



Institute  
and Faculty  
of Actuaries

# EXAMINERS' REPORT

SP5 - Investment and Finance

Specialist Principles

April 2023

## **Introduction**

The Examiners' Report is written by the Chief Examiner with the aim of helping candidates, both those who are sitting the examination for the first time and using past papers as a revision aid and also those who have previously failed the subject.

The Examiners are charged by Council with examining the published syllabus. The Examiners have access to the Core Reading, which is designed to interpret the syllabus, and will generally base questions around it but are not required to examine the content of Core Reading specifically or exclusively.

For numerical questions the Examiners' preferred approach to the solution is reproduced in this report; other valid approaches are given appropriate credit. For essay-style questions, particularly the open-ended questions in the later subjects, the report may contain more points than the Examiners will expect from a solution that scores full marks.

For some candidates, this may be their first attempt at answering an examination using open books and online. The Examiners expect all candidates to have a good level of knowledge and understanding of the topics and therefore candidates should not be overly dependent on open book materials. In our experience, candidates that spend too long researching answers in their materials will not be successful either because of time management issues or because they do not properly answer the questions.

Many candidates rely on past exam papers and examiner reports. Great caution must be exercised in doing so because each exam question is unique. As with all professional examinations, it is insufficient to repeat points of principle, formula or other text book works. The examinations are designed to test "higher order" thinking including candidates' ability to apply their knowledge to the facts presented in detail, synthesise and analyse their findings, and present conclusions or advice. Successful candidates concentrate on answering the questions asked rather than repeating their knowledge without application.

The report is written based on the legislative and regulatory context pertaining to the date that the examination was set. Candidates should take into account the possibility that circumstances may have changed if using these reports for revision.

Sarah Hutchinson  
Chair of the Board of Examiners  
July 2023

### **A. General comments on the *aims of this subject and how it is marked***

The aim of this Investment and Finance Principles subject is to instil in successful candidates the ability to apply the principles of actuarial planning and control to the appraisal of investments, and to the selection and management of investments appropriate to the needs of investors.

A mix of questions styles is used, covering *knowledge* of the material set out in Core Reading, *application* of this in calculations and case studies and *higher order skills* such as synthesis and collation of recommendations. Marks are awarded for the constituent elements of calculations, not just for the final answer generated. Scenario appraisal will similarly provide credit for evidence of the issues considered, not solely for the conclusions reached. There is necessarily an element of subjectivity in the answers and candidates who make well-reasoned points, not in the marking schedule, are awarded marks for doing so.

The examiners want to test the understanding of the candidates in relation to the principles of investment. In order to do that the candidates will be asked to demonstrate that they know how investors might behave and what various terms mean. It also requires candidates to calculate and interpret certain investment related figures. It is not expected that the candidates are experts in the investment area, however they should have an overall understanding of investment markets and the function and needs of the various parties involved.

### **B. Comments on *candidate performance in this diet of the examination.***

The paper was relatively straightforward with the more challenging questions being near the end of the paper. There was little evidence that candidates were unduly time pressured with most candidates completing all the questions.

Candidates should ensure that their answers address the main point of question, for instance in Question 5 (i) (a) a number of candidates wrote detailed notes regarding what constitutes an ESG stock and omitted to say much about the review process, which was central to the question, this wasted time and didn't gain marks.

### **C. Pass Mark**

The Pass Mark for this exam was 62  
237 presented themselves and 113 passed.

### Solutions for Subject SP5 - April 2023

#### Q1

(i)

An American option can be exercised at any time up to the expiration date [½]  
Whereas European options can only be exercised at the expiration date [½]

(i)

Strike price - 70; [1]

Option price - 10 [1]

(iii)

Strike price - 110 [1]

Amount received - 15 [1]

(iv)

Both forwards and futures can be used by the oil company  
The oil company should first consider who the counterparty is [1]

as the risk of default is higher when using a forwards rather than a future as futures are marked to market on a daily basis whereas a forwards are only settled on the settlement date [½]

This may give rise to a greater chance of default by one or other of the parties [½]

Though this might be reduced by collateralisation [½]

The advantage of a forward is that it can be customised to suit the oil company's exact requirements [½]

Whereas a future is a standardised contract so may not exactly fit the requirements of the oil company [½]

The future will also involve standardised legal documentation [½]

This may result in basis risk or [½]

Cross hedging risk [½]

Futures will also require margin payments both initially and throughout the contract [½]

If oil production is less than expected, then futures can be closed out prior to maturity whereas it might be more difficult to close out a forward contract [½]

whereas as a forward contract is bespoke to that contract [½]

Futures are also marketable [½]

So if the oil company regularly undertakes this type of hedging and knows the counterparty well it may prefer the forward as they can tailor it to their own circumstances [½]

However if the oil company rarely undertakes this type of transaction, then it may prefer the standardisation provided by the future's market [½]

[Marks available 8, maximum 4]

(v)(a)

The main characteristics of the counterparty will be:  
An exposure to oil price that is the opposite of the oil company's exposure [1]

So the oil company will be worried about the oil price falling so the counterparty will be concerned about the oil price rising [1]

They will also be large enough to deal in the size of contract the oil company is interested in [½]

And be financially robust enough to honour the contact should it go against them [½]

Depending on the counterparty may also be required to take physical delivery of the oil/deliver the oil to the oil company [½]

(b)

A shipping line or airline might be interested [1]  
 (There are many possible answers so marks should be given if the named body is exposed to rising oil prices)

[Marks available 4½, maximum 3]

(vi)

	Spot	01/04/2024	01/04/2025	01/04/2026
Risk free rate		2.0%	2.2%	2.4%
Spot Price	70	50	50	65
$e^{rt}$		1.02020	1.04498	1.07466
Forward Price per barrel		71.414	73.149	75.226
Profit/Loss per barrel		21.41	23.15	10.23
Profit (\$)		21,414,094	24,306,203	11,248,461

(Candidates who assumed the risk free rate quoted was just for one year rather than for the whole 2 or 3 year period would have produced slightly different figures as shown below and would get full marks)

	Spot	01/04/2024	01/04/2025	01/04/2026
Risk free rate		2.0%	2.2%	2.4%
Spot Price	70	50	50	65
$e^{rt}$		1.02020	1.04289	1.06823
Forward Price per barrel		71.414	73.003	74.776
Profit/Loss per barrel		21.41	23.00	9.78
Profit (\$)		21,414,094	24,152,744	10,753,457

[3]

[Total 15]

*This question was straightforward and the marks awarded reflected this. Most candidates found little difficulty in parts (i), (ii), (iii) & (iv).*

*Part (v) and (vi) were well answered, however a number of candidates had difficulty describing the investor in part (v) and struggled to perform the relatively simple calculation in part (vi)*

## Q2

(i)

Goal is to estimate company's ability to generate profits and cash in the future [1]

Internal:

Management ability [½]

Does management have a credible plan for the future? [½]

Management experience - does management have the skills to adapt to the evolving market / landscape? [½]

Is the management structured correctly so that the chance of fraud or misrepresentation is minimised [½]

Quality of products [½]

Can the company develop new products (e.g., vaping - i.e., heating not burning of tobacco)? [½]

Will the company be able to diversify into other areas? [½]

Input costs [½]

What are the main input costs and how are they likely to change in the future? [½]

Will the company be able to pass on any cost rises? [½]

Are the cigarettes manufactured in a different country to where they are sold, if so, how is the exchange risk managed? [½]

Does the manufacturing process comply with local rules regarding ESG, if not there is the possibility of future litigation and a damaged reputation [½]

Financial factors [½]

Degree of financial leverage - high leverage may be an obstacle if revenues are declining, or positive if revenues can be increased [½]

Does the company have significant tangible assets (e.g. land) that could be put to alternative use, or sold? [½]

Does the company have sufficient financial reserves? [½]

Is the company cash generative? [½]

If so, what is it doing with the cash it generates, if not [½]

Can it access capital markets [½]

It may be more difficult to raise capital given they would not be approved of under most ESG guidelines [½]

The historical trends in various financial ratios should be studied to ascertain how the company is progressing [½]

e.g. ROCE (*other relevant examples to be given credit*) [½]

Expected growth in the future e.g. of dividends or earnings [½]

External:

What is the economic outlook? [½]

How does the propensity to consume cigarettes change with changes to the economy? [½]

What is the political outlook? [½]

Prospects for market growth in the markets where the company operates [½]

How do the consumers regard cigarette smoking? [½]

What is the regulatory position in these markets? [½]

Are there restrictions on advertising? [½]

Is there the possibility of future regulation? [½]

And/or litigation	[1/2]
How are the cigarettes taxed and is that likely to change in the future?	[1/2]
Competition	[1/2]
Does the company have a strong brand or other competitive advantage?	[1/2]
How strong is competition?	[1/2]
Are they losing or gaining market share?	[1/2]
Are there new products entering or disrupting the market e.g. e cigarettes?	[1/2]
Are there a lot of counterfeit cigarettes?	[1/2]

[Marks available 20½, maximum 10]

(ii)(a)

There are a number of methods to assess the value of the shares:

Estimate the future earnings of the company and use a P/E ratio	[1/2]
This can be compared to the market, its competitors or to its historical value	[1/2]
Adjustments would have to be made to account for different financial structures	[1/2]
Also it should be established whether the company has always stood at a discount or premium to these values	[1/2]
The future cash flows could be forecast and a DCF valuation produced	[1/2]
In order to calculate the cash flows the analyst would need to forecast sales, costs of production, costs of finance etc.	[1/2]
Or the future dividends of the company could be estimated and a dividend discount valuation could be produced	[1/2]
In both these cases the cash flows or dividends would be discounted using a suitable discount rate	[1/2]
which takes account of differences between the cigarette manufacturer and the market e.g. the risk profile	[1/2]
An asset based valuation could be produced based on the company's net asset value	[1/2]
This will involve subtracting the company's current and long term liabilities from the reserves and current assets	[1/2]

(b)

With the exception of the asset based valuation assumptions are needed	[1/2]
The valuation will be sensitive to any changes in these assumptions	[1/2]
These include assumptions regarding cost of goods, futures sales etc	[1/2]
The DCF and the discounted dividend valuation also require a discount rate and the valuation will be very sensitive to any changes made to the discount rate	[1/2]
The value of assets in the balance sheet may be under or over stated and may depend on an alternative use being found for them	[1/2]
Given the company is a cigarette manufacturer there is the additional risk that there may be some form of litigation against them and this would be very difficult to integrate into any valuation	[1/2]
These factors reduce confidence in valuation, so analyst could consider a range	[1/2]

[Marks available 9½, maximum 4]

(iii)(a)

Market price of shares ultimately determined by supply of and demand for them	[1/2]
Discrepancy in valuation suggests market does not agree with analyst's view e.g., growth expectations are lower (or other relevant illustration)	[1/2]
Are there short-term factors affecting supply of or demand for the shares?	[1/2]

e.g., is the company likely to need additional shareholder capital, issue shares and therefore increase supply?	[½]
or M&A activity/cessation causing short term market movements in the sector	[½]
Demand for shares may be lower due to ESG concerns	[½]
Certain investors may not wish to hold tobacco shares	[½]
Market may be anticipating punitive regulations/taxation/litigation	[½]
Error in valuation parameters	[½]
Or in the method of calculation	[½]
This is a consumer goods business: maybe the market currently looking more favourably at growth stocks	[½]
There may be information in the market that the analyst is not aware of	[½]

(b)

The analyst would need a reason to expect that the discount will narrow in the future	[½]
Has this discount existed in the past?	[½]
If so has it narrowed or always been at this level?	[½]
Is it likely that the company may buy back shares in the future, thereby reducing supply and supporting the price?	[½]
How confident is the analyst that the market has underestimated the value of the shares?	[½]
Is a takeover likely?	[½]
Will it fit into the portfolio in terms of risk or return?	[½]
Is it liquid enough to buy?	[½]
If not the cost to buy a sufficient quantity may be much higher	[½]
Are there any ESG constraints on the fund manager?	[½]
If not, "sentimental"/ESG issues arguably should not feature (unless they impact returns) as the client will have bought fund on the expectation of tobacco featuring	[½]
If the analyst is satisfied that the difference between the value they calculated and the share price is not due to any factor they can explain then they should recommend buying the shares	[½]

[Marks available 12½, maximum 5]

**[Total 19]**

*While not as well answered as question 1, candidates generally found this a straightforward question, this was helped by the large number of marks available.*

*Part (i) has been asked before in various guises so it was no surprise that it was the best answered part.*

*Parts (ii) & (iii) were not as well answered, with part (iii) providing the weakest answers with a number of candidates unable to comment on whether the analyst should recommend purchasing the stock.*

### Q3

(i)(a)

Opportunity set:

Comprises the portfolios (combinations of assets) that are possible, given the available assets

[1]

Used to define the universe of assets from which a particular investor's optimal portfolio may be constructed [½]

(b)

Efficient frontier:

Represents the portfolios offering the maximum return at each level of risk [½]

or the portfolios offering the lowest risk at each level of return [½]

i.e., the set of efficient portfolios [½]

Represents a boundary to the opportunity set [½]

Is used to identify the optimal portfolio, given an investor's risk appetite [½]

(c)

Indifference curve:

Each curve represents a set of outcomes of equal utility [1]

Thus an investor should be indifferent between all points on a given curve [½]

[Marks available 5½, maximum 4]

(ii)(a)

Investor should pick portfolio on efficient frontier that is at tangent to a utility curve [1]

This maximises utility for the investor [½]

(b)

2 - answers in the range 2 - 2.5 [½]

5 - answers in the range 4.5- 5.2 are acceptable [½]

[Marks available 2½, maximum 2]

(iii)

Similarities:

Both models

Describe the return of a portfolio in terms of (or relative to) the risk free rate of return [½]

plus the sensitivity of excess returns relative to market return in terms of beta [½]

Differences:

In the CAPM the only factor affecting returns relative to the risk free rate is sensitivity to market moves [½]

The Fama-French model is a multi-factor model [½]

Two other factors affect returns: [½]

Size (market capitalisation) [½]

Value measures (e.g., book value to market value ratio) [½]

[Marks available 3½, maximum 3]

(iv)

Disadvantages:

The model requires three coefficients ( $\beta_1$ ,  $\beta_2$  &  $\beta_3$ ) for the sensitivity of stocks/ portfolio c.f. the market [½]

Meaning it is more complex [½]

Model relies on future relative returns reflecting past relative returns [½]

May be possible to calculate coefficients for a diversified portfolio [½]

But less likely to hold for individual stocks [½]

Individual stock returns likely to be driven by factors other than size and value characteristics	[1/2]
Especially for small cap portfolio	[1/2]
e.g., balance sheet strength, profitability, industry	[1/2]
Qualitative judgement also likely to be needed for stock selection	[1/2]
	[Marks available 4 1/2, maximum 4]
	<b>[Total 13]</b>

*Parts (i) and (ii) were very well answered with most candidates getting close to full marks.*

*Most candidates made enough good points in part (iii) to receive good marks, however part (iv) proved more challenging, most candidates mentioned the first two points in the marking schedule, however only the better prepared candidates went beyond that.*

#### Q4

(i)

The measures described below may achieve their aim, however they may also impact other parts of the economy and possibly cause a different set of problems	[1]
It is unlikely that just one policy would be adopted a combination of the policies would be more likely	[1/2]
The state of the economy at the start will also be important	[1]
e.g. if the economy is in recession increasing interest rates or taxation would only cause more problems*	[1/2]

(a)

Monetary policy	[1/2]
Increasing interest rates reduces disposable income and therefore demand in economy, and therefore reduces price pressures*	[1/2]
Is also likely to increase value of domestic currency (if floating), which will tend to reduce import prices	[1/2]
Bank reserve requirements could be raised leading to lower bank lending and reduced money supply	[1/2]
The central bank could sell government bonds thus reducing money supply	[1/2]
If the central bank had been using quantitative easing, it could reduce/end this	[1/2]
Fiscal policy	[1/2]
Raising taxation also reduces disposable income, demand and price pressures*	[1/2]
However, increasing consumption based taxes would increase CPI in the short term	[1/2]
Prices and incomes policy	[1/2]
Controlling prices has a direct impact on consumer price inflation; controlling wages has an indirect impact on demand and therefore prices*	[1/2]
The government could implement supply side policies that increase the supply of goods	[1/2]
e.g. removing regulatory barriers or by providing incentives to invest in production facilities*	[1/2]
If the central bank is independent the Government will be unable to influence monetary policy directly	[1]

*(Alternative valid descriptions of policies should get credit)*

(b)

Despite high revenues, companies can shift profits around by taking advantage of accounting rules, etc.	[½]
Introduce tax on revenues within local jurisdiction, rather than profits	[½]
Reduce incentives for companies to use cross-border schemes e.g., where companies shift profits to low-tax jurisdictions (or other suitable example)	[½]
Develop international cooperation on tax regime e.g., by introducing global minimum tax rate	[½]
or geographic allocation of profits according to agreed formula	[½]
Formula could be based on revenue or number of employees in a country	[½]
Close any loopholes that exist	[½]
Or reduce any tax allowances	[½]
Ensure the revenue collection agency is well staffed and trained	[½]
Highlight the lack of taxes paid and put public pressure on the companies	[½]

(c)

Fiscal policy - direct expenditure on industry	[½]
Provision of state aid / subsidies / tax credits	[½]
Support for training and education in relevant areas, or development of talent e.g., college, university courses, or other suitable examples	[½]
Reduce tax burden on companies e.g., reduce tax otherwise arising from profitable films	[½]
Development of industry infrastructure	[½]
Create / facilitate regional centre of excellence to attract talent	[½]
Introduce levy on ticket sales to support industry	[½]
Monetary policy indirectly affects the industry by affecting demand and the cost of capital	[½]
Create incentives for investment	[½]
Provide access to low-cost finance	[½]
Assist in developing and learning about new technologies	[½]
Encourage demand for films by supporting cinemas showing domestic productions	[½]
	[Marks available 23½, maximum 10]

(ii)(a)

Increased interest rates or taxation could reduce economic growth and will be unpopular	[1]
Control of interest rates not possible if independent central bank controls monetary policy	[½]
The same applies to changing bank reserving policies	[½]
Increasing bank reserve requirements may create liquidity problems for banks with low excess reserves	[½]
Higher interest rates may cause the currency to appreciate resulting in a less competitive export industry	[½]
Direct controls on prices and incomes rarely effective in long term	[½]
Supply side measures may take a long time to feed through	[½]
Being an open economy it may not be possible to influence the exchange rate significantly	[½]

(b)	
Hard to get international agreement, especially if there are winners and losers	[1]
Difficulty in setting the right formula for distribution of profits between countries	[½]
Reduces ability of countries to use tax as competitive tool, e.g., to attract inward investment	[½]
The government may need to increase expenditure to ensure the tax collection agency is well staffed/trained	[½]
(c)	
Monetary policy is “blunt instrument”, and not focussed on film industry	[½]
Country may be precluded from policies favouring domestic industry at expense of foreign films by international agreements, e.g., for subsidies	[½]
Increases financial burden on state	[½]
Cash may be better spent elsewhere	[½]
Cash may subsidise activities that may be profitable anyway, so just boosts profits of big film companies	[½]
Identifying how to target the resources - e.g., on small producers	[½]
May leads to scams/tax loopholes/abuse	[½]
May create political difficulties - e.g., criticism as to why film industry is being favoured over other industries	[½]
	[Marks available 11½, maximum 7]
	<b>[Total 17]</b>

*Part (i) was well answered, this was undoubtedly helped by the large number of marks on offer.*

*The answers to part (ii) were much more mixed despite there being a good number of marks available. Candidates often provided an answer in part (i) but then didn't follow through with the disadvantages of that policy in part (ii).*

## Q5

(i)(a)

Steps to be taken in the review process are:

Review investment objectives to establish if they are still the same i.e.	[1]
The investment horizon	[½]
The target metrics	[½]
Both in terms of return	[½]
and the ESG criteria -	[½]
what issues are important to family	[½]
and determine a threshold beyond which the family does not want to go e.g. if no more than 10% of revenues came from a source that was outside the family's ESG criteria then that would be okay beyond that they wouldn't want to invest	[½]
Collect the relevant data	[½]
Determine if each of the assets meets these objectives	[1]
A number of agencies report on ESG metrics for companies and the fund manager might use one of these	[½]
or perform the analysis themselves	[½]

In the case where there is little published evidence then the fund manager may have to engage with the company in question	[½]
Where an asset doesn't meet the objectives determine if this is likely to change in the future	[½]
and whether any sort of engagement is possible or likely to bring about a change in the assets' ESG status	[½]
Where an asset fails to satisfy the family's criteria and assuming that it is unlikely to do so in the future it will need to be sold	[½]
and a replacement asset found or more investment made in the existing portfolio	[½]
The family will expect a fundamental analysis of future return expectations as the basis for assessing whether a proposed portfolio will meet the investment objectives mentioned above	[½]
Review liabilities/benchmarks and continued suitability of assets	[½]
 (b)	
The issues with these steps are:	
It may be difficult to reconcile the family's objectives	[½]
e.g. it may not be possible to identify assets that have the preferred ESG profile and the required risk or reward	[½]
Collecting data could be difficult	[½]
and time consuming if the fund manager is performing the analysis themselves	[½]
Particularly if the family's stance on a particular ESG component is different to that of the market	[½]
This type of review will cost money which the family may be reluctant to spend	[½]
The resultant portfolio may lack diversification	[½]
Investment horizon - have environmental developments, initiatives, and implications altered with the current investment objectives or the current assets?	[½]
Would alternative assets now be consistent with the investment horizon?	[½]
 Target metrics:	
What investment return is expected	[½]
Risk parameters (Volatility, VaR, other)	[½]
Does the family have a view on acceptable costs?	[½]
Will the family acceptable any foreign currency exposure?	[½]
What liquidity needs does the family have?	[½]
When are those cash out flows expected?	[½]
Will the family have new funds to deploy?	[½]
What is the expected timing of new cash in flows?	[½]
 Assign metrics per United Nations Sustainability factors ("PRI"). The family will need to consider the extent to which the following factors need to be included in the decision making to keep/exclude existing assets and how to determine if alternatives do merit inclusion (and the final portfolio structure and content):	
Sustainability impact	[½]
SRI	
Ethics	[½]
 Review liabilities / benchmarks and continued suitability of assets. The family will be addressing the dual requirements which dictate that certain assets fail the environmental acceptability features (and therefore should be removed from the	

portfolio) [½]  
 and that the retained assets (or new assets) should now feature because they meet the features and collectively achieve the investment objectives above [½]

Ongoing activities:

Track market sentiment for indications of build-up of negative perception [½]

Monitor news feeds for negative messages that could affect the price of holdings [½]

Stress testing; modelling expected outcomes based on COP targets (versus pre-industrial temperatures) and political decisions (sudden change, gradual change, no-change) [½]

[Marks available 22, maximum 5]

(ii)

Considerations before and while making changes:

Strategic: there are more factors to consider than environmental issues in setting a strategy [½]

Those other factors and metrics should also be considered and any changes that might counter previously agreed measures should be reviewed [½]

Performance potentially going to be lost in the future: Are they expected to make a good return; so is selling them now losing a future opportunity [½]

Performance threats: Could they become stranded assets; so selling now could avoid a loss in the future [½]

Is there a market in the assets to be sold?

Are other market players taking the same view? [½]

Is there capacity for the amount they have to sell? [½]

Could the price be pushed down due to perception of a distressed sale? [½]

How will replacement investments match the prevailing strategy in terms of:

Expected return

Inherent risk

Correlation management

Cost management [½]

Tax implications: crystallising gains/losses [½]

Costs of trading [½]

Transition risk (out of market risk). They should plan ahead by preparing a timetable for transition; timing and size of holdings [½]

Establish if there are counterparties who would willingly accept the assets [½]

Consider priority for raising cash by positioning target undesirable assets for sale [½]

Alternative investment choices:

What should they be?

Availability [½]

Reputation: while the family may not necessarily have a regulated set of obligations it may be that they are in the public eye and therefore they need to be aware of the public nature of their activities. Notwithstanding the confidential nature of their portfolio any changes they make may become public information.

Hence they will probably need to be aware and assure that the changes they make sit within the PRI framework [½]

Is it a good time to sell the existing shares/but the new share ?	[½]
What will the shape of the new portfolio look e.g. how concentrated will it be?	[½]
Will the family's risk appetite be met?	[½]
Will the portfolio be capable of matching the family's return requirements?	[½]
	[Marks available 9½, maximum 7]
	<b>[Total 12]</b>

*This was a fairly straightforward question that was given a ESG slant, some candidates went into far too much detail regarding differing ESG policies and failed to address the rest of the question regarding the review process, this was particularly evident in part (ii) where the average answer did not score highly.*

### Q6

(i)

Japan:

The Nikkei is an index based on 225 shares	[½]
It represents approximately 50% of the Japanese market and is unweighted	[½]
It can also be described as price weighted	[½]
The constituents are reviewed annually.	[½]
<i>(Candidates stating it is reviewed twice a year should also be awarded ½ mark)</i>	

It is often used to indicate short term movements of the Japanese market	[½]
Calculated on a real time basis	[½]
It is not considered as representative of the Japanese market	[½]

UK:

The FTSE 100 is an index based on 100 shares	[½]
Accounting for approximately 80% of the UK market	[½]
It is weighted by market capitalisation	[½]
Based on the free float market capitalisation	[½]
And the constituents are reviewed regularly	[½]
Calculated on a real time basis	[½]

[Marks available 7, maximum 4]

(ii)

In both cases the fund manager may be relating the portfolio returns to their benchmark which may not be the Nikkei or the FTSE 100	[1]
For instance the fund manager may be using the Topix	[½]
And FTSE All Share indices	[½]
Which give a better indication of the overall performance of the Japanese and UK markets	[½]
There is also the possibility that the fund manager has quoted the returns in sterling which may have altered both the market return and the portfolio return	[1]
The time periods used by the investor and the fund manager may be different	[1]
There may be differences in the way the fund manager and the investor have accounted for dividends	[½]
It is also possible that the Fund Manager has adjusted the market returns to take	

account of fees	[½]
or cash flows	[½]
or restrictions placed on the fund manager	[½]
	[Marks available 6½, maximum 5]
	<b>[Total 9]</b>

*Part (i) was a basic knowledge based question and was well answered, core reading states that the Nikkei is reviewed annually, however it is now reviewed twice a year so candidates who wrote either answer were awarded the marks*

*Part (ii) proved more challenging despite there being a number of fairly straight forward points that could have been made.*

## Q7

(i)

Advantages:

The proposed tax would be simple	[1]
and avoids having to determine what is capital gain and what is income	[½]
It taxes a person's increase in total wealth over the year and therefore might be thought of as fairer	[½]
The proposed tax would reduce the avoidance of tax	[1]

Disadvantages:

Total return is made up of two elements, income and capital gains	[½]
Capital gains can be split into two types, realised and unrealised	[½]
Generally speaking it is easy to measure income	[½]
and realised capital gains	[½]
However unrealised capital gains present some problems	[½]
Particularly if the asset is unquoted	[½]
or seldom traded	[½]
or illiquid relative to the volume an investor holds	[½]
or unique	[½]
In these cases establishing what the value of the investment and therefore the capital gain can be subjective	[½]
It would therefore need someone to agree the valuations of these types of assets	[½]
If that person is employed by the investor they may err in favour of lower valuations and therefore lower tax bills	[½]
If that person is a public official, they would need to be paid by the state thus increasing the state's expenditure	[½]
Assuming a value could be assigned to these assets the next problem would be how the investors can pay the tax on the part that relates to unrealised gains.	[½]
As they won't have realised the gain they won't have the cash to pay the tax	[½]
This could lead to a situation where investors are forced to sell their investments at the end of each tax year creating a greater degree of volatility	[½]
And reducing investor's willingness to invest for the long term	[½]
Issues will also arise when values fall	[½]
Will the state repay tax paid on gains that subsequently disappeared?	[½]
If so the tax revenue of the country would become more dependent on the levels	

of the investment markets [½]  
Collection of the tax may also be difficult, requiring all investors to declare the  
total return on their investments and then pay the tax due [½]  
[Marks available 13½, maximum 10]

(ii)  
A lot would depend on the level of the tax [½]  
The introduction of a transaction tax would impact high frequency trading/  
speculation - whether this is an advantage or disadvantage can be debated [½]

Advantages:

It is easier to collect [1]  
and therefore less easy to avoid [½]  
It is easy to understand [½]  
It would encourage long term saving [½]

Disadvantages:

This tax could distort trading, reducing investor's propensity to trade [1]  
It introduces additional frictional costs for traders [½]  
Which could reduce overall liquidity in the market [½]  
The payment is made irrespective of whether or not the investor made a profit [½]  
It may make the investment market of that country less attractive especially if  
overseas investors are also obliged to pay the tax [½]  
Puts a greater burden on the intermediary [½]  
who may need to increase their charges to pay for the extra staff required [½]  
It may encourage people to transact deals with unregulated intermediaries and  
thus avoid the charges [½]  
If the tax were not put into a segregated account by the intermediary there is the  
possibility that some of the taxes may be lost if the intermediary becomes  
bankrupt [½]

[Marks available 8½, Maximum 5]

**[Total 15]**

*This question lacked any straightforward bookwork or easy calculation and it was therefore not surprising that it produced the lowest marks. It was also the last question, however as mentioned above there was little evidence that candidates were unduly time constrained*

*Part (i) proved the more challenging part, a lot of candidates failed to appreciate the ramifications of taxing unrealised gains.*

**[Paper Total 100]**

**END OF EXAMINERS' REPORT**



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