

Professional Examinations

Strategic Level

PaperF3

Financial Strategy

EXAM PRACTICE KIT

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PUBLISHING

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INDEX TO QUESTIONS AND ANSWERS

INTRODUCTION

For all strategic level papers (E3, F3 and P3), CIMA will release a "pre-seen" scenario approximately 6 weeks before the real exam. As part of section A of the exam you will then get further "un-seen" information relating to this case and question requirements. These will make up the whole of section A in the exam, worth 50%.

Section B questions will continue to be stand alone and hence the bulk of this exam practice kit consists of such questions. The majority of these are past CIMA exam questions. If changed in any way from the original version, this is indicated in the end column of the index below with the mark (AJ).

KEY TO THE INDEX

PAPER ENHANCEMENTS

We have added the following enhancements to the answers in this exam practice kit:

Key answer tips

All answers include key answer tips, often taken from the examiner's official "Post Exam Guides", to help your understanding of each question.



Tutorial note

All answers include more tutorial notes, often taken from the examiner's official "Post Exam Guides", to explain some of the technical points in more detail.

Top tutor tips

For selected questions, we "walk through the answer" giving guidance on how to approach the questions with helpful 'tips from a top tutor', together with technical tutor notes.

These answers are indicated with the "footsteps" icon in the index.

SECTION A-TYPE QUESTIONS

		<i>Page number</i>		
		<i>Question</i>	<i>Answer</i>	<i>Past exam</i>
	Pre-seen for Nov 11/Mar 12 (page 1)			
1	M pic	8	127	Nov 11
2	M pic	10	135	Mar 12
	Pre-seen for May/Sept 12 (page 12)			
3	B Supermarkets	20	141	May 12
4	B Supermarkets	22	146	Sept 12
	Pre-seen for Nov 12/Mar 13 (page 24)			
5	V	29	152	Nov12
6	V	32	160	Mar 13
	Pre-seen for May/Sept 13 (page 34)			
7	T Railways	40	167	May 13
8	T Railways	43	173	Sept 13

SECTION B-TYPE QUESTIONS

FORMULATION OF FINANCIAL STRATEGY

9	CCC	47	179	Nov 06
10	STR	48	182	May01
11	ABC	49	185	Nov01
12	CRM , ~	51	188	May 09
13	HJK	53	191	May 11
14	TIT	54	195	Nov 11
15	QRR	55	199	Mar 12
16	SPORT	56	202	Sept 12
17	BBD	57	205	Nov 12
18	SRP	58	208	Mar 13
19	KK	60	213	Sept 13

FINANCING DECISIONS

20	MNO	61	215	May 06
21	LEELOR	62	218	May01
22	Dan's Portfolio ~	63	220	May 08
23	MAT	65	223	May 08
24	BZ	66	227	May 09
25	Gregory and George	67	230	Nov 09
26	Claudia	68	232	Nov 09

		<i>Page number</i>		
		<i>Question</i>	<i>Answer</i>	<i>Past exam</i>
·	PIC	69	234	May 10
: 8	CIP	70	237	May 10
: ;	TM	71	241	Mar 11
S0	RED	73	244	Mar 11
~1	DCD	74	247	Nov11
~	CBA	75	251	Mar 12
~3	FF	76	254	May 12
~3	KK	77	257	May 12
35	LL	78	260	Sept 12
~0	XRG	79	264	Nov 12
37	PPT	81	267	Mar 13
38	PPP	82	271	May 13
39	BBB	83	275	May 13
40	FF	85	277	Sept 13
!1	RR	86	282	Sept 13

INVESTMENT DECISIONS AND PROJECT CONTROL I- ACQUISITIONS AND MERGERS

~2	AB pic and YZ pic	LfJ	88	285	
' : ' 3	Takeover Bid		89	289	May 07
..1	GG		90	291	May 07
!!5	SB pic		91	295	Nov 08
:!6	LP		93	297	May 09
. !7	RV		94	300	May 09
~8	XK		95	302	May 10
:!9	ADS		96	307	Nov 10
50	WW		97	311	May 11
51	MMM Recruitment		99	315	Sept 11
52	YY Group		100	318	Sept 11
53	TNG		102	321	Mar 13
54	NN		104	324	May 13

		<i>Page number</i>		
		<i>Question</i>	<i>Answer</i>	<i>Past exam</i>
INVESTMENT DECISIONS AND PROJECT CONTROL II - PROJECT APPRAISAL				
55	CTCTechnology College	105	327	May 05
56	RST	107	330	May 06
57	GHI	108	331	May 06
58	CD Furniture Manufacturer	109	333	Nov 06
59	UVW	110	336	Nov 07
60	eM Limited	111	339	May 08
61	Dominique	113	343	Nov 09
62	MR	114	346	Sept 10
63	PEI	115	348	Nov10
64	GOH	116	352	Mar11
65	CIP Manufacturing	118	355	Sept 11
66	CMec	119	359	Nov11
67	RST	120	363	Mar 12
68	PP	122	366	May 12
69	WIDGET	123	369	Sept 12
70	APT	124	373	Nov12

ANALYSIS OF PAST EXAM PAPERS

The table below summarises the key topics that have been tested in the recent exam papers. The list of topics matches the chapter titles in the Study Text.

Note that the references (A or S) are to the section of the exam in which the topic was tested. Section A is the compulsory section whereas Section S contains a choice of questions.

Topic	May 11	Sept 11	Nov 11	Mar 12	May 12	Sept 12	Nov 12	Mar 13	May 13	Sept 13
Introduction to financial strategy	B	A	A,B	B	A	B	B	A, B	A	B
Performance measurement		A			A		B	B	A	B
Long term finance	B	A	B			B	A,B	A	B	B
Short term finance					B	A				B
Cost of capital	B			A,B				B		
Capital structure					B		B	B	B	
The role of treasury			B	B						
Investment appraisal - basic	A	B		B	A,B	B	B		A	B
Investment appraisal - further	A	B		B		B	B		A	
Remotional investment appraisal			B			A				
Business valuation	B	B	A	A			A	B	B	A,B
Mergers and acquisitions		B	A	A	A					A
Implementation and control procedures		B	B		B					

EXAM TECHNIQUE

- Use the allocated 20 minutes reading and planning time at the beginning of the exam to:
read the questions and examination requirements carefully, and
begin planning your answers.
- Divide the time you spend on questions in proportion to the marks on offer:
there are 1.8 minutes available per mark in the examination
within that, try to allow time at the end of each question to review your answer and
address any obvious issues

Whatever happens, always keep your eye on the clock and do not over run on any part of any question!

- Spend the last five minutes of the examination:
reading through your answers, and
making any additions or corrections.
- If you get completely stuck with a question:
leave space in your answer book, and
return to it later.
- Stick to the question and tailor your answer to what you are asked.
pay particular attention to the verbs in the question.
- If you do not understand what a question is asking, state your assumptions.
Even if you do not answer in precisely the way the examiner hoped, you should be given some credit, if your assumptions are reasonable.
- You should do everything you can to make things easy for the marker.
The marker will find it easier to identify the points you have made if your answer~ are legible.
- Written questions:
Your answer should have:
a clear structure
a brief introduction, a main section and a conclusion.
Be concise. It is better to write a little about a lot of different points than a great deal about one or two points.

- Computations:

It is essential to include all your workings in your answers. Many computational questions require the use of a standard format e.g. net present value, adjusted present value.

Be sure you know these formats thoroughly before the exam and use the layouts that you see in the answers given in this book and in model answers.

- Reports, memos and other documents:

Some questions ask you to present your answer in the form of a report, a memo, a letter or other document.

Make sure that you use the correct format - there could be easy marks to gain here.

PER SPECIFIC INFORMATION

EXAM

		<i>Number of marks</i>
5itc:Jion A:	A maximum of four compulsory questions, all relating to a pre-seen case study and some further new un-seen material provided within the examination. Note that the pre-seen material will be common to all three strategic level papers at each sitting.	50
	Two questions from a choice of three, each worth twenty five marks.	
	Short scenarios will be given, to which some or all questions relate.	50
		100

Time allowed: 3 hours plus 20 minutes reading time.

CLASS MARK

- The pass mark for all CIMA Qualification examination papers is 50%.

READING TIME

Note that all three hour CIMA examinations have an additional 20 minutes reading time.

A GUIDANCE

The guidance on the use of this time is as follows:

- 5 additional time is allowed at the beginning of the examination to allow candidates to read the questions and to begin planning their answers before they start to write in their answer booklets.
- This time should be used to ensure that all the information and, in particular, the examination questions are properly read and understood.
- During this time, candidates may only annotate their question paper. They may not write anything in their answer booklets until told to do so by the invigilator.

FURTHER GUIDANCE

Since there is a choice of questions in Section B, you must decide which questions to attempt, and in which order.

During the 20 minutes of reading time you should be able to review the questions in Section B and decide which ones are most appealing. All students have different strengths and preferred topics, so it is impossible to give general advice on which questions should be chosen. However, it is worth noting that numerical questions can often be more time consuming than written questions, so you are more likely to over run on numerical questions. Try to choose questions which give a balance between numerical and written elements.

In relation to paper F3, we recommend that you take the following approach with your reading time:

- Skim through Section B, assessing the level of difficulty of each question. Try to decide which question looks least appealing and ignore it.
- Now focus on the other Section B questions (which, by a process of elimination, you have now decided to attempt). Work out how much time you should spend on each part of the requirements (using the measure of 1.8 minutes per mark). Decide which techniques you will need to attack each of the questions.
- Turn to Section A. Skim through the requirement and decide what topics are being tested (e.g. business valuation, NPV). As you skim through the unseen case material, note any key issues from your pre-seen analysis which may be useful to link in to the given information.
- Decide the order in which you think you will attempt the questions:

This is a personal choice and you have time on the revision phase to try out different approaches, for example, if you sit mock exams.

A common approach is to tackle the question you think is the easiest and you are most comfortable with first.

Others may prefer to tackle the longest question first, or conversely leave them to the last.

It is usual however that students tackle their least favourite topic and/or the most difficult question in their opinion last. It is sensible to try to attack the preferred questions before attempting the difficult looking ones.

Whatever you approach, you must make sure that you leave enough time to attempt all questions fully and be very strict with yourself in timing each question.

- For each question in turn, read the requirements and then the detail of the question carefully.

Always read the requirement first as this enables you to focus on the detail of the question with the specific task in mind. Bear in mind the CIMA verb hierarchy. In paper F3, you are likely to have to face level 3, 4, and 5 verbs, so your answer will have to be quite detailed.

For computational questions:

Highlight key numbers/information and key words in the question, scribble notes to yourself on the question paper to remember key points in your answer.

For written questions:

Take notice of the format required (e.g. letter, memo, notes) and identify the recipient of the answer. You need to do this to judge the level of financial sophistication required in your answer and whether the use of a formal reply or informal bullet points would be satisfactory.

Plan your beginning, middle and end and the key areas to be addressed and your use of titles and sub-titles to enhance your answer.

For all questions:

Spot the easy marks to be gained in a question and parts which can be performed independently of the rest of the question.

Make sure that you do these parts first when you tackle the question.

Don't go overboard in terms of planning time on anyone question - you need a good measure of the whole paper and a plan for all of the questions at the end of the 20 minutes.

By covering all questions you can often help yourself as you may find that facts in one question may remind you of things you should put into your answer relating to a different question.

- With your plan of attack in mind, start answering your chosen question with your plan to hand, as soon as you are allowed to start.

DETAILED SYLLABUS

The detailed syllabus and study guide written by CIMA can be found at:

www.cimaglobal.com

POST EXAM GUIDES (PEGs)

After each sitting, the examiners and lead markers produce a report for each paper outlining what they were looking for in the exam, how it related to the syllabus and highlights in detail what students did well and the areas that caused problems. This feedback is extremely useful to help you to focus on producing what the examiners want and thus increase your chances of passing the exams. The PEGs for F3 can be found here:

<http://www.cimaglobal.com/Students/Exam-preparation/Strategic-level/F3-finance1-strategy/Post-exam-guides/>

APPROACH TO REVISION

QUESTION PRACTICE IS THE KEY TO SUCCESS

Success in professional examinations relies upon you acquiring a firm grasp of the required knowledge at the tuition phase. In order to be able to do the questions, knowledge is essential.

However, the difference between success and failure often hinges on your exam technique on the day and making the most of the revision phase of your studies.

The study text is the starting point, designed to provide the underpinning knowledge to tackle all questions. However, in the revision phase, pouring over text books is not the answer.

Revision cards are designed to help you quickly revise a topic area; however you then need to practise questions. There is a need to progress to full exam standard questions as soon as possible, and to tie your exam technique and technical knowledge together.

The importance of question practice cannot be over-emphasised.

The recommended approach below is designed by expert tutors in the field, in conjunction with their knowledge of the examiner and their recent real exams.

The approach taken for the lower level papers is to revise by topic area. However, with the strategic level papers, a multi topic approach is required to answer the scenario based questions.

You need to practise as many questions as possible in the time you have left.

OUR AIM

Our aim is to get you to the stage where you can attempt exam standard questions confidently, to time, in a closed book environment, with no supplementary help (i.e. to simulate the real examination experience).

Practising your exam technique on real past examination questions, in timed conditions, is also vitally important for you to assess your progress and identify areas of weakness that may need more attention in the final run up to the examination.

In order to achieve this we recognise that initially you may feel the need to practise some questions with open book help and exceed the required time.

The approach below shows you which questions you should use to build up to coping with exam standard question practice, and references to the sources of information available should you need to revisit a topic area in more detail.

Remember that in the real examination, all you have to do is:

- attempt all questions required by the exam
- only spend the allotted time on each question, and
- get them at least 50% right!

Try to practise this approach on every question you attempt from now to the real exam.

THE F3 REVISION PLAN

Stage 1: Assess areas of strengths and weaknesses

Review the topic listings in the revision table plan below

Determine whether or not the area is one with which you are comfortable

Comfortable
with the technical content

Not comfortable
with the technical content

Read the relevant chapter(s) in the
Study Text

Attempt the Test your understanding
examples if unsure of an area

Review the Revision cards on this area

Stage 2: Practice questions

Follow the order of revision of topics as recommended in the revision table plan below and attempt the questions in the order suggested.

Try to avoid referring to text books and notes and the model answer until you have completed your attempt.

Try to answer the question in the allotted time.

Review your attempt with the model answer and assess how much of the answer you achieved in the allocated exam time.

⇒ In the self-assessment box below and decide on your best course of action.

comfortable with question attempt

Not comfortable with question attempt

Only revisit when comfortable with questions on all topic areas

Focus on these areas by:

- Reworking test your understanding examples in the Study Text
- Revisiting the technical content from the Revision cards
- Working any remaining questions on that area in the Exam Practice Kit
- Reattempting an exam standard question in that area, on a timed, closed book basis

Note that:

The "footsteps questions" give guidance on exam technique and how you should have approached the question.

Stage 3: Final pre-exam revision

We recommend that you attempt at least one three hour mock examination containing a set of previously unseen exam standard questions.

It is important that you get a feel for the breadth of coverage of a real exam without advanced knowledge of the topic areas covered - just as you will expect to see on the real exam day.

Ideally a mock examination offered by your tuition provider should be sat in timed, closed book, real exam conditions.

THE NILEO REVISION PLAN

Version 1.0

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Formulae and tables

Present value of 1.00 unit of currency i.e. $(1 + r)^{-n}$ where r = interest rate, n = number of periods until payment or receipt.

Periods	Interest rates (r)									
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	.990	.980	.971	.962	.952	.943	.935	.926	.917	.909
2	.980	.961	.943	.925	.907	.890	.873	.857	.842	.826
3	.971	.942	.915	.889	.864	.840	.816	.794	.772	.751
4	.961	.924	.888	.855	.823	.792	.763	.735	.708	.683
5	.951	.906	.863	.822	.784	.747	.713	.681	.650	.621
6	.942	.888	.837	.790	.746	.705	.666	.630	.596	.564
7	.933	.871	.813	.760	.711	.665	.623	.583	.547	.513
8	.923	.853	.789	.731	.677	.627	.582	.540	.502	.467
9	.914	.837	.766	.703	.645	.592	.544	.500	.460	.424
10	.905	.820	.744	.676	.614	.558	.508	.463	.422	.386
11	.896	.804	.722	.650	.585	.527	.475	.429	.388	.350
12	.887	.788	.701	.625	.557	.497	.444	.397	.356	.319
13	.879	.773	.681	.601	.530	.469	.415	.368	.326	.290
14	.870	.758	.661	.577	.505	.442	.388	.340	.299	.263
15	.861	.743	.642	.555	.481	.417	.362	.315	.275	.239
16	.853	.728	.623	.534	.458	.394	.339	.292	.252	.218
17	.844	.714	.605	.513	.436	.371	.317	.270	.231	.198
18	.836	.700	.587	.494	.416	.350	.296	.250	.212	.180
19	.828	.686	.570	.475	.396	.331	.277	.232	.194	.164
20	.820	.673	.554	.456	.377	.312	.258	.215	.178	.149

Periods	Interest rates (r)									
	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	.901	.893	.885	.877	.870	.862	.855	.847	.840	.833
2	.812	.797	.783	.769	.756	.743	.731	.718	.706	.694
3	.731	.712	.693	.675	.658	.641	.624	.609	.593	.579
4	.659	.636	.613	.592	.572	.552	.534	.516	.499	.482
5	.593	.567	.543	.519	.497	.476	.456	.437	.419	.402
6	.535	.507	.480	.456	.432	.410	.390	.370	.352	.335
7	.482	.452	.425	.400	.376	.354	.333	.314	.296	.279
8	.434	.404	.376	.351	.327	.305	.285	.266	.249	.233
9	.391	.361	.333	.308	.284	.263	.243	.225	.209	.194
10	.352	.322	.295	.270	.247	.227	.208	.191	.176	.162
11	.317	.287	.261	.237	.215	.195	.178	.162	.148	.135
12	.286	.257	.231	.208	.187	.168	.152	.137	.124	.112
13	.258	.229	.204	.181	.163	.145	.130	.116	.104	.093
14	.232	.205	.181	.160	.141	.125	.111	.099	.088	.078
15	.209	.183	.160	.140	.123	.108	.095	.084	.074	.065
16	.188	.163	.141	.123	.107	.093	.081	.071	.062	.054
17	.170	.146	.125	.108	.093	.080	.069	.060	.052	.045
18	.153	.130	.111	.095	.081	.069	.059	.051	.044	.038
19	.138	.116	.098	.083	.070	.060	.051	.043	.037	.031
20	.124	.104	.087	.073	.061	.051	.043	.037	.031	.026

Cumulative present value of 1.00 unit of currency

This table shows the present value of 1.00 unit of currency per annum, receivable or payable at

the end of each year for n years $\frac{1-(1+r)^{-n}}{r}$

Periods		Interest rates (r)									
In)	f	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1		0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2		1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3		2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4		3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5		4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6		5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7		6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8		7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9		8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10		9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11		10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12		11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13		12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14		13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
15		13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606
16		14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824
17		15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022
18		16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201
19		17.226	15.679	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365
20		18.046	16.351	14.878	13.590	12.462	11.470	10.594	9.818	9.129	8.514

Periods		Interest rates (r)									
In)	f	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1		0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2		1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3		2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4		3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5		3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6		4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7		4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8		5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9		5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10		5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11		6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12		6.492	6.194	5.918	5.660	5.421	5.197	4.968	4.793	4.611	4.439
13		6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14		6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15		7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
16		7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17		7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18		7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19		7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20		7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870

VALUATION MODELS

Irredeemable preference shares, paying a constant annual dividend, d , in perpetuity, where P_0 is the ex-div value,

$$P_0 = \frac{d}{r}$$

Ordinary (equity) shares, paying a constant annual dividend, d , in perpetuity, where P_0 is the ex-div value:

Ordinary (equity) shares, paying an annual dividend, d , growing in perpetuity at a constant rate, g , where P_0 is the ex-div value:

Irredeemable bonds, paying annual after tax interest, $i(1 - t)$, in perpetuity, where P_0 is the ex-interest value:

$$P_0 = \frac{i(1-t)}{k_{dnet}}$$

or without tax:

Market value of the geared firm, V_g (based on MM):

Future value S , of a sum X , invested for n periods, compounded at $r\%$ interest:

$$S = X(1+r)^n$$

Present value of 1_00 unit of currency payable or receivable in n years, discounted at $r\%$ per annum:

$$P = \frac{1}{(1+r)^n}$$

- (viii) Present value of an annuity of 1.00 unit of currency per annum, receivable or payable for n years, commencing in one year, discounted at $r\%$ per annum:

$$PV = \frac{1}{r} \left[1 - \frac{1}{(1+r)^n} \right]$$

- (ix) Present value of 1.00 unit of currency per annum, payable or receivable in perpetuity, commencing in one year, discounted at $r\%$ per annum:

$$PV = \frac{1}{r}$$

- (x) Present value of 1.00 unit of currency per annum, receivable or payable, commencing in one year, growing in perpetuity at a constant rate of $g\%$ per annum, discounted at $r\%$ per annum:

$$PV = \frac{1}{r-g}$$

COST OF CAPITAL

- (i) Cost of irredeemable preference shares, paying an annual dividend d in perpetuity, and having a current ex-div price P_0 :

$$k_{\text{dnet}} = \frac{d}{P_0} [1-t]$$

- (iii) Cost of ordinary (equity) share capital, paying an annual dividend d in perpetuity, and having a current ex-div price P_0 :

$$k_e = \frac{d}{P_0}$$

- (iv) Cost of ordinary (equity) shares, having a current ex-div price, P_0 , having just paid a dividend, d_0 , with the dividend growing in perpetuity by a constant $g\%$ per annum:

$$k_e = \frac{d_0}{P_0} + g \quad \text{or} \quad k_e = \frac{d_0[1+g]}{P_0} + g$$

- (v) Cost of ordinary (equity) shares, using the CAPM:

$$k_e = R_f + [R_m - R_f] \beta$$

(vi) Cost of ordinary (equity) share capital in a geared entity:

(vii) Weighted average cost of capital, k_0 or WACC:

(viii) Adjusted cost of capital (MM formula):

(ix) Ungear g :

(x) Regear S .

(xi) Adjusted discount rate to use in international capital budgeting (International Fisher Effect):

$$\frac{1 + \text{annual discount rate BS}}{1 + \text{annual discount rate A\$}} = \frac{\text{Future Spot Rate A\$/B\$ in 12 months' time}}{\text{Spot rate AS/B\$}}$$

where A\$/B\$ is the number of B\$ to each A\$

OTHER FORMULAE

(i) Expectations theory:

$$\text{Future spot rate A\$/B\$} = \text{Spot rate A\$/B\$} \times \frac{1 + \text{nominal country B interest rate}}{1 + \text{nominal country A interest rate}}$$

where A\$/B\$ is the number of B\$ to each A\$, and

A\$ is the currency of country A and B\$ is the currency of country B

(ii) Purchasing Power Parity (Law of one price):

$$\text{Future spot rate A\$/B\$} = \text{Spot rate A\$/B\$} \times \frac{1 + \text{country B inflation rate}}{1 + \text{country A inflation rate}}$$

- (iii) link between nominal (money) and real interest rates:

$$[1 + \text{nominal(money)rate}] = (1 + \text{realinterestrate})[1 + \text{inflationrate}]$$

- (iv) Equivalent annual cost:

$$\text{Equivalent annual cost} = \frac{\text{PV of costs over } n \text{ years}}{n \text{ year annuity factor}}$$

- (v) Theoretical ex-rights price:

$$\text{TERP} = \frac{1}{N+1} [N \times \text{cum rights price} + \text{issue price}]$$

- (vi) Value of a right:

$$\text{Theoretical ex rights price} - \text{Issue price}$$

N

where N = number of rights required to buy one share.

Section 1,

SECTION A-TYPE QUESTIONS

M PIC (NOV 11 AND MAR 12 EXAMS) - RELATES TO QUESTIONS 1 AND 2

PRE-SEEN CASE MATERIAL

Introduction

M pic is a long established publisher of newspapers and provider of web media. It is based in London and has had a full listing on the London Stock Exchange since 1983. The company has three operating divisions which are managed from the United Kingdom (UK). These are the Newspapers Division, the Web Division and the Advertising Division.

Newspapers Division

The Newspapers Division publishes three daily newspapers and one Sunday newspaper in the UK. The Division has three offices and two printing sites. Between them the three offices edit the three daily newspapers and the Sunday newspaper. The Newspaper Division has two subsidiary publishing companies, FR and N. FR is based in France within the Eurozone and N in an Eastern European country which is outside the Eurozone. Printing for all the Division's publications, except those produced by FR and N, is undertaken at the two printing sites. FR and N have their own printing sites.

Web Division

The Web Division maintains and develops 200 websites which it owns. Some of these websites are much more popular in terms of the number of "hits" they receive than others. Web material is an increasing part of M pic's business. In the last ten years, the Web Division has developed an online version of all the newspapers produced by the Newspapers Division.

Advertising Division

The sale of advertising space is undertaken for the whole of M pic by the Advertising Division. Therefore, advertisements which appear in the print media and on the web pages produced by the Newspapers Division (including that produced by FR and N) and the Web Division respectively are all handled by the Advertising Division.

Group Headquarters

In addition to the three operating divisions, M pic also has a head office, based in the UK, which is the group's corporate headquarters where the Board of Directors is located. The main role of M pic's headquarters is to develop and administer its policies and procedures as well as to deal with its group corporate affairs.

Mission statement

M pic established a simple mission statement in 2005. This drove the initiative to acquire FR in 2008 and remains a driving force for the company. M pic's mission is "to be the best news media organisation in Europe, providing quality reporting and information on European and world-wide events".

Strategic objectives

Four main strategic objectives were established in 2005 by M pic's Board of Directors. These are to:

- 1 Meet the needs of readers for reliable and well informed news.
- 2 Expand the geographical spread of M pic's output to reach as many potential newspaper and website readers as possible.
- 3 Publish some newspapers which help meet the needs of native English speakers who live in countries which do not have English as their first language.
- 4 Increase advertising income so that the group moves towards offering as many news titles as possible free of charge to the public.

Financial objectives

In meeting these strategic objectives, M pic has developed the following financial objectives:

- (i) To ensure that revenue and operating profit grow by an average of 4% per year.
- (ii) To achieve steady growth in dividend per share.
- (iii) To maintain gearing below 40%, where gearing is calculated as debt/(debt plus equity) based on the market value of equity and the book value of debt.

Forecast revenue and operating profit

M pic's forecast revenue and net operating profit for the year ending 31 March 2012 are £280 million and £73 million respectively.

Extracts from M pic's forecast statement of profit or loss for the year ending 31 March 2012 and forecast statement of financial position as at 31 March 2012 are shown in the appendix.

Comparative divisional performance and headquarters financial information

The following information is provided showing the revenue generated, the operating profit achieved and the capital employed for each division and the operating costs incurred and capital employed in M pic's headquarters. This information covers the last two years and also gives a forecast for the year ending 31 March 2012. All M pic's revenue is earned by the three divisions.

Newspapers Division	<i>Year ended 31.3.2010</i>	<i>Year ended 31.3.2011</i>	<i>Forecast for year ending 31.3.2012</i>
	£ million	£ million	£ million
Revenue external	91	94	94
Revenue internal transfers	90	91	96
Net operating profit	45	46	48
Non-current assets	420	490	548
Net current assets	4	8	(10)

Web Division	Year ended 31.3.2010	Year ended 31.3.2011	Forecast for year ending 31.3.2012
	£ million	£ million	£ million
Revenue internal transfers	55	60	66
Operating profit	10	13	16
Non-current assets	37	40	43
Net current assets	1	1	(2)

Advertising Division	Year ended 31.3.2010	Year ended 31.3.2011	Forecast for year ending 31.3.2012
	£ million	£ million	£ million
Revenue external	162	180	186
Internal transfers	(145)	(151)	(162)
Operating profit	10	18	19
Non-current assets	3	6	7
Net current assets	1	1	(2)

Headquarters	Year ended 31.3.2010	Year ended 31.3.2011	Forecast for year ending 31.3.2012
	£ million	£ million	£ million
Operating costs	8	9	10
Non-current assets	37	39	43
Net current assets	1	1	(1)

Notes:

- 1 The Advertising Division remits advertising revenue to both the Newspapers and Web Divisions after deducting its own commission.
- 2 The Web Division's entire revenue is generated from advertising.
- 3 The revenues and operating profits shown for the Newspapers Division include those earned by FR and N. The converted revenue and operating profit from N are forecast to be £20 million and £4 million respectively for the year ending 31 March 2012. FR is forecast to make a small operating profit in the year ending 31 March 2012. The Board of M plc is disappointed with the profit FR has achieved.

Additional information on each of M plc's divisions

Newspapers Division

FR is wholly owned and was acquired in 2008. Its financial statements are translated into British pounds and consolidated into M plc's group accounts and included within the Newspaper Division's results for internal reporting purposes.

Shortly after it was acquired by M plc, FR launched a pan-European weekly newspaper. This newspaper, which is written in English, is produced in France and then distributed throughout Europe. M plc's board thought that this newspaper would become very popular because it provides a snapshot of the week's news, focused particularly on European issues but viewed from a global perspective. Sales have, however, been disappointing.

N, which publishes local newspapers in its home Eastern European country, is also treated as part of the Newspapers Division. M pic acquired 80% of its equity in 2010. At that time, M pic's board thought that Eastern Europe was a growing market for newspapers. The subsidiary has *proved* to be profitable mainly because local production costs are lower than those in the UK *relative* to the selling prices.

The Newspapers Division's journalists incur a high *level* of expenses in order to carry out their duties. The overall *level* of expenses claimed by the journalists has been ignored by M pic in previous years because it has been *viewed* as a necessary cost of running the business. However, these expenses have risen significantly in recent years and *have* attracted the attention of M pic's internal audit department.

There has been significant capital *investment* in the Newspapers Division since 2009/10. The printing press facilities at each of the two printing sites have been modernised. These modernisations *have* improved the quality of output and have enabled improved *levels* of efficiency to be achieved in order to meet the increasing workloads demanded in the last two years. Surveys carried out before and after the modernisation *have* indicated higher *levels* of customer satisfaction with the improved quality of printing.

The increased mechanisation and efficiency has reduced costs and led to a reduction in the number of employees required to operate the printing presses. This has led to some dissatisfaction among the divisional staff. Staff in the other divisions have been unaffected by the discontent in the Newspapers Division. Staff turnover has been relatively static across the three divisions, with the exception of the department which operates the printing presses in the Newspapers Division where some redundancies *have* occurred due to fewer staff being required since the modernisation.

Web Division

The web *versions* of the newspapers are shorter versions of the printed ones. There is currently no charge for access to the web *versions* of the newspapers. Revenues are generated from sales by the Advertising Division of advertising space on the web pages. Some of the websites permit unsolicited comments from the public to be posted on them and they have *proved* to be very popular. The Web Division is undertaking a review of all its costs, particularly those relating to energy, employees and website development.

The Web Division's management accounting is not sophisticated: for example, although it reports monthly on the Division's revenue and profitability, it cannot disaggregate costs so as to produce monthly results for each of the 200 websites. The Division is at a similar disadvantage as regards strategic management accounting as it lacks information about the websites' market share and growth rates. This has not mattered in the past as M pic was content that the Web Division has always been profitable. *However*, one of M pic's directors, the Business Development Director (see below under The Board of Directors and group shareholding) thinks that the Web Division could increase its profitability considerably and wants to undertake a review of its 200 websites.

Advertising Division

The Advertising Division remits advertising revenue to both the Newspapers and Web Divisions after deducting its own commission. In addition, the *Advertising* Division offers an *advertising* service to corporate clients. Such *services* include television and radio advertising and poster campaigns on bill boards. Advertisements are also placed in newspapers and magazines which are not produced by M pic, if the client so wishes. An increasing element of the work undertaken by the Advertising Division is in providing pop-up advertisements on websites.

Planning process

Each division carries out its own planning process. The Newspapers Division operates a rational model and prepares annual plans which it presents to M pic's board for approval. The Web Division takes advantage of opportunities as they arise and is operating in a growth market, unlike the other two divisions. Its planning approach might best be described as one of logical incrementalism. Increased capital expenditure in 2010/11 helped the Advertising Division to achieve an 11% increase in revenue in that year. The Divisional Managers of both the Web Division and the Advertising Division are keen to develop their businesses and are considering growth options including converting their businesses into outsource service providers to M pic.

The Board of Directors and group shareholding

M pic's Board of Directors comprises six executive directors and six non-executive directors, one of whom is the Non-executive Chairman. The executive directors are the Chief Executive, and the Directors of Strategy, Corporate Affairs, Finance, Human Resources and Business Development. The Business Development Director did not work for M pic in 2005 and so had no part in drafting the strategic objectives. She thinks that objective number four has become out-dated as it does not reflect current day practice. The Business Development Director has a great deal of experience working with subscription-based websites and this was one of the main reasons M pic recruited her in March 2011. Her previous experience also incorporated the management of product portfolios including product development and portfolio rationalisation.

There are divisional managing directors for each of the three divisions who are not board members but report directly to the Chief Executive.

One of M pic's non-executive directors was appointed at the insistence of the bank which holds 10% of M pic's shares. Another was appointed by a private charity which owns a further 10% of the shares in M pic. The charity represents the interests of print workers and provides long-term care to retired print workers and their dependents. Two other non-executive directors were appointed by a financial institution which owns 20% of the shares in M pic. The remaining 60% of shares are held by private investors. The board members between them hold 5% of the shares in issue. None of the other private investors holds more than 70,000 of the total 140 million shares in issue.

It has become clear that there is some tension between the board members. Four of the non-executive directors, those appointed by the bank, the charity and the financial institution, have had disagreements with the other board members. They are dissatisfied with the rate of growth and profitability of the company and wish to see more positive action to secure M pic's financial objectives.

Some board members feel that the newspapers market is declining because fewer people can make time to read printed publications. Some of the non-executive directors think that many people are more likely to watch a television news channel than read a newspaper.

Editorial policy

M pic's board applies a policy of editorial freedom provided that the published material is within the law and is accurate. The editors of each of the publications printed in the UK and France and of the websites have complete autonomy over what is published. They are also responsible for adhering to regulatory constraints and voluntary industry codes of practice relating to articles and photographs which might be considered offensive by some readers. There is less scrutiny of the accuracy of the reporting in N's home country than in other countries. The Eastern European country in which N is situated has become politically unstable in the last two years. Much of this unrest is fuelled by the public distaste for the perceived blatant corruption and bribery which is endemic within the country's Government and business community. It is well known that journalists have accepted bribes to present only the Government's version of events, rather than a balanced view. There is also widespread plagiarism of published material by the country's newspapers and copyright laws are simply ignored.

Corporate Social Responsibility

A policy is in place throughout M pic in order to eliminate bribery and corruption among staff especially those who have front line responsibility for obtaining business. This policy was established 15 years ago. All new employees are made aware of the policy and other staff policies and procedures during their induction. The Director of Human Resources has confidence in the procedures applied by his staff at induction and is proud that no action has ever been brought against an employee of M pic for breach of the bribery and corruption policy. M pic is trying to reduce its carbon footprint and is in the process of developing policies to limit its energy consumption, reduce the mileage travelled by its staff and source environmentally friendly supplies of paper for its printing presses. The Newspapers Division purchases the paper it uses for printing newspapers from a supplier in a Scandinavian country. This paper is purchased because it provides a satisfactory level of quality at a relatively cheap price. The Scandinavian country from which the paper is sourced is not the same country in which N is situated.

Strategic Development

The Board of Directors is now reviewing M pic's competitive position. The Board of Directors is under pressure from the non-executive directors appointed by the bank, the charity and the financial institution (which between them own 40% of the shares in M pic), to devise a strategic plan before June 2012 which is aimed at achieving M pic's stated financial objectives.

APPENDIX 1

Extracts from M pic's forecast group statement of profit or loss and statement of financial position

Forecast statement of profit or loss for the group for the year ended 31 March 2012

	Notes	£ million (GBP million)
Revenue		280
Operating costs		(207)
Net operating profit		73
Interest income		1
Finance costs		(11)
Corporate income tax	1	(19)
		<hr/>
FORECAST PROFIT FOR THE YEAR		44

Statement of the group financial position as at 31 March 2012

	Notes	£ million (GBP million)
		641
		2
- "c other receivables		27
- 11cash equivalents		2
current assets		31
assets		672
	2	140
		35
-.; earnings		185
-::0 ling interest		16
		376
-rent liabilities		
- ~....borrowings	3	250
-.: 'abilities		
:: .- a other payables		46
a..rrent liabilities		46
bilities		296
eQuity and liabilities		672

i::CS:

- "e corporate income tax rate can be assumed to be 30%.

There are 140 million £1 shares currently in issue.

"ie long-term borrowings include £83 million of loan capital which is due for repayment on
: . May 2013 and the remainder is due for repayment on 1 April 2019.

END OF PRE-SEEN MATERIAL

1 M PIC (NOV 11 EXAM)

UNSEEN CASE MATERIAL

Background

Assume today is 1 December 2011.

The results from M pic's French subsidiary, FR, have been disappointing.

FR was originally acquired at the beginning of 2008 in order to provide M pic with printing capacity in Europe from which to launch a new English language pan European newspaper. FR already printed regional French newspapers but had spare printing capacity that M pic was able to use. After acquisition, FR continued to produce the regional French newspapers and launched the pan European newspaper in the middle of 2008. However, since M pic took over the business there has been a fall in circulation of the regional French newspapers and the pan European newspaper has not been as well received as had been expected.

The Board of M pic has decided that, whilst it believes that a pan European weekly newspaper in English is still a viable concept, it would like to sell FR as a going concern. The most serious interest in FR is from PP which is a large competitor in the newspaper business, based in France and listed on the French Stock Exchange. PP already prints and distributes a European edition of a US newspaper across Europe and so has proven experience in this market and an established distribution network. However, PP is already quite a dominant force in the newspaper industry in France and there is some concern that the proposed takeover of FR by PP might be referred to the competition authorities in France.

The proposed sale of FR would involve the settlement of its intra-group borrowings. The sale price would therefore consist of two parts:

- 1 EUR 25 million to settle FR's intra-group debt.
- 2 A second payment to acquire M pic's shares in FR.

FR has no external debt and the purchaser would therefore acquire the net assets of FR on a going concern basis with no debt attached.

The Board of M pic hopes to raise a significant amount of funds from the sale of FR, possibly as much as EUR 75 million (which includes the EUR 25 million required to settle FR's intra-group debt).

Discussion at a recent M pic board meeting regarding possible uses of the funds generated by the sale of FR

The following possible uses of the sale proceeds were identified at a recent board meeting:

- Reinvesting the funds in a new project.
- Repaying debt.
- Rewarding shareholders with a one-off dividend payment.

Financial data for M pic

Extracts from the forecast financial statements for the M pic group for the year ending 31 March 2012 can be found in the pre-seen material. The strategic and financial objectives for M pic are in the pre-seen material.

On 1 December 2011, M pic's share price is GBP 3.50 per share.

Financial data for FR

Book values of FR's assets and debt as at 30 November 2011:

	EUR million	
Non-current assets	50	with a market value of EUR 56 million
Net current assets	2	
Long term liabilities	(25)	which consist of intra-group debt only
	27	

FR's results for the 12 months to 30 November 2011:

	EUR million	
Operating profit	6.7	after charging depreciation of EUR 0.5 million
Finance charge	(1.4)	
Tax	(1.3)	
Earnings	4.0	

The management of FR has established that there needs to be an investment in working capital and non-current assets of EUR 1.8 million per annum in order to maintain the current level of operations. M pic forecasts that FR's free cash flow will grow by just 2% a year for the foreseeable future.

M pic considers that PP has a similar level of business risk to FR and approximately the same level of gearing as M pic and therefore plans to use PP as a proxy when valuing FR using a discounted cash flow (DCF) approach.

Financial data for PP

PP is funded as follows:

	Nominal value	Today's market value
Ordinary EUR 1 shares	EUR 50.0 million	EUR 5.80 per share
8% irredeemable EUR 1 preference shares	EUR 20.0 million	EUR 1.35 per share
6% Bond maturing in 3 years' time at par	EUR 120.0 million	EUR 103.0 per EUR 100.0

Other information:

- PP has a published equity beta of 1.5 and a PIE ratio of 13.
- M pic estimates that PP could achieve economies of scale of approximately EUR 0.7 million a year after tax by merging with FR. Note that this figure is not expected to grow from year to year but is expected to remain at EUR 0.7 million a year for the foreseeable future.

Financial data common to all three companies:

- For both the UK and France, assume a risk free interest rate of 3% and a market premium of 5%.
- Assume a debt beta of zero.
- Corporate income tax is charged at 30% on all taxable profits and is paid at the end of the year in which the taxable profit arises in both the UK and France.
- The spot rate on 1 December 2011 is EUR/GBP 0.8900 (that is, EUR 1 = GBP 0.8900) and is expected to remain unchanged for the foreseeable future.

Required:

Assume you are an adviser to M plc and have been asked to write a report in which you:

- (a) Evaluate the THREE possible uses of the funds generated by the sale of FR that were identified during the recent M plc board meeting.

(Up to 5 marks are available for calculations.) (10 marks)

- (b) (i) Calculate, as at 1 December 2011, a range of euro denominated values for FR, both with and without synergistic benefits arising from the acquisition. Your answer should include a discounted free cash flow valuation using PP's weighted average cost of capital (WACC). (18 marks)

- (ii) Discuss the appropriateness of each of the valuation approaches used in your answer to part (b)(i). (8 marks)

- (iii) Advise on an appropriate minimum and maximum cash price for the sale of FR. (5 marks)

- (c) Evaluate the risks that arise from investigations by competition authorities into planned takeovers. Include reference to the proposed sale of FR. (6 marks)

Additional marks available for structure and presentation: (3 marks)

(Total: 50 marks)

2 M Plc (MAR 12 EXAM)

UNSEEN CASE MATERIAL

Background

Today is 1 April 2012.

The Board of M plc is considering the acquisition of a company that specialises in producing pre-recorded news reports and programmes which are sold to television networks for them to broadcast. Television news has been identified as an area of growth in the media industry and has a different business cycle to that of M plc. That is, at times of increased demand for television news, newspaper sales tend to decline and vice versa.

Synergistic benefits might also arise from a move into television news since M plc's worldwide network of journalists could feed news items into both the newspapers and television news programmes.

The Board of M plc has identified GG as a possible takeover target. GG is a company based in the USA that specialises in producing news programmes and recorded video clips for sale to television networks that broadcast in the English language.

Planned bid offer for GG

Initial plans are for the bid offer to be in the form of a share exchange due to the scale of the takeover.

The Board of M plc believes that there is likely to be a negative response from the Board of GG to a bid offer but cannot yet assess how the shareholders of GG will react. No official announcement has been made to the market concerning the potential takeover. However, in recent weeks there has been significant movement in the share prices of both GG and M plc, which is considered to be largely due to the leaking of information on the proposed bid into the public domain. There has been a 10% increase in GG's share price and a 5% decrease in M plc's share price during this period.

Financial information for M pic and GG

The latest available version of M pic's financial statements as at 31 March 2012 can be found in the pre-seen material. Strategic and financial objectives can also be found in the pre-seen.

Additional financial information as at 1 April 2012:

	Mp/c	GG
Corporate income tax rate	30%	30%
Published equity beta	1.8	2.5
last year's earnings	GBP 44 million	USD 30 million
Shares in issue	140 million	40 million
	GBP 1 ordinary shares	USD 1 common stock (equivalent to ordinary shares)
Share price	GBP 3.77 per share	USD 7.50 per share
Forecast earnings growth in perpetuity	4%pa	8% pa
Risk free rate	1.1%	3.0%
Market premium	4.0%	4.0%

Additional relevant information:

- GG's free cash flow can be assumed to be approximately 60% of its annual earnings and arise at the end of a year. Free cash flow is defined as cash flow from operations after deducting interest, tax and ongoing capital expenditure.
- GG has approximately the same gearing ratio as M pic.
- It is believed that GG's lenders would accept the change of ownership of GG's business and would reassign GG's borrowings to M pic.
- The GBP/USD spot rate is currently 1.6300 (that is GBP 1 = USD 1.6300). GBP is expected to appreciate against USD by 2% a year in each of the next 3 years. It is not considered to be possible to predict currency movements beyond 3 years and so the spot exchange rate should be assumed to remain constant after 1 April 2015 for the purposes of any evaluation.

Required:

Assume you are the Financial Director of M pic and have been asked to prepare a briefing paper for the Board of M pic regarding the proposed takeover bid for GG in which you:

- (a) (i) Calculate the current cost of equity for:
- M pic.
 - GG.
 - M pic adjusted for the business risk of GG. (3 marks)
- (ii) Explain the reasons for the differences in your three cost of equity results in part (a) (i) above. (4 marks)

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- (b) (i) Calculate a range of values for GG as at 1 April 2012. Note that only one discounted cash flow calculation is required. (8 marks)
- (ii) Advise on:
- The validity of your results in (b) (i) above as the basis for an initial bid offer for GG.
 - An appropriate initial offer value for GG and appropriate share exchange terms. (10 marks)
- (c) Advise whether M pic should proceed with the bid offer for GG. Your answer should take into account:
- The potential impact of the takeover on the attainment of M pic's financial objectives.
 - Other relevant factors affecting the decision.
- (Up to 4 marks are available for calculations) (14 marks)
- (d) Explain:
- The actions GG could take to fight the takeover bid.
 - The actions M pic could take to help ensure a positive response to the bid
- ~~~

Additional marks available for structure and presentation: (4 marks)

(Total: 50 marks)

8 SUPERMARKETS (MAY 12 AND SEPT 12 EXAMS) - RELATES TO QUESTIONS 3 AND 4

PRE-SEENCASE MATERIAL

Overview

Introduction

B Supermarkets (B) was founded as a grocery retailer in a European country in 1963. Its sales consist mainly of food and household items including clothing. B now owns or franchises over 15,000 stores world-wide in 36 countries. The company has stores in Europe (in both eurozone and non-eurozone countries), Asia and North America. B's head office is located in a eurozone country. B has become one of the world's largest chains of stores.

B's Board thinks that there are opportunities to take advantage of the rapid economic growth of some Asian countries and the associated increases in demand for food and consumer goods.

Structure

The B Group is structured into a holding company, B, and three subsidiary companies which are located in each of the regions of the world in which it operates (Europe, Asia and North America). The subsidiary companies, referred to as "Regions" within B, are respectively B-Europe, B-Asia and B-North America.

Store operations, sales mix and staffing

B operates four types of store: supermarkets, hypermarkets, discount stores and convenience stores. For the purpose of this case study, the definition of each of these types of store is as follows:

supermarket is a self-service store which sells a wide variety of food and household goods such as washing and cleaning materials, cooking utensils and other items which are easily carried by customers out of the store.

hypermarket is a superstore or very large store which sells the same type of products as a supermarket but in addition it sells a wide range of other items such as consumer durable white goods, for example refrigerators, freezers, washing machines and furniture. Hypermarkets are often located on out-of-town sites.

discount store is a retail store that sells a variety of goods such as electrical appliances and electronic equipment. Discount stores in general usually sell branded products and pursue a high-volume, low priced strategy and aim their marketing at customers who seek goods at prices which are usually less than can be found in a hypermarket.

A *convenience store* is a small shop or store in an urban area that sells goods which are purchased regularly by customers. These would typically include groceries, toiletries, alcoholic beverages, soft drinks and confectionery. They are convenient for shoppers as they are located in or near residential areas and are often open for long hours. Customers are willing to pay premium prices for the convenience of having the store close by.

B sells food products and clothing in its supermarkets and hypermarkets at a higher price than many of its competitors because the Board thinks that its customers are prepared to pay higher prices for better quality food products. B also sells good quality consumer durable products in its supermarkets and hypermarkets but it is forced to sell these at competitive prices as there is strong competition for the sale of such goods. B's discount stores sell good quality electrical products usually at lower prices than those charged in its supermarkets and hypermarkets. B only sells electronic equipment in its discount stores. Customers have a greater range from which to choose in the discount stores as compared with supermarkets and hypermarkets because the discount stores specialise in the goods which they sell. B's convenience stores do not have the availability of space to carry a wide range of products and they charge a higher price for the same brand and type of goods which it sells in its supermarkets.

Although B owns most of its stores, it has granted franchises for the operation of some stores which carry its name.

Nearly 0.5 million full-time equivalent staff are employed world-wide in the Group. B tries when possible to recruit local staff to fill job vacancies within its stores.

Value statement and mission

In recognition of the strong competitive and dynamic markets in which it operates, B's Board has established an overall value statement as follows: "We aim to satisfy our customers wherever we trade. We intend to employ different generic competitive strategies depending on the market segment in which our stores trade."

The Board has also produced the following mission statement:

"B practises sustainable investment within a healthy ethical and thoughtful culture and strives to achieve customer satisfaction by giving a courteous and efficient service, selling high quality goods at a reasonable price, sourcing goods from local suppliers where possible and causing the least damage possible to the natural environment. By this, we aim to satisfy the expectations of our shareholders by achieving consistent growth in our share price and also to enhance our reputation for being an environmentally responsible company."

Strategic objectives

The following objectives have been derived from the mission statement:

- 1 Build shareholder value through consistent growth in the company's share price.
- 2 Increase customer satisfaction ratings to 95% as measured by customer feedback surveys.
- 3 Increase commitment to local suppliers by working towards achieving 40% of our supplies from sources which are local to where B stores trade.
- 4 Reduce carbon emissions calculated by internationally agreed measures by at least 1% per year until B becomes totally carbon neutral.
- 5 Maximise returns to shareholders by employing different generic competitive strategies depending on the market segment in which B stores trade.

Financial objectives

The Board has set the following financial objectives:

- 1 Achieve consistent growth in earnings per share of 7% each year.
- 2 Maintain a dividend pay-out ratio of 50% each year.
- 3 Gearing levels as measured by long-term debt divided by long-term debt plus equity should not exceed 40% based on book value.

Governance

The main board comprises the Non-executive Chairman, the Chief Executive and nine Executive directors. These cover the functions of finance, human resources, corporate affairs (including legal and public relations), marketing, planning and procurement. There is also one executive director for each of the three regions, being the Regional Managing Directors of B-Europe, B-Asia and B-North America. There are also nine non-executive main board members in addition to the Chairman.

The main Board of Directors has separate committees responsible for audit, remuneration, appointments, corporate governance and risk assessment and control. The Risk Assessment and Control Committee's tasks were formerly included within the Audit Committee's role. It was agreed by the Board in 2009 that these tasks should be separated out in order not to overload the Audit Committee which has responsibilities to review the probity of the company. B's expansion has been very rapid in some countries. The expansion has been so rapid that B has not been able to carry out any internal audit activities in some of these countries to date. The regional boards do not have a committee structure.

Each of the Regional Managing Directors chairs his or her own Regional Board. All of the Regional Boards have their own directors for finance, human resources, corporate affairs, marketing, planning and procurement but their structure is different for the directors who have responsibility for the stores. In B-Asia, one regional director is responsible for the hypermarkets and supermarkets and another is responsible for discount stores and convenience stores. In B-North America, one regional director is responsible for the hypermarkets and supermarkets and another is responsible for discount stores (B does not have any convenience stores in North America). In B-Europe there is one regional director responsible for supermarkets and hypermarkets, one for discount stores and one for convenience stores. In all regions the regional directors have line accountability to their respective regional managing director and professional accountability to the relevant main board director. There are no non-executive directors on the regional boards. Appendix 1 shows the main board and regional board structures.

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~ o& B's three regions has a regional treasury department managed by a regional treasurer 'lf10 has direct accountability to the respective Regional Director of Finance and professional accountability to the Group Treasurer. The Group Treasurer manages the central corporate treasury department which is located in B's head office. The Group Treasurer, who is not a main ooard member, reports to the Director of Finance on the main board.

Shareholding, year-end share prices and dividends paid for the last five years

3 is listed on a major European stock exchange within the eurozone and it wholly owns its substdlaries. There are five major shareholders of B, including employees taken as a group, which between them hold 25% of the 1.350 million total shares in issue. The major shareholders comprise two long term investment trusts which each owns 4%, a hedge fund owns 5%, employees own 5% and the founding family trust owns 7% of the shares. The remaining 75% of shares are owned by the general public.

The year-end share prices and the dividends paid for the last five years were as follows:

	2007	2008	2009	2010	2011
	£	£	€	€	€
Share price at 31 December	47.38	25.45	28.68	29.44	31.37
Net Dividend per share	1.54	1.54	1.54	1.62	1.65

Planning and management control

B has a very structured planning process. Each regional board produces a five year strategic plan for its region relating to specific objectives set for it by the main board and submits this to the main board for approval. The main board then produces a consolidated strategic plan for the whole company. This is reviewed on a three yearly cycle and results in a revised and updated group five year plan being produced every three years.

B's management control system, which operates throughout its regions and at head office, is well known in the industry to be bureaucratic and authoritarian. Strict financial authority levels for development purposes are imposed from the main Board. There is tension between the main Board and the regional boards. The regional board members feel that they are not able to manage effectively despite being located much closer to their own regional markets than the members of the main Board. The main Board members, on the other hand, think that they need to exercise tight control because they are remote from the markets. This often stifles planning initiatives within each region. This tension is also felt lower down the organisation as the regional board members exercise strict financial and management control over operational managers in their regions in order to ensure that the main Board directives are carried out.

Competitive overview

B operates in highly competitive markets for all the products it sells. The characteristics of each of the markets in which it operates are different. For example, there are different planning restrictions applying within each region. In some countries, B is required to operate each of its stores in a partnership arrangement with local enterprises, whereas no such restriction exists within other countries in which it trades. B needs to be aware of different customer tastes and preferences which differ from country to country. The following table provides a break-down of B's stores in each region.

	<i>B Europe</i>	<i>B Asia</i>	<i>B North America</i>
Supermarkets and hypermarkets	3,456	619	512
Discount stores	5,168	380	780
Convenience stores	4,586	35	

B is one of the largest retailing companies in the world and faces different levels of competition in each region. B's overall market share in terms of retail sales for all supermarkets, hypermarkets, discount stores and convenience stores in each of its regions is as follows:

	<i>Market share</i>
Europe	20%
Asia	1%
North America	1.5%

The following table shows the sales revenue and net operating profit earned by B in each of its regions for the year ended 31 December 2011:

	<i>B Europe</i>	<i>B Asia</i>	<i>B North America</i>
	€ million	€million	€million
Revenue	89,899	10,105	9,708
Net Operating Profit	4,795	743	673

B is constantly seeking other areas of the world into which it can expand, especially within Asia where it perceives many countries have an increasing population and strengthening economies.

Corporate Social Responsibility (CSR)

B is meeting its CSR obligations by establishing environmental targets for carbon emissions (greenhouse gas emissions), careful monitoring of its supply chain, undertaking sustainable investments and investing in its human capital.

Environmental targets for carbon emissions:

B's main board is keen to demonstrate the company's concern for the environment by pursuing continuous improvement in the reduction of its carbon emissions and by developing ways of increasing sustainability in its trading practices. A number of environmental indicators have been established to provide transparency in B's overall performance in respect of sustainability. These published measures were verified by B's statutory auditor and are calculated on a like-for-like basis for the stores in operation over the period measured.

In the year ended 31 December 2011, B reduced its consumption of kilowatt hours (kWh) per square metre of sales area as compared with the year ended 31 December 2008 by 9%. The target reduction for that period was 5%. In the same period it reduced the number of free disposable plastic bags provided to customers per square metre of sales area, by 51% against a target of 60%. Its overall greenhouse gas emissions (measured by kilogrammes of carbon dioxide per square metre of sales area) reduced by 1% in 2011 which was exactly on target.

B provides funding for the development of local amenity projects in all of the countries where B stores operate. (An amenity project is one which provides benefit to the local population, such as providing a park, community gardens or a swimming pool.)

Distribution and sourcing:

Distribution from suppliers across such a wide geographical area is an issue for B. While supplies are sourced from the country in which a store is located as much as possible, there is nevertheless still a requirement for transportation across long distances either by road or air. Approximately 20% of the physical quantity of goods sold across the group as a whole are sourced locally, that is within the country in which the goods are sold. These tend to be perishable items such as fruit and vegetables. The remaining 80% of goods are sourced from large international manufacturers and distributors. These tend to be large items such as electrical or electronic equipment which are bought under contracts which are set up by the regional procurement departments. B, due to its size and scope of operations, is able to place orders for goods made to its own specification and packaged as under its own brand label. Some contracts are agreed between manufacturers and the Group Procurement Director for the supply of goods to the whole of the B group world-wide.

erritory is rarely transported by rail except within Europe. This has resulted in lower average costs in carbon emissions per square metre of sales area by stores operated by B-Asia and B-North America than for those stores operated by B-Europe. This is because the carbon emissions take into account the transportation of goods into B's stores.

Other investments:

aims to become carbon neutral over the long term. The Board aims to reduce its carbon emissions by investing in state of the art technology in its new store developments and by carrying out modifications to existing stores.

Human Resources:

focuses itself on the training it provides to its staff. The training of store staff is carried out in 120 countries, by specialist teams which operate in each country where B trades. In this way, B believes that training is consistent across all of its stores. In some countries, the training is considered to be at a sufficiently high level to be recognised by national training bodies. The average number of training hours per employee in the year ended 31 December 2011 was 17 compared with 15 hours in the year ended 31 December 2010. In 2011, B employed 45% more staff with declared qualifications compared with 2010.

Information systems and inventory management

In order to operate efficiently, B's Board has recognised that it must have up-to-date information systems including electronic point of sale (EPOS) systems. An EPOS system uses computers or dedicated terminals that can be combined with other hardware such as bar-code readers to automatically capture the sale and adjust the inventory levels within the store. EPOS systems installation is on-going. B has installed EPOS systems in its stores in some countries but not in all stores world-wide.

Information systems are not perfect as stock-outs do occur from time-to-time, especially in European stores. This can be damaging to sales revenue when stock-outs occur during peak sales periods such as the days leading up to a public holiday. In Asia and North America in particular, B's information technology systems sometimes provide misleading information. This has led to doubts in the minds of some head office staff about just how robust are B's inventory

systems; normal in chain store groups, there is a certain degree of loss through theft by staff and shoplifters. Another way that loss is suffered is through goods which have gone past their "sell-by" date. This mainly relates to perishable food items which are wasted as they cannot be sold to the public. In most countries, such food items which cannot be sold to the public may be sold to local farmers for animal feed.

Regulatory issues

B's Subsidiaries in Asia and North America have sometimes experienced governmental regulatory restrictions in some countries which have hindered the installation of improved information systems. To overcome some of these regulatory restrictions, B-Asia and B-North America have, on occasions, resorted to paying inducements to government officials in order for the regulations to be relaxed.

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APPENDIX 2

6 s statement of profit or loss and statement of financial position

Statement of profit or loss for the year ended 31 December 2011

	Notes	(million)
Revenue		109,712
Operating costs		(103,501)
Operating profit		6,211
Interest income		165
Finance costs		(852)
Corporate income tax		(1,933)
Profit for the year		3,591

Statement of financial position as at 31 December 2011

		(million)
Assets		
Non-current assets		57,502
Current assets		
Inventory		7,670
Trade and other receivables		1,521
Cash and cash equivalents		3,847
Total current assets		13,038
Total assets		70,540
Equity and liabilities		
Equity		
Share capital	1	2,025
Share premium		3,040
Retained earnings		18,954
Total equity		24,019
Non-current liabilities		
Long term borrowings		15,744
Current liabilities		
Trade and other payables		30,777
Total liabilities		46,521
Total equity and liabilities		70,540

Notes:

- 1 There are 1,350 million (1.50 shares currently in issue. The share price at 31 December 2011 was (31.37.

END OF PRE-SEEN MATERIAL

3 B SUPERMARKETS (MAY 12 EXAM)

UNSEENCASEMATERIAL

The directors of B are aware that B's results have been slow to recover after the global economic downturn of 2008. In the medium term, growth prospects for the European business continue to be poor. The group has publicised plans for continued growth and the directors are therefore looking for opportunities for expansion outside of Europe. In particular, they are exploring the possibility of expanding B's presence in the rapidly growing Asian market in order to counterbalance poor growth prospects in Europe.

Financial data for B

Extracts from the group financial statements for 2011 are provided in the pre-seen material, as are the financial objectives, and the share price and dividend data for the last five years.

Additional data is provided below:

<i>Year</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>
Number of shares in issue throughout the year (million)	1,284	1,284	1,350	1,350	1,350
Earnings for the year (€ million)	3,945	2,818	3,097	3,366	3,591

Expansion strategy into Country A In Asia

One possibility being considered by the directors of B is to establish a presence in Country A, a country in Asia which uses the A\$ as its currency. B has no existing operations in Country A.

In the past, small, family-owned local businesses dominated retail food sales in Country A, with consumers typically shopping on a daily basis. In recent years, however, shopping patterns have moved away from daily shopping and new supermarkets have been successfully opened, across the country. These supermarkets operate in much the same way as supermarkets in other countries, selling a combination of both food and household items.

The directors of B have been considering the best strategy for starting to operate in Country A and have concluded that the lowest risk route would be to acquire a small chain of existing supermarkets. These supermarkets would then be rebranded. If the rebranding exercise proved to be successful and produced a profitable return for B within an experimental period of three years, B would consider either purchasing or building additional supermarkets or other types of store in Country A. The potential for growth is considered to be huge in such a large and rapidly developing market and there is a possibility that it could lead to an increase in B's Asian revenue stream to more than four times current levels.

To satisfy this strategy, a company called Alpha Supermarkets has been identified as a potential acquisition target. Alpha Supermarkets operates a small chain of supermarkets in Country A.

Financial data concerning the proposed acquisition and rebranding of Alpha Supermarkets

Alpha Supermarkets is owned and managed as a private family business and comprises 15 small supermarkets in a single region of Country A.

The directors of B are aware that an offer was made recently to the family shareholders of Alpha Supermarkets to buy the whole business for A\$960 million. This offer was not accepted but is, nonetheless, considered to represent the fair value of the Alpha Supermarket business in its current form. The main shareholders of Alpha Supermarkets have indicated that they would be prepared to consider an offer from B at a 20% premium above this previous takeover offer price.

The directors of B realise that significant investment would be required to rebrand the Alpha supermarkets after acquisition, including renewing store fittings and changing the types of food and household goods sold.

The following table provides estimated incremental capital and operating cashflows for the first three years of operation for a typical Alpha supermarket following acquisition by B. Estimated financial results of the rebranding exercise for a single supermarket are:

<i>Item</i>	<i>Incremental cash/flows A\$ million</i>	<i>Timing</i>
Initial capital investment	35	Year 0
Additional operating revenue in year 1, increasing by 12% a year in years 2 and 3	30	
Additional operating costs in year 1, increasing by 8% a year in years 2 and 3	13	
Reinvestment of operating cash flows (OCF)	3	Year 1 and Year 2
Residual value of B's capital investments, including reinvested OCF	30	Year 3

Additional information:

- Country A has a 32% corporate income tax rate.
- Both the initial capital investment and subsequent reinvestment of funds in the business attract immediate 100% tax depreciation allowances. Balancing charges apply to the residual value.
- No additional tax or refunds of tax are due on funds remitted to B.
- The €/A\$ spot rate at Year 0 can be assumed to be €/A\$7.5000 (that is, €1 = A\$ 7.5000).
- B considers that an A\$ post-tax discount rate of 15% is an appropriate rate to use when evaluating an investment of this nature.
- All cash flows should be assumed to arise at the end of the year unless stated otherwise and tax should be assumed to be settled at the end of the year in which it arises. However, any tax refunds due will be carried forward and set off against the next tax liability in a future year.

Required:

- (a) For each of the years 2007 to 2011 inclusive:
- (i) Calculate, in respect of 8:
 - Earnings per share
 - PIE ratio
 - Dividend payout ratio (8 marks)
 - (ii) Evaluate B's financial performance. Your answer should include reference to the attainment of Financial objective 1.
Up to 3 marks are available for relevant additional calculations. (9 marks)
 - (iii) Explain the possible rationale behind B's dividend pay-out history. (6 marks)
- (b) Assuming you are the Financial Director of B, write a briefing paper for the Board of B regarding the proposed acquisition of Alpha Supermarkets in which you:
- (i) Calculate the expected financial benefit to B of the rebranding exercise on a discounted cash flows basis over a three year time period. (10 marks)
 - (ii) Evaluate the potential risks and opportunities arising from the proposed acquisition AND advise whether to proceed. (14 marks)
- Additional marks available for structure and presentation: (3 marks)
- (Total: 50 marks)

4 B SUPERMARKETS (SEPT 12 EXAM)

UNSEEN CASE MATERIAL

Today is 1 September 2012.

The directors of B Supermarkets (8) are considering establishing a chain of convenience stores in the USA following the success of such stores in Europe. Food sales in the USA are currently dominated by large supermarket chains in out-of-town locations. The general pattern is for consumers to go shopping for food once a week. However, with increasing pressure on leisure time, a greater number of single person households and an increasing preference for fresh food, there is a growing trend for more frequent, local, food shopping. The Regional Managing Director for North America hopes that by establishing a chain of convenience stores that B can take advantage of this trend. The aim is to attract customers by building a reputation for fresh produce and the convenience of ready prepared meals.

An opportunity has arisen for 8 to purchase and develop 50 empty retail properties. The properties are considered to be of an appropriate size and location for running small convenience stores. The price, USD30 million for all 50 of the retail properties, is also very attractive.

Details of proposed project

A project team has been set up to manage the project. The project would commence on 1 January 2013 and is to be evaluated over a four year time period from that date.

The stores would be empty when acquired and would need to be re-fitted at an approximate one-off total cost of USD10 million for re-fitting all 50 stores.

the purchase cost of the properties and the cost to renew the store fittings can be assumed to be paid on 1 January 2013. The store fittings are estimated to have a residual value of USD4 million on 31 December 2016. There is some uncertainty over the value of the stores themselves on that date. The project team has decided to evaluate the project on the basis that the properties, excluding fittings, could be sold for cash on 31 December 2016 at a price that is 20% greater, in nominal terms, than the original purchase cost.

Management Accountant has produced some estimates of the total expected revenue and cost figures for the first year of the project as shown below. Note that these are aggregated figures across all 50 stores.

Revenue	USD 90 million
Initial purchase costs	USD 35 million
Owner operating costs	USD 40 million

Each of the above revenue and costs is expected to grow by 12% a year for the duration of the project.

The project team is planning to adopt an aggressive strategy for managing working capital. Target working capital days for the project are given below, together with historical data for 2013 for comparative purposes. Both accounts payable and inventory days are based on purchase costs.

Working capital days	Project	2013
Accounts receivable	Nil	Nil
Accounts payable	100 days	139 days
Inventory	30 days	53 days

Additional information:

- Working capital values for accounts payable and inventory at the beginning of each year are to be calculated by applying the target working capital days to the appropriate forecast revenue and/or cost figures for the coming year.
- Working capital adjustments should be assumed to arise at the start of each year.
- The final accounts payable and inventory balances at the end of the project should be assumed to be realised in full at that time.
- After working capital adjustments, project revenue and costs should be assumed to be cash flows and to be paid or received at the end of the year in which they arise.
- Corporate income tax is payable at 33% at the end of the year in which it is incurred. Tax depreciation allowances are available on the store fittings costs on a reducing balance basis at 25% a year. No corporate capital taxes apply to the purchase and sale of the properties.
- The EUR/USD spot rate is expected to be EUR/USD 1.1000 on 1 January 2013 (that is, EUR 1 = USD 1.1000). Interest rates for the EUR and USD are 3% and 5% respectively and the EUR/USD spot rate is expected to move in line with the interest rate differential for the duration of the project.

A discounted cash flow approach is to be used in evaluating the project, based on B's EUR based weighted average cost of capital of 11%.

Required:

Assume you are a member of the project team and are preparing a briefing paper for the local Regional Board of B regarding the proposed project in which you:

- (a) (i) Describe two possible reasons, other than the use of an aggressive strategy to manage working capital levels, for the differences in working capital days between those expected for the project and historical data for B. (3 marks)
- (ii) Discuss the benefits and potential drawbacks of the proposed aggressive strategy for managing working capital for the project. (6 marks)
- (iii) Calculate the forecast accounts payable and inventory balances for each year of the project. (5 marks)
- (b) (i) Calculate the forecast project net present value (NPV), in EUR, as at 1 January 2013. (14 marks)
- (ii) Calculate the change in the project NPV if the value of the properties, excluding fittings, on 31 December 2016 is 20% lower than the original purchase cost of USD30 million. (3 marks)
- (c) Advise whether or not to proceed with the project, taking into account:
 - Your results in (b) (i) and (b) (ii) above.
 - The reasonableness of the key input variables used in the NPV appraisal.
 - The potential risks to B of establishing a new business in a foreign country.(16 marks)

Additional marks available for structure and presentation:

(3 marks)

(Total: 50 marks)

V (NOV 12 AND MAR 13 EXAMS) - RELATES TO QUESTIONS 5 AND 6

PRE-SEEN CASE MATERIAL

V, a private limited company in a European country (SK), which is outside the Eurozone, was founded in 1972. The currency in SK is SK\$. V is a travel business that offers three holiday (vacation) products. It has a network of 50 branches in a number of major cities throughout SK.

History of the company

V achieved steady growth until six years ago, when it found that its market share was eroding due to customers increasingly making online bookings with its competitors. Direct bookings for holidays through the internet have increased dramatically in recent years. Many holidaymakers find the speed and convenience of booking flights, accommodation or complete holidays online outweighs the benefits of discussing holiday alternatives with staff in a branch.

V's board had always taken the view that the friendly direct personal service that V offers through its branch network is a major differentiating factor between itself and other travel businesses and that this is highly valued by its customers. However, V found that in order to continue to compete it needed to establish its own online travel booking service, which it did five years ago. Until this point, V's board had never engaged in long-term planning. It had largely financed growth by reinvestment of funds generated by the business. The large investment in IT and IS five years ago required significant external funding and detailed investment appraisal.

Much of V's business is now transacted online through its website to the extent that 60% of its revenue in the year ended 30 June 2012 was earned through online bookings.

Current structure of V's business

offers three types of holiday product. These are known within V as Package, Adventure and Prestige Travel. V only sells its own products and does not act as an agent for any other travel companies. It uses the services of other companies engaged in the travel industry such as chartered airlines and hotels which it pays for directly on behalf of its customers.

Package

"Package" provides holidays mainly for families with children aged up to their late teens. These are typically for accommodation in hotels (where meals are part of the package) or self-catering apartments (where no meals are provided within the package).

Adventure

"Adventure" caters for people aged mainly between 20 and 30, who want relatively cheap adventure based holidays such as trekking, sailing and cycling or who wish to go on inexpensive backpacking holidays mainly in Europe and Asia.

Prestige Travel

"Prestige Travel" provides expensive and bespoke holidays mainly sold to couples whose children have grown up and left home. The Prestige Travel product only provides accommodation in premium international hotel chains in countries across the world.

Of these three products, two provide holidays which include flights to and from the holiday destinations and hotel or self-catering accommodation. V has its own customer representatives available at the holiday destinations to provide support to its customers: All-inclusive holidays (in which all food and drinks are provided within the holiday price) are offered within each of the three product offerings.

Support products

V supports its main products by offering travel insurance and foreign currency exchange. The travel insurance, which is provided by a major insurance company and for which V acts as an agent, is usually sold along with the holidays both by branch staff and by staff dealing with online bookings.

Currency exchange is available to anyone through V's branches irrespective of whether or not the customer has bought a holiday product from V. A new currency exchange product is provided by V through which a customer purchases an amount of currency, either in SK's home currency (SK\$) or else in a foreign currency and this is credited on to a plastic card. The card is then capable of being read by automated teller machines (ATM's) in many countries across the world allowing the customer to withdraw cash in the local currency up to the amount that has been credited on to the card.

Marketing of products

V relies for the vast majority of its business on the literature, available in hard copy and online, which it provides on the holiday products it sells. Exceptionally, V is able to offer some of its existing holiday products at discount prices. These may be offered under any of the three main products offered but they are mostly cut-price holiday deals which are available under the Package holiday product label.

Sales structure

Staff in each of the 50 branches accept bookings from customers and all branches have direct IT access to head office. Online enquiries and bookings are received and processed centrally at head office, which is located in SK's capital city.

Branch managers have some discretion to offer discounts on holidays to customers. V offers a discount to customers who buy holidays through its online bookings. The branch managers have authority to reduce the price of a holiday booked at the branch up to the amount of the online discount if they feel it is necessary to do so in order to make the sale.

Financial information

V's revenue, split across the holiday and support products offered, for the financial year ended 30 June 2012 is summarised as follows:

	<i>Revenue</i> <i>SK\$ million</i>
Package	90
Adventure	60
Prestige Travel	95
Support products	5

The overall net operating profit generated in the financial year to 30 June 2012 was SK\$35 million and the profit for the year was SK\$24 million, giving a profit to sales ratio of just under 10%. V's cash receipts fluctuate because of seasonal variations and also because V's customers pay for their holidays shortly before they depart.

Further details, including extracts from V's statement of profit or loss for the year ended 30 June 2012 and statement of financial position as at 30 June 2012 are shown in Appendix 1.

Financial objectives

V's key financial objectives are as follows:

- 1 To grow earnings by, on average, 5% a year.
- 2 To payout 80% of profits as dividends.

Foreign exchange dcsk

V has high exposure to foreign exchange risk as its revenues received and payments made are frequently in different currencies. It normally settles hotel bills and support costs, such as transfers between hotels and airports in the local currencies of the countries where the hotels are located. It normally pays charter airlines in the airline's home currency. Scheduled airline charges are settled in the currency required by the particular airline.

V is exposed to fluctuations in the cost of aircraft fuel incurred by airlines which are passed on to travel businesses. It has often been necessary for V to require its customers to make a supplementary payment to cover the cost of increases in aircraft fuel, sometimes after the customer had thought that the final payment for the holiday had been made.

Board composition and operational responsibilities

The Board of Directors comprises five people: an Executive Chairman (who also fulfils the role of Chief Executive), a Finance Director, an Operations Director, an IT Director and a Human Resources Director. The Executive Chairman founded the business in 1972. He has three grown-up children, two of whom successfully pursue different business interests and are not engaged in V's business at all. The third child, a son, is currently taking a "year out" from study and is going to university next year to study medicine.

-re branch managers all report directly to the Operations Director. In addition, the Operations Director is responsible for liaising with airlines and hotels which provide the services offered by V's promotional literature. The IT Director is responsible for V's website and online enquiries and bookings. The Finance Director is responsible for V's financial and management accounting systems and has a small team of accountancy staff, including a part-qualified management accountant, reporting to her. The Human Resources Director has a small team of staff reporting to him.

Shareholding

-There are 90 million SK\$0.10 (10 cent) shares in issue and the shareholdings are as follows:

	<i>% holding</i>
Executive Chairman	52
Finance Director	12
Operations Director	12
IT Director	12
Human Resources Director	12

Employees

V employs 550 full-time equivalent staff. Turnover of staff is relatively low. High performance rewards in terms of bonuses are paid to staff in each branch if it meets or exceeds its quarterly sales targets. Similarly, staff who deal with online bookings receive a bonus if the online bookings meet or exceed quarterly sales targets. V's staff, both in the branches and those employed in dealing with online bookings, also receive an additional bonus if they are able to sell travel insurance along with a holiday product to customers.

Employee development for staff who are in direct contact with the public is provided through modules on products which V offers. Each member of branch and online booking staff undertakes a 3-day induction programme at the commencement of their employment with V. The emphasis of the induction programme is on customer service not on details relating to the products as it is expected that new staff will become familiar with such product details as they gain experience within V.

Safety

V publicly states that it takes great care to ensure that its customers are as safe as possible while on holiday. To date, V has found that accidents while on holiday are mainly suffered by very young children, Adventure customers and elderly customers. There has been an increase in instances over the last year where customers in resort hotels have suffered severe stomach complaints. This has particularly been the case in hotels located in resorts in warm climates.

Executive Chairman's statement to the press

The Executive Chairman was quoted in the national press in SK in January 2012 as saying, "We are enjoying a comparatively high level of revenues and operating profit. This is in a period when our competitors are experiencing very difficult trading conditions. We feel we are achieving this due to our particular attention to customer service. He cited V's 40 years of experience in the travel industry and a previous 99% satisfaction rating from its customers as the reasons for its success. He went on to state that V intends to expand and diversify its holiday product range to provide more choice to customers.

Board meeting

At the next board meeting which took place after the Executive Chairman's statement to the press, the Operations Director expressed some concern. He cast doubt on whether V was able to provide sufficient funding, marketing and IT/IS resources to enable the product expansion to which the Executive Chairman referred. The Operations Director was of the opinion that V places insufficient emphasis on customer relationship marketing. The Finance Director added at the same meeting that while V presently remained profitable overall, some products may be more profitable than others.

The Executive Chairman responded by saying that V's high level of customer service provides a sufficiently strong level of sales without the need to incur any other marketing costs. He added that since V achieved a high profit to sales ratio, which it has managed to maintain for a number of years, it really didn't matter about the profits generated by each customer group.

Retirement of the Executive Chairman

The Executive Chairman formally announced to the Board in July 2012 that he intends to retire on 30 June 2013 and wishes to sell part of his shareholding in the company. The Board members believe the time is now right for V, given its expansion plans, to enter a new stage in its financing arrangements, in the form of either debt or equity from new providers.

APPENDIX 1

Extracts from V's statement of profit or loss and statement of financial position

Statement of profit or loss for the year ended 30 June 2012

	<i>Notes</i>	<i>SK\$ million</i>
Revenue		250
Operating costs		(215)
Net operating profit		35
Interest income		3
Finance costs		(4)
Corporate income tax	1	(10)
Profit for the year		24

Statement of financial position as at 30 June 2012

	<i>Notes</i>	<i>SK\$ million</i>
Assets		
Non-current assets		123
Current assets		
Inventories		3
Trade and other receivables		70
Cash and cash equivalents		37
Total current assets		110
Total assets		233

Equity and liabilities

Equity

Share capital	2	9
Share premium		6
Retained earnings		60
Total equity		75

Non-current liabilities

Long-term borrowings	3	50
Revenue received in advance		3

Current liabilities

Trade and other payables		35
Revenue received in advance		70

Total liabilities 158

Total equity and liabilities 233

Notes:

- The corporate income tax rate can be assumed to be 30%.
- There are 90 million SK\$0.10 (10 cent) shares currently in issue.
- 30% of the long-term borrowings are due for repayment on 30 June 2014. The remainder is due for re-payment on 30 June 2020. There are debt covenants in operation currently which restrict V from having a gearing ratio measured by long-term debt divided by long-term debt plus equity of more than 50%.

End of Pre-seen Material

5 V (NOV 12 EXAM)

UNSEEN CASE MATERIAL

Assume today is 22 November 2012.

The Board of Directors of V has recently met to discuss ambitious plans to expand the business and to float the company on the local Stock Exchange by means of an IPO (initial public offering). An IPO would help give V access to large amounts of additional funding, at a time when new bank funding and capital market issues are difficult to achieve due to restricted credit conditions in the financial markets. In addition, an IPO would give existing shareholders, the current directors, the opportunity to realise part or all of their investment. With his imminent retirement, the Executive Chairman, in particular, is eager to realise part of his investment. There has been positive feedback following preliminary discussion with market analysts regarding the possibility of an IPO.

Details of the proposed IPO

Certain directors of V wish to sell some of their shares as part of the IPO. In addition, the Board has decided to offer a further 10 million new 10 cent shares in V as part of the IPO.

The number of shares to be sold by each director is as follows:

Executive Chairman	8 million shares
Finance Director	1 million shares
IT Director	3 million shares
Human Resources Director	1 million shares

A total of 23 million shares would therefore be sold under the IPO if the issue is fully subscribed. Further sales of shares by current directors will be permitted after pre-defined time periods. The Operations Director has no plans to dispose of any shares as part of the IPO. It was agreed that, in the event that the IPO is undersubscribed, the sale of shares held by directors would take priority over the issuing of new shares.

Activities in July 2012

An Investment Bank was appointed in July 2012 to help with the IPO process.

The Board of V considered that, based on financial information for V as at 30 June 2012, a reasonable target price per share for the IPO would be SK\$ 3.40. It was then agreed that, under the IPO, offers for the purchase of shares should be requested on a tender basis in the guide price range of SK\$ 2.90 to SK\$ 3.60 per share. Under the tender bid, potential investors are asked to specify the number of shares they wish to purchase and the maximum price that they are prepared to pay for those shares.

Financial information for V

The statement of profit or loss and statement of financial position for V for the last financial year can be found in the pre-seen material.

Additional relevant financial information as at 30 June 2012:

- Net operating profit for V for the year ended 30 June 2012 has been arrived at after charging depreciation of SK\$ 3 million.
- Capital expenditure for V in the year ended 30 June 2012 was SK\$ 5 million, which is typical of the level of annual capital expenditure needed to maintain operations.
- The market value of V's non-current assets is estimated to be SK\$ 150 million.
- V pays corporate income tax of 30% on taxable profits and tax is paid in the year in which the taxable profit arises.
- V is estimated to have an equity beta of 1.9.
- The risk free rate is 2% and the market return is 6% in Country SK, the country in which V is based.

There have not been any recent private transactions in V's shares that could be used as a guide to the value of V. However, a review of the financial statements of competitor companies has shown that industry P/E ratios tend to be between 11 and 14.

The travel business in which V operates is highly cyclical but an underlying trend can be identified by adjusting for the cyclical nature of the business cash flows. Until now, the business has shown consistent but unspectacular nominal growth in after-tax cashflows of approximately 2% per annum after adjusting for cyclical effect. However, it is hoped that expansion plans would result in an increased nominal annual growth rate of 3% in the 2 years to 30 June 2014 and then 5% from 1 July 2014 for the foreseeable future. It is estimated that an upfront investment of SK\$50 million would be required to finance the expansion plans; this would partly be funded by proceeds from the IPO.

Outcome of the tender offer

An open invitation to submit offers to subscribe for shares in V under a tender bid was published on 1 October 2012 with a deadline for submission of offers by 15 November 2012.

Interim results for the quarter ended 30 September 2012 were published on 20 October 2012 and indicated lower growth than had been forecast in the information published at the launch of the tender offer and resulted in a lower than expected demand for shares.

The tender offers actually received by the deadline date are summarised below:

<i>Maximum price offered (SK\$ per share)</i>	<i>Number of shares requested at this price (millions)</i>
2.90	4
3.00	3
3.10	2
3.20	3
3.30	3
3.40	6
3.50	5
3.60	4

In the light of the disappointing response, the following two alternative pricing strategies in respect of the IPO are being considered by the Board of V:

Pricing strategy A:

Set the selling price at the original target price of SK\$3.40 per share and accept that the offer will then be undersubscribed and a lower value of new finance raised.

Pricing strategy B:

Set the selling price at a level at which the issue is fully subscribed.

Required:

Assume you are the Finance Director of V and have been asked to write a report to the Board of V in which you:

- (a) Describe the role of an Investment Bank in an IPO by tender bid. (4 marks)
- (b) (i) Calculate a range of possible values for the equity of V based on financial information as at 30 June 2012. (13 marks)
- (ii) Discuss the validity of each method used in (i) above as a basis for valuing the equity of V. (6 marks)

- (iii) Discuss:
- The nature and extent of V's intangible assets. (4 marks)
 - The implications of a large value of intangible assets on setting a target offer price. (2 marks)
- (iv) Advise whether the target share price of SK\$ 3.40 was set at an appropriate level based on financial information as at 30 June 2012. (6 marks)
- (c) Evaluate the implications of each of the pricing strategies A and B, based on the offers for shares received by 15 November 2012, on:
- The directors of V.
 - The new shareholders of V.
- Up to 7 marks are available for relevant calculations. (12 marks)
- Additional marks available for structure and presentation: (3 marks)
- (Total: 50 marks)

6 V (MAR 13 EXAM)

UNSEEN CASE MATERIAL

Today is 1 March 2013.

The directors of V have recently met to discuss the best way forward in response to the Executive Chairman's announcement of his retirement plans. In particular they are discussing the need to enable him to realise at least part of his investment in the company either immediately or in a few years' time.

Recent results have been disappointing due partly to weak economic conditions, but also because of V's poor competitive position.

As a result, this is not considered to be a good time at which to sell the company or float it on the Stock Exchange. Even if an interested party could be found, it is estimated that the equity would only be worth approximately SK\$180 million (that is, SK\$ 2.00 per ordinary share) at the present time which is considered to understate the true value of the company.

The poor competitive position is due to a marked decline in the popularity of the types of holiday that V offers. The directors therefore believe that it is important for V to invest in new holiday products in order to attract new customers and improve its market position. They are particularly interested in expanding into building and operating 'holiday villages', comprising a central hotel plus individual holiday chalets in a campus containing a wide range of sporting and other leisure facilities and activity programmes for children. This appears to be a rapidly expanding holiday sector and could help support future growth.

The directors of V are considering working towards an Initial Public Offering (IPO) in 5 years and accepting finance from a venture capitalist in order to support growth in the intervening period.

is would involve a two-stage plan, outlined below:

Stage 1: Invite X, a venture capitalist, to invest in the company and collaborate to develop the business, including building three holiday villages.

Stage 2: Float the company on an SK Stock Exchange via an IPO.

X would be asked to contribute SK\$ 50 million on 1 July 2013 for use in building three holiday villages.

The Finance Director believes that the most suitable form of funding from X would be a convertible bond with the following terms:

- Issued at par and non-tradable.
- Annual coupon of 2%.
- Option for X to convert to 55 ordinary 10 cent shares in V per SK\$ 100 nominal at the time of the IPO.
- If not converted before, the bond would be repayable in full at face value on 30 June 2020.

Director A has expressed surprise that a bond is likely to carry such a low coupon, when V could only borrow at a pre-tax rate of 5% at the present time and the directors estimate V's cost of equity to be 9.5%.

X is likely to expect V to float on an SK stock exchange via an IPO within five years, by 30 June 2018 at the latest. The target price for an IPO on 30 June 2018 is SK\$ 4.00 per ordinary 10 cent share in V. This target price is considered to be achievable if the business plans are successfully implemented. At the very least, the directors are confident of raising SK\$ 3.00 per share in an IPO.

Financial data for V

The statement of profit or loss for the year ended 30 June 2012 and the statement of financial position as at 30 June 2012 for V can be found in the pre-seen material. The financial objectives of V can be found in the pre-seen material.

Required:

Assume you are the Finance Director of V and have been asked to write a report for the main Board of V in which you:

- (a) (i) Calculate, at future IPO prices of BOTH SK\$ 3.00 and SK\$ 4.00 per share:
- The conversion premium for the convertible bond.
 - The gross yield to maturity for the convertible bond up to and including conversion. (9 marks)
- (ii) Explain the benefits and drawbacks to V of accepting funding from a venture capitalist in the form of a convertible bond. In your answer, include reference to Director A's comments. (6 marks)
- (b) Advise on the likely effect on V's financial objectives of:
- Accepting the involvement of X (a venture capitalist) in the business.
 - Becoming a public listed company in 5 years' time. (11 marks)

- (c) Evaluate the proposed plan to involve X in the business, ultimately leading to an IPO, from the viewpoint of:

- V's Directors.
- X.
- V's other stakeholders.

Up to 9 marks are available for calculations. (15 marks)

- (d) Advise on two possible alternative exit strategies, not involving a venture capitalist, which would enable the Executive Chairman to achieve a disposal of shares at or soon after his retirement. (6 marks)

Additional marks available for structure and presentation: (3 marks)

(Total: 50 marks)

T RAILWAYS (MAY 13 AND SEPT 13 EXAMS) - RELATES TO QUESTIONS 7 AND 8

PRE-SEENCASE MATERIAL

Background

Country T is a small landlocked European country which is outside the eurozone. Its currency is T\$ which currently exchanges at GBP/T\$ 1.5000 and EUR/T\$ 1.2500, (that is, GBP 1 = T\$ 1.5000 and EUR 1 = T\$ 1.2500).

Unlike many other countries, Country T has a nationalised railway system known as T Railways. Before the system was nationalised two separate companies operated the railways.

The growth of road haulage transport and the increasing number of passengers wanting to travel by rail meant that by 1970 fare paying passengers replaced freight transport as the railway companies' main source of income. In 1975 Country T's Government took the view that the two railway companies were not operating in the public interest and they were nationalised; that is taken into public ownership. The Government bought out the two railway companies and established T Railways.

As the transport infrastructure developed, diesel trains gradually replaced steam trains and electric powered trains are now replacing the diesel trains as T Railways carries out electrification of its network.

In 1975, the Board of T Railways formed wholly owned subsidiaries which operated at arm's length from the Board. For example, it formed T Railways Engineering which was responsible for all the engineering works on the T Railways network. The T Railways Board retained a number of functions itself such as responsibility for the T Railways Transport Police Service and T Railways Property. However, this led to much duplication of resources and so in 1998 T Railways adopted a new management structure with T Railways as the holding company for three subsidiary companies as follows:

- T City-Link (TCI) to run passenger rail services.
- T Freight Railways (TFR) to run freight services.
- T Property and Track Services (TPTS) to manage the track, property, transport police and related services.

This structure still exists today with T Railways' corporate governance undertaken by the T Railways Board.

-The activities of T Railways

~ Further details on the activities of each of the three subsidiary companies owned by T Railways is provided below.

-TCI:

TCI is responsible for all passenger rail services within Country T and operates on average 1,800 passenger train services per day between Monday and Saturday with fewer services on Sundays. The services offered are between all towns and cities within Country T which are connected to the railway network. In addition, some of TCI's services cross national borders enabling travel from Country T to other countries, some of which are in the eurozone. It also provides some services to remote country locations which originally were not accessible by road. Recent improvements in the road network have resulted in some of these country lines being discontinued by T Railways as demand for the railway service has diminished. Most of TCI's locomotives are now electric as the lines between the major cities within Country T have already been electrified.

TFR:

TFR is solely concerned with railway haulage of freight. In this context, freight is defined as goods transported in bulk, for example, coal, petroleum, industrial products such as steel and concrete, cars and, increasingly, retail goods for supermarkets and large retail shops. TFR does not offer any passenger services. It hauls freight right across the network within Country T and across national borders into other countries, some of which are situated within the eurozone.

Most of TFR's trains are old diesel locomotives but it has recently invested in a number of electric trains which are less harmful to the environment. On average, TFR operates 600 freight services per day, including weekends but excluding national public holidays. In the year ended 31 December 2012, TFR provided 40% of T Railways' total revenue and its share of the freight haulage market in Country T was approximately 10%. Freight carried by road accounts for approximately 80% of the total freight haulage market in Country T. In the last 15 years, total freight carried by rail has increased by about 25% due to increased congestion on T's roads. T's Government considers that road congestion has had a major adverse impact upon the country's productivity.

TPTS:

TPTS replaced T Railways Property and has responsibility for all other services including maintenance and upgrade of track and all of T Railways' property. It operates 200 railway stations, rents space out within the stations for retail purposes as well as running some of its own cafes. TPTS also operates 11 maintenance depots.

T Railways' organisational structure

A strong bureaucratic culture has developed over time within T Railways. The T Railways Board uses a classical rational planning system in which strategic planning decisions are made in a regularised and formal way.

The Chairman of the T Railways Board reports to senior civil servants in T Government's Ministry of Transport. Ownership of T Railways rests entirely with the Government. There is a formal annual meeting with senior Government officials at which the financial statements of T Railways are approved. There are also occasional meetings between members of T Railways Board and Government officials, particularly when Country T's Minister of Transport needs to present information on railway transport to Country T's parliament.

Rail regulator

Country T now has a rail regulatory organisation whose senior staff are appointed by the Government. The Rail Regulator is empowered to make recommendations directly to the Minister of Transport in respect of all issues relating to the operation of T Railways.

The role of the Rail Regulator is to ensure that the railway service is delivered in Country T in a safe and efficient manner. It aims to help the T Railways Board meet future challenges in the provision of an efficient railway service which provides high levels of satisfaction to all rail users and the improvement of safety for staff and passengers. In essence, the Rail Regulator provides an independent review of T Railways' activities. Mindful of the need to show that T Railways fully recognises the role of the Rail Regulator, the Chairman of the T Railways Board recently said that:

"T Railways is committed to providing an excellent service to its customers and work is ongoing to improve our time keeping. Investment in improving railway stations is continuing and accessibility to railway services is increasing with new car parks being built at many stations in the network. Other service amenities are being improved such as better access ramps for disabled customers and the levelling of the height of platforms at many stations so that customers can access and alight from trains without having to take a large step up or down to the platform. This will reduce the incidence of accidents which occur at stations where the platform infrastructure was developed for a bygone era of railway carriages."

Monitoring the levels of carbon dioxide emissions from rail transport is also an important area of work for the Rail Regulator. (See the section headed "Environmental considerations".)

T Railways' strategic objectives

T Railways' overall strategic goal is to deliver efficient, cost effective, safe and reliable rail services to help facilitate the Government's vision of sustained economic growth and the reduction of carbon emissions in the country as a whole. The T Railways Board has set two strategic objectives, following consultation with its stakeholder groups which are:

- (i) To deliver reliable, safe and punctual rail services to customers efficiently and cost effectively thereby helping to achieve economic growth in Country T by reducing congestion on its roads
- (ii) To continually reduce its level of carbon emissions to help provide an environmentally friendly transport infrastructure.

Financial objectives for T Railways

The Government's aim and the T Railways Board's main financial objectives are that:

- (i) T Railways should at least cover its operating costs from the revenue it earns
- (ii) T Railways should provide value for money.

Financial data for T Railways

The Government requires T Railways to prepare its accounts according to internationally recognised accounting principles so that it can show how it is performing in a commercial environment. The policy of the T Railways Board is not to re-value its non-current assets. Extracts from the latest set of financial statements according to internationally recognised accounting principles are shown in Appendix 1.

~ne revenue earned and operating costs of the three subsidiaries for the year ended Bt December :012 are shown below:

	<i>Revenue</i>	<i>Operating costs</i>
	T\$ million	T\$ million
-CL	680	630
TFR	516	494
-PTS	95	80

"Jotes:

- (i) The total head office operating costs of the T Railways Board are allocated and apportioned to the three subsidiaries.
- (ii) The total operating costs of TPTS was T\$842 million in 2012 after the allocation and apportionment of head office operating costs referred to in note {i}. All of these costs except for the T\$80 million which relate to the revenue earning activities of TPTS, were allocated and apportioned to the other two subsidiaries.

Financing T Railways

The Government of Country T invested T\$100 million when it formed T Railways in 1975. This is the only "share" capital that has ever been invested in T Railways. The financing model which has developed is that T Railways costs are guaranteed. This means that any overall operating deficit T Railways incurs on an annual basis is recovered by the T Railways Board through additional Government revenue funding.

Recognising that T Railways would need large amounts of funding to upgrade its infrastructure, the Government initially provided loans to cover capital expenditure. The loan facility was established to emphasise that any Government funding is a liability of T Railways and that T Railways must pay interest on the loan. The intention is that T Railways will also pay back the full amount of the Government loans in due course. The Government loans have no fixed repayment dates and are made to T Railways at a fixed rate of interest of 4% per year. This was the only source of capital funding for T Railways at its formation. However, following Government approval, the T Railways Board is now seeking to widen its sources of finance by, for example, obtaining loans from the banking and commercial sectors.

Key Performance Indicators (KPIs)

In order to plan their activities to meet T Railways' strategic objectives, its three subsidiaries operate a traditional accounting-led approach to strategic planning and management. All of the strategic planning and management activities of the three subsidiary companies are based upon meeting T Railways' strategic objectives. A number of Key Performance Indicators have emerged to evaluate T Railways' overall performance in achieving its strategic objectives.

Examples of KPIs relating to TCL:

- The results of the national customer survey of all forms of public transport in Country T.
- The number of customer complaints received. These are reported on T Railways' website every three months for the previous quarter.

Examples of KPIs relating to TFR:

- Train capacity utilisation, which measures the actual train load capacity utilised per journey against the total available load capacity for that journey.

- The number of trains arriving at their destination on time, measured as a percentage of total journeys made.
- Carbon emissions generated. The analysis of carbon emissions in freight transport is expressed in carbon dioxide emissions as a ratio of tonne per kilometre. That is, kilograms of carbon dioxide divided by weight transported multiplied by the distance travelled.

Examples of KPIs relating to TPTS:

- Number of delays per month to services due to signalling failure.
- Number of complaints per month relating to station cleanliness.

There are also KPIs relating to safety issues which are shown below under the heading of Health and Safety.

Health and safety

T Railways concentrates a great deal of effort on the management of particular risks such as Signals Passed at Danger (SPAD) and customer and staff injuries. T Railways has a Safety Committee which meets regularly and monitors performance against its annual safety targets which have been agreed with the Ministry of Transport. Examples of the KPIs specifically relating to safety which are used by T Railways are:

- The number of customer movement accidents per million passenger kilometres, for example accidents caused due to the motion of trains.
- The number of customer non-movement accidents per million passenger journeys, for example slips and falls while on T Railways' property.
- The number of accidents or injuries sustained by staff per million kilometres travelled.

The KPIs relating to safety issues are reported in T Railways' annual report which accompanies its financial statements.

Environmental considerations

The transport industry's carbon emissions are responsible for between 20% and 25% of all carbon emissions in Country T. In response to initiatives developed by the Rail Regulator, T Railways is increasing its efforts to reduce its levels of carbon emissions. T Railways is committed to reducing its carbon emissions by a third between now and 2015. In addition, all TCI and TFR drivers receive eco-driving training on an ongoing basis. (Eco-driving is driving in a manner that minimises fuel consumption.) TPTS is progressing work on making stations and depots energy efficient by improving lighting and heating systems including the use of intelligent lighting which automatically increases or decreases light output depending on the amount of natural light feeding into the sensors.

All three subsidiaries are keen to reduce waste and to increase the amount of waste they recycle. Each subsidiary is committed to helping to meet an overall target set by the T Railways Board of recycling 85% of T Railways' total waste by 2015.

Development of T Railways

The T Railways Board is constantly seeking ways of generating additional sources of revenue. Consideration is being given to a number of possible initiatives. Some ideas under consideration include:

- structural changes such as splitting T Railways up into its constituent parts and running the three subsidiaries as completely separate entities

expansion of the network

- diversifying the portfolio through operating other forms of transport
- outsourcing some or all of the current provision of passenger, freight, track, property or retail related services or privatising parts of the business.

The Government has considered privatising the whole of T Railways but so far has been wary of the British experience where ownership and operation of the rail network became very fragmented after privatisation and operations were split across more than 100 companies. However, possible privatisation of T Railways continues to be discussed within Government and Country T's Prime Minister has never ruled it out.

APPENDIX 1

Extracts from T Railways' statement of profit or loss and statement of financial position

Statement of profit or loss for the year ended 31 December 2012

	Notes	T\$ million
Revenue		1,291
Operating costs		(1,204)
Net operating profit		87
Finance costs		(72)
Profit before tax		15
Tax	1	(5)
Profit for the year	2	10

Statement of financial position as at 31 December 2012

	Notes	T\$ million
Assets		
Non-current assets	3	2,763
Current assets		
Inventories		12
Trade and other receivables		96
Cash and cash equivalents		202
Total current assets		310
Total assets		3,073

PAPER F3 : FINANCIAL STRATEGY

Equity and liabilities

Equity

Share capital from Country T's Government	4	100
Retained earnings		900

Total equity 1,000

Non-current liabilities

long-term borrowings from Government	5	1,800
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Current liabilities

Trade and other payables		273
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Total liabilities 2,073

Total equity and liabilities 3,073

Notes:

- 1 The corporate income tax rate is 30%.
- 2 The agreement with the Government in Country T is that any losses after tax are charged back to the Government.
- 3 The non-current assets have not been re-valued.
- 4 The Government's initial investment in T Railways was T\$100 million. Subsequent investment by the Government has been in the form of long-term loans.
- 5 The long-term Government borrowings are undated.

End of Pre-seen Material

7 T RAILWAYS (MAY 13 EXAM)

UNSEEN CASE MATERIAL

T Railways, via its division TPTS, operates cafes in approximately 50% of its 200 stations. The cafes sell hot and cold drinks and light refreshments to take away or consume on the premises.

The Board of T Railways is keen to outsource the operation of some or all of the cafes since they have never made large profits. Indeed, some of the cafes in smaller stations have been making losses after having been allocated a share of the station overheads.

The Board has been approached by Mr C who is interested in operating the station cafes in five railway stations (which are situated within a 20 mile radius of each other) within a newly formed company, Ccc. CCC would pay rent in return for the use of the premises and permission to take over the cafe business and all associated revenues and costs. T Railways estimates that the rent received from CCC when operating these five station cafes would be greater than the head office overheads that are currently reallocated to those cafes.

The cafe project

The contract to operate the five cafes would be for an initial period of three years starting on 1 January 2014. There would also be an option for CCC to extend its services to twenty additional railway stations at the end of the third year and the remainder by the end of 2023, if the project proves to be successful in the first five locations. However, the option to extend the contract to additional stations is subject to high customer satisfaction scores in relation to quality of food and drink, standard of decor and level of service provided.

Investment appraisal

Mr C has drawn up the following estimates to forecast operating cash inflows for a single cafe in the first three years of the project:

Year to 31 December	2014	2015	2016
Number of passengers per station per day	3,600	3,700	3,800
Proportion of passengers using the cafe	9%	12%	15%
Average spend per customer	T\$ 3.0	T\$ 3.4	T\$ 3.6

The railway operates 360 days a year.

Additional information collated by Mr C:

- Operating cash outflows can be divided into:
 - Variable costs per cafe, estimated to be 70% of cash inflows.
 - Fixed costs per cafe, including rent and advertising costs, are forecast to be, on average, T\$ 90,000 in 2014 and then increase by 7% a year thereafter.
- Staff costs have been included in operating cash outflows but no provision has been made to pay Mr C a salary as he only intends to claim a nominal salary, allowing profits to be retained in the business or paid out as dividends. Due to the amount of time that Mr C will need to spend running the station cafes, he would not also have time to run his existing cafe business and so would need to employ a manager to run these for him at a salary of T\$ 50,000 a year in 2014, increasing by 7% a year thereafter.
- An investment of T\$ 200,000 per cafe in fixtures and fittings is required on 1 January 2014, with an estimated residual value of T\$ 100,000 per cafe on 31 December 2016.
- Tax depreciation allowances are available on the investment in fixtures and fittings at a rate of 25% per annum on a reducing balance basis.
- Corporate income tax is charged at 30% on taxable profits and, in Country T, is paid at the end of the year in which the taxable profit arises.
- All revenues and costs should be assumed to be cash flows and arise at the end of the year unless otherwise stated.
- The risk free rate is 3% and the premium on market return is 5%.
- A national chain of cafes that is 100% equity financed has a published equity beta of 1.28. Mr C intends to use this information to calculate a cost of equity for Ccc.

Financing the project

Mr C is planning to finance the project partly from savings and partly from a fixed term bank loan, at an annual rate of interest of 5.7%, with a debt beta of 0.54. Half of the financing is to be provided in cash and half from a bank loan. One of the next stages of the process is for Mr C to make a formal request to his usual bank for funding for CCC. If the bank is not willing to provide funding, Mr C has sufficient personal resources to be able to finance the initial stage, that is, the investment in the first five cafes.

T Railways

Extracts from T Railways' statement of profit or loss and statement of financial position are found in the pre-seen *material*. T Railways' strategic and financial objectives are given in the pre-seen material.

Required:

(a) Advise T Railways of:

- The ways in which the financial objectives of a private enterprise such as CCC are likely to differ from those of T Railways.
- The potential benefits and risks for T Railways of allowing CCC to operate the station cafes. (9 marks)

(b) Assume you are a management consultant reporting to Mr C. Write a report in which you:

(i) Calculate the following measures in respect of the proposed Investment by CCC in five cafes for the initial three year contract as at 1 January 2014:

- Net Present Value (NPV)
- Internal Rate of Return (IRR)
- Payback

Your answer to this section should assume that bank finance is available and should ignore real options. (19 marks)

(ii) Evaluate the potential financial benefit of the project to Mr C. Your answer should consider your results in (b)(i), real options and other relevant factors. (12 marks)

(iii) Advise Mr C on the challenges that CCC might face in obtaining a bank loan to finance the project. (7 marks)

Additional marks available for structure and presentation:

(3 marks)

(Total: 50 marks)

8 T RAILWAYS (SEPT13 EXAM)

UNSEEN CASE MATERIAL

The Government of Country T has been coming under increasing pressure to reduce Government borrowing. All businesses owned by T Government have been reviewed to identify which could be privatised, either in part or in whole to raise funds. The sales proceeds would be used to reduce T Government's borrowing.

As a result of this review, TPTS was identified as a possible candidate for privatisation. TPTS is a wholly owned subsidiary of T Railways and manages T Railways' track, railway property, transport police and related services. T Railways would use the sale proceeds to repay funds borrowed from T Government.

The most likely scenario is that TPTS would be sold to company UT, a listed utility company involved in electricity generation and distribution. An initial public offering (IPO) was considered previously but that idea was dismissed in favour of selling TPTS to UT.

If TPTS were to be sold to UT, T Railways would need to pay UT for use of the track, railway property and transport police to enable it to continue running its passenger and freight rail services. Formal service agreements would need to be drawn up and agreed between UT and T Railways. The Rail Regulator would be heavily involved in these negotiations in order to help ensure minimum standards of maintenance and policing and that a fair price is agreed which is sufficient to cover UT's costs in providing such facilities and services.

Financial data for TPTS assuming TPTS remains under T Railways' ownership

Forecast operating cash flows for TPTS for the year ending 31 December 2014:

Table 1: TPTS owned by T Railways	Notes	Track T\$million	Cafes T\$million	Stations T\$million	Total T\$million
Operating cash inflows					
Rental income from retail outlets located in stations	1		38	62	100
Revenue from TCI and TFR	2	783			783
Operating cash outflows					
Costs incurred directly by TPTS		718	30	47	795
Head office costs allocated to TPTS		65	2	4	71
		783	32	51	866
Net operating cash flow	3	0	6	11	17

Notes to Table 1:

Note 1: Revenue from stations relates to rental income from retail outlets located in stations.

Note 2: TPTS recharges the full cost of maintaining the track to TCI and TFR without any margin or mark-up.

Note 3: Net operating cash flow is forecast to grow by 2% a year in perpetuity. Net operating cash flow is subject to corporate income tax at 30%, payable in the year in which it is incurred.

All operating cash flows can be assumed to arise at the end of the year.

Financial data for TPTS assuming it is sold to UT

From the viewpoint of T Railways:

It is estimated that T Railways would pay UT an amount of the order of T\$ 800 million in the year ending 31 December 2014 for the use of the track, railway property and transport police in that year. This is expected to increase steadily at an estimated rate of 2% a year thereafter.

In addition, T Railways would no longer benefit from the net operating cash flows generated by the cafes or stations.

T Railways' head office costs that are currently allocated to TPTS would need to be re-allocated to TCI and TFR, increasing the level of head office costs that these two subsidiaries incur. However, the directors of T Railways estimate that total head office costs could be reduced by approximately T\$ 25 million a year as a result of the disposal of TPTS.

In assessing the financial impact of the sale of TPTS, the directors of T Railways have decided to apply a cost of capital of 4% to discount the post-tax cash flow impact. This is the hurdle rate set by T Government for use by Government departments and businesses owned by T Government when evaluating investments. It approximates to T Government's cost of borrowing.

From the viewpoint of VT:

Forecast operating cash flows for TPTS for the year ending 31 December 2014 prepared by UT assuming that UT acquires TPTS on 1 January 2014:

Table 2: TPTS owned by UT	Notes	Track T\$ million	Cafes T\$ million	Stations T\$ million	Total T\$ million
Cash inflows - revenue	1	800	51	73	924
Operating cash outflows		745	32	51	828
Net operating cash flow	2	55	19	22	96

Notes to Table 2:

Note 1: The revenue figure for track is the fee payable to UT by T Railways annually for use of track, railway property and transport police, starting at T\$ 800 million in the first year. Revenue from stations relates to rental income from retail outlets located in stations.

Note 2: Net operating cash flow is expected to grow by 2% a year in perpetuity. Net operating cash flow is subject to corporate income tax at 30%, payable in the year in which it is incurred.

All operating cash flows can be assumed to arise at the end of the year.

On 31 December 2013, TPTS is forecast to have property and track at a book value (based on historical cost) of T\$ 1,500 million and a replacement cost of T\$ 1,990 million. Working capital is forecast to be T\$ 2 million.

UT considers 8% to be an appropriate post tax cost of capital to use in discounted cash flow analysis.

Required:

- (a) Compare and contrast the following approaches to the privatisation of TPTS:
- Sell TPTS to utility company UT (an electricity generation and distribution company).
 - Sell TPTS to the public via an IPO. (5 marks)
- (b) From the viewpoint of T Railways:
- (i) Prepare a schedule showing the likely impact of the sale of TPTS on T Railways' post-tax, pre-financing cash flows for the year ending 31 December 2014. (5 marks)
 - (ii) Calculate the value of TPTS to T Railways as at 1 January 2014 based on the present value of the impact of the sale of TPTS on T Railways' post-tax, pre-financing cash flows. (3 marks)
 - (iii) Discuss whether 4% is an appropriate discount rate for T Railways to use to value TPTS. (6 marks)
- (c) From the viewpoint of UT:
- (i) Calculate values for TPTS as at 1 January 2014 using both discounted cash flow analysis and asset bases. (7 marks)
 - (ii) Advise on the validity of the methods and results obtained in (c)(i) for use by UT to set an offer price for TPTS. (7 marks)
- (d) (i) Advise on the maximum price that UT is likely to offer for TPTS and whether this would be acceptable to T Railways. (4 marks)
- (ii) Recommend whether or not T Railways should proceed with the sale of TPTS, taking both the financial and strategic implications of privatisation into account. (10 marks)

Additional marks available for structure and presentation: (3 marks)

A report format is not required for this question.

(Total: 50 marks)

Section 2

SECTION 8-TYPE QUESTIONS

FORMULATION OF FINANCIAL STRATEGY

9 CCC(NOV 06 EXAM)

- (a) CCC is a local government entity. It is financed almost equally by a combination of central government funding and local taxation. The funding from central government is determined largely on a per capita (per head of population) basis, adjusted to reflect the scale of deprivation (or special needs) deemed to exist in CCC's region. A small percentage of its finance comes from the private sector, for example from renting out City Hall for private functions.

CCC's main objectives are:

- to make the region economically prosperous and an attractive place in which to live and work
- to provide service excellence in health and education for the local community.

DOD is a large listed entity with widespread commercial and geographical interests. For historic reasons, its' headquarters are in CCC's region. This is something of an anomaly as most entities of DOD's size would have their HQ in a capital city, or at least a city much larger than where it is.

DOD has one financial objective: To increase shareholder wealth by an average 10% per annum. It also has a series of non-financial objectives that deal with how the entity treats other stakeholders, including the local communities where it operates.

DOD has total net assets of \$1.5 billion and a gearing ratio of 45% (debt to debt plus equity), which is typical for its industry. It is currently considering raising a substantial amount of capital to finance an acquisition.

Required:

Discuss the criteria that the two very different entities described above have to consider when setting objectives, recognising the needs of each of their main stakeholder groups. Make some reference in your answer to the consequences of each of them failing to meet its declared objectives. (13 marks)

- (b) MS is a private entity in a computer-related industry. It has been trading for six years and is managed by its main shareholders, the original founders of the entity. Most of the employees are also shareholders, having been given shares as bonuses. None of the shareholders has attempted to sell shares in the entity so the problem of placing a value on them has not arisen. Dividends have been paid every year at the rate of 60 cents per share, irrespective of profits. So far, profits have always been sufficient to cover the dividend at least once but never more than twice.

MS is all-equity financed at present although \$15 million new finance is likely to be required in the near future to finance expansion. Total net assets as at the last balance sheet date were \$45 million.

Required:

Discuss and compare the relationship between dividend policy, investment policy and financing policy in the context of the small entity described above, MS, and DOD, the large listed entity described in part (a). (12 marks)

(Total: 25 marks)

10 STR (MAY 07 EXAM)

STR is a well-established marketing consultancy in a country with a low interest rate. STR is a successful business which has experienced rapid growth in recent years. There are 20 million \$1 ordinary shares in issue. These ordinary shares are quoted on a recognised stock exchange and 40% are owned by the founders of the business. Dividends were 40 cents per share in 20X3 and grew by 5% per annum between 20X3 and 20X6. This pattern is expected to continue beyond 20X6. Dividends are paid in the year in which they are declared.

Extracts from the financial statements for the past three years are as follows:

	20X4	20X5	20X6
	\$million	\$million	\$million
Profit before tax	21.6	24.4	26.7
Tax expense	7.7	2.6	4.3
Net cash generated after deducting interest, tax and net capital expenditure, but excluding ordinary dividends	19.2	(7.1)	18.8

Additional information:

- The opening cash balance in 20X4 for cash and cash equivalents was \$6 million
- The opening book value of equity in 20X4 was \$60 million
- Long-term borrowings remained at \$50 million throughout the three years and the annual gross interest cost on the borrowings was \$1 million
- There were a number of disposals of non-current assets in 20X4 and an exceptionally high level of capital expenditure in 20X5.

The directors have noticed the build-up of cash and cash equivalents. They are concerned that this might not be in the best interest of the shareholders and could have an adverse effect on the share price. Various proposals have been made to reduce the level of cash and cash equivalents.

Required:

- (a) Calculate the following financial information for STR for each of the years 20X4 to 20X6:
- Closing cash balance
 - Closing book value of equity. (3 marks)
- (b) Analyse and discuss the financial performance of the entity from the viewpoint of both the lenders and shareholders, referring to the information calculated in part (a) above and making appropriate additional calculations. Up to 6 marks are available for calculations. (10 marks)
- (c) (i) Discuss the comparative advantages and disadvantages of a share repurchase versus a one-off dividend payment. (7 marks)
- (ii) Advise the directors of STR on alternative financial strategies that they could consider that would reduce the level of surplus cash. (5 marks)
- (Total: 25 marks)

11 ABC (NC;>V07 EXAM)

ABC is an entity based in the UK with diverse international interests. Its shares and bonds are quoted on a major international stock exchange.

ABC is evaluating the potential for investment in the production and distribution of films, an area in which it has not previously been involved. This investment will require £600 million to purchase premises, equipment and provide working capital. An alternative approach would be to acquire a small entity in this field, but a preliminary search has revealed none suitable.

Extracts from the most recent (20X2) statement of financial position (balance sheet) of ABC are shown below:

	£ million
Assets	
Non-current assets	1,920
Current assets	1,880
	3,800
Equity and liabilities	
Equity	
Share capital (Shares of £1)	300
Retained earnings	1,000
	1,300
Non current liabilities	
8.4% Secured bond repayable 20X7	1,100
Current liabilities	1,400
	3,800
Current share price (pence)	800
Bond price (£100)	105
Equity beta	1.2

PAPER F3 : FINANCIAL STRATEGY

ABC proposes to finance the £600 million investment with a combination of debt and equity as follows:

- £260 million in debt paying interest at 8% per annum, secured on the new premises and repayable in 20X9
- £340 million in equity via a rights issue. A discount of 15% on the current share price is likely.

A marginally positive NPV of the proposed investment has been calculated using a discount rate of 15%. This is the entity's cost of equity plus a small 'premium', a rate judged to reflect the risk of this venture. The Chief Executive of ABC thinks this is too marginal and is doubtful whether the investment should go ahead. However, there is some disagreement among the Directors about how this project was evaluated, in particular about the discount rate that has been used.

Director A: Suggests the entity's current WACC is more appropriate.

Director 8: Suggests calculating a discount rate using data from XYZ, a quoted entity, the main business of which is film production. Relevant data for this entity is as follows:

- Shares in issue: 400 million currently quoted at 373 pence each
- Debt outstanding: £350 million variable rate bank loan
- Equity beta: 1.6.

Other relevant information

- The risk-free rate is estimated at 5% per annum and the return on the market 12% per annum. These rates are not expected to change in the foreseeable future.
- ABC pays corporate tax at 30% and this rate is not expected to change in the foreseeable future.
- Assume both ABC's and XYZ's debt has a beta of zero.
- Issue costs should be ignored.

You are a financial advisor working for ABC's bankers.

Required:

- (a) Discuss the appropriateness of the two Directors' suggestions about the discount rate when evaluating the proposed investment and recommend an appropriate rate to use. You should support your discussion and recommendation with calculations of two separate discount rates - one for each Director's suggestion. Show all your workings. (18 marks)

Calculations count for up to 12 marks.

- (b) Discuss how ABC's market capitalisation might change during the week the proposed investment becomes public knowledge. No calculations are required for this part of the question. (7 marks)

A report format is not required for this question.

(Total: 25 marks)

12 CRM (MAY 09 EXAM) **m** *Walk in the footsteps of a top tutor*

CRM is a UK-based manufacturer of electronic components. Its shares are listed on the UK's Alternative Investment Market. The founder-directors of the entity still own the majority of shares. A combination of private and institutional investors own the remainder of the shares.

CRM has one wholly-owned subsidiary based in Asia. CRM has three on-going financial objectives, which are:

- Provide a total return to shareholders of at least 15% per annum
- Provide a dividend yield comparable with the industry average
- Generate a return on net assets of 30% per annum.

In addition, it has two specific financial objectives for the year to 31 March 20X9. Based on figures for the year to 31 March 20X8 these are:

- Increase revenue by 15%
- Increase earnings per share by 10%.

It has a further financial objective to double revenue in sterling terms in its Asian subsidiary within the three years to 31 March 20Y2.

Extracts from the entity's financial statements for the past two years are shown below. The group figures include those for the subsidiary. Figures are for a full 12 month period ending on 31 March.

Statement of profit or loss

	<i>Group</i>		<i>Asian Sub.</i>	
	<i>20XB</i>	<i>20X9</i>	<i>20XB</i>	<i>20X9</i>
	£ million	£ million	A\$ million	A\$ million
Revenue	325	355	295	365
Cost of sales	145	156	135	165
Administrative costs	75	82	80	90
Profit before interest and tax	105	117	80	110
Interest payable	9	9	11	11
Taxation payable	27	31	17	20
Earnings	69	77	52	79
Dividends	21	24	0	0

Statement of financial position (balance sheet)

	<i>Group</i>		<i>Asian Sub.</i>	
	<i>20X8</i>	<i>20X9</i>	<i>20X8</i>	<i>20X9</i>
	£ million	£ million	AS million	AS million
Assets				
Non-current assets	174	190	137	157
Current assets	167	191	105	121
	341	381	242	278
Equity and liabilities				
Total equity	157	210	85	164
Non-current liabilities				
Secured 9% bond 20Y5	100	100		
Long-term loan from parent			92	92
Current liabilities	84	71	65	22
	341	381	242	278
Number of shares in issue (million)	125	125	100	100

CRM's share price as at:

31 March 20X8 641.0 pence

31 March 20X9 721.8 pence

The entity's equity beta is not available, but for a similar entity quoted on the main stock exchange it was 1.4 for the whole two year period and is not expected to change. The expected risk free rate is 4% and the return on the AIM is 12%. All figures are post-tax.

Selected industry data:

As at 31 March:	<i>20X8</i>	<i>20X9</i>
Dividend yield:	2.8%	3.0%
PIE ratio	8.2	9.0
Gearing (Book values of long term debt to total long terms funds)	44%	46%
FTSEAIM all share index	849	925

Average exchange rates

Exchange rate

Asian \$ to £

12 months to 31 March 20X8 6.3

12 months to 31 March 20X9 6.5

Inflation is forecast to average 5.5% per annum in the Asian country and 3.5% per annum in the UK for the foreseeable future.

Required:

Assume you are a newly-recruited financial manager with CRM. You have been asked to prepare a report for discussion at the next Board of Directors meeting that analyses the entity's financial performance over the two year period to assess whether it has attained its financial objectives as stated.

Your report should also provide:

- Recommendations for corrective action by the entity if necessary
- Advice about the appropriateness of the stated objectives.

You should carefully select and calculate appropriate ratios and performance measures for your analysis. Calculations should be shown in an appendix using sensible roundings.

(Calculations account for up to 15 marks)

(Total: 25 marks)

13 HJK(MAY 11 EXAM)

HJK is a long established, family owned and run, IT consultancy company. The company has experienced rapid growth in recent years.

Recent financial history for HJK:

<i>Year ending 31 December</i>	<i>Profit for the year after interest and tax</i>	<i>Investment in projects or capital expenditure</i>	<i>Dividend paid</i>
	EURmillion	EURmillion	EURmillion
20X6	6		3
20X7	7	10	2
20X8	10		5
20X9	11	15	2
20Y0	16		8

In recent years, investment has been funded by cash held generated by the business but HJK now requires additional funds to finance significant expansion. The Directors have considered additional bank finance but their preference is for an initial public offering (IPO), that is, an offer for sale of shares to the public. However, the Directors are concerned about the implications of an IPO on the financial strategy of the company in the areas of dividend, financing and investment.

Required:

- (a) Evaluate the current dividend policy of HJK. (6 marks)
- (b) (i) Describe the process involved in an IPO. (3 marks)
- (ii) Advise on the potential risks with an IPO and what action can be taken to minimise such risks. (4 marks)
- (c) Discuss the concerns of the Directors regarding the possible implications of becoming a listed company on dividend, financing and investment strategies and the interrelationship between them. (12 marks)

A report format is not required for this question.

(Total: 25 marks)

14 TTI (NOV 11 EXAM)

TIT is a public listed company based in Germany with the euro (EUR) as its functional currency. The company is an energy supply company, operating a number of electricity generating facilities and electricity grids both in Germany and other European countries (some of which are outside the eurozone). It has a central treasury function based in Germany.

TIT has defined its three financial objectives as follows:

- 1 To increase dividends by 10% a year.
- 2 To keep gearing below 40% (where gearing is calculated as $\text{debt}/(\text{debt} + \text{equity})$).
- 3 To expand by internal growth and/or by horizontal integration via acquisition of companies operating in the same industry sector.

TIT has identified a potential takeover candidate, company WWW, which operates three electricity generating stations in Sweden and has the Swedish Krona (SKR) as its functional currency. TIT is considering a cash offer for WWW of approximately SKR 23,000 million but it has not yet been decided whether this would be financed by debt (at an after tax cost of 5% per annum) or equity. If equity were used then shares would be issued on the open market at the current share price of EUR 2.90 per share.

Extracts from TIT's latest financial statements are as follows:

	EUR million
Long term borrowings	9,500
Share capital (EUR 1 shares)	5,000
Retained reserves	4,000

Last year TIT paid a dividend of 16 cents per share, representing a dividend pay-out ratio of 40%. Earnings have grown by 8% a year on average over the last 5 years and the dividend pay-out ratio has been between 30% and 50% over the period.

WWW has a current market capitalisation of SKR 20,000 million and the current EUR/SKR spot rate is EUR/SKR 9.2000 (that is, EUR 1 = SKR 9.2000). WWW has a PIE ratio of 10 and earnings are expected to grow at 6% a year in future years.

Required:

- (a) Advise the directors of TIT on:
 - (i) The extent to which the company meets its financial objectives both before and after the proposed acquisition of WWW. (11 marks)
 - (ii) The appropriateness of the stated financial objectives for TIT AND how they could be improved. (7 marks)
- (b) Describe THREE roles that the central treasury function of TIT might play in the evaluation and/or implementation of the proposed acquisition of WWW. (7 marks)

A report format is not required for this question.

(Total: 25 marks)

QRR (MAR 12 EXAM)

Assume today is 1 April 2012.

QRR is a bank located and listed in India. Today's exchange rate for the Indian Rupee (INR) is GBP/INR 76.9231 (that is, GBP 1 = INR 76.9231).

In recent years, QRR has experienced a fall in profits as a result of the credit crunch which has weakened the capital base of the bank. Although revenue has risen by 6.3% in the past year, operating profits have fallen by 19% and earnings per share by 9%. In the past QRR has paid regular quarterly dividends.

Due to the credit crunch and the downturn in the global economy, the Indian banking regulator (together with banking regulators around the world) is in the process of introducing higher capital and liquidity requirements for all banks, which will be a legal requirement in twelve months' time. Currently, QRR would not satisfy these new capital and liquidity requirements.

The board of QRR has recently met to discuss how best to improve capital and liquidity in order to be able to meet the new requirements. The following two suggestions were made by Board members regarding the next quarterly dividend:

- Director A has suggested that no dividend should be paid.
- Director B has suggested that the normal cash dividend be replaced with a scrip dividend (that is, a bonus issue of shares).

Under the proposed scrip dividend, QRR would issue shareholders with the right to subscribe for ordinary shares at zero cost in the proportion of 1 new bonus share for every 50 shares held. The rights to receive bonus shares would be issued on 15 May 2012, with the new shares being issued on 31 May 2012. A shareholder would have to choose between the following actions:

- 1 Sell the rights in the open market for cash at the latest market price for the rights between the dates 15 May 2012 and 31 May 2012.
- 2 Hold onto the rights until 31 May 2012 and receive new shares in the proportion 1 share for every 50 held on that date.

QRR has 4,300 million INR 100 (nominal) ordinary shares in issue. The market price for selling the rights is expected to be in the order of INR 7 per existing share under the rights. Assume that a typical shareholder in QRR holds 1,000 ordinary shares of nominal value INR 100 each and that today's share price is INR 396.

Required:

- (a) Discuss the likely impacts on QRR's share price of an announcement that no dividend will be paid, as suggested by Director A. (8 marks)
- (b) Evaluate which of the following actions would be more beneficial to a typical shareholder if Director B's suggestion is implemented:
 - (i) Accepting the shares offered under the scrip dividend.
 - (ii) Selling the rights under the scrip dividend in the market.

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Your answer should include an estimate of the change in shareholder value in each case based upon today's share price. (8 marks)

- (c) Recommend which, if either, of the strategies suggested by Director A and Director B, QRR should adopt. (5 marks)
- (d) Identify alternative financial strategies (other than changing the dividend policy) that could help improve QRR's liquidity position. (4 marks)

A report format is not required for this question.

(Total: 25 marks)

16 SPORT (SEPT 12 EXAM)

SPORT is a UK-based charity, a 'not for profit' organisation which does not have any shareholders. Its main objective is to provide specialised low cost sports equipment to people with disabilities living in the UK to help them participate in a range of sporting activities. The charity raises funds through an extensive network of its own charity stores, by individual donations and by special fund raising events. The stores sell clothing and other goods which have been donated by the public and are largely staffed by volunteers. All of the store premises are leased rather than owned by SPORT.

SPORT has recently appointed a new Finance Director (FD) who previously worked in the commercial sector for a large sports equipment retailer. The FD is currently reviewing the objectives of SPORT and, in order to assist with this process, the FD has compiled the following list of objectives based on a review of the annual reports of various retail companies which supply sports equipment in the 'for profit' sector.

Extract financial and non-financial objectives for 'for profit' sports equipment retailers:

Financial objectives

Increase earnings per share by 5% a year

Achieve steady growth in dividends

Maximum debt to debt plus equity of 50%

Non-financial objectives

High customer satisfaction

Retain market position in top 3 suppliers

Reduce carbon footprint

The Chair of the Trustees has suggested that the charity considers issuing a GBP 10 million bond in order to finance an ambitious expansion of its retail and fundraising operations. The proceeds of the issue would be used to open a further 100 stores across the UK. Currently, SPORT has 300 stores. The FD has reacted favourably to this proposal and he has been quoted in the press as saying: 'Charities should be run on commercial lines to maximise social good'.

Required:

- (a) Describe the main differences between the overall objectives of 'for profit' organisations and 'not for profit' organisations. (4 marks)
- (b)
 - (i) Advise on the extent to which each of the financial and non-financial objectives listed above could be adapted for use by SPORT. (9 marks)
 - (ii) Discuss what additional objectives might be appropriate for SPORT. (5 marks)
 - (iii) Advise whether the proposed bond issue to finance an increase in charity stores is appropriate for a charitable organisation such as SPORT. Include reference to the recent press comment from the FD in your answer. (7 marks)

A report format is not required for this question.

(Total: 25 marks)

17 BBD (NOV 12 EXAM)

BBD is a listed company, based in Canada, which specialises in extracting natural gas for sale to national distribution networks. Wholesale gas is priced globally in US dollars.

A possible new project to build four new gas drill rigs is being considered. The rigs would use fracking, a relatively new and controversial method of extracting natural gas.

Fracking involves drilling a well hundreds of metres into the ground and pumping it full of water, sand and chemicals to fracture the rock and release gas for sale. There have recently been some reports of fracking causing small earthquakes which result in damage to properties nearby the drill rigs. There is also some concern about the possibility of pollution of the water supply as a result of fracking.

BBD is confident of being able to raise sufficient debt finance for the project based on forecast future earnings from selling the extracted gas. The company is already relatively heavily geared, with a gearing ratio of 50% (debt/debt + equity). 80% of the equity is owned by 6 major institutions, including 2 pension funds.

BBD has recently been the subject of a review by a major rating agency which has unexpectedly put the company on 'negative outlook', implying that there is a high chance that its rating could be reduced. Further discussion has revealed that the rating agency is concerned about the risk involved in the new project and about the increase in gearing that this would create.

A rating downgrade could have major implications for BBD. Therefore the directors have been discussing and investigating courses of action open to them in respect of the planned project in light of the threat of a credit downgrade. The following three possible responses have been identified:

- A Cancel the project.
- B Proceed with the project and accept the risk of a downgrade.
- C Cancel this year's dividend and use the cash saved to help finance the project, thereby hoping to avoid a credit downgrade.

Required:

- (a) Discuss the potential exposure of BBD's financial results to external factors such as economic variables, market prices and external constraints. (7 marks)
- (b) (i) Advise BBD on the possible implications for the company of a credit downgrade. (5 marks)
- (ii) Evaluate each of the three possible responses A, B and C identified by the directors from the viewpoint of shareholder wealth. (9 marks)
- (iii) Recommend which possible response A, B or C should be adopted by BBD. (4 marks)

A report format is not required for this question.

(Total: 25 marks)

18 SRP (MAR 13 EXAM)

Today is 1 March 2013.

SRP is a market leader in the design, manufacture and installation of large scale equipment to customer-specified performance criteria. Although it sells its products worldwide, all its manufacturing capacity is in the UK and its shares are listed on a UK stock exchange.

SRP was formed by the amalgamation of three smaller companies in 1979 and many of its current shareholders previously owned shares in those companies. Small, individual investors own around 30% of the total shares in issue. Approximately 65% of the shares are owned by large institutional investors such as pension funds and the remaining 5% are owned by the directors and employees of SRP.

Financial objectives

SRP's principal financial objective is to maximise shareholder wealth. It also has the following additional specific financial objectives:

- Annual increase in earnings per share (EpS) and dividend per share (OpS) of at least 3% on average over a rolling 3 year period.
- Maintain gearing, based on book values, below 30%.

Gearing is defined as net debt to net debt plus equity where net debt is long term borrowings less surplus cash.

Forecast financial information in respect of the year to 31 March 2013

SRP's forecast statement of financial position as at 31 March 2013 before taking into account the dividend of GBP 89.6 million that is due to be paid on 10 March is shown below:

	GBP million
ASSETS	
Non-current assets	1,650
Current assets	
Cash and cash equivalents	215
Other	210
Total assets	2,075
EQUITY and LIABILITIES	
Equity	
Share capital (GBP1 ordinary shares)	350
Reserves	950
Non-current liabilities	
Secured 7% loan	550
Current liabilities	225
Total equity and liabilities	2,075

Additional information:

- Forecast revenue and earnings for SRP for the year ending 31 March 2013 are GBP 2,500 million and GBP 280 million respectively
- SRP's shares are currently trading at GBP 4.78 per share cum div and the underlying ex div price is not expected to change before 31 March.
- The secured loan is from a consortium of banks and is not traded. It is repayable at par on 31 March 2017.

Surplus cash

The company has been highly profitable in recent years having successfully tendered for a number of very large contracts around the world. As a consequence, SRP has substantial amounts of cash either on deposit or invested in short term securities (shown in the financial statements as cash equivalents). Even after the planned dividend, the directors consider that a significant portion of the forecast cash and cash equivalents balance as at 31 March 2013 is surplus to requirements and are considering how to deal with this surplus cash.

Three proposed strategies for dealing with surplus cash are as follows:

- 1 Continue to hold the surplus cash in a bank account and/or as short-term securities.
- 2 Arrange a programme to repurchase a proportion of the company's shares.
- 3 Pay bonuses on a one-off basis to directors and employees.

For this purpose, surplus cash is defined as all forecast cash and cash equivalents as at 31 March 2013 after paying the planned dividend and setting aside GBP 15 million for the support of on-going operations. Returns on short-term cash can be assumed to be negligible.

Required:

- (a) Calculate forecasts of the following for SRP, after paying the dividend but before disposing of surplus cash remaining:
 - EpS and OpS for the year ending 31 March 2013.
 - Gearing based on book values as at 31 March 2013.
 - Gearing based on market values as at 31 March 2013. (7 marks)
- (b) Calculate the likely impact on EpS, OpS, and gearing of each of the three proposed strategies for dealing with surplus cash. (8 marks)
- (c) Evaluate each of the three proposed strategies for dealing with surplus cash. In your answer, take into account likely impact of each strategy on:
 - Attainment of financial objectives.
 - Shareholder wealth in both the short and long term. (10 marks)

A report format is not required for this question.

(Total: 25 marks)

19 KK (SEPT13 EXAM)

Assume today's date is 28 December 2013.

KK is a manufacturing company based in Country K. KK is a listed company that is wholly equity financed. 25% of the shares are held by members of an extended family group. KK has adopted 31 December as its financial year end.

Dividend decision

In previous years, KK has maintained a dividend pay-out rate of 80% of earnings. However, some board members have recently questioned whether such a policy is appropriate. Some board members support the 80% pay-out but others have suggested that a lower dividend is necessary in order to help finance expansion in manufacturing capacity to take advantage of new markets that are opening up in Asia.

It is too late to change the dividend for the current financial year, 2013, since the dividend for the year is about to be paid. The first time that a change in dividend policy could be adopted is in 2014.

Additional financial information for KK:

- It is standard practice for KK to pay dividends once a year based on forecast earnings for that year.
- Dividends are paid at or shortly before the end of the year.
- A dividend of K\$ 0.50 in respect of the current financial year (2013) has already been declared. This was based on the historical pay-out rate of 80% of forecast earnings for 2013 of K\$ 12.5 million.
- Historically, KK has achieved a return on reinvested funds of 16%.
- KK has a cost of equity of 14.7%.
- There are currently 20 million shares in issue.
- Today's share price is K\$ 5.00 (cum div).

Possible reduction in dividend pay-out

The board of KK is considering cutting the regular dividend pay-out rate from 80% to 50% of earnings with effect from 2014. If agreed, this would be made public by an announcement on 1 January 2014.

The board is aware that there would be a delay of 12 months between cutting the dividend pay-out rate and realising any benefit in terms of higher earnings as a result of the higher level of reinvested funds.

Discussions regarding a possible change in the dividend pay-out rate have so far been internal and only known by the management team at KK. No announcement has yet been made about a possible change in dividend policy and the share price does not yet reflect the possibility of a cut in pay-out rate.

Growth formula

$$g = r \times b$$

Where	g	=	annual growth
	r	=	return on reinvested funds
	b	=	proportion of funds retained

Required:

- (a) (i) Calculate the following performance measures for KK for both years 2014 and 2015 assuming a reduction in KK's dividend pay-out to 50% of earnings from 2014 onwards:
- Growth rate using the growth formula provided.
 - Earnings.
 - Dividend per share. (8 marks)
- (ii) Calculate the expected change in KK's share price on 1 January 2014, the day of the planned announcement of the reduction in pay-out rate. Use the dividend growth model and assume that the cost of equity does not change. (7 marks)
- (b) Advise KK on the key factors that affect the optimum level of dividend for the company in 2014. Your answer should include reference to your results in (a)(ii) above as well as any other relevant factors. (10 marks)

A report format is not required for this question.

(Total: 25 marks)

FINANCING DECISIONS

20 MNO (MAY 06 EXAM)

MNO is a private toy distributor situated in the US with a US customer base and local suppliers. There is a central manufacturing base and several marketing units spread across the US. The marketing units are encouraged to adapt to local market conditions, largely acting independently and free from central control. These units are responsible for all aspects of local sales, including collecting sales revenues, which are paid across to Head Office on a monthly basis. Funding is provided by Head Office as required.

Figures for last year to 31 December 20X5 were as follows:

Revenue	\$10 million
Gross profit margin	40% of revenue
Accounts receivable days	minimum 20, maximum 30 days
Accounts payable days	minimum 40, maximum 50 days
Inventories	minimum 50, maximum 80 days
Non-current assets	\$8 million

Accounts receivable, accounts payable and inventories can all be assumed to be the same on both 31 December 20X4 and 31 December 20X5, but fluctuate between those dates.

The Financial Controller is carrying out an analysis of MNO's working capital levels, as requested by the Treasurer. He is assuming that the peak period for accounts receivable coincides with the peak period for inventories and the lowest level of accounts payable.

MNO is currently in consultation with a potentially significant new supplier in Asia, who will demand payment in its local currency.

PAPER F3 : FINANCIAL STRATEGY

Required:

- (a) (i) Calculate the minimum and maximum working capital levels based on the Financial Controller's assumption regarding the timing of peaks and troughs in working capital variables and discuss the validity of that assumption. (6 marks)
- (ii) Using the figures calculated in (i) above, calculate and draw a chart to show the short-term and long-term (permanent) financing requirements of MNO under each of the following working capital financing policies:
- moderate policy, where long-term financing matches permanent net current assets
 - aggressive policy, where 30% of permanent net current assets are funded by short-term financing
 - conservative policy, where only 40% of fluctuating net current assets are funded by short-term financing. (7 marks)
- (b) Discuss the advantages and disadvantages of an aggressive financing policy and advise whether or not such a policy would be appropriate for MNO. (6 marks)
- (c) Advise MNO whether a profit or cost centre structure would be more appropriate for its treasury department. (6 marks)
- (Total: 25 marks)

21 LEELOR(MAY 07 EXAM)

LEE is a manufacturing entity located in Newland, a country with the dollar (\$) as its currency. LOR is a leasing entity that is also located in Newland.

LEE plans to replace a key piece of machinery and is initially considering the following two approaches:

- Alternative 1- purchase the machinery, financed by borrowing for a five-year term
- Alternative 2-lease the machinery from LOR on a five-year operating lease.

The machinery and maintenance costs

The machinery has a useful life of approximately 10 years, but LEE is aware that the industry is facing a period of intense competition and the machinery may not be needed in five years' time. It would cost LEE \$5,000 to buy the machinery, but LOR has greater purchasing power and could acquire the machinery for \$4,000.

Maintenance costs are estimated to be \$60 in each of years 1 to 3 and \$100 in each of years 4 and 5, arising at the end of the year.

Alternative 1 - purchase financed by borrowing for a five year term

\$ interbank borrowing rates in Newland are currently 5.5% per annum. LEE can borrow at interbank rates plus a margin of 1.7% and expects \$ interbank rates to remain constant over the five year period. It has estimated that the machinery could be sold for \$2,000 at the end of five years.

Alternative 2 - five year operating lease

Under the operating lease, LOR would be responsible for maintenance costs and would charge LEE lease rentals of \$850 annually *in advance* for five years.

LOR knows that LEE is keen to lease rather than buy the machine and wants to take advantage of this position by increasing the rentals on the operating lease. However, it does not want to lose LEE's custom and requires advice on how high a lease rental LEE would be likely to accept.

Tax regulations

Newland's tax rules for operating leases give the lessor tax depreciation allowances on the asset and give the lessee full tax relief on the lease payments. Tax depreciation allowances are available to the purchaser of a business asset at 25% per annum on a reducing balance basis. The business tax rate is 30% and tax should be assumed to arise at the end of each year and be paid one year later.

Alternative 3-late proposal by production manager

During the evaluation process for Alternatives 1 and 2, the production manager suggested that another lease structure should also be considered, to be referred to as 'Alternative 3'. No figures are available at present to enable a numerical evaluation to be carried out for Alternative 3. The basic structure would be a five-year lease with the option to renew at the end of the five-year term for an additional five-year term at negligible rental. LEE would be responsible for maintenance costs.

Required:

- (a) (i) Use discounted cash flow analysis to evaluate and compare the cost to LEE of each of Alternatives 1 and 2. (9 marks)
- (ii) Advise LOR on the highest lease rentals that LEE would be likely to accept under Alternative 2. (4 marks)
- (b) Discuss both the financial and non-financial factors that might affect LEE's choice between Alternatives 1, 2 and 3. No further calculations are required in part (b). (12 marks)

(Total: 25 marks)

22 DAN'S PORTFOLIO (MAY 08 EXAM)



Walk in the footsteps of a top tutor

You are a financial adviser working for a large financial institution. One of your clients, Dan, has a portfolio currently worth £100,000. He has invested in good quality stocks that are spread over diversified industries with an average beta of 1.2; a risk profile he is happy with. He holds other assets, such as property and bank deposits, worth approximately £150,000 (excluding his own home, on which he has a 75% mortgage).

He has recently inherited £40,000 which he intends to invest in equities. He has done some research himself and is considering investing in the following entities in equal proportions.

Entity A is a large, listed entity in a mature industry. Dan already has 15% of his equity investments in this industry sector.

Entity B is a relatively small entity whose shares have been listed on the UK's Alternative Investment Market for the past three years. Its main area of operations is bio-technology, a sector in which Dan has no investments.

PAPER F3 : FINANCIAL STRATEGY

Market data for the shares of the two entities are as follows:

Entity	Current share prices (buy price)	Beta	PIE ratio
A	250 pence cum rights	1.1	10
B	500 pence cum dividend	N/A *	20

* Your financial institution estimates a return of 15.8% is required on this stock.

Your transaction charges will be 2.5% of the capital amount.

Financial strategies of the two entities

Entity A is planning a rights issue. The terms will be 1 new share for every 4 held at a cost of 200 pence.

Entity B will allow investors registered at 30 June 20X8 the option of taking a dividend of 45 pence a share or a scrip dividend of 1 share for every 10 shares held.

The policy of Entity B has been to offer scrip dividends as an alternative to cash dividends since its shares were first listed three years ago.

The risk free rate is 5% and the return on the market is 11%. These rates are not expected to change in the foreseeable future.

Required:

- (a) Calculate the risk and expected return of Dan's equity investment portfolio if he goes ahead with his proposed investments. Work to a maximum of 2 decimal places in your calculations. (5 marks)
- (b) (i) Explain the difference between systematic risk (or market risk) and unsystematic risk (or specific risk) and, briefly, the meaning of beta and how it is measured. (4 marks)
- (ii) Discuss how and to what extent the beta of Entity A and the implied beta of Entity B:
 - Might affect Dan's investment decision
 - Could be of interest to the directors of single entities such as A and B. (6 marks)
- (c) Evaluate the implications for shareholder value of Entity A's and Entity B's proposed financial strategies and advise Dan on how these strategies might affect his investment decisions. Include appropriate calculations. (10 marks)

(Including up to 6 marks for calculations)

A report format is not required in this question.

(Total: 25 marks)

23 MAT (MAY 08 EXAM)

MAT is a manufacturer of computer components in a rapidly growing niche market. It is a private entity owned and managed by a small group of people who started the business 10 years ago. Although relatively small, it sells its products world-wide. Customers are invoiced in sterling, although this policy is being reviewed. Raw materials are purchased largely in the UK although some are sourced from overseas and paid for in foreign currencies, typically US\$.

As the newly-appointed Financial Manager, you are reviewing MAT's financial records to identify any immediate or longer-term areas of risk that require immediate attention. In particular, the entity's forecast appears to be uncomfortably close to its unsecured overdraft limit of £450,000.

Extracts from last year's results (20X6) and the forecast for the next financial year are as follows:

	<i>Last year</i>	<i>Forecast</i>
	£000	£000
Non-current assets	3,775	4,325
Current assets		
Accounts receivable	550	950
Inventory	475	575
Cash and marketable securities	250	100
Total current assets	1,275	1,625
Total assets	5,050	5,950
Total equity	3,750	4,050
Non-current liabilities		
Secured bond repayable 20X8	850	850
Current liabilities		
Accounts payable	450	625
Bank overdraft	0	425
Total current liabilities	450	1,050
Total equity and liabilities	5,050	5,950
Revenue	4,500	5,750
Cost of goods sold	1,750	2,300
Profit before tax	1,050	1,208

Required:

Prepare a report to the Finance Director of MAT advising on whether the entity could be classified as 'overtrading' and recommending financial strategies that could be used to address the situation.

Your advice and recommendations should be based on analysis of the forecast financial position, making whatever assumptions are necessary, and should include brief reference to any additional information that would be useful to MAT at this time.

(Up to 14 marks are available for calculations)

(Total: 25 marks)

24 BZ (MAY 09 EXAM)

BZ is a textile wholesaler based in a country in the Euro zone. Summary financial information is as follows:

- Revenue and earnings last year were (121 million and €23.5 million respectively)
- BZ's shares are not listed but they occasionally change hands in private transactions. The shares most recently traded a month ago at €4 per share. There are 39 million shares in issue
- BZ also has €121.5 million of undated debt on its balance sheet. This debt is secured on the entity's assets and carries an interest rate of 8%. The current cost of debt to an entity such as BZ is 9% before tax
- BZ estimates its cost of equity at 11%
- BZ operates an overdraft facility for short-term financing requirements.

The entity currently sells its products in the USA via a distributor. However, its sales in this market are increasing to the extent that BZ is considering setting up its own distribution network in the USA. A State in the south of the USA has offered BZ financial support to establish a base there. BZ management thinks this is not the ideal location but an attractive financing package might persuade them otherwise.

The financing package currently on offer from the State in the south of the USA would take the form of a US\$50 million loan at a subsidised interest rate of 3.5% per annum. Interest would be payable at the end of each year and the principal repaid at the end of five years.

The current rate of exchange is US\$1.2 = €1. This rate is not expected to change in the foreseeable future.

The marginal corporate tax rate in both countries is 28%.

Required:

- (i) Calculate BI's current WACC using market values and the cost of equity in the scenario. Assume the current debt ratio remains the same. (5 marks)
- (ii) Advise the board of BI about how to determine an appropriate discount rate to use when evaluating the proposal to establish a subsidiary in the USA. (6 marks)
- (iii) Discuss the advantages and disadvantages of using government subsidies in any international investment decision. Include a calculation of the value of the subsidy implied in the US State loan. (8 marks)
- (iv) Discuss and recommend to the board of BI how its US business operations might be financed when the US State loan is repaid. (6 marks)

Note: A report format is not required for this question.

(Total: 25 marks)

25 GREGORYAND GEORGE(NOV 09 EXAM)

Gregory

Gregory, a listed entity based in Europe, provides private medical care through private hospitals. Additional funds are required to fund the construction of a new medical support unit. This was already public knowledge in August 20X9

A rights issue was announced in a press statement on 1 September 20X9. Ordinary shares are to be issued at a discount of 20% on market price and the issue is expected to raise a total sum of €29.3 million.

Gregory already has 40 million €1 ordinary shares in issue. The share price on 1 September 20X9 before the press statement was released was 458 cents.

Mr X holds 200,000 €1 ordinary shares in Gregory and is wondering whether or not to take up the rights being offered.

Required:

- (a) (i) Calculate the number of ordinary shares to be issued under the rights issue. (2 marks)
- (ii) Calculate the theoretical ex-rights price. (3 marks)
- (iii) Calculate the expected trading price for the rights. (2 marks)
- (iv) Evaluate and discuss the impact of the rights issue on the personal wealth of shareholder Mr X for each of the following three alternative responses to the rights offer:
- does not take up the rights
 - takes up the rights
 - sells just enough rights to provide the funds needed to purchase the remaining rights (10 marks)

George

George, a competitor of Gregory, is also based in Europe and operates in the medical services industry. It has been highly successful in recent years and has accumulated a large amount of surplus cash representing 10% of total equity value. It now wishes to return this surplus cash to shareholders. Gearing is defined as net debt to net debt plus equity where net debt is debt after deduction of surplus cash.

Current market values:	{million
Debt	37
Surplus cash	7
Equity	70

The entity is considering the best method to achieve the return of surplus cash to the shareholders, preferably also reducing the cost of capital but not changing the balance of share ownership.

PAPER F3 : FINANCIAL STRATEGY

The two main methods being considered are:

- (i) share repurchase
- (ii) one-off special dividend

Required:

- (b) Compare and contrast the advantages to George of each of the two proposed methods of returning surplus cash to shareholders and recommend which of these methods George should use. (8 marks)

(Total: 2S marks)

26 CLAUDIA (NOV 09 EXAM)

Claudia is based in Asia and is considering installing a new computer system in order to upgrade the web-based sales system to bring it in line with that of Claudia's main competitors. The cost of \$10 million is payable up front but the new system will take a full year to implement. Increased pre-tax operating earnings of \$770,000 a year are expected from year 2 onwards indefinitely to reflect increased operational efficiencies and increased revenue from web-based sales.

Claudia is currently funded by ordinary shares and an irredeemable bond as follows:

	<i>Nominal value</i>	<i>Market value</i>
20 million ordinary shares	\$1 each	\$2.50 each
5.4% irredeemable bond	\$33 million	trading at par

Additional debt finance of \$10 million will be taken out (also at 5.4%) if the project is approved.

Additional information:

Cost of equity is 6.2%

The project is not expected to have any impact on either the current cost of equity or the cost of debt.

The share price is expected to react very quickly on announcement of the project to reflect the anticipated NPV of the project.

Business tax is payable and refundable at 35% in the year in which it is incurred.

No tax depreciation allowances can be claimed

Assume earnings equal net cash inflow

Cash flows arise at the end of a year

Required:

- (a) Calculate the current WACC of Claudia (before taking the project into account). (3 marks)
- (b) Evaluate the project using the current WACC calculated in part (a). (4 marks)

- (c) Calculate the post-project WACC for Claudia after adjusting for the NPV of the project and the increased debt, and discuss your results. Discuss and advise whether the pre-project WACC was an appropriate discount rate for Claudia to use in this scenario. (6 marks)
- (d) Discuss the key factors that Claudia should take into account in respect of this project when:
- (i) assessing customer requirements
 - (ii) drawing up an implementation plan (12 marks)
- (Total: 25 marks)

27 PIC (MAY 10 EXAM)

PIC is a furniture retailing company in a developed country in Asia. It has 15 stores spread around the country. Each store has some freedom to adapt its buying patterns to local market conditions although around 80% of its products must be obtained through central purchasing. Sales receipts are paid to head office on a monthly basis. PIC offers 30-day credit to a few key high-profile and agency customers who account for a substantial proportion of sales by value. However, the majority of customers pay immediately by cash.

The treasurer has observed that working capital levels fluctuate quite substantially from month to month. Based on forecast revenue for next year, the average days and minimum and maximum working capital levels for next year are likely to be as follows:

	<i>Average</i>	<i>Minimum</i>	<i>Maximum</i>
	<i>Days</i>	<i>A\$ million</i>	<i>A\$ million</i>
Inventories	105	17.26	29.59
Accounts receivable	15	1.64	3.29
Accounts payable	GO	7.40	14.79

At present PIC follows an aggressive policy for financing net current assets. All fluctuating net current assets and 20% of permanent net current assets are funded by overdraft. PIC currently has an overdraft facility of up to A\$20 million, secured as a floating charge on the entity's current assets. Interest is charged at 7% (pre-tax) on daily balances. Over the past year PIC has used its maximum overdraft facility. The treasurer thinks this is too risky a policy in present economic conditions and is proposing a more conservative policy where 100% of permanent net current assets and 20% of fluctuating net current assets are financed by medium or long term finance. To achieve this, PIC is proposing to issue a bond, redeemable at par in 5 years' time, with an annual coupon of 8%. Interest would be paid annually at the end of each year. Other similar corporate bonds have a yield to maturity of 9%.

PIC's shares are listed on a secondary market. The market value of the shares is currently A\$350 million and its cost of equity is 10%. PIC also has long term debt in issue with a market value of A\$100 million at an average pre-tax cost of 8.125%. PIC pays corporate tax at 20%.

PAPER F3 : FINANCIAL STRATEGY

Required:

- (a) (i) Calculate the short-term and long-term (permanent) financing requirements of PIC under the aggressive policy for financing net current assets that is currently being used and also under the proposed new conservative policy. (5 marks)
- (ii) Calculate the implied issue price per A\$100 nominal of the bond being considered by the treasurer. (3 marks)
- (iii) Calculate the weighted average cost of capital (WACC) of PIC at present and discuss, briefly, the likely effect on WACC if PIC changes its policy for financing net current assets. (4 marks)
- (b) (i) Evaluate PIC's proposal to change from an aggressive to a conservative policy for financing net current assets. (9 marks)
- (ii) Advise PIC, briefly, on alternative approaches to financing net current assets that it should consider. (4 marks)

(Total: 25 marks)

28 CIP (MAY 10 EXAM)

CIP is a family-controlled company. The family owns 80% of the shares. The remaining 20% is owned by a number of non-family shareholders, none of whom owns more than 1% of the shares in issue. The Board of Directors has convened a special Board meeting to review two investment opportunities and, at the request of the new Finance Director, decide on an appropriate discount rate, or rates, to use in the evaluation of these investments. Each of the two investments being considered is in a non-listed company and will be financed 60% by equity and 40% by debt.

In the past, CIP has used an estimated post-tax weighted average cost of capital of 12% to calculate the net present value (NPV) of all investments. The Managing Director thinks this rate should continue to be used, adjusted if necessary by plus or minus 1% or 2% to reflect greater or lesser risk than the "average" investment.

The Finance Director disagrees and suggests using the capital asset pricing model (CAPM) to determine a discount rate that reflects the systematic risk of each of the proposed investments based on proxy companies that operate in similar businesses. The Finance Director has obtained the betas and debt ratios of two listed companies (Company A and Company B) that could be used as proxies. These are:

	<i>Equity Beta</i>	<i>Debt Beta</i>	<i>Debt ratio (debt: equity)</i>
Company A (proxy for Investment 1)	1.3	0.3	1:3
Company B (proxy for Investment 2)	0.9	0	1:6

Other information:

The expected annual post-tax return on the market is 8% and the risk-free rate is 3%.

Assume the debt that CIP raises to finance the investments is risk-free.

All three companies (CIP, Company A and Company B) pay corporate tax at 25%.

CIP has one financial objective, which is to increase earnings each year to enable its dividend payment to increase by 4% per annum.

The Managing Director and the other Board members are confused about the terminology being used in the CAPM calculation and do not understand why they are being asked to consider a different method of calculating discount rates for use in evaluating the proposed investments.

Required:

- (a) Discuss the meaning of the terms "systematic" and "unsystematic" risk and their relationship to a company's equity beta. Include in your answer an appropriate diagram to demonstrate the difference between the two types of risk. (6 marks)
- (b) Using the CAPM and the information given in the scenario about CIP and Companies A and B, calculate for each of CIP's proposed investments:
 - An asset beta.
 - An appropriate discount rate to be used in the evaluation of the investment. (6 marks)
- (c) Evaluate the benefits and limitations of using each of the following in CIP's appraisal of the two investments:
 - CIP's WACC.
 - An adjusted WACC as suggested by the Managing Director.
 - CAPM-derived rates that use proxy (or surrogate) companies' betas. (6 marks)
- (d) Discuss, briefly, how an asset beta differs from an equity beta and why the former is more appropriate to CIP's investment decision. Include in your discussion some reference to how the use of the CAPM can assist CIP to achieve its financial
~~~~.

(Total: 25 marks)

### ..3 TM (MAR 11 EXAM)

Today's date is 4 March 20X1.

TM is a privately owned company which manufactures children's toys and is based in a country in Asia which has the A\$ as its currency. In the financial year to 31 December 20X1 (assuming that there are no policy changes) it is expected that approximately 70% of TM's revenue will be from sales to companies in its home market. The other 30% of revenue will be from sales to companies in a foreign country which has the euro (EUR) as its currency. Export sales are currently priced in A\$.

Approximately 10% of TM's home customers are cash buyers, the other 90% are on credit. Export sales are all on credit. Some customers in both the home and export markets regularly exceed their agreed credit period. TM makes no charge for this but refuses repeat orders if customers regularly make late payments beyond their agreed credit period.

### PAPER F3 : FINANCIAL STRATEGY

In order to increase export sales, TM is planning to make the following policy changes with effect from 1 April 20X1:

- 1 Relax its credit terms in its export market by offering 90 days credit, an increase of 30 days on its normal terms in this market.
- 2 Invoice in euro rather than A\$, converting the A\$ price list to produce a euro price list at the current exchange rate of A\$/EUR 0.4000 (A\$ = EUR 0.4000). This euro price list will then be used for pricing export sales for the remainder of the year.

It is expected that these policy changes will result in an increase in export sales of one-third between the first and second quarters of 20X1.

Provisional forecast results for TM (including both home and export sales) for the first two quarters of 20X1, after taking into account the planned policy changes and using the exchange of A\$/EUR 0.4000, are shown below:

|                     | <i>First quarter 20X1</i><br><i>(1 January to 31 March)</i><br>A\$ thousands | <i>Second quarter 20X1</i><br><i>(1 April to 30 June)</i><br>A\$ thousands |
|---------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Revenue             | 5,750                                                                        | 6,325                                                                      |
| Cost of goods sold  | 3,163                                                                        | 3,529                                                                      |
| Purchases           | 2,150                                                                        | 2,350                                                                      |
|                     | <i>Balances at 31 March 20X1</i><br>A\$ thousands                            | <i>Balances at 30 June 20X1</i><br>A\$ thousands                           |
| Accounts receivable | 5,000                                                                        | 7,000                                                                      |
| Accounts payable    | 1,800                                                                        | 2,600                                                                      |
| Inventory           |                                                                              |                                                                            |
| Raw materials       | 1,500                                                                        | 1,700                                                                      |
| Work in Progress    | 740                                                                          | 860                                                                        |
| Finished goods      | 420                                                                          | 500                                                                        |

Additional relevant information is given below:

- All purchases were, and will continue to be, sourced in the home country and paid for in A\$.
- Net current assets are currently financed by an overdraft. This policy is under review.

There is concern that the value of the euro against the A\$ may fall to A\$/EUR 0.4600 at the beginning of the second quarter of 20X1. However, other exchange rate forecasters predict that the exchange rate will remain unchanged. If the exchange rate were to change, the directors do not expect to be able to increase TM's euro prices to reflect the devaluation of the euro in view of the current poor economic environment in Europe.

Required:

- (a) Evaluate the likely impact of the movement in exchange rates from A\$/EUR 0.4000 to A\$/EUR 0.4600 on 1 April 20X1 on the results for the second quarter of 20X1, assuming that the exchange rate remains unchanged for the remainder of the quarter. (6 marks)



- (b) (i) Calculate the operating cycle of TM for:
- The first quarter of 20X1.
  - The second quarter of 20X1 using an exchange rate of A\$/EUR 0.4000 as proposed in the policy change.
  - The second quarter of 20X1 using an exchange rate of A\$/EUR 0.4600 throughout the second quarter. (9 marks)
- (ii) Briefly discuss whether the changes in any of the component parts of the cycle give cause for concern. (3 marks)
- (c) Advise the directors of TM on an appropriate financing structure for net current assets and explain the benefits and potential problems of using euro denominated finance. (7 marks)
- A report format is not required for this question.
- (Total: 25 marks)

### 30 RED (MAR 11 EXAM)

RED is a family run and owned company based in the United Kingdom which designs and manufactures state-of-the-art vacuum cleaners. It has grown steadily during the eight years since it was founded and the directors consider that the company is now of a suitable size to be listed on the Alternative Investment Market (AIM), which is a market for the shares of smaller companies.

The company is currently in the early stages of development of a new product that it is hoped will be highly successful and will significantly increase the company's share of the vacuum cleaner market. Information about the product's development will be made public at various stages during 20X1. Information may also become public knowledge through other means as more people and organisations become involved in the testing and implementation of production of the new product.

Significant amounts of new funding will be required to finance the final development, production and launch of this product but the existing shareholders are now not able to provide this. Therefore the directors of RED are planning to raise the necessary funds by means of a bond issue followed by an IPO (initial public offering). The bond issue is planned for the middle of 20X1 and the IPO towards the end of the year.

Required:

- (a) Compare and contrast the features of a private placing and a public issue for the bonds and advise the directors of RED which method would be most appropriate. (12 marks)
- (b) (i) Describe the three forms of the efficient market hypothesis and state which form is most likely to apply in practice. (4 marks)
- (ii) Advise the directors of RED on what steps can be taken to improve the chances of a successful IPO issue and a high share price after the issue. Your answer should include reference to the efficient market hypothesis. (9 marks)

A report format is not required for this question.

(Total: 25 marks)

31 11CO (NOV 11 EXAM)

DCD is a manufacturer of heavy construction equipment. It has manufacturing facilities around the world.

DCD's Ordinary Share Capital has a nominal value of \$70 million (\$0.50 shares) and the current market price per share is \$6.00. The market price per share three months ago was \$5.40.

DCD has experienced rapid growth in demand in recent years and expects revenues to continue to grow in future years. The current manufacturing facilities are already operating close to full capacity.

**Proposed new manufacturing facility**

The Board is planning to build a new manufacturing facility and has already identified a suitable site and prepared a schedule of forecast cash flows arising from the project. It is expected that the proposed new facility would be fully operational within a year of the initial investment and that the project would generate a rate of return on funds invested of 20%. This is greater than the return on existing funds of 15% due to the greater efficiency of the new manufacturing facility.

**Rights issue**

The Board has decided to use a rights issue to finance the initial investment of \$250 million. The rights issue will be underwritten. The exact costs of underwriting are not known but average underwriting costs in the market are estimated to be 2% of the monies raised. The underwriting costs will be paid out of DCD's existing funds rather than out of the funds raised in the rights issue.

A Board meeting has been called to agree the terms of the rights issue. A decision has to be made as to whether the new shares will be issued at a discount of either 25% or 40% on current market price.

Director A is concerned that a 40% discount will result in a reduction in share price which would adversely affect the value of shareholder wealth. He is supporting the lower discount of 25% as he feels that the impact would be reduced.

Director B is recommending a higher discount of 40% as she believes this will improve take up of the rights issue.

Director C is concerned about the impact of a rights issue on future dividend policy. DCD has traditionally operated a stable dividend policy and she is questioning whether this can be sustained following the proposed rights issue.

Next month, after the Board meeting, a press statement will be released in which the project and related rights issue will be made public.

**Required:**

(a) Calculate:

- (i) The terms of the rights issue (to the nearest whole number of shares) at a discount of both 25% and 40%. (3 marks)
- (ii) The yield adjusted theoretical ex-rights price per share at a rights discount of both 25% and 40%. (4 marks)

- (b) Demonstrate the likely impact of the proposed project together with the related rights issue on the wealth of a shareholder with 100 ordinary shares. Your answer should consider a rights discount of both 25% and 40%. (4 marks)
- (c) Recommend an appropriate discount, if any, for the rights issue. Your answer should address the concerns raised by each of the Directors A, B and C.  
(No further calculations are required in part (c)). (8 marks)
- (d) Advise the Directors of oed on factors that are likely to affect the company's share price both before and after next month's planned press statement. (6 marks)

A report format is not required for this question.

(Total: 25 marks)

### 32 CBA (MAR 12 EXAM)

Assume today is 1 April 2012.

CBA is a manufacturing company, operating in the United Kingdom (UK), whose shares are listed on the main UK stock exchange. The board needs to raise GBP 250 million to fund a number of planned new investments and is considering issuing either a convertible bond or additional shares.

CBA currently has 280 million GBP 1 ordinary shares in issue and today's share price is GBP 3.60 per share. It also has GBP 195 million (nominal) of undated 6% preference shares. The preference shares each have a nominal value of GBP 1 and are currently quoted at GBP 1.05 per share. CBA currently has no debt.

Financial position prior to new investment or new financing

Earnings per share for the last financial year ended 31 March 2012 are 45 pence per share and the dividend pay-out ratio has been maintained as close as possible to 50% of earnings. Assume that the dividend for the year ended 31 March 2012 has just been paid and was based on 50% of estimated earnings for the year.

The proposed convertible bond

The convertible bond would be issued at a 7% discount to its nominal value and carry a coupon rate of 3% per annum. The bond would be convertible into ordinary shares in 4 years' time at the ratio of 23 ordinary shares per GBP 100 nominal of the bond.

Forecast position after issuing the convertible bond and making the new investments

Assuming the new investments are undertaken and financed by convertible debt, CBA expects its earnings to grow by 5% per annum for the foreseeable future and to maintain its dividend pay-out ratio at 50%. The share price is expected to rise by 6% per year over the next four year period.

Other information

- CBA pays corporate income tax at a rate of 30% on taxable profits and tax is payable at the end of the year in which the taxable profit arises.
- CBA has sufficient taxable profits to benefit from any tax relief available.

Required:

- (a) Calculate the following values assuming that the proposed convertible bond is issued on 1 April 2012:
  - (i) The forecast conversion value for the convertible bond in four years' time. (2 marks)
  - (ii) The post-tax cost of debt for the convertible bond based on its yield over the next four years up to and including conversion. (5 marks)
  - (iii) CBA's post-tax weighted average cost of capital {WACq. For the purpose of this calculation, assume no change in the market value of the ordinary and preference shares as a result of the convertible bond issue. (6 marks)
- (b) Advise on the benefits and limitations to CBA of issuing a convertible bond rather than new equity. (7 marks)
- (c) Explain the role of CBA's treasury department in evaluating and implementing the convertible bond issue. (5 marks)

A report format is not required for this question.

(Total: 25 marks)

33 FF (MAY 12 EXAM)

FF is a company that specialises in the manufacture, supply and installation of fixtures and fittings for offices. It uses F\$ as its currency. FF is currently evaluating a project to build a new distribution and sales centre.

The company is currently wholly equity funded and has 30 million shares in issue. The share price is F\$11 per share before announcing the proposed project and the ungeared cost of equity is 9%. FF pays corporate income tax at 25%.

The proposed project requires an initial capital investment of F\$80 million. The present value of future cash flows following this initial investment is estimated to be of the order of F\$110 million, based on a discount rate of 9%. The F\$30 million forecast increase in entity value is expected to be fully reflected in the share price immediately the project is announced.

There has been some discussion amongst the directors of FF about how the F\$80 million capital investment should be funded. Any new equity would be raised through a rights issue and any borrowings would be at a pre-tax cost of 7%. Both would be required indefinitely. Three alternative financing structures are being considered as follows:

A: F\$80 million equity funding.

B: F\$80 million borrowings.

C: F\$48 million equity plus F\$32 million borrowings.

Required:

- (a) Calculate the following, based on Modigliani and Millers (MM's) capital theory with tax and assuming the project goes ahead:
- (i) The total value of FF(before deducting debt) on a discounted cashflow basis for each of the financing structures A, Band C. (6 marks)
  - (ii) FF'sWACCfor each of the financing structures A, Band C. (6 marks)
- Note that MM formulae are provided on the formula sheet.
- (b) Explain your results in (a) above with reference to MM's capital theory with tax, illustrating your answer by drawing graphs of your results in (a) above. Use the graph paper provided. (9 marks)
- (c) Advise, with reasons, which financing structure FFshould adopt. (4 marks)

A report format is not required for this question.

(Total: 25 marks)

### 34 KK (MAY 12 EXAM)

Today is 24 May 2012.

KK is based in Europe and has the euro (EUR) as its functional currency. KK manufactures specialised computer parts for sale throughout Europe and has experienced rapid growth in recent years. Much of this growth has been as a result of launching new products.

Despite rapidly increasing revenues, KK has experienced liquidity pressures as evidenced by a growing overdraft. KK is now dangerously close to breaching its overdraft limit of EUR9.0 million.

Extracts from management accounting information for KK for the 12 months of trading up to 30 April 2012 are given below:

|                                       |                      |                        |
|---------------------------------------|----------------------|------------------------|
| <i>Results for 6 months to:</i>       | <i>30 April 2012</i> | <i>31 October 2011</i> |
|                                       | EURmillion           | EURmillion             |
| Revenue                               | 12.6                 | 9.5                    |
| Cost of sales                         | 9.6                  | 7.1                    |
| Other costs (all settled as incurred) | 2.0                  | 1.5                    |
| <i>Balances as at:</i>                | <i>30 April 2012</i> | <i>31 October 2011</i> |
|                                       | EURmillion           | EURmillion             |
| Accounts receivable                   | 7.1                  | 4.8                    |
| Accounts payable                      | 3.2                  | 2.7                    |
| Inventory                             | 5.6                  | 3.9                    |
| Overdraft                             | 8.5                  | 6.0                    |
| <i>Working capital days as at:</i>    | <i>30 April 2012</i> | <i>31 October 2011</i> |
|                                       | Days                 | Days                   |
| Accounts receivable                   | 103                  | 92                     |
| Accounts payable                      | 61                   | 69                     |
| Inventory                             | 106                  | 100                    |

For the purposes of this question, taxation should be ignored.

Required:

- (a) (i) Calculate what the overdraft requirement would have been on 30 April 2012 if working capital days for the period had remained at 31 October 2011 levels. (5 marks)
- (ii) Explain the particular pressures faced by companies in times of rapid expansion in respect of working capital and profit margins. Illustrate your answer with reference to KK. (8 marks)
- (iii) Recommend strategies that KK should consider in order to reduce the amount of funds tied up in working capital. (5 marks)
- (b) Discuss the key factors that a potential lender is likely to consider when assessing the creditworthiness of a business which is experiencing rapid growth. (7 marks)

A report format is not required for this question.

(Total: 25 marks)

35 II (SEPT 12 EXAM)

Today is 1 September 2012.

LL is a company based in Asia which uses L\$ as its functional currency. The company has adopted International Financial Reporting Standards.

LL is currently preparing a bid for a government contract to operate a train service on a new high-speed rail link between the capital city and another city in the same country. The investment appraisal of the project has been completed and shows that the project is financially beneficial. The focus of attention has now shifted to considering how best to finance the initial investment required in the new rolling stock (that is, locomotives and carriages) that is needed to run on the line.

The rail link would be operated by LL for a period of ten years commencing on 1 January 2013. The new rolling stock required would cost L\$50 million if bought outright. There is an active market in second hand rolling stock and it is estimated that the rolling stock could be sold at the end of the ten year period for L\$22 million.

The following two alternative financing approaches are being considered:

- Bank borrowing from its primary bank for a ten year term together with the outright purchase of the rolling stock.
- A ten year operating lease provided by the supplier of the rolling stock.

**Bank borrowing and outright purchase:**

- LL would buy the new rolling stock on 1 January 2013.
- LL can borrow from its primary bank at a 2.5% credit margin above the bank's published base interest rate. The bank's base rate is currently set at 3.5% but can be expected to change in line with changes in market interest rates.
- Maintenance costs are expected to be of the order of L\$1.5 million per year if LL purchases the rolling stock outright.

**Operating lease:**

- An initial up-front payment of L\$5.8 million would be payable at the start of the lease on 1 January 2013.
- Ten further lease payments of L\$5.8 million each would be payable on 31 December in each year starting on 31 December 2013.
- The lessor retains responsibility for maintaining the rolling stock throughout the period of the lease and has included the cost of maintenance services within the lease payments.

**Additional information:**

- LL's financial year runs from 1 January to 31 December.
- LL pays corporate income tax at a rate of 33%, payable annually at the end of the year following that in which the tax charge or tax saving arises.
- 100% tax depreciation allowances are available at the time of acquiring an eligible asset such as rolling stock.
- Lease payments made by LL would be allowable for tax when they are incurred.

**Required:**

- Evaluate, using a discounted cashflow approach as at 1 January 2013, whether it would be cheaper for LL to buy and borrow or enter into an operating lease for the new rolling stock. (12 marks)
- Advise on the impact of each of the two alternative financing approaches on LL's statement of financial position. (4 marks)
- Advise LL which type of financing approach to choose, taking into account:
  - Your findings in (a) and (b) above.
  - Other relevant factors. (9 marks)

A report format is not required for this question.

(Total: 25 marks)

**36 XRG (NOV 12 EXAM)**

Assume today is 1 October 2012.

XRG is a long established manufacturer of paper and plastic products, mainly for use in the packaging industry. XRG is based in the UK, where it is the market leader, but it sells worldwide. Its shares are listed on a UK stock exchange.

XRG has three financial objectives:

- Gearing at or below 50% (calculated as the ratio of debt to debt plus equity and based on book values).
- Earnings per share of at least GBP 0.30.
- Dividend per share of at least GBP 0.10.

XRG needs to refinance GBP 1,250 million of 5% secured borrowings that mature on 1 January 2013. The board of XRG has been discussing whether to renegotiate the debt and continue with a relatively high level of gearing or, alternatively, to issue shares via a rights issue and use the proceeds of the issue to repay the debt on 1 January 2013.

In summary, the two alternative financing strategies being considered are:

Financing strategy 1

Renew the debt for 10 years at an interest rate of 6%. As before, it would be secured on the company's non-current assets.

Financing strategy 2

Issue new shares at a discount of 25% on today's share price of GBP 3.33 by means of a rights issue.

Forecast equity and debt balances for XRG as at 31 December 2012:

|                                          | GBP million |
|------------------------------------------|-------------|
| Equity                                   |             |
| Share capital (50 pence ordinary shares) | 500         |
| Reserves                                 | 1,550       |
| Debt                                     |             |
| 5% secured, maturing 1 January 2013      | 1,250       |
| 7% unsecured, undated                    | 1,250       |

Additional information:

- The new financing strategy will be implemented on 1 January 2013.
- Profit before interest and tax for the year ended 31 December 2013 is forecast to be GBP 650 million.
- Corporate income tax is payable at 30% of the profit before tax figure.
- The dividend payout ratio will be maintained at 35% of earnings.
- Industry average gearing is 40%.

Required:

- (a) For EACH of the two alternative financing strategies under consideration, construct:
- A forecast statement of profit or loss for the year ending 31 December 2013.
  - A forecast schedule of equity and debt balances as at 31 December 2013.
- (8 marks)
- (b) Evaluate the impact of EACH of the two alternative financing strategies 1 and 2 on:
- (i) The likely attainment by XRG of each of its three financial objectives.
- (9 marks)
- (ii) XRG's shareholders and debt providers.
- (8 marks)

A report format is not required for this question.

(Total: 25 marks)



## 37 PPT (MAR 13 EXAM)

PPT is a private manufacturing company. The company owns patents for certain luxury skin care products which it manufactures and sells to the wholesale market. It is also actively involved in research and development (R&D) of new products. PPT has a pre-tax cost of debt of 3.0% and gearing (debt/debt + equity) of 40%, based on its best estimate of the market values of debt and equity.

PPT is currently considering a number of different possible investment projects, proposed by both the R&D and manufacturing departments.

When evaluating proposed investments, PPT has previously always used a discount rate of 10% to discount expected future cash flows. However, the new Financial Director (FD) has challenged this and has suggested that the company should derive a weighted cost of capital (WACC) using the capital asset pricing model (CAPM). This WACC could then be used as the discount rate in future investment appraisal decisions. The Managing Director (MD) has asked the FD to justify this proposal and to calculate a more appropriate WACC for PPT.

The FD of PPT has identified a company, TI, which operates in the same industry. IT has an equity beta of 2.4 and gearing (debt/debt + equity) of 30% based on market values.

Additional information:

- The long term market risk premium can be assumed to be 4.0%.
- The risk free rate is 1.0%.
- Corporate income tax is charged at 35%.
- Debt betas for both PPT and IT can be assumed to be zero.

Required:

- (a) Calculate a WACC for PPT using IT's beta. (6 marks)
- (b) Explain:
- The difference between systematic and unsystematic risk.
  - The components of the CAPM formula.
  - The theoretical relationship between these components shown by the CAPM formula. (12 marks)
- (c) Advise PPT on the benefits and drawbacks of using the WACC calculated in part (a) above as the discount rate in investment appraisal. (7 marks)

A report format is not required for this question.

(Total: 25 marks)

## 38 PPP (MAY 13 EXAM)

PPP is a quoted company which specialises in metal working involving expensive metal forge machines. One of the machines is due to be replaced on 30 June 2013. An investment appraisal exercise has recently been completed which confirmed that it is financially beneficial to replace the machine at this point. PPP is now considering how best to finance the purchase of a replacement machine.

The vendor has offered to structure the sale in the form of a finance lease. Alternatively, the machine could be purchased outright, funded by bank borrowings. However, PPP is already heavily geared.

## Buy versus lease evaluation

A trainee accountant has started to draft an evaluation of the two finance proposals (shown below) but has only completed the first three years. However, there appear to be a number of problems with the approach that need to be sorted out before the evaluation can be completed for the full 15 year term of the lease. All figures are given in thousands of Z\$.

| Line | 30 June:                                             | 2013    | 2014    | 2015   | 2016   |
|------|------------------------------------------------------|---------|---------|--------|--------|
|      | Buy                                                  |         |         |        |        |
| 1    | Initial investment                                   | 500.0   |         |        |        |
| 2    | Tax relief on initial investment                     | (150.0) |         |        |        |
| 3    | Maintenance                                          |         | (18.0)  | (18.0) | (18.0) |
|      | Versus lease                                         |         |         |        |        |
| 4    | Lease payment                                        |         | (45.0)  | (45.0) | (45.0) |
| 5    | Tax relief on lease payment                          |         |         | 13.5   | 13.5   |
| 6    | Accounting depreciation (W1)                         |         | (33.3)  | (33.3) | (33.3) |
| 7    | Tax relief on accounting depreciation (30% tax rate) |         |         | 10.0   | 10.0   |
| 8    | Implied Interest on lease (W2)                       |         | (14.0)  | (11.6) | (9.4)  |
| 9    | Tax relief on implied interest (30% tax rate)        |         |         | 4.2    | 3.5    |
|      | Net cash flow                                        | 350.0   | (110.3) | (80.2) | (78.7) |
| 10   | Discount factor (5% discount rate)                   | 1.0     | 0.952   | 0.907  | 0.864  |
|      | Present value for first three years                  | 350.0   | (105.0) | (72.7) | (68.0) |

## Workings:

## W1: Accounting depreciation

|    |                                                                                 |      |      |      |
|----|---------------------------------------------------------------------------------|------|------|------|
| 11 | Machine costs Z\$ 500,000 and is depreciated over 15 years. ( $33.3 = 500/15$ ) | 33.3 | 33.3 | 33.3 |
|----|---------------------------------------------------------------------------------|------|------|------|

## W2: Implied interest in the lease

|    |                                                   |        |        |        |
|----|---------------------------------------------------|--------|--------|--------|
| 12 | Opening balance (where $350.0 = 500.0 - 150.0$ )  | 350.0  | 291.0  | 234.4  |
| 13 | Less implied interest on lease (4% interest rate) | (14.0) | (11.6) | (9.4)  |
| 14 | Less lease payment                                | (45.0) | (45.0) | (45.0) |
|    | Closing balance                                   |        | 291.0  | 234.4  |
|    |                                                   |        |        | 180.0  |

Additional information used to compile the lease versus buy evaluation:

- The finance lease would provide finance for the Z\$ 500,000 capital equipment required on 30 June 2013. The lease would involve a payment of Z\$ 45,000 each year, with the first payment due on 30 June 2014.
- Fixed rate bank borrowings are available for the full initial investment of Z\$ 500,000 on 30 June 2013 at an interest rate of 5%. The borrowings would be secured on the capital equipment purchased.
- PPP pays corporate income tax at a rate of 30%, payable annually at the end of the year following that in which the tax charge or tax saving arises. There are sufficient taxable profits within PPP to benefit from any tax savings.
- PPP would account for depreciation on the capital expenditure required to buy the new machine on a straight line basis over its estimated 15 years of useful life.
- PPP would be able to claim 100% tax depreciation allowances in the financial year in which capital expenditure is incurred.
- For leases, both accounting depreciation and the implied interest charge are tax deductible.
- Whether leased or purchased outright, future maintenance would remain the responsibility of PPP and would be in the order of Z\$ 18,000 per annum.

Except for the initial investment, all cash flows should be assumed to arise at the end of the year to which they relate.

Required:

- (a) Demonstrate that the implied interest in the lease is 4%. (3 marks)
- (b) (i) Identify which of the numbered lines of data:
  - Should not have been included in the evaluation.
  - Contain an error • (8 marks)
- (ii) Produce a corrected version of the evaluation for the same time period. (8 marks)
- (c) Evaluate other factors that are likely to influence PPP's choice between the finance lease and bank borrowings to finance the new machine. (6 marks)

A report format is not required for this question.

(Total: 25 marks)

### 39 BBB (MAY 13 EXAM)

Company BBB is one of Country B's largest house-builders. In 2012, BBB sold over 9,000 houses, ranging from apartment buildings to individual family houses.

Customer satisfaction is considered key to the future success of the business and the company invests considerable resources in planning and delivering new homes to match customer demand. Customer demand depends heavily on property prices and on both the availability and affordability of mortgage finance.

Up-front costs for BBB are considerable. Substantial capital investment is needed between purchasing the land for development and receiving payment for the houses. BBB therefore requires considerable borrowings and equity funding to support its operations.

Over the last ten years, house prices have continued to show steady growth and the house-building industry has generally performed well. This has enabled BBB to reduce its dependence on debt finance.

There has, however, been some discussion amongst Board members regarding the capital structure of the company. Indeed, management consultants employed to review the company's financial management have recently recommended that BBB increase its gearing to a more efficient level. This would decrease the weighted average cost of capital (WACC) and hence increase company value.

The consultants have undertaken a full review of historical financial data for both BBB and the wider house-building industry and have estimated that the theoretical gearing level (debt to debt plus equity) at which WACC is minimised is around 60% for BBB.

There has been some extensive debate by the Board concerning the consultants' advice. The Finance Director, in particular, is very concerned about increasing gearing at all in the increasingly uncertain economic climate where interest rates are forecast to rise and the banks are reluctant to provide companies with new funding.

Financial data for BBB

BBB has 150 million ordinary B\$1 shares in issue (where B\$ is the currency in Country B). The shares are currently trading at B\$12.83 per share. The cost of equity is estimated to be 8%.

BBB also has the following debt finance:

- B\$300 million floating rate bank loan maturing in 8 years' time with annual interest set at 12 month interbank rates plus 2%. The 12 month interbank rate is currently 3% per annum.
- B\$500 million of bonds currently trading at B\$105 and a quoted yield of 5%.

BBB pays corporate income tax at a rate of 33% on taxable profits.

Required:

- (a)
  - (i) Explain the relationship between WACC and entity value. (3 marks)
  - (ii) Calculate BBB's current:
    - Gearing (based on market values and measured as debt/debt + equity).
    - WACC. (5 marks)
  - (iii) Calculate, using Modigliani and Miller's (MM's) theory with tax, the theoretical reduction in BBB's WACC if gearing were to be increased to 60%. (6 marks)
- (b) Evaluate the Finance Director's stated opinion that BBB's gearing should not be increased in the current economic climate. Your answer should take into account:
  - The risk profile of BBB.
  - Practical considerations affecting the optimum choice of gearing. (11 marks)

A report format is not required for this question.

(Total: 25 marks)

## 40 FF (SEPT 13 EXAM)

FF is a retail company which sells large electrical goods. FF is based in Country F in Asia which has the F\$ as its currency. FF operates 10 retail stores in Country F. Most sales are for cash but FF also supplies electrical goods on credit to corporate customers.

On 1 July 2013, the Finance Director compiled forecast data for the current financial year ending 30 June 2014 as follows:

|                     | Notes | F\$ million |
|---------------------|-------|-------------|
| Sales revenue       | 1,2   | 725         |
| Purchases           | 3,4   | 370         |
| Other costs         | 5     | 325         |
| Capital expenditure | 6     | 30          |
| Dividend            | 7     | 20          |

Notes:

- 1 Retail sales represent 70% of all sales revenue and all retail sales are on a cash basis. The remaining 30% of sales are to corporate customers on credit.
- 2 Corporate customers are given 60 days credit and largely kept to these credit terms throughout the previous year. At the time of drawing up the forecast data above, there was no reason to assume that this would change in the coming year.
- 3 Purchases are made on 120 days credit.
- 4 Inventory value is expected to remain the same throughout the year ending 30 June 2014. Therefore the purchases figure identified above is equivalent to cost of goods sold.
- 5 Within 'other costs' is depreciation of F\$ 40 million. Apart from depreciation, 'other costs' should be assumed to be paid as incurred.
- 6 Capital expenditure should also be assumed to be paid as incurred.
- 7 The dividend is to be paid on 20 June 2014.

Additional information:

- On 1 July 2013, opening balances for working capital were as follows:
 

|                      |                   |
|----------------------|-------------------|
| Accounts receivable: | F\$ 37.2 million  |
| Accounts payable:    | F\$ 124.9 million |
| Inventory:           | F\$ 42.0 million  |
- The opening cash balance was F\$ 50 million on 1 July 2013.
- FF has been careful to retain cash resources and has not needed to arrange any back-up bank facilities in addition to its long term bank borrowings.
- Ignore taxation.

Since 1 July 2013 when the forecast was prepared, market conditions have deteriorated. Indeed, a large competitor company recently went into receivership due largely to liquidity issues following demand by key suppliers for cash on delivery. The directors of FF are keen to seek reassurance from their Finance Director that FF has sufficient liquidity to withstand the liquidity pressures created by this type of risk event.

In particular, the Finance Director of FF has been asked to carry out an urgent review of the liquidity impact of each of the following possible scenarios in respect of the year ending 30 June 2014. Assume all other underlying data remain unchanged.

| Scenario 1                                                                                   | Scenario 2                                     | Scenario 3                                                  |
|----------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------|
| Sales revenue falls to F\$ 630 million but the proportion of retail sales remains unchanged. | Sales revenue and purchases as for scenario 1. | Sales revenue and purchases as for scenario 1.              |
| AND                                                                                          | AND                                            | AND                                                         |
| Purchases fall to F\$ 321 million.                                                           | Accounts receivable days rise to 100 days.     | All suppliers demand cash on delivery.                      |
|                                                                                              |                                                | Note: Accounts receivable days remain unchanged at 60 days. |

Required:

- Prepare a cash flow forecast for the year ending 30 June 2014 based on the forecast financial data available on 1 July 2013. (6 marks)
- Evaluate the impact on the borrowing requirement of FF for each of scenarios 1, 2 and 3 given above. Up to 7 marks are available for calculations. (10 marks)
- Advise FF how the liquidity challenges it faces might affect its approach to:
  - The management of working capital.
  - Financing working capital and other short term liquidity requirements.
  - Long term financial strategy. (9 marks)

A report format is not required for this question.

(Total: 25 marks)

#### 41 RR (SEPT13 EXAM)

RR is a manufacturing company based in the USA and uses the USD as its functional currency. It has just successfully completed the development of a new product, product X. RR plans to put product X into production shortly. No public announcement has yet been made about product X and the research and development activities related to product X have also been kept secret so far.

Financial information for RR

RR has equity as at 30 September 2013 of:

|                          | USD million |
|--------------------------|-------------|
| USD 0.50 ordinary shares | 375         |
| Reserves                 | 1,725       |
|                          | 2,100       |

Production of product X

In order to start production of product X, RR needs to acquire equipment costing USD 500 million which will be paid for on 1 January 2014. In the first five years of production, beginning 1 January 2014, RR forecasts operating cash flows attributable to product X as follows:

| Year          | 1           | 2           | 3           | 4           | 5           |
|---------------|-------------|-------------|-------------|-------------|-------------|
|               | USD million | USD million | USD million | USD million | USD million |
| Cash inflows  | 260         | 275         | 305         | 340         | 350         |
| Cash outflows | 250         | 250         | 250         | 250         | 250         |

Corporate income tax is charged at 30% and is paid at the end of the year in which it is incurred. The initial equipment cost of USD 500 million is eligible for 25% tax depreciation allowances on a straight line basis.

In year 6, RR expects product X to generate net after tax cash inflows of USD 70 million, declining at a rate of 5% a year in perpetuity thereafter.

At RR's weighted average cost of capital (WACC) of 10%, the net present value (NPV) of the forecast cash flows in perpetuity arising from the production of product X is USD 44.6 million.

Rights issue to finance the production of the new product

RR plans to raise the USD 500 million needed to acquire the new equipment by means of a 1 for 5 rights issue at a discount of 30% to the current share price of USD 4.80. The rights issue will be announced shortly, at the same time as the new product. RR's share price is expected to rise straight away to reflect an increase in the value of the company equal to the expected NPV of the project.

Theoretical Ex-Rights Price (TERP) formulae

$$(1) \quad \text{TERP} = \frac{1}{N+1} [(N \times \text{cum rights price}) + \text{issue price}]$$

$$(2) \quad \text{Yield-adjusted TERP} = \frac{1}{N+1} [(N \times \text{cum rights price}) + \text{issue price} \times (Y_{\text{new}}/Y_{\text{old}})]$$

Required:

- (a) calculate the TERP using formula (1) opposite and incorporating the project NPV for the production of product X of USD 44.6 million. (4 marks)
- (b) (i) Demonstrate that the forecast cash flows in perpetuity arising from the production of product X have an internal rate of return (IRR) of approximately 11.3%. (8 marks)
- (ii) Calculate the yield-adjusted TERP using formula (2) opposite and the project's IRR of 11.3%. (4 marks)
- (c) Advise how you would expect the share price to move following the announcement of the imminent production of product X and the rights issue to finance the plan. Your answer should include reference to:
  - The efficient market hypothesis.
  - Your TERP results in parts (a) and (b)(ii), including the relative validity of the two results.
  - Other relevant factors. (9 marks)

A report format is not required for this question.

(Total: 25 marks)

## INVESTMENT DECISIONS AND PROJECT CONTROL 1- ACQUISITIONS AND MERGERS

### 42 AB PLC AND YZ PLC *m Walk in the footsteps of a top tutor*

AB pic is a firm of recruitment and selection consultants. It has been trading for 10 years and obtained a stock market listing four years ago. It has pursued a policy of aggressive growth and specialises in providing services to companies in high-technology and high-growth sectors. It is all-equity financed by ordinary share capital of £50 million in shares of £0.20 nominal (or par) value. The company's results to the end of June 20X2 have just been announced. Profits before tax were £126.6 million. The Chairman's statement included a forecast that earnings might be expected to rise by 4%, which is a lower annual rate than in recent years. This is blamed on economic factors that have had a particularly *adverse* effect on high-technology companies.

YZ pic is in the same business but has been established much longer. It serves more traditional business sectors and its earnings record has been erratic. Press comment has frequently blamed this on poor management and the company's shares *have* been out of favour with the stock market for some time. Its current earnings growth forecast is also 4% for the foreseeable future. YZ pic has an issued ordinary share capital of £180 million in £1 shares. Pre-tax profits for the year to 30 June 20X2 were £112.5 million.

AB pic has recently approached the shareholders of YZ pic with a bid of 5 new shares in AB pic for every 6 YZ pic shares. There is a cash alternative of 345 pence per share.

Following the announcement of the bid, the market price of AB pic shares fell 10% while the price of YZ pic shares rose 14%. The PIE ratio and dividend yield for AB pic, YZ pic and two other listed companies in the same industry *immediately prior* to the bid announcement are shown below. All share prices are in pence.

| 20X2 |     | Company | PIE | Dividend yield<br>% |
|------|-----|---------|-----|---------------------|
| High | Low |         |     |                     |
| 425  | 325 | AB pic  | 11  | 2.4                 |
| 350  | 285 | YZ pic  | 7   | 3.1                 |
| 187  | 122 | CD pic  | 9   | 5.2                 |
| 230  | 159 | WXpic   | 16  | 2.4                 |

Both AB pic and YZ pic pay tax at 30%.

AB pic's post-tax cost of equity capital is estimated at 13% per annum and YZ pic's at 11% per annum.

Assume you are a shareholder in YZ pic. You have a large, but not controlling, shareholding and are a qualified management accountant. You bought the shares some years ago and have been very disappointed with their performance. Two years ago you formed a 'protest group' with fellow shareholders with the principal aim of replacing members of the Board. You call a meeting of this group to discuss the bid.



Required:

In preparation for your meeting, write a briefing note for your group to discuss. Your note should:

- (a) evaluate whether the proposed share-for-share offer is likely to be beneficial to shareholders in *both* AB pic and YZ pic. You should use the information and merger terms available, plus appropriate assumptions, to forecast post-merger values. As a benchmark, you should then value the two companies using the constant growth form of the dividend valuation model (13 marks)
- (b) discuss the factors to consider when deciding whether to accept or reject the bid and the relative benefits/disadvantages of accepting shares or cash (8 marks)
- (c) advise your shareholder group on what its members should do with their investment in YZ pic, based on your calculations/considerations. (4 marks)

(Total: 25 marks)

#### 43 TAKEOVER BID (MAY 07 EXAM)

country Y.

Country Y is a large industrialised country with strong motor vehicle and construction industries. The glass industry supplies glass to these industries as well as to specialist users of glass such as contact lens manufacturers. There are *five* major glass manufacturing entities, each with market coverage in Country Y of between 5% and 40%.

Entity Q

Entity Q is a quoted entity and a major player in the glass industry. It has a market share in Country Y of approximately 35%. It is an old, well-established entity with a number of factories used to manufacture glass both locally and abroad. It has a stable, but unexciting, growth rate of 3% per annum and is facing increasing competition from new glass manufacturing entities setting up in its key markets. However, Q's high earnings levels of earlier years have resulted in relatively low levels of debt.

The head office building of Q is in the far north of Country Y in a remote geographical area. It is a considerable distance from the capital city and major centres of population in the south of the country. The building is much larger than the entity requires and several floors are unoccupied.

The management team of Q is highly experienced; the majority of the senior managers have worked for Q for the whole of their working lives.

The computer systems of Q were written especially for the entity, but are in need of replacement in favour of something more flexible and adaptable to changing circumstances.

Entity Z

Entity Z, with a market share in Country Y of 10%, is a comparatively new and small, but fast growing unquoted family-owned entity. It specialises in certain niche markets for high security and extra heat resistant glass. The patents for this specialist glass were developed by the founder owner who now acts as Managing Director. The development of the business has largely been funded by high levels of borrowings at rates of interest well above standard market rates. In addition, the directors have often been required to provide personal guarantees against personal assets.

The management team of Z works in the capital city of Country Y, which is in the more prosperous southern part of the country. Z has a manufacturing base on the outskirts of the capital city.

The management team of Z is enthusiastic to grow the business, but is continually frustrated by a lack of financial and human resources and marketing network that would enable Z to expand into international markets. Also, on a personal level, many of the senior managers own a substantial number of shares in Z and are keen to realise some of the capital gains and become financially more secure.

The computer systems of Z consist of a basic accounting package and an internal network of PCs. Spreadsheet packages are widely used for budgeting and other financial reporting.

#### Takeover bid

The directors of Q have approached the directors of Z with a view to making a takeover bid for Z. A condition of the bid would be the retention of the current management team of Z who have vital knowledge of the specialist manufacturing techniques required to manufacture the product range of Z. The directors of Z have been initially quite positive about the bid.

Both parties are concerned that the deal may be referred to Country Y's Competition Directorate, which regulates the country's competition policy, for approval and that conditions may be imposed that could make the takeover less attractive.

#### Required:

- (a) Explain the role of competition authorities such as Country Y's Competition Directorate. (6 marks)
- (b) Advise the directors of Q and Z on the potential problems of merging the management structure and systems of the two entities and how these could be minimised. (9 marks)
- (c) Discuss whether the choice of capital structure for the new combined entity is likely to affect the overall value of the entity. Include references to Modigliani and Miller's (MM's) theory of capital structure in your answer. (10 marks)

(Total: 25 marks)

#### 44 GG (MAY 07 EXAM)

GG, a large engineering and project management group, has announced plans to sell its wholly-owned telecommunications subsidiary, BB, so that it can concentrate on its core business of major infrastructure developments.

HH, an entity with diverse business interests, has expressed an interest in making a bid for BB, but the directors of HH are aware that there are likely to be several other interested parties.

News of the possible sale has been well received in the financial markets and GG has seen its share price rise by 15% in the last two months. HH expects to be able to use its good reputation and strong market presence to enhance the prospects of BB by improving BB's annual earnings by 10% from the date of acquisition.

Financial information as at today, 23 May 20X7, ignoring any potential synergistic benefits arising from the possible acquisition of BB by HH:

- profit after tax for BB for the year ended 30 April 20X7 is estimated as \$1 million

- 88's profit after tax has increased by 7% each year in recent years and this trend is expected to continue
- The gearing level of 88 can be assumed to be the same as for GG
- The business tax rate is 30%
- Estimated post-tax return on the market is 5% and the risk free rate is 3% and these rates are not expected to change in the foreseeable future
- Assume a debt beta of zero

|                                         | HH        | GG        | Proxy entity for BB<br>in the same industry |
|-----------------------------------------|-----------|-----------|---------------------------------------------|
| Number of ordinary shares in issue      | 5 million | 4 million |                                             |
| Current share price                     | 613 cents | 500cents  |                                             |
| PIE ratios today                        | 1:1       | 1:4       | 1:3                                         |
| Dividend payout                         | 40%       | 50%       | 50%                                         |
| Equity beta                             | 1.1       | 1.4       | 1.4                                         |
| Gearing (debt: equity at market values) | 1:2       | 1: 2.5    | 1:4                                         |
| Forecast earnings growth                | 5%        | 6%        |                                             |

Required:

- Calculate an appropriate cost of equity for BB based on the data provided for the proxy entity. (3 marks)
- Calculate a range of values for BB both before and after any potential synergistic benefits to HH of the acquisition. (8 marks)
  - Discuss your results in (b) (i) and advise the directors of HH on a suitable initial cash offer for BB. (7 marks)
- Advise the directors of GG on both the potential benefits and potential drawbacks arising from the divestment of its subsidiary, BB. (7 marks)

(Total: 25 marks)

#### 58 PLC(NOV 08 EXAM)

S8 plc (58) is an unquoted entity that provides technical advisory services and human resources to the oil exploration industry. It is based in the UK, but operates worldwide. It has been trading for 15 years. The four founding directors work full time in the business. Other employees are a combination of full time technical consultants and managers, and experts retained for specific contracts. Recruiting and retaining qualified consultants is a challenge and S8 has to offer very competitive remuneration packages.

The market for the type of services that S8 offers is growing. The large multinational oil entities are currently looking at exploration possibilities in the Caribbean. This will open up substantial new opportunities for S8 which will require additional funding. However, the concessions for operating in this region are still under discussion with the various Caribbean governments and the oil multinationals have not yet started formal bidding.

In recent years, S8 has been informally approached by some of its competitors and also its major customers to sell out. The directors have so far rejected these approaches but are now re-considering the possibilities. An alternative also being considered is an Initial Public Offering (IPO), that is, a stock market flotation.

Assume today is 1 January 20X3

Current financial information

- Revenue in the year to 31 December 20X2 was £40,250,000 and earnings (profit after tax) were £20,188,000. There are five million shares in issue owned equally by the four directors. No dividends have been paid in any year to date.
- Net book value of buildings, equipment and vehicles plus net working capital is £22,595,000. The book valuations are considered to reflect current realisable values.
- SB is currently all equity financed.

Forecast financial information

- Sales revenue for the year to 31 December 20X3 is expected to be £52,250,000.
- Growth in revenue in the years to 31 December 20X4 and 20X5 is expected to be 20% per annum.
- Operating costs, inclusive of depreciation, are expected in the future to average 60% of revenue each year.
- Assume that book depreciation equals tax depreciation and that profit after tax equals cash flow.
- The marginal rate of tax is expected to remain at 28% per annum, payable in the year in which the liability arises.
- Assume from 20X6 onwards that the 20X5 pre-discounted cash flow will grow at 6% per annum indefinitely. This assumes that no new long-term capital is raised. If the entity is to grow at a faster rate, then new financing will be needed.

Industry statistics

The average P/E ratio for the industry, using a very broad definition, is 12 with a range of 9 to 25. The average cost of capital for the industry is 12%. Cost of capital figures by individual entity are not available.

Required:

Assume you are a financial advisor to S8.

- (a)
- (i) Calculate a range of values, in total and per share, for S8.
  - (ii) Advise the directors of S8 on the relevance and limitations of each method of valuation to an entity such as theirs, and in the circumstances of the two alternative disposal strategies being considered.
  - (iii) Recommend a suitable valuation figure that could be used for a trade sale or an IPO.

Use whatever methods of valuation you think appropriate and can be estimated with the information available.

Note: Calculations in part (i) count for up to 10 marks. (18 marks)

- (b) Advise the directors of S8 on the advantages and disadvantages of a trade sale compared with a stock market flotation, at the present time, and recommend a course of action. (7 marks)

A report format is not required for this question.

(Total: 25 marks)

## 46 LP (MAY 09 EXAM)

LP's shares are listed on the London Stock Exchange. The directors of LP have made an offer for 100% of the shares in MQ. MQ's directors have rejected the bid. If the bid eventually succeeds, the new combined entity will become the largest in its industry in the UK.

Relevant information is as follows:

|                                                   | LP           | MQ           |
|---------------------------------------------------|--------------|--------------|
| Share price as at today (20 May 20X9)             | 305 pence    | 680 pence    |
| Share price one month ago                         | 310 pence    | 610 pence    |
| Shares in issue                                   | 480 million  | 130 million  |
| Earnings per share for the year to 31 March 20X9  | 95 pence     | 120 pence    |
| Debt outstanding as at 31 March 20X9 (book value) | £350 million | £105 million |

- 30% of LP's debt is repayable in 20Y2; 30% of MQ's in 20Y3
- LP's cost of equity is 10%
- LP has cash available of £330 million. MQ's cash balances at the last balance sheet date (31 December 20X8) were £25 million.

#### Terms of the bid

LP's directors made an opening bid one week ago of 2 LP shares for 1 MQ share. The entity's advisers have told the directors that, in order to succeed, they must consider a cash alternative to the proposed share exchange. If a cash alternative is offered and the bid eventually succeeds, 40% of shareholders are expected to accept the share exchange, and 60% the cash alternative.

Required:

Assume you are a financial manager with LP.

- (a) Discuss and advise the directors on the likely success of the bid based on the current offer and current market data. Recommend, if necessary, revised terms for the share exchange. (9 marks)
- (b) (i) Discuss the advantages and disadvantages of offering a cash alternative to a share exchange. You should include the following calculations in your answer:
  - The amount of cash that would be needed based on your recommendation of revised terms in part (a) above
  - The impact of the proposed finance on the combined entity's gearing (debt to debt plus equity). (11 marks)
- (ii) Recommend how the cash alternative might be financed. (5 marks)

Note: A report format is not required for this question.

(Total: 25 marks)

47 RV (MAY 09 EXAM) *m Walk in the footsteps of a top tutor*

RV is a private entity based in the UK and operating in a service industry. It has been trading for five years. All the directors and most of the employees are shareholders. None of them has attempted to sell shares in the entity so the problem of placing a value on them has not arisen. It has one external shareholder, which is a venture capital trust. This trust owns 15% of the share capital.

Revenue and profit before tax last year (20X7) were £109 million and £10 million respectively. RV pays corporate tax at 30%. The book value of total net assets as at the last balance sheet date was £25 million.

The entity is currently all-equity financed. The ordinary share capital of the entity is £4 million in shares of 20 pence par value. Dividends have been paid each year since 20X3 at a fixed payout ratio of 25% of earnings. In the current year (20X8) earnings are likely to be slightly lower than in 20X7 by approximately 5%. However, RV's directors have decided to pay a dividend of the same amount per share as in 20X7.

The directors are evaluating investment opportunities that would require all the entity's free cash flow for 20X8 plus long term borrowings of £20 million carrying an interest rate of 8% before tax. If the entity does not borrow to invest, growth in earnings and dividends will be zero for the foreseeable future. If it does borrow and invest, then growth in earnings and dividends are expected to be an average of 6% per annum from 20X9 onwards.

RV's cost of equity is currently 12%. This is expected to rise to 13% if borrowing takes place.

**Required**

- (a) (i) Calculate, in total and per share, a value for equity under each of the following two bases:
- Using the dividend valuation model and assuming no new investment
  - Using Modigliani and Miller's theory of capital structure/gearing and assuming the entity borrows and invests. (8 marks)
- (ii) Discuss the limitations of the two methods of valuation you have just used and advise RV on a more appropriate method. (7 marks)
- (b) Assuming some of the employees, who between them own 5% of the share capital, wish to sell their shares:
- Advise RV's directors whether either of the values you have calculated in part (a) would be an appropriate valuation for these small shareholdings as compared with a valuation for the whole entity. Include some discussion about how dividend policy might affect the valuation of an entity such as RV.
  - Explain how and to whom the shares might be sold. (10 marks)

Note: A report format is not required for this question.

(Up to 14 marks are available for calculations)

(Total: 25 marks)

## 48 XK (MAY 10 EXAM)

XK is a multinational manufacturer of household electrical goods. Its headquarters and main manufacturing base are in the USA. Each manufacturing operation is usually established as a separate wholly-owned subsidiary. The larger electrical appliances tend to carry higher margins and there is a general move away from manufacturing smaller appliances.

Extracts from XK Group's latest statement of financial position at 30 April 20X0:

|                                        | US\$ millions |
|----------------------------------------|---------------|
| <b>ASSETS</b>                          |               |
| Non-current assets                     | 2,250         |
| Current assets                         | 700           |
| <b>Total assets</b>                    | <b>2,950</b>  |
| <b>EQUITY AND LIABILITIES</b>          |               |
| <b>Equity</b>                          |               |
| Share capital (Common shares of US\$1) | 375           |
| Retained earnings                      | 1,150         |
| <b>Total equity</b>                    | <b>1,525</b>  |
| <b>Non-current liabilities</b>         |               |
| Secured 7.5% bonds repayable 20YO      | 1,000         |
| <b>Current liabilities</b>             | <b>425</b>    |
| <b>Total liabilities</b>               | <b>1,425</b>  |
| <b>Total equity and liabilities</b>    | <b>2,950</b>  |

Notes:

- XK's bonds are secured on its non-current assets.
- The current liabilities include overdraft of US\$150 million. The conditions of the overdraft require XK to maintain a current ratio of at least 1.5 : 1.
- Group earnings for the year to 30 April 20X0 were US\$510 million.
- XK pays corporate tax at 25% per annum.
- XK's share price has risen 5% over the past 3 months to its present level of US\$8.75. The stock market price index has fallen by 3% in the same period.

The XK Board is discussing the divestment of one of its US subsidiaries, Company Y, which manufactures smaller appliances. Historically, the subsidiary company, Y, has accounted for 6% of group earnings. XK's accountants, with some input from the subsidiary's management team, have determined a net present value (NPV) to be placed on Company Y of US\$325 million. The Executive Directors of Y believe they can transform the business if they have the freedom to respond to market challenges and are considering a management buyout (MBO).

Financing the MBO:

The financing of the MBO will be by a combination of funding from the Executive Directors of Y, an investment bank and a Venture Capitalist.

The Executive Directors of Y expect to be able to raise US\$5 million between themselves as equity.

The investment bank will lend a maximum of 90% of the non-current assets of the business secured on those non-current assets, which are valued in the accounts at US\$220 million. The interest rate will be 6% and the principal will be repayable in 5 years' time. This rate compares with current prime, or base, rate of 2% and commercial bank secured lending rates of between 3% and 4%.

The venture capitalist will supply the balance of the funding required. The venture capitalist expects a return on its investment averaging 25% per annum (on a compound basis) by 31 March 20X5 and requires all earnings to be retained in the business for 5 years. Some of the MBO team are not happy with this requirement.

Required:

- (a) Evaluate the interests of the various stakeholder groups in both XK and its subsidiary Company VI and how these might be affected by the divestment. (7 marks)
- (b) Discuss the economic and market factors that might impact on the negotiations between XK and the various financiers of the divestment (the Executive Directors of V, the investment bank and the venture capitalist). (7 marks)
- (c) Evaluate the advantages and disadvantages of the proposed buyout structure, and recommend alternative financing structures for the buyout.

Up to 5 marks are available for calculations (11 marks)

(Total: 25 marks)

#### 49 ADS (NOV 10 EXAM)

ADS operates a number of large department stores based in a developed country in Asia. Its shares are listed on an Asian stock exchange. It has shown year-on-year growth in earnings and dividends every year since it became a listed company ten years ago. Some years have shown better growth than others but even in a relatively poor year earnings in real terms have been higher than in the previous year. It is currently all-equity financed. Approximately half of its shareholders are institutional investors; the other half is made up of large holdings by the original founding family members and small investors including many employees of ADS.

The directors of ADS are proposing to raise A\$250 million to invest in new, smaller stores. This investment will carry similar risk to ADS's current business. It is proposed that the investment will be financed by an issue of an undated bond carrying 5% interest pre-tax. This rate is deemed to reflect the returns required by the market for the risk and duration of the bond. Some of the directors are reluctant to agree to debt finance as they think it will lower the value of equity and this might be a matter of concern for shareholders. The investment is planned for the end of 20X0.



The following information is relevant:

- Earnings for ADS are forecast to be A\$127.1 million in 20X1. This forecast assumes that the new stores are already fully operational at the start of 20X1. From the year 20X2 onwards, earnings are expected to increase at a rate of 4% per annum indefinitely.
- The corporate income tax rate is 25%. This is not expected to change.
- The cost of equity for ADS as an all-equity financed company is 9%.
- There are 300 million shares in issue, currently quoted at A\$8.50.

One of ADS's directors has recently read an article about company valuation and the differences between Modigliani and Miller (MM) models and the 'traditional' view.

Required:

- (a) Discuss:
- How the MM models, both with and without corporate taxes, differ from the 'traditional' view of the relationship between gearing and cost of capital. Accompany your discussion with appropriate graphical illustrations.
  - The limitations of MM models in 'real world' situations. (10 marks)
- (b) (i) Calculate the value of ADS's equity using discounted cash flow techniques, assuming that the new stores are financed by equity. (2 marks)
- (ii) Calculate, assuming that the new stores are financed by the undated bond and using the MM model with corporate taxes, the following:
- The value of ADS's equity
  - The expected cost of equity
  - The weighted average cost of capital (WACC). (6 marks)
- (c) Explain your results in (b) above and advise the directors whether their concern about lowering the value of equity is valid. (7 marks)

A report format is not required for this question.

(Total: 25 marks)

## 50 WW (MAY 11 EXAM)

Today's date is 26 May 20X1.

WW is a publishing company that is listed in an Asian country, Country A, which uses the A\$ as its currency. WW operates as three separate divisions according to type of publication as follows:

- Public Division - magazines and journals that are widely available in retail stores for purchase by the general public.
- Specialist Division - specialist magazines for particular industry sectors which are only available for delivery by post.
- In-house Division - company in-house journals for circulation to its own staff members.

### PAPER F3 : FINANCIAL STRATEGY

WW has been disappointed with the recent performance of the Specialist Division and is considering selling that division. WW manages the company's debt centrally and measures the performance of the divisions on the basis of EBIT (earnings before interest and tax).

XX, a book publishing company, has expressed an interest in purchasing the Specialist Division. XX is also located in Country A and is confident that it has the expertise required to improve the performance of the Specialist Division. XX would purchase the net asset: employed in the division (that is, non-current assets plus working capital). All borrowing would remain with WW.

There has been some discussion amongst the Directors of XX as to the most appropriate method to use to value the Specialist Division.

- Director A has suggested that an asset-based valuation should be used.
- Director B has proposed that the valuation should be based on the future operating cash flows of the division, adjusted for tax and discounted by XX's existing weighted average cost of capital (WACC).
- Director C has suggested that the WACC used in the valuation should be derived from a proxy company. He has identified YY as a possible proxy for the Specialist Division. YY's sole activity is publishing specialist magazines in a similar market to the Specialist Division.
- Director D has suggested that the earnings valuation model should be used based on an estimated cost of equity for the Specialist Division.

Financial data for WW's Specialist Division

The management of WW have provided XX with the following financial data for the Specialist Division:

- The net assets employed in the division had a book value of AS 15.0 million and an estimated replacement value of AS 20.0 million on 31 March 20X1.
- Operating cash flows adjusted for tax were AS 2.5 million in the year ended 31 March 20X1.
- Operating cash flows are forecast to grow by only 1% per annum in perpetuity if the division remains within WW.

Financial data for XX and YY

|                                         | XX             | YY            |
|-----------------------------------------|----------------|---------------|
| Equity beta                             | 1.5            | 0.8           |
| Gearing ratio (debt/(debt plus equity)) | 40%            | 25%           |
| Pre tax cost of debt                    | 6%             | 7%            |
| Market capitalisation                   | AS 150 million | AS 30 million |

Additional relevant information for all companies WW, XX and YY:

- Corporate income tax rate is 30%.
- Risk free rate is 5%.
- The premium over the risk free rate by the market is 6%.
- Debt betas are zero.

Required:

- (a) Calculate:
- (i) XX's existing cost of equity. (1 mark)
  - (ii) XX's existing weighted average cost of capital (WACC). (2 marks)
  - (iii) A suitable WACC for the Specialist Division based on proxy YV, adjusted for XX's gearing. (5 marks)
- (b) (i) Calculate a range of values for the Specialist Division based on the different methods suggested by Directors A, B and C (but not Director D). (5 marks)
- (ii) Discuss the validity of the methods suggested by each of the four Directors A, B, C and D. (8 marks)
- (iii) Advise XX on an appropriate price for the purchase of the Specialist Division. (4 marks)

A report format is not required for this question.

(Total: 25 marks)

#### 51 MMM RECRUITMENT (SEPT 11 EXAM)

MMM is a recruitment agency. It has seen rapid growth in recent years and obtained a stock market listing 3 years ago. However, recent profits have been disappointing, largely as a result of poor economic conditions leading to limited employment opportunities.

MMM is planning a takeover bid for JJJ, a rival recruitment agency in a specialist, growing market that has not been affected to such an extent by the poor economic conditions. JJJ has an advanced information technology and information system which was developed in-house and which MMM would acquire the rights to use. MMM plans to adopt JJJ's information technology and information system following the acquisition and this is expected to be a major contributor to the overall estimated synergistic benefits of the acquisition, which are estimated to be in the order of \$8 million.

MMM has 30 million shares in issue and a current share price of \$6.90 before any public announcement of the planned takeover. MMM is forecasting growth in earnings of 6% a year for the foreseeable future.

JJJ has 5 million shares in issue and a current share price of \$12.84. It is forecasting growth in earnings of 9% a year for the foreseeable future.

The directors of MMM are considering 2 alternative bid offers:

Bid offer A - Share based bid of 2 MMM shares for each JJJ share.

Bid offer B - Cash offer of \$13.50 per JJJ share.

Required:

- (a) Assuming synergistic benefits are realised, evaluate bid offer A and bid offer B from the viewpoint of:
- (i) MMM's existing shareholders.
  - (ii) JJJ's shareholders.

Up to 7 marks are available for calculations.

(11 marks)

PAPER F3 : FINANCIAL STRATEGY

(b) Advise the directors of MMM on:

- (i) The potential impact on the shareholders of both MMM and JJJ of not successfully realising the potential synergistic benefits after the takeover.

Up to 5 marks are available for calculations. (8 marks)

- (ii) The steps that could be taken to minimise the risk of failing to realise the potential synergistic benefits arising from the adoption of JJJ/s information technology and information system. (6 marks)

A report format is not required for this question.

(Total: 2S marks)

S2 VY GROUP (SEPT 11 EXAM)

Assume today is 1 October 20X1.

YY Group is a manufacturer of consumer electronic appliances and its shares are listed on a major stock exchange. The functional currency of the YY group is the \$.

The Board of YY is considering the disposal of a wholly-owned subsidiary, TS, that manufactures telecommunications equipment. The CEO of YY thinks this subsidiary is not central to the group's main financial objective and strategic direction and utilises valuable resources that could be more profitably employed in its core businesses. TS, while profitable, has consistently reported lower growth rates than the group as a whole and therefore the CEO is recommending the disposal of the subsidiary.

The Finance Director of YY is not convinced of the need for disposal. He has correctly noted that this subsidiary continues to make a contribution to profits. He thinks that unless an opportunity can be identified that requires this level of investment and can better aid the achievement of the group's objective, YY should not sell TS. His estimate is that TS is worth just under \$1 billion (\$1,000 million).

The senior managers of TS have indicated they are interested in pursuing a management buyout (MBO). The Board of YY is willing to consider this but some Board members, who agree with the divestment of TS in principle, think a trade sale would be a better alternative.

A meeting of the management team of TS has been called by Mr A, the Managing Director of TS, to discuss a range of issues that need to be considered if they are to launch an MBO. The following views have been expressed by various members of the management team of TS.

Mr A - Managing Director of TS

"I am convinced that we, the management team, can add value to TS. We need to identify how and why, under our own control, we can achieve greater returns from the business than under YY's control. We also need to be able to convince the Board of YY that selling the business to us by means of an MBO is more attractive for them than a trade sale."

Ms B - Financial Manager of TS

"Financing will be a major problem if the Finance Director of YY is correct in his valuation. The TS management team and employees would be able to raise no more than 20% of this value. I have therefore had informal discussions with a venture capital organisation. It is very interested and has money available. However, before starting formal negotiations, I would like to know more about the advantages and disadvantages of venture capital financing in our situation and also whether there are any realistic alternatives."

Mr C- Marketing Manager of TS

"Ms B has explained to me that the \$1 billion (\$1,000 million) valuation produced by the Finance Director of YY is based on YY's PIE ratio. I have three questions:

- 1 How is the \$1 billion (\$1,000 million) calculated? This seems excessive as the net asset value is substantially less than this.
- 2 Is the net asset value the one we should be focussing on?
- 3 Are there any other, more appropriate, valuations or methods of valuation?"

Summary financial data

|                                                                                                                | <i>YYGroup<br/>(inc TS)</i> | <i>TS</i>  |
|----------------------------------------------------------------------------------------------------------------|-----------------------------|------------|
| Earnings in the financial year ended 31 August 20X1 (\$ million)                                               | 1,260                       | 75         |
| Book value of net assets as at 31 August 20X1 (\$ million) (Net assets are stated after deducting borrowings.) | 8,050                       | 735        |
| Shares in issue on 31 August (unchanged at 1 October 20X1)                                                     | 525 million                 | 25 million |
| Share price on 31 August 20X1 (\$)                                                                             | 31.20                       | <i>nla</i> |
| Share price on 1 October 20X1 (\$)                                                                             | 31.50                       | <i>nla</i> |

The PIE ratios of companies in the telecommunications industry in the region generally range from 8 to 25. The average PIE ratio is 15.

Required:

Assume you are an independent advisor retained and paid by the management team of TS to advise on the proposed MBO. Prepare briefing notes for a forthcoming meeting with the management team of TS in which you evaluate the concerns raised in respect of the proposed MBO by the following people:

- (a) Mr A - Managing Director of TS (7 marks)
- (b) Ms B - Financial Manager of T5 (7 marks)
- (c) Mr C- Marketing Manager of TS (11 marks)

Up to 4 marks are available for calculations in part (c).

A report format is not required for this question.

(Total: 25 marks)

## 53 TNG (MAR 13 EXAM)

Today is 1 March 2013.

TNG is a group, listed on a European stock exchange, which provides a comprehensive range of equipment and services to the oil industry. Its Head Office is in a country in the Eurozone, with subsidiaries based all around the world.

One of TNG's wholly owned subsidiaries, known as TNG Logistics and Procurement (L&P) offers maintenance and support services for the equipment which is supplied by other TNG subsidiaries. L&P is based in a country in the Eurozone. However, its revenues are always invoiced in USD. Some suppliers to L&P submit invoices in USD but others invoice L&P in EUR.

The main board of TNG has been considering divestment of L&P for some time and has recently received an informal approach from GNT, one of L&P's main competitors. The directors of TNG are now interested in ascertaining an appropriate price for the sale of its shares in L&P and are considering using both a Discounted Cash Flow (DCF) method and a Calculated Intangible Value (CIV) method to establish a value for L&P's equity.

Relevant information for the DCF valuation

Forecast operating cash flows in respect of the year starting on 1 April 2013 are shown below.

|                         |                 |
|-------------------------|-----------------|
| Cash inflows (revenue): | USD 155 million |
| Cash outflows (costs):  |                 |
| Invoiced in USD         | USD 35 million  |
| Invoiced in EUR         | EUR 40 million  |

Additional information:

- L&P is funded wholly by equity.
- It is anticipated that the forecast operating cash flows for the year starting on 1 April 2013 will increase by 10% per annum for the next two years and then by 5% per annum in perpetuity thereafter.
- L&P is committed to a contract to acquire a piece of machinery for EUR 30 million which will need to be paid for in full on 1 April 2013. This machinery is likely to be used in the business for a significant number of years and will thus have a residual value of zero. Special tax depreciation allowances are available on this type of machinery on a straight line basis over three years.
- It is anticipated that EUR 5 million (net of any tax relief) will be spent annually on ongoing investment in non-current assets and working capital necessary to maintain L&P's operations. This will first be incurred in the year ending 31 March 2014 and will then grow at 5% per annum in perpetuity.
- All cash flows, other than the initial purchase of the machinery can be assumed to occur at the end of the year to which they relate.

- The spot exchange rate is forecast to be EUR/USD 1.3000 (that is, EUR 1 = USD 1.3000) on 1 April 2013. The EUR is expected to strengthen against the USD by 1% per annum over the next three years. It can be assumed that exchange rates remain constant from the end of year 3 onwards.
- The weighted average cost of capital can be assumed to be 14% for TNG and 10% for L&P.
- The corporate income tax rate applicable to L&P is 30%. Tax is paid in EUR in the year in which the tax is incurred.

#### CIV valuation

The directors of TNG have already calculated a value for L&P's intangible assets using the (IV method. This calculation is given below. All averages relate to results over the last three years.

|                                                                                                                                         | EUR million |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Average profit before tax for L&P                                                                                                       | 44.10       |
| Industry average return on tangible assets of 11%<br>multiplied by average L&P tangible assets of EUR 325m<br>(= 11% x EUR 325 million) | (35.75)     |
| Value spread                                                                                                                            | 8.35        |
| Less tax at 30%                                                                                                                         | (2.51)      |
| Post tax value spread                                                                                                                   | 5.84        |

The post tax value spread is then discounted at L&P's weighted average cost of capital of 10% to give a (IV value of EUR 58.40 million (= EUR 5.84 million/0.10).

A value for L&P is obtained by adding the (IV value of intangible assets to L&P's tangible net asset value of EUR 295.00 million to give a total value of EUR 353.40 million.

(Where EUR 353.40 million = EUR 58.40 million + EUR 295.00 million.)

#### Required:

- Calculate a value for L&P in EURas at 1 April 2013 based on discounted cash flow analysis. (12 marks)
- Explain:
  - The types of intangible asset that L&P is likely to hold.
  - The rationale behind the CIV method of valuing intangible assets. (6 marks)
- Compare and contrast the validity of the DCF and CIV valuations of L&P for the purpose of establishing an appropriate asking price for the sale of L&P. (7 marks)

A report format is not required for this question.

(Total: 25 marks)

S4 NN (MAY 13 EXAM)

NN is a listed US international sports clothing and footwear manufacturer that specialises in the high-tech end of the market. NN owns various sports brand names and manufactures sports clothing products by contract with companies in the Far East. NN then distributes the products and sells them through wholesale and retail outlets worldwide, including its main high-tech brands N1, N2 and N3 in its expensive main stores in London, Paris, New York and Tokyo.

Brand N4

As well as the high-tech brands, NN also owns brand N4 which was acquired a few years ago. In the year ended 31 March 2007, the year that N4 was acquired, N4 had total revenue of USD 246 million. Despite investment and marketing campaigns, N4 has failed to show consistent growth in revenue and profit since it was acquired. Indeed, in the year ended 31 March 2013, annual revenues were lower than 2006/2007 levels, at just USD 190 million, and N4 had an after tax loss of USD 41 million in the year after charging central overheads of USD 21 million. NN expects this level of loss to continue for the foreseeable future.

Potential sale of N4 to QQ

At the start of 2013, NN announced that it was interested in selling the N4 brand name and company QQ immediately expressed an interest in buying it.

QQ operates in a different type of market to NN. The brands that it owns are mostly at the low-price end of the sports clothing market and are marketed through less prestigious retail outlets such as hypermarket stores in cheaper out of town locations. These low-price stores focus on selling large quantities of goods at the lowest price possible. The stores keep costs low by spending less on display and marketing and being located in cheaper out-of-town areas. Their customer base largely comprises lower income families but the stores also attract higher earners who are looking for goods at a bargain price.

QQ focuses on minimising costs and also allocates a much smaller amount than NN to spend on advertising and promotion of its brands and does not maintain costly main stores in key capital cities.

QQ's valuation of N4

The directors of QQ have conservatively estimated that, under QQ's cost structure and management, N4 can be expected to generate free cash flow of USD 22 million per annum, with zero growth in real terms.

Financial data for both NN and QQ as at close of business on 30 April 2013

NN position:

- 6,000 million ordinary USD 0.50 (nominal) shares in issue.
- Estimated 'real' weighted average cost of capital (WACC) of 8%.
- Gearing of 40% (debt/debt plus equity, market values).

QQ position:

- 1,800 million ordinary USD 1.00 (nominal) shares in issue.
- Estimated 'real' WACC of 6%.
- Gearing of 50% (debt/debt plus equity, market values).

The issued share capital for both NN and QQ remained unchanged on 1 May 2013.



Details of sales agreed on 1 May 2013

After a period of negotiation and due diligence, QQ submitted an offer to NN on 1 May 2013 to purchase N4 at an offer price of USD 150 million. By prior arrangement, this offer was accepted on the same day. Details of the sale were immediately released into the public domain, including the price agreed.

On that same day, 1 May 2013, the day that the offer became public, NN's shares moved up 6 cents in New York, closing at USD 87.23 per share, and QQ's shares gained 1.5%, closing at USD 15.53 per share.

Mr Q's queries

Mr Q is a newly appointed non-executive director of QQ and he has a list of concerns about the proposed purchase of N4 which the Finance Director of QQ needs to address. These concerns are listed below:

- 1 How is it possible that the share price of both QQ and NN increased on the day that the sale was announced?
- 2 How can QQ expect to generate higher profits from N4 than NN was able to?
- 3 What courses of action are open to QQ if it fails to generate sufficient returns from N4?

Required:

- (a)
  - (i) Calculate the value of N4 from the viewpoint of both NN and QQ based on discounted cash flow (DCF) analysis as at 1 May 2013. (4 marks)
  - (ii) Evaluate the market's reaction to the proposed sale in comparison with your results in (a)(i) above. Your answer should include a calculation of the increase in market capitalisation for both NN and QQ on 1 May 2013. (9 marks)
- (b) Produce a response to Mr Q, assuming you are the Finance Director of QQ, in which you address each of Mr Q's three queries. (12 marks)

A report format is not required for this question.

(Total: 25 marks)

## INVESTMENT DECISIONS AND PROJECT CONTROL II - PROJECT APPRAISAL

### 55 CTC TECHNOLOGY COLLEGE (MAY 05 EXAM)

CTC Technology College (CTC) is a non-profit making institution located in Ireland, where the national currency is the euro. The college is funded by a combination of student fees and government grants.

The number of students enrolled on the part-time Information Technology course at CTC has fallen over recent years due to competition from other colleges and the wide range of different courses available. The number of students enrolling on the current course, ITS (IT Skills) has stabilised at around 150 students per annum and there are currently 20 computers surplus to requirements which CTC plans to sell for an estimated €100 each; the current book value of each computer is €200. However, this sale will not occur if the college goes ahead with its plan to replace the current ITS course with an updated course, as it is expected that a new course would result in a significant increase in student numbers.

CTC realises that the financial viability of switching courses is highly dependent on the number of students that the college can attract onto the new course and has commissioned some market research, at a cost of (10,000, into the best course content and likely increase in student numbers. The results of this research indicate that an ITC (IT Competence) course would be the most popular and lead to a significant increase in student enrolment at the college. It is also estimated that there could be an additional benefit to the college average net revenues of (20 per additional student over and above 150 as a result of those students being attracted to the college and taking other courses at the college at the same time as the ITC course.

The new ITC course would be run by existing staff currently working on the ITS course at a cost of (50,000 per annum. If, however, the numbers of students on ITC were to rise above 200 per annum, an additional part-time member of staff would be needed at a cost of €10,000 per annum, payable in advance. If ITC is adopted, several computers would need to be upgraded at a total one-off cost of €15,000.

Other relevant data is as follows:

|                                                                                                        | ITS<br>€ | ITC<br>€ |
|--------------------------------------------------------------------------------------------------------|----------|----------|
| Fee for the course (per student, payable in advance)                                                   | 350      | 360      |
| Directly attributable course costs (per annum, payable in arrears)                                     | 1,000    | 2,000    |
| Books and consumables per student, payable in advance                                                  | 50       | 60       |
| Apportionment of college overheads (excluding staff costs) (per annum, charged at the end of the year) | 20,000   | 25,000   |
| Staff training and course development (initial set-up cost)                                            | 0        | 30,000   |

The planning horizon for the college is four years and projects are evaluated using a discount rate of 8% and on the basis of a zero terminal value at the end of the four-year period. Each course is of one year duration and student enrolments should be assumed to remain constant throughout the four-year period, with ITS attracting 150 students each year.

Taxation and inflation should be ignored.

Required:

- (a) Evaluate the number of student enrolments required on the ITC course in order for it to be financially beneficial, on a net present value of cash flow basis, for the college to replace the ITS course with the ITC course. (15 marks)
- (b) Advise the governing body of the college on the following issues:
  - (i) how to monitor and control the costs and revenues of the project from the decision to introduce the new course to the start date of the course. (5 marks)
  - (ii) options available if only 150 students enrol on the new ITC course by the enrolment deadline two weeks before the beginning of the course by which time all other course preparations will have been completed. (5 marks)

(Total: 25 marks)

## 56 RST(MAY 06 EXAM)

RST is a publicly owned and funded health organisation based in the Far East. It is reviewing a number of interesting possibilities for new development projects in the area and has narrowed down the choice to the five projects detailed below. RST is aware that government budget restrictions may be tighter in a year's time and so does not want to commit to a capital budget of more than \$30 million in year 1. In addition, any project cash inflows in year 1 may be used to fund capital expenditure in that year. There is sufficient capital budget remaining in year 0 to enable all projects to be undertaken. Under government funding rules, any unused capital in year 0 cannot be carried over to year 1 and no interest may be earned on unused capital. No borrowings are permitted.

RST assesses capital projects at a hurdle rate of 15% based on the equity beta of health-based companies in the private sector.

| <i>Project</i> | <i>Cash outflows</i> |               | <i>Cash inflows</i> |                           |
|----------------|----------------------|---------------|---------------------|---------------------------|
|                | <i>Year 0</i>        | <i>Year 1</i> |                     |                           |
|                | \$ million           | \$ million    | \$ million          |                           |
| A              | 9                    | 16            | 4                   | from year 1 in perpetuity |
| B              | 10                   | 10            | 4                   | from year 2 in perpetuity |
| C              | 10                   | 12            | 5                   | in years 1 to 10          |
| D              | 8                    | 5             | 6                   | in years 3 to 7           |
| E              | 9                    | 8             | {2                  | in years 1 to 5           |
|                |                      |               | 5                   | in years 6 to 15          |

## Notes

- The projects are not divisible.
- Each project can only be undertaken once.
- Ignore tax.

## Required:

- (a) Advise RST on the best combination of projects based on an evaluation of each project on the basis of both:
- NPV of cashflows
  - a profitability index for use in this capital rationing analysis. (15 marks)
- (b) Discuss:
- whether or not capital rationing techniques based on NPV analysis are appropriate for a publicly owned entity such as RST (5 marks)
  - as a publicly owned entity, what other factors RST should consider and what other analysis it should undertake before making a final decision on which project(s) to accept. (5 marks)

(Total: 25 marks)

## 57 GHI (MAY 06 EXAM)

GHI is a mobile phone manufacturer based in France with a wide customer base in France and Germany, with all costs and revenues based in euro (€). GHI is considering expanding into the UK market and has begun investigating how to break into this market and is designing a new phone specifically for it. A small project committee has been formed to plan and control the project.

After careful investigation, the following project cash flows have been identified:

| Year | £ million |
|------|-----------|
| 0    | (10)      |
| 1    | 5         |
| 2    | 5         |
| 3    | 4         |
| 4    | 3         |
| 5    | 3         |

The project is to be funded by a loan of €16 million at an annual interest rate of 5% and repayable at the end of five years. Loan issue costs amount to 2% and are tax deductible.

GHI has a debt: equity ratio of 40 : 60 based on market values, a pre-tax cost of debt of 5.0% and a cost of equity of 10.7%.

Tax on entity profits in France can be assumed to be at a rate of 35%, payable in the year in which it arises. UK tax at 25% is deductible in full against French tax in the same time period under the terms of the double tax treaty between the UK and France. The initial investment of £10 million will not qualify for any tax relief.

Assume the current spot rate is £1 = €1.60 and sterling (£) is expected to weaken against the euro by 3% per annum (so that in year 1 it is worth only 97% of its value in euro (€) in year 0).

Required:

- (a) Advise GHI on whether or not to proceed with the project based on a calculation of its adjusted present value (APV) and describe the limitations of an APV approach in this context. (15 marks)
- (b) Explain the function of the project committee of GHI in the following stages of the project:
  - (i) determining customer requirements and an appropriate product design for the UK market, and (5 marks)
  - (ii) controlling the implementation stage of the project. (5 marks)

(Total: 25 marks)

## CD FURNITURE MANUFACTURER (NOV 06 EXAM)

CD is a furniture manufacturer based in the UK. It manufactures a limited range of furniture products to a very high quality and sells to a small number of retail outlets worldwide.

At a recent meeting with one of its major customers it became clear that the market is changing and the final consumer of CD's products is now more interested in variety and choice rather than exclusivity and exceptional quality.

CD is therefore reviewing two mutually exclusive alternatives to apply to a selection of its products:

*Alternative 1*

To continue to manufacture, but expand its product range and reduce its quality. The net present value (NPV), internal rate of return (IRR) and modified internal rate of return (MIRR) for this alternative have already been calculated as follows:

|      |   |                                                   |
|------|---|---------------------------------------------------|
| NPV  | = | £1.45 million using a nominal discount rate of 9% |
| IRR  | = | 10.5%                                             |
| MIRR | = | Approximately 13.2%                               |

*Alternative 2*

To import furniture carcasses in {flat packs' from the USA. The imports would be in a variety of types of wood and unvarnished. CD would buy in bulk from its US suppliers, assemble and varnish the furniture and re-sell, mainly to existing customers. An initial investigation into potential sources of supply and costs of transportation has already been carried out by a consultancy entity at a cost of £75,000.

CD's Finance Director has provided estimates of net sterling and US\$ cash flows for this alternative. These net cash flows, in real terms, are shown below.

| Year  | 0      | 1    | 2    | 3    |
|-------|--------|------|------|------|
| US\$m | -25.00 | 2.60 | 3.80 | 4.10 |
| £m    | 0      | 3.70 | 4.20 | 4.60 |

The following information is relevant:

- CD evaluates all its investments using nominal Sterling cash flows and a nominal discount rate. All non-UK customers are invoiced in US\$. US\$ nominal cash flows are converted to Sterling at the forward rate and discounted at the UK nominal rate.
- For the purposes of *evaluation*, assume the entity has a three-year time horizon for investment appraisals.
- Based on recent economic forecasts, inflation rates in the US are expected to be constant at 4% per annum. UK inflation rates are expected to be 3% per annum. The current exchange rate is £1 = US\$1.6.

Note: Ignore taxation.

Required:

Assume that 'you are the Financial Manager of CD.

- (a) Calculate the net present value (NPV), internal rate of return (IRR) and (approximate) modified internal rate of return (MIRR) of alternative 2. (12 marks)
- (b) Briefly discuss the appropriateness and possible advantages of providing MIRR for the evaluation of the two alternatives. (4 marks)
- (c) Evaluate the two alternatives and recommend which alternative the entity should choose. Include in your answer some discussion about what other criteria could or should be considered before a final decision is taken. (9 marks)

Note: A report format is NOT required for this question.

(Total: 25 marks)

### 59 UVW (NOV 07 EXAM)

UVW is a manufacturer of specialist components for the motor trade. Most of the entity's business is 'to order'; very little is manufactured for inventory. The components are sold to customers worldwide but, to date, have been manufactured solely in the UK. The Directors of UVW are reviewing the opportunity to establish a manufacturing base in Asia. There would be some loss of productivity, especially in the first year of operations, but the long-term cost savings would outweigh this.

Two senior managers from the UK will be sent to the Asian country to establish the overseas operation and remain there for the first 12 months. The cost of their salaries, travel and accommodation while in Asia is budgeted at £250,000 for the year.

This cost is included in the figures below.

|                                                          |                     |      |       |
|----------------------------------------------------------|---------------------|------|-------|
| Capital equipment purchased in UK for the Asian project: | £2 million          |      |       |
| Premises and equipment purchased in Asia:                | Asian \$100 million |      |       |
| Operating cash flows are (year):                         | One                 | Two  | Three |
| Costs of Asian operation (Asian \$million)               | -70                 | -65  | -60.0 |
| Comparable costs of UK operation (£million)              | -1.5                | -4.5 | -4.75 |

Other information available:

- Assume all cash flows are after tax and that operating cash flows occur at the end of each year.
- The year three cost advantage in sterling is assumed to maintain from year four until year eight. UVW does not evaluate investments beyond eight years.
- The current spot rate is Asian \$20 to £1.
- A feasibility study has been carried out in the Asian country at a cost of Asian \$1.2 million.
- Expected inflation rate in the Asian country is 8% per annum. In the UK, it is 4% per annum. The risk-free rate in the UK is 3%.
- UVW uses a discount rate of 10% for all its investment decisions.

The entity's Finance Manager does not think 10% adequately reflects the risk of this project. He believes the cost advantage of the Asian operation could fall short of the evaluated DCFs by as much as 20% in year one, 25% in year two, and 30% from year three onwards. His rough calculations suggest that, using his estimates, the project shows a substantial negative NPV.

Required:

- (a) (i) Calculate the sterling NPV of the project both with, and without, adjusting for certainty equivalents. (12 marks)
- (ii) Discuss briefly other internal factors the entity should consider before deciding whether the project should proceed. You are not required to discuss external economic factors or hedging techniques. Include comments on the use of certainty equivalents and why the Finance Manager's 'rough calculations' might have been wrong. (6 marks)

Calculations count for up to 12 marks.

- (b) Advise the Directors of UVW whether or not the management of working capital should be carried out in the Asian country compared with maintaining a centralised function in the UK. (7 marks)

A report format is not required for this question.

(Total: 25 marks)

## 60 eM LIMITED (MAY 08 EXAM) ~ *Walk in the footsteps of a top tutor*

CM Limited (CM) is a private entity that supplies and distributes equipment to the oil industry in the UK. It is evaluating two potential investments. Investment 1 would expand its operations in the UK, Investment 2 would establish a base in Asia that would allow it to market and sell its products to entities in a wider geographical area. The currency in the Asian country is the \$.

CM does not wish to undertake both investments at the present time. Investment 1 would require less capital expenditure than Investment 2, but its operating costs would be higher. Profit forecasts for the two investments are as follows:

| Year:                                 | 1     | 2     | 3     |
|---------------------------------------|-------|-------|-------|
| Investment 1- all figures in f000s    |       |       |       |
| Revenue                               | 375   | 450   | 575   |
| Production costs (excl. Depreciation) | 131   | 158   | 201   |
| Depreciation                          | 267   | 267   | 266   |
| Profit/(loss) before tax              | (23)  | 25    | 108   |
| Investment 2- all figures in A\$000s  |       |       |       |
| Revenue                               | 1,300 | 1,450 | 1,650 |
| Production costs (excl. Depreciation) | 260   | 290   | 330   |
| Depreciation                          | 967   | 967   | 966   |
| Profit/(loss) before tax              | 73    | 193   | 354   |

Additional information:

- 1 The capital expenditure required for Investment 1 is £1.1 million with an expected residual value at the end of year three of £300,000. The capital cost of Investment 2 will be A\$2.9 million with no residual value.
- 2 CM depreciates the estimated net cost of its assets (initial cost less estimated residual value) straight line over the life of the investment.
- 3 Tax depreciation is available on the equipment purchased for Investment 1 at 40% per annum on the reducing balance basis. Capital expenditure for Investment 2 can be written off for tax purposes in the year in which it is purchased.
- 4 Corporate tax rate in the UK is 25%. There are tax concessions in the Asian country at 10%. The net effect is that CM would pay tax on profits generated in the Asian country at 10%. No additional tax would be payable in the UK. Tax would be refunded or paid a both investments at the end of the year in which the liability arises.
- 5 Investment 1 would be financed by internal funds. Investment 2 would be financed by a combination of internal funds and loans raised overseas.
- 6 Assume revenue and production costs excluding depreciation equal cash flows.
- 7 The cash flow forecasts are in nominal terms. The entity's real cost of capital is 8% and inflation is expected to be 2.75% per annum constant in the UK.
- 8 CM evaluates all its investments over a three-year time horizon.
- 9 Cashflows are assumed to occur at the end of each year except the initial capital cost which is incurred in year 0.
- 10 Operating cash flows for Investment 2 are in A\$. The current exchange rate is £1 :: A\$2. Sterling is expected to weaken against the A\$ by 4.5% per annum over the next three years.
- 11 CM's expected accounting return on investment is 15%, calculated as average profits after tax as a percentage of average investment over the life of the assets.

Required:

- (a) For each of the two investments, calculate:
  - (i) The average annual accounting return on investment using average profits after tax and average investment over the life of the assets (9 marks)
  - (ii) The NPV using an appropriate discount rate calculated from the information given in the scenario. (9 marks)

(Note: You should round the calculated discount rate to the nearest whole number).
- (b) Recommend, with reasons, which, if either, of the investments should be undertaken. Discuss any non-financial factors that might influence the choice of investment. (7 marks)

A report format is not required for this question.

(Total: 28 marks)



## 61 DOMINIQUE (NOV 09 EXAM)

Dominique is a multinational group. The head office and parent entity are based in Country D which uses currency D\$. The group runs a chain of supermarkets both in Country D and in neighbouring countries. Dominique sources its supplies from its home country D, neighbouring countries and also from some more distant countries.

Dominique is funded by a mix of equity and long-term borrowings. The borrowings are largely floating rate bonds denominated in O\$.

Proposed new project

The proposed new project is to open a number of new supermarkets in Country T, a neighbouring country, which uses currency T\$. Market research has already been undertaken at a cost of D\$ 0.3 million. If the proposed project is approved additional logistics planning will be commissioned at a cost of O\$ 0.38 million payable at the start of 20X0.

Other forecast project cash flows:

|                                      |                                        |     |
|--------------------------------------|----------------------------------------|-----|
| Initial investment on 1 January 20X0 | T\$ million                            | 150 |
| Residual value at the end of 20X4    | T\$ million                            | 40  |
| Net operating cash inflows           |                                        |     |
| 20X0                                 | T\$ million                            | 45  |
| 20X1 and 20X2                        | growing at 20% a year from 20X0 levels |     |
| 20X3 and 20X4                        | growing at 6% a year from 20X2 levels  |     |

Additional information:

On 1 January 20X0, the spot rate for converting O\$ to T\$ is expected to be  $OS1 = T\$ 2.1145$ . Dominique has received two conflicting exchange rate forecasts for the O\$/T\$ during the life of the project as follows:

*Forecast A* A stable exchange rate of  $OS1 = T\$ 2.1145$

*Forecast B* A devaluation of the T\$ against the O\$ of 5.4% a year

Business tax is 20% in Country T, payable in the year in which it is incurred.

Tax depreciation allowances are available in Country T at 20% a year on a reducing balance basis

All net cash flows in Country T are to be remitted to Country O at the end of each year

An additional 5% tax is payable in Country O based on remitted net cash flows net of O\$ costs but no tax is payable or refundable on the initial investment and residual value capital flows.

The project is to be evaluated, in O\$, at a discount rate of 12% over a five year period.

Required:

- Calculate and discuss the O\$ NPV of the project cash flows as at 1 January 20X0 using each of the two different exchange rate scenarios, Forecast A and Forecast B. Briefly advise Dominique whether or not it should proceed with the project. (18 marks)
- Discuss the likely impact of changes in exchange rates and tax rates on the performance of the Dominique group as a whole and how this is likely to influence the financial strategy of the group. No further calculations are required. (7 marks)

(Total: 25 marks)

## 62 MR (SEPT10 EXAM)

MR is a large retail chain of retail stores operating in the USA. It sells top-of the-range, expensive clothes to a wealthy clientele throughout the country. Currently, MR only operates in the USA. Its current market capitalisation is US\$760 million and the current market value of debt is US\$350 million.

At last month's management meeting the marketing director explained that sales volume had increased slightly in the previous year, largely due to heavy discounting in most of its stores. The finance director expressed concern that such a strategy might damage the image of the company and reduce profits over the longer term.

An alternative strategy to increase sales volume has recently been proposed by the marketing department. This would involve introducing a new range of clothing specifically aimed at the middle-income market. The new range of clothing would be expected to be attractive to consumers in Canada and Europe, giving the possibility of opening stores in Canada and possibly Europe in the longer term.

Assume you are a financial manager with MR and have been asked to evaluate the marketing department's proposal to introduce a new range of clothing. An initial investigation into the potential markets has been undertaken by a firm of consultants at a cost of US\$100,000 but this amount has not yet been paid. It is intended to settle the amount due in three months' time. With the help of a small multi-department team of staff you have estimated the following cash flows for the proposed project:

- The initial investment required would be US\$46 million, payable on 01 January 20X1. This comprises US\$30 million for non-current assets and US\$16 million for net current assets (working capital).
- For accounting purposes, non-current assets are depreciated on a straight line basis over three years after allowing for a residual value of 10%. Tax depreciation allowances can be assumed to be the same as accounting depreciation.
- The value of net current assets at the end of the evaluation period can be assumed to be the same as at the start of the period.
- Net operating cash flows (before taxation) are forecast to be US\$14 million in 20X1, US\$17 million in 20X2 and US\$22 million in 20X3 and should be assumed to arise at the end of each year.

The following information is also relevant:

The proposed project is to be evaluated over a three-year time horizon.

MR usually evaluates its investments using a after-tax discount rate of 8%. The proposed project is considered to be riskier than average and so a risk-adjusted rate of 9% will be used for this project.

Corporate tax is payable at 25% in the same year in which the liability arises.

MR would need to borrow 50% of the initial investment cost.

Ignore inflation.

MR's primary financial objectives are:

- 1 To earn a return on shareholders' funds (based on market values) of 11% per annum on average over a three- year period.
- 2 To keep its gearing ratio, (debt to debt plus equity based on market values), at below 35%.

Required:

- (a) (i) Calculate the net present value (NPV), internal rate of return (IRR) and [approximate] modified internal rate of return (MIRR) as at 01 January 20X1 for the proposed project. (13 marks)
- (ii) Discuss the advantages and limitations of MIRR in comparison with NPV and IRR. (6 marks)
- (b) Evaluate the likely impact of the project on MR's ability to meet its financial objectives assuming the project goes ahead. (6 marks)
- (Total: 25 marks)

### 63 PEI (NOV 10 EXAM)

PEI is a privately-owned college of higher education in the UK. It competes directly with other private and government-funded schools and colleges. The college directors are considering two investment opportunities that would allow the college to expand in the UK (known as Projects A and B) and a third opportunity to set up a satellite training centre in a foreign country (known as Project C). Ideally, it would invest in all three projects but the company has only GBP 25 million of cash available (where GBP is British Pounds). PEI currently has borrowings of GBP 50 million and does not wish to increase indebtedness at the present time. PEI's shares are not listed.

The initial capital investment required (on 1 January 20X1) and likely net operating cash inflows arising from the investments in each project are as follows.

| Project | Initial Investment<br>(GBP million) | Net Operating Cash inflows (after tax)                                   |
|---------|-------------------------------------|--------------------------------------------------------------------------|
| A.      | 15.50                               | GBP 1.75 million each year from year 1 indefinitely.                     |
| B       | 10.20                               | GBP 1.15 million in year 1, and GBP 3.10 million a year in years 2 to 7. |
| C       | 9.50                                | A\$ 9.30 million each year for years 1 to 5.                             |

Notes:

- (1) The projects are not divisible.
- (2) Project B has a residual value of GBP 2.5 million. The other projects are expected to have no residual value.
- (3) Projects A and B are to be discounted at 8%. The Finance Director considers that a GBP discount rate of 9% is more appropriate for Project C as it carries slightly greater risk.
- (4) The GBP/A\$ exchange rate is expected to be GBP/A\$ 2.00 on 1 January 20X1 (that is, GBP 1 = A\$ 2.00). The A\$ is expected to weaken against GBP by 1.5% per annum for the duration of the project.
- (5) Assume cash flows, other than the initial investment, occur at the end of each year.

Required:

- (a) (i) Calculate the NPV and PI of each of the THREE projects based on the GBP cashflows. (8 marks)
- (ii) Evaluate your results and advise PEI which project or combination of projects to accept. (7 marks)
- (b) Explain the alternative method of evaluating Project C using an A\$ discount rate, illustrating your answer with a calculation of an appropriate A\$ discount rate. (4 marks)
- (c) Discuss the key financial factors, other than the NPV decision, that should be considered before investing in a project located in a foreign country rather than the home country. (6 marks)

A report format is not required for this question.

(Total: 25 marks)

#### 64 GOH (MAR 11 EXAM)

GOH is a local government organisation in Gohland, a country that has the G\$ as its currency.

GOH is currently evaluating a proposed investment involving the construction and operation of a new health centre in the local region. Some fees will be collected from users of the centre but the majority of services will be provided free of charge.

The Gohland Government sets down strict guidelines to be used by all local government organisations in their appraisal of projects. In relation to investment projects of this nature the guidelines are that:

- A discount rate of 4% should be used as this is the rate specified by the government for use in evaluating such projects.
- Projects of this nature should be evaluated over a 15 year time horizon.
- Discounted cash flow analysis should take into account both the capital investment and the opportunity cost of the land that is required by the project.
- All costs, income and other benefits of the project should be identified and included in the appraisal. These should include the estimated value of benefits to society in terms of health impacts and also any environment and social impacts.

#### Financial figures for the proposed project

The capital cost of the investment (buildings and equipment) is estimated at G\$950 million and would be payable on 1 April 20X1.

The health centre is to be built on a portion of land already owned by GOH. A developer has expressed an interest in buying the land at a price of G\$250 million. This is considered a reasonable market value by GOH's Estates Department.

The residual value of the land, buildings and equipment at the end of 15 years is difficult to forecast but the Estates Department thinks at that time the land will be worth approximately G\$600 million and the buildings and equipment G\$150 million.

Net future benefits (income and other benefits net of costs) for the new regional health centre for use in the NPV analysis are forecast to be as follows:

| Year ending 31 March | 20X2 | 20X3 | 20X4 | 20X5 to 20Y6 |
|----------------------|------|------|------|--------------|
| G\$ million          | 90   | 110  | 120  | 130 per year |

GOH's financial director has just joined GOH from a private-sector company and has proposed that instead of using a discount rate of 4% a more commercial discount rate should be used based upon a private sector organisation.

He has identified a private health care company, JKL, which operates a number of health centres in Gohland, to be used as a proxy company for calculating a comparable private sector discount rate for GOH.

JKL is currently funded as follows:

#### Equity:

24.5 million shares quoted on the local market at G\$13.00. JKL's cost of equity is estimated at 9%.

#### Debt:

G\$100 million of long dated bonds issued at par and paying a coupon rate of 5.5%. The debt is currently trading at G\$95 per G\$100 nominal.

#### Additional information:

- The corporate income tax rate is 30% in Gohland.
- Net future benefits should be assumed to occur at the end of the year.

#### Required:

- (a) (i) Calculate the weighted average cost of capital of JKL. (4 marks)
- (ii) Advise on the appropriateness of using the WACC of JKL as the discount rate in GOH's project appraisal, including reference to the differences in the financial and non-financial objectives between the public sector and private sector. (8 marks)
- (b) (i) Calculate the project NPV following Gohland government's guidelines. (5 marks)
- (ii) Advise GOH on other issues that need to be taken into account before deciding whether or not to proceed with the proposed project. (8 marks)

A report format is not required for this question.

(Total: 25 marks)

## 6S C.\~M~NUfl.\C.I'URING{SEPI' 11 EXAM)

Assume today is 1 October 20X1.

CIP is a manufacturing company based in an Eastern European country, which has the euro as its currency. The CIP board is evaluating a potential project which involves the launch of a new product that has a limited life of six years and which will require an initial investment in specialised machinery.

Project cash flows:

The specialised machinery will cost EUR 6.5 million and will be installed and paid for on 1 January 20X2. The Management Accountant has forecast that the net after tax cash flows associated with the new product will be as follows:

| <i>Year to 31 December</i>         | <i>20X2</i> | <i>20X3</i> | <i>20X4</i> | <i>20X5-7</i> |
|------------------------------------|-------------|-------------|-------------|---------------|
| Net after tax cash flows (EUR 000) | 750         | 950         | 1,400       | 2,100         |

The project will have no residual value as the specialised machinery cannot be used elsewhere or sold at the end of the project. The net after tax cash flows can be assumed to arise at the end of the year to which they relate.

Financing the project

The proposed investment is in a development region of the country and the local government is offering subsidised borrowing for 40% of the initial capital investment at an annual interest rate of 1% to encourage investment. A further 20% of the capital required will be raised by bank borrowing, at an annual interest rate of 6%, which is the same as CIP's pre-tax cost of debt.

The duration of the borrowings will match the duration of the investment with the full amount of the borrowings repayable at the end of the six year term. The corporate income tax rate is 39% and tax is payable or recoverable at the end of the year to which it relates. There are sufficient taxable profits within CIP to benefit in full from the tax relief available on interest payments.

CIP has sufficient cash to fund the remaining ~0% of the capital expenditure.

Other information:

CIP's current market debt: equity ratio is 1:3.

Administrative costs of arranging the two borrowings are expected to be 1% of the amounts raised.

CIP's current WACC (weighted average cost of capital), which it typically uses for investment appraisal, is 10%. The proposed project is in a market which is expected to be riskier than its normal operations and therefore some of the board of CIP are unsure whether 10% is an appropriate rate at which to appraise the investment. The Management Accountant has suggested that either a risk adjusted WACC should be used as a discount rate (based upon a cost of equity reflecting the business risk of the project and CIP's existing gearing) in an NPV (net present value) evaluation or, alternatively, an APV (adjusted present value) approach should be adopted. He has identified PPP as a company that operates exclusively in the market of the proposed project. PPP's equity beta is 1.95 and has a current market debt:equity ratio of 1:4. The post-tax risk free rate of return and the market rate of return are expected to be 4% and 9% respectively for the foreseeable future.

Required:

- (a) Calculate, as at 1 January 20X2:
- (i) The NPV of the project at CIP's existing WACC of 10%. (2 marks)
  - (ii) The NPV of the project at a risk adjusted WACC using PPP as a proxy company in respect of business risk. (5 marks)
  - (iii) The APV of the project. (8 marks)
- (b) Evaluate the potential financial benefits of the project. Your answer should include discussion on the appropriateness of each of the methods used in part (a) to appraise the project. (8 marks)
- (c) Advise the directors of CIP whether they should proceed with the project. (2 marks)

A report format is not required for this question. (Total: 2S marks)

## 66 eMEC (NOV 11 EXAM)

Assume today is 1 January 2012

CMec

CMec is a major retail chain that specialises in household products and is based in the UK. It has retail stores throughout the UK which sell a wide range of household products with well-known brand names. It also sells under its own brand label. These goods are produced and packaged by leading manufacturers in the UK on behalf of CMec as CMec does not have its own manufacturing facility.

Proposed investment

The Board is considering expanding CMec's operations into a country in Asia, Country A, which has the A\$ as its currency. The expansion would be achieved by acquiring a number of stores from a supermarket-chain operating in Country A. This is the first time that CMec has invested in a foreign country.

The cost of purchasing the stores is A\$415 million, payable on 1 January 2012. The cost of re-branding and fitting-out the stores has been estimated at A\$170 million. For the purposes of evaluation these costs can be assumed to be paid on 1 January 2012. After three years, the stores are expected to be worth A\$450 million.

The new stores will require an investment in working capital of A\$150 million at the start of the first year and the working capital requirement is expected to grow by 10% a year for the foreseeable future but is expected to be fully recoverable at the end of the project.

The net operating cash flows for the new stores for the first three years of operation are expected to be:

| Year to 31 December:               | 2012 | 2013 | 2014 |
|------------------------------------|------|------|------|
| Operating cash flows               |      |      |      |
| Arising in Country A (A\$ million) | 200  | 250  | 350  |
| Arising in the UK (GBP million)    | (14) | (14) | (14) |

Due to the risky nature of the project, CMec has decided to evaluate the project on the basis that the new stores will only be operational for three years and the stores are sold at the end of the project.

## PAPER F3 : FINANCIAL STRATEGY

The following additional information applies:

- CMec operates an accounting year that runs from 1 January to 31 December.
- GBP/A\$ spot is expected to be GBP/A\$ 1.3000 on 1 January 2012 (that is, GBP 1 = A\$1.3000).
- The risk free rate of interest is 7.5% in Country A and 2.0% in the UK.
- CMec uses a GBP discount rate of 10.0% to evaluate UK investments.
- Cash flows, other than the initial investment and refit costs can be assumed to occur at the end of the year to which they relate.
- All funds are remitted to the UK at the end of each year.

For the purposes of this question, taxation can be ignored.

Required:

- {a} Calculate, showing full workings, the GBP net present value (NPV) of the proposed investment as at 1 January 2012 based on a three year period, by:
- (i) Discounting GBP cash flows at CMec's GBP discount rate.
  - (ii) Discounting A\$ cash flows at a corresponding A\$ discount rate. (10 marks)
- (b) Explain why you would expect the NPVs in (a)(i) and (a)(ii) above to be the same. (3 marks)
- (c) Advise how the project evaluation could be adapted to take into account the additional risks involved in foreign investments. (6 marks)
- (d) Discuss to what extent a post completion audit report prepared by CMec for a previously completed UK project might be useful when planning the implementation of this proposed investment in a foreign country. (6 marks)

A report format is not required for this question.

(Total: 25 marks)

### 67 RST (MAR 12 EXAM)

Assume today is 1 April 2012.

RST is a privately owned specialist equipment supply and support company based in Sydney, Australia with a strong local customer base. RST made a profit of 20 million Australian dollars (AUD) in the last financial year and relies heavily on debt finance.

The company is considering setting up an operation in Perth, Australia, a five hour plane journey from Sydney. It would be the first time that RST has operated outside Sydney. Perth is currently experiencing rapid growth due to the development of the mining industry which has created new opportunities for supplying specialist equipment.

The new operation in Perth would supply specialised mining equipment to the local mines and also provide maintenance support. RST would lease office space in Perth for a five year period and hire new local sales people and technicians. A significant proportion of the lease premium will need to be paid on the first day of the lease period. In all, it is anticipated that the new operation will require an initial investment of AUD 25 million.



Successful, this new operation would increase the size of RST significantly and also provide an opportunity for establishing a permanent operation in Perth. However, it also lies a considerable amount of risk and uncertainty, largely because of the new location. In addition, the new operation will be targeted at the mining industry which is a new type of industry sector for RST. As a result, the business risk of this new operation in Perth will be different from that of the current operations in Sydney.

The finance department has produced information on likely future cash flows for the new operation on the basis of three possible out-turn scenarios. Net present value (NPV) calculations have been undertaken based on an appropriate WACC for RST. The cost of equity used in the WACC was based on the beta of a proxy company located in Perth that operates in a similar industry sector. The results are given below:

| Out-turn scenario | Probability of occurrence | NPV (AUD million) |
|-------------------|---------------------------|-------------------|
| Best case         | 30%                       | 54                |
| Average case      | 50%                       | 30                |
| Worst case        | 20%                       | 48                |

The manager gives an overall expected NPV of AUD 21.6 million. The finance manager is happy with this level of return and is prepared to recommend the new operation on the basis of its expected NPV.

There have been some lengthy discussions amongst Board members on the results of the NPV evaluation and on how best to finance the new operation if it goes ahead.

Director S supports the idea of debt finance because the NPV calculations could then be reformed at the lower cost of debt, making the new operation even more attractive. However, she has some concerns about the risks involved in increasing gearing any further. Director S has also pointed out that the USD has a lower interest rate than the AUD and has therefore suggested that RST use USD denominated debt rather than AUD denominated debt.

Required:

(a) Advise the board of RST on the validity of:

- (i) The appraisal approach adopted (including the use of CAPM and NPV). (4 marks)
- (ii) The conclusion reached by the finance manager that RST should proceed with the investment in Perth. (4 marks)

Explain, using examples from the scenario, what "real options" are AND what impact they might have on an investment decision. (9 marks)

- (c) Evaluate the comments made by Director S. (8 marks)

Note: report format is not required for this question.

(Total: 25 marks)

68 PP (MAY 12 EXAM)

PP is a large architectural partnership based in the USA. Its client base ranges from large corporations to an extensive range of smaller companies and individuals.

Much of PP's marketing and client liaison efforts to date have focussed on the larger corporations because there tends to be repeat business from such clients. However, a recent client survey has revealed that 75% of new business results from referrals from satisfied smaller clients. PP is therefore keen to improve its marketing efforts within the smaller client market. Improvements in the information technology (IT) systems currently used by PP are considered to be essential to such a development, to enable increased visibility of the company and its achievements across the whole client base and help promote new business.

PP's current annual revenue is US\$ 10 million.

Proposed IT project for a new Customer Relationship Management (CRM) system

PP is considering introducing a new Customer Relationship Management (CRM) system to help maintain more regular and better targeted communication with both current and potential new clients. The project is to be appraised over a four year time horizon.

An initial investment of US\$ 600,000 is required on 1 July 2012, with no residual value at the end of the four year period. It is estimated that there would be on-going system maintenance costs of US\$ 50,000 a year but no other annual incremental costs attributable to the project. In terms of savings, it is planned that staff numbers would be reduced by one person at an annual saving of salary costs of US\$ 80,000 and also a saving of other costs of US\$ 20,000 per annum. However, redundancy pay and costs involved with redundancy arrangements would be approximately US\$ 200,000, payable on 1 July 2012. Unless stated otherwise, all costs and revenue should be assumed to be paid or received at the end of the year in which they arise.

The partners of the practice are unsure how much new business would be generated by the new CRM system. The number of different unknown variables involved has made it very difficult to arrive at a firm answer. However, it is anticipated that any new business generated as a result of the CRM system would give rise to an increase in net cash inflows in each year that is equivalent to 52% of the annual cash inflow generated by new business. Assume that the additional net cash inflow generated by new business is the same in each of years 1 to 4.

PP evaluates IT projects using a conventional discounted cash flow approach based on costs and benefits that can be quantified with a degree of confidence. The partnership's cost of capital of 12% is to be used as the discount rate.

For the purposes of this question, taxation should be ignored.

Required:

- (a) (i) Calculate the net present value (NPV) of the proposed IT project as at 1 July 2012, ignoring the additional cash flows that might arise from new business. (s marks)
- (ii) Calculate the additional annual cash inflow from new business that is required in order to achieve a breakeven result. Use your answer from part (a) (i) as the starting point for your calculation. (6 marks)
- (b) Discuss the appropriateness of using a conventional discounted cash flow approach to appraise an IT project. (6 marks)
- (c) Advise what other financial and strategic factors should be considered when deciding whether to proceed with this project. (8 marks)

A report format is not required for this question.

(Total: 25 marks)

-9 WIDGET (SEPT 12 EXAM)

WIDGET is a listed group which operates a number of manufacturing facilities within its home country, Country F. The currency of Country F is the F\$.

WIDGET has F\$700 million funds available for capital investment in new product lines in the current year. Most products have a very limited life cycle. Four possible projects have been identified, each of which can be started without delay.

Initial calculations for these projects are shown below:

| <i>Project</i> | <i>Initial investment</i><br>(F\$ million) | <i>Net annual cash Inflows after the initial investment</i><br>(F\$ million) | <i>Project term</i><br>(years) | <i>PV of cash flows arising after the initial investment</i><br>(F\$ million) | <i>NPV</i><br>(F\$ million) |
|----------------|--------------------------------------------|------------------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------|-----------------------------|
| A              | 100                                        | 151.2                                                                        | 1                              | 135                                                                           | 35                          |
| B              | 150                                        | 82.3                                                                         | 4                              | 250                                                                           | 100                         |
| C              | 300                                        | 242.6                                                                        | 2                              | 410                                                                           | 110                         |
| D              | 350                                        | 124.0                                                                        | 6                              | 510                                                                           | 160                         |

Notes:

- The projects are non-divisible and each project can only be undertaken once.
- Apart from the initial investment, annual cash flows are assumed to arise at the end of the year.
- A discount rate of 12% has been used throughout.
- Ignore taxation.

## PAPER F3 : FINANCIAL STRATEGY

Required:

- (a) (i) Prioritise the projects according to each of the following measures:
- Net present value (NPV)
  - Profitability index (PI)
  - Payback (undiscounted) (5 marks)
- (ii) Explain the strengths and weaknesses of each of the prioritisation methods used in (a)(i) above as the basis for making investment decisions in the context of capital rationing for non-divisible projects. (9 marks)
- (b) (i) Advise what combination of projects maximises shareholder wealth within a maximum total initial investment of F\$700 million. (3 marks)
- (ii) Explain how the optimal combination of projects would need to be reassessed under EACH of the following circumstances:
- 'Soft' rather than 'hard' single period capital rationing applies.
  - The same level of capital rationing and range of projects is expected in the following year. (8 marks)

A report format is not required for this question.

(Total: 25 marks)

### 70 APT (NOV 12 EXAM)

APT is a manufacturing company based in a country in the eurozone. The company's shares are listed on a European stock exchange and its current market capitalisation is EUR 1,200 million. APT's debt funding comprises a secured bond of EUR 250 million carrying interest at 6.5% and repayable in 2020.

APT is considering a new product line that would require initial investment in machinery and working capital totalling EUR 500 million. The residual value of the machinery and working capital is expected to be EUR 170 million in total at the end of the project. Net annual cash flows for the proposed project, after tax, for the five years of the project are forecast as follows:

| Year                                   | 1  | 2   | 3–5 |
|----------------------------------------|----|-----|-----|
| Net after tax cash flows (EUR million) | 70 | 100 | 115 |

50% of the new capital required would be raised by a loan from a banking consortium. This loan would carry interest at 7% and a floating charge on the project's assets. The duration of the borrowing would match the duration of the investment, with the full amount of the borrowing repayable at the end of the five year term. APT has sufficient cash to fund the other 50% of the capital expenditure.

The proposed project is in a market which has a different risk profile from APT's current operations. YYY is a company that operates exclusively in this market. YYY's market capitalisation is currently EUR 660 million and it has EUR 250 million of outstanding debt.

Other information:

APT's current weighted average cost of capital (WACC) is 11%.

- 2 Equity betas for APT and YVY are 1.6 and 1.3 respectively. The risk free rate of return and market rate of return are expected to be 4.5% and 9.5% respectively for the foreseeable future.
- 3 Assume both APT and YVY have a debt beta of 0.2.
- 4 The market value of APT's bond can be assumed to be the same as its face value.
- 5 All initial capital expenditure occurs at the beginning of the project. Assume all other cash flows occur at the end of each year.
- 6 The corporate income tax rate applicable to the taxable profits of both APT and YVY is 28%. Tax is paid at the end of the year in which the taxable profit arises. There are no tax depreciation allowances available for the investment in machinery.

Required:

- (a) Calculate the Net Present Value (NPV) of the project being considered by APT at the following discount rates:
  - (i) APT's current weighted average cost of capital (WACC). (3 marks)
  - (ii) A project specific risk adjusted discount rate based on the gearing of the  
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- (b) Calculate the Adjusted Present Value (APV) of the project being considered by APT. (6 marks)
- (c) Advise APT on the appropriateness of each of the valuation methods used in (a) and (b) above to value this project. (8 marks)

A report format is not required for this question.

(Total: 25 marks)