
ADVANCED DIPLOMA

CASE STUDY EXAMINATION - NOTE FORM ANSWERS

APRIL 2016

Question 1

[12.6 mins, 7 marks]

[Marking scheme: 0.4 mark for each good point]

WWC

- ± Regulatory framework – both OFWAT core plus others built in RPI price increases. Capital structure regulated
- + Very predictable demand, captive audience, projected to grow
- Inflation and volume increases in labour energy and sub-contract costs
- Climate change requires more capacity and flexibility
- + Regional monopoly, confined to UK
- Ageing, ailing, capital asset infrastructure
- Huge cost of new plant/new technologies
- Increasing customer standards and water/service quality requirements
- Risk of health, environmental etc failures
- Large capital projects entail extra risks

WWBS

- + Global market potential almost unlimited
- + Increasing regulation and standards outside UK – matches WW's expertise
- Established local competition
- + Privatisation opening new tendering opportunities
- + Strong WW brand and reputation
- + Non-household retail business in UK opening up – new opportunities
- + Low capital intensity service or advisory businesses or ^{low} capital intensity, high-tech renewable energy business
- + Renewable energy a growing market – environmental issues
- Partly overseas business with FX and other risks

Question 2

[12.6 mins, 7 marks]

[Marking scheme: 1/3 mark++ for each good point, including trends]

Q2a

(7.2 mins, 4 marks)

Book leverage is very high at 85% and increasing – worse

Market leverage is high but falling at 50% - better

EBITDA leverage is high at 5.62 and rising – worse

EBITA interest cover is lowish at 2.51 but rising – better

Free operating cash flow % total debt is negative (usually c 2%) – worse

Return on capital (a key driver) is low at 9.1% and stable – stable

Cash interest cover is falling below 1.0 for 4 years and now slightly negative – worse

Debt repayment, based on today sustainable retained profit, would take 72 years!

- But more typically 1.5 to 20 years - OK – worse

These ratios would probably merit a BBB rating given the very strong, low-risk business environment.

Q2b

(5.4 mins, 3 marks)

[Marking scheme: ¼ mark for each good point]

WWC

Classic utility – regulated so as not to fail but not to make excessive profit and also regulated to maximise gearing to the acceptable safe limit, while continuing to deliver essential services to a captive consumer base. Very big with stable financials.

Very low business risk so can carry high financial risk.

Required to maintain an investment grade credit rating.

* Rating BBB+

WWBS

- Much smaller (sales 12 of total for WW plc). International exposures. Growing. Non-regulated. New technologies – all means higher level of risk
 - Parent company support and control, very little debt – lower risk factors
- * Rating CCC or worse?

NB Volatility for WW plc = 17% very low

NB Levered Beta for WW plc = 0.53 low

Unlevered Beta for WW plc = $\frac{0.53}{1 + (0.78 \times (50/50))} = 0.30$ very low

Question 3

[36.0 mins, 20 marks]

[Marking scheme: to pass, (a) three major areas identified with a credible commentary; (b) three credible points for each of “pro” and “con”, (c) & (d) total of five credible points for each of WWC and WWBS].

Q3.a.

(14.4 mins, 8 marks)

The nature of the regulation and the five-year Asset Management Programme (AMP) cycles provide unusual challenges and opportunities for WW, eg the AMP6 2% real interest rate benchmark when floating rates are 0.5%; so does the non-regulated and growing WWBS. Key areas to focus on:

- funding and refinancing: capital structure is regulated, needs to be financially efficient and also investment grade; financing needs to be flexible to allow for next AMP parameters;
 - interest rates: minimising interest cost opportunities are created when the
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benchmark is 2% real and floating market rates are much lower but requires the expertise for close control and management;

- Treasury organisation: WWC and WWBS, regulated and unregulated respectively, must operate at arm's length. If WWBS grows as planned, its relative significance will increase, requiring more formalised acknowledgement of the difference in funding and risk management between regulated and market oriented businesses;
- project appraisal: capital expenditure (Capex) and operating expenditure (Opex) projects were previously treated separately. Now the Regulation require the Company to appraise these together as total expenditure (Totex) as the Regulator seeks progressive improvements in financial efficiency from one AMP to the next;
- Pension deficit: GBP 469m, up by GBP 121m on previous year. Defined benefit schemes were closed in 2015 but the deficit is significant;
- Investor understanding: WWC is a utility business closely controlled to encourage financial efficiency and improved customer service and limit excess financial returns. WWBS is market oriented. If the latter become bigger, investors may find it increasingly difficult to understand.

Q3.b.

(9 mins, 5 marks)

SEPARATION : FOR	SEPARATION : AGAINST
<ul style="list-style-type: none"> • Create value for equity holders • Different business goals, financial profile, geographic spread, culture • So for WWBS enables single minded focus on consultancy • If WWBS grows significantly, strains on governance if integrated • Easier for investors to understand if separate • De facto at arm's length, so easier to do now. 	<ul style="list-style-type: none"> • WWBS derives its know-how and credibility from WWC • So at potential disadvantage to competitors which are integrated with utility • Floatation cost significant • Financial restructuring expensive • Cost of setting up separate overhead structure high • Vulnerable to take over if successful, so possibility – but not certainty - of destroying synergies with WWC.

[This is becoming a generic issue in regulated businesses in the UK where the Government wishes to insulate the utility dimension from the profit driven business, eg banking and ring-fencing, eg social housing and Government-inspired diversification into "market" property to subsidise the "social" housing piece].

Q3.c.

(3.6 mins, 2 marks)

FLOAT : WWBS	FLOAT : WWC
<ul style="list-style-type: none">• Few regulatory issues• Little disruption• WWBS could be a drag financially on WWC, so better to cut it loose if significant value can be created• Immediate payout to shareholders• Existing shareholders can invest if they believe that WWBS has real potential.	<ul style="list-style-type: none">• Difficult to see why existing shareholders would agree. If they did:• Regulatory approval and oversight necessary• Funders of WWC may want premium or exit for change of ownership• WWBS is very small relative to WWC, so unless there is a very credible plan to use the proceeds of the sale, eg to grow by acquisition, then the consideration for the sale needs to be structured so as not to disadvantage existing shareholders.

Q3.d.

(9 mins, 5 marks)

FUNDING : WWC	FUNDING : WWBS
<ul style="list-style-type: none">• WWC is well established in a stable sector with a diversified funding base, largely capital market• Capital market/private placements would still seem to be the most appropriate source.	<ul style="list-style-type: none">• If WWBS is sold on a stand-alone basis, then its cost of funding will rise and availability will fall until it establishes a track record• Even then an equity issue would seem the most likely way forward• Alternatively a convertible bond.

Question 4**[10.8 mins, 6 marks]****[Marking scheme: 0.4 mark for each good point]****For information**

Cash Generated	Change 2011/2015 (±CF) + 7.1m	% of Cash Generated	
		2011	2015
Tax paid	3.8		
Net capex	* (19.8)	50.3%	** 52.4%
Purchase subs etc	3.2		
Interest paid	* (29.4)	25.3%	* 28.9%
Shares repurchased	* (21.4)		
Debt repayment	* * * (279.4)	10.1%	** 46.8%
Dividends	* (27.4)	22.7%	* 26.1%
Miscellaneous fin. costs	* * (139.2)	-	* 18.3%
Increased funding deficit	(502.5)		

Note: I have set out the figures in full for purposes of future learning – not necessarily expected in exam conditions for 6 marks (10.8 minutes). Number of stars emphasises size of each cash flow.

Picking out the big numbers;

Increased debt repayments due to maturities – likely to continue at this level.

Miscellaneous financing costs – unlikely to continue.

Interest paid up considerably – gearing-up policy in line with regulator targets.

Dividends up considerably – now been reduced – new policy.

Share re-purchases up – policy has now been changed.

Capex up by a lower percentage ^{but} still big numbers – essential spending but pressure and incentives to contain costs.

Problems

- Essential to retain good investment grade credit rating and access to 400-500m debt funding per annum
- Increased debt servicing to be paid for by reduced dividends and share re-purchases
- Avoid repeat of miscellaneous financing flows
- Maintain same approach to capex spending and control
- Keep on paying less tax

Question 5

[18.0 mins, 10 marks]

[Marking scheme: 0.4 mark for each good point]

Summary of impact of proposals

Share buy-back 100m - assume spread over 5 years at 20m/year
(Total reduction in share capital is $100/4805 = 2.08\% = 0.416\%/yr.$)
Reduced dividend inflating at 1% (say) p.a. (2016-20)

Old policy	208.8	215.0	271.4	228.1	235	= 1,108.3 ¹	Old policy
New before bb.	192.6	194.5	196.5	198.4	200.4	= 982.4 ²	New before bb.
New after bb.	191.8	192.9	194.1	195.0	196.2	= 970.0 ³	

Total dividend saving = 138.3m net 38.2m (1,108 – 970)
Interest saving over five years = approximately 2m.

In the context of an annual cashflow deficit of 223m, annual saving of 7.6m is insignificant.

In the context of net debt of 4,750 it is only 0.8%!

The proposal to cut divis by half (and inflate at 1%) plus the buy-back would have a much bigger impact.

50% dividends	102.0	102.6	103.1	103.7	104.3	Total 515.7 ¹⁰
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i.e. additional savings on dividends of 454.3m (970.0 – 515.7) plus interest savings of around 27m, gives total additional savings of 481.3m.

Total net savings 519.5m ((1,108.3 – 515.7) + 27)) – 100 or 11 of net debt.

Pros & Cons

New company policy has very little financial impact on cash flow and gearing, so main impact likely to be “signalling” impact to market – “reduced dividends to save cash” – reduces yield to investors and raises questions about confidence in the future, with concerns about cash drain and gearing level.

Is the annual cash flow deficit expected to get worse?

Proposed policy (50% cut) would make signalling concerns about dividend yield and future prospects even worse but would have a material positive, financial impact on cash flows and gearing.

In theory dividend policy is irrelevant – company is almost arguing yes but investors may say no.

Cost of capital theory says using less cheap after-tax debt will increase the WACC unless company thought to be over-gear – but company has investment grade rating, good for the sector, and gearing lower than the regulator's target Net Debt/Regulated Capital Value. Also with low interest rates and low tax rate the benefit of debt is greatly reduced, so little impact.

Question 6

[25.2 mins, 14 marks]

Q6.a

(7.2 mins, 4 marks)

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

Accounting

– capex – expenditure which creates an asset which will deliver value over several accounting periods. “Capitalised” as an asset and depreciated over its estimated life, eg building new reservoir pipelines, sewage works. In WW added to RC value.

- opex – expenditure relevant to single period which does not create an asset. Expensed to the current period.

Likely tax allowances on capex eg maintenance and repair work.

Economic – both expenditures are simply negative cash flows in the current (or extended) period which will result in immediate or future benefits of various kinds over different periods. No fundamental distinction except perhaps size of initial spend and possibly duration of benefits.

Q6.b

(12.6 mins, 7 marks)

[Marking scheme: 1/2 mark for each good point]

Non-regulated business – more like conventional economic (ie DCF) appraisal (“double-digit IRRs”) with quantifiable financial returns for the investment involved. Also discrete projects or businesses with easily identifiable costs and benefits.

Regulated businesses – all “essential” projects, whether opex or capex, defined by non-financial considerations eg water quality, interruptions in supply, customer service considerations. Mainly driven by ODI targets.

Prioritised accordingly. Quantifying benefits, let alone monetising them, is very difficult so DCF largely irrelevant.

Size of total 5-year Totex budget is also an important macro determinant – based on what amount can be financed.

Then a “rationing” prioritisation procedure based on both non-financial and

financial ¹² impact consideration.

Then “minimising” the capital spend by funding most capital – efficient delivery – to meet or beat ODI targets. Some cost-saving projects susceptible to conventional analysis.

Risk assessment on projects also crucial – identifying and quantifying the risks of failure in water supply, sewage, customer service, flooding, etc.

Q6.c

(5.4 mins, 3 marks)

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

Massively capital intensive service industry with financial returns on opex/capex hard to quantify. Easier if returns on opex can be quantified as an on-charge to customers over time. As above, projects driven by non-financial considerations but with massive financial impact if projects done or not done. Financial benefits largely based avoiding the massive costs of likely failures if projects not done.

Better water quality, improved customer service, more reliable water supply etc can be measured on ODI/KPI ⁷ terms but hard to convert to financial returns.

Time-scale of likely benefits also hard to determine (but very, very long).

Question 7

[21.6 mins, 12 marks]

[Marking scheme: to pass, (a) 3 credible and well-explained alternatives; (b) well-argued choice].

Q7.a.

(16.2 mins, 9 marks)

For AMP6 (2016-20) WWC is allowed a cost for new debt of 2% real.

Working off the table in Q7, the 1 year and 10 year fixed rates are 0.74% and 1.87% respectively.

Inflation on the exam date (April 2016) was 0.3%.

So the equivalent real rates were 0.44% and 1.57%.

If these rates persisted throughout the AMP6 period, WWC could save:

- $2.00 - 0.44 = 1.56\%$ on GBP 2,685 ie up to GBP 41.89m p.a.
- OR
- $2.00 - 1.57 = 0.43\%$ on GBP 2,685 ie up to GBP 11.55m p.a.

So the approaches to managing interest risk on new debt are:

- leave rates floating in the hope that low rates persist; risk is that rates change steeply at short notice
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- fix the rate at the outset using IRS which locks in the low-term swap rates now; there is now no risk but there is the potential opportunity cost of missing out on continuing very low rates.
 - do something in between, eg a mix of above or use options to limit movement of unhedged position.

Here is a fuller list of alternatives:

1. Use the Q7 rates – one spot rate and four forward start rates for, say, the 5-year swap, ie 1.48, 1.76, 1.97, 2.10, 2.20

These are all rates fixed now, so no risk of a change, just the opportunity cost of not swapping/forward swapping.

2. Assume as we did earlier that spot rates stay low in the medium to long term and no hedges are executed.

The saving, in comparison with 1 above and when all the debt is drawn would be:

$$\left. \begin{array}{l} 1.48 - 0.74 = 0.74 \\ 1.76 - 0.74 = 1.02 \\ 1.97 - 0.74 = 1.23 \\ 2.10 - 0.74 = 1.36 \\ 2.20 - 0.74 = 1.46 \end{array} \right\} \text{average} = 0.81$$

ie 0.81% of GBP 2,685m = 21.75m

However, the risk is that rates rise unexpectedly and the swap curve has shifted up so that all the above rates have increased and more than absorbed any saving.

1 & 2 are the extremes.

3. Another alternative is to do a mix of these two – 50% fixed, 50% floating and monitor the latter closely if there are signs of a trend upwards: this is sitting on the fence or an each-way bet on a two-horse race.
4. A fourth alternative is to swap none or only a minor part of the total and cap the rest.

This is taking a view that spot rates will stay low in the short term but in the medium to long term will start to rise again.

5. A further alternative is to do 4 (or 2) and not cap anything. This alternative requires close monitoring, expertise and the ability to model the position. To fully model the above alternatives two other pieces of data are necessary: WWC's credit margins and a view about inflation.
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If you want to experiment, assume 75/125bp credit spread over LIBOR and inflation between 0.5 and 1.5%.

Q7.b.

(5.4 mins, 3 marks)

Choice of alternatives depends on risk appetite, in-house expertise and materiality.

Alternative 5 is the most risky. The interest on as much as GBP 2.5bn could be at risk if rates stayed low for a long time and then shot up. Debt covenants could be threatened.

Alternatives 3, 4 are probably the most manageable, but do need close monitoring and do need staff with the expertise to identify market movements as they begin to appear and react appropriately.

Question 8

[21.6 mins, 12 marks]

**[Marking scheme: to pass, (a) five credible and well-argued goals; (b) broad coverage of the GBP 2.5bn over the five years].
(extra few marks for including WWBS).**

Q8.a.

(9.0 mins, 5 marks)

- Already a well-diversified portfolio of debt
 - Retain balance of bank/capital market debt – capital market for core long term requirements, bank for flexibility
 - Retain mix of fixed and floating rate debt to minimise need for swap hedges and consequent potential collateral calls
 - Retain element of index-linked to hedge RPI adjustment
 - Manage annual refinance requirement to max 15% of total facilities
 - Maintain headroom at about same level – to cover unexpected opportunities or threats and as a backstop for refinancing
 - Maintain and expand diversity of funding sources
 - Build in flexibility, eg call options on term capital market facilities
 - Exploit current development of private placement offerings some of which now have the features of traditional syndicated loans
 - Create interest in funding for WWBS via WWC
 - Consistent covenants.
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Q8.b.

(12.6 mins, 7 marks)

For WWC

The RCF and EIB undrawns cater for the headroom requirements in the medium term.

So for 2016-17 the USD private placement market, given its increasing flexibility, would be a likely candidate for a two tranche deal totalling £1,050m equivalent, 10-year term, hedged with a cross currency IRS. Multi-tranche forward start issues with draw down schedules and single counterparties are a new direct alternative to traditional syndicated loans.

Brexit, should it occur, could have a material impact on the availability and relative attractiveness of financing sources.

So for 2018 the EMTN facility would provide a flexible source.

For 2019 the RCF facility could be renegotiated and extended again, providing additional headroom. The RCF, the EIB facility or both could be used for 2019.

For 2020, depending on market conditions, the EMTN or private placement markets could be accessed again.

For WWBS

The retail bond market, which now has a “green bond” segment, would be a contender for funding WWBS projects, depending on the scale – issues of GBP 100m are feasible. For more flexible funding, an extension of existing bank facilities with WW plc is a possibility.

EIB, given its role as EU’s infrastructure bank, is another obvious source for EU based projects or for projects in other parts of the world where the EU has political interests.

Question 9

[21.6 mins, 12 marks]

[Marking scheme: to pass, expect a minimum of three justified implications; (b) expecting pick-up on more formal separation of WWBS and WWC, and in particular identification of need for a new set of skills to do with international market-led unregulated business development; (c) expecting pick-up on increased foreign direct investment (equity investment) and more repetitive fx transaction exposure].

Context

WWBS and WWC are separate legal entities and both are wholly-owned subsidiaries of WWplc which is a UK listed company. WWC is a large regulated water utility and WWBS is a small, unregulated business. Both operate at arm's length from each other and the internal governance which ensures this separation is overseen by OFWAT, the UK water utility regulator.

2015	WWC	WWBS	WWplc
Turnover	£1581.2m	£216.3m	£1801.3m
PBIT + Exceptionals	£539.0m	£9.7m	£521.7m
PAT	-	-	£115.5m
Employees @ y/e	5,181	1,873	7,398
Geography	England	UK, US, Europe	-

* WWplc numbers include Group adjustments.

Waterwise Company (WWC) is one of 10 regulated water and sewerage companies in England and Wales with 3.3 million households and business customers. WWC's turnover is £1,581m with 5,181 employees.

Waterwise Business Services (WWBS) provides contract services to community, municipal, industrial and government clients for the design, build and operation of water and waste water facilities and networks in the UK and US. WWBS also has a renewable energy business using wind turbines, hydro power and anaerobic digestion of crops and food waste, with plans to add solar power as a fifth source of energy generation. WWBS turnover is £216m with 1,853 employees.

WWBS is positioning for growth in non-regulated water and waste water operations and in renewable energy development. Its mission is to provide long-term sustainable growth in shareholder value for WWplc.

Q9.a. (7.2 mins, 4 marks)

The principal implications for the management of Group Treasury are:

- WWBS treasury role enlargement and more formalised separation of WWC and WWBS treasury functions. WWplc is shifting the Group corporate culture to be more commercial but WWBS will need to take that change further than WWC. It is unregulated and is focussing on market-based international growth starting from a relatively small base
 - WWBS will need to raise funding for planned growth in water-related operations and energy projects, some on a j.v. basis
 - The majority of WWBS growth is expected to be overseas, so this will add significantly to the international dimension of treasury eg currency risk, both transactional and translational
 - Investing in new operations overseas, including joint ventures, will require
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project appraisal skills, with a focus on the assessment of overall project risk-return, project funding structures and appropriate returns to equity holders.

Q9.b.

(7.2 mins, 4 marks)

Treasury function

The firm has a central treasury function servicing all of the Group. There are two front office and two back office staff in addition to the Group Treasurer.

The treasury operates under a licence from the regulator Ofwat. The substance of the licence is that transactions between the regulated and the non-regulated parts of the business operate on an arms-length basis.

All of the group debt is with the regulated entity (WWC) apart from a £75m retail bond and £100m of bank bilaterals at holding company level (WWplc).

To cope with an expanding WWBS, the central treasury could be expanded by the addition of two new staff in a business development unit.

The skills required would be corporate finance and project appraisal, acquired in an international corporate where a basic understanding of fx in such roles would be taken for granted.

There is already some funding at WWplc, out with the regulated entity and additional funding for WWBS could be raised at that level.

Visibility and oversight of WWBS development will be very important if it plans to expand rapidly and the Group's Treasurer will need to be closely involved.

Q9.c.

(7.2 mins, 4 marks)

Currently the main exposure to fx risk is from foreign currency debt. Some of this is hedged naturally with some foreign currency assets and the remainder is fully hedged via cross-currency IRS.

If there are going to be significantly more operations overseas then there is likely to be equity investment and intragroup debt giving rise to translation risk, as well as divided payments and possibly licencing and management fees giving rise to transaction risk.

There may also be a need for local banking arrangements in overseas locations, so depending on how quickly WWBS grows it may be necessary to augment existing staff in this area or as an alternative to outsource the routine elements.
