

Equities



UNITED STATES



PAHC US Neutral

Price (at 20:00, 26 Mar 2015 GMT) US\$34.24

Valuation US\$ 35.00

- Sum of Parts

12-month target US\$ 35.00

12-month TSR % +3.4

GICS sector

Pharmaceuticals, Biotechnology & Life Sciences

Market cap US\$m 1,335

30-day avg turnover US\$m 9.3

Number shares on issue m 38.99

Investment fundamentals

Year end 30 Jun		2014A	2015E	2016E	2017E
Revenue	m	691.9	759.4	820.0	879.1
EBITDA	m	85.2	109.4	121.9	139.2
EBITDA growth	%	12.3	28.3	11.5	14.2
Reported profit	m	-3.1	64.6	67.7	80.3
EPS rep	US\$	-0.08	1.62	1.70	2.02
EPS rep growth	%	nfm	nfm	4.7	18.7
PER rep	x	nfm	21.1	20.1	17.0
Total DPS	US\$	0.00	0.40	0.41	0.48
Total div yield	%	0.0	1.2	1.2	1.4
ROA	%	8.3	18.4	18.3	19.0
ROE	%	11.7	209.8	92.1	61.4
EV/EBITDA	x	19.0	14.9	13.4	11.7
Net debt/equity	%	1,832.3	506.6	204.2	99.2
P/BV	x	89.5	29.4	13.6	8.5

Source: FactSet, Macquarie Capital (USA), April 2015
(all figures in USD unless noted)

Calendar:

Tue, May 12: Q3 2015 results

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1 April 2015

Macquarie Capital (USA) Inc.

Phibro Animal Health

Too chicken to follow the momentum

Downgrade to Neutral with a higher target price of \$35

We reduce our rating on Phibro Animal Health to Neutral, and transfer coverage from Andrew Russell. We increase our target price to \$35 (from \$32) based on the sector re-rating. We think Phibro's 13x 2016 EV/EBITDA valuation already reflects the positive growth story and defensive cash flows. To justify a higher valuation, we would need to see faster growth or see the sector re-rate even higher.

Keeping livestock healthy is a secular growth story

Demand for animal proteins is far from a peak. Just as they want mobiles, air-con and big TVs, the rising middle class emerging markets is driving up demand for meat, eggs and milk. With the supply of farming land also falling, there has been a shift to factory-style farms to boost productivity. The problem is that crowding lots of animals in a small space increases the risk of disease. Phibro's medicated animal feeds and vaccines are key tool to help manage these disease risks.

Only Phibro has an exclusive focus on livestock

Phibro is the only publicly listed company with an exclusive focus on meat for human consumption. Phibro has an established position, strong brand recognition and a direct sales force that creates product stickiness with farmers. This also makes Phibro a good partner for animal health firms looking to commercialize R&D. The OmniGen partnership was a good example, and MJ Biologics could be next. These factors help protect Phibro from competitive threats, while also providing a platform for the company to increase its penetration in emerging markets.

M&A will continue to draw attention to animal health sector

Bill Ackman's Pershing Square has ~11% of Zoetis and that stock is a potential takeover target, in our view. Phibro could be an attractive target for another health company that wanted to diversify into animal health or improve their position in the poultry segment or in North America. With an estimated \$180m in FCF generation over 2015e-18e after dividend and expected debt repayments, Phibro should have the financial flexibility to pursue growth options, including M&A.

Legacy Performance Products a drag, but likely to stay

Phibro sales are forecast to rise 7.5% a year to 2018e. Animal Health is the key positive driver thanks to industry tailwinds, with growth of ~9% a year. Performance Products is the key drag on sales growth but is likely to remain part of the stable given it is profitable and requires little additional capital. That said, if this non-core division were sold, we think it could fetch somewhere between \$23 and \$35m.

Consumer resistance a threat, but world wants cheap meat

Increased consumer resistance to the use of animal health products, and associated regulations on their use are key demand risks. These risks need to be balanced against the rising demand for animal proteins that necessitate industrial farming to boost productivity. McDonalds recently announced they will phase out chicken that uses antibiotics that impact human health, but they recognise that antibiotics are necessary to make sure that the chickens are healthy enough for people to eat.

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Too chicken to follow the momentum

Downgrade to Neutral with higher target price of \$35

We transfer coverage and downgrade to Neutral, as we think the 2016e EV/EBITDA multiple of around 13x already reflects Phibro's positive structural growth story. In our view, the earnings relatively defensive, with steady growth, but we would need to see faster growth to justify a higher valuation multiple.

We see Phibro Animal Health as an attractive growth name that should continue to benefit from the world's rising demand for meat, eggs and milk.

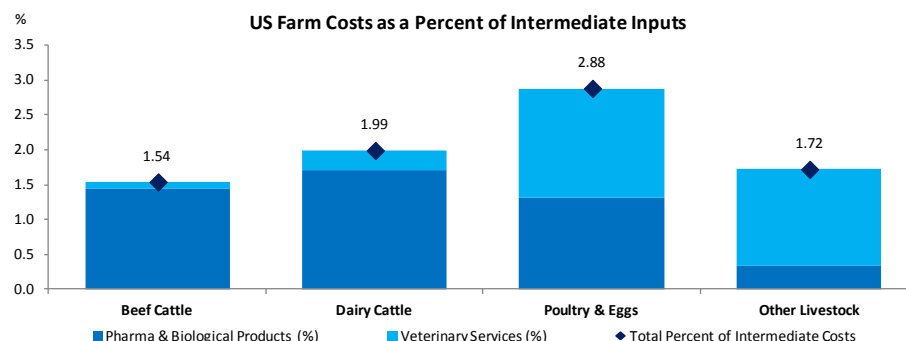
Phibro has an established position in the Animal Health sector, which is one where we think the business economics and long term growth outlook are attractive. The ultimate driver is increasing demand for animal proteins. The UN forecasts the world's population will rise from 7 billion today, to 10 billion by 2050. That's an extra 85 million mouths to feed each and every year for the next 35 years. Meat and milk are like luxury goods, so rising incomes and urbanisation mean demand rises faster than population growth. In fact, the UN Food & Agriculture Organization forecasts suggest a 70% rise in demand for animal proteins by 2050.

Urbanisation also cuts the supply of arable land, meaning there is less space to farm livestock. As a result, there is a need to increase productivity and this is done using more intensive factory farms. The downside here is that the risk of disease goes up when you put more animals in smaller spaces, especially in regions with a hot and humid climate. Animal health products including feed additives and vaccines are key tools to help manage the disease risks that arise from intensive farming.

This is where Phibro comes in. It's not the largest company in the space, but it is unique in being the only listed company focused on livestock for human consumption - poultry, pigs, beef and dairy cows and fish. Phibro's peers also target the pet market. Phibro has built its brands over 40 years, and has established trust for its products with farmers. We think these factors provide some barrier against new competitors, and some shield for long term earnings power.

Animal health costs are also defensive because they are generally a small part of livestock production costs. Based on the US input-output table we estimate animal health costs range from ~1.5% for beef cattle to ~2.9% for poultry. As a necessary product, that is not a large percent of costs, demand should be inelastic. That said, given the size and concentration of buyers, we think sales gains for Phibro will be driven by volume, not price just as they have in recent quarters.

Fig 1 Animal Health products are small part of a farmer's costs (~1.5-3%)



Source: Macquarie Capital (USA), BEA 2007 Input-Output table, April 2015

Valuation, Recommendation & Risks

Valuation and recommendation

**PAHC is rated
Neutral,
\$35 target price**

We reduce our rating on **Phibro Animal Health (PAHC US)** to **Neutral**, and transfer coverage from Andrew Russell. Our target price rises to \$35 (from \$32), due to a sector re-rate.

Fig 2 We value PAHC at \$35 a share based on an EV/EBITDA sum-of-the-parts

Operating Segment	Comps	2016E EBITDA	Peer Average	Implied Value
Animal Health	LLY, ZTS, VIRP, OFSA3	\$133	12.4x	\$1,641
Mineral Nutrition	Du Pont & FMC Corp	\$14	9.3x	\$130
Performance Products	Dow & Du Pont	\$4	10.1x	\$40
Corp. Expenses & Eliminations		-\$29	8.0x	-\$230
Sum		\$122	13.0x	\$1,581
(minus) Net Debt				\$205
Implied Equity Value				\$1,376
Share count				39.6
Share value				\$35.00

Source: Macquarie Capital (USA), Company data, FactSet, April 2015

We believe the current multiple already reflects the structural growth story and defensive cash flows, but PAHC may be a name to own after the Fed starts to hike rates.

Fig 3 We assume each segment of PAHC trades in line with the average multiple for the relevant comps

Company Name	Ticker	Price (LCY)	Mkt Cap US\$m	EV US\$m	ADV US\$m	PER		EV/EBITDA		ROE	ND/EBITDA	Analyst
						2015e	2016e	2015e	2016e	2016e	2016e	
Pure Animal Health (ex-China)												
Zoetis	ZTS US	46.29	23,176	25,975	152.6	28.1	24.5	18.2	16.5	34.9	1.8	** Consensus **
Virbac	VIRP FP	220.10	1,999	2,424	2.0	24.1	20.2	12.3	11.1	15.6	1.4	** Consensus **
Ouro Fino	OFSA3 BZ	28.68	484	484	0.4	22.6	17.6	13.8	11.0	37.0	1.6	** Consensus **
ECO Animal Health	EAH LN	2.05	192	172	0.3	18.4	16.3	12.5	10.8	11.3	-1.4	** Consensus **
China Animal Health												
China Animal Healthcare	940 HK	5.20	1,319	1,176	3.5	23.5	19.7	10.5	8.5	22.6	-2.4	Jake Lynch
China Animal Husbandry	600195 CH	21.22	1,471	1,489	20.5	25.6	21.1	19.5	17.0	12.2	-0.4	** Consensus **
Big Pharma w/Animal Health												
Bayer	BAYN GR	139.95	124,295	148,228	332.6	20.1	17.7	13.7	12.6	24.7	1.8	** Consensus **
Eli Lilly	LLY US	72.65	80,715	85,122	322.2	23.0	20.6	15.8	14.5	22.1	0.5	** Consensus **
Merck	MRK US	57.48	163,139	170,710	677.3	17.0	14.9	10.7	9.5	21.6	0.3	** Consensus **
Sanofi	SAN FP	91.93	130,265	138,289	322.0	16.6	15.9	11.0	10.5	13.2	0.6	** Consensus **
Mineral Nutrition												
Du Pont	DD US	71.47	64,748	68,665	376.5	17.4	15.4	10.1	9.3	25.5	0.0	Cooley May
FMC	FMC US	57.25	7,644	9,206	61.9	14.8	13.0	10.1	9.3	28.4	0.8	Cooley May
Performance Products												
Du Pont	DD US	71.47	64,748	68,665	376.5	17.4	15.4	10.1	9.3	25.5	0.0	Cooley May
Dow Chemical	DOW US	47.98	55,546	75,375	412.3	17.1	14.0	12.6	10.8	15.7	2.2	Cooley May
Phibro Animal Health	PACH US	35.41	1,410	1,648	6.9	21.8	20.8	15.1	13.5	67.3	1.7	Matthew Brooks
Pure Animal Health (ex-China)						23.3	19.7	14.2	12.4	24.7	0.8	
China Animal Health						24.6	20.4	15.0	12.7	17.4	-1.4	
Big Pharma w/ Animal Health						18.5	16.8	12.3	11.5	21.9	0.6	
Mineral Nutrition						16.1	14.2	10.1	9.3	26.9	0.4	
Performance Products						17.3	14.7	11.4	10.1	20.6	1.1	

Source: Macquarie Capital (USA), FactSet, Priced Tuesday March 31, 2015

Risks

- **More companies align with the “fresh food” movement and ban the use of growth antibiotics in livestock.** According to *Meat Companies Go Antibiotics-Free as More Consumers Demand It* (WSJ.com, 3 Nov 2014), antibiotic-free beef, pork and chicken is 5% of meat sold in the US (and rising). McDonalds is the latest company to join this trend, but unlike Chipotle (who ban all antibiotics), McDonalds has banned non-therapeutic types. These account for about \$15-20m (~3.5-4.6%) of PAHC's ~\$430m in animal health sales, so while there is a risk it is not as material as it might first appear.
- **Expansion of regulatory restrictions on the use of antibacterials in food-producing animals.** There is a forced phase-out by the FDA on the 'non-therapeutic' use of antibiotics (i.e. can't use them to promote growth), but they can still be used to control/prevent disease under vet supervision. PAHC expect to comply with FDA guidelines by the 2016 deadline, noting research shows proper use of their products poses very little or no risk to humans. Any risk must also be balanced with the need to produce healthy food for human consumption.
- **Increased competition within participating markets.** The global animal health industry is already concentrated, but there is the potential for further consolidation. This could improve the pricing power of industry players, and also increase the barrier to entry for others looking to benefit from the rising demand for animal health products.
- **Advances in veterinary medical practices and animal health technologies could impact demand for Phibro products.** There is always a risk that a competitor could develop better products, and this will always be in the background. That said, we think Phibro can use its established position to license new products and to distribute them using its direct sales force. This somewhat mitigates the risk of new technologies, as does the fact that Phibro could be the one that develops new products to gain share over its competitors.

Operational Overview

Background

Phibro makes products to keep the livestock we eat healthy, so that no diseases are passed onto humans

Phibro Animal Health is like a pharmaceutical company, but it develops, makes and markets products for animals, not humans. Phibro focuses on livestock for human consumption (chickens, pigs, beef & dairy cattle and fish), and does not make products for the household pet.

For nearly 40 years, Phibro has provided livestock producers with value-based products and solutions to help them maintain and enhance the health of their animals. These products help to prevent, control and treat diseases, enhance nutrition to help improve health and contribute to the balanced mineral nutrition of livestock animals.

Key brands such as Stafac, Nicarb and OmniGen enjoy strong recognition in their markets, while Phibro's vaccines are recognized as a standard efficacy against many diseases.

Phibro focuses on higher value markets where livestock production tends to be consolidated in large commercial farms, including the USA, Brazil, China, Russia, Mexico, Australia, Turkey, Israel, Canada and Europe. This global reach means the company should be well positioned to benefit from the growth in livestock production in emerging markets.

Phibro is differentiated by their direct sales, marketing and technical support organisation of over 225 employees that markets to livestock producers and veterinarian in over 65 countries. This direct link gives Phibro a better understanding of their business and allows them to identify and develop products to address unmet customer needs.

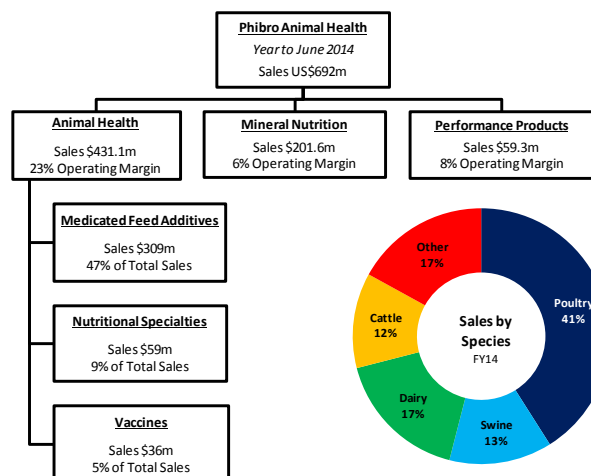
Phibro Health was founded in 1946 and is headquartered in Teaneck, New Jersey. The company listed on the NASDAQ in April 2014, raising ~\$175 million in the IPO.

Business Segments

Animal Health is the largest and most profitable division

- **Animal Health** – develops, manufactures and markets more than 550 product presentations, including medical feed additives, nutritional specialties and vaccines.
- **Mineral Nutrition** – manufactures and markets over 450 formulations and concentrations of trace minerals such as zinc, manganese, copper, iron and other compounds. They are used to fortify the daily feed requirements of the diet and the optimal mix of trace elements.
- **Performance Products** – manufactures and markets a number of specialty ingredients for use in the personal care, automotive, industrial chemical and chemical catalyst industries.

Fig 4 Animal Health is the largest, most profitable and fastest growing segment



Source: Macquarie Capital (USA), Company Data, April 2015

Medicated Feed Additives

Critical products for the production of healthy livestock

**Phibro is world's
#3 in medicated
feed additives**

Phibro is the world's 3rd largest producer of Medicated Feed Additives (MFAs), with roughly 60% of sales going to the poultry industry. MFAs were 47% of total sales in FY14.

Phibro's MFA business consists of the production and sale of antibacterials (Stafac, Terramycin, Neo-Terramycin and Mecadox) and anticoccidials (Nicarb, Aviax, Aviax Plus, Coxistac and amprolium). These products are often critical to farmers for the production of healthy animals, and Phibro's main products are approved for use in over 30 countries.

Fig 5 Medical Feed Additives: key products

Product	Livestock	Rights	Description
Stafac	Poultry, Swine and Cattle	Patented	Prevention of necrotic enteritis in poultry, treatment of dysentery in pigs.
Terramycin (neo-Terramycin)	Cattle, Poultry and Swine	Licensed (Zoetis)	Prevents and treats a wide range of diseases in chickens, turkeys, cattle and swine. Sold in USA, Latam and Asia. (also Neo-Terramycin)
V-Max	Beef Cattle	Patented	For reduction of liver abscesses in beef cattle.
Nicarb	Poultry	Patented	Chemical anticoccidial for prevention of parasites in broiler chickens.
Aviax	Poultry	Patented	Prevention and control of parasites in broiler chickens, and can be used without major feed-formulation adjustments.

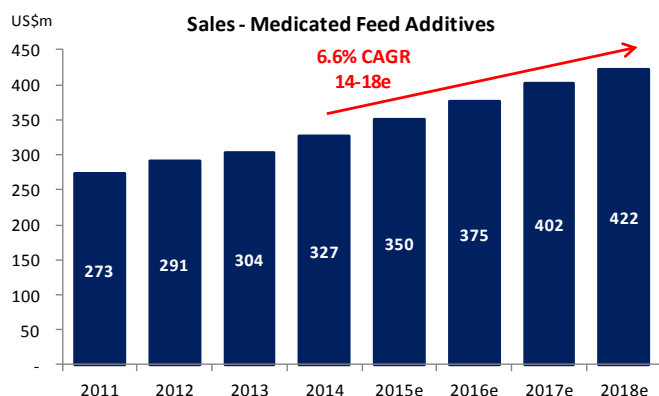
Source: Company Data, Macquarie Capital (USA), April 2015

**Growth is driven by
rising penetration in
emerging markets**

Growth in the medicated feed segment is largely due to rising penetration in emerging markets. Phibro has also transitioned to a direct sales model in many emerging markets, and continues to do so to build stronger links with customers. Demand for MFAs is also inversely correlated to the price of corn. When corn is cheaper, as it is now, farmers are more likely to fatten their animals and this means increased use of medicated feed ingredients.

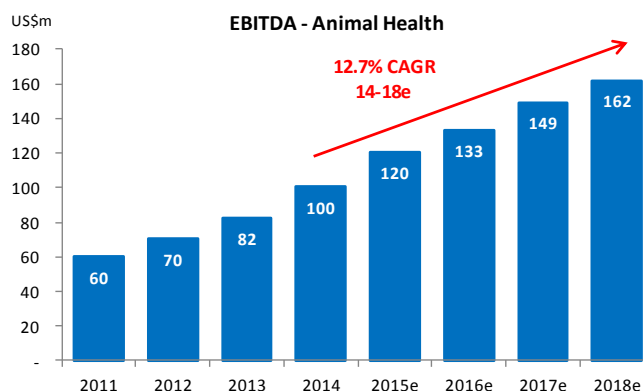
We forecast the MFA sub-division will grow sales by 6.6% a year to 2018e, which is slightly faster than the average due to their focus on poultry. Coupled with the two other animal health sub-divisions (discussed on following pages), and margin expansion, we forecast EBITDA for the Animal Health division to rise at 12.7% CAGR to 2018e.

Fig 6 Sales in Medicated Feed Additives sub-division forecast to rise ~6.6% CAGR to US\$422m in 2018e



Source: Macquarie Capital (USA), Company Data, April 2015

Fig 7 Animal Health division EBITDA forecast to rise at 12.7% p.a. to \$162m in 2018e on margin expansion



Source: Macquarie Capital (USA), Company Data, April 2015

Nutritional Specialties

Increased penetration of OmniGen a key growth driver

Increased sales of OmniGen dairy cow product in Europe and China will be a key growth driver

Nutritional specialties enhance nutrition and help improve animal health. The main products are commercialised with private research companies and universities. For non-proprietary products, Phibro typically has preferential access to trademarks, territories and research data.

Nutritional specialty products are marketed directly to livestock producers by working through key influencers, such as animal nutritionists and veterinarians.

The focus of the Nutritional Specialties division is dairy cows, with the two main products being AmniGen and Animate. After 9 years as the exclusive manufacturer and marketer of OmniGen, Phibro acquired all the patents to the product for \$22.8m in 2012. OmniGen helps maintain a dairy cow's immune system, resulting in more and better quality milk. An ongoing study of more than 270,000 cows at 427 US dairies shows a 23% reduction in total herd death loss.

Management estimate OmniGen already has ~20% share of the 9m dairy cows in the US. It was recently launched in Europe (15m dairy cows) and Brazil (2m cows in industrial farms). Phibro has also received regulatory approvals in China (5m cows in industrial farms), and lined up a distribution agreement with a major Chinese animal health company.

Increased penetration of OmniGen has been a key growth driver for Phibro, with 26.5% sales growth in the December quarter. While margins across the three Animal Health sub-divisions are not disclosed, we expect this growth will be a key driver of margin expansion for Phibro.

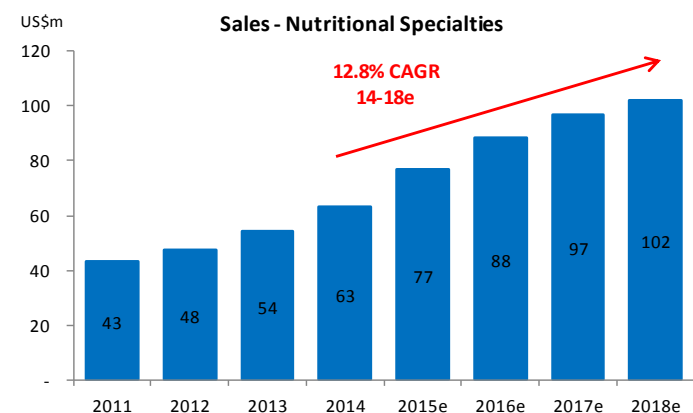
Fig 8 Nutritional specialties: key products

Product	Livestock	Rights	Description
OmniGen-AF	Dairy Cows	Patented	Unique, patented nutritional specialty product that has been shown in several studies to help maintain a cow's healthy immune system.
Animate	Dairy Cows	Patented	Maintains proper blood calcium levels in dairy cows during critical periods.

Source: Company Data, Macquarie Capital (USA), April 2015

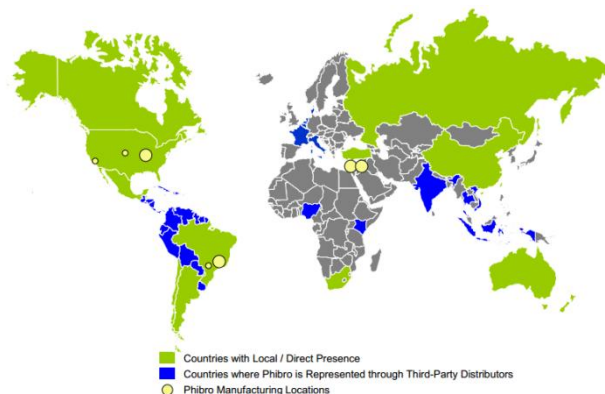
Largely driven by increased penetration of the OmniGen product, we forecast a sales CAGR of 12.8% for the Nutritional Specialties sub-division.

Fig 9 Nutritional Specialties sub-division forecast sales to rise ~12.8% CAGR to US\$102m in 2018e



Source: Macquarie Capital (USA), Company Data, April 2015

Fig 10 Phibro has direct presence in 14 countries, and distribution network covering 65 countries



Source: Company Data, April 2015

Vaccines

Poultry & pig vaccines is a high growth business

Vaccines are a high growth market and Phibro are targeting the two faster growing meats, poultry and pigs

Phibro's vaccines products are primarily focused on preventing diseases in the poultry industry, which is globally the fastest-growing food animal species of scale. As with humans, vaccines stimulate an immune response to a virus or bacteria to prevent disease.

In late 2013, Phibro entered a manufacturing and distribution agreement with Eptipix, making Phibro the exclusive distributor of the vaccine for chickens in the USA. This gave Phibro an entry into vaccine US sales for broiler chickens and table egg laying hens.

Phibro have also patented a proprietary vaccine delivery technology, an effervescent tablet that's more convenient and easier to handle than the old glass bottles. Phibro is leveraging this technology to grow sales and has licensed it to Sanofi's animal health subsidiary, Merial.

Phibro entered the swine vaccine market with the partnership with MJ Biologics with a view to expanding their portfolio of products and geographic reach. If successful, and if available at the right price, we believe Phibro may look to acquire the company (as with OmniGen).

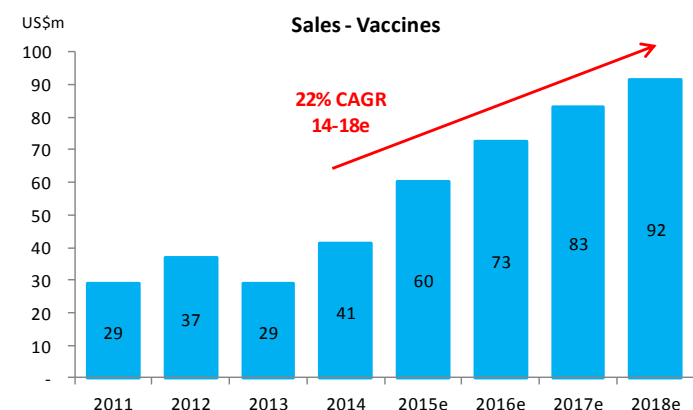
Fig 11 Vaccines: key products

Product	Livestock	Rights	Description
Phibro Vaccines	Poultry	Owned	Range of vaccine products for poultry.
Tabic	Poultry	Owned	Proprietary vaccine delivery technology. An effervescent tablet that's more convenient and easier to handle than other conventional glass bottles
Eptipix	Poultry	Licensed	Autogenous vaccine for control of salmonella, E. Coli and other bacteria.

Source: Company Data, Macquarie Capital (USA), April 2015

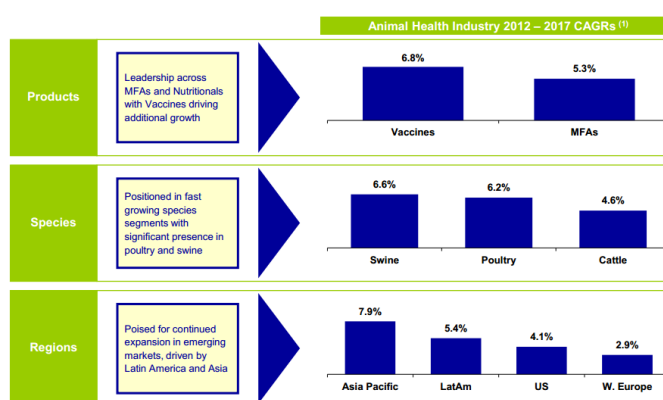
Sales of vaccines are expected to grow 22% a year to 2018e, due to increased penetration and leveraging the proprietary Tabic technology and Eptipix partnership.

Fig 12 Sales in the Vaccine sub-division forecast to rise ~22% CAGR to US\$92 million in 2018e



Source: Macquarie Capital (USA), Company Data, April 2015

Fig 13 Vaccines and poultry are expected to grow faster than animal health sector, according to Vetnosis



Source: Company Data, April 2015

Mineral Nutrition

Vitamins for livestock to keep them healthy

Animals take vitamins to stay healthy, just as people do

People may not be aware of the significant amount of science that goes into the diet of livestock. They don't just eat grass or hay. Just like many people, animals also have their vitamins and Phibro provide over 450 formulations to fortify the daily feed requirements of their livestock diets and to maintain an optimal balance of trace elements in each animal.

For example, today's food animals are faster growing, leaner and higher yielding. Their diets are based on amino acid requirements, not crude protein. This approach allows livestock producers to reduce crude protein intake, and hence lower diet costs. Phibro provides a wide range of amino acid such as lysine and theanine to meet these nutritional needs.

As the majority of customers have their own nutrition staff, Phibro can also make premixed feed ingredients to nearly any customer specification, while also making sure these meet any FDA or other requirements (i.e. in the case of blended selenite premixes).

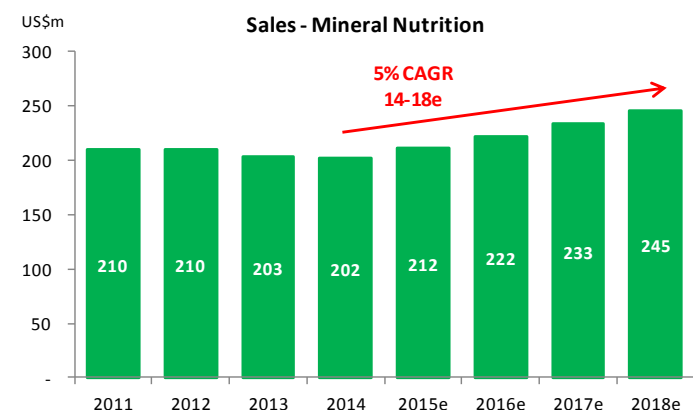
Fig 14 Medical Feed Additives: key products used across all livestock segments

Product	Description
Amino Acids	Wide variety of quality amino acids such as lysine and threonine to meet nutritional needs.
Colorants	Synthetic iron oxides with 10-15x pigment strength that free up space in nutritional formulations.
Electrolytes	High quality water-soluble sources of sodium, potassium and magnesium in chloride form.
Minerals	Offers chemical salts of manganese, copper, zinc, cobalt, iodine, iron, selenium, magnesium, sulphur, potassium, phosphorus, calcium, sodium, chlorine and others.
Pelleting Agents	Pellets maximise feed utilization and profitability for producers and feed makers, and Phibro offer a line of pelleting agents that improve the quality of the final product.
Premixes	Phibro can make premixes of feed ingredients at their blending facilities in Iowa and Nebraska. Phibro make a variety of blended sodium selenite premixes to supplement animal feed.
Selenium Yeast	Offers two formulations of selenium yeast with concentrations of 2000 and 600 ppm selenium.
Vitamin K	Vitamin K supplementation is US FDA approved for use in poultry, which have a limited ability for microbial production of vitamin K. It is also approved for use in swine up to certain levels.

Source: Company Data, Macquarie Capital (USA), April 2015

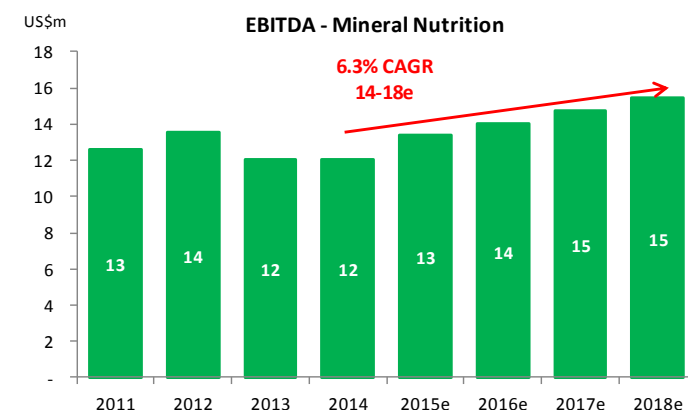
Volume growth is driven by livestock production, while pricing is based on the costs of the underlying minerals. This division was 30% of sales, and while it is a low margin business it still made \$12m in adjusted EBITDA in 2013.

Fig 15 Mineral nutrition is a lower growth business, with forecast sales growth CAGR of ~5% to 2018e



Source: Macquarie Capital (USA), Company Data, April 2015

Fig 16 Mineral Nutrition margins are relatively low, and we think they are sustainable near current levels



Source: Macquarie Capital (USA), Company Data, April 2015

Performance Products

Non-core legacy business with low margins

Division has no demand synergies with animal health

Performance Products (PP) is a legacy business that dates back to the founding of the company as Philipp Brothers Chemical in 1946. The division makes and markets specialty ingredients for use in the personal care, automotive, industrial chemical and chemical catalyst industries.

Fig 17 Performance Products: key product groups and applications

Product	Description
PhibroChem	Coatings, Plastics, Inks & Adhesives <i>PhibroPearl</i> is used to create metallic paint with a pearl like lustre. <i>Superchlon</i> is a high-performance adhesive used in the automotive industry. Aluminium flake pigments for automotive and industrial coatings, inks and plastics.
	Metal Applications Alkaline etchant for wiring boards, copper carbonate as catalyst in pigment industry, ferric chloride as etchant for photo chemical machining and water treatment.
	Personal Care Sodium fluoride for cavity-fighting toothpaste, potassium nitrate for sensitive toothpaste, glycolic acid for skin care cosmetics, selenium sulphide for anti-dandruff shampoo.
Phibro-Tech	Copper products for the semiconductor, printed circuit board, pigment, catalyst and agriculture industries. State-of-the-art plant in Santa Fe Springs has over 40 years experience in recycling processes.
Ferro	European arm of Performance Products group. From locations in UK, Germany and Spain, the chemicals division provides ingredients for pharmaceuticals, agrochemicals, fine chemicals, paper and textiles.

Source: Company Data, Macquarie Capital (USA), April 2015

Division could be sold, and is probably worth \$22-35m

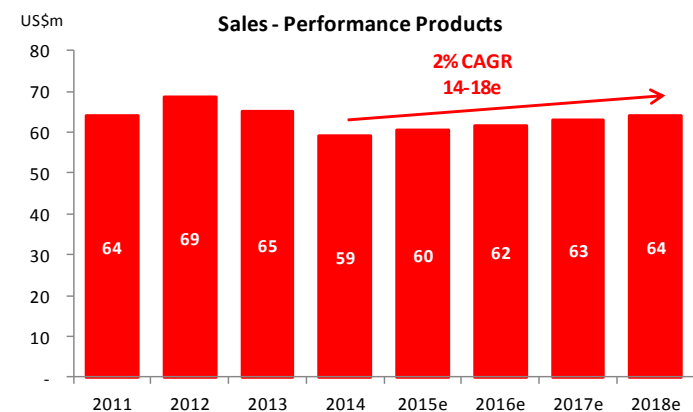
Performance Products is mature, with little growth and low margins.

Performance Products is a mature, low growth business for Phibro. It contributes about 9% of sales, but the contribution will decline as the other divisions grow at a faster rate.

EBITDA margins are also low at ~5-8% over the last four years. That's similar to margins for Mineral Nutrition, but the latter offers more cross-sell opportunities for the higher margin Animal Health division. Mineral Nutrition also has over 3x the sales of Performance Products.

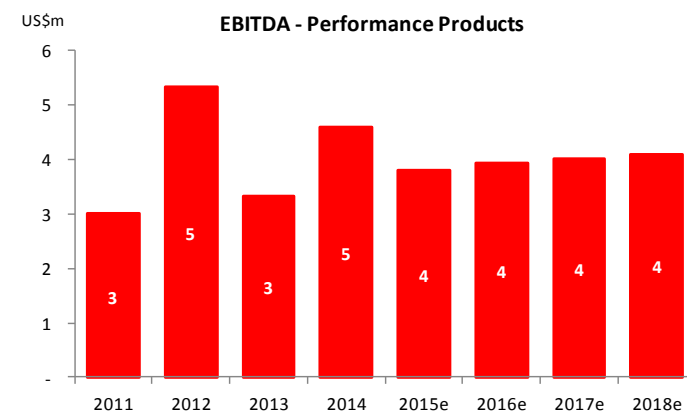
While the Performance Products division is non-core, it also requires little capital of management time. It also generates nearly \$60m in sales, and \$5m in EBITDA in 2014. As a result, the division is likely to remain a part of the company unless an attractive offer is made.

Fig 18 Performance Products are relatively mature, and we assume growth of ~2% a year to 2018e



Source: Macquarie Capital (USA), Company Data, April 2015

Fig 19 We assume stable margins and this means the division's EBITDA also grows at ~2% CAGR to 2018e



Source: Macquarie Capital (USA), Company Data, April 2015

Revenue & Margin Outlook

Defensive sales growth + rising margins is a good mix

We forecast sales growth of ~7.5% a year to 2018e, with 420bps of margin expansion

Phibro sales are forecast to rise 7.5% a year to 2018e. Animal Health is the key positive driver thanks to industry tailwinds, with sales growth of ~9%. Performance Products is the key drag.

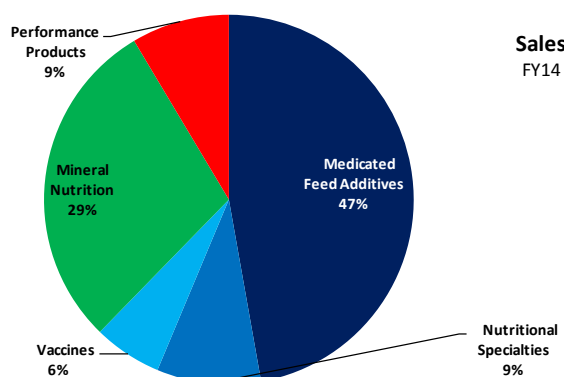
We forecast 420bps of margin expansion from 2014-18e, again driven by Animal Health. In our model, we assume 20% of the gap to Zoetis' margin is closed each year. This would take the Animal Health margin to 26.3% in 2018e (from 23.3% in 2014). We think this is achievable, as the marginal EBITDA on new sales in the year to December was even higher at 34.9%.

Fig 20 Segment summary: revenue and EBITDA forecasts for 2015-2018

BUSINESS SEGMENTS	A	A	A	A	E	E	E	E
Phibro Animal Health Corporation Class A	06/2011	06/2012	06/2013	06/2014	06/2015	06/2016	06/2017	06/2018
Revenue								
Animal Health	345.2	375.2	386.9	431.0	487.3	536.1	582.8	616.1
Growth %YoY		8.7	3.1	11.4	13.0	10.0	8.7	5.7
%Sales	55.8%	57.4%	59.1%	62.3%	64.2%	65.4%	66.3%	66.6%
Medicated Feed Additives	273.3	290.5	303.7	326.6	350.1	375.3	402.4	422.5
Growth %YoY		6.3	4.5	7.5	7.2	7.2	7.2	5.0
Nutritional Specialties	43.1	47.7	54.3	63.0	76.7	88.2	97.0	101.9
Growth %YoY		10.7	13.9	16.0	21.7	15.0	10.0	5.0
Vaccines	28.8	36.9	28.9	41.4	60.4	72.5	83.4	91.7
Growth %YoY		28.1	-21.9	43.4	46.0	20.0	15.0	10.0
Mineral Nutrition	209.7	209.6	203.2	201.6	211.7	222.3	233.4	245.1
Growth %YoY		-0.1	-3.0	-0.8	5.0	5.0	5.0	5.0
%Sales	33.9%	32.1%	31.0%	29.1%	27.9%	27.1%	26.5%	26.5%
Performance Products	64.0	68.7	65.0	59.3	60.5	61.7	62.9	64.2
Growth %YoY		7.2	-5.3	-8.9	2.0	2.0	2.0	2.0
%Sales	10.3%	10.5%	9.9%	8.6%	8.0%	7.5%	7.2%	6.9%
Corporate & Other								
Total Revenue	618.9	653.4	655.2	691.9	759.4	820.0	879.1	925.4
Growth %YoY		5.6	0.3	5.6	9.8	8.0	7.2	5.3
EBITDA								
Animal Health	60.1	70.5	82.2	100.2	120.3	132.7	149.2	162.0
EBITDA Margin %	17.4	18.8	21.2	23.3	23.7	24.8	25.6	26.3
Marginal Profit					29.0	29.0	29.0	29.0
Mineral Nutrition	12.6	13.5	12.1	12.1	13.4	14.0	14.7	15.4
EBITDA Margin %	6.0	6.5	5.9	6.0	6.3	6.3	6.3	6.3
Performance Products	3.0	5.3	3.3	4.6	3.8	3.9	4.0	4.1
EBITDA Margin %	4.7	7.8	5.1	7.8	6.4	6.4	6.4	6.4
Corporate & Other	(18.2)	(21.6)	(22.2)	(22.6)	(28.1)	(28.7)	(28.7)	(28.7)
EBITDA Margin %	(2.9)	(3.3)	(3.4)	(3.3)	(3.8)	(3.8)	(3.8)	(3.8)
Total EBITDA	57.527	67.705	75.461	94.357	109.4	121.9	139.2	152.8
Growth %YoY		17.7	11.5	25.0	16.0	11.5	14.2	9.7

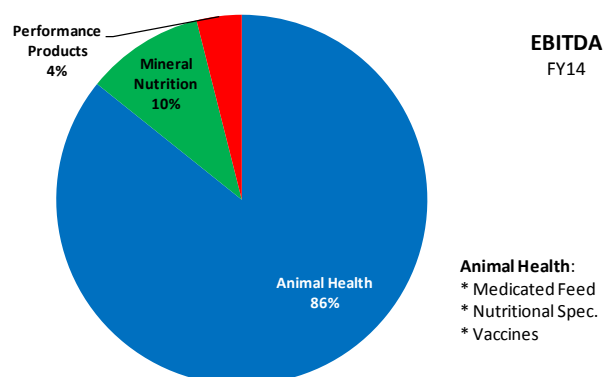
Source: Macquarie Capital (USA), Company Data, FactSet, April 2015

Fig 21 Medicated feed additives are the largest source of sales, with 62% of sales from 3 animal health divisions



Source: Macquarie Capital (USA), Company Data, April 2015

Fig 22 Animal health accounted for 86% of earnings in FY14, with other divisions smaller and lower margin



Source: Macquarie Capital (USA), Company Data, April 2015

Benchmarking Listed Comps

Phibro has stronger sales growth than peers, with an opportunity to boost EBITDA margins

Animal Health is a new and attractive segment for equity investors. Until the Zoetis spin-off, it was very hard to get pure exposure to the space. The major animal health businesses are included in big pharma companies (Eli Lilly, Merck, Sanofi, Bayer). Virbac and Eco Animal Health have been listed for many years, but Phibro and Ouro Fino both listed in 2014.

We expect ongoing speculation about a potential Zoetis takeover to continue to attract attention to the Animal Health sector. Following the success of Zoetis and the re-rating of the space, we also expect to see spin-offs from other big pharma companies. We think Bayer is the most likely given the small size of its animal health business (3% of company sales).

Benchmarking Phibro to listed animal health peers shows it has stronger sales growth.

Margins are lower, and we think Phibro has an opportunity to accelerate earnings growth by lifting margins. This is not a question of scale, as Ouro Fino and ECO Animal Health are smaller, and yet they have EBITDA margins closer to industry leaders.

Fig 23 Benchmarking Phibro to peers shows potential for margin expansion

Financials	Zoetis	Eli Lilly*	Merck*	Sanofi*	Bayer*	Virbac	Phibro	Ouro Fino #	ECO
Values in US\$m	ZTS US	LLY US	MRK US	SAN FP	BAYN GR	VIRP FP	PAHC US	OFS3 BZ	EAH LN
Reported Year	TTM	12/2013	12/2013	12/2013	12/2013	12/2013	TTM	09/2014	03/2014
Sales	4,719	2,152	3,362	2,635	1,734	977	717	170	51
% growth YoY	5.3%	5.7%	-1.1%	-5.8%	3.6%	9.4%	9.8%		10.5%
% animal health	100%	9%	8%	8%	3%	100%	92%	100%	98%
Cost of goods sold	1,525					761	490	61	28
Gross profit	3,194					216	228	109	23
Gross margin	67.7%					22.1%	31.7%	64.1%	44.7%
Operating Expenses	1,550					46	133	65	13
% growth YoY	1.8%					11.3%	32.8%		14.4%
R&D	391					18	0	0	0
% sales	8.3%					1.9%	0.0%	0.0%	0.0%
EBITDA	1,253			666		152	94	44	10
EBITDA margin	26.6%			25.3%		15.5%	13.1%	25.8%	19.3%
Depreciation	145					16	17	6	0
Amortisation	61					20	5	0	4
EBIT	1,047	557				115	73	38	6
EBIT margin	22.2%	25.9%				11.8%	10.1%	22.3%	11.4%
bps change	280	91				33	94		-12
Other income	3					-19	0	0	0
Net interest expense	-117					-7	-28	-6	0
Unusual expense	142					-9	23	0	0
Pre-tax profit	791					98	22	32	6
Income tax	226					24	11	6	1
Tax rate	28.6%					24.2%	47.9%	18.1%	16.3%
Equity in affiliates (after tax)	0					-1	0	0	0
Minority interests	3					11	0	0	1
Net income (GAAP)	562					62	12	26	4
Adjusted profit	663					55	23	26	4
Du Pont									
Net income margin	14.1%					5.6%	3.3%	15.1%	7.6%
x Asset turnover	0.7					0.8	1.5	0.8	0.4
= Return on Assets	10.2%					4.6%	5.0%	11.5%	3.0%
x Leverage	4.8					2.5	21.8	2.4	1.1
= Return on Equity	48.6%					11.4%	108.1%	27.6%	3.4%
Capex to sales	4.1%					8.1%	2.7%	2.3%	13.7%
FCF margin	7.3%					1.2%	-0.4%	1.3%	5.9%
Net debt to EBITDA	2.4					1.6	2.9	1.8	-3.0
Net interest cover	8.9					16.4	2.6	6.2	-152.5

TTM = trailing 12 months. *Results for Animal Health. #Annualised Last 2 Qtrs. Eli Lilly figures exclude Novartis.

Source: Macquarie Capital (USA), Company Data, February 2015

Income Statement

Trend sales growth at nominal global GDP+ with margin expansion

We forecast GDP+ sales growth with rising margins

From a big picture perspective, we believe Phibro can continue to post sales growth that is at or above the nominal growth of global GDP. Relative to this trend, the actual sales will depend on the number of disease events in the species where Phibro is positioned to help.

Given the relatively low current margins relative to peers, and the high marginal profits from the recent manufacturing investments, we see margins rising 420bps over the outlook period.

Fig 24 PAHC Income Statement: historical data and Macquarie forecasts for 2015-18

INCOME STATEMENT	A	A	A	A	E	E	E	E
(Values in US\$m, except per share data)	06/2011	06/2012	06/2013	06/2014	06/2015	06/2016	06/2017	06/2018
Sales	618.3	654.1	653.2	691.9	759.4	820.0	879.1	925.4
Growth %YoY		5.8	(0.1)	5.9	9.8	8.0	7.2	5.3
Cost of Sales	471.7	490.0	473.5	467.6	507.4	547.8	587.2	618.1
%Sales	76.3	74.9	72.5	67.6	66.8	66.8	66.8	66.8
Gross Profit	146.7	164.1	179.6	224.3	252.1	272.3	291.9	307.2
Gross Margin %	23.7	25.1	27.5	32.4	33.2	33.2	33.2	33.2
SG&A	81.9	90.1	96.6	130.9	135.1	142.1	143.8	145.2
%Sales	13.2	13.8	14.8	18.9	17.8	17.3	16.4	15.7
R&D	6.8	7.2	6.6	8.2	7.6	8.2	8.8	9.3
%Sales	1.1	1.1	1.0	1.2	1.0	1.0	1.0	1.0
EBITDA	57.9	66.9	76.4	85.2	109.4	121.9	139.2	152.8
EBITDA Margin %	9.4	10.2	11.7	12.3	14.4	14.9	15.8	16.5
Depreciation	12.2	14.4	14.9	16.4	17.1	18.6	20.0	21.0
%PP&E		14.2	14.5	15.4	16.2	16.2	16.2	16.2
Amortisation	4.5	3.1	4.1	5.0	4.4	4.8	5.2	5.4
%Intangibles (ex Goodwill)		20.6	16.4	15.4	15.4	15.4	15.4	15.4
Operating Income	41.2	49.3	57.4	63.8	87.8	98.5	114.0	126.3
Operating Margin %	6.7	7.5	8.8	9.2	11.6	12.0	13.0	13.7
Non-Op Income (Expense)	5.2	(0.8)	(3.3)	(1.8)	2.2	0.0	0.0	0.0
Equity in Associates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unusual Income (Expense)	(20.0)	0.0	(0.6)	(22.8)	0.0	0.0	0.0	0.0
Total EBIT	26.4	48.5	53.5	39.3	90.0	98.5	114.0	126.3
Interest Expense	34.6	35.7	35.8	33.1	14.2	14.0	13.9	13.7
Avg. Interest Rate	5.6	5.5	5.5	4.8	5.02	5.0	5.0	5.0
Interest Income	0.3	0.3	0.1	0.1	0.1	0.2	0.2	0.4
Avg. Interest Rate	-	0.52	0.44	0.75	0.25	0.25	0.25	0.25
Pretax Income	(7.9)	13.1	17.8	6.3	76.0	84.6	100.4	112.9
Income Tax	5.0	6.1	(7.0)	9.4	11.4	16.9	20.1	22.6
Tax Rate %	(63.8)	46.8	(39.5)	149.6	20.0	20.0	20.0	20.0
Minority Interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Preferred Dividends	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAAP Net Income	(12.9)	7.0	24.9	(3.1)	64.6	67.7	80.3	90.3
GAAP EPS (cents)		17.6	62.9	(7.9)	162.2	170.0	201.7	226.9
Adjustments (net)					0.0	0.0	0.0	0.0
Net Income (adj.)	(12.9)	7.0	24.9	(3.1)	64.6	67.7	80.3	90.3
Diluted EPS (cents)		17.6	62.9	(7.9)	162.5	170.0	201.7	226.9
Growth %YoY			256.8	(112.6)	(2,156.8)	4.6	18.7	12.5
Dividend (cents)					40.0	42.0	50.0	56.0
Payout Ratio					24.7%	24.7%	24.8%	24.7%
Basic Shares	39.0	39.0	39.0	39.0	39.8	39.8	39.8	39.8
Diluted Shares	39.6	39.6	39.6	39.6	39.8	39.8	39.8	39.8

Source: Macquarie Capital (USA), FactSet, April 2015

Balance Sheet

A strong balance sheet, with cash to be returned with dividends

Given the defensive nature of the business, and the forecast growth in earnings, we think the balance sheet is sound and that management are comfortable with current debt levels.

Fig 25 PAHC Balance Sheet: historical data and Macquarie forecasts for 2015-18

BALANCE SHEET	A	A	A	A	E	E	E	E
(Values in US\$m)	06/2011	06/2012	06/2013	06/2014	06/2015	06/2016	06/2017	06/2018
Cash	53.9	27.4	11.821	52.8	82.7	128.1	185.0	
Receivables	99.1	99.1	113.9	118.4	127.9	137.1	144.3	
%Sales	15.2	15.2	16.5	15.6	15.6	15.6	15.6	
Bad & Doubtful Debts	1.0	0.7	3.0	0.9	1.9	2.0	2.1	
** BDD %Sales	0.2	0.1	0.4	0.2	0.2	0.2	0.2	
Inventories	120.1	140.0	143.2	153.1	165.4	177.3	186.6	
%Sales	18.4	21.4	20.7	20.2	20.2	20.2	20.2	
Prepaid Expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%Sales	-	-	-	-	-	-	-	
Miscellaneous Current Assets	28.7	29.8	30.4	30.4	30.4	30.4	30.4	
Current Assets	301.9	296.4	299.3	354.9	406.4	472.9	546.3	
PP&E	101.7	104.4	109.2	102.6	102.6	102.6	102.6	
Intangibles	15.0	35.2	29.8	27.6	27.6	27.6	27.6	
Goodwill	1.7	12.6	12.6	12.6	12.6	12.6	12.6	
Investments	5.4	5.4	10.2	0.0	0.0	0.0	0.0	
Other Long Term Assets	15.2	20.2	11.2	18.1	18.1	18.1	18.1	
Total Assets	440.9	474.1	472.3	507.1	567.3	633.9	707.3	
Short Term Debt	5.4	0.1	3.0	2.8	2.8	2.8	2.8	
Accounts Payable	67.9	57.9	59.6	75.8	81.9	87.8	92.5	
%Sales	10.4	8.9	8.6	9.6	9.6	9.6	9.6	
Income Tax Payable	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other Current Liabilities	52.6	57.4	49.9	41.8	41.8	41.8	41.8	
Current Liabilities	125.9	115.4	112.4	120.5	126.5	132.4	137.1	
Long Term Debt	344.8	365.5	286.4	285.1	285.1	285.1	285.1	
Deferred Tax Liabilities	13.9	17.6	14.3	0.0	0.0	0.0	0.0	
Deferred Income	2.2	5.0	0.0	0.0	0.0	0.0	0.0	
Other Long Term Liabilities	42.4	39.5	44.0	55.1	55.1	55.1	55.1	
Total Liabilities	529.1	543.1	457.2	460.7	466.8	472.7	477.3	
Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Common Stock	(88.2)	(68.9)	15.1	46.4	100.5	161.2	229.9	
Shareholders Equity	(88.2)	(68.9)	15.1	46.4	100.5	161.2	229.9	
Minority Interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Equity	(88.2)	(68.9)	15.1	46.4	100.5	161.2	229.9	
Leverage								
Total Debt	350.1	365.6	289.4	287.9	287.9	287.9	287.9	
Net Debt	296.2	338.2	277.6	235.1	205.3	159.8	103.0	
Net Debt / EBITDA	4.4	4.4	3.3	2.1	1.7	1.1	0.7	
EBIT Interest Cover	1.9	2.1	2.6	7.7	8.7	10.0	11.1	

Source: Macquarie Capital (USA), FactSet, April 2015

Cash Flows

Free cash flow to finance growth with dividends

With small debt repayments, Phibro can pay dividends and still have cash to fund growth

Our model suggests Phibro will generate relatively large cash flows. We assume Phibro will continue to pay out 25% of earnings in dividends, and also pay back a modest ~\$3m in debt per year, but even after those payments we estimate there will be roughly \$180m of cash available for capital returns to shareholders, debt repayment or acquisitions.

Even if our capex forecasts are underdone, Phibro is a low capital intensity business and there would still be significant cash available for use by management. This gives the company the flexibility to pursue growth options, or to repay debt if circumstances warrant.

Fig 26 PAHC Cash Flow Statement: historical data and Macquarie forecasts for 2015-18

CASH FLOW STATEMENT	A	A	A	A	E	E	E	E
(Values in US\$m)	06/2011	06/2012	06/2013	06/2014	06/2015	06/2016	06/2017	06/2018
Net Income / Starting Line	(12.9)	7.0	24.9	(3.1)	64.6	67.7	80.3	90.3
Depreciation	12.2	14.4	14.9	16.4	17.1	18.6	20.0	21.0
Amortization of Intangibles	4.5	3.1	4.1	5.0	4.4	4.8	5.2	5.4
Deferred Taxes	0.7	(2.4)	(12.0)	1.3	(2.5)	-	-	-
Other Cash Flow	(0.1)	4.7	3.4	7.9				
Changes in Working Capital	(9.0)	5.1	(34.8)	(28.2)	(5.8)	(20.8)	(15.2)	(11.9)
Net Operating Cash Flow	(4.7)	31.9	0.4	(0.71)	77.8	70.3	90.3	104.9
Capital Expenditure	(21.6)	(14.8)	(19.9)	(19.8)	(17.7)	(21.3)	(22.9)	(24.1)
%Sales	3.5	2.3	3.1	2.9	2.6	2.6	2.6	2.6
Net Acquisitions	-	(3.4)	(18.7)	-	-	-	-	-
Sales & Divestments	2.2	0.6	1.3	-	-	-	-	-
Net Investment	-	-	-	-	-	-	-	-
Other Funds From Investing	-	-	-	0.4				
Net Investing Cash Flow	(19.5)	(17.6)	(37.3)	(19.41)	(17.7)	(21.3)	(22.9)	(24.1)
Cash Dividends Paid	(50.0)	-	(3.0)	(25.0)	(15.8)	(16.3)	(19.1)	(21.1)
Share Issuance (Net)	-	-	-	114.4	0.2	-	-	-
Debt Issuance (Net)	60.2	(8.2)	13.9	(84.7)	(3.0)	(2.9)	(2.9)	(2.9)
Other Funds From Financing	-	-	-	-	-	-	-	-
Net Financing Cash Flow	10.2	(8.2)	10.9	4.78	(18.6)	(19.2)	(22.0)	(24.0)
Exchange Rate Effect	(0.1)	(0.7)	(0.5)	(0.2)	(0.7)	-	-	-
Miscellaneous Funds	0.0	(0.0)	0.0	(0.0)	0.0	-	-	-
Net Change in Cash	(14.1)	5.3	(26.5)	(15.5)	41.0	29.8	45.5	56.8
Free Cash Flow	(26.3)	17.1	(19.5)	(20.6)	60.1	49.0	67.5	80.8
FCF Margin %	(4.3)	2.6	(3.0)	(3.0)	7.9	6.0	7.7	8.7

Source: Macquarie Capital (USA), FactSet, April 2015

Animal Health over the Cycle

Animal Health stocks show a defensive return profile

Animal health stocks have a defensive return pattern, and we think they are good stocks to own when the Fed hikes rates

Animal Health is a relatively new sector for investors. Until the spin-off of **Zoetis (ZTS US, not rated)**, the animal health divisions were hidden within larger pharmaceutical companies. Phibro Animal Health and Brazil's **Ouro Fino (OFSA3 BZ, not rated)** also listed in 2014. As a result, it is harder to see how the sector might perform over an economic cycle.

To provide some insight into sector performance, we created an equal weight index of animal health stocks. The history largely comes from **Virbac (VIRP FP, not rated)** and **ECO Animal Health (EAH LN, not rated)**, with the newly listed stocks added towards the end.

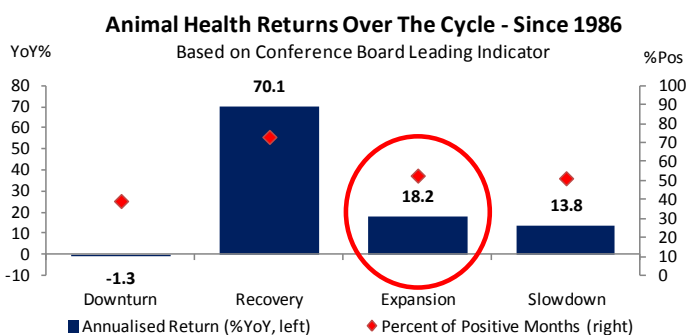
The results show a return profile that is consistent with the expectation that Animal Health stocks should be defensive. This is shown by the smaller declines in downturns, the quick recovery of share prices after a recession and the relatively lower volatility and positive skew of even the monthly share price returns.

Fig 27 Animal Health stocks have a defensive-growth profile, recovering losses early after a recession



Source: Macquarie Capital (USA), FactSet, April 2015

Fig 28 Animal health returns highest in recovery, but show low cyclical risk in slowdown and downturn

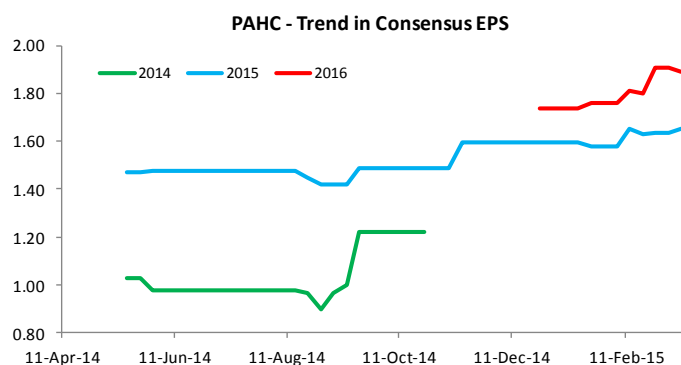


Source: Macquarie Capital (USA), FactSet, April 2015

Earnings upgrade cycle has supported share price since IPO

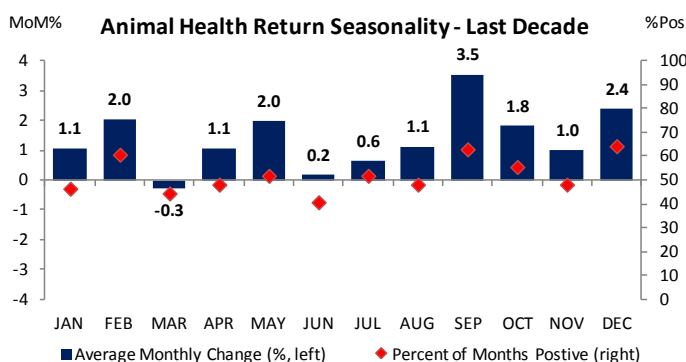
Analysts have been upgrading PAHC since the company floated. In the last 3 months, there have been 3 upgrades and 1 downgrade. Until we see evidence of ongoing negative earnings surprise, we think positive analyst momentum could remain a support for the share price.

Fig 29 Phibro has been in an upgrade cycle since the stock listed, with upgrades to FY16 after last result



Source: Macquarie Capital (USA), FactSet, April 2015

Fig 30 Animal health stock seasonality supports the view that sector returns are relatively defensive



Source: Macquarie Capital (USA), FactSet, April 2015

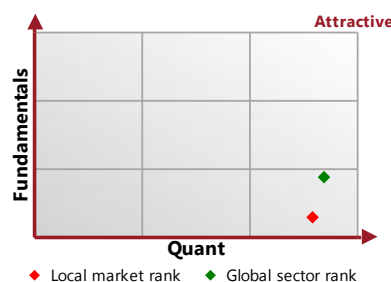
Macquarie Quant View

The quant model currently holds a reasonably positive view on Phibro Animal Health. The strongest style exposure is Earnings Momentum, indicating this stock has received earnings upgrades and is well liked by sell side analysts. The weakest style exposure is Price Momentum, indicating this stock has had weak medium to long term returns which often persist into the future.

62/590

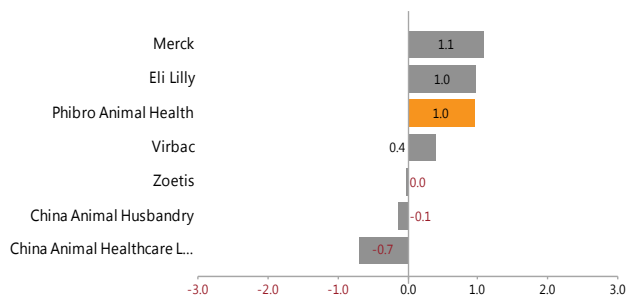
Global rank in
Pharma, Biotech & Life Sciences

% of BUY recommendations 80% (4/5)
Number of Price Target downgrades 0
Number of Price Target upgrades 0



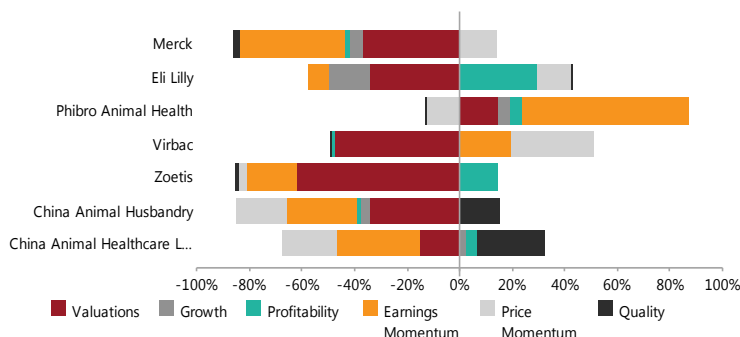
Macquarie Alpha Model ranking

A list of comparable companies and their Macquarie Alpha model score (higher is better).



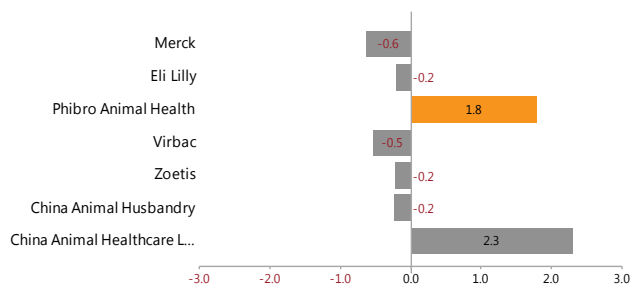
Factors driving the Alpha Model

For the comparable firms this chart shows the key underlying styles and their contribution to the current overall Alpha score.



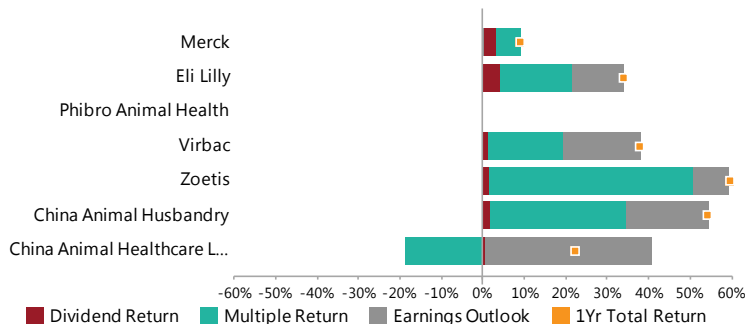
Macquarie Earnings Sentiment Indicator

The Macquarie Sentiment Indicator is an enhanced earnings revisions signal that favours analysts who have more timely and higher conviction revisions. Current score shown below.



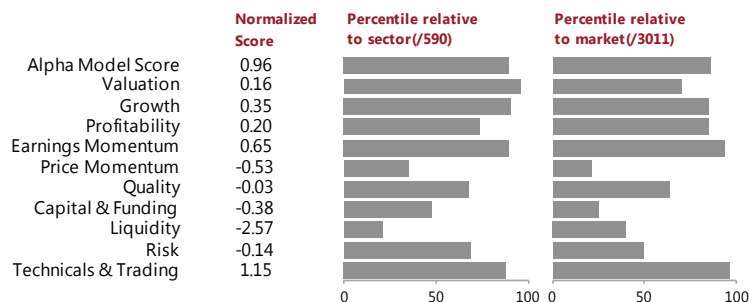
Drivers of Stock Return

Breakdown of 1 year total return (local currency) into returns from dividends, changes in forward earnings estimates and the resulting change in earnings multiple.



How it looks on the Alpha model

A more granular view of the underlying style scores that drive the alpha (higher is better) and the percentile rank relative to the sector and market.



Source (all charts): FactSet, Thomson Reuters, and Macquarie Research. For more details on the Macquarie Alpha model or for more customised analysis and screens, please contact the Macquarie Global Quantitative/Custom Products Group (cpg@macquarie.com)

Important disclosures:

Recommendation definitions

Macquarie - Australia/New Zealand

Outperform – return >3% in excess of benchmark return
 Neutral – return within 3% of benchmark return
 Underperform – return >3% below benchmark return

Benchmark return is determined by long term nominal GDP growth plus 12 month forward market dividend yield

Macquarie – Asia/Europe

Outperform – expected return >+10%
 Neutral – expected return from -10% to +10%
 Underperform – expected return <-10%

Macquarie First South - South Africa

Outperform – expected return >+10%
 Neutral – expected return from -10% to +10%
 Underperform – expected return <-10%

Macquarie - Canada

Outperform – return >5% in excess of benchmark return
 Neutral – return within 5% of benchmark return
 Underperform – return >5% below benchmark return

Macquarie - USA

Outperform (Buy) – return >5% in excess of Russell 3000 index return
 Neutral (Hold) – return within 5% of Russell 3000 index return
 Underperform (Sell) – return >5% below Russell 3000 index return

Volatility index definition*

This is calculated from the volatility of historical price movements.

Very high–highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30–40% in a year.

Low–medium – stock should be expected to move up or down at least 25–30% in a year.

Low – stock should be expected to move up or down at least 15–25% in a year.

* Applicable to Asia/Australian/NZ/Canada stocks only

Recommendations – 12 months

Note: Quant recommendations may differ from Fundamental Analyst recommendations

Financial definitions

All "Adjusted" data items have had the following adjustments made:

Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
 Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit / *efpowa**

ROA = adjusted ebit / average total assets

ROA Banks/Insurance = adjusted net profit / average total assets

ROE = adjusted net profit / average shareholders funds

Gross cashflow = adjusted net profit + depreciation

*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 31 December 2014

	AU/NZ	Asia	RSA	USA	CA	EUR	
Outperform	51.80%	58.06%	45.07%	44.42%	60.54%	46.81%	(for US coverage by MCUSA, 5.29% of stocks followed are investment banking clients)
Neutral	31.80%	27.37%	30.99%	50.10%	35.37%	33.51%	(for US coverage by MCUSA, 3.08% of stocks followed are investment banking clients)
Underperform	16.39%	14.57%	23.94%	5.48%	4.08%	19.68%	(for US coverage by MCUSA, 0.44% of stocks followed are investment banking clients)

PAHC US vs S&P 500, & rec history



(all figures in USD currency unless noted)

Note: Recommendation timeline – if not a continuous line, then there was no Macquarie coverage at the time or there was an embargo period.

Source: FactSet, Macquarie Capital (USA), April 2015

12-month target price methodology

PAHC US: US\$35.00 based on a Sum of Parts methodology

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Important disclosure information regarding the subject companies covered in this report is available at www.macquarie.com/disclosures.

Date	Stock Code (BBG code)	Recommendation	Target Price
12-Nov-2014	PAHC US	Outperform	US\$32.00
29-May-2014	PAHC US	Outperform	US\$23.00

Target price risk disclosures:

PAHC US: More companies align with the "fresh food" movement and ban the use of growth antibiotics in livestock. These account for about \$15-20m of PAHC's ~\$430m in animal health sales, so while there is a risk it is not as material as it might first appear. Expansion of regulatory restrictions on the use of antibacterials in food-producing animals. There is a forced phase-out by the FDA on the 'non-therapeutic' use of antibiotics (i.e. can't use them to promote growth), but they can still be used to control/prevent disease under vet supervision. PAHC expect to comply with FDA guidelines by 2016 deadline, noting research shows proper use of their products poses very little or no risk to humans. Any risk must also be balanced with the need to produce healthy food for human consumption. Increased competition within participating markets. The global animal health industry is already concentrated, but there is the potential for further consolidation. This could improve the pricing power of industry players, and also increase the barrier to entry for others looking to benefit from the rising demand for animal health products. Advances in veterinary medical practices and animal health technologies could impact demand for Phibro products. There is always a risk that a competitor could develop better products, and this will always be in the background. That said, we think Phibro can use its established position to license new products and to distribute them using its direct sales force. This somewhat mitigates the risk of new technologies, as does the fact that Phibro could be the one that develops new products to gain share over its competitors.

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