

AF4

Advanced Diploma in Financial Planning

Unit AF4 – Investment planning

October 2011 examination

SPECIAL NOTICES

All questions in this paper are based on English law and practice applicable in the tax year 2011/2012, unless stated otherwise in the question, and should be answered accordingly.

Assume all individuals are domiciled, resident and ordinarily resident in the UK unless stated otherwise.

Instructions

- Three hours are allowed for this paper.
- **Do not begin writing until the invigilator instructs you to.**
- **Read the instructions on page 3 carefully before answering any questions.**
- Provide the information requested on the answer book and form B.
- You are allowed to write on the inside pages of this question paper, but you must **NOT** write your name, candidate number, PIN or any other identification anywhere on this question paper.
- The answer book and this question paper must **both be handed in personally by you** to the invigilator before you leave the examination room. **Failure to comply with this regulation will result in your paper not being marked and you may be prevented from entering this examination in the future.**

Unit AF4 – Investment planning

Instructions to candidates

Read the instructions below before answering any questions

- **Three hours** are allowed for this paper which carries a total of 160 marks as follows:
 - Section A: 80 marks
 - Section B: 80 marks
- You are advised to spend approximately 90 minutes on Section A and 90 minutes on Section B.
- You are strongly advised to attempt **all** questions to gain maximum possible marks. The number of marks allocated to each question part is given next to the question and you should spend your time in accordance with that allocation.
- Read carefully all questions and information provided before starting to answer. Your answer will be marked strictly in accordance with the question set.
- You may find it helpful in some places to make rough notes in the answer booklet. If you do this, you should cross through these notes before you and in the booklet.
- It is important to show all steps in a calculation, even if you have used a calculator.
- If you bring a calculator into the examination room, it must be a silent battery or solar powered non-programmable calculator. The use of electronic equipment capable of being programmed to hold alphabetic or numerical data and/or formulae is prohibited. You may use a financial or scientific calculator, provided it meets these requirements.
- Tax tables are provided at the back of this question paper.
- Answer each question on a new page and leave six lines blank after each question part.

Subject to providing sufficient detail you are advised to be as brief and concise and possible, using note format and short sentences on separate lines wherever possible.

SECTION A

This question is compulsory and carries 80 marks.

Question 1

Clare, aged 55, is married with three adult children. She has accumulated a portfolio selecting shares through reading the financial press and making direct investments via an online trading account. She has recently been reading about modern portfolio theory and is considering applying this approach to her portfolio. As an alternative, Clare wonders whether she should use the services of a professional fund manager and has done some research on New Moon Active Growth Investment Fund, information which can be found in Table 1 below.

Clare has contacted you for advice on both of these options.

Table 1 – New Moon Active Growth Investment Fund data (over the last 12 months)

Standard Deviation	Sharpe Ratio	Information Ratio	Alpha	Beta
8%	1.7%	0.9%	8.5%	0.7%

Clare's portfolio of direct investments has had variable performance over the years. The variance of Clare's portfolio over the past 12 months was 85, Beta 0.90 and tracking error 5%.

A summary of Clare's existing portfolio is shown in Table 2 below.

Table 2 – Current Portfolio (over the last 12 months)

Asset Class	Portfolio Weighting	Portfolio Performance	APCIMS Growth Benchmark	Benchmark Performance
	%	%	%	%
UK Equities	50.00	22.50	47.50	15.60
International Equities	30.00	23.85	32.50	18.20
Bonds	5.00	3.15	7.50	4.55
Cash	5.00	1.15	2.50	1.20
Commercial Property	10.00	-6.50	2.50	-5.50
Hedge Funds	0.00	0.00	7.50	6.80
Total	100	17.97	100	14.07

Clare has specifically asked for your more detailed analysis on two shares she owns in the UK advertising sector, Adverto plc and Imagination plc, as detailed in Table 3 below. Both companies are making rights issues. They have recently demonstrated high volatility which is of concern to Clare. The Adverto plc rights issue is at a 30% discount below the current share price on a three for five basis, Imagination plc is at a discount of 60% to their current share price on a one for two basis.

Clare would like your advice on whether she should take up either of these rights issues.

Table 3 - Clare's individual equity holdings at 1 October 2011

Equities	Total Debt	Expected Return 2010 - 2011	Total Return 2010 - 2011	Probability 12 month	Current Share Price	Number of Shares Clare Holds	Total Shareholder Equity	Interest Cover
	£	%	%		pence		£	
Adverto plc	15,000,000	18.45	4.35	0.45	280	20,000	13,300,000	1.4
Imagination plc	9,500,000	16.50	3.85	0.40	450	10,500	21,100,000	3.3

Questions

- (a) (i) Calculate, **showing all your workings**, the percentage performance of Clare's portfolio based upon the asset allocation of the portfolio as if it had performed in line with the benchmark. (7)
- (ii) Identify whether Clare's portfolio outperformed or underperformed the APCIMS Growth Benchmark portfolio and state which **two** asset classes contributed the most to the performance of the portfolio against the benchmark. (4)
- (b) Clare is concerned about the level of risk she may be taking within her portfolio and would like you to conduct some detailed analysis. Assuming the risk-free rate of return is 4.5% and the average annual market return is 12%:
- (i) calculate, **showing all your workings**, the annual volatility of Clare's portfolio; (2)
- (ii) calculate, **showing all your workings**, the Sharpe Ratio for Clare's portfolio; (3)
- (iii) calculate, **showing all your workings**, the information Ratio for Clare's portfolio; (2)
- (iv) calculate, **showing all your workings**, the Alpha of Clare's portfolio; (8)
- (v) comment briefly on the results of parts (b)(i) to (iv) above, with relevance to risk and return of Clare's portfolio compared to New Moon Active Growth Investment Fund as detailed in Table 1. (7)
- (c) (i) Calculate, **showing all your workings**, the average price for **each** of Adverto plc and Imagination plc, after the rights issue. (10)
- (ii) Identify **three** reasons why Adverto plc and Imagination plc may want to make a rights issue. (3)
- (iii) State **four** factors Clare should consider on the Adverto plc and Imagination plc rights issue before accepting or rejecting them. (4)
- (d) (i) Calculate, **showing all your workings**, the annual volatility for Adverto plc. (4)
- (ii) If Imagination plc has a volatility of 8%, calculate, **showing all your workings**, the range of returns expected from Adverto plc and Imagination plc and identify the likelihood of this occurring. (5)
- (iii) Comment briefly on the results of (d)(i) and (ii) above, with relevance to risk and return. (2)

Questions continue over the page

- (e) (i) Explain briefly to Clare the aim of modern portfolio theory. (2)
- (ii) Identify **six** main assumptions of modern portfolio theory. (6)
- (f) Using the information in Table 3:
- (i) calculate, **showing all your workings**, the debt equity ratio for both Adverto plc and Imagination plc; (4)
- (ii) identify the company with the highest debt equity ratio using your results in (f)(i) above, and comment on the likely effects of a significant increase in interest rates on its profitability. (7)

Total marks available for this question: 80

Section B questions can be found on pages 8 - 11

SECTION B

**Both questions in this section are compulsory
and carry an overall total of 80 marks.**

Question 2

David, aged 50, is married with no children and is planning to retire at age 60.

David has contributed the maximum allowable into stocks and shares ISAs over a number of years. He has split his purchases between shares in the company he works for, Limco plc, and individual gilts bought via an execution only stockbroker. In his ISAs, David holds 30,000 shares in Limco plc which are valued at 500p each. He is worried about the risk of holding so much in a single company.

The gilts are currently trading above par value. David would like advice on selling some of his existing gilt holdings within the ISA and re-investing the proceeds into higher yielding corporate bonds or index-linked gilts.

David is considering selling his conventional 4% Treasury Gilt 2022 which is currently priced at the par value of £100 and reinvesting the proceeds in the 1 7/8% index-linked Treasury Gilt 2022 which has a clean price of £113.

David is also considering investing in either Big Bank plc corporate bond 5.1% 2020, which is currently trading under par value, or Friendlywide Permanent Interest Bearing Shares (PIBS), which are trading at a price of £50 and have a yield of 3.75%.

As part of the advice process, you intend to use risk profiling software.

Questions

- (a) (i) Identify **five** ways in which David could reduce the risk of his holding in Limco plc. (5)
- (ii) In order to reduce the risk to his portfolio, David is considering selling his Limco plc holdings and investing in a collective investment fund.
State **four** advantages and **three** disadvantages of following this action. (7)
- (b) (i) Calculate, **showing all your workings**, how much David would have to invest in Big Bank plc 5.1% 2020, currently priced at £94, in order to produce an income of £2,500 per annum. *Assume no dealing costs.* (7)
- (ii) Using the answer from (a)(i) above, calculate, **showing all your workings**, the income this will generate if investing in Friendlywide 3.75%. (5)
- (iii) Identify the potential **drawbacks** David should consider before investing in the Friendlywide PIBS. (6)
- (c) (i) Identify **eight** potential drawbacks of using risk profiling software. (8)
- (ii) The risk profile software you are using suggests that gilts are suitable for a client with a low attitude to risk. State why gilts trading above par may not be suitable investments for such a client. (2)

Total marks available for this question: 40

Questions continue over the page

Question 3

Bruce Williams and Susan Johnson intend to relocate to Australia in two years' time. Their highest priority is to buy a house when they emigrate.

Between them, Bruce and Susan have saved £60,000 in ISAs. Bruce has an Australian Dollar bank account but he is concerned about transferring money from Sterling (GBP) into Australian Dollars (AUD) as the AUD has appreciated by 12% against GBP over the last 12 months.

The exchange rate is now £1 = 1.5 AUD.

Until such time as they purchase their home, Bruce and Susan are considering three potential investments detailed below.

Potential Investment 1

- UK Treasury Gilt maturing in exactly two years' time paying a coupon of 6.5% with a clean price of £102.

Potential Investment 2

- UK two year fixed rate deposit account paying 2.75% interest every six months but with a loss of interest if withdrawn within each six month period.

Potential Investment 3

- Australian bank deposit paying interest of 7% per annum with no exit penalty.

They have come to you for advice.

Questions

- (a) (i) For the investments being considered by Bruce and Susan, describe what is meant by the term 'holding period return'. (5)
- (ii) Calculate, **showing all your workings**, the holding period return for Potential Investment 1, UK Treasury Gilt. (4)
- (iii) Calculate, **showing all your workings**, the holding period return for Potential Investment 2, UK two year fixed rate deposit. (4)
- (iv) Identify, giving your reasons, which of Potential Investment 1 or Potential Investment 2 above is most suitable for Bruce and Susan. (3)
- (b) Bruce and Susan have asked you to explain the causes and effects of inflation.
- (i) List the main causes of inflation. (5)
- (ii) Describe briefly the likely effects of inflation on deposits. (3)
- (iii) Describe briefly the likely effects of inflation on property assets. (2)
- (c) Bruce is interested to know what is the likely effect of exchange rate changes on the value of their savings.
- (i) Calculate, **showing all your workings**, the future value of Potential Investment 3 in two years' time, assuming Bruce transferred £60,000 into it today and interest rates remain constant. (5)
- (ii) Calculate, **showing all your workings**, the future value of the investment identified as the most suitable in (a)(iv), if converted to AUD at the end of two years, assuming a 5% appreciation in GBP. (4)
- (iii) Identify which potential investment in part (c)(i) or (c)(ii) above will give the best return. (1)
- (iv) State what factors, other than exchange rates, Bruce and Susan should take into account before transferring money to an Australian bank. (4)

Total marks available for this question: 40

The tax tables can be found on pages 13 - 17

INCOME TAX

RATES OF TAX	2010/2011	2011/2012
Starting rate for savings*	10%	10%
Basic rate	20%	20%
Higher rate	40%	40%
Additional rate	50%	50%
Starting-rate limit	£2,440*	£2,560*
Threshold of taxable income above which higher rate applies	£37,400	£35,000
Threshold of taxable income above which additional rate applies	£150,000	£150,000

*restricted to savings income only and not available if taxable non-savings income exceeds starting rate band.

MAIN PERSONAL ALLOWANCES AND RELIEFS

Income limit for Personal Allowance §	£100,000	£100,000
Personal Allowance (basic) §	£6,475	£7,475
Personal Allowance (age 65-74) §	£9,490	£9,940
Personal Allowance (aged 75 and over) §	£9,640	£10,090
Married/civil partners (minimum) at 10% †	£2,670	£2,800
Married/civil partners (age 75 and over) at 10%	£6,965	£7,295
Income limit for age-related allowances	£22,900	£24,000
Blind Person's Allowance	£1,890	£1,980
Enterprise Investment Scheme relief limit on £500,000 max	20%	30%
Venture Capital Trust relief limit on £200,000 max	30%	30%

§ the Personal Allowance reduces by £1 for every £2 of income above the income limit irrespective of age.

† where at least one spouse/civil partner was born before 6 April 1935.

Child Tax Credit (CTC)		
- family element	£545	£545
- family element baby addition	£545	Withdrawn
CTC usually reduced by 41% of joint income (6.67% for 2010/2011) over	£50,000	£40,000

NATIONAL INSURANCE CONTRIBUTIONS

Class 1 Employee	Weekly	Monthly	Yearly
Lower Earnings Limit (LEL)	£102	£442	£5,304
Primary threshold	£139	£602	£7,225
Upper Accrual Point	£770	£3,337	£40,040
Upper Earnings Limit (UEL)	£817	£3,540	£42,475

Total earnings £ per week	CLASS 1 EMPLOYEE CONTRIBUTIONS	
	Contracted-in rate	Contracted-out rate
Up to 139.00*	Nil	Nil
139.01 – 770.00	12%	10.4%
770.01 – 817.00	12%	12%
Above 817.00	2%	2%

* This is the primary threshold below which no NI contributions are payable. However, the lower earnings limit is £102 per week. This £102 to £139 band is a zero rate band introduced in order to protect lower earners' rights to contributory State benefits e.g. Basic State Pension.

Total earnings £ per week	CLASS 1 EMPLOYER CONTRIBUTIONS		
	Contracted-in rate	Contracted-out rate	
		Final salary	Money purchase
Below 136.00**	Nil	Nil	Nil
136.01 – 770.00	13.8%	10.1%	12.4%
770.01 – 817.00	13.8%	13.8%	13.8%
Excess over 817.00	13.8%	13.8%	13.8%

** Secondary earnings threshold.

Class 2 (self-employed)	Flat rate per week £2.50 where earnings exceed £5,315 per annum.
Class 3 (voluntary)	Flat rate per week £12.60.
Class 4 (self-employed)	9% on profits between £7,225 - £42,475 plus 2% on profits above £42,475.

PENSIONS

TAX YEAR	LIFETIME ALLOWANCE	ANNUAL ALLOWANCE
2006/2007	£1,500,000	£215,000
2007/2008	£1,600,000	£225,000
2008/2009	£1,650,000	£235,000
2009/2010	£1,750,000	£245,000
2010/2011	£1,800,000	£255,000
2011/2012	£1,800,000	£50,000

ANNUAL ALLOWANCE CHARGE

20% - 50% member's tax charge on the amount of total pension input in excess of the annual allowance.

LIFETIME ALLOWANCE CHARGE

55% of excess over lifetime allowance if taken as a lump sum.

25% of excess over lifetime allowance if taken in the form of income, which is subsequently taxed under PAYE.

INHERITANCE TAX

RATES OF TAX ON DEATH TRANSFERS	2010/2011	2011/2012			
Transfers made after 5 April 2011					
- Up to £325,000	Nil	Nil			
- Excess over £325,000	40%	40%			
- Lifetime transfers to and from certain trusts	20%	20%			
MAIN EXEMPTIONS					
Transfers to					
- UK-domiciled spouse/civil partner	No limit	No limit			
- non-UK-domiciled spouse/civil partner (from UK-domiciled spouse)	£55,000	£55,000			
- UK-registered charities	No limit	No limit			
Lifetime transfers					
- Annual exemption per donor	£3,000	£3,000			
- Small gifts exemption per donor	£250	£250			
Wedding/civil partnership gifts by					
- parent	£5,000	£5,000			
- grandparent	£2,500	£2,500			
- other person	£1,000	£1,000			
100% relief: businesses, unlisted/AIM companies, certain farmland/building					
50% relief: certain other business assets					
Reduced tax charge on gifts within 7 years of death:					
- Years before death	0-3	3-4	4-5	5-6	6-7
- Inheritance Tax payable	100%	80%	60%	40%	20%

CAR BENEFIT FOR EMPLOYEES

The charge for company car benefits is based on the carbon dioxide (CO₂) emissions. There is no reduction for high business mileage users.

For 2011/2012:

The percentage charge is 15% of the car's list price for CO₂ emissions at or below the qualifying level of 125g/km.

- Cars with CO₂ emissions of less than 75g/km have an appropriate percentage of 5%.
- Cars with CO₂ emissions of 76g/km to 120g/km have an appropriate percentage of 10% and thereafter the rate is 15% increasing by 1% for every 5g/km to the current maximum of 35% (emissions of 225g/km and above).

There is an additional 3% supplement for diesel cars not meeting Euro IV emission standards. However, the maximum charge remains 35% of the car's list price.

Car fuel The benefit is calculated as the CO₂ emissions % relevant to the car and that % applied to a set figure (£18,800 for 2011/2012) e.g. car emission 155g/km = 21% on car benefit scale.
21% of £18,800 = £3,948

1. **Accessories** are, in most cases, included in the list price on which the benefit is calculated.
2. **List price** is reduced for capital contributions made by the employee up to £5,000.
3. **Car benefit** is reduced by the amount of employee's contributions towards running costs.
4. **Fuel scale** is reduced only if the employee makes good **all** the fuel used for private journeys.
5. **All car and fuel benefits** are subject to employers National Insurance Contributions (Class 1A) of 13.8%.

PRIVATE VEHICLES USED FOR WORK

2011/2012 Rates

Cars	
On the first 10,000 business miles in tax year	45p per mile
Each business mile above 10,000 business miles	25p per mile
Motor Cycles	24p per mile
Bicycles	20p per mile

MAIN CAPITAL AND OTHER ALLOWANCES

2011/2012

Plant & machinery (excluding cars) 100% annual investment allowance (first year)	£100,000
Plant & machinery (reducing balance) per annum	20%
Patent rights & know-how (reducing balance) per annum	25%
Certain long-life assets, integral features of buildings (reducing balance) per annum	10%
Energy & water-efficient equipment	100%
Zero emission goods vehicles (new)	100%
Qualifying flat conversions, business premises & renovations	100%

Motor cars: Expenditure on or after 01/04/09 (Corporation Tax) or 06/04/09 (Income Tax)

CO ₂ emissions of g/km:	110 or less *	111-160	161 or more
Capital allowance:	100%	20%	10%
	first year	reducing balance	reducing balance

* If new

Research & Development:	Capital expenditure	100%
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MAIN SOCIAL SECURITY BENEFITS

		2010/2011	2011/2012
		£	£
Child Benefit	first child	20.30	20.30
	subsequent children	13.40	13.40
Employment and Support Allowance	Assessment Phase		
	Age 16 – 24	N/A	Up to 53.45
	Aged 25 or over	N/A	Up to 67.50
	Main Phase		
	Work Related Activity Group	N/A	Up to 94.25
	Support Group	N/A	Up to 99.85
Attendance Allowance	lower rate	47.80	49.30
	higher rate	71.40	73.60
Retirement Pension	single	97.65	102.15
	married	156.15	163.35
Pension Credit	single person standard minimum guarantee	132.60	137.35
	married couple standard minimum guarantee	202.40	209.70
	maximum savings ignored in calculating income	10,000.00	10,000.00
Bereavement Payment (lump sum)		2,000.00	2,000.00
Widowed Parent's allowance		97.65	100.70
Jobseekers Allowance	Age 16 - 24		53.45
	Age 25 or over	65.45	67.50

CAPITAL GAINS TAX

EXEMPTIONS	2010/2011	2011/2012
Individuals, estates etc	£10,100	£10,600
Trusts generally	£5,050	£5,300
Chattels proceeds (restricted to five thirds of proceeds exceeding limit)	£6,000	£6,000

TAX RATES

Individuals:		
Up to basic rate limit	18%	18%
Above basic rate limit	18%/28%*	28%
Trustees and Personal Representatives	18%/28%*	28%
Entrepreneurs' Relief – Gains taxed at:	10%	10%
Lifetime limit	£5,000,000 / £2,000,000**	£10,000,000

For trading businesses and companies (minimum 5% employee or director shareholding) held for at least one year.

* 18% rate applies to disposals on or before 22/06/10. 28% thereafter.

** For disposals 06/04/10 to 22/06/10: £2,000,000. £5,000,000 until 05/04/11

CORPORATION TAX

	2010/2011	2011/2012
Full rate	28%	26%
Small companies rate	21%	20%
Small companies limit	£300,000	£300,000
Effective marginal rate	29.75%	27.5%
Upper marginal limit	£1,500,000	£1,500,000

VALUE ADDED TAX

	2011/2012
Standard rate	20%
Annual Registration limit	£73,000

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