

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

April 2018

Subject CP3 – Communications Practice

Introduction

The Examiners' Report is written by the Principal 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.

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.

Luke Hatter
Chair of the Board of Examiners
July 2018

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

Subject CP3 consists of two parts as follows:

1. Written communication (90 marks)

Produce a written piece of communication that explains to a non-actuary a scenario that may typically be faced by an actuary in their day to day work.

The communication needs to be of a standard that it would be acceptable as a first draft. It is important that the recipient would both understand the communication and be satisfied with the response. The marking schedules include details of the marks awarded for including the necessary content. To the extent that it makes the communication unclear or confusing for the audience, marks may also be lost for including irrelevant content or details that candidates have specifically been asked to exclude from their solution.

2. Reflective questions (10 marks)

A set of questions designed to allow students to consider the approach that they took in their communication and justify certain decisions. For example, students may be asked what information they felt was relevant for this audience, or which terms they specifically excluded because they would constitute jargon.

Students are provided with some background reading a few days before the exam (the Advance Material) to allow them to familiarise themselves with the scenario without being under exam conditions. Students are expected to read the information provided, but are not required to do any further reading or research around the scenario.

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

Overall students answered the paper well. Many students scored full marks for the basic skills such as addressing the paper to the correct audience, or including an appropriate number of sections with clear headings. Solutions were generally an appropriate length, and students used charts well to summarise key information.

Explanations of the concept of cryptocurrencies were reasonable and overall better than explanations of technical terms seen in previous sittings (including previous sittings of the former CA3 exam). This could be because the concept of cryptocurrencies is not one that most students will have encountered in their day-to-day working lives. This highlights the importance of students ensuring that they step back and think about the knowledge of the audience when asked to explain a technical concept that is very familiar to them.

Some students struggled with explaining diversification to this audience. The trustees would clearly have come across the concept of diversification before, it being a key objective of the pension scheme's investment policy. However, given that they are not financial professionals, it was important to give a brief explanation of the term. Students who explained this poorly gave explanations that either included too much jargon, and would have confused the audience, or were misleading. For example, stating that a correlation of -0.29 means that the two assets will always move in the opposite direction.

Some students answered the first reflective question poorly. This asked for three criteria that the student used to decide what information should be included in the paper. Some students laid out a list of information they had included or excluded, without outlining the criteria that they used to decide what was and was not relevant. This highlights the importance of carefully reading and directly answering the question.

C. Pass Mark

The Pass mark for this exam was 60.

Example solution

Below is an example solution which would be considered a pass by the examiners. Note however, that this is not intended to be a perfect solution.

Answer to Question 1

<Consultant letterhead – including address>

<Industria Pension Scheme>

<Address>

<Date>

Attention: Members of the Industria Pension Scheme Investment Committee

Cryptocurrencies and the Industria Pension Scheme asset portfolio

Industria Pension Scheme (IPS) currently hold a sizeable proportion of funds in non-traditional assets such as real estate and hedge funds which are expected to have high investment returns in the long-term. IPS would now like to explore the possibility of including Cryptocurrencies in the asset portfolio. This memo will provide an introduction to Cryptocurrencies, briefly explore their advantages for the Scheme and cover the risks and uncertainties involved.

What are Cryptocurrencies?

A Cryptocurrency is a digital currency which provides a secure medium for international exchange. The recent introduction and interest in Cryptocurrencies has led to currencies such as X-Coin rising sharply in value. The marketplace for such currencies is now at a point where they potentially represent a feasible new asset class for investors such as IPS.

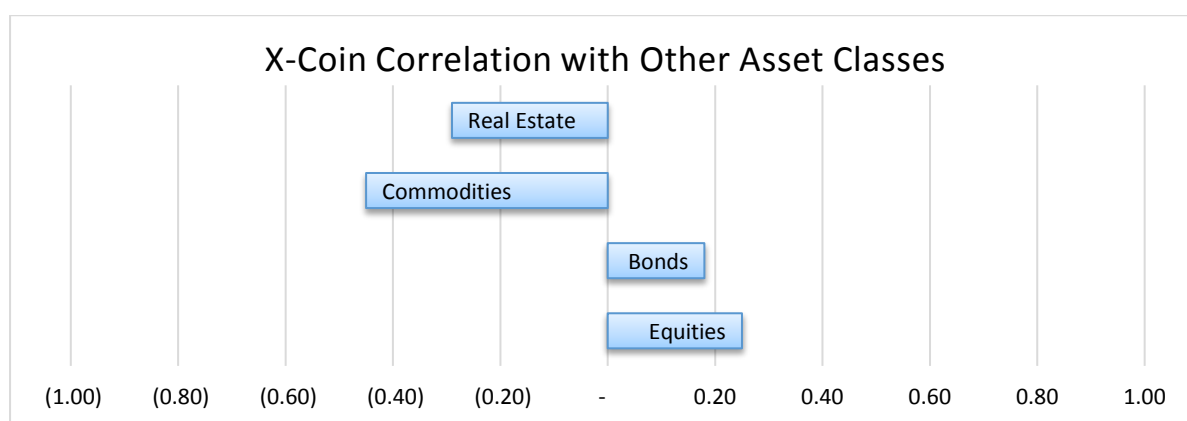
Benefits of investing in Cryptocurrencies

Although Cryptocurrencies are relatively new, the growth in this market and thus returns to investors have been large. For example, the value of X-Coin has gone up approximately 100% in the last year and 800% in the last three years. Although it is unlikely that returns of this level will be sustained, the asset class may be one that achieves higher than average returns over the long term, and the low average age of IPS members means that investments can be held for a long time.

While the Cryptocurrency markets have previously attracted small investors, they have now grown to the point where investment from larger institutions such as pension schemes may be viable. For example IPS currently invest about £1.5 billion in alternative investments. Assuming that 10% of this was directed to Cryptocurrencies, this is still relatively small compared to the total market size where approximately \$6 billion worth of digital currencies are bought and sold on a daily basis.

The Industria Pension Scheme has always placed emphasis on managing risk by holding a range of different assets. Therefore, should one perform poorly it may be compensated by the good performance of another. The benefit of this approach is realised when holding assets which are unrelated to one another.

The prices of Cryptocurrencies tend not to be greatly influenced by movements in the traditional asset classes. This is in contrast with more traditional investments such as equity and property which tend to move together. This is supported by the chart below which scores the strength of the relationship between Cryptocurrencies and other investments on a scale of +1 to -1, where +1 means they always move exactly in line and -1 means they always move in exact opposite directions. The relatively low scores show that there is a weak relationship in their relative movement with other assets.



Challenges of investing in Cryptocurrencies

While there has been an overall increase in the value of Cryptocurrencies, this has also been accompanied by large price swings. Furthermore, there are many different Cryptocurrencies available, and it is unclear which of these will prove feasible over time. While X-Coin is currently the most popular, investing in the wrong individual Cryptocurrencies could result in large losses. These large potential losses and swings in value may not be appropriate to the members of IPS.

A further concern with investing in Cryptocurrencies is that there is no long-term price history with which to analyse how the asset class may perform in future. This limits our ability to make long-term predictions on the expected returns and risk of investment.

As an institutional investor, IPS is subject to strict regulations on how it manages its investments. As Cryptocurrencies are still a relatively new asset class it is unclear what view regulators may take on pension schemes holding these investments in the future.

Lastly, there are several practical considerations which should not be ignored. For example, the current managers may not have adequate experience in this specialist investment class. Furthermore the transaction costs may be more expensive than existing assets.

Conclusion

Cryptocurrencies provide a unique investment opportunity to IPS which could offer several advantages should they be included in the investment portfolio. However, due to the nature of this being a relatively new asset, there remain a number of potential risks which should be considered.

Should you have any questions please email me directly. Alternatively we will spend time at next week's Investment Committee meeting exploring this opportunity further.

Yours sincerely

Terry Davidson
Actuary

[710 words]

Answer to Question 2

(a)

I have only included information in the paper which can be easily verified.

For example, information on the dramatic rise in the price of Cryptocurrencies, as we have historical records that show this.

I have included information based on the level of understanding of the trustees.

For example, I have not used the term correlation as this may not be immediately understood by some trustees, but I have included an explanation of the relationship between movements in the value of cryptocurrencies and other assets.

I have avoided information which is clearly subjective or biased.

For example the Chairperson's comment that if the rally in Cryptocurrencies turns out to be a bubble then he will seem foolish.

(b)

- Facts should be backed up wherever possible by figures and thorough analysis.
- One should avoid emotive language such as hyperbole and adjectives which trigger strong emotive responses. For example "the market is in free-fall" or "prices are on an unstoppable trajectory upwards".
- Charts and graphs should be displayed with care in order to show an objective viewpoint. For example the chart showing correlations shows the range [-1;1] to show the values relative to these extremes.

Mark Scheme

Q1

Length of answer

The number of words should be calculated counting all words after the address, main title (but not sub titles), salutation etc. up to but not including the final sign-off.

600–750 words	[5]
550–599, 751–800 words	[3]
500–549, 801–850 words	[1]
<500 or > 850 words	[0]
[Total 5]	

Format of answer

Paper format

While we expect that most candidates to produce a paper, a letter is equally acceptable.

Intended audience (either trustees or investment committee) clearly identified [1]

Suitable title for paper [1]

Clear reference to date [½]

and author somewhere on the paper [½]

Planning and presentation

Grouping of ideas

Document is grouped into an appropriate number of sections (excluding summary and short introduction – ‘what are cryptocurrencies’ would count as a section).

Award 2 marks if 3–5 sections, 1 mark if 2 or 6 sections, otherwise 0 marks.

[2]

Logical order of points.

Logical order between sections. When awarding marks here, consider the overall heading and purpose of the section rather than the content within it – do the sections flow in a sensible order, with knowledge that you need for a section having been included previously?

If read once and clear then 2 marks, if needed to re-read parts then 1 mark, otherwise 0 marks.

[2]

Logical order of points within each section. When awarding marks here consider the order of points within each section – do points flow and form a cohesive narrative?

If read once and clear then 3 marks, if one section needed to be re-read then 2–1 marks, otherwise 0 marks.

[3]

Points within each section are directly relevant to the heading. [1]

Appropriate short headings on each section.

Award 1 mark to each appropriate heading up to 2 marks in total.

Long headings or headings that don't succinctly describe what follows don't get a mark. [2]

Sentences kept brief.

Award 2 marks if there are no overly long sentences. Award 1 mark if there is one overly long sentence. If more than one overly long sentence, award 0 marks.

The principle is that a sentence is too long if it contains more than one message, too many sub-clauses, or if spoken needs repeated breaks to articulate. [2]

Charts

The best chart should be credited (note table should not be credited) when considering the full five marks under this section. Copying the price increase chart from the scenario material should not attract any marks here.

Format of visual aids. Charts are an appropriate format for the information being described, for example a horizontal bar chart showing the correlations. [1]

Charts should have a clear title and axes should be labelled [1]

Figures on the charts should be clear, and sensibly rounded [1]

Visual aids kept simple. Charts are not too complex and convey a clear and simple message.

Award 2 marks if the chart is simple and uncluttered; 1 mark if message can be understood but audience would need to pause to consider what the message is, 0 marks if the chart is confusing for the audience. [2]

[Total 20]

Language used

Overall language

Language used is simple and will be easily understood by the trustees.

Award 5 marks if the document is understandable as a whole. Award 4–3 marks if up to two points need to be redrafted. Award 2–1 marks if three to four points or one section needs to be redrafted. Award 0 marks if more than four points or more than one section needs to be redrafted [5]

Professional tone (avoid comments which “talk down” to the Trustees, or comments which are derogatory to the industry in general and/or the legislation). [1]

Avoid colloquialisms, informal and/or emotive language. [1]

Jargon and terminology

Absence of technical terms.

Award 6 marks if there are no terms present which are too technical for the recipient. Award 4 marks if there is one unexplained technical term, and 2 marks if there are two unexplained technical terms. If there are more than two unexplained technical terms, award 0 marks.

Usually Jargon Terms that should not be used even with an explanation	May be Jargon Terms that may be acceptable as long as they are clearly explained
Blockchain	Cryptocurrencies
Peer to peer	Risk adjusted returns
Brokerage	Lifestyling
Currency appreciation	Intangible currency
Daily liquidity	

Decentralised controls Digital signals Currency creation	Correlation (including perfect, positive, negative) Volatility Regulatory risk Portfolio risk Derivative Hedge fund Indices Active management
--	--

[6]

Superfluous accuracy of numbers (such as too many decimal places) is avoided.

Award 1 mark if all numbers quoted use an appropriate level of accuracy. If numbers have been quoted with excessive accuracy award 0 marks.

[1]

Absence of irrelevant points of content that act to distract or confuse the audience.

Award 3 marks if no irrelevancies, award 2 marks if one irrelevant point, 1 mark if two irrelevant points. If more than two irrelevant points award 0 marks.

[3]

Grammar, spelling and punctuation

Award 3 marks if no significant grammatical, spelling or punctuation errors, 2 marks if one error, 1 mark if two errors. Award 0 marks if more than two errors.

Each “error” should be significant enough to compromise the professionalism of the document or require redrafting.

[3]

[Total 20]

Content

Marks shown are to be awarded for each item of content identified in the candidate’s answer. To be credited with the mark(s) the point needs to be clear and understandable. However, points that require only minor adjustment should be credited, though half marks can be awarded where the redrafting is not trivial.

Markers should use discretion when there is more than one mark for a point, awarding part marks to reflect the level of clarity. Markers should also use their discretion when considering clarity to ensure that, for example, candidates who cover most of the content items, but not very clearly, are still given some credit, rather than penalised for every point made.

Bullet points may be appropriate for parts of the content, but in most cases are likely to be insufficient to explain the point for the audience.

Introduction

Clearly shows understanding of what the chairman has asked for

[1]

Clearly signposts to the rest of the letter, stating that it will...

- Explain what Cryptocurrencies are

[1]

- Indicate the advantages and disadvantages of Cryptocurrencies

[1]

What are Cryptocurrencies?

- Digital currencies [1]
- International medium of exchange [1]
- For example X-Coin [1]
- Comment about the size of the market, backed up with a figure to put this into context. [1]

Advantages

- Sharp increase in value [1]
- plus some reasonable quantification of this increase (eg. 800% in the last 3 year) [1]
- Could be advantageous as an investment asset to increase investment returns [1]

Include some example to indicate how the total market liquidity is now sufficiently large relative to the funds which might be invested [2]

For example IPS currently invest about £1.5 billion in alternative investments. Assuming that 10% of this was directed to Cryptocurrencies, this is still relatively small compared to the \$6 billion of X-Coin which is bought and sold on a daily basis.

- Diversification (risk-management) is important in investing. [1]
- Poor performance of one asset is compensated with good performance in another [2]
- Most effective when assets are unrelated [1]
- Which is the case for Cryptocurrencies more so than for traditional asset classes [2]

A chart which supports the diversification argument made above, including explanation [3]

- Comment on the age distribution of the scheme. [1]
- Long time horizon when considering investments. [1]
- Appetite for alternative investments that may bring higher returns even if volatile in the short term. [1]

Disadvantages/Challenges

- Cryptocurrency market experiences large price movements (volatility) [2]
- Unlikely to be sustained in the long-run [1]
- And could experience losses which might not be acceptable to IPS Members [1]
- There is also the problem of which Cryptocurrencies to invest in (X-Coin or others) [1]
- No long-term price history... [2]
- ... means a difficulty in forecasting... [1]
- ... risk and return expectations are difficult to analyse [1]

Other consideration

- Who will manage funds [1]
- At what cost [1]
- Unknown regulatory impact [1]

Summary, close of letter

- There are both advantages and disadvantages [1]
- There remain several unanswered questions [1]
- Offer to help, or similar close [2]

[Total 40]

Meeting Objectives

Trustees are satisfied

4–5 marks

The Trustees will be completely satisfied with the response to the question and the responder has made a good impression on the Trustees.

The communicated answer is clear and easy to read, the response flows through to a conclusion. It looks good, it is well set out, and it has the right tone of voice. It satisfactorily and completely answers the question. The responder has made a good impression on the Trustees.

2–3 marks

The Trustees are left with some question marks over the responder, and therefore over aspects of the answer given.

The Trustees have been given an answer that is partially understandable although the response does not quite flow freely through to a conclusion. Some information in the argument is obviously missing and/or there are one or two visual mistakes and anomalies in the look of the response. Some technical terms may have been used that are not entirely clear. The Trustees are left with some question marks over the responder, and perhaps therefore over aspects of the answer given.

0–1 mark

The Trustees are left with a poor impression of the responder, is confused by the answer and/or does not trust the answer.

The answer will leave the Trustees confused. The communication is poorly written or possibly too technical. There are some obvious mistakes in the arguments, tables or charts do not make sense and/or are not properly labelled. The answer does not flow, but rather jumps around. The layout is not consistent throughout the communication. There may be spelling mistakes or the Trustees have not been properly addressed. The tone of voice is wrong, perhaps too informal. The Trustees have been left with a poor impression of the responder and therefore does not trust the answer.

[Total 5]

Q2 (a)

Answer should include clear criteria to be awarded any marks. Where a clear criteria is given, award one mark for the criteria, and one mark for a reasonable example of its application. Examples include:

Include information in the paper...

- Which can be easily verified. For example, information on the dramatic rise in the price of Cryptocurrencies, where historical records exist.
- Where the information is accompanied by a clear rationale. For example it is clear that there is risk in deciding to pursue investment into this asset class when the regulator has not yet indicated how they plan to treat this asset class.
- Where the information is accompanied by clear analysis. For example we calculated that at most IPS would invest 150 million into Cryptocurrencies – which is small relative to the 6 billion total daily liquidity.
- Where the information has been specifically asked for by the audience. For example a section on what cryptocurrencies are was included because Addison specifically asked for this.
- That is relevant to helping the audience understand the topic. For example, I did not expect that the audience would necessarily understand the concept of correlation, so I explained this in the paper.

Exclude information in the paper...

- Where the information which is clearly subjective or biased. For example the Chairperson's comment that if the rally in Cryptocurrencies turns out to be a bubble that he will seem foolish.
- Where the information is too technical or otherwise not relevant to the intended audience. For example the note which mentions that Cryptocurrencies use a Blockchain technology to secure payments.

[Total 6]

(b) *1 ½ marks per valid and explained point, capped at 4 marks total.*

Examples include:

- Facts should be backed up wherever possible by figures and thorough analysis.
- Advantages and disadvantages of the strategy should both be clearly explained to give the audience a balanced view.
- One should avoid emotive language such as hyperbole and adjectives which trigger strong emotive responses. For example “the market is in free-fall” or “prices are on an unstoppable trajectory upwards”.
- Charts and graphs should be displayed with care in order to show an objective viewpoint. For example the chart showing correlations shows the range [-1;1] to show the values relative to these extremes.

[Total 4]

END OF EXAMINERS' REPORT