

AF4

Advanced Diploma in Financial Planning

Unit AF4 – Investment planning

April 2017 examination

SPECIAL NOTICES

All questions in this paper are based on English law and practice applicable in the tax year 2016/2017, unless stated otherwise in the question, and should be answered accordingly.

It should be assumed that all individuals are domiciled and resident in the UK unless otherwise stated.

Candidates should answer based on the legislative position immediately BEFORE the 2017 budget.

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 hand 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 as possible, using note format and short sentences on separate lines wherever possible.

SECTION A

This question is compulsory and carries 80 marks

Question 1

Read carefully all information provided in the case study before attempting the questions. Your answers should take into account the clients circumstances as set out in the case study. Please carry out ALL of the tasks (a), (b), (c), (d), (e), (f) and (g) which follow.

Paul has recently retired. He receives a pension from his previous employer of £20,000 per annum, which increases in line with the UK Retail Prices Index. Paul also has £80,000 cash on deposit. The interest earned on Paul's savings is used to supplement his pension and pay for holidays, but now only provides £320 per annum gross. He is aware that this is due to the current very low Bank of England base rate and would like to understand more about how these decisions are taken.

Paul has also agreed the sale of a property in Italy for 200,000 euros which is due to complete in six months time. He is concerned that the value of the pound may strengthen in the meantime and reduce his sterling proceeds.

Paul is a cautious investor and owns £5,000 nominal in the following three UK Treasury Gilts that he bought at issue (see Table 1 below).

Table 1

Name	Redemption date	Price per £100 nominal (£)	Yield to redemption (%)	Modified duration (years)
3.75% Treasury Gilt 2020	01.03.2020	111	0.14	2.8
4% Treasury Gilt 2027	01.03.2027	126		9
4.25% Treasury Gilt 2037	01.03.2037	145	1.4	14.5

Paul has heard that government bond yields are negative in some countries and he wants to know the effect this would have on his existing UK Treasury Gilts if the yields on UK government bonds became negative.

Paul is also concerned about possible future inflation and the effect it may have on his savings and investments. He is considering using £10,000 of his savings to buy the following UK Index-linked Gilt as he understands this may give him protection against future inflation (see Table 2 below).

Table 2

Name	Redemption date	Price per £100 nominal (£)	Yield to redemption (%)	Modified duration (years)
0.125% Index-linked Treasury Gilt 2037	01.03.2037	146	-1.7	20

Paul is also aware that a peer to peer lending platform may give him a higher interest rate than he is earning on his savings and would like to understand more about investing in this area.

Questions

To gain maximum marks for calculations you **must** show **all** your workings and express your answers to **two** decimal places.

- (a) (i) State **four** ways in which a low Bank of England base rate may stimulate consumer spending. (4)
- (ii) Explain why, as interest rates approach zero, this policy may fail to stimulate spending. (4)
- (b) (i) The 0.125% Index-linked Treasury Gilt 2037 has a three month indexation lag.
Explain to Paul how the amount of the next coupon will be determined. (No calculations are required.) (5)
- (ii) Explain to Paul why the yield to redemption on the 0.125% Index-linked Treasury Gilt 2037 is negative. (4)
- (iii) State **four** disadvantages of investing in the 0.125% Index-linked Treasury Gilt 2037 compared to retaining the money in Paul's savings account. (4)
- (iv) Calculate, **showing all your workings**, the implied breakeven inflation rate to 01.03.2037, based on the current Treasury Gilt yields. (3)
- (v) List and explain **four** risks of purchasing the 0.125% Index-linked Treasury Gilt 2037. (8)
- (vi) Explain what is meant by modified duration and why the 0.125% Index-linked Treasury Gilt 2037 has a longer modified duration than the 4.25% Treasury Gilt 2037. (4)
- (c) Paul has read that the Gilt yield curve is flat at present.
Explain briefly what a flat yield curve implies for future interest rates and the prospects for the economy. (3)

QUESTIONS CONTINUE OVER THE PAGE

- (d) (i) Calculate, **showing all your workings**, the gross interest paid to Paul in pounds each year on the 4% Treasury Gilt 2027. (3)
- (ii) Paul purchased the 4% Treasury Gilt 2027 exactly six years ago at the issue price of £100 nominal. (5)
- Calculate, **showing all your workings**, the percentage annual equivalent rate of capital gain over that period. (*Ignore coupons.*)
- (iii) Calculate, **showing all your workings**, the redemption yield on the 4% Treasury Gilt 2027. (5)
- (iv) Explain briefly to Paul how both the interest and any capital gains on his UK Gilts are taxed. (3)
- (e) (i) State **four** ways the Bank of England may use to issue Gilts into the market. (4)
- (ii) Explain briefly to Paul how a new Gilt issue would be priced in order for the interest rate to redemption to be negative. (3)
- (iii) The Bank of England have issued a three year Gilt today at a negative interest rate. (3)
- Explain to Paul the likely effect this would have on his 3.75% Treasury Gilt maturing in 2020.
- (f) Paul has approached a foreign exchange dealer in order to purchase an option to hedge against sterling rising against the euro before his property sale completes.
- (i) Identify the type of sterling option Paul would need to buy and explain briefly how it would achieve his objectives. (6)
- (ii) State the factors that determine the price of an option. (*Ignoring fees or commission.*) (4)
- (g) Explain **five** risks of lending money via a peer to peer lending platform compared to using a savings account. (5)

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

Read carefully all information provided in the case study before attempting the questions. Your answers should take into account the clients circumstances as set out in the case study. Please carry out ALL of the tasks (a), (b), (c) and (d) which follow.

David is an additional rate taxpayer who you have assessed as having a cautious attitude to risk. David is considering retiring within the next year and will need a supplementary income from his investments at that point.

David currently holds a portfolio of individual UK shares together with a single holding in the Asteroid UK Growth fund. He is concerned about the performance of the Asteroid UK Growth fund as it has underperformed the market return of 10% over the last year. The current risk free rate of return is 0.5% per annum.

Table 1

	Annual return	Beta	Dividend yield
Asteroid UK Growth fund	8.7%	1.14	0.3%

David has read about value investing and wants to understand how this can be assessed in respect of his largest individual shareholding in Megacap plc. The sector within which Megacap plc operates currently has an average price earnings ratio of 35.

Table 2

	Profit attributable to ordinary shareholders (£million)	Number of ordinary shares (million)	Share price (p)
Megacap plc	1,079	4,150	1,455

Questions

To gain maximum marks for calculations you **must** show **all** your workings and express your answers to **two** decimal places.

- (a) (i) Explain briefly to David what is meant by a fund's alpha. (4)
- (ii) Calculate, **showing all your workings**, the alpha for Asteroid UK Growth fund. (5)
- (iii) Comment on the Asteroid UK Growth fund's alpha and beta and, given David's circumstances, explain why he may wish to consider selling the fund. (6)
- (b) Explain briefly what is meant by value investing and the assumption that underpins the concept. (3)
- (c) (i) Explain briefly what the price earnings ratio measures and factors that could influence the market's views. (4)
- (ii) Calculate, **showing all your workings**, the price earnings ratio for Megacap plc. (5)
- (iii) Suggest **four** possible reasons why the price earnings ratio of Megacap plc, calculated in **part (c) (ii)** above, is different from the sector average. (4)
- (iv) Explain briefly what is meant by a forward and a trailing price earnings ratio together with the main drawback of using **each** measure. (4)
- (d) Explain briefly **five** limitations of only using ratio analysis in making investment decisions. (5)

Total marks available for this question: 40

QUESTIONS CONTINUE OVER THE PAGE

Question 3

Read carefully all information provided in the case study before attempting the questions. Your answers should take into account the clients circumstances as set out in the case study. Please carry out ALL of the tasks (a), (b), (c), (d) and (e) which follow.

Trudi, an experienced investor with an adventurous risk profile, wishes to invest for medium to long-term growth.

Trudi has read an article which recommended two shares selected using technical analysis (see Table 1 below). Trudi has also visited a stockbroker who has suggested that she should invest in a portfolio of equities and investment trusts through a platform on a discretionary basis.

Trudi has asked you to analyse the companies she has identified and to comment on the stockbroker's suggested approach.

Table 1

Company	Activity	Number of shares in issue (million)	Share price (p)	Index	Expected return %	Standard deviation
Glitterz	Jewellery	150	106	FTSE fledgling	7.75	16
Gozout	Night clubs	68	85	AIM		21

The article suggested that Gozout has a 75% chance of gaining 20% and a 25% chance of losing 15%.

Questions

To gain maximum marks for calculations you **must** show **all** your workings and express your answers to **two** decimal places.

- (a) (i) Calculate, **showing all your workings**, the expected return of Gozout. (6)
- (ii) Calculate, **showing all your workings**, the range between which approximately 68% of the returns for Gozout would be expected to fall. (Assume a normal distribution.) (4)
- (iii) Calculate, **showing all your workings**, the market capitalisation of Gozout. (2)
- (b) State, giving your reasons, which of the two shares you recommend Trudi should purchase. (3)
- (c) (i) State all the charges which Trudi could be subject to if she adopts the stockbroker's suggested approach. (7)
- (ii) Identify **four** advantages of Trudi self-selecting her own shares. (4)
- (iii) Identify **four** advantages of Trudi using the stockbroker's suggested approach. (4)
- (d) Trudi has noticed that some of the stockbroker's suggested shares are AIM listed.
- Explain to Trudi the main differences in listing requirements between AIM and the main market, and explain the implication in terms of risk. (6)
- (e) Explain how technical analysis is used to make investment decisions. (4)

Total marks available for this question: 40

The tax tables can be found on pages 13 – 19

INCOME TAX

RATES OF TAX	2015/2016	2016/2017
Starting rate for savings*	0%	0%
Basic rate	20%	20%
Higher rate	40%	40%
Additional rate	45%	45%
Starting-rate limit	£5,000*	£5,000*
Threshold of taxable income above which higher rate applies	£31,785	£32,000
Threshold of taxable income above which additional rate applies	£150,000	£150,000
Child benefit charge from 7 January 2013:		
1% of benefit for every £100 of income over	£50,000	£50,000
*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 if born after 5 April 1948) §	£10,600	£11,000
Personal Allowance (if born between 6 April 1938 and 5 April 1948) §	£10,600	£11,000
Personal Allowance (if born before 6 April 1938) §	£10,660	£11,000
Married/civil partners (minimum) at 10% †	£3,220	£3,220
Married/civil partners at 10% †	£8,355	£8,355
Transferable tax allowance for married couples/civil partners	£1,060	£1,100
Income limit for age-related allowances §	£27,700	£27,700
Blind Person's Allowance	£2,290	£2,290
Enterprise Investment Scheme relief limit on £1,000,000 max	30%	30%
Seed Enterprise Investment relief limit on £100,000 max	50%	50%
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 (under the income threshold).		
† where at least one spouse/civil partner was born before 6 April 1935.		
Child Tax Credit (CTC)		
- Child element per child (maximum)	£2,780	£2,780
- family element	£545	£545
Threshold for tapered withdrawal of CTC	£16,105	£16,105

NATIONAL INSURANCE CONTRIBUTIONS

Class 1 Employee	Weekly	Monthly	Yearly
Lower Earnings Limit (LEL)	£112	£486	£5,824
Primary threshold	£155	£672	£8,060
Upper Earnings Limit (UEL)	£827	£3,583	£43,000

Total earnings £ per week	CLASS 1 EMPLOYEE CONTRIBUTIONS
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Up to 155.00*	Nil
155.01 – 827.00	12%
Above 827.00	2%

**This is the primary threshold below which no NI contributions are payable. However, the lower earnings limit is £112 per week. This £112 to £155 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
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Below 156.00**	Nil
156.01 – 827.00	13.8%
Excess over 827.00	13.8%

*** Secondary earnings threshold.*

Class 2 (self-employed)	Flat rate per week £2.80 where profits exceed £5,965 per annum.
Class 3 (voluntary)	Flat rate per week £14.10.
Class 4 (self-employed)	9% on profits between £8,060 - £43,000. 2% on profits above £43,000.

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
2012/2013	£1,500,000	£50,000
2013/2014	£1,500,000	£50,000
2014/2015	£1,250,000	£40,000
2015/2016	£1,250,000	£40,000 §
2016/2017	£1,000,000	£40,000

ANNUAL ALLOWANCE CHARGE

20% - 45% member's tax charge on the amount of total pension input in excess of the annual allowance.

MONEY PURCHASE ANNUAL ALLOWANCE

2015/2016	2016/2017
£10,000*	£10,000*

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.

§ increased to £80,000 from 6 April - 8 July 2015. If not used, can be carried forward to 9 July 2015 - 5 April 2016, subject to a maximum of £40,000.

* transitional rules apply to the calculation for pre/post 8 July 2015 position.

CAPITAL GAINS TAX

EXEMPTIONS

	2015/2016	2016/2017
Individuals, estates etc	£11,100	£11,100
Trusts generally	£5,550	£5,550
Chattels proceeds (restricted to five thirds of proceeds exceeding limit)	£6,000	£6,000

TAX RATES

Individuals:		
Up to basic rate limit	18%	10%
Above basic rate limit	28%	20%
Surcharge for residential property and carried interest	0%	8%
Trustees and Personal Representatives	28%	20%
Entrepreneurs' Relief* – Gains taxed at:	10%	10%
Lifetime limit	£10,000,000	£10,000,000

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

INHERITANCE TAX

RATES OF TAX ON TRANSFERS

	2015/2016	2016/2017
Transfers made on death after 5 April 2015		
- Up to £325,000	Nil	Nil
- Excess over £325,000	40%	40%
Transfers made after 5 April 2015		
- Lifetime transfers to and from certain trusts	20%	20%

A lower rate of 36% applies where at least 10% of deceased's net estate is left to a registered charity.

MAIN EXEMPTIONS

Transfers to		
- UK-domiciled spouse/civil partner	No limit	No limit
- non-UK-domiciled spouse/civil partner (from UK-domiciled spouse)	£325,000	£325,000
- UK-registered charities	No limit	No limit
Lifetime transfers		
- Annual exemption per donor	£3,000	£3,000
- Small gifts exemption	£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 2016/2017:

- The percentage charge is 7% of the car's list price for CO₂ emissions of 50g/km or less.
- For cars with CO₂ emissions of 51g/km to 75g/km the percentage is 11%.
- For cars with CO₂ emissions of 76g/km to 94g/km the percentage is 15%.
- Cars with CO₂ emissions of 95g/km have a percentage charge of 16% and thereafter the charge increases by 1% for every complete 5g/km to a maximum of 37% (emissions of 200g/km and above).

There is an additional 3% supplement for diesel cars not meeting Euro IV emission standards. However, the maximum charge remains 37% 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 (£22,200 for 2016/2017) e.g. car emission 100g/km = 17% on car benefit scale. 17% of £22,200 = £3,774.

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 contribution's (Class 1A) of 13.8%.

PRIVATE VEHICLES USED FOR WORK

	2015/2016 Rates	2016/2017 Rates
Cars		
On the first 10,000 business miles in tax year	45p per mile	45p per mile
Each business mile above 10,000 business miles	25p per mile	25p per mile
Motor Cycles	24p per mile	24p per mile
Bicycles	20p per mile	20p per mile

MAIN CAPITAL AND OTHER ALLOWANCES

	2015/2016	2016/2017	
Plant & machinery (excluding cars) 100% annual investment allowance (first year)	£500,000	£200,000	
Plant & machinery (reducing balance) per annum	18%	18%	
Patent rights & know-how (reducing balance) per annum	25%	25%	
Certain long-life assets, integral features of buildings (reducing balance) per annum	8%	8%	
Energy & water-efficient equipment	100%	100%	
Zero emission goods vehicles (new)	100%	100%	
Qualifying flat conversions, business premises & renovations	100%	100%	
Motor cars: Expenditure on or after 01 April 2016 (Corporation Tax) or 06 April 2016 (Income Tax)			
CO ₂ emissions of g/km:	75 or less*	76-130	131 or more
Capital allowance:	100%	18%	8%
	first year	reducing balance	reducing balance

*If new

CORPORATION TAX

	2015/2016	2016/2017
Standard rate	20%	20%
Small companies rate	20%	N/A
Small companies limit	£300,000	N/A
Effective marginal rate	20%	N/A
Upper marginal limit	£1,500,000	N/A

VALUE ADDED TAX

	2015/2016	2016/2017
Standard rate	20%	20%
Annual registration threshold	£82,000	£83,000
Deregistration threshold	£80,000	£81,000

MAIN SOCIAL SECURITY BENEFITS

		2015/2016	2016/2017
		£	£
Child Benefit	First child	20.70	20.70
	Subsequent children	13.70	13.70
	Guardian's allowance	16.55	16.55
Employment and Support Allowance	Assessment Phase		
	Age 16 – 24	Up to 57.90	Up to 57.90
	Aged 25 or over	Up to 73.10	Up to 73.10
	Main Phase		
	Work Related Activity Group	Up to 102.15	Up to 102.15
	Support Group	Up to 109.30	Up to 109.30
Attendance Allowance	Lower rate	55.10	55.10
	Higher rate	82.30	82.30
Retirement Pension	Single	115.95	119.30
	Married	185.45	190.80
Single Tier State Pension	Single	N/A	£155.65
Pension Credit	Single person standard minimum guarantee	151.20	155.60
	Married couple standard minimum guarantee	230.85	237.55
	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		112.55	112.55
Jobseekers Allowance	Age 18 - 24	57.90	57.90
	Age 25 or over	73.10	73.10
Statutory Maternity, Paternity and Adoption Pay		139.58	139.58

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