

# NobelDirect Causes Excessive Bone Loss – Fact or Fiction?



## Merrill Lynch

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## Recommendation Change from 'Buy' to 'Neutral'

Although we have spent considerable time over the past six weeks researching Gothenburg University's claims that **suggest excessive bone loss of NOBE's** strongly selling **NobelDirect implant**, we are unable to form a conclusive opinion on whether the claims will result in the eventual withdrawal of the product.

However, given the strong stock price performance of +46% in 2005 combined with a relatively high valuation (i.e. CY06E P/E of ~30x) and the uncertain news flow on *NobelDirect*, we feel it will be difficult for the company's share price to **show material absolute performance over the next 6 months**.

## Gerald Niznick's Non-compete Arbitration Decision Pending

Furthermore, the final decision surrounding the **arbitration on the non-compete clause between Zimmer and Gerald Niznick** should be delivered imminently.

While we continue to believe that he should have limited impact on NOBE, we believe not everybody in the investment community shares our opinion and as such this news flow is unlikely to be supportive for an appreciating share price.

## Potential Financial Impact

Although at this stage we think it is unlikely, a recall of *NobelDirect* could result in a **~8% downgrade to our FY06E EBIT** which excludes any potential additional charges relating to compensation for re-work and pain & suffering.

## Long-term View Remains Unchanged

Over the longer-term we continue to firmly believe in the **underlying growth fundamentals** of the fast growing and under penetrated dental implant market and believe that **NOBE will continue to be a strong beneficiary**.

## Estimates (Dec)

(EUR)	2003A		2004A		2005E	2006E	2007E
	Other GAAP	Other GAAP	IFRS	IFRS	IFRS	IFRS	IFRS
EPS (Adjusted)	3.04	4.01	4.94	6.47	7.79		
EPS Change (YoY)	44.2%	32.3%	23.0%	31.0%	20.4%		
Dividend / Share	0.85	1.72	1.83	1.94	2.34		

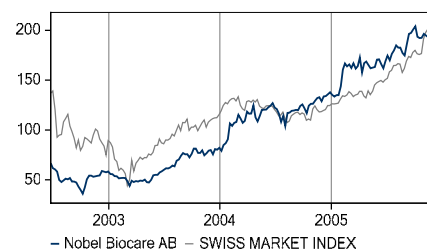
## Valuation (Dec)

	2003A	2004A	2005E	2006E	2007E
P/E	64.9x	49.1x	39.9x	30.5x	25.3x
Dividend Yield	0.43%	0.87%	0.93%	0.98%	1.19%
EV / EBITDA*	45.6x	35.5x	27.4x	22.2x	18.7x
Free Cash Flow Yield*	1.41%	1.98%	2.72%	3.13%	3.78%

\* For full definitions of *iQmethod*<sup>SM</sup> measures, see page 13.

## Stock Data

Price	CHF298.00
Investment Opinion	B-1-7 to B-2-7
Volatility Risk	MEDIUM
52-Week Range	CHF192.10-324.00
Mrkt Val / Shares Out (mn)	CHF7,774 / 25.5
Average Daily Volume	70,211
ML Symbol / Exchange	NBCHF / SWX
Bloomberg / Reuters	NOBE VX / NOBE.S
ROE (2005E)	35.1%
Net Dbt to Eqty (Dec-2004A)	-54.5%
Est. 5-Yr EPS / DPS Growth	22.6% / 13.8%
Free Float	100.0%



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Refer to important disclosures on page 13 to 14. Analyst Certification on page 12.

# iQprofile<sup>SM</sup> Nobel Biocare

Key Income Statement Data (Dec)	2003A	2004A	2005E	2006E	2007E
(EUR Millions)	Other GAAP	Other GAAP	IFRS	IFRS	IFRS
Sales	334	388	484	567	655
EBITDA Adjusted	106	136	177	218	259
Depreciation & Amortization	(20.0)	(20.0)	(13.4)	(15.9)	(18.6)
EBIT Adjusted	86.1	116	163	202	241
Net Interest & Other Income	(0.58)	2.01	(3.85)	5.04	8.58
Tax Expense / Benefit	(18.7)	(24.0)	(32.7)	(41.8)	(50.3)
Net Income (Adjusted)	76.7	103	127	165	199
Average Fully Diluted Shares Outstanding	26.4	26.4	26.4	26.4	26.4

## Key Cash Flow Statement Data

Net Income (Reported)	72.0	95.5	157	165	199
Depreciation & Amortization	20.0	20.0	13.4	15.9	18.6
Change in Working Capital	(9.83)	(6.60)	(22.1)	(6.40)	(8.23)
Deferred Taxation Charge	0	0	0	0	0
Other Adjustments, Net	1.79	23.9	9.32	5.40	5.67
Cash Flow from Operations	84.0	133	158	180	215
Capital Expenditure	(13.9)	(33.1)	(19.9)	(22.4)	(24.4)
(Acquisition) / Disposal of Investments	0	0	0	0	0
Other Cash Inflow / (Outflow)	4.69	0	0	0	0
Cash Flow from Investing	(9.18)	(33.1)	(19.9)	(22.4)	(24.4)
Share Issue / (Repurchase)	4.90	8.40	0	0	0
Cost of Dividends Paid	(13.1)	(21.5)	(44.3)	(46.8)	(49.5)
Cash Flow from Financing	(15.2)	(13.1)	(138)	(158)	(190)
Non Cash Changes to Debt	---	---	---	---	---
Change in Net Debt	(87.1)	(86.7)	6.44	(27.8)	(141)
Net Debt	(109)	(194)	(188)	(216)	(356)

## Key Balance Sheet Data

Property, Plant & Equipment	28.1	32.0	37.9	43.8	49.3
Goodwill	123	119	119	119	119
Other Intangibles	2.33	4.09	4.68	5.36	5.59
Other Non-Current Assets	12.7	15.7	18.9	21.4	24.0
Trade Receivables	59.2	71.0	83.8	96.4	111
Cash & Equivalents	110	195	188	216	357
Other Current Assets	43.7	33.8	50.6	59.2	68.4
Total Assets	379	470	503	561	734
Long-Term Debt	0.75	0.71	0.71	0.71	0.71
Other Non-Current Liabilities	29.8	35.5	43.6	51.1	58.9
Short-Term Debt	0.07	0	0	0	0
Other Current Liabilities	62.0	77.7	89.6	105	121
Total Liabilities	92.6	114	134	157	181
Total Equity	286	356	369	404	554
Total Equity & Liabilities	379	470	503	561	734

## Key Metrics

### iQmethod<sup>SM</sup> - Bus Performance\*

Return On Capital Employed	24.0%	26.2%	29.7%	33.8%	33.8%
Return On Equity	30.9%	32.2%	35.1%	42.8%	41.6%
Operating Margin	27.5%	30.4%	40.0%	35.6%	36.8%
Free Cash Flow (MM)	70.1	99.8	138	158	190

### iQmethod<sup>SM</sup> - Quality of Earnings\*

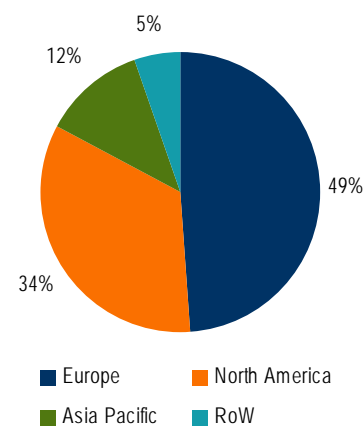
Cash Realization Ratio	1.10x	1.29x	1.24x	1.09x	1.08x
Asset Replacement Ratio	1.47x	3.54x	1.80x	1.70x	1.58x
Tax Rate	20.4%	20.0%	17.2%	20.2%	20.2%
Net Debt/Equity	-38.0%	-54.5%	-50.9%	-53.3%	-64.4%
Interest Cover	23.8x	36.0x	42.4x	NM	NM

\* For full definitions of iQmethod<sup>SM</sup> measures, see page 13.

## Company Description

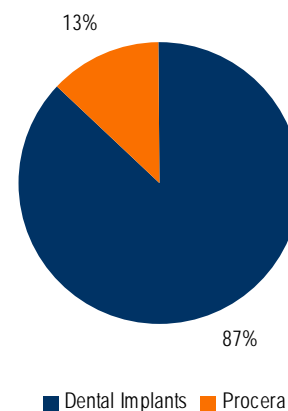
Nobel Biocare is the world leader in innovative esthetic dental solutions. It offers a one-stop-shop for restorative esthetic dentistry, offering a wide range of innovative Crown & Bridge & Implant products. In dental implants, Nobel Biocare holds world #1 position with c.33% market share. The company markets its products to dental specialists, general practitioners, and dental technicians.

## Chart 1: Sales by Region (FY04A)



Source: Nobel Biocare

## Chart 2: Sales by Product (FY04E)



Source: Nobel Biocare, Merrill Lynch estimates

## Stock Data

Price to Book Value 13.7x

## Implant Data To Be Published

In this note we provide an update on the recent developments at Gothenburg University with respect to potential issues surrounding excessive bone loss with the recently introduced *NobelDirect* and *NobelPerfect* implant range from Nobel Biocare.

### Gothenburg University - Update

Gothenburg University claims they have additional X-ray evidence which suggests larger than normal bone loss with *NobelDirect* implants . . .

Based on our discussion with Professors Sennerby and Tomas Albrektsson from Gothenburg University, it appears that the institution has accumulated additional X-rays which further support the initial findings, that Nobel Biocare's (NOBE) *NobelDirect* and *NobelPerfect* implant **causes larger than normal bone loss in a material portion of patients**. It should be highlighted that initial findings were highlighted on Swedish television in October 2005 by Albrektsson.

### Who is Gothenburg University

Gothenburg University is one of Sweden's largest and most popular universities, catering for 40,000 students with staff of well over 4,000. The establishment has ten faculty boards including Odontology and Health Care Sciences. Most of the work surrounding dental implants is performed by Prof. Lars Sennerby and Prof. Albrektsson at the Sahlgrenska Academy, which forms part of the university.

### Professor Sennerby - Background

. . . following their initial findings that were highlighted on Swedish television in October 2005

Sennerby graduated from the University of Gothenburg Faculty of Odontology, Sweden, with a DDS degree in 1986. He received his training in dental implant surgery at the Brånemark Clinic in the Faculty of Odontology. In 1991 he defended his thesis "On the bone tissue response to titanium implants" for a Ph.D. degree. In 1993 he was appointed Associate Professor at the Gothenburg University of the Faculty of Odontology and in 2000 was appointed as Professor in Experimental and Clinical Oral Implantology in the Department of Biomaterials, Institute for Surgical Sciences, University of Gothenburg, Sweden.

### Professor Albrektsson - Background

Over the years Nobel Biocare has provided research funds to Gothenburg University . . .

Albrektsson became a medical doctor in 1973 and did three years of clinical work between 1973 and 1976 at Gothenburg University. In 1979 he did his PhD-thesis in Healing of Bone Grafts and became an associate professor in 1980. Between 1980 and 1986 Albrektsson was researcher and head of the Bone research Group at the Laboratory of Experimental Biology at Gothenburg University. Later he became Professor and Head of Biomaterials Group and in 1988 became the Chairman of the Department. He has been the Editor of 10 scientific books and the member of the Editorial Board of 8 international scientific journals and has been Editor-in-Chief of Applied Osseointegration Research since 2000 and also acted as a consultant to Nobel Biocare, Mediteam and Astra Zeneca.

### Historic Relationship With Nobel Biocare

. . . but this changed in March 2005 with a termination letter by the university effective 30 June 2005

We understand that since the 1980s Nobel Biocare has provided material research funds to the Biomaterials' division of The Sahlgrenska Academy for the area of dental implants. However it appears that the relationship between Albrektsson and Nobel Biocare started to sour 2-3 years ago, after which the company decided to terminate his agreement with him but continued to provide research funds for the department. In March of 2005 the long-term relationship between Sennerby and Nobel Biocare was severed, which according to the academic was driven by him on the basis that the company did not respond to his request to recall the *NobelDirect* implant from the market.

300 X-rays that were followed up by the university suggest that there is unacceptable bone loss at 12 months for approximately one third of the patients

Data from more established implants suggests an average of 1mm of bone loss at 12 months

### Clinical Findings

Based on our discussions with Professor Sennerby and Professor Albrektsson we understand that the University's concern relates to excessive bone loss surrounding the recently launched *NobelDirect* (i.e. the one-piece implant) and to a lesser degree the *NobelPerfect* (i.e. scalloped implant).

### Data Collection

These findings are based on the collection of over 300 X-rays to date from 10 centers all of which are regarded by the researchers as experienced users; of these approximately half of the X-rays have been sourced from 2 centers. The data suggests the following:

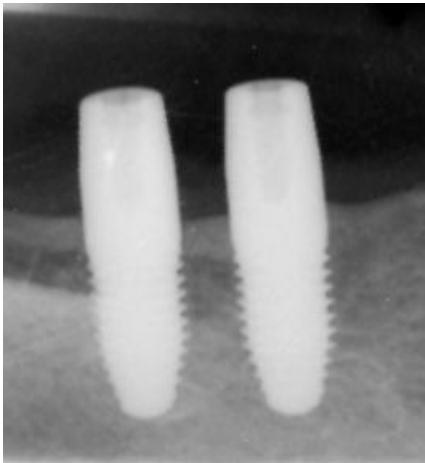
**Table 1: X-Ray Follow-up from Gothenburg University – Marginal Bone Resorption**

Time	Score
After 3-12 months	Unacceptable bone loss in 1/3 of patients

Source: Professor Albrektsson / Sennerby. Note: unacceptable bone loss is defined as 2mm or greater of bone loss.

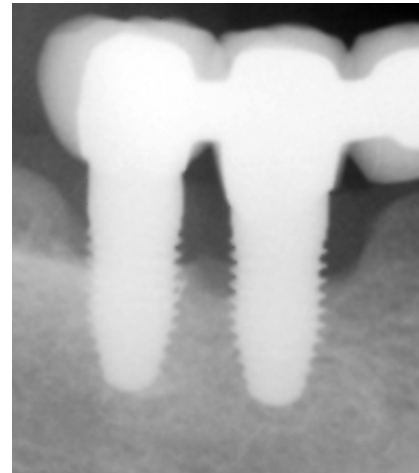
According to the investigators there is unacceptable level of bone loss in 1/3<sup>rd</sup> of patients after 3-12 months which appears to increase over time. Based on the comments by Sennerby and Albrektsson, we understand that the average loss for proven implants is no greater than 1 millimeters after 12 months and hence the concern surrounding *NobelDirect*. In the Charts below are two X-rays supplied by Gothenburg University which highlight an example of excessive bone loss; Chart 3 shows an X-ray of the bone level following the implantation while Chart 4 shows the bone level at 12-months.

**Chart 3: Example - *NobelDirect* at Base Line**



Source: Gothenburg University

**Chart 4: Example - *NobelDirect* at 1 Year Follow-up**



Source: Gothenburg University

The key concerns surrounding the implant relates to bone resorption that does not hit a **'steady state'** (i.e. virtually no more bone loss) after 12 months of implantation with the possibility of the bone continuing to decline in height over time. While the first 4-5mm may not necessarily result in implant loss (this depends on the length of the implant), it can result in a reduction in the esthetic outcome and / or discomfort as well as pain. Bone loss beyond 4-5mm substantially raises the risk of implant loss, which would require revision work and potentially a bone augmentation procedure to rebuild the lost bone.

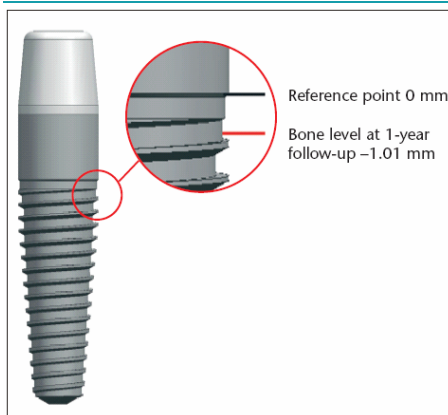
## Nobel Biocare's Data

During the EAO Congress in Munich, Germany, in September 2005, 12 months data was presented on NOBE's 5 center *NobelDirect* trial involving 65 patients (34 male & 31 female) and 111 implants (40 were in the maxillae & 71 in the mandibles). The first implant was placed on 7 July 2003 and the last on 11 November 2004. Surgical techniques included both flap and flapless surgery and ~50% of the implants were subjected to immediate loading.

### Age Group

Provided below is the patient profile for multi-center trial, which is in line with many other trials that we have observed over the years.

Table 2: NOBE's Definition of Reference Point



Source: Nobel Biocare

Table 3: Age Profile of *NobelDirect* Trial

Age Group	Number of Patients
21-30 years	2
31-40 years	7
41-50 years	10
51-60 years	18
61-70 years	14
71-80 years	10
>80 years	4

Source: EAO

### Results

At 12 month follow-up the radiological analysis of all received and readable radiographs (61 implants) demonstrated a mean value of marginal bone level of -1.1mm (standard deviation of 1.42) relative to the reference point (as defined by NOBE), which is the lower corner of the straight cylindrical part (see Table 3).

### Conclusion

It was concluded that initial follow-up result of *NobelDirect* implants from this multi-centre study demonstrates 98.1% cumulative implant survival. The radiological analysis demonstrates a mean value of marginal bone level at 1-year follow-up of -1.1mm relative to the reference point. It should be noted that the Gothenburg University measures the bone loss from the original height of the bone at Day 0 and not from a self selected reference point. While we understand that there is nothing wrong with using a self selected reference points (other dental implant companies do this as well), it appears that bone loss can be under or overstated using such a technique; in this instance the professors appear to claim that the **bone loss is significantly understated and thereby increasing the risk of implant failure.**

### Other Follow-up

We understand from NOBE that the company has done some additional follow-up work by contacting some of their larger implant users and to date they have not identified any unusual bone developments with *NobelDirect*.

### Potential Issues

At this stage the researchers at Gothenburg University do not know why their sample of X-rays show high levels of bone loss with *NobelDirect* implants. Given that the results with *Branemark* and *Replace* have been good over the years, they feel it could relate to the unique height of the rough *TiUnite* surface structure. Unlike Nobel Biocare's other dental implant products, *NobelDirect* carries the rough *TiUnite* surface all the way to the top of the implant.

Key concerns relate to the possibility of ongoing bone loss, which increases the risk of implant failure after several years

**NobelDirect - Background**

NobelDirect was launched in spring of 2004 and contains a number of different implants incorporating different sizes and shapes, but with the common feature, that it is made out of one piece of titanium and thus does not require a separate abutment.

Table 4: NobelDirect Implant Range

Implant	Description	Launch Date
NobelDirect Posterior	Used in the posterior areas with built-in snappy abutment.	June 2005
NobelDirect 3.0	Used in tight places where there is little space between teeth.	March 2004
NobelDirect Groovy & Oval	Has TiUnite all the way up to the top of the implant with grooves on threads.	June 2005

Source: Nobel Biocare, Merrill Lynch

Based on the latest Nobel Biocare product brochures we believe there are four different versions implants, namely *NobelDirect Posterior*, *NobelDirect 3.0*, *NobelDirect Groovy* and *NobelDirect Oval*.

Chart 5: NobelDirect Groovy



Source: Nobel Biocare

Chart 6: NobelDirect Posterior



Source: Nobel Biocare

Gothenburg University expects to submit a paper on their *NobelDirect* findings in January 2006 . . .

**Pending Publication - June/July 2006**

We believe Sennerby will be in a position to submit a paper on his findings of excessive bone loss of *NobelDirect* in January 2006, which if cleared by the expert panel, will be published in the June/July edition of the *Clinical Implant Dentistry & Related Research* Journal. However, we understand that upon acceptance of the paper, which may happen in February/March 2006, it would give the study the necessary credentials to be taken more seriously. Interestingly, based on our field checks it appears that Professor Sennerby is also the Editor-in-Chief of the aforementioned journal.

**Swedish Authorities**

Based on our discussions with Sven Jakobsen, the investigating officer from the Swedish Medical Products Agency (Läkemedelsverket), it appears that an investigation has started into the claims made by Gothenburg University. Specifically, a request for data has been sent to both the University and Nobel Biocare and should become available within the next weeks. This will then be followed by a meeting with both parties in probably **January 2006** to discuss the concerns surrounding the *NobelDirect* implant. Depending on the complexity of the data, the Medical Products Agency may want to use external experts.

Should the authority express material concerns, they have the **right to ask Nobel Biocare to withdraw** the product from **Sweden**. Furthermore, the notice of withdrawal will also be sent to the regulators of the other European countries as well as international bodies like the U.S. Food and Drug Administration. Typically other countries will take such a notice very seriously and follow suit, but normally before this happens, a company will withdraw the product at their own will.

. . . to the Journal of Clinical Implant Dentistry & Related Research

Should Nobel decide to recall *NobelDirect* we estimate the worst downgrade to Sales for FY06E would equate to . . .

. . . 7% from EUR567m to EUR527m which equates to 9% sales growth . . .

. . . and EBIT by 7.7% from EUR202m to EUR162m which equates to 14% growth

## Financial Implications

Although at this stage we do not have any firm evidence as to whether the data surrounding the findings by Gothenburg University is bona fide, we have decided for **completeness purposes** to evaluate the financial impact should Nobel Biocare decide to withdraw *NobelDirect* from the market. We believe the financial impact can be broken down into three components: Sales & Earnings, Compensation for Rework and Punitive Damages.

### Sales & Earnings

With the *NobelDirect* implant launched worldwide in March 2004, we believe the financial contribution to Nobel Biocare's sales to date has been limited.

### Sales Impact

With the company providing no clear guidance, we estimate *NobelDirect* accounted for less than 3% of group sales in 2004 and less than 6% in 2005.

Table 5: *NobelDirect* Sales Calculation

EURm (Dec Y/E)	FY04E	FY05E	FY06E
Total Sales	388.4	484.2	567.3
<i>NobelDirect</i> Share	2%	5%	7%
<b><i>NobelDirect</i> Sales</b>	<b>7.8</b>	<b>24.2</b>	<b>39.7</b>
Average price per implant	450	450	450
<b>Number of <i>NobelDirect</i> implants</b>	<b>17,260</b>	<b>53,802</b>	<b>88,249</b>

Source: Merrill Lynch estimates

Based on our estimates we believe *NobelDirect* achieved EUR7.8m in sales or ~17,000 units in CY04E and EUR24.2m in sales or ~54,000 units in FY05E.

Table 6: *NobelDirect* Sales Impact if Withdrawn in FY06E

EURm (Dec Y/E)	FY06E
Total Sales	567.3
<i>NobelDirect</i> Sales	39.7
<b>Potential Downgrade to Sales</b>	<b>7.0%</b>
Sales Growth FY06E - Currently	17.2%
Sales Growth FY06E - With Recall	9.0%
<b>Decrease in Sales Growth</b>	<b>-8.2%</b>

Source: Merrill Lynch estimates

If we assume a Nobel Biocare product recall, we would need to revise our **FY06E Sales forecast** downwards by 7% from EUR567 to EUR527m; this assumes that the company would be unable to substitute the lost *NobelDirect* sales with its other dental implant products. Under this scenario Sales growth would fall from 17.2% to 9%.

### EBIT Impact

We believe that *NobelDirect* implant carries a higher margin than the majority of the remaining products at Nobel Biocare; this is based on our hypothesis that it takes less machine time to manufacturer a one-piece implant compared to the two separate components of a dental implant and an abutment, while at the same time charging a similar price. Our field checks indicate that Nobel Direct sells for ~EUR400-450 depending on the geographic area as well exchange rate movements.

**Table 7: NobelDirect EBIT Calculation**

EURm (Dec Y/E)	FY04E	FY05E	FY06E
Total EBIT	116.4	163.4	201.8
<i>NobelDirect</i> - Sales	7.8	24.2	39.7
Incremental EBIT Margin on implant	39%	39%	39%
<i>NobelDirect</i> - EBIT	3.0	9.4	15.5

Source: Merrill Lynch estimates

If *NobelDirect* does prove to cause excessive bone loss then the company's financial position may also be impacted by . . .

Based on our calculations we estimate that the incremental EBIT margin on a dental implant sold is between 38-40%. Hence we believe *NobelDirect* added ~EUR3m in FY04E and will add ~EUR9m to FY05E.

**Table 8: NobelDirect EBIT Impact if Withdrawn in FY06E**

EURm (Dec Y/E)	FY06E
Total EBIT	201.8
<i>NobelDirect</i> EBIT	15.5
<b>Potential Downgrade to EBIT</b>	<b>7.7%</b>
EBIT Growth FY06E - Currently	23.5%
EBIT Growth FY06E - With Recall	14.0%
<b>Decrease in EBIT Growth</b>	<b>-9.5%</b>

Source: Merrill Lynch estimates

If we assume a Nobel Biocare product recall, we would need to revise our **FY06E EBIT forecast** downwards by 7.7% from EUR202 to EUR162m; this assumes that the company would be unable to substitute the lost *NobelDirect* sales with its other dental implant products. Under this scenario EBIT growth would fall from 23.5% to 14%.

## Compensation for Rework

Should it turn out that *NobelDirect* does cause excessive bone loss, we feel Nobel Biocare may find itself obligated to compensate patients and dentists for the work performed. At first instance this may include sufficient funds to re-perform the procedure and include free supply of new dental implants as well as the chair-time for the dentist, which could also incorporate a bone augmentation procedure to restore lost bone. At second instance this could include damages for pain and suffering.

## Punitive Damages

Punitive damages, also known as exemplary damages, are damages that are separate and in excess of the compensatory damages awarded to a plaintiff in a legal suit that arises from the malicious or wanton misconduct of the defendant. Typically punitive damages are imposed to serve as a punishment for the defendant. In the United States the potential size of a punitive damages award is unpredictable, and the process of arriving at it is just as arbitrary. There are no maximums and no minimums as in criminal law, with the jury alone determining the amount. Given that we are not aware of any wrong doings by Nobel Biocare, we have decided not to pursue this in any further detail.

. . . compensation to dentists and patients for rework . . .

. . . and punitive damages particularly in the United States

## Conclusion - Recommendation Change

We are downgrading our recommendation from 'Buy' to 'Neutral'.

We are changing our recommendation from 'Buy' to 'Neutral'

Although we continue to believe in the underlying long-term fundamentals of the dental implant market . . .

. . . we feel the news flow for Nobel Biocare will not likely be in its favour over the next 6 months

### Little Share Price Performance Over Next 6 Months

Although we have spent considerable time researching Gothenburg University's claims that **suggest excessive bone loss of NOBE's strongly selling NobelDirect implant**, through discussions with NOBE as well as independent clinicians, we are unable to form a conclusive opinion on whether the claims will result in the withdrawal of the product. However, given the strong stock price performance of +46% in 2005 combined with a relatively high valuation (i.e. CY06E P/E of ~30x) and the ongoing uncertain news flow of *NobelDirect*, we feel it will be **difficult for NOBE's share price to show material absolute performance over the next 6 months**.

Furthermore, the final decision surrounding the **arbitration on the non-compete clause between Zimmer and Gerald Niznick** should be delivered imminently; should Niznick win, he will be entitled to re-enter the dental implant market with his own products on 8 January 2006 rather than in the middle of 2007. While we continue to believe that he will have limited impact on the growth outlook of most of the premium dental implant companies including NOBE, we sense not every participant in the investment community shares our opinion and as such this news flow is unlikely to be supportive for an appreciating share price. We expect the following **news flow timeline** for NOBE:

- **Late December 2005** – final decision surrounding the arbitration of the non-compete clause between Zimmer and Gerald Niznick. We believe there is a reasonable chance Niznick will be granted the right to re-enter the dental implant market on 8 January 2006;
- **January 2006** – study on *NobelDirect* showing excessive bone loss expected to be submitted by the Gothenburg University to the Journal of *Clinical Implant Dentistry & Related Research*;
- **9 February 2006** – publication of Q4 FY05 result with guidance for 2006 likely to include sales growth outlook of +20% in constant currency, which is in line with consensus;
- **February / March 2006** – if the aforementioned study is accepted by the Journal of *Clinical Implant Dentistry & Related Research*, the research should gain credibility and have some impact on NOBE's reputation; and
- **March /April 2006** - decision expected by the Swedish Medical Products Agency on whether they feel NOBE should recall *NobelDirect*.

Although at this stage we think it is unlikely, a recall of *NobelDirect* could result in a ~8% downgrade to our FY06E EBIT, excluding any additional charges relating to compensation for re-work and pain & suffering and in the worst case punitive damages. **It should be noted that we are not changing our financial forecast.**

### Long-term View Remains Unchanged

Over the longer-term we continue to firmly believe in the **underlying growth fundamentals** of the fast growing and under penetrated dental implant market. NOBE through its continued investment in R&D and education & training as well as direct to consumer advertising, should continue to be a strong beneficiary.

Table 9: Nobel Biocare's Profit &amp; Loss Model

Dec Y/E (EURm)	FY03A	FY04A	FY05E	FY06E	FY07E	FY08E	FY09E
Europe	157.7	189.8	218.9	249.5	284.4	322.8	363.2
North America	121.8	132.1	177.0	209.7	243.2	277.3	313.3
Asia/Pacific	37.1	45.6	60.9	74.3	86.9	99.9	113.9
RoW	17.3	20.9	27.5	33.9	39.9	46.1	52.6
<b>Total Sales</b>	<b>334.0</b>	<b>388.4</b>	<b>484.2</b>	<b>567.3</b>	<b>654.5</b>	<b>746.2</b>	<b>843.0</b>
Cost Of Goods Sold	-78.8	-79.1	-81.8	-91.3	-102.1	-114.9	-129.8
<b>Gross Profit</b>	<b>255.1</b>	<b>309.2</b>	<b>402.4</b>	<b>476.0</b>	<b>552.4</b>	<b>631.3</b>	<b>713.2</b>
Selling Expenses	-119.2	-131.6	-152.5	-171.3	-192.4	-216.4	-242.8
Administration Expenses	-36.3	-47.5	-66.3	-75.5	-83.8	-94.0	-105.4
Research & Development	-13.6	-13.7	-12.6	-19.9	-28.1	-32.1	-36.3
Other Operating Expenses	0.0	0.0	-7.5	-7.5	-7.5	-7.5	-4.5
<b>EBIT</b>	<b>86.1</b>	<b>116.4</b>	<b>163.4</b>	<b>201.8</b>	<b>240.6</b>	<b>281.3</b>	<b>324.3</b>
Financial Revenue	3.0	5.2	-3.8	5.1	8.6	15.5	21.9
Financial Expense	-3.6	-3.2	0.0	0.0	0.0	0.0	0.0
Net Financial	-0.6	2.0	-3.9	5.0	8.6	15.4	21.8
<b>EBT</b>	<b>85.5</b>	<b>118.4</b>	<b>159.6</b>	<b>206.9</b>	<b>249.1</b>	<b>296.7</b>	<b>346.1</b>
Tax Expense	-17.5	-23.7	-32.7	-41.8	-50.3	-59.9	-69.9
<b>Net Income (before minorities)</b>	<b>68.1</b>	<b>94.7</b>	<b>126.9</b>	<b>165.1</b>	<b>198.8</b>	<b>236.8</b>	<b>276.2</b>
Minority Interest	-0.7	-0.5	0.0	0.0	0.0	0.0	0.0
<b>Net Income (after minorities before Non-recurring)</b>	<b>67.4</b>	<b>94.2</b>	<b>126.9</b>	<b>165.1</b>	<b>198.8</b>	<b>236.8</b>	<b>276.2</b>
Non-recurring	5.8	1.7	30.2	0.0	0.0	0.0	0.0
Tax on Non-recurring	-1.2	-0.3	0.0	0.0	0.0	0.0	0.0
<b>Net Income (after Non-recurring)</b>	<b>72.0</b>	<b>95.5</b>	<b>157.1</b>	<b>165.1</b>	<b>198.8</b>	<b>236.8</b>	<b>276.2</b>
EPS (before Non-recurring) - normal	2.67	3.68	4.94	6.47	7.79	9.27	10.82
EPS (before Non-recurring) - diluted	2.55	3.56	4.80	6.25	7.52	8.96	10.45
EPS (before GW) - normal	3.04	4.01	4.94	6.47	7.79	9.27	10.82
EPS (before GW) - diluted	2.91	3.89	4.80	6.25	7.52	8.96	10.45
DPS	0.85	1.72	1.83	1.94	2.34	2.78	3.25
<b>% Change</b>	<b>FY03A/FY02A</b>	<b>FY04A/FY03A</b>	<b>FY05E/FY04A</b>	<b>FY06E/FY05E</b>	<b>FY07E/FY06E</b>	<b>FY08E/FY07E</b>	<b>FY09E/FY08E</b>
Europe	16.8%	20.4%	15.3%	14.0%	14.0%	13.5%	12.5%
North America	-3.8%	8.4%	34.0%	18.5%	16.0%	14.0%	13.0%
Asia/Pacific	11.4%	23.0%	33.4%	22.0%	17.0%	15.0%	14.0%
<b>Total Sales</b>	<b>7.3%</b>	<b>16.3%</b>	<b>24.7%</b>	<b>17.2%</b>	<b>15.4%</b>	<b>14.0%</b>	<b>13.0%</b>
Cost Of Goods Sold	3.7%	0.4%	3.4%	11.6%	11.8%	12.5%	13.0%
<b>Gross Profit</b>	<b>8.5%</b>	<b>21.2%</b>	<b>30.1%</b>	<b>18.3%</b>	<b>16.1%</b>	<b>14.3%</b>	<b>13.0%</b>
Selling Expenses	-2.5%	10.4%	15.9%	12.3%	12.3%	12.5%	12.2%
Administration Expenses	22.2%	31.0%	39.5%	13.7%	11.0%	12.2%	12.1%
Research & Development	3.7%	1.0%	-8.1%	57.7%	41.7%	14.0%	13.0%
<b>EBIT</b>	<b>22.6%</b>	<b>35.1%</b>	<b>40.4%</b>	<b>23.5%</b>	<b>19.2%</b>	<b>16.9%</b>	<b>15.3%</b>
EBT	25.2%	38.4%	34.8%	29.6%	20.4%	19.1%	16.7%
<b>Net Income (after minorities before Non-recurring)</b>	<b>59.1%</b>	<b>39.8%</b>	<b>34.7%</b>	<b>30.1%</b>	<b>20.4%</b>	<b>19.1%</b>	<b>16.7%</b>
EPS (before Non-recurring) - normal	44.9%	33.8%	23.4%	30.1%	20.4%	19.1%	16.7%
EPS (before GW) - normal	44.2%	32.3%	23.0%	31.0%	20.4%	19.1%	16.7%
<b>Margin Analysis</b>	<b>FY03A</b>	<b>FY04A</b>	<b>FY05E</b>	<b>FY06E</b>	<b>FY07E</b>	<b>FY08E</b>	<b>FY09E</b>
Gross Profit	76.4%	79.6%	83.1%	83.9%	84.4%	84.6%	84.6%
Selling Expenses	35.7%	33.9%	31.5%	30.2%	29.4%	29.0%	28.8%
Administration Expenses	10.9%	12.2%	13.7%	13.3%	12.8%	12.6%	12.5%
Research & Development	4.1%	3.5%	2.6%	3.5%	4.3%	4.3%	4.3%
EBIT	25.8%	30.0%	33.8%	35.6%	36.8%	37.7%	38.5%
EBT	25.6%	30.5%	33.0%	36.5%	38.1%	39.8%	41.1%
Net Income (after minorities before Non-recurring)	20.2%	24.2%	26.2%	29.1%	30.4%	31.7%	32.8%
Tax Rate	20.4%	20.0%	20.5%	20.2%	20.2%	20.2%	20.2%
Interest Cover (x)	148.5	NM	42.4	NM	NM	NM	NM
Gearing	-61.3%	-119.8%	-103.5%	-114.1%	-180.7%	-256.2%	-338.3%
ROE	28.7%	29.7%	43.3%	42.7%	41.5%	36.9%	33.1%

Source: Merrill Lynch estimates

**Table 10: Nobel Biocare's Balance Sheet Model**

Balance Sheet, Dec Y/E (EURm)	FY03A	FY04A	FY05E	FY06E	FY07E	FY08E	FY09E
Cash & Equivalents	109.5	194.9	188.4	216.2	357.2	526.3	723.1
Trade Receivables	59.2	71.0	83.8	96.4	111.3	126.9	143.3
Deferred Tax Asset	6.2	1.3	1.7	2.0	2.2	2.6	2.9
Other Receivables	9.5	2.3	12.1	14.2	16.4	18.7	21.1
Inventories	22.4	17.6	29.1	34.0	39.3	44.8	50.6
Pre-paid Expenses & Accruals	5.7	12.6	7.7	9.1	10.5	11.9	13.5
<b>Current Assets</b>	<b>212.4</b>	<b>299.7</b>	<b>322.8</b>	<b>371.9</b>	<b>536.8</b>	<b>731.1</b>	<b>954.5</b>
Fixed Assets	28.1	32.0	37.9	43.8	49.3	54.4	59.6
Intangible Assets	125.3	122.8	123.3	124.0	124.3	124.4	124.8
Associated Companies	2.3	4.4	4.4	4.4	4.4	4.4	4.4
Deferred Tax Assets	9.2	10.5	12.1	14.2	16.4	18.7	21.1
Other Receivables	1.3	0.8	2.4	2.8	3.3	3.7	4.2
<b>Non Current Assets</b>	<b>166.1</b>	<b>170.4</b>	<b>180.2</b>	<b>189.2</b>	<b>197.6</b>	<b>205.6</b>	<b>214.0</b>
<b>Total Assets</b>	<b>378.5</b>	<b>470.1</b>	<b>503.0</b>	<b>561.1</b>	<b>734.4</b>	<b>936.7</b>	<b>1168.5</b>
Borrowings	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Trade Payable	9.1	12.9	16.9	19.9	22.9	26.1	29.5
Income Taxes Payable	15.5	21.1	19.4	22.7	26.2	29.8	33.7
Other Liabilities	14.6	10.8	19.4	22.7	26.2	29.8	33.7
Accruals & Deferred Income	22.8	32.9	33.9	39.7	45.8	52.2	59.0
<b>Current Liabilities</b>	<b>62.1</b>	<b>77.7</b>	<b>89.6</b>	<b>105.0</b>	<b>121.1</b>	<b>138.0</b>	<b>156.0</b>
Borrowings	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Deferred Tax Liabilities	7.4	13.3	12.1	14.2	16.4	18.7	21.1
Provisions	22.4	22.2	31.5	36.9	42.5	48.5	54.8
<b>Non Current Liabilities</b>	<b>30.5</b>	<b>36.2</b>	<b>44.3</b>	<b>51.8</b>	<b>59.6</b>	<b>67.9</b>	<b>76.6</b>
<b>Total Liabilities</b>	<b>92.6</b>	<b>113.8</b>	<b>133.9</b>	<b>156.7</b>	<b>180.7</b>	<b>205.9</b>	<b>232.5</b>
<b>Net Assets</b>	<b>286.0</b>	<b>356.3</b>	<b>369.1</b>	<b>404.4</b>	<b>553.7</b>	<b>730.8</b>	<b>936.0</b>
Share Capital	32.3	32.9	32.9	32.9	32.9	32.9	32.9
Share Premium	79.6	88.5	88.5	88.5	88.5	88.5	88.5
Minority Interest	2.5	1.2	1.2	1.2	1.2	1.2	1.2
Retained Profits	171.5	233.7	346.5	464.8	614.1	791.2	996.4
<b>Total Shareholders Equity</b>	<b>286.0</b>	<b>356.3</b>	<b>369.1</b>	<b>404.4</b>	<b>553.7</b>	<b>730.8</b>	<b>936.0</b>

**Balance Sheet - Analytical Ratios**

Working Capital (m)	40.9	27.2	44.8	50.7	58.5	66.7	75.4
Change in Working Capital	4.1	(13.8)	17.6	6.0	7.8	8.2	8.7
WC / Sales (%)	12.3%	7.0%	9.2%	8.9%	8.9%	8.9%	8.9%
Trade Receivable / Sales (%)	17.7%	18.3%	17.3%	17.0%	17.0%	17.0%	17.0%
Inventories / Sales (%)	6.7%	4.5%	6.0%	6.0%	6.0%	6.0%	6.0%
Trade Payable / Sales (%)	2.7%	3.3%	3.5%	3.5%	3.5%	3.5%	3.5%
Gross debt (m)	(0.8)	(0.7)	(0.7)	(0.7)	(0.7)	(0.7)	(0.7)
Net (debt)/cash (m)	108.7	194.2	187.7	215.5	356.5	525.6	722.4
Change in net (debt) / cash (m)	87.3	85.5	(6.4)	27.8	140.9	169.2	196.8
Net Debt/Equity (%)	-38.0%	-54.5%	-50.9%	-53.3%	-64.4%	-71.9%	-77.2%
Gearing (Net debt / Net debt +Equity) (%)	-61.3%	-119.8%	-103.5%	-114.1%	-180.7%	-256.2%	-338.3%
Debt / Equity	38.0%	54.5%	50.9%	53.3%	64.4%	71.9%	77.2%
ROE (using average equity) %	28.7%	29.7%	43.3%	42.7%	41.5%	36.9%	33.1%
ROA (using average assets) %	4.6%	5.8%	9.3%	31.0%	30.7%	28.3%	26.2%
Net Tangible Assets (m)	160.7	233.5	245.7	360.6	504.4	676.4	876.4
NTA per Share (diluted)	6.3	9.1	9.6	14.1	19.8	26.5	34.3

Source: Merrill Lynch estimates

**Table 11: Nobel Biocare's Cash Flow Model**

Cash Flow Statement, Dec Y/E (EURm)	FY03A	FY04A	FY05E	FY06E	FY07E	FY08E	FY09E
EBT	85.5	118.4	159.6	206.9	249.1	296.7	346.1
EBIT non-recurring	5.8	1.7	30.2	0.0	0.0	0.0	0.0
Disposals of Options in Associate	-4.7	0.0	0.0	0.0	0.0	0.0	0.0
Depreciation/Amortisation	20.0	20.0	13.4	15.9	18.6	21.6	25.0
Financial Income/Expense	0.6	-2.3	0.0	0.0	0.0	0.0	0.0
Other Non Cash Items	2.9	3.4	0.0	0.0	0.0	0.0	0.0
(Increase) / Decrease in Trade & Other Receivables	-24.9	-11.5	-21.3	-18.9	-21.3	-22.4	-23.7
(Increase) / Decrease in Inventories	4.2	4.8	-11.4	-5.0	-5.2	-5.5	-5.8
Increase / (Decrease) in Trade & Other Payables	10.8	0.2	10.7	17.5	18.3	19.3	20.3
Increase / (Decrease) in Provisions	1.3	9.8	13.2	0.4	-2.9	-9.6	-15.5
Tax Expense	-18.3	-13.1	-32.7	-41.8	-50.3	-59.9	-69.9
<b>Operating Cash Flow</b>	<b>83.4</b>	<b>131.3</b>	<b>161.6</b>	<b>174.9</b>	<b>206.3</b>	<b>240.1</b>	<b>276.5</b>
Interest received	2.2	2.8	-3.8	5.1	8.6	15.5	21.9
Purchase (-) / Sales (+) of Intangible Assets	-1.1	-17.0	-2.9	-3.4	-3.4	-3.8	-4.5
Purchase (-) / Sales (+) of Fixed Assets	-12.8	-16.1	-17.0	-19.0	-21.0	-23.0	-26.0
Disposals of Options in Associate	4.7	0.0	0.0	0.0	0.0	0.0	0.0
Increase / (Decrease) in Investment in Associate	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acquisition of subsidiary	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Investing Cash Flow</b>	<b>-7.0</b>	<b>-30.3</b>	<b>-23.7</b>	<b>-17.3</b>	<b>-15.8</b>	<b>-11.3</b>	<b>-8.6</b>
Sale of Treasury Shares / New Shares	20.5	0.0	-100.0	-83.0	0.0	0.0	0.0
Redemption of Warrants & Options	4.9	8.4	0.0	0.0	0.0	0.0	0.0
Increase / (Decrease) in Borrowings	-27.5	0.0	6.4	-27.8	-140.9	-169.2	-196.8
Interest Paid	-1.6	-1.2	0.0	0.0	0.0	0.0	0.0
Dividends Paid	-13.1	-21.5	-44.3	-46.8	-49.5	-59.6	-71.0
<b>Financing Cash Flow</b>	<b>-16.8</b>	<b>-14.3</b>	<b>-137.8</b>	<b>-157.6</b>	<b>-190.5</b>	<b>-228.8</b>	<b>-267.8</b>
Net Increase/ (Decrease) in Funds	59.6	86.7	0.0	0.0	0.0	0.0	0.0
<b>Cash Flow - Analytical Ratios</b>							
Operating Cash Flow growth (%)	18.6%	57.5%	23.0%	8.3%	17.9%	16.4%	15.1%
CFPS (normal)	3.32	5.19	6.14	7.05	8.41	10.01	11.68
CFPS (diluted)	3.18	5.03	5.97	6.81	8.13	9.67	11.29

Source: Merrill Lynch estimates

## Analyst Certification

I, Michael Jüngling, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

**iQmethod<sup>SM</sup> Measures Definitions**

Business Performance	Numerator	Denominator
Return On Capital Employed	NOPAT = (EBIT + Interest Income) * (1 - Tax Rate) + Goodwill Amortization	Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization
Return On Equity	Net Income	Shareholders' Equity
Operating Margin	Operating Profit	Sales
Earnings Growth	Expected 5-Year CAGR From Latest Actual	N/A
Free Cash Flow	Cash Flow From Operations – Total Capex	N/A
<b>Quality of Earnings</b>		
Cash Realization Ratio	Cash Flow From Operations	Net Income
Asset Replacement Ratio	Capex	Depreciation
Tax Rate	Tax Charge	Pre-Tax Income
Net Debt-To-Equity Ratio	Net Debt = Total Debt, Less Cash & Equivalents	Total Equity
Interest Cover	EBIT	Interest Expense
<b>Valuation Toolkit</b>		
Price / Earnings Ratio	Current Share Price	Diluted Earnings Per Share (Basis As Specified)
Price / Book Value	Current Share Price	Shareholders' Equity / Current Basic Shares
Dividend Yield	Annualised Declared Cash Dividend	Current Share Price
Free Cash Flow Yield	Cash Flow From Operations – Total Capex	Market Cap. = Current Share Price * Current Basic Shares
Enterprise Value / Sales	EV = Current Share Price * Current Shares + Minority Equity + Net Debt + Other LT Liabilities	Sales
EV / EBITDA	Enterprise Value	Basic EBIT + Depreciation + Amortization

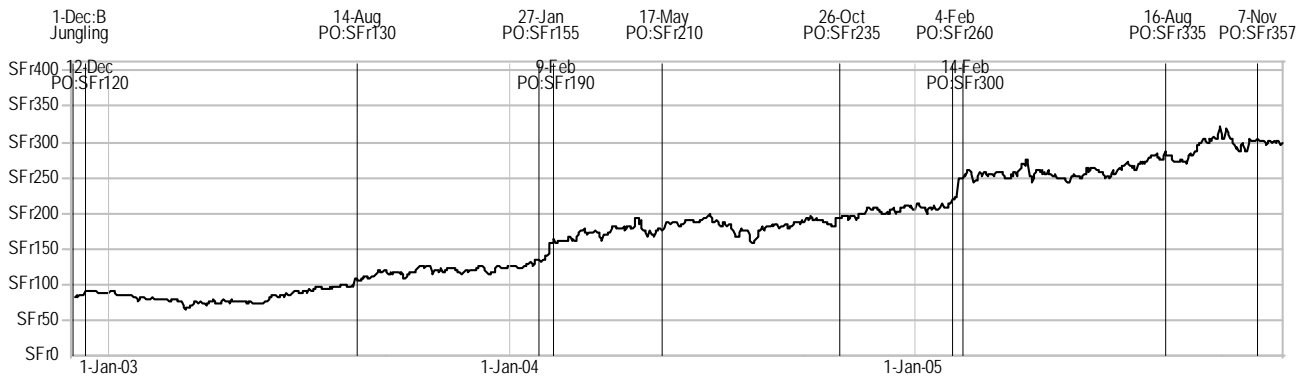
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**NBCHF Price Chart**



B : Buy, N : Neutral, S : Sell, PO : Price objective, NA : No longer valid

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark Grey shading indicates the security is restricted with the opinion suspended. Light Grey shading indicates the security is under review with the opinion withdrawn. Chart current as of September 30, 2005.

**Investment Rating Distribution: Health Care Group(as of 30 Sep 2005)**

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	99	48.77%	Buy	31	31.31%
Neutral	89	43.84%	Neutral	24	26.97%
Sell	15	7.39%	Sell	1	6.67%

**Investment Rating Distribution: Global Group(as of 30 Sep 2005)**

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	1076	40.21%	Buy	350	32.53%
Neutral	1399	52.28%	Neutral	412	29.45%
Sell	201	7.51%	Sell	36	17.91%

\* Companies in respect of which MLPF&S or an affiliate has received compensation for investment banking services within the past 12 months.

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