lead. More recently, however, standards have begun to address SFAS 87's shortcomings; these include the UK's FRS 17 and IAS 19 as amended in 2004. Additionally, the FASB has issued SFAS 158.

### SFAS 87 CRITICISED

---

Opponents of SFAS 87 believed the standard incorporated too many smoothing features and did not require the recognition of sufficient current information in the primary financial statements, especially the balance sheet. Smoothing initially resulted because changes in plan asset/liability values arising from economic market fluctuations were deferred (Hansen 2004). Bull markets during the 1990s exposed yet another weakness. When pension plans became well funded, companies could report accumulated prepaid pension cost as an asset.<sup>9</sup> The press responded, publicising that large US companies were inflating earnings. As SFAS 87 captured the increasing attention of not only the business press but also, more importantly, that of analysts and regulators, the result was an outcry for more transparent pension accounting.

Indeed, as explained by Camfferman and Zeff (2007), when the IASC revisited IAS 19 during the 1990s as part of the Comparability Project, it was obvious that the deferral of actuarial gains and losses represented a 'pragmatic solution'. Furthermore, the resulting balance sheet items did not satisfy the Framework's definition of assets and liabilities. Accordingly, the UK (whose ASB was already developing FRS 17) and Australia voted against the deferral method, which they viewed as 'a lamentable condoning of income smoothing'. Despite some opposition, however, the IASC voted to maintain the corridor approach to reduce earnings volatility, among other reasons.

### UK FRS 17

---

In the UK, the paradigm shift in accounting for defined-benefit pension plans was evident during the deliberations of FRS 17, 'Retirement Benefits'. In 2000, following the international trend established in SFAS 87 and IAS 19, the UK's ASB endorsed a shift to market-value measurement.

FRS 17 goes one step further and has broken new ground in the area of transparency (Hansen 2004 and Hope 2003b) by requiring a 'true' asset and liability approach. Specifically, FRS 17 requires that the fair value of the surplus or deficit in the plan be recognised on the balance sheet instead of being buried in the footnotes. Additionally, under FRS 17, most fluctuations in assets/liabilities are recognised immediately into equity via the SORIE.<sup>10</sup> Actuarial gains and losses are reported outside the P&L in the Statement of Total Recognised Gains and Losses. These amounts remain in equity as there is no later recycling of the recognised actuarial gains and losses to P&L.

Immediate recognition of these gains and losses, as opposed to smoothing their impact via the corridor approach, can yield significant volatility in equity and the Statement of Total Recognised Gains and Losses. FRS 17's requirements are consistent with IAS 19, with the only important difference being the point when actuarial gains and losses are recognised.

FRS 17 allowed a long implementation period of the requirement to recognise actuarial gains and losses immediately; for several years, companies were required only to comply with disclosure rules. Inter alia, the rationale was to give the ASB a chance to persuade the IASC to follow the UK approach on the immediate recognition of actuarial gains and losses. Initial disclosure requirements became effective for accounting periods ending on or after 22 June 2001. Recognition requirements were scheduled to become effective for accounting periods ending on or after 22 June 2003. The provisional requirements were, however, extended with the issuance of an amendment to FRS 17 in 2002. The amendment deferred the full adoption of FRS 17 during the period of the international discussions on amending IAS 19. Thus, full adoption of FRS 17's recognition requirements was postponed until accounting periods beginning on or after 1 January 2005.

The ASB cites evidence that the IASC (as it was) planned to consider, eventually, the example of FRS 17. Appendix III of FRS 17 (para. 4) quotes the IASC's 1998 IAS 19 Basis for Conclusion.

*... the [IASC] Board found the immediate recognition approach attractive. However, the [IASC] Board believes that it is not feasible to use this approach for actuarial gains and losses until the [IASC] board resolves substantial issues about performance reporting. When the [IASC] Board makes further progress with those issues, it may decide to revisit the treatment of actuarial gains and losses (ASB 2000).*

---

9. Under SFAS 87 as well as the International Standard, the expected return on plan assets represents one component of net pension costs.

---

10. Certain items included in pension liabilities are debatable and thus are not recognised under FRS 17. An example is unvested past service costs which are recognised on a straight-line basis over the periods during which the increase in the benefits vest (FRS 17, para. 60).

The ASB believes FRS 17 yields reported amounts for retirement benefits that are more transparent and easier to understand. Pension assets/liabilities are measured at fair value, and the balance sheet shows the surplus/deficit to the extent that the employer expects to benefit/suffer from it. The P&L account reports the continuing service cost, interest cost, and expected return on assets, while market fluctuations are recorded in the Statement of Total Recognised Gains and Losses.

### **IASB AMENDS IAS 19 TO INCORPORATE FRS 17 OPTION**

As revised in 1993, IAS 19 adopted an accrued benefit valuation method as the benchmark, but permitted use of a projected-benefit valuation method as an alternative. In 1998, during the IASC Comparability Project, the alternative method was dropped. Like SFAS 87, the revised IAS 19 introduced a market approach into measurement of pension costs, aligned with the corridor approach to prevent volatility. Thus, the standard allowed for delayed recognition of actuarial gains and losses, and required that actuarial gains and losses exceeding the corridor be recognised in P&L by spreading them over the service lives of the employees or alternatively by recognising them in any systematic way that results in faster recognition. Before its 2004 amendment, almost all companies following IAS 19 elected to spread gains and losses by using the corridor approach, because of the volatility associated with full recognition (McGeachin 2005).

Although based on SFAS 87, IAS 19 does address some of the shortcomings of the US standard (Hansen 2004). For example, following its 2002 amendment, IAS 19 limits the build-up of a net pension asset on the balance sheet by introducing an 'asset ceiling'. Additionally, prior service costs are recognised over the period until plan benefits are vested (in many instances, this results in immediate recognition).

While noting that IAS 19, as revised in 1998, represents a significant improvement, the IASC also stressed that further improvement may be possible, especially regarding the immediate recognition of actuarial gains and losses. In line with this position, in 2004, the IASB amended IAS 19 to include an option that allows companies to recognise actuarial gains and losses in full in the period they occur, outside P&L, in the SORIE. These amounts remain in equity because there is no later recycling of the recognised actuarial gains and losses to P&L.<sup>11</sup> The new IAS 19 option thus allows companies to adopt or, in the case of UK and Irish companies, to continue using the FRS 17 treatment

---

11. The IASB justified its decision to abandon recycling by positing that the incentives for selecting over-optimistic assumptions are as great under the option as under the corridor approach (Basis for Conclusions IAS 19 para. 48T). As they work towards convergence, the IASB and FASB must decide whether actuarial gains and losses recognised in shareholders' equity should be recycled back to P&L as this represents a key difference between existing internationally recognised pension standards.

for actuarial gains and losses (McGeachin 2005). For companies adopting the option, the amount recognised in the balance sheet represents the fair value of the surplus or deficit in the plan at the balance sheet date. The amount recognised in the P&L account represents the best estimate of the cost of the period.

When amending IAS 19 in 2004, the IASB acknowledged in the Basis for Conclusions (para. 48B) that, although the Board believed immediate recognition was preferable, the issue of where actuarial gains and losses should be reported remained debatable. Immediate recognition may be defended on the grounds that actuarial gains and losses are economic events of the period. Recognition as they occur thus yields a faithful representation of events and of the plan in the balance sheet. Deferral, on the other hand, yields information that is partial and potentially misleading. In the Basis for Conclusions, the IASB clearly indicates its belief that amounts recognised under the deferral method are opaque and not representationally faithful. Additionally, the deferral method yields a complex, difficult standard. When the 2004 amendment was issued, the IASB was not necessarily convinced that immediate recognition outside the P&L account (ie through the SORIE) was ideal, but the board believed that the method pioneered in the UK provides more transparent information.

The IASB disagrees with the arguments of opponents to FRS 17 who indicate that immediate recognition can cause volatile fluctuations in the balance sheet and that in the long term actuarial gains and losses offset one another. The IASB believes the defined-benefit asset/liability can be measured with sufficient reliability to justify recognition. Furthermore, 'recognition in a transparent manner of the current best estimate of the events of the period and the resulting asset and liability provides better information than non-recognition of an arbitrary amount of the then current best estimate' (para. 48D). The IASB also believes it is not reasonable to assume that existing actuarial gains and losses will offset each other in the future, as this suggests an ability to predict future market prices.

Moreover, the IASB does not accept the argument that the volatility resulting from immediate recognition is too great to be acceptable in the financial statements. The IASB believes that actuarial gains and losses are items of income and expense. Nonetheless, in 2004 the Board believed it would be premature to require immediate recognition pending a comprehensive review of both accounting for retirement benefits and financial statement presentation. As a fundamental review of these two areas will probably take some time to complete, the IASB concluded that it would be wrong to prohibit a method of recognising actuarial gains and losses accepted by a national standard setter (ie the UK ASB) and which provides more transparent information about the costs and risks of running a defined-benefit plan. Consequently, the IASB amended IAS 19 in 2004 to include the option of following FRS 17's immediate recognition of actuarial gains and losses through the SORIE.

## SFAS 158

---

Meanwhile, in September 2006, the FASB issued SFAS 158 'Employers' Accounting for Defined-benefit Pension and Other Postretirement Plans' (FASB 2006b). In contrast to the current version of IAS 19, SFAS 158 eliminates the delayed recognition approach and, in line with FRS 17, requires recognition of actuarial gains and losses in the balance sheet. Under SFAS 158, actuarial gains and losses are recognised in equity (through other comprehensive income) and are later recycled into P&L by using the corridor smoothing mechanism. FRS 17 and the new IAS 19 option prohibit recycling, and actuarial gains and losses remain permanently in retained earnings.

A study by Towers Perrin (2006) indicated that had SFAS 158 been in effect at 31 December 2005, Fortune 100 companies would have experienced a decrease in stockholders' equity of \$179 billion, or 8.3%. Merrill Lynch (Latter and Haugh 2006), using 2005 year-end numbers, projected that Standard & Poor's 500 companies would be underfunded by \$397 billion (\$87 billion pensions and \$310 billion Other Post Employment Benefits (OPEBs)) and stockholders' equity would decrease by \$218 billion (\$158 billion pensions and \$60 billion OPEBs), or about 6%. Nonetheless, for many US companies, the actual reported over- or underfunded status and the percentage change in the balance sheet asset/liability were somewhat better in 2006 than projected, owing to a combination of factors. For example, higher than expected returns on pension assets eased the impact of SFAS 158 adoption as many US pension plans moved back in the black (Cooper 2007). A study by Wilshire Consulting (2007) of the 330 companies in the Standard & Poor's 500 index with defined-benefit plans revealed that, while most plans remained underfunded, the funded status increased from 93% in 2005 to 101% in 2006, thereby turning an \$83.5 billion deficit into a \$16.6 billion surplus. Pension funding ratios in 2006 were further improved by high interest rates (which lower the value of present liabilities) and by a fourth consecutive year of strong investment returns.

## THE WAY FORWARD

---

For decades, the IASB and FASB insisted that both Boards' pension accounting standards were 'transitional' steps representing a political compromise with preparers. As the liabilities involved are often large and derived from a valuation process capturing a long time frame and substantial uncertainties, the treatment of actuarial gains and losses represents a key and contentious issue, thereby making accounting for defined-benefit pension plans one of the most difficult challenges facing the field of financial reporting. As evidenced by our review, after years of delay, the process of improving pension accounting has recently accelerated owing to a growing demand for transparency from constituency groups including investors, politicians, regulators, and labour unions. These groups assert that pension accounting under the corridor approach is opaque, misleading, and may lead to adverse economic consequences.

The demand for improved pension accounting may also be linked to interrelated problems with the long-term stability of corporate pension systems (ie considerable accretion of pension liabilities following the decline in discount yields; deterioration of fair value of, and returns on, plan assets after the burst of the equity-market bubble; changes in pension funding regulation in the UK and US; and growing awareness of pending demographic changes).

The US SEC has cited accounting for pensions as a key area the IASB and FASB should address as part of the Roadmap for Convergence. The IASB's decision to add pensions to the Board's agenda as a long-term convergence project thus represents a continuation of an influential development in pension accounting, specifically the shift from complex and opaque rules towards more transparent rules for the accounting for, and valuation of, corporate pension schemes.

The IASB's project on post-employment benefits, including pensions, is being conducted in two phases and involves a fundamental review of all aspects of post-employment benefit accounting. Among other things, during the first phase, the IASB is addressing presentation and disclosure, and smoothing and deferral mechanisms. Tentative views of the IASB are set forth in Preliminary Views on Amendments to IAS 19 Employee Benefits, and an interim standard is expected in 2010. The Board has tentatively decided that all changes in the defined-benefit obligation (including all actuarial gains and losses), and in the value of plan assets, should be recognised in the SORIE in the period in which they occur (IASB 2008).

During the second phase, the IASB will conduct a more comprehensive review of fundamental issues in pension accounting. The review will address measurement issues, such as the measurement of plan assets; incorporating future salaries in the measurement of the post-employment benefit obligation; and even the use of the projected unit credit method and the market discount rate currently included in IAS 19. Moreover, the second phase will address the evolution of modern pension schemes that represent hybrids (see McGill et al. 2004, Chapter 12 'Hybrid Defined-benefit Plan Designs') incorporating features of both defined-benefit and defined-contribution plans. In March 2008 the IASB issued a discussion paper *Preliminary Views on Amendments to IAS 19 Employee Benefits* that sets forth the Board's first views on how to deal with hybrid plans. In this discussion paper, the IASB also proposes eliminating the corridor approach and supports a move to full recognition of actuarial gains and losses.

In January 2008, The Financial Reporting of Pensions was issued as part of 'Proactive Accounting Activities in Europe' (PAAinE).<sup>12</sup> In this discussion paper, Europe's national standard setters reject the use of deferral

---

12. PAAinE is a partnership that includes the European Financial Reporting Advisory Group (EFRAG) and European accounting standard setters.

approaches (ie the corridor approach) in any future financial reporting standard. They state:

*Having considered the arguments that support these [deferral] approaches the paper concludes that they do not provide sufficient justification for the balance sheet to portray assets and liabilities relating to pensions plans in a manner that is not representationally faithful. Accordingly, accounting standards should not permit these approaches, and all changes should be recognized immediately. (PAAinE 2008: 102, para. 6.2)*

As accounting for defined-benefit pension plans continues to evolve, our research provides timely insight into important issues to be addressed in the first phase of the IASB project.

### 3. Literature review

The existing academic literature on accounting for pensions tends to address primarily accounting for US pension plans pre-SFAS 87 and under SFAS 87. A comprehensive review of this SFAS 87 literature is not merited because the current project focuses on the recent evolution in accounting standard setting towards full recognition of actuarial gains and losses. Therefore, in this chapter, we discuss a few relevant themes that have emerged from the large body of research that addresses accounting for pensions under SFAS 87. Most notable among these are the issue of disclosure versus recognition, and of the extent to which companies use discretion in selecting assumptions (eg discount rate, salary increases) to manipulate recognised pension information. We conclude by summarising relevant findings from the Financial Reporting Review Panel's report on 2005 pension disclosures by UK companies, and recent assessments of IFRS implementation in Europe, published by the ICAEW and CESR.

#### **DISCLOSURE VERSUS RECOGNITION OF PENSION LIABILITIES**

In its *Statement of Financial Accounting Concept (SFAC) 5*, the FASB (1984) states that 'disclosure is not a substitute for recognition'. Nonetheless, in 1985, the FASB concluded that the conceptually preferable approach to accounting for pensions represented too great a change from past practice to be adopted. Accordingly, under SFAS 87, the funded status of the plan measured by the difference between the fair value of plan assets and the PBO was not recognised on the balance sheet but only disclosed in the footnotes. Following the issuance of SFAS 87, several researchers explored whether financial statement users made use of the SFAS 87 information disclosed in the footnotes. Others addressed whether they use disclosed information regarding retirement plans differently from information recognised in the financial statements. For example, Landsman and Ohlson (1990) provide evidence that the market under-reacted to SFAS 87 information, provided in the pension footnotes, about the funded status of the plan.

A considerable body of research has addressed the value relevance of the components of pension expense (recognised information) and/or the value relevance of information about the funded status of the plan (disclosed information). Based on a sample from 1987–90, Barth et al. (1993) show that pension expense loses explanatory power when the PBO and fair value of plan assets are incorporated in a regression to explain the market value of equity. Alternatively, Coronado and Sharpe (2003) show that, during the bull markets of 1993–2001, the market paid more attention to pension expenses than to the fair value measures of the pension liability and the pension assets (ie funded status) disclosed in the footnotes. Coronado and Sharpe (2003) attribute their findings to investors' inability to distinguish pension gains from core operating earnings. They speculate that since under SFAS 87 companies smoothed changes in the value of pension plan assets into income over time, investors valued pension earnings in the same manner as more persistent

operating earnings. Coronado and Sharpe (2003) caution that naively valuing pension earnings, as opposed to considering pension net asset positions, could lead to material valuation errors.

Franzoni and Marin (2006) provide evidence that, when using SFAS 87 data, the market significantly overvalues US companies with severely underfunded pension plans. Specifically, they found that a portfolio of companies with heavily underfunded plans earned low raw returns in comparison to a portfolio of healthier pension plans. This pattern persisted for at least five years after the emergence of the substantial under-funding. They conclude that investors were not paying sufficient attention to the implications of the under-funding for future earnings and cash flows. In a regulatory environment that enables companies to defer recognition of the change in the pension liability in earnings, Franzoni and Marin (2006) conclude that the impact on returns occurs with delay relative to the first manifestation of the large under-funding. They also provide evidence that the most underfunded plans tend to be past losers from the perspective of returns and operating and financial performance, thereby suggesting that the pension deficit results from a difficulty in satisfying funding requirements. On the basis of additional cross-sectional analysis and descriptive evidence, Franzoni and Marin (2006) conclude that they have identified an additional determinate of market mispricing.

Picconi (2006) shows that under SFAS 87 neither prices nor forecasts fully reflected the quantifiable future earnings effects of changes in pension information at the time it became publicly available in the 10-K SEC filing. Alternatively, his findings suggest that investors and analysts gradually incorporated this information into prices and forecasts as they observed the effects of the pension plan changes on subsequent quarterly earnings. He concludes that the failure of users to incorporate this information appears to be associated with the complexity of the task rather than with a lack of disclosure.

Picconi (2006) also found that the SFAS 87 off-balance sheet portion of the pension plan's funded status and the PBO were predictive of future returns, while the on-balance sheet portion was not. His findings thus suggest that, under the corridor approach, investors do not accurately assess the long-run cash flow and earnings implications of off-balance sheet pension disclosures.

Although the studies cited above produced somewhat inconsistent findings, in general, this body of research indicates that the US market did not fully incorporate SFAS 87 pension information. It poses two primary rationales for this.

- 1) The information was buried or hidden in the footnotes (ie only disclosed and not recognised).
- 2) SFAS 87 produced too much valuation uncertainty.

It is important to stress again that the above-mentioned research relates exclusively to the US environment and should not be extrapolated to other institutional settings. In summary, the research on SFAS 87, in general, supports the evolution in standard setting away from the corridor approach towards full recognition.

#### **ASSUMPTIONS USED TO MEASURE DEFINED-BENEFIT OBLIGATIONS AND FAIR VALUE OF PLAN ASSETS**

In addition to addressing companies' preference for the corridor approach or full recognition under IAS 19, our study additionally considers the transparency of the key pension assumptions disclosed under IAS 19 and benchmarks them against reasonable comparatives. Therefore, this section includes an overview of relevant earlier research addressing the selection of assumptions under the SFAS 87 corridor approach.

Acknowledging that valuation in pension accounting is highly uncertain, accounting standard setters have countered opponents concerns about reliability by emphasising that companies are required to disclose key valuation assumptions in the footnotes. These disclosures are intended to enable financial statement users to assess whether companies misuse their discretion in pension accounting valuation.

Godwin (1999) examines trends from 1987 to 1996 for the three major actuarial assumptions disclosed under SFAS 87: discount rate, salary progression rate, and expected return on plan assets. His findings reveal that the disclosed discount rates display increased volatility, salary rates consistently decline, and the return on plan assets changes only slightly. He attributes the increased volatility in discount rates to the SEC directive that discount rates be based on the return earned on bonds with a Moody's AA rating. Godwin (1999) also notes that in 1993, following issuance of a SEC directive (ie a 7% guideline), average funding ratios declined from 1.09 to 1.03, and pension expense as a percentage of earnings increased on average from 18% to 25%. For expected return on plan assets, Godwin stresses that rates showed little movement during the ten-year period studied, despite criticism by the press that they were too high.

Emphasising the relevance of pension assumptions, Godwin (1999) further refers to Winklevoss' estimate (1993) that for every 0.25% decrease in the discount rate, pension liabilities and pension expense can increase 4% and 6.5%, respectively. To offset this type of increase, companies may be tempted to reduce salary rates. Indeed, Godwin's findings indicate that US companies did drop salary rates during the period studied to offset unexpected decreases in discount rates. For example, in 1993 every sample company that changed discount rates also reduced salary rates. Godwin concludes that this behaviour is consistent with companies' attempts to smooth the effects of the reduction in discount rates stemming from compliance with the SEC directive.

For each of the ten years studied, Godwin shows that under-funders selected discount rates above the sample average. In contrast, over-funders selected discount rates below the sample average. Furthermore, discount rates for under-funders were statistically greater than discount rates for over-funders ( $p < .01$ ) in nine of the ten years. Since higher discount rates yield lower pension liabilities, this difference suggests under-funders used discount rates to inflate their funded status.

For 1987 through 1993, Blankley and Swanson (1995) investigated the reliability of SFAS 87 pension rate assumptions: discount rate, expected rate of return on plan assets, and salary rate. Their aim was to address the perception that biased pension rate estimates have given rise to misleading financial reporting, inadequate funding, and risk shifting to employees, retirees and the Pension Benefit Guaranty Corporation (PBGC). They found that while average discount rates declined substantially during this period, the declines lagged declining yields on high-quality corporate bonds, PBGC rates, or the 30-year government bond rate. When the SEC responded by setting a 7% guideline in 1993, companies responded with an average rate of 7.43%. Blankley and Swanson (1995) thus recommend that the FASB reconsider allowing so much flexibility in SFAS 87 in regard to selecting a discount rate.

As is consistent with the SFAS 87 requirement that expected rates reflect long-term expectations, expected rates of return changed infrequently during the period studied by Blankley and Swanson. While expected rates of return exceeded discount rates every year, expected rates normally matched actual rates over time to a surprising degree of accuracy. Furthermore, in 1992 and 1993, a pattern of decreases in expected returns emerged for companies whose actual returns lagged expectations. These findings provide evidence of compliance with SFAS 87 and therefore call into question claims in the press regarding manipulation of expected returns to manage earnings or funding.

Salary rate changes during the period studied by Blankley and Swanson (1995) correlate positively with discount rates changes. The authors note that as the two rates have offsetting effects on pension costs, this pattern reduces the impact of lower discount rates on income. Nonetheless, the correlation is consistent with SFAS 87 requirements that both rates incorporate expectations regarding future inflation. Finally, despite allegations in the press, the authors find no relationship between pension contributions and rate choices.

Bergstresser et al. (2006) indicate that the general consensus under SFAS 87 was that companies had relatively limited discretion over the amount of service and interest costs reported. Companies did, however, have significant discretion in setting the assumed rate of return on plan assets used to calculate pension expense. Under SFAS 87's corridor approach, the reconciliation between the assumed and actual rate of return occurred over time with potentially long amortisation periods. Selection of the

assumed rate was affected by the desire to insulate annual earnings from year-to-year fluctuations in the market performance of pension assets.

Bergstresser et al. (2006) also note that while US companies previously had significant flexibility in selecting the discount rates used to compute the balance sheet liability, this was curtailed in the late 1980s and 1990s. Additionally, the discount rate is set by actuaries not company managers. On the basis of their study of the period 1991 through 2002, these authors provide evidence suggesting that under SFAS 87 managers manipulated earnings via the characterisation of their pension assets. Furthermore, managers altered investment decisions to justify, and capitalise on, their manipulations. Specifically, these authors provide evidence that managers of companies with defined-benefit plans opportunistically selected assumed long-term rates of return on pension plans assets. Their findings also suggest that managers facing large incentives to manipulate earnings through pensions decisions (ie owing to sensitivity of their firm's earnings to changed assumptions, mergers activity, and option exercise) alter their assumed returns significantly in response to these incentives. Finally, Bergstresser et al.'s instrumental variables analysis (2006) suggests that high assumed returns are associated with higher equity allocations.

Godwin et al. (1996) examine factors motivating managers to change pension-expense and pension-plan contributions by altering assumptions about actuarial interest rates. Their findings suggest that managers use one specific pension technique to manage earnings. Specifically, managers are likely to increase actuarial interest rate assumptions in response to declines in earnings, increasingly restrictive dividend constraints, tightening debt covenants, higher leverage, and reductions in the tax benefits of plan funding. The authors note that interest rate assumptions offer a potentially cleaner environment for earnings management because, unlike other pension assumptions and changes, rate changes carry with them less risk of being confounded by substantive economic events.

In a related line of research, Amir and Gordon (1996)<sup>13</sup> examine cross-sectional variation in the assumptions (discount rate and healthcare-cost trend rate) companies selected to measure Other Post Employment Benefit (OPEB) obligations under SFAS 106. They look for evidence indicating that managers of companies with relatively high OPEB obligations manipulate the disclosed obligation. Amir and Gordon (1996) find that companies with relatively larger OPEB obligations and greater leverage tend to select more aggressive (obligation reducing) estimation parameters. Furthermore, they provide evidence that investors value a company's equity using reported rather than adjusted estimation parameters.

Earlier research addressing the selection of pension (and

OPEB) assumptions provides somewhat mixed results. Nonetheless, this work provides some evidence that the discretion provided under SFAS 87 (and 106) enabled US companies to manipulate reported results. Thus, it is important that standards setters, most notably the IASB and FASB, carefully consider the extent to which flexibility is provided to companies in future standards. Indeed this issue should continue to be of paramount importance as the standard setters work jointly to develop one high-quality global standard for pension accounting. Our study specifically addresses the transparency of IAS 19 disclosures provided by European companies in 2005 and benchmarks them against averages to ascertain the reasonableness of the assumptions.

## REVIEWS OF IAS 19 DISCLOSURES

---

A review of pension disclosures under IFRS in 20 listed groups' December 2005 accounts, conducted by the UK Financial Reporting Review Panel (2006a), yielded encouraging results and reveals a generally high level of compliance with the complex disclosure requirements of IAS 19. Although some disclosure omissions are noted, in no case were these sufficient in number or significance to warrant intervention. Problematic areas noted included UK companies' failure to:

- analyse obligations between funded and unfunded schemes
- disclose the amount of cumulative actuarial gains and losses
- disclose the actual return on plan assets
- give the best estimate of the contribution to the plan in the next year.

The panel also indicated that reporting under IAS 19 could be improved by, among other things:

- fuller disclosure (narrative or quantified) of uncertainties surrounding the estimates and impact of changes to these estimates in relation to pension liabilities
- more information on non-standard types of assets held, such as derivatives and hedge fund investments, together with associated risks and reasons for inclusion within funds between companies
- clearer descriptions of how the expected return on assets was calculated.

In addition to the above, the panel concludes that actuarial assumptions, in particular, are complex and that disclosures about mortality assumptions tend to be highly technical and to vary considerably. The panel also notes that more consistent interpretation between companies of what encompasses 'principal assumptions' is desirable, particularly regarding disclosure of inflation and mortality assumptions.

---

13. See Landsman (1996) for a discussion of Amir and Gordon.

The panel stresses that although descriptions provided by some UK companies are clear, others tend to be vague and there is a danger that such disclosures can become 'boilerplate'. In its preliminary report on IFRS implementation, the UK Financial Reporting Review Panel (2006b) had already noted the tendency of UK companies to use boilerplate descriptions for disclosure of accounting policies whether or not matters described actually apply to the company concerned. The panel is hopeful that best practice will evolve in this area. It is important to stress that the panel has also identified deficiencies in the pension disclosures for companies using FRS 17.

Recently the ICAEW issued a report (ICAEW 2007), commissioned by the European Commission, addressing implementation of IFRS throughout Europe during 2005. The study includes a review of the pension policy disclosures of 200 publicly traded European companies using IFRS and reveals that, in 2005, 19% did not have defined-benefit plans, 44% used the corridor approach, 36.5% used full recognition of actuarial gains and losses (9.5% in P&L and 27% in equity). Most UK and Irish companies used the new IAS 19 option. The report also shows that eight companies using the new IAS 19 option and reporting actuarial gains in losses in equity violated the standard by not providing a SORIE.

Based on a detailed analysis of 20 of the 200 sample companies, the ICAEW report (2007: 172) states:

*IAS 19 has a number of specific disclosure requirements. It would appear from the sample of companies reviewed that some of these disclosures were not provided and, in the case of the actuarial assumptions used, disclosures were often poor.*

IAS 19's general requirement to disclose information to enable users of the financial statements to evaluate the nature of the defined-benefit plans and the financial impacts of changes in those plans is hindered by lack of consistency in the layout and location of the pension disclosures. Given the range of accounting options available, the lack of detail provided in the notes in some cases further inhibits the ability of users to evaluate the impact of the companies' defined-benefit plans.

In regard to actuarial assumptions, all 20 companies disclosed a discount rate varying from 2% to 12%. Twelve companies disclosed one discount rate, seven provided a range analysed by geographic region, and one disclosed a range of rates with no further analysis.

Five of the 20 companies have unfunded pension schemes and thus do not provide an expected return on plan assets. Fifteen reported expected returns ranging from 1% to 12.45%. Six of these included more detailed analysis by class of asset and/or geographically.

Expected rates of salary increases were identified by 17 companies. Two provided disclosure linked to inflation and expected increases in future pensions. One did not provide similar information.

IAS 19 (para. 120A (n)) requires disclosure of 'any other material actuarial assumptions used'. It falls to the discretion of the company, however, to determine which material actuarial assumptions are disclosed, although the widely held view is that estimates on mortality will probably have a material impact on the defined-benefit obligation. The review of 20 companies indicates the majority did not provide information on expected mortality rates. Four disclosed the sources used by the actuary to determine mortality rates, one provided estimates of life expectancy, and two disclosed both the estimates and the source.

Our study extends the findings of the ICAEW study by providing a more detailed analysis of financial and actuarial assumptions (ie benefit trend rate and salary progression rate) disclosed by a much larger sample of European listed companies and, furthermore, compares the disclosed assumptions across country and industry sub-samples. Our study also benchmarks disclosed actuarial assumptions against relevant country/industry averages to ascertain the homogeneity (or heterogeneity) of the companies' approaches.

In November 2007, CESR published a review of the implementation and enforcement of IFRS in the EU. CESR's survey of European enforcers indicated that the move to IFRS had improved the quality of reporting. Nonetheless, several areas for possible improvement were highlighted by the enforcers. These included the need to require more extensive and/or better quality disclosure in some areas (eg pensions) and to remove or reduce the number of accounting options available in certain areas.

## 4. Methodology

### RESEARCH OBJECTIVES

---

Our research identifies the extent to which companies comprising the premier segments of 20 European exchanges selected the new IAS 19 full recognition through equity (with disclosure in the SORIE) option. This is particularly relevant as the IASB (2008) has tentatively decided to modify accounting for pensions and allow only this method. Our research also considers the transparency of key pension assumptions (ie benefit trend rate and salary progression rate) disclosed under IAS 19 and benchmarks these assumptions against relevant country or industry averages. Best practice disclosures are highlighted.

For seasoned, experienced IFRS users, voluntarily moving from the corridor to the new IAS 19 option in 2005, we report the impact on the financial statements as disclosed in the company's change in accounting policy footnote. For all companies using the IAS 19 corridor approach in 2005 to recognise actuarial gains and losses, we estimate the impact that adoption of the option would have on P&L, the recognised net pension liability, and total shareholders' equity.

This chapter describes the sample selection procedure. Additionally, the methodology used to achieve each of the above objectives is discussed.

### SAMPLE SELECTION PROCEDURE

---

To begin our sample identification process, we obtained the 2005 annual report of each company included in the premier segment of 20 European stock exchanges (see Table 1 on page 39). European listed companies were generally required to adopt IFRS for their consolidated financial statements for financial years beginning on 1 January 2005, or later.<sup>14</sup> Thus, for companies with a financial year identical to the calendar year, the first consolidated statements for which the use of IFRS was mandatory were the year 2005 statements. Companies with year-ends other than 31 December, on the other hand, tended to postpone IFRS adoption until 2006. Consequently, for all companies with year-ends other than 31 December (eg companies with a 31 March, 30 June, or 30 September year-end), we use the 2005/6 annual report in our analysis. To simplify discussion in this report, we refer to all statements as 2005.

The total number of companies in the 20 European stock indices is 549, but 22 companies are cross-listed;

---

14. Exceptions include companies that are only listed with debt securities and companies cross-listed in the US and reporting under US GAAP. These companies are required to prepare consolidated IFRS financial statements from 2007 onwards. See Regulation No. 1606/2002 of the European Parliament and the Council from 19 July 2002.

therefore, our initial potential sample size was 527.<sup>15</sup> A review of the accounting policy notes of the 527 potential sample companies revealed that 32 had to be deleted because they used US GAAP. Five more companies were deleted because they did not provide an English language version of their 2005 IFRS accounts. This limitation is recognised and justified on the grounds that English language reports are likely to be the focus of international investors. Furthermore, the languages where expertise would be required so as to include these companies was not available to the authors. Finally, nine additional companies were deleted for miscellaneous reasons. Our final sample comprises 481 companies (see Table 1 on page 39). Of these companies, 113 are headquartered in the UK or Ireland. Given that before IFRS adoption these companies used UK GAAP and accordingly adhered to the disclosure requirements of FRS 17, and further given the large representation of UK companies in the sample, the UK and Ireland and 'All Other' totals are reported in Table 1 and other relevant tables.

Table 2 (see page 40) provides an overview of the sample companies by stock index/country (Panel A) and by industry (Panel B), respectively. Industry is measured using Standard Industrial Classification (SIC) codes obtained from Thomson ONE Banker.<sup>16</sup> The most heavily represented industries are manufacturing (178 companies); finance, insurance, and real estate (113 companies); and transportation, communications, electric, gas, and sanitary services (87 companies).

### IDENTIFICATION OF IAS 19 METHOD USED

---

Our analysis began with a careful review of the financial statements and footnotes of each of the 481 companies to identify all pension-related disclosures. Step 1 of our analysis consisted of the completion of a preliminary database; the aim of this step was to identify companies with material defined-benefit pension plans that would then be subjected to an in-depth analysis in step 2. Items of information collected from the annual report pension-related disclosures in step 1 included, among other things, the company name, stock index, whether the company

---

15. Where possible, we include companies appearing on multiple indices in the countries where they are domiciled and eliminate them from other indices. In a few cases, however, companies are listed on exchanges outside their home countries without being included in the premier stock market index of their home country. For instance, one of the companies in the FTSE 100 index is legally domiciled in Switzerland, and it is not included in the Swiss SMI index. Such companies voluntarily submit themselves to the regulatory framework of the country of listing. Therefore, we include these companies in the primary country where they are listed and included in the stock market index (in the example, the above-mentioned company is included in the UK country sub-sample).

16. Available at <http://banker.thomsonib.com>.

offers defined-benefit pension plans,<sup>17</sup> the method used for recognition of actuarial gains and losses,<sup>18</sup> an excerpt from the policy footnotes indicating the method used for the recognition of actuarial gains and losses,<sup>19</sup> and the DBO.

Special care was taken to identify companies with defined-benefit plans and to ascertain the method used for recognition of actuarial gains and losses. We first identified companies making reference to the existence of defined-benefit pension plans in their annual reports. For companies making reference to defined-benefit plans, we recorded in the database, statements from the pension footnotes about whether the company used the standard corridor approach, full recognition through P&L, or full recognition through equity via the SORIE to account for the recognition of actuarial gains and losses. A research assistant categorised the companies on the basis of this information. His analysis was reviewed by at least one of the primary researchers. In those cases where the policy note information was deemed to be vague or unclear at this stage, two of the primary researchers jointly revisited the annual report. In most cases, a determination of the method used could be made by reviewing the financial statements. In a few instances, however, the disclosures were so vague that a determination of the method used to account for defined-benefit pension plans could not be made. It is important to note that some companies provided a 'boilerplate' policy note for defined-benefit plans, even though a complete analysis of the financial statements and footnotes revealed no evidence of material defined-benefit plans.

Our preliminary analysis suggested that in several cases extremely limited disclosure was probably due to the immateriality of existing defined-benefit plans. Therefore, we expanded the spreadsheet to identify those companies where the DBO equalled or exceeded 2% of total assets. In a few instances, the DBO was not disclosed and a surrogate (such as the recognised pension liability or the portion of provisions attributable to pensions or retirement benefits) was used to gauge materiality. All further analyses described in this report are based only on companies with a DBO equalling or exceeding 2% of total assets. A list of these companies is provided in Appendix 2.

---

17. A dummy variable was coded '0' for companies without defined-benefit plans and '1' for companies with defined-benefit plans.

18. This variable was coded '0' if not applicable (ie the company did not have defined-benefit plans), '1' for the corridor, '2' for full recognition through P&L, '3' for full recognition through equity (via SORIE), and '4' if indeterminable.

19. Recording excerpts from the pension policy notes facilitated the researchers' ability to verify coding.

## **RATIONALE PROVIDED FOR SELECTING FULL RECOGNITION**

---

We carefully reviewed the pension-related footnotes of those companies with a DBO equalling or exceeding 2% of total assets that elected full recognition through the SORIE, to identify the rationale, if any, posited for this policy change. In cases where a rationale was provided, an excerpt from the relevant note was recorded in the database.

## **DESCRIPTION OF THE IAS 19 DATA COLLECTION TOOL**

---

Preliminary data collection, as described above, represented step 1 of our data collection process. For step 2, an 'IAS 19 Tool' was developed in Microsoft® Access to facilitate the systematic collection of the extensive and complex disclosures required by IAS 19. Appendix 3 provides 'screen shots' of some of the computer screens used to collect data using the IAS 19 Tool.

The IAS 19 Tool consists of three main sections. Section A provided a confirmation of the IAS 19 option each company used for recognising actuarial gains and losses. The findings were compared with the information gathered in Step 1. A few discrepancies were carefully reviewed and resolved by the primary researchers. Since these few discrepancies were associated with boilerplate disclosure and/or incomplete or vague disclosure, the primary researchers had to review the financial statements thoroughly to ascertain the IAS 19 method used. In some instances, as noted above, it was not feasible to determine the method used and the company was deleted from further analysis.

Section B of the Tool was designed to collect information about the disclosures required by IAS 19, para. 120A (m) and (n) (see Appendix 4). This includes information about the principal actuarial assumptions used at the balance sheet date (ie those addressed in para. 120A (n i through iv)<sup>20</sup> as well as 120A (n vi).<sup>21</sup> Section B of the Tool required specifying whether the assumptions were disclosed as absolute terms (IAS 19, para. 120A (n)) as opposed to a margin between different percentages or other variables.

In Section B, information was also collected about whether sensitivity analysis disclosures were provided for pension plans on a voluntary basis.<sup>22</sup> Information about separation of the information (para. 120A (n)) was also collected. For example, some companies separated across geographic areas (ie domestic versus non-domestic plans), for funded versus unfunded plans, and organisational units (ie parent versus subsidiaries).

---

20. These include the interest rate, salary progression rate, and benefit trend assumptions.

21. Para. 120A (n vi) requires disclosure of any other material actuarial assumptions. Examples include inflation rates and mortality assumptions.

22. Para. 120A (o) requires a sensitivity analysis for medical cost trend rates for OPEBs. Thus, any sensitivity analysis provided for assumptions relevant to defined-benefit pension plans (eg discount rate) is voluntary.

Section C of the IAS 19 Tool assisted with the collection of data about the disclosures required by para. 120A (a) through (i). Completing this part of the Tool required collecting information such as the reconciliations of the opening and closing balances of the present values of the defined-benefit obligation (c); the opening and closing balances of the fair value of plan assets (e); and the present value of the defined-benefit obligation and the fair value of the plan assets in relation to the assets and liabilities recognised in the balance sheet (including particularly the amounts not recognised) (f). Completion of Section C also required inputting information regarding total expense recognised in P&L for the line items specified in 120A (g, i through viii). For companies currently using the IAS 19 corridor approach, information collected for disclosure requirements associated with 120A (f) and (g) was particularly relevant for our estimation of the impact of adopting the IAS 19 option.

Tool screens for collection of data for the required reconciliations provided a format that included each of the items specified in IAS 19, para. 120A (c), as well as an 'other' category. Where the latter was used, the Tool required that a description of the line item be entered into the database. Entering information disclosed within the IAS 19 reconciliations in the Tool enabled us to verify that the sum of the individual items included in the reconciliations equalled the difference between the starting and ending points for each of the reconciliations. In the few cases, where this was not the case, the annual report was revisited to identify the source of the discrepancy, and any data entry errors were corrected.

In Section C of the Tool, the information required in para. 120A (q) was entered. Like US GAAP, this IAS 19 paragraph requires disclosure of the employer's best estimate of the cash outflow from the sponsoring company to the plan during the following accounting period. Additional information collected via Section C of the Tool includes certain balance sheet data (eg total assets and total equity attributable to both the parent and the minority shareholders) and income statement data (eg total revenues and income attributable to both the parent and the minority shareholders). Appendix 4 provides an overview of the IAS 19 disclosure requirements collected via the Tool.

### **IMPACT OF ADOPTING THE IAS 19 OPTION**

---

For experienced, seasoned IFRS companies voluntarily adopting the option in 2005, we carefully reviewed the accounting policy change and related disclosures to ascertain the impact on the balance sheet and P&L. All disclosures addressing the impact were entered into a data base and summarised.

### **ESTIMATION OF THE IMPACT OF ADOPTION OF THE IAS 19 OPTION BY CORRIDOR COMPANIES**

---

For companies using the corridor, IAS 19 does not require 'pro forma' disclosure that enables financial statements users to assess easily the impact that moving to full recognition of actuarial gains and losses would have on a company's financial statements. Thus, for companies using the IAS 19 corridor approach, we estimate the impact adoption of the option would have on P&L, the recognised net pension liability, and total shareholders' equity.

Appendix 5 provides a simplified illustration of our estimation procedure. For companies with unrecognised actuarial losses, we estimate the impact on P&L by adding back any amortisation of actuarial losses recognised during the year and adjusting for the impact on deferred tax assets associated with any amortisation adjustment.<sup>23</sup> The unrecognised actuarial losses added back to earnings were collected from the companies' annual reports.<sup>24</sup> The impact on deferred tax assets is estimated using a 'standard' tax rate of 30%. The impact on the recognised pension liability is estimated by adding the accumulated unrecognised actuarial losses. The impact on shareholders' equity is calculated by adjusting for the impact on P&L, subtracting accumulated unrecognised actuarial losses,<sup>25</sup> adding the impact on deferred tax assets associated with the pension liability adjustment, and adjusting for the impact on deferred tax assets associated with the adjustment to P&L (see model calculation, Appendix 5).

For companies with unrecognised actuarial gains, we estimate the impact on P&L by subtracting (ie eliminating) any amortisation of actuarial gains recognised during the year and adjusting for the impact on deferred tax assets associated with any amortisation adjustment, again using a tax rate of 30%. The impact on the recognised pension liability is estimated by subtracting the accumulated unrecognised actuarial gains. The impact on shareholders' equity is calculated by adjusting for the impact on P&L,

---

23. Adoption of a full recognition method results in the recognition of a deferred tax asset for companies with unrecognised actuarial losses. For example, if a company's liability increases by €10,000 and the corporate tax rate is 30%, stockholders' equity decreases by €7,000 and deferred tax assets increase by €3,000.

24. In some cases, companies do not separately disclose unrecognised actuarial gains and losses. Instead, they disclose total unrecognised amounts that may also include 'other' unrecognised amounts (past service costs, unrecognised transition amounts, and unrecognised amounts due to the asset-ceiling test). In most cases where detailed information is provided in the footnotes, the 'other' unrecognised amounts are small in relation to the unrecognised actuarial gains and losses. When only total unrecognised amounts are disclosed, we use these amounts to estimate the impact of the immediate recognition option on income and equity.

25. Upon adoption of the IAS 19 option, accumulated unrecognised actuarial gains/losses are added/subtracted to/from retained earnings.

adding the accumulated unrecognised actuarial gains, subtracting the impact on deferred tax assets associated with the pension liability adjustment, and adjusting for the impact on deferred tax assets associated with the adjustment to P&L.<sup>26</sup>

## **ANALYSIS OF ACTUARIAL ASSUMPTIONS**

---

Our research considers the transparency of actuarial assumptions disclosed for defined-benefit pension plan valuation under IAS 19. We identify whether companies disclose the actuarial assumptions (eg benefit trend, interest rate, and salary progression rate) in absolute terms (ie as point value percentages) or as ranges. IAS 19, para. 120 (n) requires companies to disclose 'each actuarial assumption in absolute terms ... and not just as a margin between different percentages or other variables'. Not all companies fully comply with this requirement; that is, some only report margins or ranges of percentages. When absolute levels are disclosed, we compare the disclosed assumptions across country/industry sub-samples and benchmark them against relevant country/industry averages. Our aim is to determine the homogeneity (or heterogeneity) of companies' approaches, and identify possible outliers.

## **BEST PRACTICES IDENTIFICATION**

---

Examples of IAS 19 defined-benefit pension plan disclosures considered transparent, or exemplary, were noted. A few appropriate examples are highlighted as 'best practice'. These include, among other things, disclosures of the actuarial assumptions used for valuation purposes, sensitivity analyses of the impact of changes in key actuarial assumptions, disclosures regarding anticipated future payments to the plan, and the financial statement impact of adopting the new IAS 19 option. Our findings are presented in the next chapter.

---

26. Actuarial gains and losses are determined on the level of companies' individual pension plans. Companies, however, often have several plans and may accumulate unrecognised gains on some plans while simultaneously accumulating unrecognised losses on others. In a very few cases, a company may report overall balances of actuarial losses while at the same time amortising, on balance, actuarial gains. Furthermore, companies reporting overall balances of actuarial gains may in rare instances actually amortise, on balance, actuarial losses.

## 5. Findings

### PREVALENCE OF DEFINED-BENEFIT PLANS

---

Large multinationals, given their competitive environment and pending demographic challenges, need to use attractive remuneration packages, including pension plans, to attract high-potential employees. Thus, one would expect pension accounting to be extremely relevant to these companies. Nonetheless, cross-country variation in the importance of pension accounting should also be expected. For example, a study by JP Morgan (2006) examined the pension disclosures of the Eurostoxx 50 together with 36 large-cap continental Europe companies and concludes that pension exposure varies considerably by country (see also OECD 2007).

As summarised in Table 2 on page 40, of the 481 companies in our sample, 265 satisfy our criteria for additional analyses. These include that:

- the defined-benefit obligation represents at least 2% of total assets
- adequate disclosure on defined-benefit plans is provided.

All sample companies included in the Austrian (20), French (38), German (22), Dutch (19), Swedish (22), and Swiss (21) indices provide defined-benefit plans. The majority of companies included in the Belgian (15 of 18), Danish (15 of 19), Finnish (22 of 23), Greek (17 of 18), Irish (19 of 20), Italian (34 of 38), Luxembourg (5 of 7), Norwegian (12 of 16), Portuguese (12 of 18), and UK (88 of 93) indices provide defined-benefit pension plans. Defined-benefit plans are less common in Spain (18 of 33) and are definitely not the norm in Eastern Europe (Czech Republic 1 of 7; Hungary 3 of 10, and Poland 3 of 19). In all the industries represented, the majority of the companies provide defined-benefit plans (see Table 2, Panel B, on page 41).

### DESCRIPTIVE STATISTICS FOR COMPANIES WITH MATERIAL DEFINED-BENEFIT PLANS

---

Descriptive statistics for sample companies with material defined-benefit plans that represent at least 2% of total assets are reported in Table 3 on page 42. Average company size measured by total assets and by total revenues is reported by country/index in Panel A and by industry in Panel B. Based on total assets, the average company size measured by the mean is €36,937.0 m; the median is €9,292.0 m. As indicated by the substantial standard deviation, the companies vary greatly in size. The largest companies in terms of total assets are the Spanish companies with average total assets based on the mean of €295,294.6 m. This group comprises only three companies, however, and the median is €55,365.0 m. Next in terms of size, based on mean total assets, are companies from the UK (€66,137.5 m), Germany (€47,271.6 m), and France (€38,530.8 m). The smallest companies on average, in terms of total assets, are listed in Greece (€4,779.2 m) and Norway (€3,518.6 m).

Excluding companies in the finance industry, average (mean) total revenue is €14,307.1 m. Again, the standard deviation is substantial at €26,450.8 m. The largest companies, based on mean total revenues, are listed in Germany (€30,309.2 m), the Netherlands (€27,789.6 m), and France (€25,711.9 m). The smallest, based on average total revenues, are the Greek (€2,611.9 m) and Irish companies (€2,805.1 m).

As shown in Panel B of Table 3 on page 43, on average, the largest companies based on total assets by industry are in the finance, insurance, and real estate industries, with mean total assets of €227,424.7 m. The smallest companies on average operate in the services industry, with mean total assets of €4,466.1 m. The largest companies in terms of total revenues operate in the mining industry (€27,079.5 m). The smallest are in the construction (€8,704.5 m) and services (€9,050.0 m) industries.

### FUNDED STATUS OF PLAN AS A PERCENTAGE OF SHAREHOLDERS' EQUITY

---

As a preview to discussing the funded status of plans across countries and industries, it is important to stress the heterogeneity that exists in pension plans globally and indeed even within Europe. Different national legal and tax systems, as well as national traditions and culture, greatly influence the structure of pension plans (see OECD 2007). Varying levels of regulation, tax incentives, and funding requirements at the national level greatly affect the types of plan offered (defined benefit versus defined contribution), the level of funding (for example there are strict funding requirements in the UK but not in Germany), etc. Thus, the findings presented in this section and the following sections should be considered in light of the national regulatory, tax, and cultural environment, among other things.

Table 4 (see page 44) provides an overview of the average DBO, fair value of the plan assets, and the funded status of the plan by country/index and by industry. For companies using the corridor method, this important information regarding the funded status of the plan (the difference between the DBO and the fair value of the plan assets) is provided only in the footnotes and is not fully recognised in the balance sheet. The funded status for all sample companies with material defined-benefit pension plans is, on average, €913.9 m, and the standard deviation is substantial at €2,067.1 m. Furthermore, on average (mean), the DBO exceeds the fair value of plan assets for every country and for every industry. The companies with the greatest levels of under-funding are found in Spain, Germany and France, with the DBO on average exceeding the fair value of the plan assets by €4,322.9 m; €3,712.5 m; and €1,853.3 m respectively.

From an industry perspective the highest levels of underfunding are in the transportation, communications, electric, gas, and sanitary services, and the finance, insurance and real estate industries, with the DBO on average exceeding the fair value of plans assets by €1,762.0 m and €1,591.8 m, respectively.

For sample companies with underfunded plans, Table 5 on page 46 reports the excess of the DBO over the fair value of the plans' assets (funded status) of the defined-benefit plans as a percentage of shareholders' equity. For this analysis, 16 companies with overfunded plans are excluded. Three companies with negative equity are also excluded from the analysis. For the remaining 246 companies, on average, the excess of the DBO over plan assets based on the mean/median represents 17%/9% of total shareholders' equity. The standard deviation is 24%. Based on the mean, the average ratio of underfunding to shareholders' equity is very high for companies in Germany (37%), the UK (22%), Belgium (21%) and Portugal (20%). On the basis of the mean, the ratio of underfunding to shareholders' equity is the lowest for companies listed in Switzerland (9%), Luxembourg (8%), Italy (7%), Denmark (7%) and Finland (7%).

Table 5 (see page 46) also reports the funded status of the plan divided by shareholders' equity for companies using the corridor and for companies using the full recognition through SORIE approach. For 128 corridor companies, the excess of the DBO over plan assets based on the mean/median represents 16%/9% of total shareholders' equity. The standard deviation is 20%. For 111 companies using full recognition through SORIE, on average, the unfunded portion of the plan based on the mean/median represents 19%/10% of total shareholders' equity, with a standard deviation of 28%. On the basis of the mean, the reduction of net assets (equity) from underfunded pension plans is therefore, on average, somewhat greater for companies selecting the full recognition through SORIE model. This comparison should, however, be viewed with caution as companies using the corridor approach do not fully recognise the underfunded status of the plan (ie the corridor approach allows for off-balance sheet financing).

Given the relatively small number of observations within each of these two categories for each country and industry, statistical analysis is not possible, and accordingly one should be extremely cautious in making generalisations. Nonetheless, a few trends appear. For example, within the manufacturing and retail trade industries, companies where the unfunded status of the plan represents a larger portion of equity appear to have a preference for full recognition. It is evident, however, that future research incorporating additional explanatory variables and larger sample sizes is needed to provide greater insight into companies' choices between the three IAS 19 methods for recognition of actuarial gains and losses.

### **IAS 19 METHOD USED FOR RECOGNITION OF ACTUARIAL GAINS AND LOSSES**

As reported in Table 6 on page 48, our analysis of pension disclosures reveals that, of those companies with a DBO equalling or exceeding 2% of total assets, about half (136 of 265) use the corridor approach. Slightly fewer than half (122 of 265, or 46%) voluntarily adopted the new IAS 19 option based on full recognition through SORIE; 77 of these companies are headquartered in the UK or Ireland. The remaining seven companies (3%) use full recognition through P&L.

The relatively high use of the option is driven by the UK and Irish companies. For those with a DBO representing 2% or more of total assets, almost 90% (64 of 72 companies) of the FTSE 100 voluntarily adopted the option in 2005. An additional company uses full recognition through income. Thus, 90% of the sample companies from the UK have adopted full recognition methods for actuarial gains and losses. As the new option in IAS 19 is conceptually based on the UK's FRS 17, its wider adoption in the UK than in other European countries should not be surprising. Nonetheless, an acceptance rate approaching 90% is rather astonishing given the opposition the UK ASB faced when developing FRS 17. As noted previously, the option is also used by a clear majority of companies making up the Irish sub-sample (76%, 13 of 17 companies). Again, as Irish companies followed UK GAAP prior to the adoption of IFRS in 2005, widespread acceptance of the option is in line with expectations.

Other countries where a substantial number of companies voluntarily embraced the option in 2005 include Portugal, Denmark, and Germany. Companies included in the premier index in these countries with a DBO of at least 2% of total assets, 67% (4 of 6), 64% (7 of 11), and 55% (10 of 18), respectively, use the new IAS 19 option. The latter finding is particularly interesting given the high levels of underfunding prevalent throughout Germany.

All 21 of the companies with material defined-benefit plans listed in Finland used the corridor approach. The majority of companies listed in Norway (8 of 9, 89%), Sweden (12 of 14, 85%), France (23 of 28, 82%), Switzerland (14 of 17, 82%), the Netherlands (11 of 15, 73%), Greece (2 of 3, 67%), Belgium (6 of 9, 67%), Spain (2 of 3, 67%), Austria (8 of 13, 62%) and Italy (4 of 7, 57%) use the corridor.

Table 6, Panel B, on page 49 also provides an overview of the IAS 19 method selected for recognition of actuarial gains and losses by industry. For companies with a DBO of at least 2% of total assets, adoption of the option was highest in the retail trade (10 of 15, 67%) and services (9 of 15, 60%) industries, with over 60% voluntarily selecting the new option.

### **RATIONALE PROVIDED FOR SELECTING FULL RECOGNITION OF ACTUARIAL GAINS AND LOSSES**

We carefully reviewed the pension policy footnotes of the 122 companies that had a DBO equalling or exceeding 2% of total assets and that elected full recognition through SORIE to identify the rationale, if any, posited for this policy decision. Only 31 provided a specific rationale. Twenty-three of these were UK companies noting that the new IAS 19 option is consistent with the FRS 17 approach. For example, Next PLC stated, 'The Group has elected to recognise all actuarial gains and losses in full in the period in which they occur, directly in equity via the statement of recognised income and expense. This option has been selected for consistency, as it is most similar to the treatment required under UK GAAP (FRS 17) that has previously been disclosed by way of a note in the Group's financial statements'.

Six companies indicated that full recognition of actuarial gains and losses led to greater transparency and/or provided more relevant information. For example, Bayer stated 'The Group Management Board has decided to follow the recommendation of the IASB and implement the above change as of January 1, 2005 in order to enhance the transparency of reporting'. Two companies referred to the method as producing 'less income volatility'.

In that only a quarter of the companies adopting the option explicitly referred to this policy choice in their footnotes and given, furthermore, the rather sparse content of most of these references, our analysis provides rather limited insight into companies' motivation for selecting the new IAS 19 option. The only conclusion one can draw with some confidence, on the basis of our analysis of the footnote disclosures, is that there was a tendency for UK companies to prefer the full recognition through SORIE method owing to its consistency with FRS 17.

#### **FINANCIAL STATEMENT IMPACT ON SEASONED IFRS USERS OF ADOPTING THE NEW IAS 19 OPTION**

While opponents of FRS 17 and the IAS 19 option have argued that recognition of pension liabilities and assets based on immediate recognition would have a devastating balance sheet impact, this has remained a question to be addressed by empirical research. Our research thus provides the first comprehensive evidence regarding the actual impact of moving from the IAS 19 corridor approach and adopting the full recognition through SORIE approach on the financial statements of companies providing defined-benefit plans.

Nineteen of the companies electing to use the new IAS option are seasoned IFRS users. In their footnote on change of accounting policy, each of these companies discussed the impact of moving from the corridor to the new full recognition option on their financial statements. Table 7, on page 50, presents an overview of the impact of adopting the new option as presented in the companies' change in accounting policy footnote.

Our preference would have been to aggregate the information disclosed by the companies on the IAS 19 accounting policy change to provide a systematic overview of the impact that adoption of the immediate recognition option had on companies' income, shareholders' equity, and recognised pension liabilities. The information provided by the companies was very heterogeneous, however, with companies using very different reporting formats and some companies referring to P&L effects while others referred to pension or personnel expense effects. Moreover, some companies referred to changes in the 2004 opening equity balances, others indicated the impact on the 2004 closing balances, and still others outlined the impact on 2005 balances. These inconsistencies make it difficult to arrive at general conclusions regarding the impact of adopting the option. Nonetheless, we can infer from the disclosed information that all 19 companies adopting the immediate recognition

option had, on balance, unrecognised actuarial losses. Using the option thus resulted in an increase in the recognised pension liability, and a decrease in shareholders' equity. Most of the seasoned IFRS users provide information on the shareholders' equity impact. In most of these cases, equity declined by less than 5%.

While the content of the disclosures on the impact of the IAS 19 policy change varied greatly, a few companies – including Bayer, Linde, and Roche – provide tables including a comprehensive, transparent explanation of the impact on the balance sheet and P&L. Linde's accounting policy change disclosure is further discussed in the best practices section.

#### **TOTAL UNRECOGNISED ACTUARIAL GAINS AND LOSSES AS A PERCENTAGE OF SHAREHOLDERS' EQUITY**

To help to understand the impact that adopting the option would have on companies using the IAS 19 corridor approach, Table 8 on page 53 reports the total unrecognised actuarial gains and losses for sample companies by country/index and by industry. Unrecognised gains and losses are additionally expressed as a percentage of shareholders' equity. Companies with negative shareholders' equity are excluded from the analysis. On the basis of the mean/median, total unrecognised actuarial gains and losses are on average –€218.7/€53.8 m. The standard deviation is very substantial, at €447.8 m. By far the largest unrecognised actuarial gains and losses, on average, for companies using the corridor, are found in Germany, with a mean balance of –€922.8 m. From an industry perspective, the largest amounts of unrecognised actuarial gains and losses are found in the transportation, communications, electric, gas, and sanitary services industries, with a mean balance of –€497.6 m. The finance, insurance, and real estate industries follow with a mean balance of –€378.2 m.

Ignoring the impact of taxes, the mean/median impact of the recognition of currently unrecognised actuarial gains and losses would be to reduce equity, on average, by 4%/2%. The standard deviation is 8%. The ratio of unrecognised actuarial gains and losses to equity, based on the mean, is greatest for four Irish (16%), eight German (11%), and two Portuguese (11%) companies. Given the widespread adoption of the full recognition through SORIE method in these countries (ie a majority of the companies based in these countries used the option), the potential impact on equity for these Irish, German and Portuguese companies may have been their rationale for deviating from the national norm.

From an industry perspective, the ratio of unrecognised actuarial gains and losses to equity, based on the mean, is greatest for the transportation, communications, electric, gas, and sanitary services (7%) and wholesale trade (7%) industries. In each of these industries, recognition would, on average, reduce shareholders' equity by a material amount for companies currently using the corridor.

## ESTIMATION OF THE FINANCIAL STATEMENT IMPACT OF ADOPTING THE IAS 19 OPTION FOR CORRIDOR COMPANIES

As shown in Tables 6 and 8 (pages 48 and 53), 136 sample companies with material defined-benefit plans use the corridor method and accordingly have unrecognised actuarial gains/losses. One hundred and twenty have net losses, and 16 have net gains.

As explained previously, for corridor companies, IAS 19 does not require 'pro forma' or similar disclosures that enable financial statement users to assess easily the impact that full recognition of actuarial gains and losses would have on the financial statements. Therefore, to ascertain the extent to which allowing three methods for the recognition of actuarial gains and losses under IAS 19 currently impairs financial statement comparability, we developed a procedure to estimate the impact that adopting the option would have on sample companies using the corridor approach (see Appendix 4 for a description of the procedure). Our estimation procedure is further motivated by the need to enhance our understanding of the impact of moving from the IAS 19 corridor approach to the new full recognition through SORIE option, because the IASB has tentatively decided that this is the Board's preferred method and will probably be the only method allowed pending completion of Phase 1 of its pension project.

Our estimation procedure reveals that for companies with accumulated unrecognised actuarial losses, the mean/median increase in P&L would be 0.69%/0.03%.<sup>27</sup> Thus, the impact on P&L from the elimination of amortisation charges would, in general, be immaterial. Nonetheless, one should consider that most of our sample companies are first-time IFRS adopters and thus in 2005 may have had only minimal unrecognised actuarial gains and losses.<sup>28</sup> Furthermore, several of these companies will probably begin to accumulate such gains and losses over the subsequent years if they continue to use the corridor.

27. Excluding one company with a heavily overfunded plan in the country of domicile that amortised actuarial gains falling outside the corridor for this specific plan although the company has aggregate actuarial losses exceeding actuarial gains, the mean/median impact on P&L would be 0.8%/0.03%. See footnote 25 for further details.

28. Para. 20 of IFRS 1 states that an entity may elect to use the corridor approach thereby leaving some actuarial gains and losses unrecognised. Retrospective application of this approach requires an entity to split the cumulative actuarial gains and losses from inception of the plan until the IFRS transition date into a recognised portion and an unrecognised portion. However, a first-time adopter may elect to recognise all cumulative actuarial gains and losses at the date of transition to IFRS, even if it uses the corridor approach for later actuarial gains and losses. If a first-time adopter uses this election, it shall apply it to all plans.

From a balance sheet perspective, for companies with accumulated actuarial losses, our estimation procedure indicates the mean/median impact of adopting the option would be to decrease shareholders' equity by €196.13 m./€52.72 m. In terms of a percentage change, the mean/median decrease in equity would be 3.43%/1.50%. The mean/median impact of adopting the option would be to increase the recognised pension liability by €279.41 m./€75.84 m, or in percentage terms, by 41.02%/27.36%. These results indicate that, although adoption of the option would, in general, yield an immaterial P&L statement effect for companies using the corridor approach, the recognised pension liability would on average increase by a substantial, very material amount.

Our estimation procedure for companies using the corridor reveals that for the 16 companies with accumulated unrecognised actuarial gains, the P&L effect would be very small on average, with decreases of less than 0.1% on average (based on both the mean and median). Thus, the impact on P&L is again immaterial. From a balance sheet perspective, for companies with accumulated actuarial gains, the estimation procedure suggests the mean/median impact of adopting the option would be to increase shareholders' equity by €59.68 m./€19.90 m, or 1.21%/0.3%. The mean/median impact would furthermore decrease the recognised pension liability by €81.92 m./€26.59 m (0.177%/0.15%). These results indicate that adopting the option would have an immaterial impact on the majority of companies with accumulated unrecognised actuarial gains.

Our findings indicate that when comparing companies using different accounting policies for the recognition of actuarial gains and losses, consideration of the differential impact on the balance sheet is very important. Moreover, when using an estimation procedure, the company's specific tax rate should be incorporated. Given the practical difficulties of estimating the impact of full recognition, we encourage the IASB to consider pro-forma disclosures for off-balance-sheet pension liabilities.

Future research is needed to examine the size of the annual actuarial gains and losses reported in the SORIE post-2005 and the extent to which financial statement users incorporate this information in their decision models. The degree to which users react differently to recognition in P&L versus the SORIE remains debatable; however, it is clear that many preparers prefer recognition outside P&L in the SORIE. One must also consider that completion of the IASB's Financial Statement Presentation project could conceivably result in amendments to IAS 19 that require recognition in the P&L account as opposed to recognition in the SORIE.

## ASSUMPTIONS USED TO MEASURE DEFINED-BENEFIT OBLIGATIONS AND THE FAIR VALUE OF PLAN ASSETS

Our research considers the transparency of the pension assumptions disclosed under IAS 19. Using the IAS 19 Tool, we collect all assumptions used, group them along country or industry sub-samples, and benchmark the individual values against country/industry averages. In addition, we highlight 'best practice'. Table 9 on page 55 provides an overview of the format used to disclose the benefit trend, interest and salary progression rate assumptions required by IAS 19 (ie specific rates or ranges). In their disclosures, most of the companies differentiated multiple benefit trend rates, discount rates and salary progression rates based on the various geographic areas where their major pension plans are located. Therefore, we use this presentation format for the benchmarking analysis. Companies using other presentation formats for the disclosure of assumptions (eg differentiations of assumptions for funded versus unfunded plans) are excluded from the benchmarking analysis. Thus, 10, 11 and 17 companies are not included in the benefit trend, discount rate and salary progression rate benchmarking analysis, respectively.

IAS 19, para. 120A (n) requires companies to disclose the assumptions underlying their pension accounting in absolute terms (for example, as an absolute percentage) and not just as a margin between different percentages or other variables. Most of the companies that use the geographic presentation format, and that are therefore represented in Table 9 (page 55), comply with this requirement and disclose specific rates/assumptions for their respective home countries and for other countries/regions. Only ranges or spans are disclosed by 31, 30 and 39 of the companies for benefit trend, interest rates, and salary progression rates, respectively. Disclosing rate ranges or spans, without additional disclosure to guide the financial statement user, may hinder comparability and decrease transparency and does not adhere to the spirit of IAS 19.

## BENEFIT TREND

As noted above, ten companies reported benefit trend rates that were based on a classification other than geography and thus were excluded from the benchmarking analysis. As illustrated in Table 9 on page 55, 85 did not report a benefit trend. Thus, our potential sample for benchmarking is only 170, thereby yielding few countries with a sufficient number of observations to provide meaningful benchmarking comparisons.

We stress that absence of a benefit trend disclosure by a specific company should not be associated with non-compliance. In some countries, benefit trends are not indexed to compensate for inflation; in others, indexing is mandatory. The latter may help explain why several Scandinavian countries (ie Denmark, Finland and Sweden) and the Benelux-countries (ie the Netherlands and Belgium) do not provide benefit trend rates but

alternatively provide inflation rates. Clearly, benefit and inflation rates are intertwined (ie not mutually exclusive), thereby complicating benchmarking in the absence of very large samples. Accordingly, we do not provide a benchmarking analysis for benefit trend.

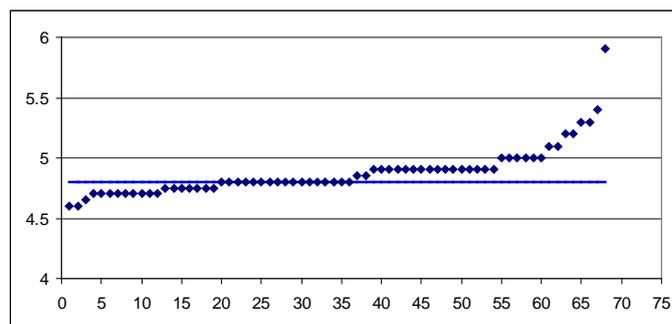
## INTEREST RATE ASSUMPTIONS

As reported in Table 10 on page 57, sample companies' individual assumptions for the interest rate are benchmarked against the respective country averages (median values). More precisely, for all companies disclosing specific interest rates, we include in our benchmarking analysis the assumption that relates to the companies' respective country of domicile. As explained above, we exclude companies that used presentation formats other than geography and disclosed only ranges/spans. Consequently, our interest rate benchmarking analysis is based on 223 companies. In Table 10, we present panels for countries with five or more observations.

IAS 19, para 78, requires companies to determine the interest rate used to estimate post-employment benefit obligations 'by reference to market yields at the balance sheet date on high quality corporate bonds'. The standard also mandates that the currency and term of these bonds 'shall be consistent with the currency and estimated term of the post-employment benefit obligations'. As shown in Table 10, the mean/median interest rate used by the sample companies is 4.52%/4.60% with a standard deviation of 0.49. The minimum and maximum for the entire sample are 2.60% and 5.9%, respectively. Since bond yields vary depending on their currency of denomination, however, meaningful (benchmarking) comparisons can be made only within countries or, assuming that country risk premiums are relatively similar across eurozone countries, across currency areas (euro, Danish krone, Norwegian Krone, UK pound sterling,

**Figure 5.1: Interest rate assumptions benchmarked against national median**

(UK companies, n = 61, Mean: 4.88; Standard deviation: 0.20; Minimum: 4.60; Median: 4.80; Maximum: 5.90)



Swedish krona, Swiss franc, Polish zloty, etc). Furthermore, the maturity of pension plans may differ for sample companies (eg with more mature plans for 'older' industries such as steel, and younger plans for 'new economy' industries such as services) and may thus explain some of the variance of the interest rates in our sample.

A review of the sample companies domiciled in eurozone countries reveals that, as would be expected, the national medians of the eurozone countries are overall relatively stable and fall between 4.25% and 4.75%, whereas the medians for some non-eurozone countries exhibit higher cross-country variation (eg Switzerland and the UK). Nevertheless, some variation is found within the eurozone countries. In Ireland, Finland and Portugal, there is relatively little variance, with disclosed assumptions falling between 4% and 5%, whereas in other eurozone countries, we observe a higher degree of variance. In the Netherlands, Belgium, France and Germany, although most companies' pension interest rates cluster between 4% and 5%, a few companies make use of higher rates. In particular, one Dutch company uses a rate of 5.1%, one Belgian company uses an interest rate of 5.60%, and one French company uses an unusually high interest rate of 5.75%. Owing to their long maturities, pension obligations are highly sensitive to changes in the interest rate. Grant et al. (2007) report that, according to an approximation used by actuaries, a 0.5% increase in the interest rate leads to decrease in the pension obligation of between 12% and 13% (for another example see the sensitivity analysis reported by Bayer in the best practice section of this report; Table 15 on page 65).<sup>29</sup> Thus, unusually high discount rates enable companies to arrive at relatively low pension obligation estimates.

In the UK, most companies cluster around the national median and use rates of 5% or less. Eight report rates in excess of 5%. Indeed, one uses the maximum rate reported by any of the sample companies of 5.9%.

Like the UK, the Scandinavian countries of Norway, Denmark and Sweden have not adopted the euro but maintain their national currency. In Norway, companies tend to cluster around the national median of 4.5%, and only two companies exceed the median, with both reporting an interest rate of 0.5% above the median (ie 5%). Similarly, in Denmark, companies cluster around the national median of 4.38%, and only one company exceeds the median by more than one-half of a percentage point. This company, however, reports a rather aggressive rate of 5.5%. In Sweden most companies, cluster around the national median of 4.6%, and none exceed the national median by more than 0.5%.

Switzerland is the only country represented in our sample that is not a member state of the EU. The national median interest rate is the lowest for all the countries reported in the panels in Table 10 on page 57 (ie 3.80%), while the

standard deviation is the greatest (0.67%). Indeed three companies report rather aggressive rates that exceed the national median by more than 0.5%.

In summary, although most companies cluster close to the national median, Table 10 reveals that several use rather aggressive interest rate assumptions when benchmarked against the national average interest rate. Therefore, these companies' interest rate assumptions may merit some scrutiny by financial statement users and highlight the need for future research in this area.

## SALARY PROGRESSION RATE

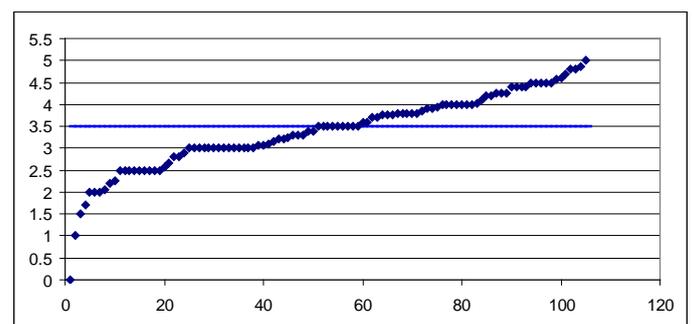
While interest rates are best benchmarked against national/country averages, salaries are more directly associated with industry. Thus, we benchmarked reported salary progression rates against industry averages, with full appreciation that, among other things, country of domicile also plays a key role. As reflected in Table 11 on page 59, the mean/median interest rate used by sample companies is 3.43%/3.50%; the standard deviation is 0.85. The minimum and maximum for the overall sample are 0.00% and 5.60%, respectively.

As illustrated in Table 11, the median salary progression rate is between 3% and 4% for each industry presented. The finance, insurance and real estate industries and the services industry report the highest salary progression rates, with medians of 3.99% and 3.92%, respectively. The lowest salary progression rates are found in the wholesale trade industry with a median of 3.0%.

The ranges within industry for salary progression rate are substantial. For example, in the manufacturing industry, the reported rates range from 0.00 to 5.00. Among other things, as alluded to above, the rates are also affected by country of domicile. Most notably, our review reveals that within each industry shown in Table 11, the maximum salary progression rates are reported by UK-

**Figure 5.2: Salary rate progression assumptions benchmarked against industry median**

(Manufacturing n = 105; mean: 3.39; Standard deviation: 0.87; Minimum: 0.00; Median: 3.50; Maximum: 5.00)



29. See May et al. (2005: 1229) and Gohdes and Baach (2004: 2571).

headquartered companies. Indeed the median, the 75%, 95%, 99% and maximum rates are highest in the UK in comparison with all other countries (ignoring Luxembourg, which does not have sufficient observations to report in Table 11), at 4.25%, 4.50%, 4.85% and 5.60%, respectively.

## BEST PRACTICES

---

Reviewing the IAS 19 disclosures for defined-benefit pension plans revealed several examples of notable transparent disclosure. Some are highlighted in this section as 'best practice'. These include disclosing the impact of the accounting policy change from the IAS 19 corridor approach to full recognition through SORIE option, using a 'matrix' format to combine four of the tables required under IAS 19, voluntarily providing a sensitivity analysis for the assumptions used in pension valuation, an estimate of future payments to the plan that clearly specifies the payment recipient(s), and detailed disclosure of the allocation of the plan assets that includes a description of the target allocation.

### DESCRIPTION OF AN ACCOUNTING POLICY CHANGE FROM THE IAS 19 CORRIDOR APPROACH TO THE NEW FULL RECOGNITION THROUGH SORIE OPTION

---

Table 12 on page 61 provides a snap shot of Linde's change in accounting policy disclosure. Linde clearly sets forth the impact on shareholders' equity and net income of moving from the corridor approach to full recognition through SORIE. This issue was discussed previously in regard to Table 7.

### MATRIX FORMAT TO COMBINE FOUR IAS 19 TABLES

---

Under the corridor approach, certain changes in the DBO and plan assets are reported as components of pension costs (eg amortisation of actuarial gains and losses) while others are excluded from recognition (eg unrecognised gains and losses). Under the IAS 19 option, actuarial gains and losses are recognised outside P&L and alternatively go directly to equity via the SORIE. To reveal specifically where amounts are recognised in the financial statements, IAS 19 requires four tables:

- (1) a reconciliation of the funded status (including a breakdown into the DBO and plan assets) of unrecognised amounts to the recognised amounts
- (2) the components of pension costs
- (3) the defined-benefit obligation and
- (4) the plan assets.

While most companies satisfy each of these requirements with a separate reconciliation/chart, L'Oreal (see Table 13, page 63) uses a matrix that ties all four disclosures together, thereby enabling the financial statement user to ascertain quickly the articulation of the components of pension expense to the DBO, plan assets and the recognised pension obligation.

## SENSITIVITY ANALYSIS

---

IAS 19 (para. 120A (o)) requires disclosure of a sensitivity analysis indicating the effect of an increase/decrease of one percentage point in the assumed medical cost trend rates on the aggregate of the current service cost and interest cost components of net periodic post-employment medical costs and the accumulated post-employment benefit obligation for medical costs. While sensitivity analysis is not additionally required for defined-benefit pension plans, given the significance and materiality of the defined-benefit pension obligation for many sample companies and the potential impact of even a small change in key actuarial assumptions, this information may be very useful to financial statement users. Yet, few sample companies volunteered this information. An exception is Bayer. Table 14 on page 64 presents Bayer's sensitivity analysis for both OBEs and pensions. In the sensitivity analysis, Bayer discloses the impact of a 0.5% increase in the discount (interest) rate, future remuneration (salary progression) increases, projected future benefit increases, and expected return on plan assets on both the benefit obligation and benefit expense. As the IASB and FASB jointly revisit pensions, requiring a sensitivity analysis for both OPEBs and pension obligations should be considered. Table 15 on page 65 includes Bayer's thorough explanation of the key actuarial assumptions used. As shown in the next paragraph, few companies provided this level of detail.

## DISCLOSURE OF ACTUARIAL ASSUMPTIONS

---

As shown in Table 16, Panel A, on page 66, in line with 120A (n), WPP discloses the company's weighted average actuarial assumptions (discount/interest rate, expected salary increase, inflation rate and expected rate of return on assets). Using a matrix format this information is provided for each primary investment grouping (equities, bonds and cash) by geographic area (North America; UK; Continental Europe; Asia Pacific; Latin America; Africa and Mid-East) for 2005 and the two preceding years.

As shown in Panel B, WPP furthermore discloses the value of the plan assets by investment category as well as the assessed value of the plan liabilities covered by each investment category. The company clarifies that some of the plan schemes are largely unfunded owing to 'common custom and practice' in certain jurisdictions. Thus, benefit payments are made to the pensioners when they fall due. For the new information required by 120A (q), WPP clearly differentiates 2006 expected payments for employer contributions to schemes and benefit payments.

## BEST ESTIMATE OF EXPECTED CONTRIBUTIONS TO BE PAID TO THE PLAN

---

Para. 120 (q) of IAS 19 requires that employers disclose the best estimate, as soon as it can reasonably be determined, of contributions expected to be paid to the plan during the annual period beginning after the balance sheet date. This new disclosure requirement was added during the most recent revision of IAS 19. In several

instances, the disclosure provided by the sample companies is not clear as to whether the cash outflows are to be paid to plan trustees, or retirees/pensioners, or both. This is problematic, given the diversity of corporate pension funding globally. In countries such as the US, where funding is required, the assumption is that the cash payments normally go to the plan, but for unfunded plans, which are the norm in some European countries, payments go to the pensioners. Thus, clearly specifying the payee enhances transparency.

For example, as shown in at the bottom of Table 16, Panel B, on page 67, WPP states that ‘some of the Group’s defined-benefit schemes are unfunded (or largely unfunded) by common custom and practice in certain jurisdictions. In the case of these unfunded schemes, the benefit payments are made as and when they fall due. Pre-funding of these schemes would not be typical business practice’. In Table 17 on page 68, alternatively, Scottish Power specifies that the Company’s payments are made to the pension scheme. The table also clearly illustrates how Scottish Power’s plan assets are allocated in line with para. 120 (j).

### **ALLOCATION OF PLAN ASSETS**

---

IAS 19 para. 120A (j) indicates that for each major category of plan assets, the company must disclose the percentage or amount the category constitutes of the fair value of the total plan assets. As illustrated in Table 18 on page 69, for the company’s US, UK and other funded plans, Smith & Nephew discloses the information required in para. 120A (j) for 2005 and the preceding two years, and in addition voluntarily indicates the target allocation for 2006.

### **PENSION INFORMATION DISCLOSED BY PRIMARY SEGMENTS**

---

Table 19 on page 70 illustrates the degree of useful detail a company can use to disaggregate pension assumptions and to disaggregate other information about pension plans. For example, Deutsche Post provides information for its pension plans consistent with the company’s primary segments (as defined by IAS 14). Some companies separate only by funded or unfunded pension schemes, or, more often, as stressed in our section on benchmarking, across countries.

### **MORTALITY ASSUMPTIONS**

---

Table 20 on page 72 includes Unilever’s disclosure of the actuarial assumptions used for valuation. Unilever’s disclosure includes a discussion of the mortality tables used by country and notes how mortality rates vary substantially by country. As noted in the literature review, IAS 19 (para. 120A (n)) requires disclosure of ‘any other material actuarial assumptions used’ and the widely held view is that estimates on mortality will probably have a material impact on the defined-benefit obligation. Detailed disclosure such as that provided does not, however, appear to be the norm, as the ICAEW (2007) review of 20

companies’ pension disclosures reveals that the majority did not provide information on expected mortality rates. Additionally, the UK Review Panel expressed concerns about omission of information on mortality rates and noted that such information has historically been required by UK GAAP.

Our primary findings are summarised in the next chapter. Additionally, conclusions and policy implications are presented.

## 6. Summary, conclusions and policy implications

This research examines the year-end 2005 IAS 19 defined-benefit pension disclosures of companies included in the premier indices of 20 European countries' premier stock markets to determine, among other things, the method used for the recognition of actuarial gains and losses (ie the standard corridor approach, full recognition through P&L, or full recognition through SORIE). For seasoned, experienced IFRS users voluntarily adopting the new full recognition through SORIE option in 2005, we report the impact of using the new IAS 19 method as reported in the companies' footnote on change in accounting policy. We also review the footnotes of all companies using the full recognition through SORIE option in 2005 to identify the rationale, if any, provided for this important accounting policy choice. We furthermore estimate the impact that adopting the full recognition through SORIE approach would have on P&L, pension liabilities, and shareholders' equity for companies using the IAS 19 corridor approach.

The research also addresses the transparency of the key pension assumptions (benefit trend rate, interest rate and projected salary progression) disclosed under IAS 19 and benchmarks the disclosed assumptions against national/industry medians. Best practice disclosures are highlighted.

### SAMPLE SELECTION PROCESS AND DESCRIPTIVE STATISTICS

---

Our sample selection process began with the 549 companies comprising Europe's 20 premier indices in the year 2005. Some companies were deleted for various reasons, including being cross-listed, using US GAAP, and not providing an English language annual report. Of the remaining 481 companies, we identified 265 with material defined-benefit pension plans (defined as having a DBO representing at least 2% of total assets) that additionally provided the required pension disclosures needed for our study. Based on total assets, the mean/median size of the 265 companies with material defined-benefit plans is €36,937.0/ €9,292.0 m. Excluding companies in the finance industry, mean/median total revenues is €14,307.1 m/€6,734.3 m.

Based on the mean/median, on average, the companies' DBO exceeds the fair value of plan assets by €913.9 m/€247.8 m. For companies with underfunded defined-benefit pension plans, underfunding based on the mean/median represents on average 17%/9% of total shareholders' equity. Sub-dividing companies with underfunded plans into those using the corridor approach versus those using full recognition, the corresponding numbers are 16%/9% and 19%/10%, respectively.

The ratio of underfunding to total shareholders' equity is highest for German (37%), UK (22%), Belgian (21%), and Portuguese (20%) companies. The underfunding ratio is lowest for companies domiciled in Switzerland (9%), Luxembourg (8%), Italy (7%), Denmark (7%) and Finland (7%).

### AREA FOR FUTURE RESEARCH

---

Given the relatively small number of observations for each of the two IAS 19 methods used by the majority of our sample companies when further disaggregated by country and industry, statistical analysis is not possible, and one should accordingly be extremely cautious in making generalisations. Future research incorporating additional explanatory variables is needed to provide greater insight into companies' choices between the IAS 19 methods for recognition of actuarial gains and losses.

Before turning to the primary focus of our study and discussing our findings about the IAS 19 methods that companies select for the recognition of actuarial gains and losses, and discussing the impact on P&L and the balance sheet of using the new IAS 19 option, we first review our findings about the assumptions used by the sample companies to measure defined-benefit obligations. We also discuss a few best practice disclosures.

### ASSUMPTIONS MADE TO MEASURE DEFINED-BENEFIT OBLIGATIONS

---

Our review of the benefit trend, interest rate and salary progression assumption disclosures of the sample companies reveals that most of them differentiated the rates provided on the basis of the various geographic areas where their major pension plans are located. Therefore, we use this presentation format for the benchmarking analysis.

IAS 19, para. 120A (n) requires companies to disclose the assumptions underlying their pension accounting in absolute terms (ie as an absolute percentage) and not just as a margin between different percentages or other variables. In terms of transparency, most of the companies that use the geographic presentation format, and that are thus included in our analysis, comply with this requirement and disclose specific rates/assumptions for their respective home countries and for other countries/regions. Some companies, however, disclose only ranges or spans for benefit trend, interest rates and salary progression rates. Disclosing ranges or spans, without additional disclosure to guide the financial statement user, may hinder comparability and decrease transparency and does not adhere to the spirit of IAS 19.

### INTEREST-RATE ASSUMPTION

---

A considerable number of companies did not disclose a benefit trend rate. Therefore, our benchmarking analysis focuses on interest rate and salary progression rate assumptions. The mean/median interest rate used by the sample companies is 4.52%/4.60% with a standard deviation of 0.49. Meaningful comparisons of interest rates can be made only within countries; thus, our benchmarking analysis compares reported assumptions to the national averages in countries where we have at least five observations.

In general, while most sample companies cluster close to their national median, our benchmarking analysis reveals that several use rather aggressive interest-rate assumptions. Grant et al (2007) report that a 0.5 % increase in the interest rate can lead to a decrease in the pension obligation of between 12% and 13%. Thus, unusually high interest rates enable companies to arrive at relatively low pension obligation estimates. Therefore, the aggressive rates reported by a few sample companies probably merit some scrutiny by financial statement users and suggest the need for future research in this area.

### **SALARY PROGRESSION RATES**

Salary progression rates are benchmarked against industry averages, with full appreciation that, among other things, country of domicile also plays a key role. The mean/median interest rate used is 3.43%/3.50%; the standard deviation is 0.85%. While the median salary progression rate is between 3% and 4% for each industry presented, the ranges within industry for salary progression rate vary substantially. The finance, insurance, and real estate industries and services industry report the highest salary progression rates, with medians of 3.99% and 3.92%, respectively. The lowest salary progression rates are found in the wholesale trade industry with a median of 3.0%. Furthermore, the maximum salary progression rates are reported by UK companies.

### **BEST PRACTICES**

Throughout our analysis, we identified certain best practice disclosures. We encourage companies using IFRS to consider these in an effort to improve the transparency and usefulness of their pension disclosures. Examples provided in Appendix 4 include, but are not limited to:

- disclosing the accounting policy change from the IAS 19 corridor approach to full recognition through SORIE option in a manner that clearly sets forth the impact on both shareholders' equity and net income (Linde)
- using a 'matrix' format to combine four important reconciliations/tables required under IAS 19 (L'Oreal)
- disclosing an estimate of future payments to the plan that clearly specifies the payment recipient(s) (WPP and Scottish Power)
- providing detailed disclosure of the allocation of the plan assets that includes a description of the target allocation (Smith & Nephew)
- voluntarily providing a sensitivity analysis for the assumptions used in pension valuation (Bayer).

### **POLICY IMPLICATION**

Our best practice examples suggest some avenues where pension disclosures can be improved. We encourage companies to disclose the procedures used for selecting actuarial assumptions in a more transparent manner (eg

Bayer best practice). This additionally holds for the selection of the relevant bond market for determining the 'market' interest rate, as well as the determination of the maturity of pension schemes. We encourage the IASB to require sensitivity disclosures for a few key assumptions (eg interest rate) used for measuring defined-benefit pension plans in the next version of IAS 19.

It is also important to stress that, in the preliminary stages of our analysis, we identified several examples of boilerplate disclosures that complicated our research. Notably, some companies disclosed the accounting policy for defined-benefit plans when a careful review of the footnotes and financial statements did not reveal further evidence that the companies actually had material defined-benefit plans. We also had to exclude a few companies from our study because, despite the clear existence of a material defined-benefit plan, sufficient disclosures were not provided to complete our analysis. While these omitted disclosures were very limited, there should be no such examples in a sample of companies listed on Europe's premier exchanges.

### **IAS 19 METHOD USED FOR RECOGNITION OF ACTUARIAL GAINS AND LOSSES**

We now turn to the primary focus of our research, ie what IAS 19 methods for recognition of actuarial gains and losses are being selected by Europe's premier companies. A review of the pension policy notes reveals that of the 265 companies with material defined-benefit plans, a slim majority (136) use the corridor approach. Only seven recognise actuarial gains and losses in P&L, while 122 use the new IAS 19 option and report these gains and losses in the SORIE.

From an industry perspective, adoption of the option was highest in the retail trade and services industries, with over 60% voluntarily selecting the new option. More interesting, however, is the cross-country variation in the acceptance of the new option. The relatively high voluntary use of the option is driven primarily by UK and Irish companies (see also ICAEW 2007). For these companies, the new IAS 19 option is 'home grown' and consistent with the FRS 17 disclosures they previously provided under UK GAAP, prior to moving to IFRS in 2005. Indeed 90% of the UK companies and 76% of the Irish companies in our sample use a full recognition method for actuarial gains and losses in comparison with 29% (51 of 176) in all other countries. Use of the option is also widespread in Portugal (67%), Denmark (64%) and Germany (55%). Given that German companies traditionally have highly unfunded pension obligations, the latter finding may be somewhat surprising.

### **DISCLOSED RATIONALE FOR SELECTING THE IAS 19 OPTION**

In search of a more complete understanding of why companies would voluntarily adopt the option, we reviewed the pension policy footnotes of the 122 companies that elected full recognition through SORIE, to identify the rationale, if any, posited for this policy decision. Only 31

provided a specific rationale; 22 of these are UK companies stating that the new IAS 19 option is consistent with the FRS 17 approach. Alliance UniChem stated 'All actuarial gains and losses arising on defined-benefit pensions schemes have been recognised in equity ... to maintain consistency with the treatment under FRS 17 and the policy going forward of taking actuarial gains and losses directly to reserves via the statement of recognised income and expense'. DSG International PLC noted that the new IAS 19 option 'is similar to the equivalent UK accounting standard FRS 17 and accordingly, the figures shown for the comparative period ... are the same as those disclosed under UK GAAP last year'.

Some companies may select the new IAS 19 option to protect future earnings. Full recognition through equity via the SORIE eliminates the possibility that future earnings will be reduced by the amortisation of currently unrecognised net actuarial losses falling outside the corridor and furthermore reduces P&L volatility on a year-to-year basis. Nonetheless, only a few companies using the option broach the topic of P&L volatility. AstraZenca stated, '... we recognise all actuarial gains and losses immediately through reserves. This methodology results in a less volatile income statement charge than under the alternative approach of recognising actuarial gains and losses over time'. SABMiller PLC noted that under the new IAS 19 option: 'The more volatile components of movements in surpluses and deficits (actuarial gains and losses) are recorded as a movement in shareholders' funds'.

Somewhat to our surprise, very few companies referred to the enhanced transparency associated with adoption of the option. Exceptions include Bayerische Motoren Werke; this company stated that, 'to improve transparency in its financial reporting, the BMW Group has elected to apply the option made available by the IASB to change the accounting treatment for pension obligations'. InBev stated that, 'full recognition of the actuarial gains and losses enhances the transparency of its financial statements'. TUI AG indicated that, 'the new option under IAS 19 ... was exercised in order to enhance the clarity of the presentation of the net asset position'. Royal & Sun Alliance Insurance Group stated, 'This policy ... provides the most relevant basis of recognition of such gains and losses'.

While few companies using the option stressed enhanced transparency in their footnotes, transparency still may directly, or indirectly, affect their policy decision. Companies face pressure from regulators, politicians and the press to incorporate greater transparency into pension accounting. For example, financial analysts prefer immediate recognition (JP Morgan 2006; and Credit Suisse First Boston 2005), and the FASB's recent decision to remove the deferred recognition approach from US GAAP was in part motivated by the SEC's preference for full recognition. Furthermore, in light of the IASB's tentative decisions to converge with US GAAP and require full recognition, some IFRS companies may view mandatory immediate recognition as the unavoidable next

wave of pension accounting and select to be among those companies voluntarily embracing transparency prior to its being mandated.

Next we address the actual impact of moving from the IAS 19 corridor approach to the new full recognition option for seasoned IFRS users. Then we estimate the impact of adopting the option for companies currently using the IAS 19 corridor method. These two analyses cast some additional light on companies' policy choices regarding IAS 19.

### **ACTUAL IMPACT OF ADOPTING THE IAS 19 FULL RECOGNITION OF ACTUARIAL GAINS AND LOSSES THROUGH SORIE OPTION**

---

Of those companies electing to use the new IAS option in 2005, 19 are seasoned IFRS users. In their footnotes on change of accounting policy, these companies discuss the impact of moving from the corridor approach to the new full recognition option on their financial statements. Unfortunately, only a few provide a comprehensive assessment of the impact of adopting the option (see Linde best practice example in Table 12 on page 61). Most other companies provide very heterogeneous disclosures. The inconsistencies in format and mixed types of information provided make it difficult to arrive at general conclusions regarding the impact of adopting the option. For example, some companies do not provide any reference to the impact on equity. Nonetheless, we infer from the change in policy disclosures that all 19 have had net unrecognised actuarial losses. Using the option thus resulted in an increase in the recognised pension liability and a decrease in equity. For those providing information on the equity impact, the result tended to be a decline of less than 5%.

### **ESTIMATED IMPACT OF ADOPTING THE FULL RECOGNITION THROUGH SORIE OPTION FOR COMPANIES CURRENTLY USING THE CORRIDOR APPROACH**

---

IAS 19 does not require disclosure of a 'pro forma' nature that would enable financial statements users to determine easily the impact that moving from the corridor approach to full recognition of actuarial gains and losses would have on a company's financial statements. Thus, for companies using the IAS 19 corridor approach, we estimate the impact that adopting the option would have on P&L and the balance sheet.

To initiate our understanding of the impact that adoption of the option would have on companies using the corridor, we calculated the ratio of unrecognised actuarial gains and losses to equity. Our findings suggest that, ignoring tax implications, the mean/median impact of the recognition of currently unrecognised actuarial gains and losses would be to reduce equity on average by 4%/2%. The ratio of unrecognised actuarial gains and losses to equity based on the mean is greatest for the four Irish (16%), eight German (11%) and two Portuguese (11%) companies. In that a majority of the companies based in these countries

used the option, the potential impact on equity of adopting the option for these Irish, German and Portuguese companies may represent their rationale for deviating from the national norm.

We additionally use an estimation procedure (see Appendix 5 on page 80) that enabled us to incorporate, among other things, the impact of taxes and accordingly develop a more complete understanding of the impact of moving from the IAS 19 corridor approach to the new full recognition through SORIE option. The estimation procedure reveals that both for companies with net unrecognised actuarial losses and for those with net unrecognised actuarial gains, the mean/median impact on P&L would on average be immaterial. The balance sheet impact would also, on average, be immaterial for companies with net unrecognised gains.

For companies with net unrecognised losses, the balance sheet impact would, however, be material. Our estimation procedure indicates that for these companies (assuming a standard tax rate of 30%) the mean/median decrease in equity would be 3.43%/1.50%, and the mean/median increase in the recognised pension liability would be 41.02%/27.36%.

As noted previously, our research provides only very limited direct evidence of what drives companies' decision to follow the corridor or a full recognition approach in accounting for actuarial gains and losses. For corridor companies, however, our review of net balances of unrecognised actuarial gains and losses coupled with our estimation of the impact of adopting the option provides some indirect evidence of what may be driving this decision for some companies.

## **POLICY IMPLICATION**

---

The IASB acknowledges that it is undesirable to allow choices for recognition of actuarial gains and losses. Our findings strongly support the Board's position by providing evidence that the financial statement impact of using different methods for the recognition of actuarial gains and losses is frequently material, particularly from a balance sheet perspective. For companies with material defined-benefit pension plans, our findings clearly reveal a lack of financial statement comparability stemming from the flexibility allowed under IAS 19.

Specifically, our findings highlight that IAS 19 enables some European companies to achieve material off-balance sheet financing using the corridor approach. Sample companies using the corridor are overstating their equity by 3.43% on average and understating their recognised net pension liability by, on average, 41.02%.

On a more positive note, our study shows that the new IAS 19 option, which is based on FRS 17, is widely accepted not only in the UK and Ireland, but also in countries with high unfunded pension obligations (eg Germany).

## **CONCLUSION**

---

We encourage the IASB (2008) to move forward with the proposal set forth in the Board's recently issued discussion paper to eliminate the corridor approach and require full recognition of actuarial gains and losses. This would make the IASB standard more consistent with SFAS 158, thereby enhancing international comparability. Otherwise, many European companies will continue to use the corridor approach to achieve off-balance sheet presentation of large parts of their pension liabilities.



# Appendix 1 Tables

**Table 1: Sample selection process and sample composition by country/index**

Country	Index	Companies included in index	Companies deleted from sample				Total removed	Total
			Cross-listed	US GAAP	Annual report not in English	Other reasons		
UK	FTSE 100	102	3	2	0	4	9	93
Ireland	ISEQ 20	20	0	0	0	0	0	20
<b>UK and Ireland Subtotal</b>		<b>122</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>9</b>	<b>113</b>
Austria	ATX	21	0	1	0	0	1	20
Belgium	BEL 20	19	1	0	0	0	1	18
Czech Republic	INDEX PI	9	1	1	0	0	2	7
Denmark	OMXC20	20	1	0	0	0	1	19
Finland	OMXH 25	24	1	0	0	0	1	23
France	CAC 40	40	2	0	0	0	2	38
Germany	DAX 30	30	0	8	0	0	8	22
Greece	ATHEX 20	20	0	1	1	0	2	18
Hungary	BUX	12	0	0	1	1	2	10
Italy	MIB-30	40	1	1	0	0	2	38
Luxembourg	LUXX	13	3	0	0	3	6	7
Netherlands	AEX	22	1	2	0	0	3	19
Norway	OBX	25	0	9	0	0	9	16
Poland	WIG 20	20	1	0	0	0	1	19
Portugal	PSI-20	20	0	0	2	0	2	18
Spain	IBEX 35	35	1	0	1	0	2	33
Sweden	OMSX 30	30	5	2	0	1	8	22
Switzerland	SMI	27	1	5	0	0	6	21
<b>All others Subtotal</b>		<b>427</b>	<b>19</b>	<b>30</b>	<b>5</b>	<b>5</b>	<b>59</b>	<b>368</b>
<b>Total</b>		<b>549</b>	<b>22</b>	<b>32</b>	<b>5</b>	<b>9</b>	<b>68</b>	<b>481</b>

**Table 2: European blue chip companies offering defined-benefit pension plans****Panel A: by country/index**

	Index	All companies	Companies with defined-benefit plans	Companies with material defined-benefit plans defined as 2% of total assets
UK	FTSE 100	93	88	72
Ireland	ISEQ 20	20	19	17
<b>UK and Ireland subtotal</b>		<b>113</b>	<b>107</b>	<b>89</b>
Austria	ATX	20	20	13
Belgium	BEL 20	18	15	9
Czech Republic	INDEX PI	7	1	0
Denmark	OMXC20	19	15	11
Finland	OMXH 25	23	22	21
France	CAC 40	38	38	28
Germany	DAX 30	22	22	18
Greece	ATHEX 20	18	17	3
Hungary	BUX	10	3	0
Italy	MIB-30	38	34	7
Luxembourg	LUXX	7	5	2
Netherlands	AEX	19	19	15
Norway	OBX	16	12	9
Poland	WIG 20	19	3	0
Portugal	PSI-20	18	12	6
Spain	IBEX 35	33	18	3
Sweden	OMSX 30	22	22	14
Switzerland	SMI	21	21	17
<b>All others subtotal</b>		<b>368</b>	<b>299</b>	<b>176</b>
<b>Total</b>		<b>481</b>	<b>406</b>	<b>265</b>

**Table 2 continued****Panel B: by SIC industry classification**

	All companies	Companies with defined-benefit plans	Companies with material defined-benefit plans defined as 2% of total assets
Agriculture, Forestry, and Fishing	0	0	0
Mining	15	9	7
Construction	12	11	6
Manufacturing	178	164	139
Transportation, Communications, Electric, Gas, and Sanitary services	87	68	42
Wholesale trade	17	17	17
Retail trade	25	20	15
Finance, Insurance, and Real estate	113	95	24
Services	34	22	15
Public administration	0	0	0
<b>Total</b>	<b>481</b>	<b>406</b>	<b>265</b>

**Table 3: Descriptive statistics for companies with defined-benefit plans  
(in millions of euro)**

**Panel A: by country/index**

Country	Index	Total assets				Total revenues			
		n	Mean	Median	Standard deviation	n	Mean	Median	Standard deviation
UK	FTSE 100	72	66,137.5	10,962.0	214,318.4	62	15,097.1	9,020.0	27,649.1
Ireland	ISEQ 20	17	23,393.3	2,110.8	49,290.9	13	2,805.1	1,611.5	3,666.2
<b>UK and Ireland subtotal</b>		<b>89</b>	<b>57,972.9</b>	<b>9,881.9</b>	<b>19,4387.1</b>	<b>75</b>	<b>12,966.5</b>	<b>7,506.2</b>	<b>25,579.2</b>
Netherlands	AEX	15	22,465.7	8,645.0	45,922.7	15	27,789.6	7,542.0	64,991.3
Greece	ATHEX 20	3	4,779.2	1,398.3	6,850.2	3	2,611.9	3,237.4	2,064.0
Austria	ATX	13	16,916.6	2,604.8	43,058.9	11	3,265.6	1,744.3	4,402.5
Belgium	BEL 20	9	7,230.5	4,717.0	7,013.2	9	6,530.6	4,757.3	5,700.9
France	CAC 40	28	38,530.8	23,444.9	37,091.6	28	25,711.9	15,779.5	28,703.1
Germany	DAX 30	18	47,271.6	24,019.5	52,316.5	17	30,309.2	18,201.3	24,985.9
Spain	IBEX 35	3	295,294.6	55,365.0	445,298.2	2	13,248.5	13,248.5	6,023.8
Luxembourg	LUXX	2	18,250.5	18,250.5	24,982.7	2	16,575.4	16,575.4	22,677.8
Italy	MIB-30	7	23,218.6	10,808.9	23,776.5	7	15,304.0	4,999.6	17,683.0
Norway	OBX	9	3,518.6	988.2	4,973.4	9	3,528.2	3,203.9	3,190.0
Denmark	OMXC 20	11	7,652.1	4,584.4	10,712.8	10	10,857.6	2,944.2	19,155.8
Finland	OMXH 25	21	6,603.6	2,972.0	7,114.8	21	6,102.6	3,654.0	7,267.5
Sweden	OMXS 30	14	7,745.1	4,603.5	8,028.2	14	8,059.1	6,169.6	7,061.4
Portugal	PSI-20	6	29,171.1	20,338.0	28,994.8	4	4,647.2	3,936.4	3,842.3
Switzerland	SMI	17	25,322.8	8,605.4	35,808.1	14	11,019.9	4,779.1	15,901.6
<b>All others subtotal</b>		<b>176</b>	<b>26,299.6</b>	<b>8,816.7</b>	<b>68,493.1</b>	<b>166</b>	<b>14,912.8</b>	<b>6,568.0</b>	<b>26,889.4</b>
<b>Total</b>		<b>265</b>	<b>36,937.0</b>	<b>9,292.0</b>	<b>126,213.4</b>	<b>241</b>	<b>14,307.1</b>	<b>6,734.3</b>	<b>26,450.8</b>

**Table 3 continued**

**Panel B: by industry**

	Total assets				Total revenues			
	n	Mean	Median	Standard deviation	n	Mean	Median	Standard deviation
Mining	7	23,732.3	11,240.0	37,360.5	7	27,079.5	8,154.2	51,448.0
Construction	6	9,485.5	3,057.6	11,095.8	6	8,704.5	6,155.1	7,621.1
Manufacturing	139	17,109.8	7,507.7	27,746.8	140	14,348.0	6,286.7	30,266.5
Transportation, Communications, Electric, Gas, and Sanitary services	42	31,403.5	16,459.8	41,539.8	42	14,359.9	8,916.4	15,234.9
Wholesale trade	17	7,246.7	3,580.4	10,939.7	17	10,152.3	3,654.0	14,738.7
Retail trade	15	14,027.0	10,881.3	12,549.1	15	21,714.4	17,708.6	21,004.1
Finance, Insurance, and Real Estate	24	227,424.7	69,045.8	363,834.8	0			
Services	15	4,466.1	3,974.0	3,051.4	15	9,050.0	4,370.7	14,697.8
<b>Total</b>	<b>265</b>	<b>36,937.0</b>	<b>9,292.0</b>	<b>126,213.4</b>	<b>241</b>	<b>14,307.1</b>	<b>6,734.3</b>	<b>26,450.8</b>

**Table 4: Funded status of defined-benefit pension plans by (reported in millions of euro)****Panel A: by country/index**

Country	Index	n	Defined-benefit Obligation (DBO)			Plan assets			Funded status of plan		
			Mean	Median	Standard deviation	Mean	Median	Standard deviation	Mean	Median	Standard deviation
UK	FTSE 100	72	6,582.3	3,047.7	9,503.6	5,687.5	2,904.1	8,425.0	894.8	299.5	1,413.3
Ireland	ISEQ 20	17	1,092.6	257.7	1,557.4	893.4	198.8	1,266.6	199.2	58.9	334.4
<b>UK and Ireland subtotal</b>		<b>89</b>	<b>5,533.7</b>	<b>2,341.1</b>	<b>8,832.9</b>	<b>4,771.8</b>	<b>2,021.4</b>	<b>7,820.0</b>	<b>761.9</b>	<b>223.8</b>	<b>1,306.7</b>
Netherlands	AEX	15	6,774.9	3,121.0	12,281.3	6,214.2	2,268.0	12,157.2	560.7	304.0	574.4
Greece	ATHEX 20	3	120.8	65.3	148.6	4.7	0.0	8.2	116.1	51.2	151.4
Austria	ATX	13	554.4	279.1	977.2	93.0	57.8	115.2	461.4	123.3	984.0
Belgium	BEL 20	9	1,008.1	484.1	1,085.8	600.6	295.4	676.1	407.5	188.7	457.6
France	CAC 40	28	3,997.5	2,015.4	5,109.6	2,144.2	1,302.5	2,264.4	1,853.3	818.1	3,253.0
Germany	DAX 30	18	6,741.1	2,929.0	6,473.8	3,028.6	1,464.4	3,353.4	3,712.5	1,322.7	4,286.9
Spain	IBEX 35	3	6,403.3	1,465.0	9,166.4	2,080.4	1,187.0	2,153.7	4,322.9	278.0	7,032.2
Luxembourg	LUXX	2	1,018.4	1,018.4	1,388.2	398.0	398.0	562.9	620.4	620.4	825.3
Italy	MIB-30	7	1,056.9	1,025.0	1,027.5	589.9	304.0	696.9	467.0	341.4	454.3
Norway	OBX	9	428.9	421.1	316.2	306.0	291.1	212.3	122.9	92.8	112.8
Denmark	OMXC 20	11	732.5	182.5	937.9	650.0	97.4	970.4	82.5	46.6	239.9
Finland	OMXH 25	21	601.2	384.0	658.6	491.0	343.5	501.1	110.2	44.4	237.8
Sweden	OMXS 30	14	1,254.3	924.2	1,106.7	889.7	678.9	749.8	364.6	245.4	387.7
Portugal	PSI-20	6	2,360.5	2,029.0	2,149.5	1,743.3	1,511.7	1,819.3	617.3	309.2	795.8
Switzerland	SMI	17	3,498.3	1,589.1	4,569.1	3,108.4	1,005.6	4,346.6	389.9	141.2	546.1
<b>All others subtotal</b>		<b>176</b>	<b>2,817.7</b>	<b>1,011.0</b>	<b>5,397.8</b>	<b>1,826.9</b>	<b>635.5</b>	<b>4,319.4</b>	<b>990.8</b>	<b>257.6</b>	<b>2,360.0</b>
<b>Total</b>		<b>265</b>	<b>3,729.9</b>	<b>1,345.9</b>	<b>6,853.6</b>	<b>2,815.9</b>	<b>867.2</b>	<b>5,890.1</b>	<b>913.9</b>	<b>247.8</b>	<b>2,067.1</b>

**Table 4 continued**

**Panel B: by industry**

	Defined-benefit Obligation (DBO)			Plan assets			Funded status of plan			
	n	Mean	Median	Standard deviation	Mean	Median	Standard deviation	Mean	Median	Standard deviation
Mining	7	2,660.2	940.1	3,463.1	1,852.9	581.2	2,448.5	807.3	273.6	1,199.5
Construction	6	621.2	555.4	448.6	374.5	314.4	298.9	246.7	205.6	246.6
Manufacturing	139	3,494.9	1,226.0	6,215.3	2,735.5	857.9	5,560.2	759.4	235.0	1,638.2
Transportation, Communications, Electric, Gas, and Sanitary services	42	5,964.5	2,539.8	10,180.4	4,202.5	1,832.9	8,738.9	1,762.0	348.8	3,477.1
Wholesale trade	17	1,253.3	538.0	2,066.5	840.3	544.5	1,348.6	413.0	118.7	763.4
Retail trade	15	2,445.5	1,054.6	2,613.8	1,936.1	850.6	2,167.1	509.4	352.0	524.1
Finance, Insurance, and Real estate	24	6,621.4	2,403.6	8,945.7	5,029.6	1,802.0	7,336.7	1,591.8	490.9	2,775.5
Services	15	857.9	637.0	667.3	682.1	519.2	554.5	175.8	126.6	188.2
<b>Total</b>	<b>265</b>	<b>3,729.9</b>	<b>1,345.9</b>	<b>6,853.9</b>	<b>2,815.9</b>	<b>867.2</b>	<b>5,890.1</b>	<b>913.9</b>	<b>247.8</b>	<b>2,067.1</b>

**Table 5: Funded status of defined-benefit plans divided by shareholders' equity**

**Panel A: by country/index**

Country	Index	All companies				Companies using corridor approach				Companies using full recognition			
		n	Mean	Median	Standard deviation	n	Mean	Median	Standard deviation	n	Mean	Median	Standard deviation
UK	FTSE 100	64	0.22	0.10	0.34	7	0.17	0.10	0.22	56	0.22	0.10	0.36
Ireland	ISEQ 20	17	0.11	0.07	0.09	4	0.13	0.11	0.11	13	0.11	0.07	0.09
<b>UK and Ireland subtotal</b>		<b>81</b>	<b>0.20</b>	<b>0.10</b>	<b>0.31</b>	<b>11</b>	<b>0.16</b>	<b>0.10</b>	<b>0.18</b>	<b>69</b>	<b>0.20</b>	<b>0.10</b>	<b>0.33</b>
Netherlands	AEX	14	0.18	0.18	0.16	11	0.19	0.19	0.18	3	0.15	0.15	0.06
Greece	ATHEX 20	3	0.10	0.09	0.05	2	0.07	0.07	0.03	0	NA	NA	NA
Austria	ATX	12	0.14	0.09	0.13	7	0.10	0.07	0.08	4	0.24	0.21	0.18
Belgium	BEL 20	9	0.21	0.07	0.28	6	0.23	0.06	0.34	3	0.16	0.20	0.08
France	CAC 40	27	0.18	0.10	0.19	23	0.20	0.12	0.21	4	0.11	0.09	0.08
Germany	DAX 30	18	0.37	0.27	0.31	8	0.49	0.40	0.40	10	0.27	0.23	0.19
Spain	IBEX 35	3	0.13	0.08	0.14	2	0.19	0.19	0.15	1	0.02	0.02	NA
Luxembourg	LUXX	2	0.08	0.08	0.02	1	0.07	0.07	.	0	NA	NA	NA
Italy	MIB-30	7	0.07	0.06	0.03	4	0.07	0.07	0.03	1	0.06	0.06	NA
Norway	OBX	9	0.10	0.04	0.11	8	0.09	0.04	0.12	1	0.14	0.14	NA
Denmark	OMXC 20	10	0.07	0.04	0.07	2	0.03	0.03	0.02	7	0.09	0.08	0.08
Finland	OMXH 25	15	0.07	0.05	0.07	15	0.07	0.05	0.07	0	NA	NA	NA
Sweden	OMXS 30	14	0.13	0.11	0.08	12	0.14	0.11	0.09	2	0.10	0.10	0.04
Portugal	PSI-20	6	0.20	0.11	0.30	2	0.05	0.05	0.07	4	0.27	0.14	0.35
Switzerland	SMI	16	0.09	0.07	0.09	14	0.09	0.05	0.10	2	0.11	0.11	0.06
<b>All others subtotal</b>		<b>165</b>	<b>0.16</b>	<b>0.09</b>	<b>0.19</b>	<b>117</b>	<b>0.16</b>	<b>0.09</b>	<b>0.20</b>	<b>42</b>	<b>0.17</b>	<b>0.14</b>	<b>0.17</b>
<b>Total</b>		<b>246*</b>	<b>0.17</b>	<b>0.09</b>	<b>0.24</b>	<b>128</b>	<b>0.16</b>	<b>0.09</b>	<b>0.20</b>	<b>111</b>	<b>0.19</b>	<b>0.10</b>	<b>0.28</b>

**Table 5 continued**

**Panel B: by industry**

Country	Index	All companies				Companies using corridor approach				Companies using full recognition			
		n	Mean	Median	Standard deviation	n	Mean	Median	Standard deviation	n	Mean	Median	Standard deviation
Mining		7	0.15	0.08	0.14	5	0.16	0.08	0.15	2	0.12	0.12	0.14
Construction		5	0.13	0.13	0.08	3	0.15	0.13	0.08	2	0.09	0.09	0.06
Manufacturing		131	0.16	0.09	0.23	70	0.12	0.08	0.13	57	0.21	0.11	0.30
Transportation, Communications, Electric, Gas, and Sanitary Services		39	0.27	0.12	0.36	22	0.28	0.13	0.34	16	0.27	0.11	0.40
Wholesale trade		15	0.16	0.07	0.22	8	0.23	0.16	0.28	7	0.07	0.06	0.04
Retail trade		13	0.17	0.11	0.19	3	0.09	0.07	0.07	10	0.20	0.12	0.21
Finance, Insurance, and Real estate		23	0.13	0.10	0.12	12	0.12	0.08	0.12	10	0.13	0.11	0.14
Services		13	0.12	0.08	0.11	5	0.16	0.09	0.15	7	0.10	0.07	0.08

\*Excludes companies with overfunded plans and negative equity.

**Table 6: IAS 19 method selected for recognition of actuarial gains and losses selected by companies with defined-benefit pension plans of at least 2% of total assets**

**Panel A: by country/indices**

Country	Index	Total number of companies	Corridor	Full recognition through P&L	Full recognition through SORIE
UK	FTSE 100	72	7	1	64
Ireland	ISEQ 20	17	4	0	13
<b>UK and Ireland Subtotal</b>		<b>89</b>	<b>11</b>	<b>1</b>	<b>77</b>
Netherlands	AEX	15	11	0	4
Greece	ATHEX 20	3	2	1	0
Austria	ATX	13	8	1	4
Belgium	BEL 20	9	6	0	3
France	CAC 40	28	23	0	5
Germany	DAX 30	18	8	0	10
Spain	IBEX 35	3	2	0	1
Luxembourg	LUXX	2	1	1	0
Italy	MIB-30	7	4	2	1
Norway	OBX	9	8	0	1
Denmark	OMXC 20	11	3	1	7
Finland	OMXH 25	21	21	0	0
Sweden	OMXS 30	14	12	0	2
Portugal	PSI-20	6	2	0	4
Switzerland	SMI	17	14	0	3
<b>All others subtotal</b>		<b>176</b>	<b>125</b>	<b>6</b>	<b>45</b>
<b>Total</b>		<b>265</b>	<b>136</b>	<b>7</b>	<b>122</b>

**Table 6 continued****Panel B: by industry**

	<b>Total number of companies</b>	<b>Corridor</b>	<b>Full recognition through P&amp;L</b>	<b>Full recognition through SORIE</b>
Mining	7	5	0	2
Construction	6	4	0	2
Manufacturing	139	73	4	62
Transportation, Communications, Electric, Gas, and Sanitary services	42	23	1	18
Wholesale trade	17	9	0	8
Retail trade	15	5	0	10
Finance, Insurance, and Real estate	24	12	1	11
Services	15	5	1	9
<b>Total</b>	<b>265</b>	<b>136</b>	<b>7</b>	<b>122</b>

**Table 7: Seasoned IFRS users' accounting policy change description of the move from the IAS 19 corridor approach to the new full recognition through equity option**

**BANK AUSTRIA CREDITANSTALT, ANNUAL REPORT 2005**

The increase in the provision as at 31 December 2004 amounted to €243.7 m, the item Other assets (deferred tax assets) rose by €60.9 m and shareholders' equity decreased by €182.8 m (p. 117).

**NR BOEHLER-UDDEHOLM, ANNUAL REPORT 2005**

The regulations set forth in IAS 19.93A were applied for the first time in the 2005 financial year. They allow the full recognition of actuarial gains and losses on the calculation of long-term provisions for severance compensation and pensions to equity in the year these items arise. This change in accounting method resulted in a decrease of €36.5 m in equity that was not recognised in the income statement. Deferred tax resulting from this transaction was recognised directly in the equity of the Group, which therefore increased by €9.8 m (p. 86).

**BWT, ANNUAL REPORT 2005**

In December 2004, the IASB passed changes to IAS 19, which among other things concerned the introduction of an additional option to deal with actuarial profits or losses arising within the framework of defined-benefit pension plans. The changes come into effect on January 1, 2006, but the Management Board has already taken these changes into account in the 2005 financial year and accordingly has also adjusted the comparable figures of the previous year, which in terms of personnel costs resulted in a reduction of €263,300 (p. 22).

**VOESTALPINE, ANNUAL REPORT 2005/06**

The retrospective application of IAS 19.93A has the following effects on the present consolidated financial statements, and the figures for the prior year have been adjusted accordingly.

	03/31/2005 before retrospective application of IAS 19.93A	03/31/2005 after retrospective application of IAS 19.93A	Changes in equity 03/31/2005
Severance payments	252.5	289.2	-36.7
Pensions	79.6	98.4	-18.8
Deferred taxes outside profit or loss	0.0	13.9	13.9
			-41.6

In millions of euros (p. 120)

**INBEV, ANNUAL REPORT 2005**

In accordance with IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors, InBev applied this change in accounting policy retrospectively, leading to a net reduction of equity as at 1 January 2004 by €269 m and to an increase of the 2004 profit by €9 m (p. 73).

**ADIDAS-SALOMON, ANNUAL REPORT 2005**

Prior-year figures have been adjusted accordingly, owing to this change in accounting policy. Net income was not changed, however, as it was not necessary to recognise actuarial gains or losses pursuant to the corridor approach of IAS 19 in 2004. The actuarial loss recognised in the statement of recognised income and earnings for 2005 was €15 m (2004: €12 m). The cumulative actuarial losses recognised in the SORIE amount to €31 m (2004: €17 m) (p. 143).

## **ALTANA, ANNUAL REPORT 2005**

---

*The results of the retroactive adoption of... IAS 19... for the year 2004...*

*Shareholder's Equity: decrease 11,318*

*Deferred Tax Assets: increase 6,752*

*Employee Benefit Obligation: increase 18,070*

*In accordance with the transitional provisions of the amendment, the Company restated its prior-year financial statements, except for the income statement, where no material effects on net income were recorded. If Altana had continued to apply the 10% corridor approach, the amount accounted for employee benefit obligations in the balance sheet as of 31 December 2005 would have been decreased by €75 m (p. F9).*

## **BAYER AG, ANNUAL REPORT 2005**

---

*The impact of these changes on the relevant balance sheet items as of 31 December 2004 was as follows:*

*In €m*

*Assets: Benefit plan assets in excess of obligations: decrease 468*

*Assets: Deferred tax assets: increase 283*

*Assets: Assets held for sale and discontinued operations: decrease 31*

*Equity/Liability: Other reserves: decrease 1,432*

*Equity/Liability: Provisions for pensions and other post-employment benefits: increase 1,638*

*Equity/Liability: Deferred tax liabilities: decrease 527*

*Equity/Liability: Liabilities directly related to assets held for sale and discontinued operations: increase 105 (p. 147)*

## **BAYERISCHE MOTOREN WERKE AG, ANNUAL REPORT 2005**

---

*The restatement of the comparative figures for the financial year 2004 gives rise to an improvement in profit before tax of €29 m. After recognising a deferred tax expense of €9 m, the net profit for 2004 increased by €20 m to €2,242 m. The adjustment to equity for periods prior to 2004 amounted to €751 m. Equity in the balance sheet at 31 December 2004 decreased by €983 m to €16,534 m. Pension provisions increased by €1,521 m to €4,224 m. Deferred tax assets increased by €219 m to €515 m, while deferred tax liabilities decreased by €319 m to €2,277 m (p. 80–1).*

## **LINDE AG, ANNUAL REPORT 2005**

---

### **Group Balance Sheet**

*In €m*

*Equity at December 31, 2004 – as reported: 4,081*

### **Changes as a result of IAS 19**

*Previously unrecognised actuarial gains/losses and cumulative effect of limitation on defined-benefit asset: decrease 209*

*Change in net income due to changes in accounting standards: increase 4*

*Deferred taxes: increase 70*

*Equity at December 31, 2004 – restated: 3,946*

### **Group Income Statement**

*In €m*

*Net income after minority interests – as reported: 274*

*Changes as a result of IAS 19*

*Change in net income due to changes in accounting standards: increase 6*

*Deferred tax expense: decrease 2*

*Net income after minority interests – restated: 278 (p. 83)*

## **SCHERING AG, ANNUAL REPORT 2005**

---

Since January 1, 2005, we have also applied the amendment to IAS 19 'Employee Benefits' entitled 'Actuarial Gains and Losses, Group Plans and Disclosures' and eliminated actuarial gains and losses from defined-benefit pension plans directly against equity. This procedure allows pension obligations to be presented in full in the balance sheet. The 2004 consolidated financial statements were restated in accordance with the transitional provision in the revised IAS 19. This change in accounting policy had the following effects on the 2005 consolidated financial statements (in brackets: restatements of the 2004 consolidated financial statements): operating profit increased by €9 m (€7 m), net profit by €5 m (€4 m), and earnings per share (basic and diluted) by €0.03 (€0.02; owing to rounding, earnings per share (basic) for 2004 rose from €2.61 to €2.64). As of 31 December 2005, provisions for pensions increased by €525 m (December 31, 2004: €320 m), equity fell by €330 m (€193 m), and deferred tax assets rose by €195m (€127 m) (p. 112).

## **TUI AG, ANNUAL REPORT 2005**

---

The restatement of the recognition of pension obligations resulted in the following conversion effects for the continuing and discontinuing operations for the previous year. Pension provisions rose by €394.5 m and other assets by €0.4 m as at 31 December 2004. This was associated with an increase of €134.7 m in deferred income tax assets and €13.8 m in deferred income tax provisions. While other revenue reserves rose by €26.4 m owing to the reversal of the amortisation of actuarial gains and losses of the 2004 financial year, a negative reserve of €299.6 m had to be carried in accordance with IAS 19. Personnel costs for the 2004 financial year declined by €39.6 m, while deferred income tax expenses increased by €12.2 m (p. 141).

## **VOLKSWAGEN AG, ANNUAL REPORT 2005**

---

[See page 153 of the Annual Report for a table of changes.] This required the restatement of actuarial gains and losses as of 1 January 2004, resulting in an increase in pension provisions by €937 m. The opening carrying amount of retained earnings was reduced by a corresponding amount, net of the related deferred tax effects. In addition, the actuarial gains and losses allocated to the income statement functions in 2004 also had to be reversed. This increased operating profit by €22 m (p. 119).

## **DANISCO A/S, ANNUAL REPORT 2005/06**

---

Pension liabilities at 1 May 2004 have been increased accordingly by DKK 141 m and equity reduced by DKK 101 m after tax. Comparative figures for the 2004/5 income statement have been restated to an increase in profit of DKK 9 m. If the amendment to IAS 19 had not been implemented, profit for 2005/6 would have been reduced by DKK 6 m. The changes have not affected the Parent Company (p. 42).

## **GN STORE NORD, ANNUAL REPORT 2005**

---

In the balance sheet at 31 December 2004, pension obligations are increased by DKK 27 m (1 January 2004: DKK 29 m, and prepayments and cash are reduced by DKK 20 m (DKK 23 m)). Equity at 31 December 2004 is reduced by DKK 47 m (1 January 2004: DKK 52 m). In the profit for the financial year 2005 actuarial losses of DKK 4 m (2004: DKK 4 m). The changes did not affect tax on profit for the year or deferred tax (p. 34).

## **NOVARTIS AG, ANNUAL REPORT 2005**

---

This change resulted in an income of USD 76 m being reflected in Other Income & Expense, a decrease in non-current assets of USD 1,290 m and an increase in liabilities of USD 441 m, net of taxes (p. 181).

**Table 8: For companies using the corridor approach, total unrecognised actuarial gains/losses divided by equity**

**Panel A: by country/index**

Country	Index	Total unrecognised actuarial gains/losses (in millions of euro)				Unrecognised actuarial gains/losses divided by equity			
		n	Mean	Median	Standard deviation	n	Mean	Median	Standard deviation
UK	FTSE 100	7	-320.7	-135.1	721.2	7	0.01	-0.01	0.10
Ireland	ISEQ 20	4	-99.3	-44.3	129.9	4	-0.16	-0.06	0.23
<b>UK and Ireland subtotal</b>		<b>11</b>	<b>-240.1</b>	<b>-45.5</b>	<b>574.1</b>	<b>11</b>	<b>-0.1</b>	<b>-0.00</b>	<b>0.20</b>
Netherlands	AEX	11	-279.9	-255.0	307.3	11	-0.06	-0.04	0.10
Greece	ATHEX 20	2	-29.8	-29.8	40.5	2	-0.01	-0.01	0.00
Austria	ATX	8	-30.6	-26.7	39.7	7	-0.01	-0.01	0.01
Belgium	BEL 20	6	-135.3	-22.9	201.2	6	-0.09	-0.01	0.18
France	CAC 40	23	-350.4	-184.0	571.1	23	-0.04	-0.02	0.05
Germany	DAX 30	8	-922.8	-838.5	700.6	8	-0.11	-0.11	0.08
Spain	IBEX 35	2	-414.1	-414.1	445.4	2	-0.02	-0.02	0.01
Luxembourg	LUXX	1	-258.0	-258.0	NA	1	-0.01	-0.01	NA
Italy	MIB-30	4	-65.6	-42.5	69.0	4	-0.01	-0.01	0.01
Norway	OBX	8	-5.2	-2.6	29.4	8	-0.01	-0.01	0.04
Denmark	OMXC 20	3	-103.0	-16.1	163.2	3	-0.02	-0.00	0.03
Finland	OMXH 25	21	-72.7	-7.6	170.5	21	-0.01	-0.01	0.04
Sweden	OMXS 30	12	-117.0	-52.6	130.1	12	-0.05	-0.03	0.05
Portugal	PSI-20	2	-320.8	-320.8	438.0	2	-0.11	-0.11	0.15
Switzerland	SMI	14	-333.4	-107.2	572.5	14	-0.05	-0.04	0.05
<b>All others subtotal</b>		<b>125</b>	<b>-236.6</b>	<b>-58.4</b>	<b>434.2</b>	<b>124</b>	<b>-0.0</b>	<b>-0.00</b>	<b>0.10</b>
<b>Total</b>		<b>136</b>	<b>-218.7</b>	<b>-53.8</b>	<b>447.8</b>	<b>135*</b>	<b>-0.04</b>	<b>-0.02</b>	<b>0.08</b>

**Table 8 continued****Panel B: by industry**

Mining	5	-248.4	-135.1	321.0	5	-0.03	-0.02	0.05
Construction	4	-33.7	-19.2	47.5	4	-0.02	-0.02	0.03
Manufacturing	73	-176.4	-65.0	319.9	72	-0.03	-0.02	0.05
Transportation, Communications, Electric, Gas, and Sanitary services	23	-497.6	-255.0	772.0	23	-0.07	-0.02	0.14
Wholesale trade	9	-155.4	-34.6	217.7	9	-0.07	-0.01	0.15
Retail trade	5	-42.3	-21.1	92.6	5	-0.00	-0.01	0.03
Finance, Insurance, and Real estate	12	-378.2	-56.7	495.1	12	-0.04	-0.02	0.06
Services	5	-74.3	-44.6	107.5	5	-0.05	-0.03	0.05

**Table 9: Descriptive information for benefit trend, interest and salary progression rates reported by sample companies**

**Panel A: by country/index**

		Benefit trend rate			Interest rate			Salary progression rate		
		Disclosing specific n	Disclosing specific rate	Disclosing rate ranges	Disclosing specific n	Disclosing specific rate	Disclosing rate ranges	Disclosing specific n	Disclosing specific rate	Disclosing rate ranges
UK	FTSE 100	67	60	7	69	68	1	69	67	2
Ireland	ISEQ 20	16	12	4	16	14	2	16	13	3
<b>UK and Ireland subtotal</b>		<b>83</b>	<b>72</b>	<b>11</b>	<b>85</b>	<b>82</b>	<b>3</b>	<b>85</b>	<b>80</b>	<b>5</b>
Netherlands	AEX	7	5	2	15	14	1	12	10	2
Greece	ATHEX 20	0	0	0	3	3	0	2	2	0
Austria	ATX	11	8	3	13	10	3	13	10	3
Belgium	BEL 20	2	1	1	7	7	0	7	6	1
France	CAC 40	5	4	1	27	25	2	23	18	5
Germany	DAX 30	16	11	5	18	18	0	17	14	3
Spain	IBEX 35	0	0	0	2	1	1	1	1	0
Luxembourg	LUXX	0	0	0	2	2	0	1	1	0
Italy	MIB-30	1	1	0	6	4	2	5	3	2
Norway	OBX	6	6	0	9	7	2	9	7	2
Denmark	OMXC 20	5	4	1	10	6	4	9	5	4
Finland	OMXH 25	13	8	5	20	12	8	20	12	8
Sweden	OMXS 30	3	3	0	13	13	0	13	13	0
Portugal	PSI-20	6	6	0	6	6	0	6	6	0
Switzerland	SMI	12	10	2	17	13	4	16	12	4
<b>All other subtotal</b>		<b>87</b>	<b>67</b>	<b>20</b>	<b>168</b>	<b>141</b>	<b>27</b>	<b>154</b>	<b>120</b>	<b>34</b>
<b>Total</b>		<b>170</b>	<b>139</b>	<b>31</b>	<b>253</b>	<b>223</b>	<b>30</b>	<b>239</b>	<b>200</b>	<b>39</b>

**Table 9 continued**

**Panel B: by industry**

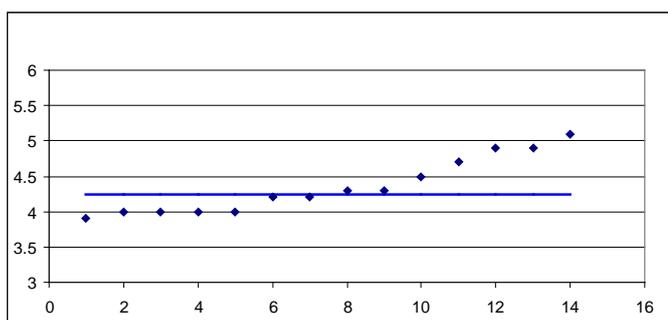
	Benefit trend rate			Interest rate			Salary progression rate		
	n	Disclosing specific rate	Disclosing rate ranges	n	Disclosing specific rate	Disclosing rate ranges	n	Disclosing specific rate	Disclosing rate ranges
Mining	4	3	1	7	6	1	7	5	2
Construction	3	1	2	6	4	2	6	4	2
Manufacturing	85	70	15	135	117	18	128	105	23
Transportation, Communications, Electric, Gas, and Sanitary services	27	24	3	39	36	3	33	29	4
Wholesale trade	13	10	3	17	16	1	17	15	2
Retail trade	10	6	4	14	11	3	14	10	4
Finance, Insurance, and Real estate	22	19	3	23	22	1	23	22	1
Services	6	6	0	12	11	1	11	10	1
<b>Total</b>	<b>170</b>	<b>139</b>	<b>31</b>	<b>253</b>	<b>223</b>	<b>30</b>	<b>239</b>	<b>200</b>	<b>39</b>

Note: n < 265 because a rate could not be assigned for the country of domicile (ie rates were provided for funded versus unfunded plans, regions as opposed to countries, etc).

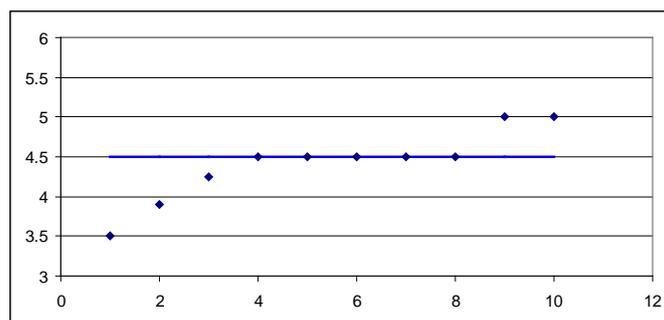
**Table 10: Interest rate assumptions benchmarked against national median (includes companies reporting a specific interest rate assumption for country of domicile and having five or more observations)**

	Mean	Standard deviation	Min	Median	Max
Overall sample	4.52	0.49	2.60	4.60	5.9
AEX 20 (Netherlands n=14)	4.36	0.40	3.90	4.25	5.10
ATX 20 (Austria n = 10)	4.42	0.45	3.50	4.50	5.00
BEL 20 (Belgium n = 7)	4.71	0.50	4.15	4.70	5.60
CAC 40 (France n = 25)	4.37	0.42	3.75	4.25	5.75
DAX 30 (Germany n = 18)	4.38	0.43	4.00	4.25	5.25
FTSE 100 (UK n = 61)	4.88	0.20	4.60	4.80	5.90
ISEQ 20 (Ireland n = 14)	4.43	0.28	4.00	4.40	5.00
OBX (Norway n = 7)	4.51	0.33	3.90	4.50	5.00
OMXC 20 (Denmark n = 6)	4.54	0.54	4.00	4.38	5.50
OMXH 25 (Finland n = 12)	4.50	0.30	4.10	4.50	5.00
OMXS 30 (Sweden n = 13)	4.38	0.47	3.50	4.60	5.00
PSI 20 (Portugal n = 6)	4.55	0.20	4.20	4.55	4.75
SMI21 (Switzerland n = 13)	3.64	0.67	2.60	3.80	4.80

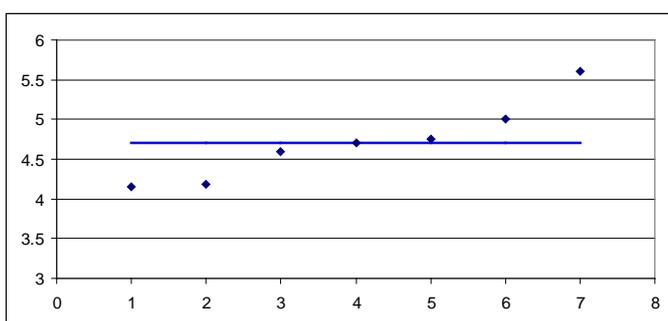
**AEX 20 (Netherlands n=14)**



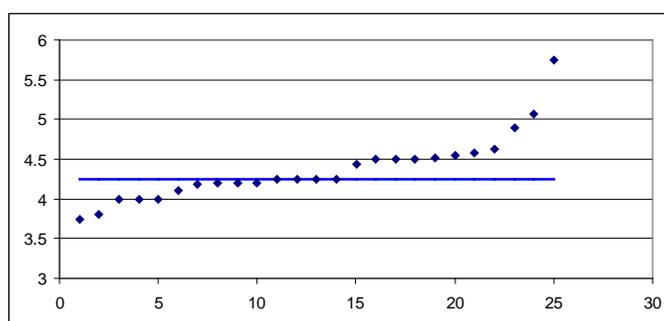
**ATX 20 (Austria n = 10)**



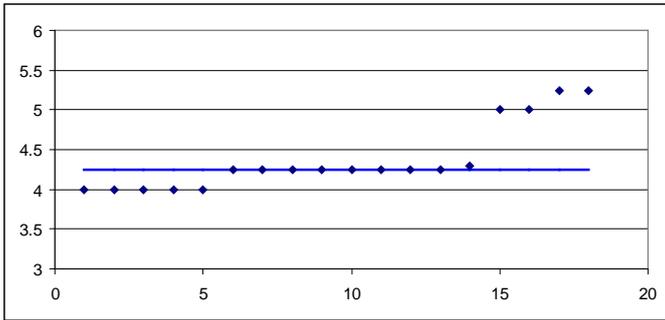
**BEL 20 (Belgium n = 7)**



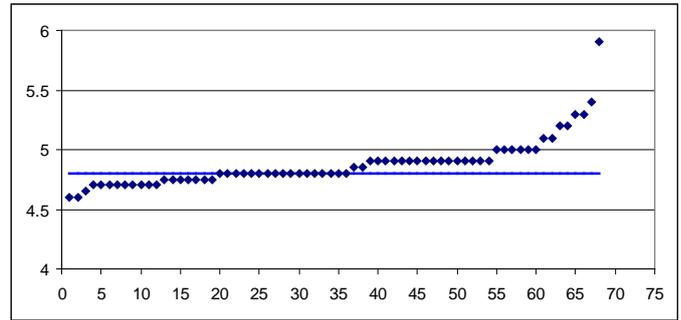
**CAC 40 (France n = 25)**



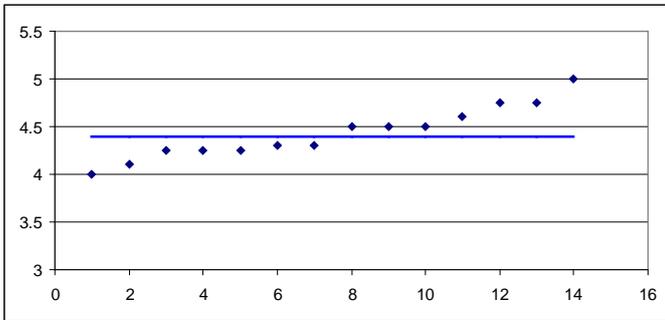
**DAX 30 (Germany n = 18)**



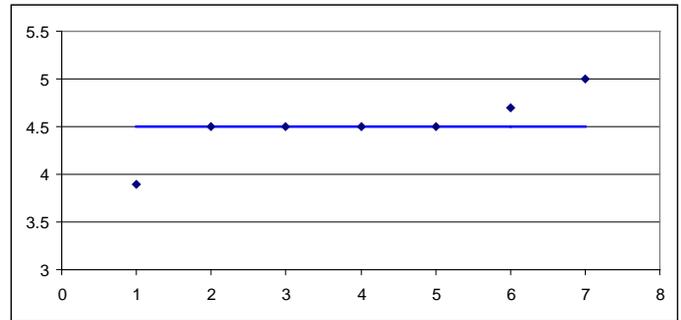
**FTSE 100 (UK n = 61)**



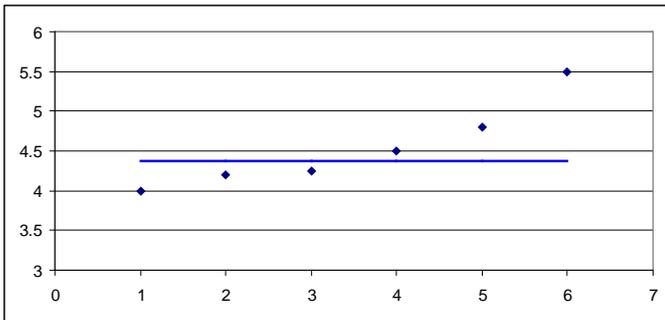
**ISEQ 20 (Ireland n = 14)**



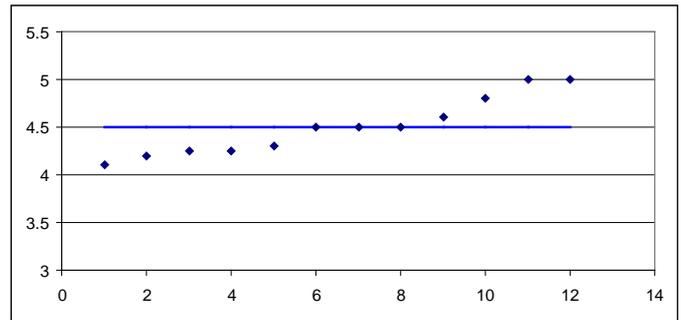
**OBX (Norway n = 7)**



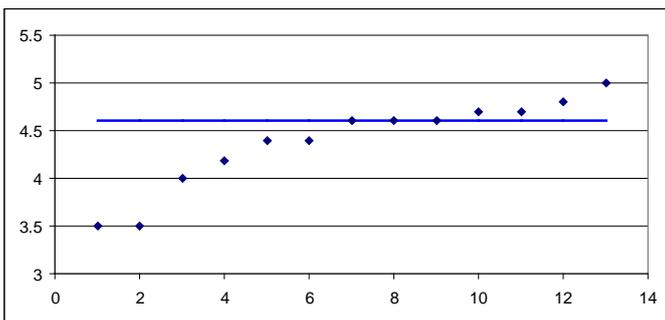
**OMXC 20 (Denmark n = 6)**



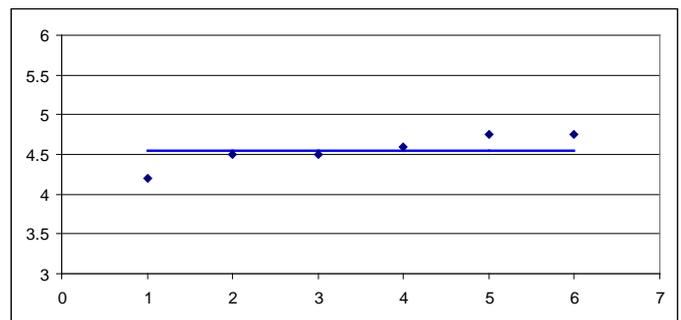
**OMXH 25 (Finland n = 12)**



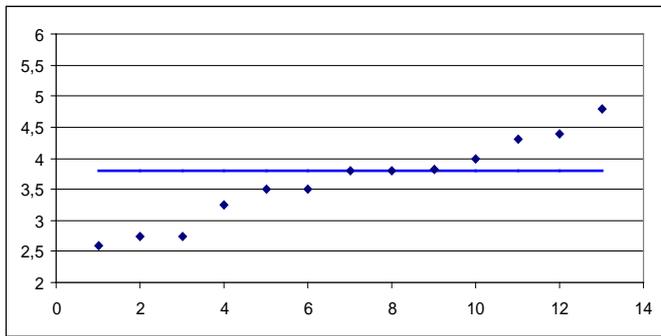
**OMXS 30 (Sweden n = 13)**



**PSI 20 (Portugal n = 6)**



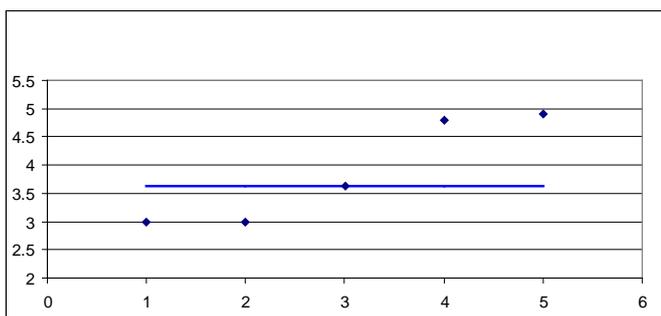
**SMI21 (Switzerland n = 13)**



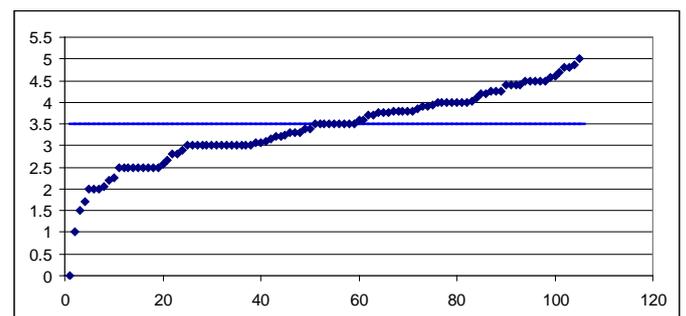
**Table 11: Salary rate progression assumptions benchmarked against industry median (includes companies reporting a specific salary progression rate assumption and having five or more observations)**

	Mean	Standard deviation	Min	Median	Max
Overall sample	3.43	0.85	0.00	3.50	5.60
Mining (n = 5)	3.87	0.94	3.00	3.63	4.90
Manufacturing n = 105	3.39	0.87	0.00	3.50	5.00
Transportation, Communications, Electric. Gas, and Sanitary services (n = 29)	3.42	0.74	2.00	3.50	4.40
Wholesale trade (n = 15)	3.27	0.69	2.40	3.00	4.60
Retail trade (n = 10)	3.64	0.58	2.85	3.60	4.35
Finance, Insurance, and Real estate (n = 22)	3.48	0.92	2.00	3.99	4.80
Services (n = 10)	3.66	1.21	2.00	3.92	5.60

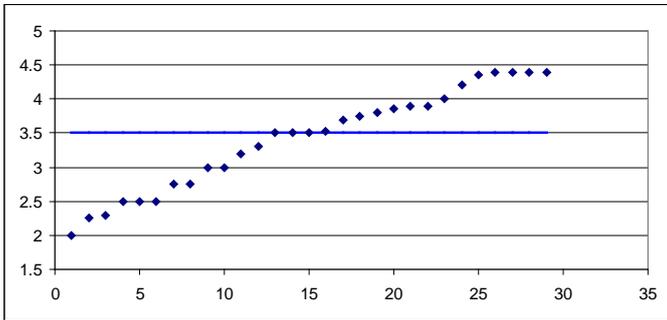
**Mining (n = 5)**



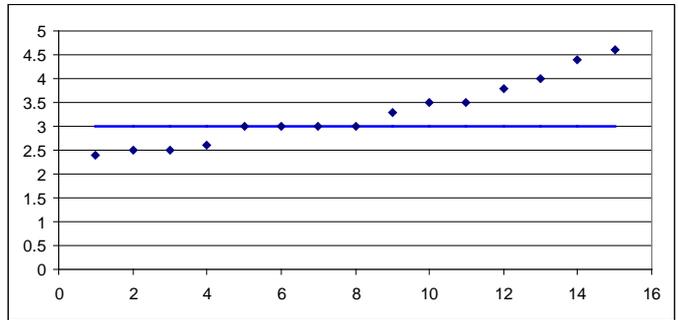
**Manufacturing n = 105**



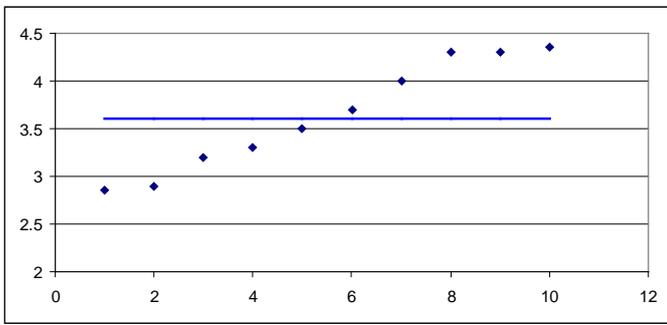
**Transportation, Communications, Electric, Gas, and Sanitary services (n = 29)**



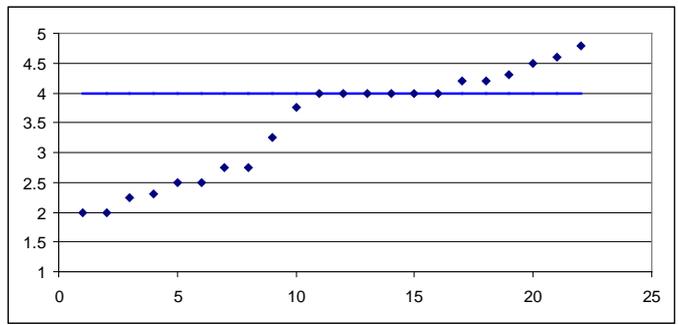
**Wholesale trade (n = 15)**



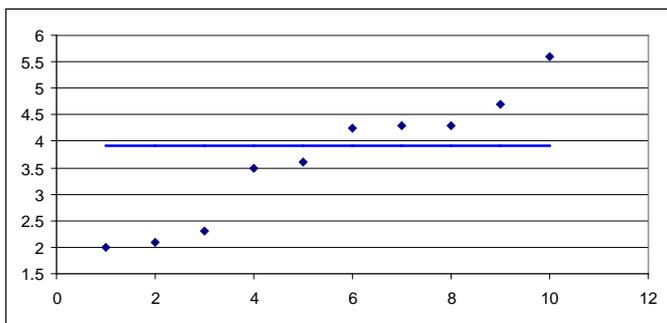
**Retail trade (n = 10)**



**Finance, Insurance, and Real estate (n = 22)**



**Services (n = 10)**



**Table 12: Linde AG best practice – change from IAS 19 corridor approach to full recognition through SORIE option**

<b>Changes in accounting policies</b>	
<p>In 2005, IAS 19 was amended in respect of the recognition of actuarial gains and losses relating to the measurement of pension provisions, allowing the option of recognizing actuarial gains and losses in equity, instead of using the corridor approach and recognizing actuarial gains and losses immediately in profit or loss. At December 31, 2005, Linde AG has made use of this option and will in future disclose pension provisions on the basis of the actual obligation (defined benefit obligation), instead of allocating actuarial gains and losses over the remaining service life of the employees if the gains or losses exceed the corridor of 10 percent of the obligations. The prior year figures in the balance sheet and income statement have been restated in accordance with IAS 19 to take account of the remeasurement of the pension provision, while the amounts included in the prior year figures which relate to the amortization of the actuarial gains and losses have been added back to functional costs. In accordance with IAS 12, deferred tax assets have been recognized in respect of the increase in the pension provision and recognized outside profit or loss in equity in the same way as the underlying transaction.</p> <p>The prior year figures have also been restated as a result of the first-time application of IFRS 2 <i>Share-based Payment</i> (see Note [35]).</p>	
<p>The restatement of the prior year figures and the adjustments to ensure their comparability had the following effects on equity at December 31, 2004 and on net income after minority interests for fiscal 2004:</p>	
<b>Group balance sheet</b>	
in € million	<b>2004</b>
Equity at December 31, 2004 – as reported	4,081
Changes as a result of IAS 19:	
Previously unrecognized actuarial gains/losses and cumulative effect of limitation on a defined benefit asset (IAS 19.58b)	- 209
Change in net income due to changes in accounting standards	4
Deferred taxes	70
Changes as a result of IFRS 2:	
Adjustment to capital reserve due to share option scheme	8
Current expense from share options in fiscal 2004	-8
<b>Equity at December 31, 2004 – restated</b>	<b>3,946</b>

Table 12 continued

Group income statement	
in € million	2004
Net income after minority interests - as reported	274
Changes as a result of IAS 19:	
Change in net income due to changes in accounting standards	6
Deferred tax expense	-2
Changes as a result of IFRS 2:	
Current expense from share options in the fiscal year	-8
Net income after minority interests - restated	270
Sale of Linde Refrigeration:	
Sales	565
Cost of sales	-444
Other income and expenses	-124
Elimination of scheduled amortization of goodwill:	
Scheduled amortization for the fiscal year	110
Scheduled amortization and impairment losses in the Linde Refrigeration business segment	3
Net income after minority interests - restated and comparable	380

Source: Linde (2006).

Table 13: L'Oreal best practice – matrix format used to disclose impact of each component of annual pension expense on projected pension obligations, plan assets, unrealised actuarial gains and losses, and the net pension provision

€ millions	Projected pension obligations	Assets	Unrealised gains and losses	Net provisions
<b>Balance at December 31<sup>st</sup>, 2003</b>	<b>1,993.3</b>	<b>883.7</b>	<b>-20.4</b>	<b>1,130.0</b>
Net charge for the year:				
•Service cost	94.8			94.8
•Interest cost	98.1			98.1
•Expected return on assets		57.2		-57.2
•Amortisation of unrealised gains and losses			-	-
•Reversal of provisions <sup>(1)</sup>	-34.4		1.2	-35.6
Benefits paid	-86.9	-51.5		-35.4
Contribution paid	6.6	142.6		-136.0
Unrealised gains and losses	193.1	24.4	168.7	
Translation differences	-32.8	-23.3	-2.7	-6.8
Other movements	-54.1	2.4	-0.2	-56.3
<b>Balance at December 31<sup>st</sup>, 2004</b>	<b>2,177.7</b>	<b>1,035.5</b>	<b>146.6</b>	<b>995.6</b>
Net charge for the year:				
•Service cost	107.2			107.2
•Interest cost	109.8			109.8
•Expected return on assets		66.6		-66.6
•Amortisation of unrealised gains and losses			3.6	-15.6
•Reversal of provisions <sup>(1)</sup>	-0.6			-0.6
Benefits paid	-97.1	-57.1		-40.0
Contribution paid	6.8	156.6		-149.8
Unrealised gains and losses	166.8	43.4	123.5	-0.1
Translation differences	81.2	57.0	6.3	17.9
Other movements	2.8			2.8
<b>Balance at December 31<sup>st</sup>, 2005</b>	<b>2,542.6</b>	<b>1,302.0</b>	<b>280.0</b>	<b>960.6</b>

[1] In 2004, other movements include €37.2 million in reversals of provisions previously booked against shareholders' equity at adoption of preferential method pursuant to CRC regulation 99-02. The change in this commitment also resulted in a €35.6 million reduction in expenses for 2004.

Source: L'Oreal (2006).

Table 14: Bayer best practice – sensitivity analysis for pension obligations and OBEPs

As already mentioned, all defined benefit plans necessitate actuarial computations and valuations. The following table shows the impact of a change in any of these parameters, assuming the other parameters remain unchanged, on the defined benefit obligation at the end of fiscal 2005 and expense for 2006:

Germany	Pension obligations		Other post-employment benefit obligations	
	0.5 percentage point increase	0.5 percentage point decrease	0.5 percentage point increase	0.5 percentage point decrease
€ million				
<b>Change in discount rate</b>				
Benefit obligation 2005	(730)	827	(1)	1
Benefit expense 2006	7	(7)	0	0
<b>Change in projected future remuneration increases</b>				
Benefit obligation 2005	89	(81)	0	0
Benefit expense 2006	10	(9)	0	0
<b>Change in projected future benefit increases</b>				
Benefit obligation 2005	549	(504)	–	–
Benefit expense 2006	34	(31)	–	–
<b>Change in expected return on plan assets</b>				
Benefit expense 2006	(23)	23	–	–

Other countries	Pension obligations		Other post-employment benefit obligations	
	0.5 percentage point increase	0.5 percentage point decrease	0.5 percentage point increase	0.5 percentage point decrease
€ million				
<b>Change in discount rate</b>				
Benefit obligation 2005	(292)	328	(58)	46
Benefit expense 2006	5	(6)	3	(4)
<b>Change in projected future remuneration increases</b>				
Benefit obligation 2005	42	(39)	0	0
Benefit expense 2006	5	(5)	0	0
<b>Change in projected future benefit increases</b>				
Benefit obligation 2005	71	(45)	–	–
Benefit expense 2006	4	(3)	–	–
<b>Change in expected return on plan assets</b>				
Benefit expense 2006	(17)	17	(2)	2

Total	Pension obligations		Other post-employment benefit obligations	
	0.5 percentage point increase	0.5 percentage point decrease	0.5 percentage point increase	0.5 percentage point decrease
€ million				
<b>Change in discount rate</b>				
Benefit obligation 2005	(1,022)	1,155	(59)	47
Benefit expense 2006	12	(13)	3	(4)
<b>Change in projected future remuneration increases</b>				
Benefit obligation 2005	131	(120)	0	0
Benefit expense 2006	15	(14)	0	0
<b>Change in projected future benefit increases</b>				
Benefit obligation 2005	620	(549)	–	–
Benefit expense 2006	38	(34)	–	–
<b>Change in expected return on plan assets</b>				
Benefit expense 2006	(40)	40	(2)	2

Source: Bayer Group (2006).

**Table 15: Bayer best practice – comprehensive explanation of actuarial assumptions used for valuation of defined-benefit obligations**

Statistical and actuarial methods are used to anticipate future events in calculating the expenses and liabilities related to the plans. These calculations include assumptions about the discount rate, expected return on plan assets and rate of future compensation increases.

The interest rate used to discount post-employment benefit obligations to present value is derived from the yields of senior, high-quality corporate bonds in the respective country at the balance sheet date. These generally include AA-rated securities. The discount rate is based on the yield of a portfolio of bonds whose weighted residual maturities approximately correspond to the duration necessary to cover the entire benefit obligation. If AA-rated corporate bonds of equal duration are not available, a discount rate equivalent to the effective interest rate for government bonds at the balance sheet date is used instead, increased by about 0.5 to 1.0 percentage point since corporate bonds generally give higher yields by virtue of their risk structure. Determination of the discount rate is also based on the average yield for a bond portfolio corresponding to the expected cash outflows from the pension plans.

The assumption for the expected return-on-assets reflects a long-term outlook for global capital market returns that match the duration of the pension obligation, and a diversified investment strategy. The investment policy of Bayer Pensionskasse is geared to regulatory compliance and to the risk structure associated with the benefit obligations. On this basis, Bayer Pensionskasse has developed a strategic target portfolio commensurate with the risk profile. This investment strategy focuses principally on stringent management of downside risks rather than on maximizing absolute returns. In other countries, too, the key criteria for the funds' investment strategies are the structure of the benefit obligations and the risk profile. Other determinants are risk diversification, portfolio efficiency and a country-specific and global risk/return profile capable of ensuring the payment of all future benefits. The expected return is applied to the fair market value of plan assets at each year end.

Statistical information such as withdrawal and mortality rates is also used in estimating the expenses and liabilities under the plans. Because of changing market and economic conditions, the expenses and liabilities actually arising under the plans in the future may differ materially from the estimates made on the basis of these actuarial assumptions. The plan assets are partially comprised of equity and fixed-income instruments. Therefore, declining returns on equity markets and markets for fixed-income instruments could necessitate additional contributions to the plans in order to cover future pension obligations. Also, higher or lower withdrawal rates or longer or shorter life of participants may have an impact on the amount of pension income or expense recorded in the future. On December 31, 2005, the present value of provisions for pensions and other post-employment benefits payable under defined benefit plans was €15,561 million. Further details of pension provisions and their interest rate sensitivity are given in Note [28].

Source: Bayer Group (2006).

Table 16: WPP best practice

Panel A – disclosure of actuarial assumptions and return on assets by country for current and two preceding years

<b>(a) Assumptions</b>			
The main weighted average assumptions used for the actuarial valuations at 31 December are shown in the following table:			
	2005 % pa	2004 % pa	2003 % pa
<b>North America</b>			
Discount rate	5.5	5.7	6.3
Rate of increase in salaries	4.0	4.0	3.2
Inflation	2.5	3.0	3.0
Expected rate of return on equities	7.9	7.9	8.2
Expected rate of return on bonds <sup>†</sup>	4.7	4.8	4.8
Expected rate of return on cash	3.0	1.8	3.1
Weighted average return on assets	6.7	6.9	7.0
<b>UK</b>			
Discount rate	4.7	5.3	5.5
Rate of increase in salaries	4.3	4.3	3.6
Rate of increase in pensions in payment	3.8	3.8	3.8
Inflation	2.8	2.8	2.8
Expected rate of return on equities	7.3	7.5	7.5
Expected rate of return on bonds <sup>†</sup>	4.5	5.0	5.0
Expected rate of return on insured annuities	4.7	5.3	5.5
Expected rate of return on property	7.0	7.0	7.0
Expected rate of return on cash	4.3	3.0	3.0
Weighted average return on assets	5.2	5.7	5.8
<b>Continental Europe</b>			
Discount rate	4.2	4.5	5.3
Rate of increase in salaries	2.9	3.1	3.2
Rate of increase in pensions in payment	1.6	1.7	1.7
Inflation	2.0	2.0	2.0
Expected rate of return on equities	6.7	7.0	7.5
Expected rate of return on bonds <sup>†</sup>	4.3	4.5	5.0
Expected rate of return on property	6.2	6.4	7.0
Expected rate of return on cash	2.5	2.6	3.0
Weighted average return on assets	5.4	5.5	5.9
<b>Asia Pacific, Latin America, Africa &amp; Middle East</b>			
Discount rate	3.5	3.1	2.8
Rate of increase in salaries	3.6	3.1	2.7
Inflation	2.0	1.5	1.6
Expected rate of return on bonds <sup>†</sup>	3.2	3.1	2.6
Expected rate of return on property	11.0	10.0	10.0
Expected rate of return on cash	7.5	7.3	7.3
Weighted average return on assets	3.3	3.1	2.7
<b>Notes</b>			
<sup>†</sup> Expected rate of return on bonds assumptions reflect the yield expected on actual bonds held, whereas the discount rate assumptions are based on high-quality bond yields.			

Source: WPP (2006).

**Table 16: WPP best practice**  
**Panel B – disclosure of fair value of plan assets and present value of plan liabilities**

<b>(b) Assets and liabilities</b>				
At 31 December, the fair value of the assets in the schemes, and the assessed present value of the liabilities in the schemes are shown in the following table:				
	2005	%	2004	%
	£m		£m	
<b>Group</b>				
Equities	164.2	36.2	148.8	37.9
Bonds	191.1	42.2	157.7	40.1
Insured annuities	73.2	16.1	66.8	17.0
Property	17.5	3.9	14.8	3.8
Cash	7.2	1.6	4.8	1.2
Total fair value of assets	453.2	100.0	392.9	100.0
Present value of scheme liabilities	(684.6)		(595.2)	
Deficit in the schemes	(231.4)		(202.3)	
<b>Deficit in schemes by region</b>				
North America	(117.6)		(102.9)	
UK	(54.4)		(54.6)	
Continental Europe	(55.1)		(41.3)	
Asia Pacific, Latin America, Africa & Middle East	(4.3)		(3.5)	
Deficit in the schemes	(231.4)		(202.3)	

Some of the Group's defined benefit schemes are unfunded (or largely unfunded) by common custom and practice in certain jurisdictions. In the case of these unfunded schemes, the benefit payments are made as and when they fall due. Pre-funding of these schemes would not be typical business practice.

Expected employer contributions and benefit payments in 2006 are £35.7 million and £31.5 million, respectively.

Source: WPP (2006).

**Table 17: Scottish Power best practice – disclosure of anticipated payments to pension schemes and allocation of plan assets.**

ScottishPower made an aggregate lump sum payment of £28.2 million during March 2006 into the relevant schemes. On completion of the return of cash to shareholders, an aggregate lump sum contribution of £100.0 million will be made to the relevant schemes and four further aggregate annual payments of £13.2 million will be made to the relevant schemes commencing on 31 March 2007, subject to a deficit continuing in those schemes at each due payment date. ScottishPower has received a clearance statement from the Pensions Regulator, that it would not be reasonable to impose liability for a contribution notice on the applicants to the clearance application in respect of the proposed return of cash.

Each of the pension schemes are invested in an appropriately diversified range of equities, bonds, property and private markets. The broad proportions of each asset class in which the schemes aim to be invested are as follows, however it is important to note that this may vary from time to time as markets change and as cash may be held for strategic reasons.

	Equities %	Bonds %	Property %	Private markets %	Total %
ScottishPower	66	26	8	–	100
Manweb	60	40	–	–	100
Final Salary LifePlan	100	–	–	–	100
US pensions	58	35	–	7	100
US other post-retirement benefits	64	35	–	1	100

In broad terms, the investment strategies adopted by the schemes aim to ensure that sufficient assets are available to meet scheme liabilities as they fall due. The ScottishPower and Manweb schemes' investment strategies reflect the large and growing proportion of their liabilities which relate to pensions in payment and therefore include a growing bond element. A significant equity element is still retained, however, to provide potential for long-term outperformance relative to bonds and therefore to reduce the group's contribution requirements. This strategy will be reviewed on an ongoing basis by the trustees and they will continue to seek the company's views and comments on asset allocation.

US arrangements are managed and invested in accordance with all applicable requirements, including the Employee Retirement Income Security Act ("ERISA") and the Internal Revenue Service ("IRS") revenue code. The ERISA is the US legislation which regulates pension institutions in a number of areas. The US arrangements employs an investment approach whereby a mix of equities and fixed income investments are used to maximise the long-term return of plan assets for a prudent level of risk. Risk tolerance is established through careful consideration of plan liabilities, plan funded status and corporate financial condition. The investment portfolio contains a diversified blend of equity and fixed income investments. Equity investments are diversified across US and non-US stocks, as well as growth, value, small and large capitalisation. Fixed income investments are diversified across US and non-US bonds. Other assets such as private equity are used judiciously with a view to enhancing long-term returns while improving portfolio diversification. The US arrangements primarily minimises the risk of large losses through diversification but also monitors and manages other aspects of risk through quarterly investment portfolio reviews, annual liability measurements and periodic asset/liability studies.

**ScottishPower**  
 Scottish Power UK plc operates a funded pension scheme of the company providing defined retirement and death benefits based on final pensionable salary. This scheme was open prior to 1 January 1999 to employees of ScottishPower. Members are required to contribute to the Scheme at a rate of 5% of pensionable salary. Scottish Power UK plc meets the balance of cost of providing benefits, and company contributions paid are based on the results of the formal actuarial valuation of the Scheme and are agreed by Scottish Power UK plc and the Scheme Trustees.

Source: Scottish Power (2006).

Table 18: Smith & Nephew best practice – plan asset allocations by country and target allocation

**34. Retirement Benefit Obligation — (continued)**

The following table sets out the Company's pension plan asset allocations in the funded UK, US and Other Plans for the last three years, together with the target allocations for 2006:

	Target Allocation	Percentage of Plan Assets at 31 December		
	2006	2005	2004	2003
		(%)		
<b>UK Plan</b>				
Asset Category:				
Equity securities .....	60 – 80	77	74	75
Debt securities .....	15 – 25	15	17	17
Property .....	0 – 8	5	5	5
Other .....	0 – 5	3	4	3
Total .....		<u>100</u>	<u>100</u>	<u>100</u>
<b>US Plan</b>				
Asset Category:				
Equity securities .....	68 – 80	79	78	76
Debt securities .....	20 – 26	20	22	21
Other .....	0 – 5	1	–	3
Total .....		<u>100</u>	<u>100</u>	<u>100</u>
<b>Other Plans</b>				
Asset Category:				
Equity securities .....	40 – 70	50	59	57
Debt securities .....	20 – 60	48	36	38
Property .....	0 – 10	1	1	1
Other .....	0 – 10	1	4	4
Total .....		<u>100</u>	<u>100</u>	<u>100</u>

Source: Smith & Nephew Group (2006).

Table 19: Deutsche Post best practice – disclosure of defined-benefit pension plans information in line with company’s primary segments

**Pension provisions and pension assets by area**

**Pension provisions and pension assets by area**

€m	Deutsche Post AG	Deutsche Postbank group	EXPRESS excluding DPAG	LOGISTICS excluding DPAG	Other	Total	2005					
							Deutsche Post AG	Deutsche Postbank group	EXPRESS excluding DPAG	LOGISTICS excluding DPAG	Other	Total
							<b>2004</b>					
Pension provisions and other employee benefits	5,023	584	185	57	33	5,882	4,461	585	213	420	101	5,780
Pension assets	0	0	-41	-10	0	-51	0	0	-67	-122	0	-189
Net pension provisions	5,023	584	144	47	33	5,831	4,461	585	146	298	101	5,591

The newly acquired pension obligations of Exel are reported under LOGISTICS excluding DPAG. In 2005, Deutsche Post Retail GmbH was spun off from Deutsche Post AG. The obligations relating to Deutsche Post Retail GmbH are included in the Other column.

**Actuarial assumptions**

The majority of the Group’s defined benefit obligations relate to companies in Europe, the UK and the US. The actuarial measurement of the main benefit plans was based on the following assumptions:

**Actuarial assumptions**

%	2004					2005				
	Germany	Rest of euro zone	UK	Switzerland	USA	Germany	Rest of euro zone	UK	Switzerland	USA
Discount rate	5.00	5.00	5.50	3.25	5.75	4.25	4.25	4.70	2.75	5.75
Future salary increase	2.50	2.75 to 3.25	4.00	2.75	4.00	2.50 to 3.00	2.00 to 3.50	4.00 to 4.10	3.00	3.25 to 4.00
Future inflation rate	1.00 to 2.00	1.50 to 2.25	2.50	1.25	3.25	2.00	2.00	2.60	1.50	2.75

For the German Group companies, longevity was calculated using the mortality tables Richttafeln 2005 G for the 2005 results while the 2004 results used the mortality tables Richttafeln 1998, both published by Dr. Klaus Heubeck. Country-specific mortality tables were used for the other countries.

The following average expected return on plan assets was used to compute the expenses for 2004 and 2005:

Source: Deutsche Post World Net (2006).

Table 19 continued

The following average expected return on plan assets was used to compute the expenses for 2004 and 2005:

**Computation of expenses for the period**

%	Germany	Rest of euro zone	UK	Switzerland	USA
Average expected return on plan assets for 2004	3.10 to 4.25	6.70	7.75	5.45	8.17
Average expected return on plan assets for 2005	3.10 to 4.25	4.25 to 7.00	6.75 to 7.50	4.50	8.00

The expected return on plan assets was determined by taking into account current long-term rates of return on bonds (government and corporate) and applying to these rates a suitable risk premium determined on the basis of historical market returns and current market expectations for a given plan's asset structure.

**Reconciliation of defined benefit obligations, plan assets and net pension provisions**

**Reconciliation of defined benefit obligations, plan assets and net pension provisions**

€m	Deutsche Post AG	Deutsche Postbank group	EXPRESS excluding DPAG	LOGISTICS excluding DPAG	Other	Total	2005					
							Deutsche Post AG	Deutsche Postbank group	EXPRESS excluding DPAG	LOGISTICS excluding DPAG	Other	Total
<b>2004</b>							<b>2005</b>					
Present value of defined benefit obligations at December 31 for wholly or partly funded benefits	3,980	0	760	513	0	5,253	4,111	73	1,099	4,389	0	9,672
Present value of defined benefit obligations at December 31 for unfunded benefits	3,641	714	129	61	33	4,578	3,709	761	193	68	103	4,834
Present value of total defined benefit obligations at December 31	7,621	714	889	574	33	9,831	7,820	834	1,292	4,457	103	14,506
Fair value of plan assets at December 31	-1,728	0	-697	-498	0	-2,923	-1,776	-59	-1,090	-4,105	0	-7,030
Unrecognized gains (+)/losses (-)	-870	-130	-48	-29	0	-1,077	-1,577	-190	-76	-62	-2	-1,907
Unrecognized past service cost	0	0	0	0	0	0	-6	0	0	0	0	-6
Asset adjustment for asset limit	0	0	0	0	0	0	0	0	20	8	0	28
Net pension provisions at December 31	5,023	584	144	47	33	5,831	4,461	585	146	298	101	5,591

The most significant changes in pension obligations in the course of 2005 were in the LOGISTICS excluding DPAG area and relate to the acquisition of Exel at the end of the year (net pension provisions: €227 million, defined benefit obligations: €4.030 billion, fair value of plan assets: €3.803 billion). The acquired obligations exist primarily in the United Kingdom.

There were significant reclassifications of pension obligations, plan assets and pension provisions from LOGISTICS excluding DPAG to EXPRESS excluding DPAG in Switzerland.

Source: Deutsche Post World Net (2006).

**Table 20: Unilever best practice: disclosure of actuarial assumptions and information on mortality tables used, by country where primary plans are based**

Other Assumptions	United Kingdom			Netherlands		
	2005	2004	2003	2005	2004	2003
Discount rate	4.7%	5.3%	5.4%	4.0%	4.5%	5.2%
Inflation	2.7%	2.8%	2.7%	1.8%	1.8%	1.8%
Rate of increase in salaries	4.2%	4.3%	4.2%	2.3%	2.3%	2.5%
Rate of increase for pensions in payment	2.7%	2.9%	2.8%	1.8%	1.8%	1.8%
Rate of increase for pensions in deferment (where provided)	2.7%	2.9%	2.8%	1.8%	1.8%	1.8%
Expected long-term rates of return:						
Equities	7.6%	8.0%	8.3%	7.0%	7.6%	8.3%
Bonds	4.5%	5.0%	5.3%	3.7%	4.1%	4.7%
Property	6.1%	6.5%	6.8%	5.5%	6.1%	6.8%
Others	6.7%	7.2%	4.3%	3.7%	3.5%	3.2%
Weighted average asset return	6.9%	7.3%	7.6%	6.0%	6.6%	7.3%

	United States			Germany		
	2005	2004	2003	2005	2004	2003
Discount rate	5.5%	5.7%	6.1%	4.0%	4.5%	5.2%
Inflation	2.4%	2.5%	2.5%	1.8%	1.8%	1.8%
Rate of increase in salaries	4.0%	4.5%	4.5%	2.5%	2.5%	2.5%
Rate of increase for pensions in payment	0.0%	0.0%	0.0%	1.8%	1.8%	1.8%
Rate of increase for pensions in deferment (where provided)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Expected long-term rates of return:						
Equities	8.0%	8.4%	8.6%	7.0%	7.6%	8.3%
Bonds	4.8%	4.7%	4.7%	3.7%	4.1%	4.7%
Property	6.5%	6.9%	n/a	5.5%	6.1%	6.8%
Others	4.2%	2.1%	n/a	3.7%	3.7%	3.7%
Weighted average asset return	7.0%	7.3%	7.4%	5.3%	5.7%	6.1%

Mortality assumptions for these countries are based on the following post-retirement mortality tables: (i) United Kingdom: PMA 92 and PFA 92 with short cohort adjustment and scaling factor of 125% applied, projected to 2015 for current pensioners and to 2025 for future pensioners; (ii) the Netherlands: GBMV (1995-2000); (iii) United States: RP2000 with a projection period of 10-15 years; and (iv) Germany: Heubeck 1998 (Periodentafel) with a scaling factor of 85%.

Assumptions for the remaining defined benefit plans vary considerably, depending on the economic conditions of the country where they are situated.

Source: Unilever (2006).

## Appendix 2

### Sample companies by index/country

#### AEX (NETHERLANDS)

---

Akzo Nobel NV  
Buhrmann NV  
Getronics NV  
Hagemeyer NV  
Heineken NV  
Koninklijke Ahold NV  
Koninklijke Philips Electronics NV  
Reed Elsevier NV  
Royal Dutch Shell PLC  
Royal KPN NV  
Royal Numico NV  
TNT NV  
Vedior NV  
VNU NV  
Wolters Kluwer NV

#### ATHEX 20 (GREECE)

---

Hyatt Regency SA  
Motor Oil Hellas Corinth Refineries SA  
Public Power Corp

#### ATX (AUSTRIA)

---

Agrana Beteiligungs AG  
Andritz AG  
Bank Austria Creditanstalt AG  
Boehler-Uddeholm AG  
BWT AG  
Flughafen Wien AG  
Mayr Melnhof Karton AG  
OMV AG  
RHI AG  
Verbund - Oesterreichische Elektrizitaetswirtschafts AG  
Voestalpine AG  
Wiener Staedtische Allgemeine Versicherung AG  
Wienerberger AG

#### BEL 20 (BELGIUM)

---

AGFA-Gevaert NV  
Bekaert SA  
Delhaize Group  
D'leteren SA  
InBev NV  
Omega Pharma SA  
Solvay SA  
UCB SA  
Umicore

#### CAC 40 (FRANCE)

---

Air Liquide  
Alcatel SA  
Capgemini SA  
Carrefour SA  
Cie de Saint-Gobain  
Cie Generale d'Optique Essilor International SA  
Compagnie Generale des Etablissements Michelin  
Electricite de France

European Aeronautic Defence and Space Co NV  
Gaz de France  
Groupe Danone  
Lafarge SA  
Lagardere SCA  
L'Oreal SA  
Pernod-Ricard SA  
Peugeot SA  
PPR SA  
Publicis Groupe  
Sanofi-Aventis  
Schneider Electric SA  
STMicroelectronics NV  
Suez SA  
Thales SA  
Thomson  
Total SA  
Veolia Environnement  
Vinci SA  
Vivendi SA

#### DAX 30 (GERMANY)

---

Adidas-Salomon AG  
Altana AG  
BASF AG  
Bayer AG  
Bayerische Motoren Werke AG  
Continental AG  
Deutsche Boerse AG  
Deutsche Lufthansa AG  
Deutsche Post AG  
Deutsche Telekom AG  
Henkel KGaA  
Linde AG  
MAN AG  
Metro AG  
RWE AG  
Schering AG  
TUI AG  
Volkswagen AG

#### FTSE 100 (UK)

---

3i Group PLC  
Alliance & Leicester PLC  
Alliance UniChem PLC  
Amvescap PLC  
Anglo American PLC  
Associated British Foods PLC  
AstraZeneca PLC  
Aviva PLC  
BAA PLC  
BAE Systems PLC  
Barclays PLC  
BG Group PLC  
BHP Billiton PLC  
Boots Group PLC  
BP PLC  
Brambles Industries PLC  
British Airways PLC  
British American Tobacco PLC

BT Group PLC  
Cadbury Schweppes PLC  
Capita Group PLC  
Centrica PLC  
Compass Group PLC  
Daily Mail & General Trust  
Diageo PLC  
DSG International PLC  
Gallaher Group PLC  
GlaxoSmithKline PLC  
GUS PLC  
Hanson PLC  
Imperial Chemical Industries PLC  
Imperial Tobacco Group PLC  
Intercontinental Hotels Group PLC  
International Power PLC  
ITV PLC  
J Sainsbury PLC  
Johnson Matthey PLC  
Kelda Group PLC  
Kingfisher PLC  
Ladbrokes PLC  
Lloyds TSB Group PLC  
Marks & Spencer Group PLC  
National Grid PLC  
Next PLC  
Pearson PLC  
Persimmon PLC  
Prudential PLC  
Reckitt Benckiser PLC  
Reed Elsevier PLC  
Rentokil Initial PLC  
Reuters Group PLC  
Rexam PLC  
Rio Tinto PLC  
Rolls-Royce Group PLC  
Royal & Sun Alliance Insurance Group  
Royal Bank of Scotland Group PLC  
SABMiller PLC  
Schroders PLC  
Scottish & Newcastle PLC  
Scottish & Southern Energy PLC  
Scottish Power PLC  
Severn Trent PLC  
Smith & Nephew PLC  
Smiths Group PLC  
Tate & Lyle PLC  
Tesco PLC  
Unilever PLC  
United Utilities PLC  
WM Morrison Supermarkets PLC  
Wolseley PLC  
WPP Group PLC  
Yell Group PLC

#### **IBEX 35 (SPAIN)**

---

Banco Santander Central Hispano SA  
Endesa SA  
Grupo Ferrovial SA

#### **ISEQ 20 (IRELAND)**

---

Allied Irish Banks PLC  
Bank of Ireland  
C&C Group PLC  
CRH PLC  
DCC PLC  
Eircom Group PLC  
Elan Corp PLC  
FBD Holdings PLC  
Fyffes PLC  
Grafton Group PLC  
Greencore Group PLC  
laws Group PLC  
Independent News & Media PLC  
Irish Life & Permanent PLC  
Kerry Group PLC  
Kingspan Group PLC  
United Drug PLC

#### **LUXX (LUXEMBOURG)**

---

Arcelor  
Cegedel

#### **MIB-30 (ITALY)**

---

Enel SpA  
Fiat SpA  
Finmeccanica SpA  
Italcementi SpA  
Lottomatica SpA  
Pirelli & C SpA  
RCS MediaGroup SpA  
OBX (Norway)  
Aker Kvaerner ASA  
Fred Olsen Energy ASA  
Norske Skogindustrier ASA  
Orkla ASA  
Schibsted ASA  
Tandberg Television ASA  
Telenor ASA  
Tomra Systems ASA  
Yara International ASA

#### **OMXC 20 (DENMARK)**

---

AP Moller - Maersk A/S  
Carlsberg A/S  
Coloplast A/S  
Danisco A/S  
DSV A/S  
GN Store Nord  
Group 4 Securicor PLC  
H Lundbeck A/S  
Novo-Nordisk A/S  
TDC A/S  
TrygVesta AS

**OMXH 25 (FINLAND)**

---

Amer Sports OYJ  
Cargotec Corp  
Elisa OYJ  
Fortum OYJ  
Huhtamaki OYJ  
Kesko OYJ  
Kone OYJ  
Metso Oyj  
M-real OYJ  
Neste Oil OYJ  
Nokia OYJ  
Orion OYJ  
Outokumpu OYJ  
Rautaruukki OYJ  
Sanoma-WSOY OYJ  
Stora Enso OYJ  
TeliaSonera AB  
Tietoenator OYJ  
UPM-Kymmene OYJ  
Wartsila OYJ  
YIT OYJ

**OMXS 30 (SWEDEN)**

---

Alfa Laval AB  
Assa Abloy AB  
Atlas Copco AB  
Electrolux AB  
Eniro AB  
Holmen AB  
Sandvik AB  
Securitas AB  
Skanska AB  
SKF AB  
Svenska Cellulosa AB  
Swedish Match AB  
Telefonaktiebolaget LM Ericsson  
Volvo AB

**PSI-20 (PORTUGAL)**

---

Banco Comercial Portugues SA  
Banco Espirito Santo SA  
Cimpor Cimentos de Portugal SA  
Energias de Portugal SA  
Portugal Telecom SGPS SA  
Semapa-Sociedade de Investimento e Gestao

**SMI (SWITZERLAND)**

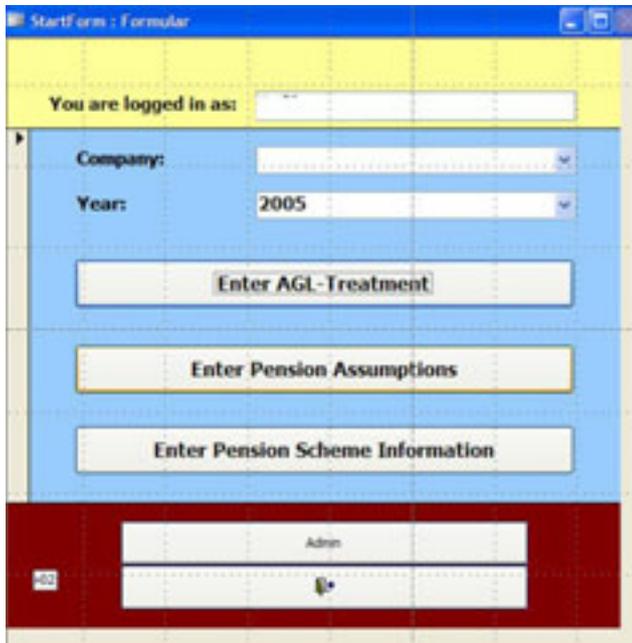
---

Baloise Holding AG  
Clariant AG  
Compagnie Financiere Richemont AG  
Givaudan  
Holcim Ltd  
Julius Baer Holding AG  
Kudelski SA  
Lonza Group AG  
Nestle SA  
Novartis AG  
Roche Holding AG  
Serono SA  
SGS SA  
Swatch Group AG  
Swiss Reinsurance  
Swisscom AG  
Syngenta AG

## Appendix 3

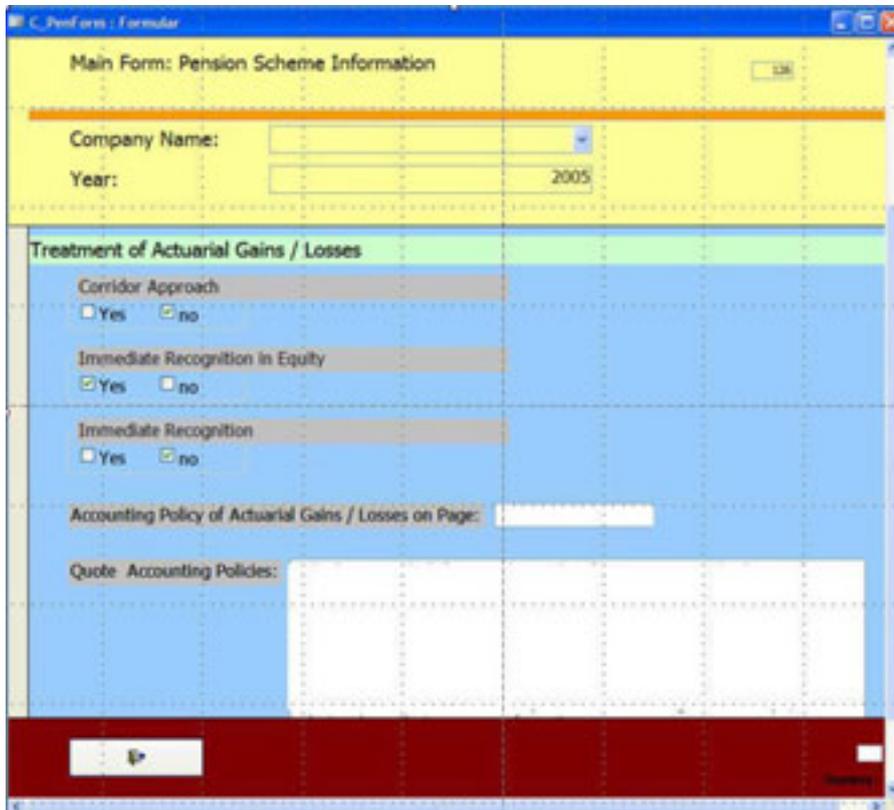
### Sample screen shots of the IAS 19 tool screens used for data collection

#### A3.1: Tool menu



The screenshot shows a web application window titled "Staff form : Formular". The interface is divided into several sections. At the top, a yellow bar contains the text "You are logged in as:" followed by a text input field. Below this, a blue section contains two dropdown menus: "Company:" and "Year:" with the value "2005" selected. Three large, light-colored buttons are stacked vertically: "Enter AGL-Treatment", "Enter Pension Assumptions", and "Enter Pension Scheme Information". At the bottom, a dark red bar contains a "Admin" button and a small icon.

#### A3.2: Method used for recognition of actuarial gains and losses



The screenshot shows a web application window titled "C\_Performs : Formular". The main form is titled "Main Form: Pension Scheme Information". It features a yellow header bar with the title and a small icon. Below the header, there are two dropdown menus: "Company Name:" and "Year:" with the value "2005" selected. The main content area is divided into several sections. The first section is titled "Treatment of Actuarial Gains / Losses" and contains three sub-sections: "Corridor Approach" with radio buttons for "Yes" and "no", "Immediate Recognition in Equity" with radio buttons for "Yes" and "no", and "Immediate Recognition" with radio buttons for "Yes" and "no". Below these sections, there is a text input field for "Accounting Policy of Actuarial Gains / Losses on Page:". At the bottom, there is a "Quote Accounting Policies:" label followed by a large text area. A dark red bar at the very bottom contains a small icon and a "Print" button.

### A3.3: Interest rate assumptions

**Pension Assumptions - Interest**

Company: 142  
 Year: 2006

You should enter 2 assumptions

Separation 1: Germany  
 Separation 2: Total

Interest lower bound:   
 Interest upper bound: 5  
 Comment:

Interest_Bottom	Interest_Top	Sep1	Sep2
5	5	Germany	Total
5.75	5.75	Other	Total

Navigation: [Back] [Home] [Left] [Right] [Next] [OK]

Status: von 2 (Definer)

### A3.4: Reconciliation of amounts recognised in the balance sheet

**Reconciliation of amounts recognised in the balance sheet (net pension obligation)**  
 Source: Pension Section in Annual report

Company Name:   
 Year: 2005  
 separated?

**Amounts presented on the face of the Balance Sheet:**

unfunded plans: present value of obligation   
 (partly) funded plans: present value of obligation   
 Present Value of defined benefit Obligation (total)   
 less: Fair value of plan assets (total)

Immediate Recognition       Delayed Recognition (Corridor Approach)

Funding Status of funded plans <input type="text"/>	Funding Status of funded plans <input type="text"/>
equity: Total Funding Status <input type="text"/>	equity: Total Funding Status <input type="text"/>
Unrecognised past service costs <input type="text"/>	Unrecognised actuarial gains (+) / losses (-) <input type="text"/>
Unrecognised pension asset due to asset ceiling <input type="text"/>	Unrecognised past service costs <input type="text"/>
	Unrecognised pension asset due to asset ceiling <input type="text"/>
	Transition amounts (initial application) <input type="text"/>
	equity: Unrecognised amounts total: <input type="text"/>
equity: Net pension obligation <input type="text"/>	equity: Net pension obligation <input type="text"/>

Navigation: [Back]

## Appendix 4

# IAS 19 paragraph 120A defined-benefit pension disclosures collected in Step 1 and Step 2 (ie the IAS 19 Tool)

### SECTION C OF THE IAS 19 TOOL (SELECTED PARAGRAPHS A THROUGH I AND Q)

---

- (a) the entity's accounting policy for recognising actuarial gains and losses\*
- (c) a reconciliation of opening and closing balances of the present value of the defined-benefit obligation showing separately, if applicable, the effects during the period attributable to each of the following:
- (i) current service cost
  - (ii) interest cost
  - (iii) contributions by plan participants
  - (iv) actuarial gains and losses
  - (v) foreign currency exchange rate changes on plans measured in a currency different from the entity's presentation currency
  - (vi) benefits paid
  - (vii) past service cost
  - (viii) business combinations
  - (ix) curtailments and
  - (x) settlements
- (e) a reconciliation of the opening and closing balances of the fair value of plan assets and of the opening and closing balances of any reimbursement right recognised as an asset in accordance with para. 104A, showing separately, if applicable, the effects during the period attributable to each of the following:
- (i) expected return on plan assets
  - (ii) actuarial gains and losses
  - (iii) foreign currency exchange rate changes on plans measured in a currency different from the entity's presentation currency
  - (iv) contributions by the employer
  - (v) contributions by plan participants
  - (vi) benefits paid
  - (vii) business combinations and
  - (viii) settlements
- (f) a reconciliation of the present value of the defined-benefit obligation in (c) and the fair value of the plan assets in (e) to the assets and liabilities recognised in the balance sheet, showing at least:
- (i) the net actuarial gains or losses not recognised in the balance sheet
  - (ii) the past service cost not recognised in the balance sheet
  - (iii) any amount not recognised as an asset, because of the limit in para. 58(b)
  - (iv) the fair value at the balance sheet date of any reimbursement right recognised as an asset in accordance with para. 104A (with a brief description of the link between the reimbursement right), and
  - (v) the other amounts recognised in the balance sheet
- (g) the total expense recognised in profit or loss for each of the following, and the line item(s) comprising profit or loss in which they are included:
- (i) current service cost
  - (ii) interest cost
  - (iii) expected return on plan assets
  - (iv) expected return on any reimbursement right recognised as an asset in accordance with para. 104A
  - (v) actuarial gains and losses
  - (vi) past service cost
  - (vii) the effect of any curtailment or settlement, and
  - (viii) the effect of the limit in para. 58(b)
- (h) the total amount recognised in the statement of recognised income and expense for each of the following:
- (i) actuarial gains and losses, and
  - (ii) the effect of the limit in para. 58(b)
- (i) for entities that recognise actuarial gains and losses in the statement of recognised income and expense in accordance with para. 93A, the cumulative amount of actuarial gains and losses recognised in the statement of recognised income and expense
- (q) the employer's best estimate, as soon as it can reasonably be determined, of contributions expected to be paid to the plan during the annual period beginning after the balance sheet date.

**SECTION B OF IAS 19 TOOL 120A  
(PARAGRAPHS M AND N)**

---

Actual return on plan assets and principle actuarial assumptions used at the balance sheet date. Inputting data for Section A also required specifying whether the assumptions were disclosed as absolute terms (as required by IAS 19) as opposed to a margin between different percentages or other variables.

- (m) The actual return on plan assets, as well as the actual return on any reimbursement right recognised as an asset in accordance with para. 104A.
- (n) The principal actuarial assumptions used as at the balance sheet date, including, when applicable:
- (i) the discount rates
  - (ii) the expected rates of return on any plan assets for the periods presented in the financial statements
  - (iii) the expected rates of return for the periods presented in the financial statements on any reimbursement right recognised as an asset in accordance with para. 104A
  - (iv) the expected rates of salary increases (and of changes in an index or other variable specified in the formal or constructive terms of a plan as the basis for future benefit increases)
  - (v) medical cost trend rates, and
  - (vi) any other material actuarial assumptions used.

An entity shall disclose each actuarial assumption in absolute terms (for example, as an absolute percentage) and not just as a margin between different percentages or other variables.

The Tool furthermore captured the following for IAS 19 (122)

**Paragraph 122**

When an entity has more than one defined-benefit plan, disclosures may be made in total, separately for each plan, or in such groupings as are considered to be the most useful. It may be useful to distinguish groupings by criteria such as the following:

- (a) The geographical location of the plans, for example, by distinguishing domestic plans from foreign plans; or ...  
When an entity provides disclosures in total for a grouping of plans, such disclosures are provided in the form of weighted averages or of relatively narrow ranges.

## Appendix 5

# Model for estimation of the impact on shareholders' equity and P&L of immediate recognition of actuarial gains and losses through SORIE for companies currently using the corridor approach under IAS 19

### ASSUMPTIONS

Estimation relates to company with actuarial losses (but was applied to companies with actuarial gains vice versa; note that companies can simultaneously have pension plans with losses and other plans with gains).

In this example, unrecognised actuarial losses amount to 200; the company amortises 20 per year. All amounts in €.

Equity before any adjustments: 1,000; profit of current year before any adjustments: 100.

Tax rate: 30%.

### ESTIMATION OF IMPACT ON P&L

#### i. Entries at the beginning of the year

(these entries need to be reversed if adoption of immediate recognition is assumed to take place)

Debit		Credit	
Amortisation (TPX)	20	Recognised Net Pension Liability	20
Deferred tax asset	6	Tax gain	6

#### ii. Reversal of amortisation entries

Debit		Credit	
Recognised net pension liability	20	Amortisation (TPX)	20
Tax gain	6	Deferred tax asset	6

### ESTIMATION OF BALANCE SHEET IMPACT

#### iii. Recognition of (total, accumulated) actuarial losses

Debit		Credit	
Equity (retained earnings)	200	Recognised Net Pension Liability	200
Deferred tax asset	60	Equity	60

### SUMMARY OF INCOME AND BALANCE SHEET IMPACT

#### Adjustment of profit for the year

Profit of the year (unadjusted)	100
+ Amortisation of actuarial gains/losses	20
– Deferred tax adjustment	–6
<b>Profit for the year (adjusted)</b>	<b>114</b>

#### Adjustment of equity at year end

Equity at the end of the year (unadjusted)	1000
+ Adjustments of profit for the year (before tax)	+ 20
– Retained earnings	–200
+ Deferred tax asset	+60
– Deferred tax asset	–6
<b>Equity at year end (adjusted)</b>	<b>874</b>

## References

- Amen, M. (2007), 'Simulation-based Comparison of Existent IAS 19 Accounting Options', *European Accounting Review*, July, 16 (2): 243–76.
- Amir, E. and Gordon, E. A. (1996), 'Firms' Choice of Estimation Parameters: Empirical Evidence from SFAS No. 106', *Journal of Accounting, Auditing, and Finance*, 3 (5): 427–48.
- ASB (Accounting Standards Board) (2000), *FRS 17 Retirement Benefits*, November (London).
- ASB (Accounting Standards Board) (2002), *Amendment to FRS 17 Retirement Benefits and Financial Reporting Standard for Smaller Entities*, November (London).
- Barth, M. E., Beaver, W. H. and Landsman, W. R. (1993), 'A Structural Analysis of Pension Disclosures under SFAS 87 and their Relation to Share Prices', *Financial Analysts Journal*, Jan/Feb, 49 (1): 18–26.
- Bayer Group (2006), *Science For A Better Life – Annual report 2005* (s.l.).
- Bergstresser, D., Desai, M. and Rauh, J. (2006), 'Earnings Manipulation, Pension Assumptions, and Managerial Investment Decisions', *The Quarterly Journal of Economics*, February: 157–95.
- Blankley, A. and Swanson, E. (1995), 'A Longitudinal Study of SFAS 87 Pension Rate Assumptions', *Accounting Horizons*, December, 9 (4): 1–21.
- Camfferman, K. and Zeff, S. A. (2007), *Financial Reporting and Global Capital Markets: A History of the International Accounting Standards Committee, 1972–2000* (Oxford: Oxford University Press).
- CESR (2007), *CESR's Review of the Implementation and Enforcement of IFRS in the EU*, November (Paris).
- Chitty, D. (2002), 'FRS 17 – Is it the end?', *Accountancy*, September, 130 (9): 79.
- Cooper, J. (2007). 'More S&P 500 Defined-benefit Plans Back in Black in 2006', *Pensions & Investments*, 35 (7): 42.
- Coronado, J. L. and Sharpe, S. A. (2003), 'Did Pension Plan Accounting Contribute to a Stock Market Bubble?' *Brookings Papers on Economic Activity*, 1: 323–71.
- Credit Suisse First Boston (2005), *The Magic of Pension Accounting, Part III*, [online PDF], (7 February) <[http://www.ryanalm.com/portals/5/research/20050207\\_@The\\_Magic\\_of\\_Pension\\_Accounting\\_Part\\_III.pdf](http://www.ryanalm.com/portals/5/research/20050207_@The_Magic_of_Pension_Accounting_Part_III.pdf)>, accessed 12 June 2008.
- Diamond, D. W. (1985), 'Optimal Release of Information by Firms', *Journal of Finance*, XL (4): 1071–94.
- Deutsche Post World Net (2006), *Making Our Customers Successful – Annual Report 2005* (s.l.).
- Dovovan, D. (2003), 'FRS 17 Deficits Bring Conflicts to a Head', *Employee Benefits*, Autumn: 6–8.
- Erhardt, J. A. (2005), Speech by SEC staff before 2005 AICPA National Conference on Current SEC and PCAOB Developments, Washington D.C., 5 December.
- FASB (1984), *Statement of Financial Accounting Concept (SFAC) 5*, December (Stamford).
- FASB (1985), *SFAS 87 Employer's Accounting for Pension*, December (Stamford).
- FASB (2006a), *FASB Issues Exposure Draft to Improve Accounting for Postretirement Benefit Plans, including Pensions*, [online news release], (31 March). <<http://www.fasb.org/news/nr033106.shtml>>, accessed 12 June 2008.
- FASB (2006b), *Statement of Financial Accounting Standards No. 158, Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans*, [online PDF], <<http://www.fasb.org/pdf/fas158.pdf>>, accessed 12 June 2008.
- Franzoni, F. and Marin, J.M. (2006), 'Pension Plan Funding and Stock market Efficiency', *Journal of Finance*, LXI (2): 921–56.
- Godwin, N. H. (1999), 'An Examination of Pension Actuarial Assumptions over the Decade Following the Issuance of FAS 87', *Journal of Pension Planning and Compliance*, 25 (1): 62–75.
- Godwin, J. H., Goldberg, S. P. and Duchac, J. E. (1996), 'An Empirical Analysis of Factors Associated with Changes in Pension-Plan Interest-Rate Assumptions', *Journal of Accounting, Auditing, and Finance*, 11 (2): 305–23.
- Gohdes, A. E. and Baach, E. (2004), 'Rechnungszins und Inflationsrate für die betriebliche Altersversorgung', *Betriebs-Berater*, 59. Jg., Nr. 47, S: 2571–3.
- Grant, T. C., Grant, G., Orega, W. R. (2007), 'FASB's Quick Fix for Pension Accounting is Only First Step In', *Financial Analysts Journal*, 63 (2): 21–35.
- Hansen, C. I. (2004), 'Converging International Accounting Standards for Employee Benefits', *National Underwriter / Property & Casualty Risk & Benefits Management*, 108: 17.
- Harper Jr., R. M. and Strawser, J. R. (1993), 'The Effect of SFAS 87 on Corporate Funding of Defined-benefit Pension Plans', *Journal of Business Finance & Accounting*, November, 20 (6): 815–33.
- Hawkins, N. (2003), 'Unjust 17', *Utility Week*, 10 October, 20 (15).
- Hirst, D. E. and Hopkins, P. (1998), 'Comprehensive Income Reporting and Analysts' Valuation Judgements', *Journal of Accounting Research*, 56: 47–75.

- Hope, O. (2003a), 'Accounting Policy Disclosures and Analysts' Forecasts', *Contemporary Accounting Research*, 20 (2): 295–321.
- Hope, O. (2003b), 'Provocative Pension Accounting', *Strategic Finance*, August, 85 (2): 41–3.
- IASB (International Accounting Standards Board) (2003), *IFRS 1 First-time Adoption of International Financial Reporting Standards* (London).
- IASB (International Accounting Standards Board) (2004), *International Accounting Standard 19 'Employee Benefits'* (London).
- IASB (International Accounting Standards Board) (2008), *Preliminary Views on Amendments to IAS 19 Employee Benefits*, discussion paper, March (London).
- ICAEW (Institute of Chartered Accountants of England and Wales) (2007), *EU Implementation of IFRS and the Fair Value Directive: A Report for the European Commission*, October (London).
- JP Morgan (2006), *European Company Pension Exposure*, 15 August (New York).
- Landsman, W. (1996), 'Discussion: Firm's Choice of Estimation Parameters: Empirical Evidence from SFAS No. 106', *Journal of Accounting, Auditing and Finance*, 3 (5): 449–52.
- Landsman, W. R. and Ohlson, J. A. (1990), 'Evaluation of Market Efficiency for Supplementary Accounting Disclosures: The Case of Pension Assets and Liabilities', *Contemporary Accounting Research*, 7 (1): 185–98.
- L'Oreal (2006), *2005 Annual report* (London).
- Latter, G. J. and Haugh, J. (2006) 'Market Impact of Pension Accounting Reform', *Merrill Lynch Pension & Endowments*, 15 October (s.l.).
- Linde (2006), *The Linde Financial Report 2005, Facts and Figures* (s.l.).
- May, G., Querner, I. and Schmitz, U. (2005), 'Entwicklung von Zinskurven für Zwecke der Bilanzierung nach IFRS/US-GAAP', *Der Betrieb*, 58. Jg., (23): 1229–37.
- McGeachin, A. (2004), 'Plans for Pensions', *Accountancy*, July: 82–3.
- McGeachin, A. (2005), 'Pensions Polish', *Accountancy*, April: 98.
- McGill, D. M., Brown, K. N., Haley, J. J. and Schieber, S. J. (2004), *Fundamentals of Private Pensions*, 8th edn, (Oxford: Oxford University Press).
- OECD (Organisation for Economic Co-operation and Development) (2007), *Pensions at a Glance: Public Policies Across OECD Countries* (Paris).
- PAAinE (Pro-active Accounting Activities in Europe) (2008), *The Financial Reporting of Pensions: A PAAinE Discussion Paper*, January (Brussels).
- Picconi, M. (2006), 'The Perils of Pensions: Does Pension Accounting Lead Investors and Analysts Astray?', *Accounting Review*, 81 (4): 925–55.
- Rue, J. C. and Tosh, D. E. (1987), 'Continuing Unresolved Issues of Pension Accounting', *Accounting Horizons*, 1 (4): 21–7.
- Seaman, G. W. (1995), 'The Accounting Standard-setting Due Process, Corporate Consensus, and FASB Responsiveness: Employers' Accounting for Pensions,' *Journal of Accounting, Auditing and Finance*, 10 (3): 555–65.
- Scottish Power (2006), *Annual Report and Accounts 2005/06* [PDF report], <<http://www.scottishpower.com/Annualandinterimreports.htm>>, accessed 23 May 2008.
- Smith & Nephew Group (2006), *Enabling People to Live Healthier, More Active Lives – 2005 Annual Report* (s.l.).
- Street, D. L. and Shaughnessy, K. A. (1998), 'The Quest for International Accounting Harmonization: A Review of the Standard Setting Agendas of the IASC, US, UK, Canada, and Australia, 1973–1997', *The International Journal of Accounting*, 33 (2): 179–209.
- Towers Perrin (2006), *New Pension Plan Design Options in Germany*, Towers Perrin White Paper, January.
- UK Financial Reporting Review Panel (2006a), *Report by the Financial Reporting Review Panel on the Results of its Review into Defined-benefit Disclosures by Companies under both IFRS and UK GAAP* [PDF report], <<http://www.frc.org.uk/images/uploaded/documents/010806%20-%20final%20report.pdf>>, accessed 23 May 2008.
- UK Financial Reporting Review Panel (2006b), *Preliminary Report IFRS Implementation* [PDF report], <<http://www.frc.org.uk/images/uploaded/documents/IFRS%20Implementation%20-%20preliminary.pdf>>, accessed 23 May 2008.
- Unilever (2006), *Annual Report and Accounts 2005* [PDF report], <[http://www.unilever.com/ourcompany/investorcentre/annual\\_reports/archives.asp](http://www.unilever.com/ourcompany/investorcentre/annual_reports/archives.asp)>, accessed 23 May 2008.
- Veysey, S. (2004), 'FRS 17 has British Airways Looking Again at Pension Funds', *Pensions & Investments*, 32 (3): 31.
- Wilshire Consulting (2007), *2007 Report on Corporate Pension Funding Levels* [PDF report], <[http://www.wilshire.com/BusinessUnits/Consulting/Investment/2007\\_Corporate\\_Funding\\_Report.pdf](http://www.wilshire.com/BusinessUnits/Consulting/Investment/2007_Corporate_Funding_Report.pdf)>, accessed 23 May 2008.
- Winklevoss, H.E. (1993), *Pension Mathematics with Numerical Illustrations*, 2nd edn. (Philadelphia: University of Pennsylvania Press).
- WPP (2006), *Annual Report and Accounts 2005* (London).



**RR/100/001**

ISBN: 978-1-85908-440-3

**ACCA** 29 Lincoln's Inn Fields London WC2A 3EE United Kingdom / +44 (0)20 7059 5980 / [www.accaglobal.com](http://www.accaglobal.com)