



LEADING TREASURY
PROFESSIONALS

MCT ADVANCED DIPLOMA CASE STUDY EXAMINATION

Paper, Solutions and Examiner's Report

06 October 2016 09.30 – 13.00

Instructions:

Answer **EIGHT COMPULSORY** questions.

Time allowed: **3 hours + 30 minutes reading time.**

During the reading time you may annotate the examination paper but you may not write in your answer booklet or use your calculator.

- Enter your student number on the answer booklet: **do NOT write your name**
- You must write in blue or black ink and ensure your handwriting is legible.
- Enter the order in which questions are answered in the box provided on the front of the answer booklet.
- Ensure that all additional submissions (if applicable) are attached to the answer booklet by the tag provided and write your student number on all items to be marked.
- Show all your workings and state your assumptions in all questions, as appropriate.

QUESTION 1

Required:

- a) **Summarise the most critical changes in the company's financial performance over the period 2010-2015, illustrating your answer with selected financial metrics.**
(6 marks)
- b) **Summarise the resultant impact on the company's credit status over the period and comment on the current credit strength of UK Pharma.**
(4 marks)

(Total 10 marks)

QUESTION 2

The declared company policy is to maintain a progressive dividend policy and to buy back shares as appropriate.

Required:

- a) **Use the Cash Flow Summary exhibit to assess whether this policy has been "affordable" in recent years.**
(5 marks)
- b) **Using the cash flow forecast information in the background information, estimate the stream of dividends that you think are affordable over the next six years. Calculate a value for the company's equity as at December 2015 based on future dividends, justifying your choice of methodology.**
(5 marks)

(Total 10 marks)

QUESTION 3

It has been argued that it may now be impossible for UK Pharma to continue with its chosen business model of combining the business of established drug manufacture with the business of R&D-based drug development, as it also has to deal with the impact of the “patent cliff”.

Required:

- a) **Review the industry characteristics, both financial and non-financial, which would support or oppose the above argument.**

(7 marks)

- b) **Given these considerations, and given the company’s financial position, state and justify what would be your priorities for the key elements of the company’s financial strategy.**

(8 marks)

(Total 15 marks)

QUESTION 4

The business is undergoing enormous change. Prior to 2012 the focus was on marketing and sales. Now it is on research, development, pipeline management, externalisation and manufacturing presence in major growth areas.

Required:

Given these changes, explain and justify how you would propose to reshape the treasury function for the future to support and add value to the business.

You may choose (but it is not a requirement) to use the Treasury Organisation Profile as below to illustrate your response. Ticking a box in the top left hand corner of any of the twelve cells indicates where you think treasury is now. Ticking a box in the bottom right hand corner indicates where you think treasury should be in the future.

(10 marks)

This pro-forma will be available as a handout to students if used to illustrate the answer.

Treasury Organisation Profile

ROLE	<input type="checkbox"/> Advisory	<input type="checkbox"/> Agency	<input type="checkbox"/> In-House Bank
AUTHORITIES	<input type="checkbox"/> Decentralised	<input type="checkbox"/> Centralised	<input type="checkbox"/> Dynamic Balance
RESPONSE TO RISK	<input type="checkbox"/> Cost Centre	<input type="checkbox"/> Cost-Saving Centre	<input type="checkbox"/> Profit Centre
ORGANISATION	<input type="checkbox"/> Elementary	<input type="checkbox"/> Intermediate	<input type="checkbox"/> Advanced

Example: If you think treasury is currently decentralised, but should move to centralised in the future, mark the grid as shown.

	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AUTHORITIES	Decentralised	Centralised	Dynamic Balance
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Existing →

Future →

QUESTION 5

Required:

Looking ahead five years, select what you believe are the four areas on which it is most important for Group Treasury to focus attention. Justify your choice of areas, quantifying the significance of each area where possible, and prioritise 1-4, with #1 being most important.

(12 marks)

QUESTION 6

In January 2014 US Pharma (USP) initiated an attempt to acquire UK Pharma (UKP), but only if it received the full backing of UK Pharma's Board. Between January and May 2014 USP made three bids rising from £46.50 to £55.00 per share, as shown in the table below. USP described its approach as "offering a highly compelling opportunity for UKP shareholders" but all three offers were rejected by UKP as "significantly undervalued", pointing out that its "rapidly- progressing" pipeline of new drugs represented attractive growth prospects.

Analysts pointed out the large tax advantages for USP, prior to impending changes to US tax regulations, plus the potential for large cost savings, but concluded that the "strategic, business and financial rationale was compelling".

During the bid process various analysts thought that a fair price that would clinch the deal was £49 then £55. After the final rejection some leading investors went public and were highly critical of the company for refusing the offers and more so for refusing to engage in discussions with USP, but other investors supported the company's rejection just as strongly.

The Chair of UKP, in rejecting the final offer, put a price of £59 on UKP shares, which one analyst described as "simply staggering". In justifying this price the Chairman re-stated his confidence in the long-term prospects of the business. They welcomed the opportunity to create value for shareholders in an un-disrupted way. The Chairman said that "the proposed acquisition represented significant risks for shareholders with serious consequences for the company, its employees and the life-sciences sector in the UK, Europe and US. USP had failed to make a compelling strategic, business or value case".

US Pharma / UK Pharma Bid Data and Timeline						
	UK Pharma share price					
date	USD	GBP	notes			
02-Jan-14	58.57	35.63	pre- bid process price -immediately re-buffed			
21-Jan-14	65.82	39.58	initial offer £46.50 per share			
25-Apr-14	68.66	40.84	second offer £50.00 per share			
28-Apr-14	77.01	45.82	second offer rejected by UK Pharma as "still too low"			
16-May-14	80.28	47.70	third offer £55.00 per share			
19-May-14	70.64	41.98	UK Pharma rejects and "refuses to engage in talks"			
26-May-14	72.28	42.88	third offer withdrawn by US Pharna			
31-Dec-14	70.38	45.09				
31-Dec-15	67.90	45.82				
04-Feb-16	57.34	40.37	2015 results announced			

Required:

a)

i) Give your reasoning as to the most appropriate definition of UKP's eps for purposes of valuing its shares, bearing in mind the particular characteristics of the pharmaceuticals business and this company's situation.

ii) Quantify the company's past and likely future eps based on your definition.

(6 marks)

b) Comment on the strength of the three bids plus UKP's indicated target price in relation to;

i) UKP's share price history between 2010 and 2016

ii) Your figures for past and future eps

iii) Your equity valuation from Question 2b based on future dividends

(9 marks)

(Total 15 marks)

QUESTION 7

UK Pharma carries USD 6bn of cash on its balance sheet as well as USD 3bn of headroom on its debt facilities. At the y/e 2015 USD 4,389m was invested in AAA rated liquidity funds, with the balance in fully collateralised reverse repurchase agreements and short term bank deposits.

Required:

- a) **Evaluate and comment critically on whether the level of cash buffer and headroom is optimal in terms of delivering the current business strategy.**
(9 marks)
- b) **State your reasons for either retaining or altering the mix and balance of investments.**

(3 marks)

(Total 12 marks)

QUESTION 8

UK Pharma monitors Value at Risk (VAR) to manage its FX risk within an overall risk limit. At times, it will hedge its forecasted cashflows through forwards, options or a combination of both.

UK Pharma reports in USD. It's main cost bases are GBP and SEK, and it receives revenue in a number of currencies, with CNY, EUR and JPY, being the largest.

The table below shows the annual currency exposure for UK Pharma across its major markets. A positive number indicates that the company has net revenues in that currency and a negative number indicates a cost. In addition the table shows the 95% Annual VAR for each of these exposures on a standalone basis as well as the Marginal VAR, which represents the reduction/(increase) in VAR of the portfolio if that currency is hedged fully in isolation. The 95% VAR of the portfolio is USD 187m.

	Annual Exposure (Local Currency m)	USD Equivalent Value	Standalone VaR (USD m)	Marginal VaR (USD m)
AUD	120	92	19	9
BRL (Brazilian Real)	120	38	15	10
CAD	36	28	5	2
CNH (Renminbi)	2,400	362	58	30
EUR	210	237	53	23
GBP	-330	-430	92	32
JPY	24,000	239	40	8
KRW(SouthKoreanWon)	34,500	32	7	1
MXN (Mexican Peso)	600	33	13	6
RON (Romanian Leu)	108	27	10	5
SEK (Swedish Krona)	-2,850	-339	76	-24
TRY (Turkish Lira)	150	51	17	12
TWD(NewTaiwanDollar)	750	24	6	0
ZAR	150	11	2	1
Total		406	414	
Portfolio VAR			187	
Portfolio Gain			217	

The company is now reviewing its overall approach to managing transactional FX risk.

Required:

a) **Identify and explain the factors which you would wish to take into account when deciding about how to manage this currency exposure.**
(6 marks)

b) **Determine and justify a hedging strategy for the exposure.**

(5 marks)

In parallel with the review of the overall exposure, it has been proposed that CNH is hedged forward on a continuous basis, given its increasing significance. The graphical information overleaf has been collected to help with the decision.

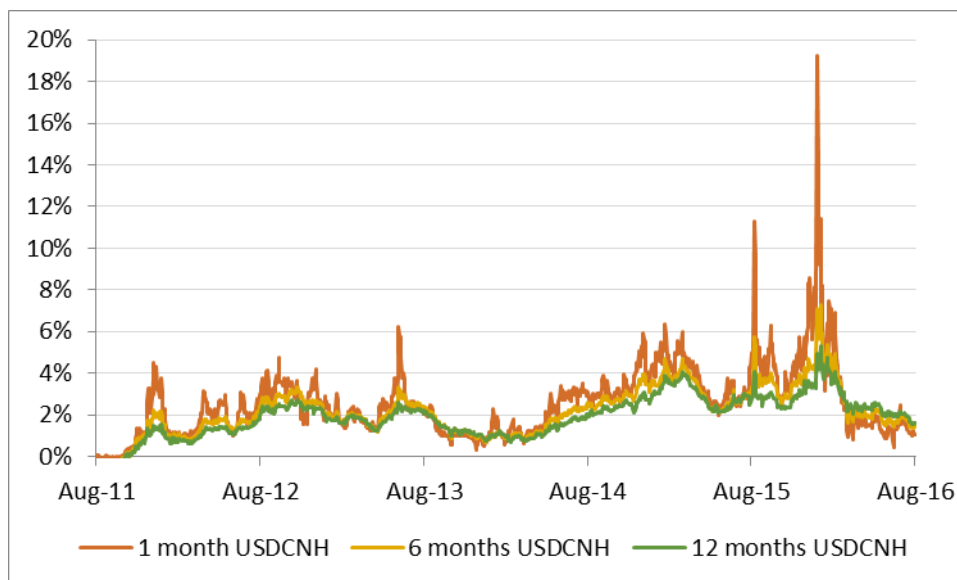
USDCNH Annualised Cost of Carry is for 1 month, 6 month and 12 month forwards.

USDCNH Implied and Realised Volatility is for 6 month options.

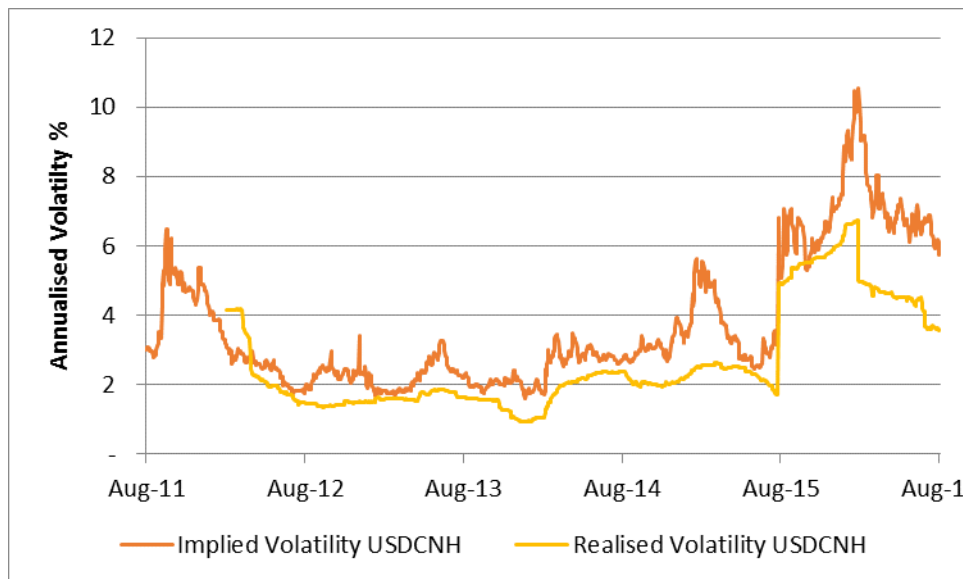
USDCNH Historical Spot Rate:



USDCNH Annualised Cost of Carry:



USDCNH Implied and Realised Volatility (6 months):



Required:

c) **Comment critically on the proposal.**

(3 marks)

d) **Assuming that CNH is hedged in isolation on a continuous basis, identify a suitable hedging instrument and tenor and justify your choice.**

(2 marks)

(Total 16 marks)

MCT ADVANCED DIPLOMA CASE STUDY BACKGROUND INFORMATION

Based on UK Pharma

October 2016

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1.0 INTRODUCTION

1.1 Group Overview

UK Pharma is a global biopharmaceutical business. It researches, develops and manufactures medicines and has 61,500 employees worldwide.

Summary Financials	2014 USDm	2015 USDm
Revenues	26,547	24,708
EBIT	2,131	4,098
PAT	1,235	2,826
Gross debt	10,843	15,053
Net debt	3,688	8,200
Shareholders' funds	19,646	18,509
Average market cap.	88,952	83,664

There are two distinct types of Pharma business: Bio-Pharma which researches, develops, manufactures, markets and sells patent-protected product; and General Pharma which manufactures, markets and sell patent-expired product. UK Pharma is in the "Bio" category.

UK Pharma focuses on three core and one opportunity-driven therapy areas across three geographic regions:

Therapy Area	Respiratory Inflammation & Autoimmunity	Cardiovascular & Metabolic Diseases	Oncology	Opportunistic: Infection, Neuro-Science & Gastrointestinal	TOTAL SALES
Sales \$bn	5.0	9.5	2.8	6.3	23.6

Geographic Area	North America	Europe	International & Japan	TOTAL SALES
Sales \$bn	10.0	5.3	8.3	23.6

Employees Total #	North America	Europe	Int'l & Japan	R & D	Manufacturing & Supply	Other
61,500	7,600	5,900	21,900	8,900	12,500	4,700

Total sales are revenues net of externalisation revenue:

	2013	2014	2015
Product Sales,	25,711	26,095	23,641
Externalisation Revenues	95	452	1,067
Revenues	25,806	26,547	24,708

“Externalisation” is a related source of revenue. It comprises royalties and profit shares resulting from third part collaboration and is explained in more detail in 2.1 Business Model.

The current Chairman, Chief Executive and Chief Financial Officer were appointed in 2012-13. The patents on four products comprising USD 9bn of 2015 sales expire between 2016 and 2018. Since 2012 UK Pharma has invested USD 20bn in R & D and USD 28bn in acquisitions. As a result, there is substantial pipeline, but by its nature, lead times are long. Successful and timely execution and commercialisation of the pipeline product is critical. However, when it does come to market, UK Pharma product line will be more numerous, reducing sales exposure to individual products.

So the business is in slow motion transition. Hitherto the focus had been on marketing and sales. Latterly the balance has moved towards new product pipeline. And because this is a long drawn out process, ways are being developed to shorten it, for instance by collaboration with companies which can expedite coming to market and by acquiring smaller innovative companies which are closer to product launch.

2.0 BUSINESS PROFILE & ANALYSIS

2.1 Life Cycle of a Medicine



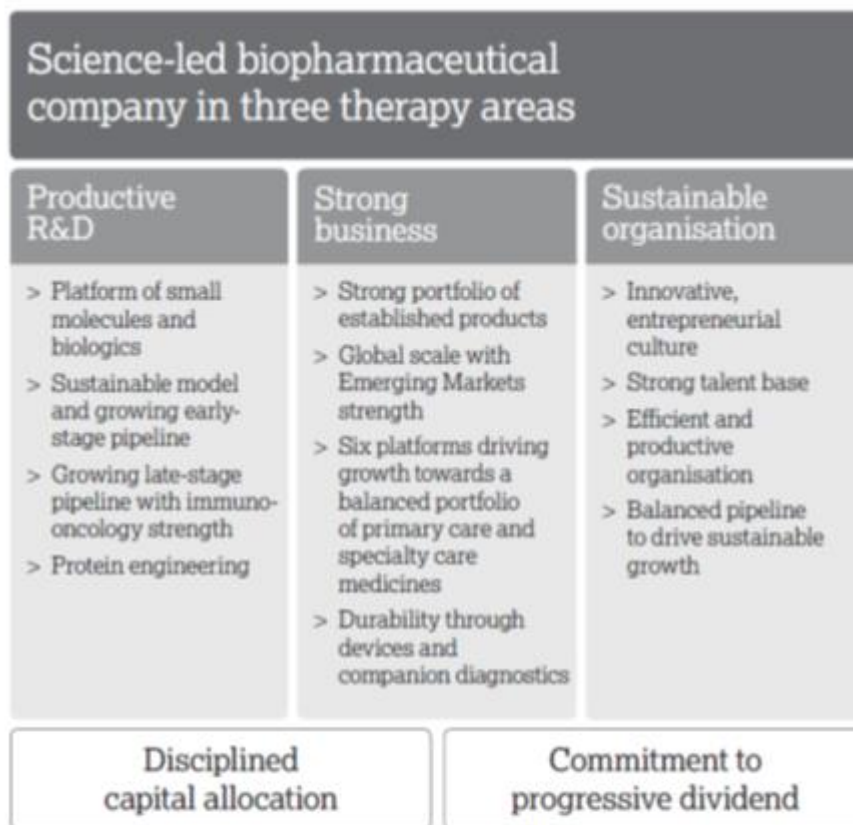
Note: This is a high-level overview of a medicine's life-cycle and is illustrative only. It is neither intended to, nor does it, represent the life-cycle of any particular medicine or of every medicine discovered.

2.2 Business Model

The text and the illustrations in this section are taken from the Company's latest report and accounts.

Our Purpose and Values drive what we do – and how we do it. This includes our business model and our determination to create sustainable, value across every medicine's life.

Investor proposition



Externalisation

Our business model includes externalisation as part of our portfolio management strategy and is a result of increasing R&D productivity and a focus on three main therapy areas. Externalisation activities relate to specific risk- and reward-sharing strategic collaborations that provide greater access to strong science and broaden, accelerate and maximise the development and commercialisation potential for some of our medicines and help bring those medicines to patients faster. Milestone payments and royalties arising from externalisation activities are included in the income statement as Externalisation Revenue. Externalisation allows us to leverage the capabilities and expertise of others, focus on our main therapy areas and deliver the greatest benefit to patients and shareholders.

Externalisation activities in 2015 included our collaboration with ABC, leveraging the expertise of UK Pharma in immune-oncology along with the experience of ABC in the study and treatment of blood cancers, for the development and commercialisation of durvalumab across a range of haematological malignancies. Similarly, our collaboration with XYZ, entered into in 2014, combines the scientific expertise from our two organisations and, by sharing the risks and cost of late-stage development, aims to accelerate the advancement of selected drugs and progress a new approach to support the treatment of Alzheimer's disease patients around the world. UK Pharma retains significant interest and continued participation, in the key decision making undertaken within these strategic collaborations.

Strategic priorities

Our strategic priorities reflect how we aim to achieve our Purpose. They are to



1

Achieve scientific leadership

2

Return to growth

3

Be a great place to work

These priorities reflect the choices we have made to focus our R&D and commercial investments, prioritise and accelerate promising assets and business development, and transform our innovation model and the way we work.

Inputs

Demographic trends are favourable to our industry's long-term growth; while innovative scientific research continues to deliver new ways of fulfilling unmet medical need. As the Marketplace section from page 12 demonstrates, however, the economic, social and political environment presents not only significant opportunities but challenges as well.

To achieve our Purpose, we seek to maximise the value of our resources, including our employees, IP and partners.



We have strong commercial franchises that focus on Respiratory, Inflammation and Autoimmunity; Cardiovascular and Metabolic diseases; and Oncology. We have combined a broad portfolio of primary care and specialty care medicines with a global reach. We believe our capabilities, pipeline and portfolio will enable us to build on our leading positions in Established Markets and achieve further growth in Emerging Markets.



Business model

We strive to operate in accordance with a disciplined, value-creation framework that supports investment to generate cash flows that we return to investors and reinvest in the business. We also invest in targeted business development to strengthen our portfolio, pipeline and capabilities.

Our success depends on the creation and protection of our IP rights. Developing a new medicine is risky, costly and time consuming: requiring significant investment over many years, with no guarantee of success. For investments to be viable, we must protect new medicines from being copied for a reasonable period of time. The loss of key product patents has affected sales significantly in recent years and will continue to do so. As such, one of our main goals is to sustain the cycle of innovation and continually refresh our portfolio of patented products.



How we create and sustain value over the life-cycle of a medicine across our chosen therapy areas

Investment in the R&D, Manufacturing and Supply, and Sales and Marketing of innovative medicines. This includes targeted business development through collaboration, in-licensing and acquisitions.



Reinvestment of returns from sales, externalisation (see page 8) and divestments to develop and sustain the next generation of innovative medicines.

Outputs

Returns to shareholders

Revenue from the sale of our medicines generates cash flow, which helps us fund business investment. It also enables us to meet our debt service obligations and follow our progressive dividend policy. This involves balancing the interests of our business, financial creditors and shareholders.



Improved health

Continuous scientific innovation is vital to achieving sustainable healthcare as it creates value by

- > improving health outcomes and transforming patients' lives
- > enabling healthcare systems to reduce costs and increase efficiency
- > improving access to healthcare and healthcare infrastructure
- > helping develop the communities in which we operate through local employment and partnering.

Sustainability



We want to be valued and trusted by our stakeholders as a source of great medicines over the long term. To that end, our sustainability commitments, which are driven by our Purpose and Values, underpin our business model. Those commitments are aligned to, and support the delivery of, our business strategy.

Purpose and Values

We push the boundaries of science to deliver life-changing medicines. Our Purpose underpins everything we do. It gives us a reason to come to work every day. It reminds us why we exist as a company. It helps us deliver benefits to patients and create value for shareholders. It also sets the context for our employees' activities and the roles of our teams, partners and other collaborators.

We follow the science. We put patients first. We play to win.

We do the right thing. We are entrepreneurial.

These Values determine how we work together and the behaviours that are integral to our drive for success. Our Values guide our decision making, define our beliefs and foster a strong UK Pharma culture.

3.0 COMPETITIVE ENVIRONMENT

3.1 Overview

A recent analysis of the major players in the global industry included 8 European major pharmaceutical companies and 6 US companies. Market capitalisation ranged from USD 59m to USD 339m and averaged USD 143m. Selected data on size, earnings and sales are given in the table below.

Major Global Pharmaceutical Companies										
		market cap.	P/E	EV/EBITDA	Divi Yield	EPS Growth	Sales Growth	Sales from existing drugs (USD bn)		
EU/US		USD m.	2016A	2016E	2016E	2015-19E	2015-19E	2012	2020E	2020/2012 change
US		339,245	19.6	12.6	2.6%	6.3%	3.5%	25.0	32.0	128%
EU		218,713	18.8	11.3	3.4%	7.4%	4.5%	38.5	38.4	100%
US	(US Pharma)	217,777	16.0	10.5	3.4%	7.7%	3.9%	50.5	41.0	81%
EU		196,721	17.3	12.2	3.6%	8.2%	2.5%	37.5	34.0	91%
US		177,204	17.6	13.1	2.9%	8.6%	2.9%	40.0	30.0	75%
EU		119,919	22.9	15.2	2.4%	9.3%	5.3%	13.5	21.0	156%
US		109,223	15.6	12.2	3.2%	15.2%	9.5%	18.5	28.0	151%
EU		107,037	26.0	11.6	4.8%	13.0%	6.8%	34.5	30.0	87%
EU		103,712	12.4	8.7	4.3%	5.5%	1.2%	36.0	31.5	88%
US		97,895	29.0	17.8	2.5%	15.1%	5.7%	17.5	18.0	103%
EU		89,270	14.0	10.2	3.1%	7.8%	3.5%	14.0	18.0	129%
US		85,016	23.4	15.7	2.5%	13.0%	5.3%	20.5	18.0	88%
EU	(UK Pharma)	83,890	26.7	12.6	4.2%	9.6%	0.4%	27.5	20.5	75%
EU		59,041	17.1	13.7	0.6%	14.3%	29.2%	4.5	16.0	356%
Average		143,190	19.7	12.7	3.1%	10.1%	6.0%	27.0	26.9	99.6%

3.2 A Note on Sector Valuations

NPV-based valuation methodologies are particularly relevant for the sector, so as to capture the near-term earnings potential of drugs on the market plus the long-term profitability potential from drugs in development. Each product within the company's portfolio has different life-cycle characteristics – peak sales potential, revenue ramp-ups, patent enquiry schedule, generic erosion rate and peak margin.

Detailed product-by-product valuations are therefore the norm among industry specialist analysts. Low probability of success for early-stage projects means that they add very little to most valuations.

3.3 Sector Profitability

On one particular measure of ROI the profitability of the 16 major pharma companies has declined from 13% to 9% between 2005 and 2015. For speciality pharma companies the decline is from 9½% to 7%. For both of these groupings margins are thought to have stabilised from 2016. For aggregate biotech companies the ROI rose from 18% to 23%.

Sales on capitalised R&D have been falling for major pharma since 2005 and for speciality pharma since 2012, although with much higher returns throughout for the latter.

3.4 Current Re-imbursement Trends

The industry still offers robust near-term growth although long-term challenges loom as almost every company is struggling to diversify its franchise ahead of eventual challenges from generics and biosimilars.

The biopharma re-imbursement paradigm is in flux, with politicians looking for ways to reduce drug spend, which now accounts for 20% of US healthcare expenditure, for example. There are perverse incentives, defended by the industry's intense lobbying spend, that financially reward use of expensive therapies over cheaper ones. Ultimately the move is towards value-based pricing.

Consolidation of payors has increased their purchasing power, while fragmentation of biopharma, with more companies chasing the same targets, has eroded their pricing power. The "pay for formulary access" strategy, which is the backbone of the industry, helping protect entrenched, large branded drugs, will come under increasing legal scrutiny. It is not at all clear how quickly rule changes will increase speed of adoption of biosimilars, or prevent various life-cycle extension strategies. Choosing appropriate investment strategies is therefore, a real challenge.

3.5 R&D/M&A

Likely contribution from R&D spend is positive, on balance, but notoriously difficult to evaluate, although many analysts believe that the internal R&D engine is inefficient for many large cap. companies. However, there is still the opportunity to acquire or in-license more-promising science from the thousands of smaller public and private bio-technology companies. Especially in a growth industry, but with the reality of finite product life-cycles, the incentive to deliver growth is perennial and M&A will forever be an important driver for the sector.

3.6 Re-structuring

For a sample of 19 pharma and biotech companies over the last nine years there was a total re-structuring charge of USD 99bn, but with declining returns in terms of cost savings (80% returns in 2008, falling to 45% more recently). UK Pharma currently cites 30%. Re-structuring charges amounted to 8% of generating profits for US companies and 5% for EU companies. The biggest US and UK companies have tended to make the biggest percentage charges.

Sector-wide re-structuring has gone a long way to offset the impact of patent expiries on profit levels and profit growth (7% decline reduced to 3% decline). This trend is expected to continue, with re-structuring the key driver to profits growth, especially for the larger UK-based companies. Major US pharma

companies have seen the strongest cost control and reduced net staff while EU companies have shown net staff increases.

UK Pharma has undertaken a considerable amount of re-structuring since 2007, in manufacturing, supply, R&D efficiency, IT, corporate function efficiency and SG&A. The most recent programme has covered rationalisation of sites, brands, overheads and markets.

4.0 FINANCE AND TREASURY

4.1 Core Earnings per Share

The company monitors and reports on “Core EPS”, details of which and reconciliation with reported eps, are given in the table below for the last six years.

USD	2010	2011	2012	2013	2014	2015
Reported EPS	5.60	7.33	4.95	2.04	0.98	2.23
Re-structuring costs	0.62	0.63	0.94	0.90	1.03	0.65
Amortisation	0.29	0.32	0.40	1.06	1.19	1.00
Intangible impairments	0.29	0.01	-	1.00	0.85	0.24
Legal provisions	0.31	0.07	0.08	(0.03)	0.23	0.14
Post-retirement amendments	(0.40)	(1.08)	-	-	-	-
Core eps	6.71	7.28	6.37	5.05	4.28	4.26
Adjusted for royalty payments					4.12	4.11

4.2 GAAP / IFRS

Under US GAAP companies undertaking M&A to acquire development stage assets will typically have big one-time P&L write-offs of R&D followed by lower annual amortisation charges compared with IFRS.

4.3. Sales, Profit and EPS Forecasts

Given the uncertainty regarding the timescale of the company’s recovery the following data have been extracted from several brokers’ reports, (brokers a, b and c indicated), based on the published 2015 results (sales exclude externalisation revenue).

Peer group sales are forecast to grow at between 5% and 6% per annum for 2016 to 2019.

UK Pharma’s declared ambition is to reach USD 25.7bn of sales by 2017 and USD 45bn (or 40bn) by 2023. The likely USD 2.8bn gap in 2017 would need to be filled by externalisation revenue (8bn by 2023), compared with the actual figure for 2015 of 1.1bn. It seems to have abandoned the previously implied eps floor of USD 4.20, based on its policy of 1.5x minimum cover.

Actual			Estimated							
USD		2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Revenues	(a)	23,641	22,892	21,981	22,380	23,955	26,065	28,380	30,695	32,965
	(b)		22,441	22,930	24,056	25,402	26,618	27,214	28,093	
	(c)		23,321	22,519	23,378					
			consensus 31,000							
EBITDA	(a)	6,902	6,812	6,741	7,030	7,955	9,165	10,580	11,995	13,365
	(b)		6,806	6,449	6,606	7,253	8,136	8,391	9,248	
	(c)		6,755	6,537	6,992					
Pre-tax profit	(a)	3,069	2,983	2,987	3,141	3,595	4,187	4,867	5,562	6,236
	(b)		3,081	2,883	3,852	3,804	4,635	5,021	5,958	
	(c)		3,107	3,145	3,747					
Core EPS (USD)	(a)	4.26	3.97	3.98	4.18	4.79	5.58	6.49	7.41	8.31
	(b)		4.10	3.80	3.92	4.31	4.84	5.07	5.64	
	(c)		4.00	3.90	4.20					
Consensus				3.98						
* (b) adjusted for royalties			3.94	3.63	3.60	3.91	4.36			
Reported EPS (USD)	(b)		2.01	1.87	1.98	2.47	3.01	3.26	3.86	
2.23 (USD)										
*NB Cash royalty outflow on diabetes during sales through to 2025 is excluded from company's figures on eps.										
Royalty 243	(USD)m		234	253	497	608	743	676	678	544

4.4 Cash Flow Forecast

A detailed cash flow forecast from one of the sector specialists indicates “Cash flow before interest, tax and dividends” as follows:

USDm	2015	2016	2017	2018	2019	2020
2,362		4,607	4,529	4,138	4,646	5,728

The forecasts assume profits recovering only after 2017 and cash profit a year later. Working capital and purchase of intangibles are assumed to consume around USD 2bn from 2017 onwards but with tangible capex reducing steadily towards replacement levels after peaking in 2016. No major acquisitions have been assumed.

Tax is expected to be circa 300m lower p.a. for the next four years before returning to 2015 levels. Net interest paid is expected to increase to circa 440m in 2016, then averaging 520m per annum.

Other analysts have made similar but clearly not identical forecasts, with the likely date of profit recovery being the main item of disagreement.

4.5. Treasury

Treasury is centralised and comprises 14 personnel – 13 based in Cheshire and 1 in Cambridge.

Treasury uses “shared service” out-sourcing firms. However, these are not “learning organisations” which grow with the business but rather “processors”. So, as the treasury function has grown in complexity, the provider has not been proactive in developing the service.

5.0 FINANCIALS

Equity Analysis Model UK Pharma plc <u>Income Statement</u>		Historical Data					
Month	Accounts date Currency / units Audit / man / fcst Number of months	2010 USD mill audited 12	2011 USD mill audited 12	2012 USD mill audited 12	2013 USD mill audited 12	2014 USD mill audited 12	2015 USD mill audited 12
Sales Revenue		33,269	33,591	27,973	25,806	26,547	24,708
(Cost of Sales)		(6,245)	(5,972)	(5,257)	(5,135)	(5,735)	(4,488)
Gross Profit		27,024	27,619	22,716	20,671	20,812	20,220
(Distribution Costs)		(335)	(346)	(320)	(306)	(324)	(339)
(Selling, General and Administrative Expenses)		(10,041)	(10,522)	(9,463)	(11,401)	(12,338)	(10,494)
(R&D Expenditure)		(4,664)	(5,055)	(4,452)	(4,331)	(5,082)	(5,739)
Other Operating (Costs) & Revenues +/-			777	970	500	627	1,500
Re-structuring Costs & Other Exceptional Items +/-		(1,202)	322	(1,303)	(1,421)	(1,558)	(1,034)
Other Expenditure Details (for information)							
(Personnel Costs)		(6,439)	(6,400)	(5,743)	(5,276)	(6,279)	(6,128)
(Depreciation & Impairment of Tangible Assets)		(1,076)	(1,086)	(1,023)	(1,007)	(776)	(705)
(Amortisation & Impairment of Goodwill)							
(Amortisation & Impairment of Other Intangible Assets)		(1,643)	(1,464)	(1,495)	(3,576)	(3,277)	(2,147)
Operating Profit		11,494	12,795	8,148	3,712	2,137	4,114
Investment Income Income							
Income from Investments, Participations etc						(6)	(16)
EBIT		11,494	12,795	8,148	3,712	2,131	4,098
Interest Received & Paid							
Exceptional (Losses)/Gains on Financial Instruments			(420)	(409)	(363)	(369)	(342)
Other Financial Income & Expenditure		(80)	379	291	299	(131)	(331)
Interest Received		42	46	42	32	33	36
(Gross Interest Paid)		(479)	(433)	(426)	(413)	(418)	(392)
Profit before Tax		10,977	12,367	7,646	3,267	1,246	3,069
(Tax charge)		(2,896)	(2,351)	(1,376)	(696)	(11)	(243)
Exceptional Tax Credit							
Profit after Tax		8,081	10,016	6,270	2,571	1,235	2,826
Extraordinaries, Discontinued Operations etc							
Profit / (Loss) for the Year		8,081	10,016	6,270	2,571	1,235	2,826
Attributable to Non-controlling Interests		28	33	30	15	2	1
Attributable to Owners of Company		8,053	9,983	6,240	2,556	1,233	2,825
(Preference Dividends)							
(Ordinary Dividends)		(3,604)	(3,653)	(3,496)	(3,522)	(3,537)	(3,539)
Retained Profit for Year		4,449	6,330	2,744	(966)	(2,304)	(714)
Statement of Gains and Losses		25	(546)	135	(113)	(1,506)	(338)
Total Comprehensive Income		8,106	9,470	6,405	2,458	(271)	2,488
EBITA (before Exceptionals & Goodwill Amortisation)	#	12,696	12,473	9,451	5,133	3,689	5,132
EBITDA (before Exceps. Deprn. & All Amortisation)		15,415	15,023	11,969	9,716	7,742	7,984
Cash Earnings (Before Goodwill, Exceps. & Extraords)		9,255	10,081	7,952	4,340	3,160	4,201
Cash Retained Profit (Before Goodwill, Exceps. & Extraords)		5,651	6,428	4,456	818	(377)	662

Equity Analysis Model UK Pharma plc Balance Sheet						
<i>Accounts date</i> <i>Currency / units</i>	Historical Data					
	2010 USD mill	2011 USD mill	2012 USD mill	2013 USD mill	2014 USD mill	2015 USD mill
Goodwill	9,871	9,862	9,898	9,981	11,550	11,868
Other Intangible Fixed Assets	12,158	10,980	16,448	16,047	20,981	22,646
Property, Land & Buildings & Capital Work	3,425	3,476	3,182	2,731	2,561	2,559
Plant, Equipment & Vehicles - net	3,532	2,949	2,907	3,087	3,449	3,854
Financial Investments, Tax & Pension Assets & Deriv.	2,010	2,057	1,699	1,851	2,245	2,283
Medium-term Trade-related Assets			352	1,867	1,112	907
Total Fixed Assets	30,996	29,324	34,486	35,564	41,898	44,117
Stocks, Inventories, Work in Progress	1,682	1,852	2,061	1,909	1,960	2,143
Trade and Other Receivables	7,847	8,754	7,629	7,879	7,232	6,622
Other financial assets & investments	1,482	4,248	823	796	795	613
Cash and Short-term Investments	11,068	7,571	7,701	9,217	6,360	6,240
Tax Assets, Derivatives, Assets for Sale & Other	3,052	1,081	834	534	350	389
Total Current Assets	25,131	23,506	19,048	20,335	16,697	16,007
Total Assets	56,127	52,830	53,534	55,899	58,595	60,124
Short-term Debt	125	1,990	901	1,788	2,446	916
Trade and Other Payables	8,661	8,975	9,221	10,362	11,886	11,663
Corporation Tax Payable	6,898	3,390	2,862	825	644	807
Provisions, Derivatives & Other Current Liabilities	1,103	1,397	919	3,076	2,354	1,483
Total Current Liabilities	16,787	15,752	13,903	16,051	17,330	14,869
Medium & Long-term Debt	9,097	7,338	9,409	8,588	8,397	14,137
Medium-term Trade Payables	373	365	1,001	1,838	1,092	1,046
Tax, Pension & Other Long-term Provisions	6,460	5,903	5,275	6,169	12,130	11,563
Total Non-current Liabilities	15,930	13,606	15,685	16,595	21,619	26,746
Issued Share Capital	352	323	312	315	316	316
Share Premium Account, Treasury Shares	2,672	3,078	3,504	3,983	4,261	4,304
Revaluation Reserve						
Other Reserves	1,917	1,951	1,960	1,966	2,021	2,036
Revenue Reserves	18,272	17,894	17,955	16,960	13,029	11,834
Total Capital and Reserves	23,213	23,246	23,731	23,224	19,627	18,490
Non-controlling Interests	197	226	215	29	19	19
Total Shareholders' Funds	23,410	23,472	23,946	23,253	19,646	18,509

Equity Analysis Model						
UK Pharma plc						
UK-Style Cash Flow Statement						
		Historical Data				
	<i>Accounts date</i>	2010	2011	2012	2013	2014
	<i>Currency / units</i>	USD mill	USD mill	USD mill	USD mill	USD mill
	Number of months		12	12	12	12
CASH FLOW FROM OPERATING ACTIVITIES						
Operating Profit		11,494	12,795	8,148	3,712	2,137
Tangible Asset Depreciation		1,076	1,086	1,023	1,007	776
Dec(Inc) in Stock / Inventories		88.0	(256)	(150)	135	108
Dec(Inc) in Debtors / Receivables		10.0	(1,106)	755	(382)	311
Inc(Dec) in Creditors / Payables & Advance Payments		(16.0)	467	(1,311)	414	2,089
All other non-cash adjustments & Exceptionals		1,202	(618)	1,071	3,833	3,371
Cash Generated from Operations		13,854	12,368	9,536	8,719	8,792
Dividends Received from Associates				7	42	
(Tax Paid)		(2,533)	(3,999)	(2,043)	(844)	(1,201)
Net Cash from Operating Activities		11,321	8,369	7,500	7,917	7,591
CASH FLOW FROM INVESTING ACTIVITIES						
Income Received from Investments						
Interest Received		174	171	145	114	140
(Purchase of Tangible Fixed Assets)		(791)	(839)	(672)	(742)	(1,012)
Disposal of Tangible Fixed Assets		83	102	199	69	158
(Purchase of Intangible Assets)		(1,390)	(458)	(3,947)	(1,316)	(1,740)
(Acquisitions & Purchase of Financial Assets)		(382)	(11)	(1,233)	(1,249)	(4,763)
Disposal of Subsidiaries, Intangibles & Financial Assets		215	1,772	43	73	59
Net Cash from Investing Activities		(2,091)	737	(5,465)	(3,051)	(7,158)
CASH FLOW FROM FINANCING ACTIVITIES						
(Interest Paid)		(641)	(548)	(545)	(475)	(533)
New Shares Issued		494	409	429	482	279
(Repurchase / Redemption of Shares)		(2,604)	(6,015)	(2,635)		
(Costs of Issuing / Redeeming Equity)						
Total Increase in Debt			46	2,667		1,439
(Total Decrease in Debt)		(1,749)		(1,767)	(32)	(786)
(Dividends Paid on Ordinary Shares)		(3,361)	(3,764)	(3,665)	(3,461)	(3,521)
(Preference and Minority Dividends Paid)		(10)	(16)	(20)	(10)	(10)
Miscell. Financing Costs e.g. derivatives, bank fees		(114)	3	48	(36)	(14)
Net Cash from Financing Activities		(7,985)	(9,885)	(5,488)	(3,532)	(3,146)
Net Cash Flow from Ops. Investing & Funding		1,245	(779)	(3,453)	1,334	(320)

Equity Analysis Model								
UK Pharma plc								
Cash Flow Summary								
		Historical Data						
	<i>Accounts date</i>	2010	2011	2012	2013	2014	2015	Period
	<i>Currency / units</i>	USD mill	USD mill	USD mill	USD mill	USD mill	USD mill	Total
		audited	audited	audited	audited	audited	audited	2010-15
	Number of months	12	12	12	12	12	12	
CASH FLOW FROM OPERATIONS								
	Operating Profit	11,494	12,795	8,148	3,712	2,137	4,114	42,400
	Other Non-cash & Exceptional Items	(555)	(2,079)	(376)	221	80	(1,794)	(4,503)
	Investment Income			7	42			49
	"Cash Profit"	10,939	10,716	7,779	3,975	2,217	2,320	37,946
	(Increase) / Decrease in Net Working Assets	82	(895)	(706)	167	2,508	(49)	1,107
	Amortisation & Impairment of Intangible Assets	1,643	1,464	1,495	3,576	3,277	2,147	13,602
	(Purchase of Intangible Assets)	(1,390)	(458)	(3,947)	(1,316)	(1,740)	(1,480)	(10,331)
	Tangible Asset Depreciation	1,076	1,086	1,023	1,007	776	705	5,673
	Net Capital Expenditure	(708)	(737)	(473)	(673)	(854)	(1,281)	(4,726)
	(Tax Paid)	(2,533)	(3,999)	(2,043)	(844)	(1,201)	(1,354)	(11,974)
	(Dividends Paid)	(3,371)	(3,780)	(3,685)	(3,471)	(3,531)	(3,486)	(21,324)
	Free Cash Flow before Interest	5,738	3,397	(557)	2,421	1,452	(2,478)	9,973
	(Net Interest Paid)	(467)	(377)	(400)	(361)	(393)	(373)	(2,371)
	Internal Cash Flow	5,271	3,020	(957)	2,060	1,059	(2,851)	7,602
ACQUISITION & FINANCING CASH FLOWS								
	(Acquisitions), Disposals, (Financial Investments)	(167)	1,761	(1,190)	(1,176)	(4,704)	(1,884)	(7,360)
	Increase / (Decrease) in Share Capital	(2,110)	(5,606)	(2,206)	482	279	43	(9,118)
	Total Increase in Debt		46	6,250	182	1,439	6,128	14,045
	(Total Reduction in Debt)	(2,994)	(2,718)	(1,767)	(32)	(930)	(1,556)	(9,997)
	(Increase) / Decrease in Cash		3,497	(130)	(1,516)	2,857	120	4,828
	Net Financing Cash Flow	(5,271)	(3,020)	957	(2,060)	(1,059)	2,851	(7,602)

Equity Analysis Model						
UK Pharma plc						
Share Price Data						
		Historical Data				
	Accounts date	2010	2011	2012	2013	2014
	Currency / units	USD mill	USD mill	USD mill	USD mill	USD mill
		12	12	12	12	12
Number of Shares & Eps						
	Basic Earnings per Share (cents)	560	733	495	204	98
	Adjusted Earnings per Share (pence or equiv.)	560	733	495	204	98
	Interim Dividend Per Share (cents)	70	85	90	90	90
	Final Dividend Per Share (cents)	185	195	190	190	190
	Total Dividends Per Share (cents)	255	280	280	280	280
	Average number of common shares	1438	1,361	1,261	1,252	1,262
	Average number of preference shares					
Share Prices						
	Common Share Price - Low (\$))	40.30	40.89	39.72	44.46	58.29
	Common Share Price - High (\$))	53.53	52.54	50.14	65.82	82.68
	Common Share Price - Average (\$))	46.92	46.72	44.93	55.14	70.49
Risk rating						
	Variability %	21	20	19	16	17
	Beta (actual or estimate)	0.57	0.56	0.47	0.52	0.56
	Implied Market Risk premium	5.20	6.01	5.78	4.96	5.78
	US T-Bond Rate	3.29	1.88	1.76	3.04	2.17
	3-month USD LIBOR	0.35	0.34	0.43	0.27	0.23
Market Capitalisation						
	Market Capitalisation - Common Stock	67,464	63,579	56,657	69,035	88,952
	Market Capitalisation - Preference Stock	-	-	-	-	-
	Market Capitalisation - Total	67,464	63,579	56,657	69,035	88,952
	Minorities	197	226	215	29	19
	Net Debt	(1,846)	(2,491)	1,786	363	3,688
	Enterprise value [EV]	65,815	61,314	58,658	69,427	92,659
Equity Analysis						
Equity Ratios						
	Underlying Eps Growth %	7.9%	30.9%	(32.5%)	(58.8%)	(52.0%)
	P/E Ratio	8.4	6.4	9.1	27.0	71.9
	Market / Book Ratio of Equity	2.91	2.74	2.39	2.97	4.53
	Dividend Cover	2.2	2.62	1.77	0.73	0.35
	Dividend Yield %	5.4%	6.0%	6.2%	5.1%	4.0%
	Total Return to Shareholders %	27.5%	5.5%	2.2%	29.0%	32.9%
EV Valuation Multiples						
	EV / Sales	1.98	1.83	2.10	2.69	3.49
	EV / Book Capital Employed	3.05	2.92	2.28	2.94	3.97
	EV / EBITA	5.2	4.9	6.2	13.5	25.1
	EV / EBITDA	4.27	4.08	4.90	7.15	11.97
	EV / Staff Costs	10.2	9.6	10.2	13.2	14.8
	EV / Sustainable Free Cash Flow	7.1	6.9	9.0	21.1	51.8
Yields and Implied Growth Rates						
	Sust. Free Cash Flow / EV = (WACC minus growth)	14.1%	14.5%	11.1%	4.7%	1.9%
	Real WACC	5.1%	2.6%	2.8%	4.5%	3.9%
	Implied Sustainable Growth Rate	(9.1%)	(11.9%)	(8.4%)	(0.2%)	2.0%

Equity Analysis Model UK Pharma plc						
Financial Profile		Historical Data				
	Accounts date Number of months	2010 12	2011 12	2012 12	2013 12	2014 12
Annual % Growth Rates						
Sales Growth		1.4%	1.0%	(16.7%)	(7.7%)	2.9%
Operating Profit Growth		(0.4%)	11.3%	(36.3%)	(54.4%)	92.5%
Margins and Cost Structure						
Cost of Sales % Sales		(18.8%)	(17.8%)	(18.8%)	(19.9%)	(18.2%)
Gross Profit % Sales		81.2%	82.2%	81.2%	80.1%	81.8%
Distribution, Selling, General and Admin. Exe. % Sales		(31.2%)	(32.4%)	(35.0%)	(45.4%)	(43.8%)
R&D Expenditure % Sales		(14.0%)	(15.0%)	(15.9%)	(16.8%)	(23.2%)
Other Operating Costs & Revenues % Sales			2.3%	3.5%	1.9%	6.1%
Personnel Costs % Sales		(19.4%)	(19.1%)	(20.5%)	(20.4%)	(24.8%)
Depreciation % Sales		(3.2%)	(3.2%)	(3.7%)	(3.9%)	(2.9%)
Amortisation of Intangibles % Sales		(4.9%)	(4.4%)	(5.3%)	(13.9%)	(8.7%)
Re-structuring Costs & Other Exceptional Items % Sales		(3.6%)	1.0%	(4.7%)	(5.5%)	(4.2%)
EBIT % Sales		34.5%	38.1%	29.1%	14.4%	16.6%
EBITA % Sales		38.2%	37.1%	33.8%	19.9%	20.8%
Non-Interest Financial Income & Expenditure (+/-)		(0.2%)	(0.1%)	(0.4%)	(0.2%)	(2.8%)
Profitability / Return on Capital Employed						
EBITA % Capital Employed (pre-exceptionals)		58.9%	49.4%	35.6%	21.0%	18.8%
Pre-tax Target Rate of Return On Book Value		23.3%	19.2%	12.5%	20.0%	26.3%
EBITA % Market Enterprise Value		19.3%	20.3%	16.1%	7.4%	5.6%
Pre-tax Target Rate of Return on Market Value		7.6%	6.6%	5.5%	6.8%	7.7%
Asset Utilisation / Capital Intensity						
Sales / Total Assets		0.59	0.64	0.52	0.46	0.41
Stocks % Sales		5.1%	5.5%	7.4%	7.4%	8.7%
Debtors % Sales		23.6%	26.1%	28.5%	37.8%	30.5%
Creditors & Advance Payments % Sales		27.2%	27.8%	36.5%	47.3%	51.4%
Net Working Assets % Sales		1.5%	3.8%	(0.6%)	(2.1%)	(12.3%)
Intangibles % Sales		66.2%	62.0%	94.2%	100.9%	139.7%
Purchase of Intangibles % Amortisation of Intangibles		84.6%	31.3%	264.0%	36.8%	68.9%
Tangible Fixed Assets % Sales		21%	19%	22%	23%	26%
Depreciable Assets % Sales		11%	9%	10%	12%	16%
Net Capex % Annual Depreciation		66%	68%	46%	67%	182%
Average Age of Depreciable Assets (years)		8.0	8.2	8.8	9.0	10.5
Interest & Tax Ratios						
Effective Interest Rate [P&L] %		5.2%	4.7%	4.3%	4.0%	3.0%
Effective Tax Rate [P&L] %		26.4%	19.0%	18.0%	21.3%	7.9%
Cash Tax Rate [Cash Flow] %		23.1%	32.3%	26.7%	25.8%	44.1%
Capital Structure & Credit Metrics						
Balance Sheet Gearing & Leverage						
Gearing; (Gross Debt % Tangible Net Worth)		68%	69%	73%	78%	134%
Gearing; (Net Debt % Tangible Net Worth)		(14%)	(18%)	13%	3%	46%
Leverage; (Net Debt % Capital Employed)		(9%)	(12%)	7%	2%	16%
Net Debt % Enterprise Value		(3%)	(4%)	3%	1%	4%
Interest Cover Ratios						
Interest Cover: (EBITA / Net Interest Paid)		29.1	32.2	24.6	13.5	14.4
Interest Cover: (EBITDA / Net Interest Paid)		35.3	38.8	31.2	25.5	22.4
Cash Flow before Interest / Cash Net Interest		12.3	9.01	(1.39)	6.71	(6.64)
Income Leverage (Debt Repayment Ability)						
Gross Debt / Cash Retained Profit (years to repay)		1.6	1.5	2.3	12.7	oo
Net Debt / Retnd. Profit + Goodwill Amort.(years to repay)		0.0	0.0	0.4	0.4	oo
Net Debt / Sustainable Retained Profit		0.0	0.0	0.3	0.1	2.1
Net Debt / EBITDA		(0.12)	(0.17)	0.15	0.04	1.03

ADVANCED DIPLOMA

CASE STUDY EXAMINATION - NOTE FORM ANSWERS

OCTOBER 2016

Question 1

[18.0 mins, 10 marks]

Q1a.

(10.8 mins, 6 marks)

[Marking scheme: 1/3 mark for each good point]

Declining sales ¹ but gross margin stable ² (high at 81.8%), ³ so sales/assets down. ⁴

But operating margins down by ⁵ 18% points, with escalating costs ⁶ – personnel, ⁷ R&D, ⁸ amortisation. ⁹ Also non-interest financial expenditure up. ¹⁰

So ROCE ¹¹ down from 59% to ¹² 19% against a target averaging 20%. ¹³ Also return on EV was way above target, now below the average target of about 6.5%. ¹⁴

NWA has swung from 1.5% to negative 12.3% ¹⁵ - change in advance payments ¹⁶ regime.

Massive increase in intangibles ¹⁷ (doubled as % sales)

Increased capex spend versus depreciation¹⁸

Interest rate and tax rate down. ¹⁹

Q1b.

(7.2 mins, 4 marks)

[Marking scheme: 1/4 mark for each good point]

Virtually all credit metrics have deteriorated ¹ considerably over the total period, as a result of the increase in ² debt and the decline in return on capital. ³

Balance sheet gearing is excessive ⁴ at 227% (gross debt/tangible net worth), up from 68%. Net debt/tnw now 123%, was negative 14%) – in 2010 the company had net cash of 1,846 millions, now it has net debt ⁵ of 8,200 millions.

Net debt % EV has obviously risen but is still only ⁶ 9%.

Net debt/EBITDA (“gross cash flow”) has risen from negative 0.12 and now stands at ⁷ 1.03 times, still very ⁸ low. However net debt to retained cash profit, an estimate of years ⁹ to repay, is now at 12.4 ¹⁰ years, 2014 year infinity, 2013 as low as 0.4 year. The 7 billion drop in EBITDA (15 down to 8) translates to a 5 billion ¹¹ drop in cash retained profit (6bn down to 1bn), combined with an increase in net debt of 10bn.

Interest cover (EBITDA/Net Interest) is radically down ¹² but still strong ¹³ at 14.4 times, with EBITDA cover at 22.4 times.

Cash interest cover ¹⁴ has fallen from 12.3 times to negative 6.64. ¹⁵

Summary

Rising debt, falling ROCE, deteriorating cash flow.
Credit rating falling from strong ¹⁶ AA to weak A? ^{17, 18}

Question 2

[18.0 mins, 10 marks]

Q2a.

(9.0 mins, 5 marks)

[Marking scheme: 1/3 mark for each good point]

Cash flow after interest but before dividends has totalled ¹ 29 bn, covering dividends of 21bn ² (1.4 times), but cover was 2.6 ³ times in 2010 and is now only ⁴ 0.2 ie not covered, with dividends paid of 3,486m leaving a deficit of 2,851 ⁵.

Over the period capex has been below ⁶ depreciation at 0.83 ⁷, but has been higher ⁸ the last two years. Similarly investing in intangible assets ⁹ has been consistently below amortisation of intangible assets at 0.70. ¹⁰ The combined “underspend” in the last two years has been 1.55bn. ¹¹

In summary cash profit has reduced by 8.6bn¹² while dividends have increased, but only slightly ¹³ – dps frozen for last 4 years, acknowledging that the progressive dividend policy was not viable ¹⁴ given recent performance. However, no one likes to see dividends cut prematurely. ¹⁸

Similarly share buy-backs discontinued for the last 3 years, ⁶ with acquisitions to boost the pipe-line a necessary ¹⁶ part of company strategy (9bn last 4 years) – this has driven up net debt by almost 9bn. ¹⁷ Together with reducing Internal Cash Flow this means the dividend/buy-back policy is not sustainable ¹⁸ but is on hold for some years to come. It all depends on future prospects.

Q2b.

(9.0 mins, 5 marks)

[Marking scheme: 1/3 mark for each good point]

Forecasts	2015	2016	2017	2018	2019	2020
CF before ITD	2362	4607	4529	4138	4646	5728
Tax	(1354)	(1354)	(1054)	(1054)	(1054)	(1354) ¹
Interest	(373)	(440)	(520)	(520)	(520)	(520) ²
CF before dividends	635	2813	2955	2564	3072	3854 ³ 4,000?
Dividends	(3486)	(3486)	(3486)	(3486)	(3486)	(3486)
ICF	(2851)	(673)	(531)	(922)	(414)	368 ⁴
Forecasts margins of error		± 30	± 150	± 200	± 350	± 500 ⁵

NB. The big increase in CFBITD from 2,362 to 4,607 (+ 2,245) is most likely explained by the exceptional non-cash credits (deducted) of 1,794 mill. ⁶

Maintaining the existing dividend of 3,486 p.a. to 2,010 would give an average annual deficit of 635m, ⁷ total 2,540m.

An annual dividend of about 2,851 ⁸ is therefore “affordable” from cash flows to 2019, resuming to say 4% growth ⁹ from 2020 onwards. This would be an initial 18% ¹⁰ cut in the dividend.

		2016	2017	2018	2019	2020	2021
Affordable divis.	3,486	2,851	2,851	2,851	2,851	2,994	3,143
ICF	(2851)	(38)	104	(287)	221	860	857?

Value of equity

From the background information estimated cost of equity =

$$2.27 + (0.76 \times 6.12) = 6.92\% \text{ }^{11}$$

NPV of 6 years' dividends; (4% growth 2020, 2021, 3% thereafter).

Dividends	2,851	2,851	2,851	2,851	2,965	3,084
Discount factors	0.935	0.875	0.818	0.765	0.716	0.669
Present values	9,673.4 ¹²				2,123	2,063 ¹³
Total PV (6yrs)	13,859 ¹⁴					
Perpetuity at yr6	81,034 ¹⁵ = (3,084 x 1.03 / (0.0612 – 0.03))					
Total Value	94,893 ¹⁶					

NB. This is 13% ¹⁷ above 2015 average market cap. of 88,664 ¹⁸ and only 2% above 2015 high.

Question 3

[27.0 mins, 15 marks]

Q3a.

(12.6 mins, 7 marks)

[Marking scheme: 1/3 mark for each good point]

Support (not possible to combine the two business)

- Shift towards more R&D (impossible to continue to combine the two businesses) on top of manufacture is posing severe financial strain for UKP. ¹
- Time scales so different and related financial profile ² to pay-off
- Management ³ philosophy required of the two businesses is so different. R&D ⁴ versus sales and manufacture.
- New R&D long time to pay-off while patented drugs ⁵ affected by “cliff” exacerbates financial pressures.
- “Volume” business (cash ?) totally different from “Specialist” ⁶ (stars) – UKP. 13th in size globally.

- Externalisation reduces returns on ⁷ R&D.
- Demographics ⁸ mean continuing volume growth for established drugs exaggerating the imbalance.
- Patent cliff weakens the non-R&D business ⁹ and strains the whole co.
- Manufacture and sales of established drugs is increasingly ¹⁰ competitive – new entrants.
- Decline in profits of speciality pharma companies not so severe ¹¹ – UKP stronger here.
- Key value creation is R&D ¹² – costly, risky, long-cycle – scarcer commodity so suits UKP skills/focus.
- Restructuring and cost cutting hard to combine with expensive R&D/M&A investment.
- Essential M&A/R&D focus totally different ¹³ from investment/M&A for volume, economies of scale, market dominance.
- Pressure on margins from bargaining power of big “payers.” ¹⁴

Oppose (possible to continue to combine the two businesses).

- Co. is already making the slow transition ¹⁵ to balance the two with more R&D
- Externalisation helps reduce risk and capital ¹⁶ requirements of R&D – greater productivity. Also reduces R&D ¹⁷ time-scale.
- Pay-off for R&D development ¹⁸ is manufacture and marketing of the new drugs.
- Developer best placed to enhance, ¹⁹ develop further.
- Combined scale plus diversification effect are both crucial in global pharma. ²⁰
- Two business on different time cycles/time-scales – financial and business risk reduction. ²¹

Q3b.

(14.4 mins, 8 marks)

[Marking scheme: 2/3 mark for each of the first nine financial strategy topics, then 1/3 mark for each point of elaboration or other topics]

NB. Order of points here reflect my subjective view on priorities.

1. EPS – key shareholder metric
Company should probably retain its declared medium-term target of reported eps at a minimum of USD 4.20, which it easily achieved prior to 2013.

2. Dividend policy/share-buy-back policy
DPS should probably be cut by 20% pending recovery, given the current pressure (and likely continuing demands) on cash flows.
3. Cash flow/gearing
Given the continuing strategic demands for acquisitions, R&D and re-structuring expenditures, and subject to dividend policy, contain net cash deficits to USD 1.0 billion annually before acquisitions USD 3.0 billion after.
4. Credit rating
Maintain investment grade, probably single A. Means containing any increase in debt but more importantly improving cash flow & ROCE.
5. Return on capital employed
Was 59%, now 19% - target return to 25/30%. Depressed by a combination of acquisitions, increased R&D, exceptional costs, reduced sales – so work on all of these.
6. Return on invested and acquired R&D
A particularly important part of 5. Continuing investing but more critical appraisal of spending, focus on time-scale of returns, probability of success.
7. Returns on re-structuring
More critical appraisal of financial pay-off – too easy to restructure for strategic reasons and make immediate write-offs, harder to capture gains.
8. Cost reduction
Continuing all-round focus.
9. Sales
Externalisation as key element in building revenue growth/recovery with benefits of risk/reward sharing the emerging markets focus.
10. Maintenance level capex
Estimated at depreciation x 125%
11. Containment of working capital
NWA to revert to negative 10% of sales \pm 2%
12. Managing liquidity and delivering debt to fund acquisitions and cash flow.

Question 4

[18.0 mins, 10 marks]

[Marking scheme: Evidence that the student related the fundamental shift in business model (general pharma to bio-pharma) to shifts in funding and risk management dynamics and consequent changes in treasury operations. For instance, if using the Treasury Organisation Matrix, two or three credible points against each of Role, Authority, Response to Risk & Organisation to pass]

Although not a requirement, all students used the Treasury Organisation Profile proforma provided with the Question as a framework for their answers.

Context

- Slow motion transition to more complex, more risky business strategy and business model – suggesting less risk-taking on the financial front.
- More leverage so even more need to minimise financial risk in other areas, eg currency where pursuit of growth is likely to increase exposure to emerging markets eg China, Russia.
- M&A, foreign direct investment, externalisation, R&D investment all involving long-term investment analysis, evaluation, monitoring and control.
- Acquisitions, new operations (maybe some JVs) and externalisations all introducing new legal entities which need to be integrated into the existing reporting and control systems which were not designed for this diversity and are highly centralised/outsourced.

Reshaped Treasury

Using the Treasury Organisation Profile:

Role:

- The funding, cash management, fx and interest hedging, working capital/supply chain, systems/outsourcing and pensions are all managed centrally. However, treasury falls short of being an in-house bank, so falls into the agency category, ie acting as the agent of the subsidiaries where actions are required of them.
- Given the “context” above, the current scale and likely future development of the business would justify the investment in staff and systems to develop the treasury into an in-house bank.
- There could still be outsourcing but the focus of it would need to be closely aligned with the company’s developing business.

Organisation:

- Currently “intermediate” by default (ie neither “elementary” not truly “advanced” although motivated to move in that direction), it would now need to make that step-change in order to complement the in-house bank role.
- This would include regionalising treasury in order to establish operational and strategic contact with the major businesses. This is to ensure that decisions taken by the business and by treasury and which touch on finance and risk management are fully informed.

Authorities:

- Currently centralised: from a funding, risk management, counterparty and system viewpoint, as would usually be the presumption for a large corporate. However, as the operating environment becomes more complex and local stakeholder interests increase in significance, some form of dynamic balance needs to be established. That is where UK Pharma is headed.

Response to Risk

- Currently “cost saving centre” rather than profit centre, there is probably no need to change, especially during a transition. Companies trying to encourage collaboration often prefer a value-added to a profit centre approach.

Student Response

The proforma below records student responses, which are broadly in line with the preceding commentary.

Treasury Organisation

ROLE	<input type="checkbox"/> 6%	<input checked="" type="checkbox"/> 81%	<input type="checkbox"/> 13%	100%
	Advisory	Agency	In-House Bank	
AUTHORITIES	<input type="checkbox"/> -	<input checked="" type="checkbox"/> 94%	<input type="checkbox"/> 6%	100%
	Decentralised	Centralised	Dynamic Balance	
RESPONSE TO RISK	<input type="checkbox"/> 47%	<input checked="" type="checkbox"/> 53%	<input type="checkbox"/> -	100%
	Cost Centre	Cost-Saving Centre	Profit Centre	
ORGANISATION	<input type="checkbox"/> 11%	<input checked="" type="checkbox"/> 78%	<input type="checkbox"/> 11%	100%
	Elementary	Intermediate	Advanced	
	<input type="checkbox"/> -	<input type="checkbox"/> 19%	<input checked="" type="checkbox"/> 81%	100%

This type of treasury organisation question which when asked previously often comes at the end of this paper, was deliberately placed towards the beginning here. The transition in the business is so far-reaching that it was thought better to introduce it towards the start of the paper as this realisation can help with answering subsequent questions.

Using this proforma is only one way of addressing this topic. Other more detailed approaches are possible, for instance deciding on the division of tasks between the subsidiary and groups when dynamic balance is the issue. However these more detailed approaches need more detailed background which is not always available.

Question 5

[21.6 mins, 12 marks]

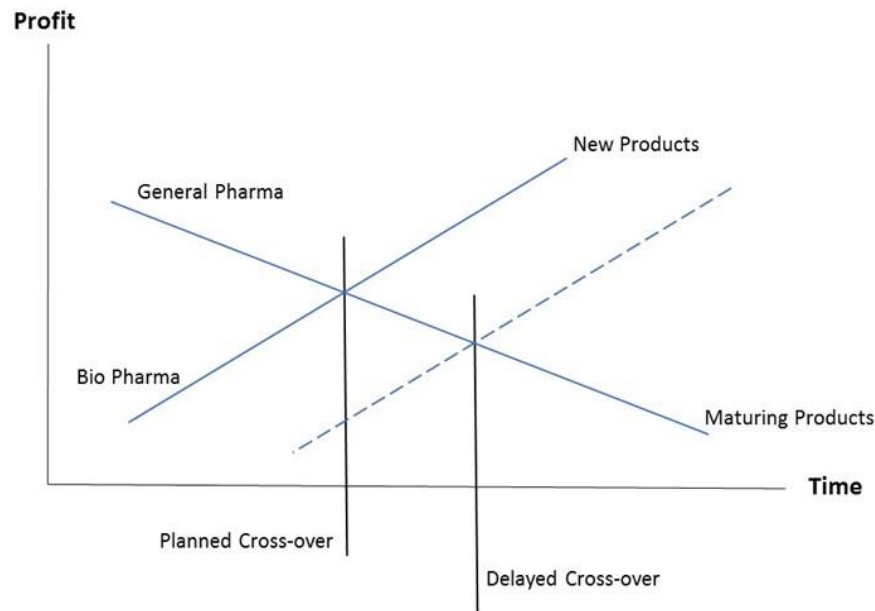
[Marking scheme: Identification of four out of half a dozen or more significant areas, with narrative for each of the four chosen embodying three credible points]

Context

- UK Pharma is in transition from General Pharma to Bio-Pharma. Significant numbers (rounded):

<u>Item</u>	<u>USD bn</u>
Acquisitions since 2012	28
R&D spend since 2012	20
2015 Revenue	25
2015 Gross Debt	15
Net Debt	8
EBIT	4
PAT	3
Equity	18
Market Capital	84

The transition involves managing the run-down of maturing product and the timely and profitable introduction of new product, as shown below. If the timing of new product is delayed there is a certain and significant fall in profit.



UK Pharma in Transition

- So R&D based Bio-Pharma is a more risky business than General Pharma and more complex. And as for most global businesses, future growth will involve increased exposure to emerging markets, increasing risk further.

Priority areas

- Treasury organisation
 - Currently centralised, UK-based, with shared-service outsourcing which is process-oriented rather than responsive to client's developing needs.
 - Business risk increasing significantly, flagging the need for low risk financial management.
 - Revenue growth of 50% between 2017 and 2022 forecast by sector analysts.
 - All suggesting the need for treasury to be closer to the business – possibly a regional structure.
- Funding, capital structure
 - Debt has increased significantly to finance the transition, increasing vulnerability to any downturn.
 - Investment grade but a few notches below peer group in credit rating (A-v-AA).
 - Pension liabilities to pay down over time by agreement with regulator.
 - Need financial flexibility for further acquisitions, externalisations.
- Cash and liquidity

- Cash is high (USD 6bn) plus debt headroom of USD 3 bn.
 - Issues:
 - how to invest it?
 - is it necessary?
 - Needs:
 - on-going litigation plus routinely new litigation
 - some trapped cash
 - back-up for commercial paper
 - flexibility to respond to opportunities
 - Transition period: as highlighted above, slippage in new product introduction would be cash consuming and reducing dividends would not be good for future funding prospects.
- Fx risk
 - Wide range of currency exposures, albeit most hedgeable.
 - Future prospect of increasing exposure to emerging (large) markets eg China, Russia.
 - Management seems to be centralised and relatively sophisticated, eg portfolio analysis.
 - However, treasury may be remote from the businesses, especially the new ones.
 - M&A, Foreign Direct Investment
 - M&A has been/will continue to be significant (also possible future bid defence).
 - Investing in new manufacturing in emerging markets is more complex and risky than in Europe and North America.
 - M&A and FDI evaluation expertise is also relevant for R&D appraisal.
 -

Student Responses

Student Ranking	Funding & Cap. Structure	Cash & Liquidity	Currency Risk	Ratings	Foreign Direct Invest & MA	Treasury Org.	Other	Total
1	10	5		1	2			18
2	6	5	2	4	1			18
3	2	1	6	1	2			12
4	1	3	5	1	3	2		15
OTHER							9	9
TOTALS	19	14	13	7	8	2	9	72

Student preferences and priorities are shown above.

The surprise is the almost complete absence of references to treasury. HOWEVER, that may be because the previous Question (Question 4) was about treasury.

The examiner's preferences expressed in the preceding pages under the heading Priority Areas are broadly in line with the case company's.

Question 6

[27.0 mins, 15 marks]

Q6.a.

(10.8 mins, 6 marks)

[Marking scheme: 1/3 mark for each good point]

- i) "Core eps", as defined in the case, is the key metric used by the company, so as to filter out the volatility ¹ from items such as re-structuring costs, impairments, legal provisions and post-retirement amendments. Amortisation is excluded as well – this is often argued because it is a non-cash item along with impairments and provisions.

This is fine from the company's point of view. ² Unfortunately from the shareholders' point of view all these items except post-retirement benefits are recurring ³ items that represent real costs, ⁴ albeit non-cash items or estimates.

I would include all except the retirement item, which is a credit! Royalty payments which are also excluded by the company should be included ⁵ (deducted). The reason why the company excluded them is unknown.

shareholders' eps 5.20 6.25 4.95 2.04 0.82 2.08 ⁶

So, earnings are volatile in this business!
(One extra mark for all items included) ^{7, 8, 9, 10, 11, 12}

ii) Forecasts

	2016	2017	2018	2019	2020	2021	2022	2023
Av. Core eps	¹³ 4.02	3.94	4.10	4.56	5.21	5.78	6.53	7.32

- NB. i) average ¹⁴ of a) and b) in 2019 – 2022 because c) was more or less between the two.
 ii) 2017 forecast – average of a) b) c) given 50% weight, consensus ¹⁵ 50%
 iii) 2023 factored down in line with 2022 because a) generally more optimistic.

Our adjustments to core eps except royalties were + 3.01 in 2013, +3.30 in 2014 and +2.03 in 2015 average 2.78, ¹⁶ which we will apply to forecasts of core eps.

Analyst b)'s estimate royalties can be calculated as:

Royalties	(0.16)	(0.17)	(0.32)	(0.40)	(0.48) ¹⁷	(0.56)e	(0.64)e	(0.72)
Total deductions	(2.94)	(2.95)	(3.10)	(3.18)	(3.26) ¹⁸	(3.26)	(3.34)	(3.42)
Shareholders' eps 2.04 0.82 2.08	1.08	0.99	1.00	1.38	2.03 ¹⁹	2.52	3.19	3.90
NB. Reported eps(b)	2.01	1.87	1.98	2.47	3.01	3.26	3.86	

So no real improvement until 2019 or 2021.

Q6b. (16.2 mins, 9 marks)

[Marking scheme: I have 25 points but this was a demanding question so 0.4 marks for each good point]

Workings in USD.

	3 bids			Chairman's target
GBP	46.50	50.00	55.00	59.00
* USD	77.33	84.06	92.57	99.30
Market price @ bid USD	65.82	68.66	80.28	80.28
Bid premium	17.5%	22.43%	15.31%	23.79% ^{1, 2}
Premium on pre-bid price (58.57)	32.0%	43.5%	58.0%	69.5%/65.6% ^{3, 4}

- NB. 2.6% appreciation of GBP ⁵ versus USD between 2/1/14 and 16/5/14, gives different premia in USD vs GBP

Share prices 2010 - 2013				Bid premia			
USD	53.53	HI		44.5%	57.0%	72.9%	85.5%
USD	46.19	AVE		67.4%	82.0%	100.4%	115.0%
USD	39.72	LO		94.6%	116.3%	133.1%	150.0%

Share prices 2014 - 2015				Bid premia			
USD	82.68	HI		-6.5%	1.7%	12.0%	20.1%
USD	63.94	AVE		20.9%	31.5%	44.8%	55.3%
USD	44.46	LO		73.9%	89.1%	108.2%	123.3%
4/2/16	57.34			34.9%	46.6%	61.4%	73.2%
for info 25/11/16	52.74			46.6%	59.4%	75.5%	88.3%
Examiner's DCF price	75.07			3.0%	11.8%	23.3%	32.3%

NB. I have provided full tables of analysis for information and for my own use in marking – candidates only expected to pick key comparisons.

- i)
- Premia over pre-bid market price increased from 32% to 58% (Chairman 70%!) Very good ⁶ final offer.
 - Premia over market prices at times of bid 18% to 22% (Chairman 24%) – market maybe not convinced of bids being ⁷ accepted or of further bids coming from USP.
 - All bids above prices 2010 – 2013, by 95% to 133% even on period highest price. ⁸
 - Since 2013 final offer still represents a premium of 12% on highest price, 45% on average price, ⁹ 108% on lowest. Share price has not lived up to bid price or to Chairman's target price ¹⁰ – 4/2/16 price 42% below his price.

ii) Past and future eps

Price/Earnings Table (Industry average 19.7 in 2015)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
shareholder eps (USD)	5.20	6.25	4.95	2.04	0.82	2.08	1.08	0.99	1.00	1.38	2.03	2.52	3.19
Bid 1 77.33		12.37			94.3	37.18			77.33				24.24
Bid 2 84.06		13.45			102.5	40.41			84.06				26.35
Bid 3 92.57		14.81			112.9	44.50			92.57				29.02
Chair 99.30		15.88			121.1	47.74			99.30				31.13
Examiner's Equity Value 75.07		12.01			91.5	36.09			75.07				23.53

Third bid is low in relation to high eps of 6.25 ¹¹ back in 2011 – but irrelevant? Ludicrously high in relation to actual ¹² 2014 eps and high even in relation to 2015 ¹³ eps and all years 2016 to 2019, since the bid. ¹⁴

On return to “reasonable” eps in 2022 (eight years later) P/E of third bid is still 29x, ¹⁵ and Chair's price still looks like wishful thinking. ¹⁶

- iii) My calculated dividend-based price of 75.07 ¹⁷ is below the first bid ¹⁸ price (USD 94.893m / 1264 shares = 75.07 / share).

The final bid of 2014 was 23% ¹⁹ above my 2015 value, based on the future dividend stream. 75.07 represents a P/E of 36.09 x 2015 eps and 23.53 x 2022 expected eps (high enough). ²⁰

Summary

The market value of the company is significantly higher since ²¹ 2012 but earnings are significantly lower. ²² Market value was pushed upwards by the bid ²³ and has remained relatively high on prospects of a return to good ²⁴ profitability, which still seems a long way off. ²⁵

Question 7

[21.6 mins, 12 marks]

[Marking scheme:

Q7.a. Six credible points with critical narrative, including sustainability of cash flow (subject of Q2) and timing of transition from general to bio-pharma (as raised in Q4)

Q7.b. Three credible points with some supporting narrative]

Context

Cash on balance sheet is USD 6bn, further USD 3bn debt headroom. USD 4.4bn in AAA rated liquidity funds and balance in fully collateralised reverse repos and short-term bank deposits.

Q7.a.

(16.2 mins, 9 marks)

Possible calls on cash:

- There is USD 2bn trapped or otherwise difficult to access, eg cash in an Escrow account for years earmarked for the pension fund.
- There is one ongoing long-term litigation case.
- There is routinely a stream of litigation cases every year, as is common for the sector.
- Cash is held to backstop commercial paper, should access to that market be lost.
- Cash is also held to fund opportunistic externalisation projects.
- But is USD 6bn really necessary for these items? Question 2 asked about the sustainability of the current dividend policy (circa. USD 3.5bn) and by implication the overall sustainability of UK Pharma's cash flow. The note from answer earlier in this document indicates possible shortfalls up to 2019 totalling USD 2.5bn. While dividends can be

reduced at the company's discretion, it has already previously reneged on a progressive dividend policy and then on the share buy-back programme, so there could be a temptation to hold the dividend if it were clearly only for the short-term.

- More significantly, the timing of the introduction of new product, if delayed, could seriously damage profitability (see "UK Pharma in Transition" figure at the beginning of Answer 5 above). This is a more serious threat and keeping excess cash on hand when interest rates are so low is relatively cheap insurance.
- So maintaining flexibility during this cross-over period seems more attractive than paying down debt.

Q7.b.

(5.4 mins, 3 marks)

Current instruments

- Tripartite repos are beginning to suffer from lack of good quality collateral – apart from that they are favoured by the company.
- MMFs are undergoing regulatory change so are being reduced.
- Bank deposits (i) create unattractive counterparty risk, (ii) are exposed potentially to bail-in and (iii) are unattractive to banks because of Basel III bank liquidity requirements for on-demand deposits. So the company minimises on-demand deposits and uses 35-day and 95-day term deposits to mitigate Basel III for the bank.

Alternative instruments

- The company has now started to use external investment managers (several) investing in investment grade fixed income securities with max maturity of 15 months.
- Other possibilities are high quality sovereign bonds, eg USD.

Question 8**[28.8 mins, 16 marks]****[Marking scheme:****Q8.a. Six credible points with narrative, including in-house expertise/capacity****Q8.b. Expect a choice of strategy, eg portfolio-based, forwards, supported by five credible points and supporting narrative for a pass****Q8.c. Three credible points with some narrative****Q8.d. Two credible points with some narrative]****Q8.a.****(10.8 mins, 6 marks)****1 • Materiality**

Total revenue = USD 24,708m

Profit Pre-Tax = USD 3,069m

USD Transaction Exposure = USD Net Revenue 1174m

USD Net cost 769m[ie "USD Equivalent Value" in table, gross] 1,943mIf all exposures move adversely by: 10% 20% 30%

USD impact would be: 194m 387m 583m

PBT Impact % 6.3% 12.6% 19.0%

USD Transaction Exposure CNH, EUR, GBP, JPY, SEK 1,607m**2 • Current policies and delegated authorities.**

Fundamental changes may require board approval.

3 • Risk Appetite of Company

Need to reassure board that changes are consistent with risk appetite; R&D is high risk, transitional period is high risk, so finance-related risks need to be minimised.

4 • Investor Preferences

Company functional currency is USD, GBP investors may wish to retain upside of GBP/USD exposures

5 • Peer Group Behaviour

To assess how different approaches to fx hedging may impact peer group competitive position under various future business model scenarios.

6 • Existing fx exposure management policies at subsidiary and intercompany level

Portfolio management optimisation at group level may cut across subsidiary level optimisation objectives.

7 • Natural offsets, rearrangement of fx cost bases

Utilising structural instead of financial market hedges.

- 8 • **Metrics other than PBT impacted by fx movements**
For example, financial covenants.
- 9 • **In-house competencies**
In-house know-how, procedures and systems at group and subsidiary level to manage fx risk using (i) forwards, (ii) options, (iii) VAR-based measures, (iv) portfolio models.
- 10 • **Feasibility of financial hedging of fx risk globally**
Availability of financial hedging instruments and supporting data.
- 11 • **Third Party**
Special expertise of relationship banks and/or outsourcing agencies which are responsive to changing client circumstances rather than being just processors.
- 12 • **Accounting**
The desirability/necessity of being able to hedge account.

Q8.b.

(9.0 mins, 5 marks)

Without the benefit of knowing the specifics of the issues in Q8.a. above, there are several ways of approaching this part, eg:

- (i) as a largely technical exercise, focusing on the more holistic approaches available in financial markets;
- (ii) as a largely organisational exercise, constrained by the existing treasury and business structures.
- (i) The portfolio VAR table shows a significant diversification benefit from the geographical spread of the business.

This data suggests the use of a USD-based basket (multi-currency) option at group level.

Advantages are that:

- the option retains the upside of favourable fx movements and should be cheaper than options on individual pairs of currency.
- the price of the option is related to the forward rate of each currency at the term of the option and of course the strike rates, eg the forward rates.

Disadvantages are that:

- if portfolio hedge terms stretch beyond contracted revenues, then additional currency-pair-specific hedges may be required to cover significant shifts in revenue.

- diversification benefits will alter over time.
 - if future diversification benefits do not justify a portfolio approach, then a currency-pair-specific hedging may be necessary, possibly requiring more treasury infrastructure.
 - hedge accounting will be difficult if not impossible.
 - in short the portfolio hedge process needs monitoring and managing to ensure correlation benefits.
- (ii) With the business in transition, as described in earlier note form answers and uncertainty about the future structure of treasury, keep it simple by hedging the major exposures in the forward market on a rolling basis, hedging 100% of contracted exposures and uncontracted but forecast exposures on a sliding scale out to the hedge horizon.

Advantages are that:

- the policy is basic.
- major risks are covered transparently.
- hedge accounting is possible.

Disadvantages are that:

- lose benefits of correlation.
- administrative burden of implementing rolling hedge.

Q8.c. (5.4 mins, 3 marks)

CNH is significant in terms of FX risk and is likely to become more so. A great deal of uncertainty hangs over China's immediate economic outlook, compounded by additional uncertainty about the impact of an economic downturn on the viability of its banking system. So there is some merit in considering a more focussed approach and closer monitoring, using, say, forward hedges on a rolling basis. Although the portfolio diversification effect will be negative, were the CNH to become significantly more volatile, then that could have a bigger negative impact.

Q8.d. (3.6 mins, 2 marks)

If the hedge is to protect against downside, then the longer hedge would appear to be preferable. Cost of carry for 12 months relatively low at 2% and does not react as violently as does one month or six months. In the event of a short-term adverse change becoming longer term, the earlier, better hedged rate will persist for longer, allowing time for review.

Examiners' Report

Advanced Diploma - October 2016

OVERALL SUMMARY OF PERFORMANCE

	General Exam	Case Exam	Combined
Average mark	44.3%	48.2%	46.2%
Questions	8	8	16
Students	17	18	35
Passes # @50%	6	10	16
Passes # @45%	9	12	21
Pass % (50%)	35%	56%	46%
Pass % (45%)	53%	67%	60%

Range of marks 17.4% to 60.5% 25.1% to 68.3%

OVERVIEW

Once again these results were, on average, down on the previous October's figures. The Case exam results were marginally better than last October's but those for the General exam were much worse. When the two exam marks are combined only six candidates passed at the 50% level, three of them with very good marks. At the 45% level there were eleven passes.

This sitting saw a reversion to the more normal situation, with better results on the Case exam than the General exam, the latter showing an average mark at 44.3%. Across the two papers the average mark awarded by GI on the Corporate Finance and Funding questions was 41.9% as against 54.5% awarded by JB on the Treasury and Risk questions, resulting in four passes and eleven passes respectively (50% pass level). In general the level of conceptual understanding and practical skills on corporate finance topics was severely inadequate. On treasury topics the results were much more encouraging.

General exam	marks available	50% passes ex. 17	pass rate
Q1 (GI)	13	2	12%
Q2 (GI)	9	3	18%
Q3 (GI)	10	12	71%
Q4 (GI)	20		18%
Q5 (JB)	12	3	53%
Q6 (JB)	10	9	71%
Q7 (JB)	14	12	65%
Q8 (JB)	12	11	53%
		9	
Case exam	marks available	50% passes ex. 18	pass rate
Q1 (GI)	10	10	56%
Q2 (GI)	10	7	39%
Q3 (GI)	15	10	56%
Q4 (JB)	10	13	72%
Q5 (JB)	12	17	94%
Q6 (GI)	15	4	22%
Q7 (JB)	12	8	44%
Q8 (JB)	16	9	50%

Examiners' Report - Case Study Examination

The Corporate Finance average mark was 43.6% with only 6 passes out of 17. The Treasury & Risk average was 52.7% with 10 passes. The paper overall average was 48.2% with 10 passes at 50%

Question 1 A 2-part question requiring a review of the key changes in the financial metrics over recent years and their implications for the company's credit rating.

Both parts of this question were generally answered well. The weakness of some candidates was a tendency to serve up ratios with only superficial analysis or commentary in part one. In part two the weaker candidates simply regurgitated Moody's comments, having identified the company correctly, but without really answering the question set. In both parts a good proportion of the passes were excellent.

Question 2 The first part of this question asked whether the company's progressive dividend and share buyback policies were sustainable, based on historical cash flow analysis. The second part asked for a cash flow and forecast plus an equity valuation based on a sustainable dividend forecast.

All candidates failed part one this question, with an average mark of 32%. Too many answers were trivial, with poor and patchy analysis of cash flows, especially the important requirements for spending on tangible and intangible fixed assets.

Part two was much better, with a mark of 54% and 13 passes, most of these achieving marks of 60% or more. Cash flow forecast were generally well done, but the level of affordable dividends was often not discussed or justified, while the answers on equity valuation of the dividend stream were very mixed – some candidates did not really understand the valuation model or were unable to apply it correctly.

Question 3 The first part of this 15-mark question was on whether the business strategy of pursuing two pharmaceuticals businesses were feasible, the second part was about suggesting the key elements of financial strategy.

Like question 1 this resulted in a 50% mark and a 53% pass rate, so reasonably answered. On question 3a the distribution of marks was strongly bi-polar, with almost half achieving 60% or more, and almost half with marks of 40% or less. Once again too many candidates just "dumped" the non-financial analysis done in advance without attempting to answer the question as set.

On the second part the quality of answers did not vary nearly so much, with marks much more evenly distributed. The main

weaknesses were a failure to identify and elaborate the most important topics for the company's financial strategy, and a repetition of detailed financial analysis from earlier answers.

Question 4 UK Pharma is in transition from being a General Pharma which manufactures, markets and sells patent-expired product to being a Bio-Pharma business which researches and develops patent-protected product which it then manufacturers, markets and sells. This 10-mark question is about explaining and justifying how this step-change shift in business model might be reflected in reshaping the treasury function.

Although not a requirement, all students used the Treasury Organisation Profile proforma provided with the question as a framework for the answer. The quality of the discussion was good. Their general view was that the significance of the shift in business model required a shift to the right in the Profile. Two-thirds of students passed.

Question 5 This 12-mark question requires students to identify the four areas of treasury and finance on which it is most important for treasury to focus in the medium term and rank order them, quantifying where possible.

Almost an evergreen, this question (and Question 4) provokes students to bring together their thoughts about their answers to Q1/Q2 about historic financial performance, and Question 3 about business model and hopefully provides context for subsequent questions.

Not surprisingly, the pass rate was highest of the four Treasury and Risk questions.

Students majored on funding/capital structure rating, cash/liquidity, currency and a scatter of other areas such as M&A/disposals, dividend policy, generally demonstrating a good understanding of the business. However, there was relatively few attempts at quantification and little mention of treasury structure despite the previous question about these areas.

Question 6 In part one of this question candidates were asked to evaluate the appropriateness of the company's definition of "core eps" from the standpoint of shareholders and to review historical and forecast eps figures. In part two the task was to review the three historical bid prices from US Pharma in relation to the eps record, as well as to market share prices and the candidates' own dividend valuation from question 2b.

In the first part five out of 18 candidates accepted the company definition of eps almost without critical argument, which I think was

the wrong answer, (but I gave marks for any sound arguments). Once again there were some excellent answers (5) but nine marks below 40%. In part two all of the 14 fails achieved sub-40% marks. Too many candidates did not have the skills to handle the three bid prices (in both USD and GBP), the detailed share-price data and the detailed eps data in a systematic and reliable way. My marking notes at the time include comments like “errors in arithmetic”, “muddled concepts”, “un-focused on the question” and “confused”.

Question 7 **A 2-part question about reviewing critically the high level of cash (9 marks) and the mix of cash investment instruments (3 marks).**

The cash buffer includes a significant amount of trapped cash/cash that is difficult to access. Apart from this, a cash buffer exists to fund known ongoing litigation as well as expected but uncertain future litigation which is routine for the sector. Cash is also held to fund opportunistic smaller collaboration/externalisation deals and as a precaution to repay outstanding commercial paper should access to that market be lost. Referring back to Q2 on the sustainability of the dividend policy (costing circa. £3.5bn p.a. over the past six years), there may be some buffer included to sustain that if it is threatened operationally. The pass rate on this part of the question about the size of the buffer was relatively low at 44% (8 students).

Part 2 about the composition of the buffer instruments was better answered with 12 passes but outweighed by the Part 1 result, gives an overall pass rate for this question of 8 students.

Question 8 **A four-part 16-mark question about currency risk, supported by some in-company analysis, and asking about: the factors to consider when deciding about how to manage this risk, determining a hedging strategy and commenting on an in-company special proposal about hedging Chinese currency.**

The first part – a generic question about factors for UK Pharma to consider when deciding how to manage fx risk – was less well answered than might be expected, with a pass rate of 50%. Students did rather better on the next part about determining policy, with a portfolio approach as one of the options. The third part, about hedging CNY when the implied volatility is above the realised volatility, was well answered but the fourth part about choice and tenor of instrument was less covered, with two students abstaining.