

Healthcare  
 Pharmaceuticals  
 Equity – INDIA

## No Rating

Share price (INR)	141.2		
Performance	1M	3M	12M
Absolute (%)	-10.8	-20.0	-25.1
Relative <sup>A</sup> (%)	-1.0	-10.0	-16.1
Index <sup>A</sup>	BOMBAY SE IDX		
RIC	PNCA.NS		
Bloomberg	PNCB IN		
Market cap (USDm)	188.4		
Market cap (INRbn)	8.47		
Free float (%)	25.09		
INR	2011a	2012e	2013e
EPS	16.60	14.45	17.16
PE (x)	8.51	9.77	8.23

Source: Datastream, Bloomberg

# Panacea Biotec (PNCB)

## Management meeting update

- ▶ **The WHO recently delisted three of the company's vaccines, which would have an adverse near-term impact**
- ▶ **While Panacea is taking immediate steps to resolve the issue, it is unclear how long this will take; WHO will have to inspect the site and re-issue prequalification**
- ▶ **We present the takeaways from our meeting with management and discuss different revenue drivers**

*We recently visited Panacea Biotec as part of our ongoing investigation of the Pharmaceuticals market. We do not rate nor are we commenting on the investment merit of the company's securities.*

We met the management of Panacea Biotec after the recent delisting of three vaccines by the World Health Organisation (WHO). The key takeaway is that while the issue is not specific to the products and the vaccines are safe to use, resolving the quality issue may take a significant amount of time. Before production of these vaccines can be resumed, the site will have to be inspected by the WHO; if satisfied, it will reissue pre-qualification approval. The company expects WHO visit to its Delhi formulation plant in September 2011 and is working towards necessary remedial process.

Following a routine WHO site audit, Panacea's Easyfive (DPT, Hep-B, Hib), Ecovac4 (DPT, Hep-B) and EnivacHB (Hep-B) vaccines were removed from the list of prequalified vaccines. Specific deficiencies were found at the Larlu manufacturing site in relation to the manufacture of Hib and Hep-B bulk which are used in the three vaccines.

Panacea is vertically integrated on Hep-B and Hib vaccines and uses its own bulk (manufactured by subsidiary PanERA Biotec). While it has been outsourcing the DPT component in the above vaccines, it has been working on making DPT indigenously and is expected to become fully integrated for the above vaccines.

EasyFive is the most profitable of all the vaccines in Panacea's product basket, given the lower competition and highest procurement. The overall sales of the three vaccines total cINR4bn, equivalent to c35% of FY11 revenue.

## 30 August 2011

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## EasyFive – the most critical element

EasyFive is the pentavalent vaccine with latest annual sales of INR3.5bn. Panacea got prequalification for this vaccine in 2009 and recently won a UNICEF contract worth around USD222m for 75m doses spread over three years (each dose priced at USD3). The vaccine is used by various UN agencies (UNICEF, PAHO), GAVI, and the Bill and Melinda Gates Foundation to vaccinate millions of children in the developing world. The estimated demand in developing countries for the combination vaccine is c300m doses annually.

EasyFive is the world's first fully liquid pentavalent vaccine developed by Panacea which immunises against five diseases simultaneously – diphtheria, tetanus, wholecell pertussis, hepatitis B and hemophilus influenza type b in early childhood.

Panacea was the largest supplier of this vaccine. Other players in this market include GSK, Sanofi Aventis, Novartis (partnership with Crucell), Serum Institute of India, Shantha Biotech. Some of them, including GSK and Serum Institute, make the product in two vials (in which Hib is lyophilised, others in liquid form) and are presumably at a disadvantage to players like Panacea who have fully liquid vaccine in one vial.

Shantha Biotech (largely owned by Sanofi Aventis) also had its pentavalent vaccine Shan5 delisted in 2010 as white sediment was found sticking to glass vials containing the vaccine, which seems a more product-related issue. This occurred after it had won a contract worth USD340m over three years. The company believes there is no element of product-related deficiency in the case of Panacea's EasyFive, but it will nonetheless impact the company's financials significantly over the near term.

**Pentavalent and Polio vaccines: Major manufacturers**

Vaccine	Manufacturer	Country of manufacture	Presentation
<b>Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b</b>	Crucell Korea	Republic of Korea	1 dose vial
	GlaxoSmithKline	Belgium	2 dose vial+vial (liquid/lyophilised combination)
	<b>Panacea Biotec*</b>	Hungary	1 dose vial
	Serum Institute of India, India	India	1 dose vial + ampoule (liquid/lyophilised combination), 2 dose vial + ampoule (liquid/lyophilised combination), 10 dose vial + vial (liquid/lyophilised combination), 1 dose vial, 2 dose vial, 10 dose vial
<b>Polio vaccine - Oral (OPV) Bivalent Types 1 and 3</b>	Shantha Biotechnics*	India	
	Bharat Biotech International	India	10 dose vial, 20 dose vial
	Bio Farma	Indonesia	20 dose vial
	GlaxoSmithKline	Belgium	10 dose vial, 20 dose vial
	Haffkine Bio Pharmaceutical Corporation Ltd	India	20 dose vial
	<b>Panacea Biotec</b>	<b>India</b>	<b>20 dose vial</b>
<b>Polio vaccine - Oral (OPV) Monovalent Type 1</b>	Sanofi Pasteur	France	20 dose vial
	Bharat Biotech International	India	10 dose vial, 20 dose vial
	Bio Farma	Indonesia	20 dose vial
	GlaxoSmithKline	Belgium	10 dose vial, 20 dose vial
	Haffkine Bio Pharmaceutical Corporation Ltd	India	20 dose vial
	Novartis Vaccines and Diagnostics	Italy	20 dose Tube
	<b>Panacea Biotec</b>	<b>India</b>	<b>20 dose vial</b>
<b>Polio vaccine - Oral (OPV) Monovalent Type 2</b>	Sanofi Pasteur	France	20 dose vial
	GlaxoSmithKline	Belgium	10 dose vial, 20 dose vial
<b>Polio vaccine - Oral (OPV) Monovalent Type 3</b>	<b>Panacea Biotec</b>	<b>India</b>	<b>20 dose vial</b>
	Bharat Biotech International	India	10 dose vial, 20 dose vial
<b>Polio vaccine - Oral (OPV) Trivalent</b>	GlaxoSmithKline	Belgium	10 dose vial, 20 dose vial
	Novartis Vaccines and Diagnostics	Italy	20 dose vial
	<b>Panacea Biotec</b>	<b>India</b>	<b>20 dose vial</b>
	Bio Farma	Indonesia	10 dose Tube, 20 dose Tube
	GlaxoSmithKline	Belgium	10 dose vial, 20 dose vial
	Haffkine Bio Pharmaceutical Corporation Ltd	India	20 dose vial
	Novartis Vaccines and Diagnostics	Italy	10 dose Tube, 20 dose Tube
	<b>Panacea Biotec</b>	<b>India</b>	<b>20 dose vial</b>
	Sanofi Pasteur	France	10 dose vial, 20 dose vial

Note: \* now disqualified  
Source: WHO

Price per dose (USD) for Pentavalent vaccine

Presentation	Supplier name	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
DTP-HepB-Hib vaccine in a single dose liquid presentation	Crucell Switzerland AG						3.63	3.75	3.60	3.60	3.20
	Panacea Biotec								3.60	3.60	2.97
	Shantha Biotechnics								2.90	2.70	2.70
DTP-HepB-Hib vaccine in a two dose lyophilised presentation	Serum Institute Of India										2.25
	GlaxoSmithKline Biologicals S.A.	3.50	3.25	3.10	3.65	3.60	3.60	3.50-3.60	3.50	3.50	2.95

Source: UNICEF

## OPV – revenue earner, but lumpy sales

OPV (oral polio vaccine) portfolio of vaccines contributed cINR4bn sales in FY11 (c35% of total sales), down significantly from cINR6bn in FY08. OPV vaccine is sold under different formulation types – mOPV, bOPV, tOPV – depending on number of strains of polio virus and severity in regions.

1Q FY12 sales were down 13% y-o-y, essentially due to lower sales in OPV impacted by non-procurement of tOPV (trivalent OPV) by WHO. While OPV has been the major procurement area by UNICEF for over last decade, it's not the case anymore by value (it's been overtaken by pentavalent vaccines). Additionally, as attempts to eradicate polio increase, the risk to OPV sales also increases. The table below highlights that the risk is not evident in the near term given that there are still a significant number of polio cases in certain parts of the world. Additionally, any WHO region can be certified polio free if it doesn't record a single polio case for three consecutive years following the year in which it recorded zero cases for the first time.

Panacea sources bulk from third parties for its polio vaccines and therefore enjoys lower margins on OPV.

Polio cases comparison in 2011 and 2010

Total cases Globally Countries	y-t-d 2011			y-t-d 2010			Total in 2010	Date of most recent case
	WPV1	WPV3	Total	WPV1	WPV3	Total		
	333			618			1349	
Pakistan	71	1	72	22	17	39	144	8/7/2011
Afghanistan	13		13	5	8	13	25	8/2/2011
Guinea		2	2					7/27/2011
DR Congo	75		75	7		7	100	7/25/2011
Nigeria	18	7	25	3	3	6	21	7/20/2011
Chad	97	3	100		14	14	26	8/16/2011
Cote d'Ivoire		31	31					7/10/2011
Niger		1	1		2	2	2	1/19/2011
<b>India</b>	<b>1</b>		<b>1</b>	<b>9</b>	<b>21</b>	<b>30</b>	<b>42</b>	<b>1/13/2011</b>
Tajikistan				454		454	457	7/4/2010
<b>Total</b>	<b>281</b>	<b>52</b>	<b>333</b>	<b>553</b>	<b>65</b>	<b>618</b>	<b>1349</b>	

Note: WPV means Wild Polio Virus; Data in WHO as of 24 Aug 2010 for 2010 data and 23 Aug 2011 for 2011 data

Source: WHO

**Total number of doses (m) of vaccines bought by UNICEF**

Vaccine	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BCG	88	104	78	115	108	122	107	119	106	141	106
DTP	92	82	87	116	116	110	93	76	58	36	30
TT	82	132	126	115	144	151	93	174	179	128	130
DT/Td	3	4	2	2	5	3	4	6	5	4	4
Measles	85	108	149	188	145	224	181	237	173	127	169
<b>OPV</b>	<b>970</b>	<b>1,050</b>	<b>1,242</b>	<b>1,889</b>	<b>2,112</b>	<b>2,265</b>	<b>2,369</b>	<b>2,323</b>	<b>1,817</b>	<b>2,284</b>	<b>1,885</b>
Hep B	6	29	40	54	66	81	90	62	81	62	25
DTP-Hep	0	14	9	13	12	10	28	50	14	2	1
<b>DTP-Hep-Hib-</b>	<b>0</b>	<b>15</b>	<b>9</b>	<b>16</b>	<b>15</b>	<b>21</b>	<b>21</b>	<b>40</b>	<b>72</b>	<b>107</b>	<b>98</b>
DTP-Hib			0	4	2	0	1	3	2	3	4
Hib		0	0	0	0	0	0	0	0	0	0
Yellow fever	4	6	10	18	25	21	13	32	39	37	35
MMR	1	1	1	2	1	2	1	1	1	4	4
MR	1	11	1	6	7	13	2	30	2	3	3
Meningitis	5	3	14	0	22	3	4	2	7	15	23
PCV										2	8
Other				0	2	0	1	4	1	1	2
<b>Total</b>	<b>1,337</b>	<b>1,558</b>	<b>1,767</b>	<b>2,537</b>	<b>2,782</b>	<b>3,028</b>	<b>3,008</b>	<b>3,158</b>	<b>2,556</b>	<b>2,953</b>	<b>2,527</b>

Source: UNICEF

**Total Value (USDm) of vaccines bought by UNICEF**

Vaccine	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BCG	4	6	4	6	9	9	9	9	8	11	8
DTP	6	6	7	10	12	13	15	14	11	7	7
TT	2	4	4	5	7	9	5	11	12	8	9
DT/Td	0	0	0	0	0	0	0	1	0	0	0
Measles	9	12	17	24	20	35	31	45	36	28	38
<b>OPV</b>	<b>67</b>	<b>89</b>	<b>108</b>	<b>178</b>	<b>205</b>	<b>234</b>	<b>281</b>	<b>286</b>	<b>240</b>	<b>316</b>	<b>272</b>
Hep B	3	10	15	17	19	24	20	13	17	13	5
DTP-Hep	0	15	8	15	15	13	34	45	10	2	1
<b>DTP-Hep-Hib</b>	<b>0</b>	<b>51</b>	<b>29</b>	<b>57</b>	<b>54</b>	<b>76</b>	<b>76</b>	<b>143</b>	<b>251</b>	<b>363</b>	<b>292</b>
DTP-Hib			1	10	6	1	5	9	7	9	12
Hib		0	0	0	0	0	0	0	0	0	0
Yellow fever	1	2	4	11	13	13	10	21	26	30	31
MMR	1	1	1	2	2	3	1	2	2	4	6
MR	1	5	1	3	3	6	1	14	1	1	1
Meningitis	1	1	3	0	8	1	2	2	6	14	14
PCV											50
Other	0	4	4	1	1	1	2	1	1	1	4
<b>Total</b>	<b>96</b>	<b>205</b>	<b>207</b>	<b>337</b>	<b>374</b>	<b>436</b>	<b>491</b>	<b>617</b>	<b>629</b>	<b>806</b>	<b>750</b>

Source: UNICEF

## Focus to broaden portfolio with adult vaccines

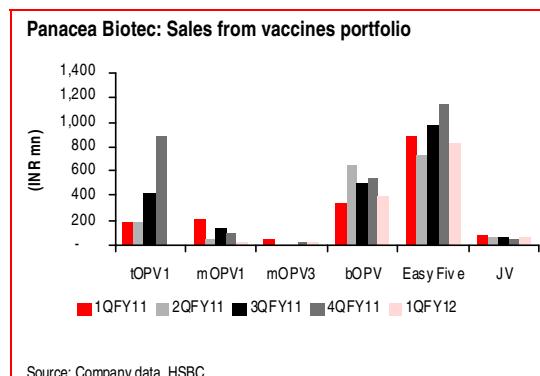
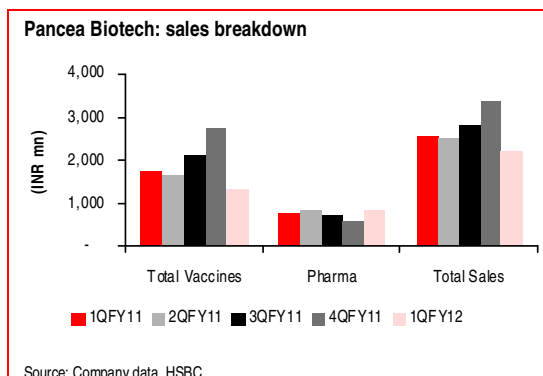
Paediatric vaccines dominate the global vaccines market, with strong growth momentum likely to continue. However, at the same time, the share of adult and therapeutic vaccines is likely to increase and should fuel the future growth in the global market.

Panacea expects to enter the hexavalent vaccine market soon, with the addition of IPV (injectable polio vaccine) in its existing pentavalent formulation. GSK already has a hexavalent vaccine. Crucell (Novartis's partner) is also working on adding polio antigen to its Quinvaxem vaccine. Additionally, the company expects to launch IPV separately as well.

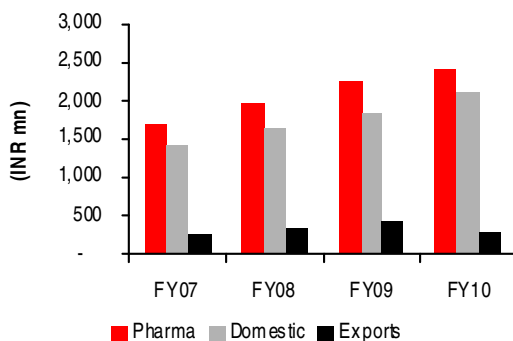
While most of the current vaccines portfolio is paediatric, Panacea has a pipeline for vaccination in adults. The company is working on vaccines for dengue, Japanese Encephalitis, adult pertussis, recombinant anthrax, varicella etc. Additional pipeline includes pneumococcal vaccines where Pfizer/Wyeth's Prevnar is dominant. The company expects to cover a broad range of vaccines by 2015 and a complete range of adult vaccines by 2020.

## Formulations – few catalysts

- ▶ Pharma sales constituted c25% of overall FY11 sales of cINR3bn, which includes over 90% domestic and c10% exports. Exports are currently in RoW markets.
- ▶ Domestic sales of INR2.8bn grew c10-12% in FY11, essentially due to volume. The company has c1100 field force in the region with key presence in diabetes through the Glizid brand and the pain-relieving Nimulid brand franchise. Panacea's brand ThankGod which treats haemorrhoids has also been performing well.
- ▶ Panacea recently launched albumin-bound paclitaxel formulation under the brand PacliALL in the domestic market. Overall market for this drug is cINR2bn as per the company's estimates.
- ▶ Panacea entered Brazil last year with the launch of tacrolimus, which could be a material opportunity according to the company. The product has grown c40% in sales over last year. Additionally, Panacea received approval for tacrolimus in Germany and expects sales to start in September this year.
- ▶ The company is eagerly awaiting approval of cyclosporin in regulated markets especially the US and expects to enter those regions in 2H FY12. According to the company, first year sales are expected to reach cUSD5m. The market is currently distributed among five players. Panacea's cyclosporine is a self-micro emulsifying concentrate of Cyclosporine – Panimum Bioral and is bioequivalent to Novartis's Neoral. The company is focusing on a few additional drug-delivery based products for regulated markets (including mycophenolate).



Panacea Biotech: Sales breakdown (INRm)



Source: Company data, HSBC

JV sales include sales under Chiron Panacea, which is a 50:50 alliance with Chiron vaccines (now Novartis) for the marketing of combination vaccines in India. These sales are non-institutional (account for private market sales).

Other highlights:

- ▶ The company has guided for capex of cINR700m for FY12, of which cINR500m will be utilized towards setting up oncology facility in Baddi.
- ▶ The company recently redeemed its outstanding FCCB worth USD36.8m (including redemption premium of USD15.75m)
- ▶ Current debt is cINR7.8bn. R&D to sales was c5-6% as of the quarter ending 30 June 2011.

**Brand standing and market share (IMS March 2010)**

Brands	Market share (%)	Ranking
<i>Diabetes and Critical Care</i>		
Glizid M	24	1
Glizid 80mg	23	2
Glizid 40mg	28	2
Glizid MR 60mg	11	3
Glizid MR 30mg	15	2
Glizid Total	23	2
<i>Pain Management</i>		
Willgo	60	1
Nimulid MD	29	1
Nimulid 100mg	9	2
Nimulid Suspension	21	2
Nimulid SP	8	4
Nimulid MR	11	4
Softdiclo	10	3
Kondro OD	22	3
Vacosteo	38	1
<i>Tuberculosis Management</i>		
Myser	14	3
<i>Gastro-intestinal</i>		
Livoluk	7	4

Source: Company, HSBC

### Panacea Biotec: Recent product launches

Period	Products launched
Q1 FY12	TecPara (for Antipioritic), Nimulid ER (Pain Killer), Fotizo Powder (Protein for Cancer Patients), Tecbeta 25 & 50 and Tecbeta AM (For Hypertension), Gliben Total P (Anti Diabetic), Stamicar Total P (Giving energy to heart muscle), Ferbato 40 & 80 (for Hyperuricemia).
Q4 FY11	PacliALL (Breast Cancer), EXEROZ-F (for Low Density Lipoprotein & Triglycerides) and EVERGRAF (for Immunosuppression, Renal Function & Graft Thrombosis).
Q3 FY11	LENOMUST capsules 5mg, 10mg & 25mg (Multiple Myeloma for Blood Cancer), RENHOLD Tablets (Protein for Dialysis Patients), EXEROZ 5mg & 10mg Tablets (For Reduction of Cholesterol), and FIBERFOS POWDER 90gm & GUSH POWDER 90gm (both for Constipation)
Q2 FY11	METLONG V 0.2 Tablets (Anti Diabetic), CORTON Syrup (Cough Syrup), BETAGLIM M2 DS Tablet (Diabetics), PRO SEVENTY (Protein for Dialysis Patients), EPOTRUST 10000 (For Increasing RBC), ENBA CAPSULES (Anti Ulcer), RAMY 24 Capsules (Antihypertension & CV Protection), GLIZID TOTAL - P (Anti Diabetic) & BEMUSTIN INJECTION (CNL disease (Blood cancer)).
Q1 FY11	Teltor AV Tablets (for treatment of Hyper tension & BP patients), HiFibre 50 Gm. Bottle (for constipation), MYCEPT S 540 Tab (Immunosuppressant), ValueMentin Dry Syrup (Antibiotic), KofZero XP (Cough Syrup) & ValueThral Readymix 200 & 100 (Antibiotic).

Source: Company data, HSBC

### Panacea Biotec financials (INRM)

	FY09	1Q10	2Q10	3Q10	4Q10	FY10	1Q11	2Q11	3Q11	4Q11	FY11	1Q12
Sales	7,954	1,772	1,658	2,281	3133	8,844	2,539	2,526	2,841	3399	11,305	2,210
Raw materials	2,686	697	729	1,279	1976	4,680	1,214	1,118	1,237	1723	5,291	864
Manufacturing Expense	836	178	205	238	243	864	238	288	237	317	1,079	265
Staff Costs	957	231	271	244	244	990	285	309	292	408	1,294	305
Other expenditure	1,511	246	204	147	320	439	233	284	339	331	594	292
Total expenditure	5,990	1,352	1,409	1,908	2,783	7,551	1,970	1,999	2,105	2,779	8,852	1,727
Operating Profit	1,964	421	250	373	350	1,293	569	527	735	621	2,453	483
Margin (%)	24.7%	23.7%	15.0%	16.3%	11.2%	14.6%	22.4%	20.9%	25.9%	18.3%	21.7%	21.9%
Interest	322	98	100	85.8	98.9	383	86	114	125.7	152.7	478	163
Depreciation	725	161	162	164	178	665	174	185	183	190	731	163
Service Income				33		254	45	37	88		219	47
Non-operating Income	240	49	43	11	172	54	13	41	32	96	131	17
Profit Before Tax	1,157	211	30	167	244	554	368	307	546	374	1,594	221
Taxation	(207)	81	9	94	197	381	28	117	135	(75)	204	40
Tax Rate (%)	-17.9%	38.3%	29.7%	56.0%	80.6%	68.7%	7.7%	38.1%	24.6%	-20.2%	12.8%	18.1%
Profit after tax	1,364	130	21	73	47	173	339	190	412	449	1,390	181
Extraordinaries	2,035				(528)	(627)	14	21	14	19	39	14
Net Profit	(671)	130	21	73	575	800	326	169	426	430	1,351	167

Source: Company data, HSBC



# Disclosure appendix

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For each stock we set a required rate of return calculated from the risk free rate for that stock's domestic, or as appropriate, regional market and the relevant equity risk premium established by our strategy team. The price target for a stock represents the value the analyst expects the stock to reach over our performance horizon. The performance horizon is 12 months. For a stock to be classified as Overweight, the implied return must exceed the required return by at least 5 percentage points over the next 12 months (or 10 percentage points for a stock classified as Volatile\*). For a stock to be classified as Underweight, the

stock must be expected to underperform its required return by at least 5 percentage points over the next 12 months (or 10 percentage points for a stock classified as Volatile\*). Stocks between these bands are classified as Neutral.

Our ratings are re-calibrated against these bands at the time of any 'material change' (initiation of coverage, change of volatility status or change in price target). Notwithstanding this, and although ratings are subject to ongoing management review, expected returns will be permitted to move outside the bands as a result of normal share price fluctuations without necessarily triggering a rating change.

\*A stock will be classified as volatile if its historical volatility has exceeded 40%, if the stock has been listed for less than 12 months (unless it is in an industry or sector where volatility is low) or if the analyst expects significant volatility. However, stocks which we do not consider volatile may in fact also behave in such a way. Historical volatility is defined as the past month's average of the daily 365-day moving average volatilities. In order to avoid misleadingly frequent changes in rating, however, volatility has to move 2.5 percentage points past the 40% benchmark in either direction for a stock's status to change.

### Rating distribution for long-term investment opportunities

**As of 30 August 2011, the distribution of all ratings published is as follows:**

<b>Overweight (Buy)</b>	53%	(27% of these provided with Investment Banking Services)
<b>Neutral (Hold)</b>	36%	(20% of these provided with Investment Banking Services)
<b>Underweight (Sell)</b>	11%	(19% of these provided with Investment Banking Services)

# Disclaimer

\* Legal entities as at 04 March 2011

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