

## SII Masters – PCT Sample Questions ANSWERS

### Part 1 – Portfolio Construction Theory 40 mark question - Answers

#### Question 1a - 5 Marks

	Jo	Jim	
	lump sum	pound cost averaging	
	units purchased	£	units purchased
2004			
Jan	1000	250	250.00
Feb		250	254.32
Mar		250	257.47
Apr		250	249.00
May			
<b>Total</b>	<b>1000</b>		<b>1010.79</b>

#### Question 1b - 4 marks

Gain is a UK equity fund and at fund inception all subscriptions immediately purchase securities. The fund is fully invested.

Stamp duty is 50 basis points

$$£1,000 \times 0.005 = \mathbf{£5.00}$$

#### Question 1c - 5 marks

	units	offer price (£ p)	£ realised	original investment	return (%)
Jo	1000	99.2	992.0	1000	-0.80%
Jim	1010.79	99.2	1002.7	1000	0.27%

#### Question 1d - 2 marks

Pound cost averaging

#### Question 1e - 2 marks

The market spread on the portfolio securities. The spread will roughly equate to the weighted market bid price and the weighted market offer price of the portfolio constituents.

**Question 1f - 2 marks**

Accrued costs: custody, fund accounting, depositary, investment manager, tax.  
 Accrued revenues: dividends and interest  
 Trade commission is not deducted from the NAV

**Question 1g - 4 marks**

Pips is not a growth stock. It has a low earnings growth. The high dividend yield suggests it is generating significant cash with few re-investment opportunities. Pips is not a permitted investment for it appears to be outside the Gain fund's investment mandate.

**Question 1h - 4 marks**

Greyhound has strong earnings growth, its PE is not high and it pays a reasonable dividend of 3.2%. The stock may fit a growth at a reasonable price strategy. Moreover, the beta is not high, and is likely to lower the overall portfolio beta. This stock may well be early to mid stage growth. Katy is likely to see this stock as a suitable prospect

**Question 1i - 4 marks**

Cromer is a growth stock. It has strong earnings growth, but its PE is also high and pays no dividend. No dividend payments are often associated with fast growing firms reinvesting their own profits in the business. The price of the stock and its high beta may deter Katy somewhat, but if the stock is at an early stage of growth the price may be inexpensive. Katy is likely to see this stock as a suitable prospect  
 See p 37, 126-127 of BPP workbook

**Question 1j - 4 marks**

	Gain Fund			
2004	bid (£ pence)	offer (£ pence)	mid (£ pence)	Spread
Jan	100.0	96.5	98.3	3.6%
Feb	98.3	94.9	96.6	3.6%
Mar	97.1	93.7	95.4	3.6%
Apr	100.4	96.9	98.6	3.6%
May	102.8	99.2	101.0	3.6%

A round trip investment incurs a bid - offer spread of 3.6%. Under a single pricing system (assuming no swing pricing is used) the round trip will cost 0.5%.

**Question 1k - 3 marks**

The vast majority of daily subscriptions and redemptions can be netted without any underlying trading occurring in the fund. Netting allows investors to benefit for they

no longer buy at bid and sell at offer. The fund accountant can offer the mid price on all subscriptions and redemptions and use a low charge to cover the small proportion of actual trading for which there is an imbalance in subscriptions and redemptions.

### **5 mark questions**

**1**

Answer to a.  $\text{Beta} = \text{covariance} / \text{variance} = 0.23 / (0.32^2) = 2.25$

Answer to b.  $\text{Expected return} = \text{risk free return} \times \text{beta} \times (\text{expected return on market} - \text{risk free return}) = 0.06 + 1.2 \times (0.12 - 0.06) = 0.132$

**5 marks**

**2**

Cash gives a certain return, and is backed by capital and ultimately insurance up to the threshold set by the Financial Services Compensation Scheme. See page 24 of BPP workbook. Cash is also subject to 2 risks:

**Inflation risk** – because inflation may exceed interest paid on deposits. This may mean that the real interest rate is zero or even negative, in which case we hold a depreciating asset.

**Interest risk** - there is an opportunity cost of interest forgone by choosing an asset with immediately liquidity as opposed to a near cash asset with a higher interest rate.

Many near cash assets offer superior interest with almost the same liquidity, for example money market mutual funds that offer chequing facilities.

See page 24 of BPP workbook.

**5 marks**

## **20 mark question - Answer**

Risk in an investment context concerns the variability of actual and expected returns. The main sense in which risk is meant is risk as variation. Risk as variation entails fluctuation, volatility, oscillation, amplitude

Risk is also opportunity – but seeking positive investment outcomes simultaneously leads to the possibility of negative outcomes. Risk as opportunity also means prospect, potential, upside, advantage.

See pages 2 - 3 of the BPP workbook.

Having connected with a client there are 3 main methods of risk profiling:

1. The client self selects a risk-graded investment category that is appropriate e.g. cautious, medium, adventurous. The ideal answer would elaborate on these terms.
2. Questionnaires which score an individual according to their attitude to risk. The ideal answer will elaborate on this
3. Investment scenarios of financial situations that differ with regard to risk. By working through the scenarios the client will self reveal their risk profile.

Some critical appraisal of these techniques is expected.

See pages 14 - 16 of the BPP workbook.

A strong case can be made that risk is more multidimensional than the investment industry portrays. Risk in an investment context tends not to focus on this because it tends to assign probabilities to various outcomes. Risk is also uncertainty. Risk as uncertainty also means unexpected, contingency, surprise, shock. Uncertainty is endemic within risk taking yet as humans we downplay this aspect. Behavioural finance finds that we are over optimistic and confident. Behavioural finance infers that psychological biases make risk profiling inherently flawed.

The development of defined contribution pension plans and wealth management has fuelled demand for risk profiling.

Obtaining a client's risk preference is no easy matter. A client unfamiliar with investment terminology may not be able to think in terms of how they would feel faced with a particular degree of return variability. Do we, as investment professionals, really understand risk? Risk profiling remains at a relatively immature stage. Evidence of this is the tremendous variation that exists across cultures e.g. the Netherlands uses a person carrying a sack of various weights over their shoulder, other countries depict a person that can or cannot sleep at night, the UK uses the terms cautious and adventurous.

See pages 146 – 149 on behavioural finance and pages 14 – 16 on risk profiling.

## **Taxation and trusts**

### **20 mark question - Answer**

- a) (i) Use a trust or a series of trusts to be established by Jessica's father in his will or otherwise, to benefit Jessica's children thus avoiding inheritance tax on one generation.
- (ii) Ask Jessica's father to make a lifetime transfer of assets which will be exempt from inheritance taxes if he does not die within seven years of making the gift. This also takes advantage of a taper relief depending on how long Derek lives after making the gift if less than seven years before death.
- (iii) Make use of the £300,000 inheritance tax exemption by ensuring that Derek reduces the value of his estate to this level before his death.
- (iv) Ask Derek to make a gift in contemplation of the marriage of his daughter Jessica to Michael as such a gift is exempt up to an amount of £5,000 as a father of the bride.
- (v) Make use of any exemptions and reliefs such as transfers to spouses, small gifts up to £250 per person, the annual exemption of £3,000 (note that this can be carried forward for one year, so a gift of £6,000 might be possible), business property relief, agricultural property relief, woodlands relief, and quick succession relief if relevant. **5 marks**

- b) An individual's or married couple's / civil partnership's main or only home is exempt from capital gains tax on disposal. A married couple / civil partnership can only have one principal private residence.

The sale of Michael's residence in the UK will therefore not attract capital gains tax irrespective of the amount of capital gain or loss he makes on the disposal of the property.

The sale of Jessica's residence in the UK will also not attract capital gains tax irrespective of the amount of capital gain or loss she makes on the disposal of the property.

When Michael and Jessica purchase a new UK residence they will be entitled to a new principal private residence exemption when they come to sell that residence assuming that it becomes their principal private residence. The Principal Private Residence exemption applies to the garden also provided that it is appropriate to the size and character of the house and it is sold with the house. **5 marks**

- c) As the shares were purchased prior to 31 March 1982, indexation will not be available for the period prior to 31 March 1982. Instead, Michael can elect to choose

one of two options – (i) elect for 31 March 1982 value of the shares to be treated as their acquisition value, or (ii) make no election. This election cannot be revoked once made.

If the election is made, the 31 March 1982 value will be treated as the original cost of the shares.

If the election is not made, then Michael will have to make two calculations using both the original cost of the shares and the 31 March 1982 value of the shares. In both cases indexation will run from March 1982. The indexation allowance is based on the higher figure of original cost or March 1982 value for both calculations.

The eventual capital gain or capital loss will depend on the result of the calculations.

- (i) If both calculations show a gain – the smaller gain is taxed.
- (ii) If both calculations show a loss – the smaller loss is taxed.
- (iii) If one shows a gain and the other a loss – there is zero to be taxed.
- (iv) If one shows no gain or loss – there is zero to be taxed. **5 marks**

d) Liability to capital gains tax depends on residence in the UK. If Michael and Jessica purchase a property in Portugal which they sell at some stage in the future, they will be liable to capital gains tax in the UK on the disposal proceeds of that property. If the property is sold in Euros, the sales price must be translated into sterling on the date of the sale of the property. The gain or loss will also be calculated based on sterling figures.

Double taxation relief is available in the event of Portugal imposing a similar capital gains tax on the disposal of the asset located in Portugal. Portuguese tax will be deducted from the UK capital gains tax that is payable. If it exceeds the UK capital gains tax then no further UK tax is payable.

The purchase of the Portuguese property will also qualify for taper relief on non-business assets. **5 marks**

**5 mark questions – (Good presentation and layout of the answer: 1 mark; correct answer: 1 mark; other marks for the content of the calculation: 3 marks if perfect, 2 marks if a slight mistake; 1 mark if a good attempt is made or if arithmetic goes more awry).**

**Question 1 Answer:**

Total assets	£1,200,000
Liabilities	£ 200,000
Chargeable estate	£1,000,000
Inheritance tax due =	$(£1,000,000 - £300,000) \times 40\% = £280,000.$

**Question 2 Answer:**

Disposal value	=	£18,000
Less: Allowable deductions	$(£30,000 \times 18,000/82,000) =$	£ 6,585
Unindexed gain	=	£11,415
Indexation =	$(£6,585 \times [118-110]/110)$	
=> £6,585 x 0.073 =		(£480)
Post-Indexation Gain	=	£10,935