4 June 2019

Pharmaceuticals & Biotechnology

Source: Refinitiv

Market data

EPIC/TKR	**AZN**
Price (p)	**5833**
12m High (p)	6540
12m Low (p)	5110
Shares (m)	1311.8
Mkt Cap (£bn)	76.5
EV (£bn)	87.1
Free Float	99%
Market	LSE

Description

AZN is ranked #13 globally and #17 in the US based on pharma sales. It has one of the more promising industry pipelines of new drugs largely because of its willingness to buy into new technologies/drugs to complement its 'in-house' activities.

Company information

CEO	Pascal Soriot
CFO	Marc Dunoyer
Chairman	Leif Johansson

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Key shareholders

Directors	0.4%
BlackRock Inc	8.0%
Capital Group	5.0%
Investor AB	4.1%

Diary

31 May - 4Jun	ASCO
25 Jul	1H'19 results

Analysts

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ASTRAZENECA

Where has all the cash gone?

Historically, AstraZeneca (AZN) was a leading global pharmaceutical company, but it has slipped down the rankings following a period of patent expiry on major drugs, notably Nexium, Losec and Seroquel. Understandably, the financial performance, particularly operational cashflow, has suffered through this period and AZN has moved from a net cash ($339m) position in 2009 to net debt of $16.3bn at the end of 1Q'19, necessitating a cash call. Better planning, notably earlier cessation of share buybacks and re-basing its dividend, would have left it in a much stronger position. Meanwhile, its use of 'core' EPS greatly overstates true performance.

- **Placing:** On 27 March 2019, AZN paid its final dividend for fiscal 2018, which cost the company $2.43bn. Just two days later, the company announced a Placing of shares at 6050p, a discount of 6.7% on the previous close and at an estimated cost of $70m, to raise $3.5bn for working capital.

- **EPS:** Like most companies, AZN uses a number of non-GAAP measurements to generate a 'core' EPS figure which is used in management KPIs and to calculate dividend cover. Because this calculation includes profits on asset disposals it overstates the performance vs. cashflow per share (CFPS).

- **Cashflow:** AZN has been through a 10-year period where operational cashflow has been in decline, to a point where the dividend has been uncovered for four years. Payment of the 2018 final dividend and an upfront payment to Daiichi Sankyo for trastuzumab has left net debt at ca.$17.5bn (net debt/EBITDA 2.5x).

- **Dividend policy:** AZN has a policy to "…maintain or grow dividend per share…", which is a key KPI on which long-term management remuneration is based. However, payment of a large dividend, followed two days later, by a cash call to shore up its balance sheet, at huge cost to shareholders, seems inappropriate.

- **Investment summary:** AZN is a good and well-run company, with one of the more promising R&D pipelines in the industry. However, the audit committee's comfort with the over-statement of underlying operating performance through the use of 'core' EPS, has left the dividend uncovered, resulted in increased debt, and necessitated a Placing of shares to bolster its balance sheet. The current market valuation leaves little scope for any R&D disappointments.

Consensus financial summary and valuation

Year end Dec ($bn)	2015	2016	2017	2018	2019E	2020E
Product sales	23.64	21.32	20.15	21.05	22.50	25.00
Group revenues	24.71	23.00	22.47	22.09	23.58	25.98
Statutory EBIT	4.11	4.90	3.68	3.39	4.12	5.00
Underlying EBIT	4.81	4.27	4.53	3.46	4.56	5.98
'Core' EBIT	6.90	6.72	6.86	5.67	6.52	7.82
Statutory EPS ($)	2.23	2.77	2.37	1.70	1.75	2.00
Underlying EPS ($)	3.24	2.89	2.81	2.09	2.28	2.85
'Core' EPS ($)	4.28	4.27	4.22	3.47	3.50	4.18
OCFPS ($)	2.73	3.39	2.96	2.67	2.44	3.50
DPS ($)	2.80	2.80	2.80	2.80	2.80	2.80
Net cash/(debt)	-8.81	-11.79	-14.48	-14.28	-12.75	-13.20
EV/sales (x)	4.48	4.81	4.93	5.01	4.65	4.26

Source: Refinitiv

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Important information

This research report has not been commissioned by AstraZeneca. It has been prepared purely for informational purposes, and is not a recommendation to readers to buy or sell AZN shares. As Hardman & Co does not trade in shares, this report is not an inducement and is, therefore, MiFID II compliant.

Thoughts on AstraZeneca

Alarm bells

Two recent events should have triggered alarm bells in the minds of investors…

…the market capitalisation of AZN exceeded that of GSK…

…and insufficient operational cashflow to pay off a modest $1bn loan at maturity

Over the past two months, there have been two events which I did not expect to see during my time as a pharmaceuticals analyst in the City in the absence of major corporate activity. First, despite a considerable difference in the size and market share of their respective pharmaceuticals businesses, both globally and in the US, the market capitalisation of AstraZeneca (AZN) exceeded that of GlaxoSmithKline (GSK) for the second time in March 2019 (the first time was on 13 November 2018). Secondly, on 29 March 2019, AZN announced a Placing of shares to raise $3.5bn, in part to fund the upfront payment ($675m) for acquisition of commercial rights to a Phase III drug (trastuzumab ((DS-8201)) from Daiichi Sankyo, but also to provide extra working capital to fund the repayment of $1bn 1.95% loan notes due for repayment on 18 September 2019. As an experienced industry follower, these events set off 'alarm bells' in my mind.

Key recent events

Date	Event
13 Nov 2018	The market capitalisation of AZN exceeded that of GSK, albeit briefly
21 Mar 2019	The market capitalisation of AZN again exceeded that of GSK
27 Mar 2019	Payment of final dividend costing $2.43bn
29 Mar 2019	Announcement of Placing to raise $3.5bn
2 Apr 2019	Settlement of Placing and admission of new shares

Source: Hardman & Co Life Sciences Research

Follow the cash

Capital increase needed only two days after paying its final dividend

While I have not actively followed AZN on a day-to-day basis for more than 10 years, I remember the company being cash rich and cash generative. Therefore, the need for a capital increase begged the question of where all its cash has gone. Indeed, this cash call came just two days after AZN had paid out a substantial dividend to shareholders, and prompted me to dig a little deeper into what has been happening at the company. The Placing was needed to prop up its balance sheet and provide working capital, because the company is not generating sufficient cash from operations to pay the upfront licensing fee and pay off what is, essentially, a relatively modest $1bn loan.

Accounting for growth

I was very fortunate to spend most of my analytical career with two investment banks that were renowned for their strength in accounting practices – UBS Phillips & Drew (UBS) and HSBC James Capel (HSBC). These two firms were regularly at the top of the Extel rankings for two reasons:

- both encouraged analysts to undertake thought provoking fundamental company research and industry analysis; and
- both adopted a prescribed methodology for analysing the accounts of every company being researched in exactly the same way, so that comparative analysis could be performed.

What I learned from the HSBC and UBS models was that the EPS figure could be easily manipulated. This principle was demonstrated brilliantly by the research report conceived and edited by Richard Hannah at UBS, called '*Accounting for Growth*', which won several awards and was published subsequently as a book of the same name by the then head of research, Terry Smith. I was incredibly proud to have been involved in that report having identified and reported on some poor accounting practices at Reckitt & Colman and London International Group, one of which is again is being repeated at AZN.

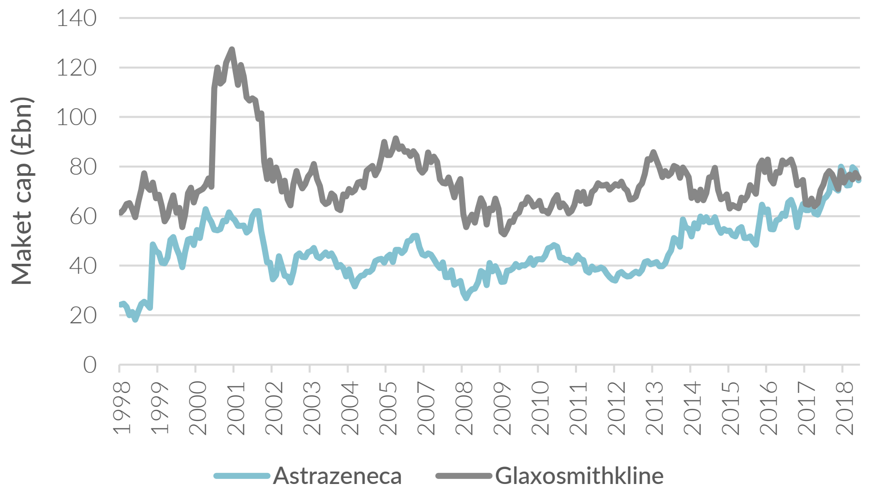
While that report focused on methods of manipulating EPS to portray companies as having better growth, it also highlighted the importance of cash. A recent article[1] in *AB (Accounting & Business) Magazine*, the official journal of the Association of Chartered Certified Accountants (ACCA) highlighted global discrepancies in the approach to cashflow statements and the need for change. This was reinforced by our report in 2018 on the lack of consistency in cashflow accounting[2].

Market capitalisation

Main defence against Pfizer's approach was strong growth prospects and operating performance

As part of its defence against the unwanted take over proposal from Pfizer in 2013, AZN argued the case that it had a "…growing and accelerating late-stage pipeline…" and provided "…new long-term revenue targets for AZN's five key growth platforms…". Moreover, from 2017 to 2023, management stated that it was "…targeting strong and consistent revenue growth leading to annual revenues of greater than $45bn by 2023. Operating leverage is expected to result in core earnings growth in excess of revenue growth during this period". These statements, made in 2013, have been reiterated and reinforced over recent years. This has led to the perception in the market that AZN has one of the most productive R&D pipelines in the industry, and, certainly, one that is much stronger than GSK's. Even so, it is a big stretch from here to the reality of delivering on these targets to the extent that AZN should be valued at a higher amount than GSK.

Market capitalisation of AZN and GSK – 1999-2019



Source: Refinitiv

Even though stock markets discount the future, it is a big step to value the company the same as another that is ranked higher with twice the sales

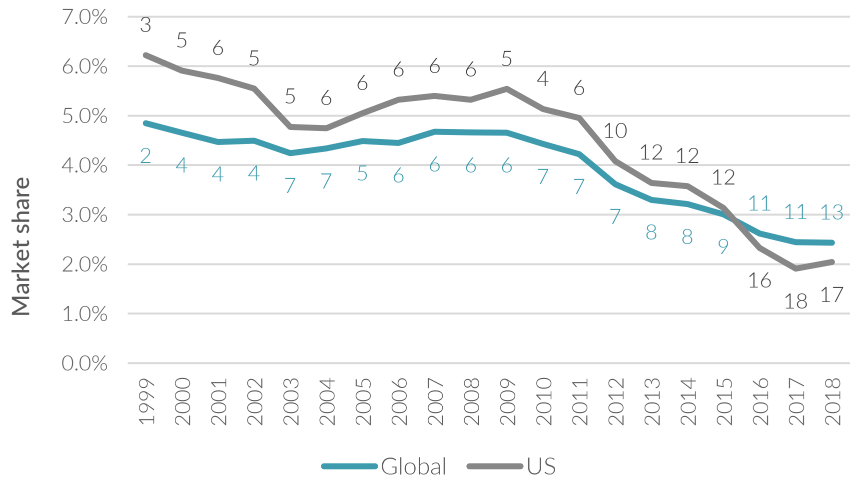
The rise in AZN's market capitalisation is inconsistent with its operational performance. Although it was always known that the company was likely to go through a difficult period when it lost patent protection on its major products – notably Nexium, Losec and Seroquel – the decline in global market share has been significant.

In 2008, AZN was ranked global #6 with 4.66% market share; however, in 2018, it was ranked #13 with 2.47% share. In the US, the fall has been even more dramatic, from #6 with 5.32% market share in 2008 to #17 with 2.04% share in 2018.

To put this in perspective, the company needs to more than double its sales in order to return to being a top-six player, both in the US and globally. This is precisely the target (sales of $45bn) that was set out in its Pfizer defence documentation. However, achieving this over the next four years appears a tall order.

[1] *Go with the flow*, by Jane Fuller in AB Magazine, May 2017
[2] *Cashflow accounting – the need for consistency*, by Hardman & Co, September 2017

Global and US market share and industry rank of AstraZeneca – 1999-2018



Source: Hardman & Co Life Sciences Research

Cashflow analysis

Old spreadsheet has been dragged out of the archives and brought up-to-date

The second puzzle concerns its cash position. While I have looked regularly (annually) into AZN's results, it has been from the perspective of obtaining the relevant numbers to update our extensive pharmaceutical database (see '*Global Pharmaceuticals: 2018 industry statistics*' published on 9 April 2019[3]). The last time that I looked seriously into this company's full financial accounts was over 10 years ago when it had a net cash position, despite it spending considerable sums each year on share buybacks and payment of dividends. Therefore, to find itself in a position of having to approach shareholders to shore up its balance sheet seemed astonishing to me. Consequently, my old AZN spreadsheet has been dragged out of the archives and brought up-to-date in an attempt to better understand why the company is not generating much cash, and to identify just where all the surplus cash (historically) has gone.

Earnings per share

Companies are inconsistent in the use of non-GAAP measures to generate so-called 'core' EPS

The first step is to look at the P&L account. The focus of the investment community on EPS has been, and always will be, the first valuation metric because it is quick and easy to obtain. However, companies always want to portray their results in the best possible light and adopt some form of 'non-GAAP' or 'core' EPS, which are often prepared in an inconsistent way that can lead to wide variances among companies, making direct comparisons very difficult. My aim is to generate for every company a consistently defined and calculated underlying EBIT, from which underlying EPS is derived, to enable peer comparisons.

AZN operating performance

AZN's operating performance is well below the weighted industry average…

…in part due to higher R&D investment

In general, pharmaceutical companies have high margins, in part to reflect the enormous R&D costs of getting new drugs onto the market. In 2018, the weighted average pre-R&D operating margin for the global drug industry was 52.7%, from which 19.4% was invested into R&D to drive future growth, leaving an operating EBIT of 33.3%. Although the COGS (manufacturing plus distribution costs) for AZN were the same as the industry average, the overall operating performance was well below the industry average, generating an underlying EBIT of 16.5%, driven by relatively high SG&A costs and investment in R&D.

[3] https://www.hardmanandco.com/research/corporate-research/global-pharmaceuticals-2018-industry-statistics/

AstraZeneca vs. global industry average	Industry average*	AZN*	Δ
Cost of goods sold	-24.1%	-24.1%	-
Selling, general & administration	-25.6%	-40.1%	-14.5ppts
Other income/(expense)	+2.4%	+6.2%	+3.8ppts
Pre-R&D margin	**52.7%**	**42.0%**	**-10.7ppts**
R&D investment	-19.4%	-25.5%	-6.1ppts
Underlying EBIT	33.3%	16.5%	-16.8ppts

**Corrected for non-cash amortisation and impairment charges*
Source: Hardman & Co Life Sciences Research

The reason for AZN's relatively high SG&A spend is unclear. It employs 31,600 worldwide in sales and marketing, with 59% of these in emerging markets. Sales per employee calculates as follows: globally $583k, established markets $956k, and emerging markets $324k. AZN's relatively high R&D spend is understandable, given the greater push for products into Phase III development. Despite this, its absolute R&D spend is still more than $1.5bn below the industry average for the top-10 ranked companies.

Reconciliation

Some items included in 'core' EPS are contentious…

…and far from 'one-off'

The next issue concerns the composition of items from which EPS is calculated. Our aim is to have a consistency that allows direct comparisons among global peers in a particular industry. Over a period of more than 20 years, a standard set of rules has been applied about what constitutes underlying EBIT and earnings, which is important given that different approaches are taken by different companies. AZN is no exception.

The contentious points are as follows:

- Amortisation and impairment of intangible assets
- Restructuring charges
- Legal costs
- Profit (over book value) of asset disposals

Amortisation of intangible assets

Our underlying EBIT does add back amortisation of goodwill so that comparisons can be made directly with peers that have not made acquisitions

While there is a cost associated with acquisitions which must be recognised, in order to compare the operating performance between companies that have made acquisitions with those that have not, we also add back the amortisation charge for the generation of underlying EBIT. Moreover, because amortisation is a non-cash item, it provides a better proxy for cash earnings. In the case of AZN, the company also adds back the amortisation and impairment of goodwill associated with acquisitions in order to generate its 'core' EBIT.

Restructuring charges

AZN has had a restructuring charge every year for 10 years…

…in the range $807m to $1,558m

Restructuring costs are frequently added back to profits as most management teams consider them to be 'one-off', including AZN. However, we believe that restructuring charges simply reflect that operating costs have got out of control and need to be reined in. Also, it is usually a cash cost. So, to align with cash earnings, our policy is to not add them back. Furthermore, given that AZN has now had a restructuring charge, in the range from $807m and $1,558m, every year for the past 10 years, they can hardly be considered 'one-off'!

Legal costs

Protection of IP is now a normal part of business in the pharmaceutical industry

Legal costs are now normal in the pharmaceutical industry and a genuine cost of doing business and protecting your intellectual property. I recall about 20 years ago when GSK first encountered a major legal cost, John Coombe, the CFO, stated that they were being shown as 'exceptional'; but, in his heart he felt that they would become a normal part of doing business. How right he was.

Therefore, once again such items should not be added back in an attempt to boost apparent performance, as they are recurring every year. For AZN in 2018, this happened to be a positive figure ($489m) largely the result of settling a legal dispute concerning Losec in Canada.

Profit on disposals

Once an asset has been sold, it cannot be sold again

In 2019, AZN needs to make up $1.9bn just to stand still, or make more disposals…

…but eventually this will become an issue in a year where few, or no, disposals are made

Over the past four years, AZN has gone through a period of making disposals of older drugs that are no longer considered core to the business. These nearly always generate a substantial profit over book value on disposal, which AZN considers to be core, i.e. its 'non-core' asset suddenly becomes 'core' when it comes to earnings considerations. In my opinion, once something has been sold, it cannot be sold again and should not be included as part of 'core' earnings, especially when it represents only an accounting profit over book value, which has nothing to do with operations.

Moreover, in 2018, such disposals generated a book profit $1.89bn. Therefore, in the event that no disposals are made in a particular year, a massive amount of growth would be needed from the operational side of the business just to give a flat EBIT outcome. For example, under its own definition, in 2019, AZN must increase profits from operations by 54% ($1.89bn as a percentage of $3.46bn) in order to produce the same 'core' EBIT as in 2018. It will be interesting to see how the company handles this in the event that no, or few, disposals arise in a particular year.

EPS reconciliation

Year-end Dec ($m)	2018	Comment
Statutory EBIT	**3,387**	Standard UK GAAP using IFRS
Diabetes alliance	-60	Could be profit or loss from BMY alliance
Non-core business	-323	Included in 'other income'
Amortisation of goodwill	2,345	Added back for comparative purposes
Exceptional items	-1,885	'One-off' profit on disposal of non-core assets
Underlying EBIT*	**3,464**	**Our standard method used across the industry**
Restructuring charges	697	Inefficiencies in the cost base, not one-off
Profit on disposals	1,885	AZN includes these 'one-off' gains
Non-core items	-374	Net legal settlements; other gains or costs
AZN 'core' EBIT	**5,672**	
Statutory EPS ($)	1.70	28% decline vs. 2017
Underlying EPS ($)*	**2.09**	**26% decline vs. 2017**
AZN 'core' EPS ($)	3.47	18% decline vs. 2017

**Hardman & Co methodology*
Source: Hardman & Co Life Sciences Research

As can be seen for 2018, underlying EPS by our methodology was somewhat better than the statutory EPS figure, with the adding back of the amortisation charge being offset by removal of the exceptional profit on disposal. Even so, it is markedly lower than the 'core' EPS figure that the company likes to focus on.

10-year EPS summary

Our underlying EPS is a good proxy for OCFPS…

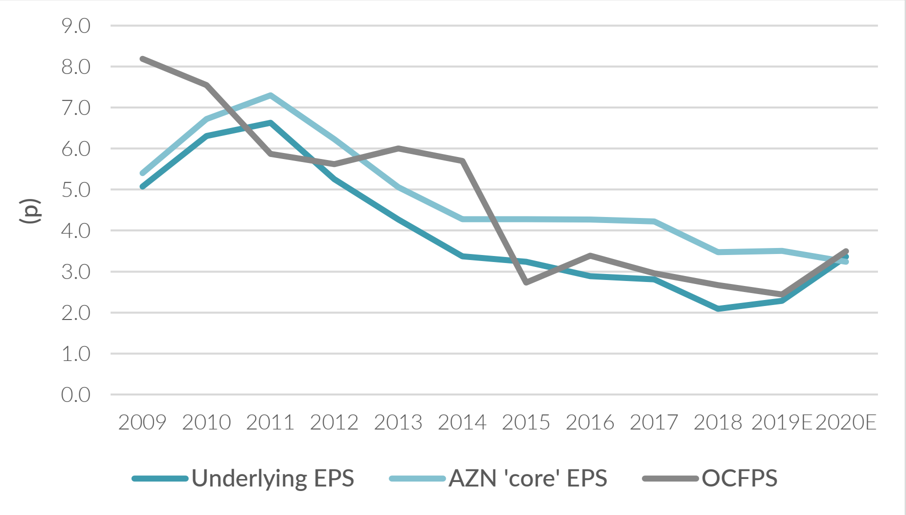
…whereas 'core' EPS generally overstates the performance

The importance of this can be seen from the 10-year EPS summary shown in the following table and chart. The company does not appear to have fared so poorly when looking at 'core' EPS (CAGR -4.3%) compared with underlying EPS (CAGR -8.5%). Moreover, when looking at the ratio between cash earnings and EPS, our underlying calculation shows that there is a good cash conversion rate and underlying EPS is a very good proxy for operational cashflow per share (OCFPS). In contrast, there is a very poor analogy (over-statement) between AZN's 'core' EPS and OCFPS.

Comparison of EPS											
Year-end Dec. ($)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	CAGR
Statutory EPS	5.24	5.60	7.34	4.99	2.04	0.99	2.23	2.77	2.37	1.70	-10.6%
Underlying EPS	**5.07**	**6.31**	**6.63**	**5.25**	**4.27**	**3.37**	**3.24**	**2.89**	**2.81**	**2.09**	**-8.5%**
AZN 'core' EPS	5.40	6.72	7.30	6.23	5.06	4.28	4.28	4.27	4.22	3.47	-4.3%
OCFPS	**8.19**	**7.55**	**5.87**	**5.62**	**6.00**	**5.70**	**2.73**	**3.39**	**2.96**	**2.67**	**-10.6%**
OCFPS:EPS	162%	120%	89%	107%	141%	169%	84%	117%	105%	127%	-
OCFPS:'core' EPS	152%	112%	80%	90%	119%	133%	64%	79%	70%	77%	

Source: Hardman & Co Life Sciences Research

Trend in EPS and cashflow per share



Source: Hardman & Co Life Sciences Research

Cashflow

The P&L (EBIT) is a simple proxy for the most important valuation metric, which is operational cashflow and OCFPS, as it shows the true operational returns of a business. However, it takes much longer to determine than EPS, which is why it is rarely used as a valuation metric. It is also influenced by both the movement in working capital and variations in cash tax payments, which tend to make it more volatile.

Operational cashflow has been in decline for 10 years…

…leaving the dividend uncovered…

…and racking up the debt

The table of summary cashflows below shows that, in general, there has been a steady decline in operational cashflow at AZN to a point where, since 2014, it did not cover the capital expenditure and dividend payments. To compensate for this, management embarked on a series of disposals on mature/non-core drugs in the portfolio, which generated, overall, a net small positive outcome. However, a number of acquisitions of either companies or products to access new technologies have also been made, which have essentially been paid for by taking on debt. This has moved the company from a net cash position of $339m at the end of 2009 to -$14.7bn (net debt/equity 115%) by the end of 2018. At the end of 1Q'19, this had increased further to -$16.3bn (after payment of final dividend, but before settlement from the Placing and the upfront payment to Daiichi Sankyo).

Share buybacks

AZN has spent a total of $29.4bn on share buybacks to boost EPS

In total, between 1999 and 2013, AZN spent $29.4bn on share buybacks at an average price of $47.71/£28.87). For many years, largely until the approach from Pfizer, this had been detrimental to shareholders (share price trading lower than average cost price of share repurchases). At today's share price, it can be argued that this has benefited shareholders. However, one of the consequences is that the company is now straddled with a huge amount of debt.

Are share buybacks the best investment that can be made?

It is a personal opinion, but I am against share buybacks. Ignoring the detailed economic argument and tax considerations, I consider this money to belong to the shareholders and not to management. If the Board feels that it has too much capital and an inefficient balance sheet, the money should be returned to its owners directly in the form of dividends. Also, management is effectively saying that an investment in its own shares is better than any other investment that could be made, and, in general, I am unconvinced that management teams within companies are appropriately qualified or informed to make this judgement.

The current CEO immediately terminated the buy back programme

To give credit to the current management team, one of the first things it did when appointed was to stop the share repurchase programme to preserve cash.

Summary of AZN cashflow statements

Year-end Dec ($m)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Operational cashflow	**11,852**	**10,854**	**7,992**	**7,093**	**7,514**	**7,198**	**3,447**	**4,285**	**3,742**	**3,379**
Capital expenditure	-962	-791	-839	-672	-742	-1,012	-1,328	-1,446	-1,326	-1,043
Dividends	-2,977	-3,361	-3,764	-3,665	-3,461	-3,521	-3,486	-3,561	-3,519	-3,484
Acquisitions	-624	-1,738	-458	-5,134	-2,474	-6,201	-4,485	-3,707	-2,178	-677
Disposals	269	210	1,772	0	35	0	1,130	1,427	1,376	2,350
Share repurchases	0	-2,604	-6,015	-2,635	0	0	0	0	0	0
Change in net cash/(debt)	**7,796**	**2,989**	**-837**	**-5,100**	**1,450**	**-3,324**	**-4,330**	**-2,977**	**-2,693**	**201**
Opening net cash/(debt)	-7,457	339	3,328	2,491	-2,609	-1,159	-4,483	-8,813	-11,790	-14,483
Closing net cash/(debt)	**339**	**3,328**	**2,491**	**-2,609**	**-1,159**	**-4,483**	**-8,813**	**-11,790**	**-14,483**	**-14,282**
Cash conversion ratio	1.10	0.94	0.87	0.88	0.80	1.10	0.72	0.82	0.75	0.76
Net debt/EBITDA	-0.02	-0.21	-0.16	0.22	0.10	0.50	1.09	1.68	1.91	1.98
Return on invested capital	23.3%	26.9%	27.7%	18.9%	15.2%	14.4%	12.8%	11.4%	9.8%	9.8%

Summary of full cashflow statement only, numbers provided do not add-up to the change in net debt
Source: Company reports, Hardman & Co Life Sciences Research

Dividends

Cutting the dividend would have been detrimental to management remuneration…

AZN has a policy to "…maintain or grow dividend per share…" and is one of its stated KPIs on which long-term incentives for the management team are derived. It has just been pointed out that the dividend has been uncovered by operational cashflow less capital expenditure for a number of years and should have been cut, especially given the large increase in investment required to get the company back on to a positive growth trend. However, such a move would have been detrimental to remuneration packages.

…but Vodafone showed that investment for the future can be achieved without too much shareholder damage

In addition to remuneration influences, it is well known that anticipation of a cut in dividend is generally associated with a fall in the share price, as evidenced by the performance of Vodafone (VOD) over the last 12 months. Question marks over its ability to keep paying a high dividend has caused the shares to underperform. Moreover, on 14 May 2019, when the company formally announced its intention to rebase its annual dividend from €¢15.07 to €¢9.0 per share, to help fund the required investment in 5G technology, the share price reacted with a 4% fall. Therefore, the reluctance of management to undertake such a move is understandable.

Giving to Peter and then taking from Paul…

…at a huge cost to shareholders

On the other hand, what the Board of AZN has done is much less understandable and is avoiding having to make the right decision. What is the point in a company paying a dividend on one day (27 March) and two days later (29 March) announcing the need for a capital increase to bolster its balance sheet. What is more, the Placing (@6050p per share) was done at a 6.7% discount to the closing share price on 28 March, i.e. far more than the likely fall in share price on the announcement of a dividend cut, and probably cost the company $70m (est. 2%, the actual amount will be released along with 2Q'19 results in July) in fees. Therefore, the overall impact and cost to shareholders was considerably greater than that seen by Vodafone.

The 2019 dividend looks to be uncovered again

Current management guidance for 2019 financial performance suggests that operational cashflows will improve compared with those reported in 2018. However, this improvement will still be insufficient to cover the dividend, especially with the increased number of shares in issue. Based on our forecasts, this situation will also be repeated in fiscal 2020. Therefore, this discussion on dividends is likely to recur, and raises the question about whether AZN will require more working capital again next year if it gets close to breaching banking covenants (see below).

Disposals

The strategy to sell valuable assets which are no longer core to the group is perfectly reasonable. This policy has generated \$6.3bn of cash in the past four years and a further \$515m has been recorded already during 1Q'19. As mentioned earlier, this could be problematical in a year when no such gains are made, putting huge pressure on the growth in operating profits in order for its 'core' EPS just to stand still. On the basis of guidance, reiterated with 1Q'19 results, AZN management is indicating that it expects to make further non-core disposals during 2019.

Net debt/EBITDA

In the absence of the Placing, net debt/EBITDA was approaching 2.5x

Based on 2018 results, AZN's net debt/EBITDA ratio was 1.98x. Assuming that EBITDA remains largely unchanged in 2019 (guidance 'core' EPS of \$3.50 (+3%) to \$3.70 (+9%)), suggests that this ratio had risen to 2.25x by the end of 1Q'19. After the quarter had ended, the upfront payment of \$675m (50% of the \$1.35bn upfront with the remainder in 12 months' time) to Daiichi Sankyo for the rights to trastuzumab was made, in addition to an upcoming redemption of \$500m of floating loan notes (early redemption took place on 18 April). Taken together, these items would probably have pushed the net debt/EBITDA ratio close to 2.5x in the absence of the Placing. While the banking covenants of AZN have not been disclosed, the need for a capital increase had probably become quite pressing in order to avoid breaching them.

Audit committee activity

While "…all directors are collectively responsible for the success of the group…" it is the role of audit committee "…to assess the soundness of [our] financial reporting and internal controls…" and it is the responsibility of the audit committee to oversee, among other things, the financial reporting. The chairman of the audit committee, who retired at the conclusion of the AGM in April, has been a member of the committee since September 2008, i.e. throughout the period of declining cashflows highlighted in this report.

> *"….The Audit Committee spends a significant amount of its time considering the landscape of enduring risks, specific and current risks, and emerging risks…."*

Source: AZN annual report 2018

The financial reporting section of the report of the audit committee in the 2018 annual report (page 110) states that, among other items, it:

- reviewed, at least quarterly, the group's significant accounting matters including contingent liabilities, revenue recognition and deferred tax and, where appropriate, challenged management's decisions before approving the accounting treatment applied;
- reviewed the group's significant restructuring programmes initiated from 2013 onwards, including accounting for restructuring charges, and control over capital expenditure; and
- looked closely at intangible asset impairment reviews, legal provisions and other related charges, to ensure that items are appropriately accounted for in 'reported' and 'core' results.

In addition, the risk identification section states that the committee:

- considers the total landscape of enduring risks which are longstanding and business-as-usual in nature; and
- scans the horizon and identifies risks that may challenge the company in the future, it also considers emerging risks.

The audit report makes no mention of cashflows, dividend payments, or the definition and appropriateness of 'core' EPS

Interestingly, the report of the audit committee makes no mention of cashflows or the payment of dividends in either the financial reporting section or the risk identification and management section. The audit committee and the Board seem to accept that dividend cover should be based on the calculation of its definition of 'core' EPS divided by the dividend payment, even though this report highlights that 'core' EPS significantly overstates the position relative cash generation as shown by OCFPS, which shows clearly that the dividend has been, and will continue to be, uncovered for a number of years.

Conclusions

It was known that the company faced a tough period…

…so early planning was essential

On the one hand, there is an acceptance that while AZN was going through a period of patent expiry on its major drugs there would be an associated decline in profitability and cashflows in the absence of new drugs to take their place. On the other hand, the timing of this period of decline was well known, and planning for these events should have started earlier, the first step being cash preservation and the cessation of any share buy-backs after 2008, and the re-basing of the dividend five years ago, when the share price was rising.

'Core' EPS gives a misleading picture of cashflows and implies that the dividend is covered

From our short forensic financial analysis, the dressing-up of earnings from statutory to core using non-GAAP measures can generate mis-leading outcomes, as evidenced by the large mis-match (over-statement) between AZN's core EPS and the operational cashflow per share. In contrast, the methodology for underlying EPS that we adopt generates an outcome which is closely aligned with, but generally understates, the OCFPS outcome.

The audit committee should hold its head in shame

The decision by the Board to authorise the final dividend payment and then announce a capital increase two days later, at enormous cost to shareholders, beggars belief. What is the audit committee doing?

Analysts should listen to 'guidance'…

…but be prepared to offer more realistic alternatives that allow peer group analysis and influence consensus

From an analytical point of view, far too much attention is spent on the R&D pipeline and not enough time is spent on forensic examination of the accounts. Also, analysts should not simply accept 'guidance' numbers provided by the company and always have outcomes that are '…in line with expectations…'. Analysts should not be afraid to offer investors more appropriate alternatives, based on their own, consistent accounting methodology, thereby allowing direct peer group comparisons and influencing the consensus.

At the time of writing, according to Refinitiv (formerly Thomson Reuters), there are 26 analysts currently active on AZN, with the following ratings: 17 buy, 6 hold, 3 sell. The consensus forecast for 2019 EPS ($3.50) is aligned with the latest management guidance for 'core' EPS (currently $3.50-$3.70), with growth of 19% and 20%, respectively, in fiscal years 2020 and 2021. However, this rate of EPS growth is not reflected in the forecast rate of sales growth (ca.10%), which implies considerable operating leverage needs to be delivered over the forecast period in order to achieve the EPS forecasts, particularly in the absence of further 'profit on disposals' after 2019, which are unforecastable.

From a valuation standpoint, AZN is trading around the same market capitalisation as GSK (see table below); however, allowing for the debt in each company, GSK has an EV of £103.7bn, whereas the EV of AZN is £87.1bn. Even so, group sales of GSK are almost double (pharma sales 1.4x greater) those of AZN, it is ranked higher in both the world and the US, and has higher margins. This suggests that market expectations for a productive and successful R&D pipeline are far greater for AZN than for GSK. Delivering on this and improving the cash generation will dictate where the shares go from here.

The current valuation leaves no room for disappointment

Also, to put AZN's valuation into perspective, a comparison has been made with Celgene (CELG), which has similar industry characteristics: fast-growth company (sales growth >20% p.a.); and ranked both globally and in the US at about the same level as AZN. In the face of a bid from Bristol-Myers-Squibb (BMY), the enterprise value of Celgene is standing at a significant market premium, currently at ca.$87bn, or 5.70x 2018 sales. On the day immediately prior to the announcement of BMY's approach, CELG was trading at 4.11x sales, i.e. a higher rating than GSK, reflecting faster growth, but well below AZN's.

Comparison of AZN with GSK and Celgene

2018 data	AstraZeneca	GlaxoSmithKline	Celgene
Share price*	5833p	1527p	$93.80
Market cap	£76.5bn	£76.2bn	$73.3bn
Net debt	-£10.5bn	-£27.5bn	-$14.2bn
EV	£87.1bn	£103.7bn	$87.1bn
Group sales	$22.1bn	$40.4bn	$15.3bn
Pharma sales	$21.0bn	$30.4bn	$15.3bn
Global pharma rank	13	8	16
US pharma rank	17	9	13
EV/sales	5.17x	3.36x	5.70x

Please note that different currencies are being used within the table
**Share prices taken at close of business on 31 May 2019*
Source: Hardman & Co Life Sciences Research

Full cashflow statement

Cashflow statement										
Year-end Dec ($m)	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Operating profit	11,543	11,494	11,312	8,148	3,712	2,137	3,153	3,601	2,159	1,502
Depreciation	943	1,098	1,086	1,023	1,007	898	853	656	1,229	1,408
Amortisation	1,144	1,643	1,464	1,495	3,576	2,384	1,999	1,701	1,807	2,345
Inventories	*6*	*88*	*-256*	*-150*	*135*	*108*	*-315*	*-343*	*-548*	*-13*
Receivables	*-256*	*10*	*-1,108*	*755*	*-383*	*311*	*152*	*1,610*	*83*	*-523*
Payables	*1,579*	*-16*	*467*	*-1,311*	*414*	*2,089*	*114*	*-341*	*415*	*-103*
Change in working capital	1,329	82	-897	-706	166	2,508	-49	926	-50	-639
Exceptionals/provisions	0	0	0	0	0	0	0	0	0	0
Other	-200	-463	-597	-424	258	865	-782	-1,650	-415	157
Net interest	-526	-467	-377	-400	-361	-393	-373	-537	-534	-483
Tax	-2,381	-2,533	-3,999	-2,043	-844	-1,201	-1,354	-412	-454	-537
Operational cashflow	**11,852**	**10,854**	**7,992**	**7,093**	**7,514**	**7,198**	**3,447**	**4,285**	**3,742**	**3,379**
Capital expenditure	-962	-791	-839	-672	-742	-1,012	-1,328	-1,446	-1,326	-1,043
Sale of tangible assets	138	83	102	199	69	158	47	82	83	12
Free cashflow	**11,028**	**10,146**	**7,255**	**6,620**	**6,841**	**6,344**	**2,166**	**2,921**	**2,499**	**2,348**
Dividends	-2,977	-3,361	-3,764	-3,665	-3,461	-3,521	-3,486	-3,561	-3,519	-3,484
Acquisitions	-624	-1,738	-458	-5,134	-2,474	-6,201	-4,485	-3,707	-2,178	-677
Disposals	269	210	1,772	0	35	0	1,130	1,427	1,376	2,350
Other investments	-106	-39	-11	4	33	-127	223	-250	-122	-332
Cashflow after investments	**7,590**	**5,218**	**4,794**	**-2,175**	**974**	**-3,505**	**-4,452**	**-3,170**	**-1,944**	**205**
Share repurchases	0	-2,604	-6,015	-2,635	0	0	0	0	0	0
Share issues	135	494	409	429	482	279	43	47	43	34
Effect of forex	71	33	-25	-4	-65	-152	-76	21	-66	-38
Cash/(debt) acquired	0	-152	0	-715	59	54	155	125	-726	0
Change in net debt	**7,796**	**2,989**	**-837**	**-5,100**	**1,450**	**-3,324**	**-4,330**	**-2,977**	**-2,693**	**201**
Opening net cash/(debt)	-7,457	339	3,328	2,491	-2,609	-1,159	-4,483	-8,813	-11,790	-14,483
Closing net cash/(debt)	**339**	**3,328**	**2,491**	**-2,609**	**-1,159**	**-4,483**	**-8,813**	**-11,790**	**-14,483**	**-14,282**
OCFPS ($)	8.19	7.55	5.87	5.62	6.00	5.70	2.73	3.39	2.96	2.67

Source: Company reports, Hardman & Co Life Sciences Research

About the authors

Dr Martin Hall

Martin's career in the City started as a healthcare analyst in 1987, working at Morgan Grenfell and then UBS. He joined HSBC in 1992, where he was Head of Global Pharmaceutical/Healthcare Equity Research. In 2005, he set up as an independent Life Sciences Analyst and Corporate Broker under the umbrella of Eden Financial Limited. Martin is acknowledged for his thought-provoking and opinionated research. He joined Hardman & Co in June 2013.

Martin qualified as a pharmacist (B.Pharm.Hons) at the School of Pharmacy, University of London, and has a PhD in Neuropharmacology, also from the University of London. After two years of post-doctoral research under a Royal Society Fellowship at the Collège de France, Paris, he became leader in Biochemical Pharmacology at the Parke-Davis Research Centre in Cambridge. Martin is a member of Royal Pharmaceutical Society of Great Britain.

Dr Dorothea Hill

Dorothea joined the Life Sciences team as an Equity Research Analyst in August 2016. She began her career researching vaccines as part of an international Gates Foundation/Wellcome Trust collaboration, following which she undertook a PhD in genetics and vaccines for meningococcal disease at the University of Oxford. She has broad experience in the field of vaccines research and development, having worked on the molecular biology of bacterial pathogens, antigen discovery, molecular diagnostics, and next-generation sequencing technologies. Dorothea has authored 13 papers, including first author publications in the Lancet Infectious Diseases and in Nature's Scientific Reports. She is passionate about drug development and the commercialisation of medical innovation.

Dr Grégoire Pavé

Greg is an analyst in the Life Sciences team at Hardman & Co, and has considerable experience in the field of drug discovery and development. In 2003, he enrolled in a team-leader post-doctoral position at Imperial College London, working on natural product synthesis. In 2005, he joined Cancer Research Technology, the development and commercial arm of Cancer Research UK, where he was involved in multiple oncology projects. Greg has broad experience in drug discovery and development projects, from target identification and validation through to clinical trials. He has also gained valuable experience in evaluating life science projects and their commercial opportunities. In addition, he has played a role of reviewer in peer-review journals from the American Chemical Society. He is also an author of 14 scientific papers and owner of four patents. Greg joined Hardman & Co in March 2016. He has a PhD in Medicinal Chemistry from the University of Orléans in France, and holds the IMC and PRINCE2 qualifications.

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