

Actuarial Society of South Africa

EXAMINATION

26 May 2014 (am)

Subject F205 — Investment Specialist Applications

EXAMINER'S REPORT

In general, candidates showed a lack of structured thought processes, with many opting for a scatter gun approach. Many of those that chose this approach were tripped up by questions that demanded a demonstration of a broad scope of knowledge, focussing too heavily on one part of the answer. A few strong candidates demonstrated their ability by well-structured answers that focussed on the question at hand (as opposed to a mind-dump of knowledge). This skill is critical in fellowship level examinations.

Some questions were misinterpreted by candidates, broadly due to a lack of understanding of the industry (and not due to a flaw in the questions wording). An example of this was Question 1 (ii) which was often answered as if the fund was investing in a single project, and not in a business as a whole. Candidates should ensure they have the relevant level of industry context to prevent this.

Also, many candidates missed out on points due to the brevity of their descriptions. Questions that called on the candidate to discuss a topic were often met with brief bullet points which failed to gain marks – particularly in the case of typed papers (though this was anecdotally observed).

Question 1

This question called on candidates to demonstrate a broad knowledge of how to evaluate an investment opportunity. Question 1 (ii) in particular demanded nothing more than a comprehensive evaluation of the risk reward relationship of the investment. It is a very broad question with an enormous scope for marks. Very few candidates managed a comprehensive answer, with many focussing in too heavily on one aspect of the answer (such as providing a treatise on economic growth in Africa, but failing to outline the merits of the investment.)

Many misunderstood the nature of the investment. Some viewed it as an investment in one project, or into infrastructure itself. For instance, few mentioned governance issues within the firm. Candidates who recognised that the investment was in a company – with the concomitant issues that affect the whole company – did well.

i) Bookwork

The disadvantages of unquoted shares are:

- Poor marketability – may have difficulty finding a buyer. Particularly an issue if the fund's view of the company changes.
- Lack of information - much less publicly available information about unquoted companies than about quoted ones.
- Uncertain valuation - because of the lack of a regular market, it is difficult to put a value on unquoted shares.
- Risk - The combination of the factors described above, and the fact that unquoted companies tend to be smaller than quoted companies, makes investing in unquoted shares much riskier than in quoted shares. Specific risks include
 - governance (no requirement to satisfy listing requirements, for example),
 - liquidity risks (access to funding more difficult for unlisted companies)

Advantages:

- The principal advantage of investing in unquoted shares is the potential for high returns – which should be required given the greater degree of risk.
- Lack of information means that pricing anomalies can exist, which an investor with good information may be able to take advantage of. (Particularly in the absence of a price discovery mechanism)
- Diversification: There is little correlation with listed share prices. Unlisted shares are far less prone to the big swings in valuation of listed shares driven by market sentiment.
- Can access particular geographies, industries, companies (management) that are under-represented on listed markets, as well as companies in different growth stage of their development
- Unlisted – run for the long term

ii)

Ultimately the risk/reward relationship of the investment

- Higher risks will demand higher return expectation –
 - Particularly because it is private equity
 - Measured against the internal expectations of the fund and those communicated to its investors
 - And destination is a Frontier economy and as such has risk that undeveloped markets and higher political risk

- Valuation of the company based on the expected growth path vs the price of the rights issue will drive the investment decision. A number of factors should be taken into account here
 - Projection of future earnings
 - (perhaps under various scenarios)
 - Strength of balance sheet (potentially complicated by adoption of accounting standards) – both before and after the rights issue. Is this a bailout?
 - Gearing
 - Dividend policy – to what extent have earnings been reinvested and / or paid out
 - Liquidity – cash available to meet liquidity needs
 - What will the additional capital be used for – project details. Compare to experience of industry peers in same country or other frontier markets
- Consider your coinvestors. (Experience, knowledge, reputation)

Timeframe of the investment

- Is it with a view to ultimately list on a stock exchange? What potential windfall at that stage
 - What exit strategies exist, potential other suitors for the shares
 - What expectations for dividends are there, timeframes etc.
- The company's ability to attain these growth targets should be assessed
 - The business plan for the company, which includes details of how the company will execute on its growth strategy
 - What proportion of the future growth plan hinges on the new expansion?
 - Track record of the company, has the company met its past growth targets?
 - Quality and track record of the current management team
 - Assessment of this would include discussions with the management team, and other key stakeholders.
 - The current order book, customers and their profile
 - Reliant on one or two key projects, or is it relatively distributed
 - External factors should also be assessed
 - Competitiveness of market in current and new countries
 - Economic prospects of the countries involved – growth expectations of the countries
 - Skills availability in the market
 - Ease of business (infrastructure, telecoms etc)
 - Engineering firm is likely to be exposed to the level of government spending, as well as private capital spending in the country. What are expectations?
 - What governance structures are in place within the company
 - Do they conform to KING 3?
 - Accounting standards
 - Currently audited?
 - Percentage of the company owned after following rights
 - Potential for board representation
 - How risky is the investment – and returns should reflect the inherent risk
 - Political risk of countries involved (regime, rule or law, property rights – increasing issue, supportive policy)
 - Regulatory risk (future regulatory changes and current constraints)
 - Exchange rate risks
 - (both countries)
 - Internal risk to the company (governance failures, fraud, loss of key individuals – particularly an issue in the small company)
 - Liquidity risk – given a potential long lock-in

- Other Ethical, social and governance (ESG) issues to be assessed
 - o How does potential levels of corruption in that country affect ability to do business ethically – especially important given the fact that likely to deal with government
 - o Labour practices of the relevant countries
 - o Any regime issues, such as potential for international sanctions etc?
 - o Infrastructure spend is seen as a positive from an ESG perspective
 - o Does the company take a strong stance of developing local community where it conducts its projects (transfer of skills and community participation)

- Take into account the expected costs the fund manager will incur in investing
 - o costs of initial negotiation,
 - o what oversight will be required,
 - o potential travel costs,
 - o board involvement?
 - o other governance?

- As well as the tax regimes of all companies involved (South Africa, the country where the firm is based, and the targeted expansion company)
- And whether it fits with the mandate and current position of the equity fund
- Are there any restrictions in the mandate for exposure to certain countries, industries
- Will it not cause undue concentration of exposure to certain countries and industries
- Does it negate diversification in the fund, by being too large a proportion of the fund?
- On the contrary, if the capital requirement is small, is it worth it? The fund would need to make sure the investment amount is meaningful to justify the effort / cost.
- Liquidity constraints of the investment – does the fund have sufficient liquidity to meet its liquidity demands?

iii)

Oversight of the investment would begin with active representation on board meetings by a suitably qualified representative of the fund.

- Ensure alignment of all shareholders’
- No board domination by one party pursuing their own interests
- Insist on internal governance structures and conforming to accounting standards
- Audited by reputable audit firm
- Monitoring the strategy of the company, which will regularly approved by the board
- Ensuring competent management through succession planning

Active Monitoring of risk external to the company as well as exploring mitigating options

- Exchange rate risk – perhaps hedging this position with financial instruments –
 - o though this would depend on cost, availability for the given exchange rates etc.
- Political risk – it may be possible to buy political risk insurance
 - o although in “frontier” countries this is likely to be expensive if available at all.

All private equity firms expect some of their investments to fail.

- Given the lack of liquidity and inability to control many of the risk factors the best risk mitigation is to ensure that the investment is not too large a proportion of the fund and that the risks are not exacerbated by further exposures.
- So diversification by country, currency, industry etc. is necessary to protect the overall portfolio.

Question 2

Many of these questions again called for structured thinking, and candidates who followed this approach did well. The SAVI question called for broader contextual knowledge but by and large candidates who understood structuring investments according to individual needs did well.

i)

- One size fits all approach – caters for the “average” member who may not really exist.
 - Very few members actually retire from the Fund they are in and usually access their funds as cash –
 - The strategy could take cognisance of this and offer a cash portfolio as an alternative.
 - Certain members may be more or less risk tolerant depending on their particular investment horizon and personal circumstances.
 - Members could be given the opportunity to “opt out” of the Lifestage structure and phasing down process described and either select one of the risk profile portfolios offered or alternative portfolios could be offered.
- Many Lifestage strategies such as the one illustrated assume members will take one-third in cash. Tax incentives in SA do reinforce this behavior yet most retirees find themselves with an unacceptable replacement ratio.
- This can be averted by designing a strategy which does offer a pre-retirement portfolio targeting full annuitisation of capital at retirement. Members could then “opt-out” their one-third cash.
- Some argue that Lifestage strategies are too focused on preservation of capital and not preservation of income as members approach retirement.
 - The strategy should take cognizance of protecting the size of annuity that can be purchased rather than the capital amount at retirement.
 - The strategy would then need to take into account the types of annuities members typically purchase at retirement.
 - A fixed annuity would require a matching portfolio of bonds of the correct duration
 - With profit annuity or living annuity would require a more aggressive approach
 - Solution would be to introduce different pre-retirement channels catering more specifically to popular annuity choices.
 - This is administratively complex but also forces members to consider their situation and options in good time,
- A common criticism is that the strategy/framework is too conservative at retirement and de-risking starts too early and is too severe considering the potential longevity of members who are retiring at 63– potentially a 30 year time horizon still.
- Others criticize that the pre-retirement portfolio is too volatile and members may in fact lose money as they approach retirement.
- Lifestage strategy such as the one described above - with fixed asset class allocation does not take current market conditions into account and doesn't allow managers discretion in asset classes.
 - When compared to similar discretionary balanced portfolios, many Lifestage portfolios have delivered poorer returns. It is argued that, for a balanced portfolio, a significant degree of overall performance can be added through active asset class selection and the Lifestage members are missing out on this potential return.
- Members are mechanically switched and could be selling and buying at worst possible time when not necessary. This is especially true where we have volatile asset classes.

- The solution would be to introduce a more gradual phasing in from one portfolio to the next, Trying to time the markets and make a call on the timing of the moves is not a recommended solution.
 - For example mechanically switching from a higher risk portfolio to a lower risk portfolio (eg High to Medium risk or Medium to Low risk) could take place on a specific date or during period where equity markets have experienced a significant correction.
 - These losses are then crystallized as a result of the switch and the member misses out on the subsequent recovery on this portion of his assets if the switch had been delayed – often by a relatively short period.
- The administration and management framework required to run a more complex strategy such as this one,
 - Together with more frequent trading associated with the switches between the Lifestage portfolios could result in increased direct costs being borne by members.

ii) a)

- Offshore equities introduce diversification
 - Expands investment universe – industries not available locally
 - Different currencies
 - Different economies – at different stages in economic cycle (compare SA vs US now), different drivers of economic growth, emerging vs developed economies, different demographics
- As members approach retirement (and in retirement) preservation of real value of capital/income is important
- High proportion of SA inflation is “import- inflation” – rate of inflation linked to rand
- Having exposure to non-Rand denominated assets provides an element of inflation hedge
- Offshore component can introduce further volatility through exchange rate impact – not necessarily appropriate for pre-retirement portfolio
- Some argue liabilities are denominated in Rand (annuity) and hence non Rand assets are not appropriate
- Local equity portfolios already have a high degree of rand-hedged shares and/or offshore listed companies in them. This must be taken into account when considering additional exposure.
- Additional skills will be necessary in order to assess the range of opportunities and associated risks
- Additional costs in terms of higher fees paid for additional research, expert advice (prior point), as well as higher administration costs.

b)

The following range would be acceptable :

Growth Portfolio : 15-25%

Moderate Portfolio : 10-20%

Pre-retirement Portfolio : 5-12%

Reasons for recommendations :

- Regulation allows funds to invest up to 25% of an individual members assets offshore – so capped at 25%
- Allocation should be meaningful or sufficient enough to capture the benefits highlighted above.
- Allocation should take cognisance of the additional potential volatility (due to currency fluctuations).
- Hence younger members should be have up to full regulatory exposure whereas offshore exposure for older members, who have less of a risk appetite and are focusing on preservation of capital and/or income should be at a reduced level.

iii)

- Lifestage low portfolio is designed to reduce member's exposure to market volatility as approach retirement
- As such allocation to risk asset classes such as equities reduced in favour of less volatile asset classes such as bonds and cash
- Allocation to bonds and cash also caters to choices members can make at retirement
 - one third cash caters to lump sum withdrawal
 - pricing of fixed annuities loosely linked to medium to long term bond yields
- 2013 was an exceptional/unusual year for bonds
- Interest rates have been kept at low level by governments as a measure to stimulate economic growth around the globe (including SA)
- In May 2013 US Fed announced it would begin tapering the stimulus measures. Statement was unexpected and quite vague.
 - In response markets priced in increases to interest rates in the future and bond yields around the world (including SA) restated upward
- Explain the link between bond yields and prices/valuations – yields go up, value goes down
- As such the bond component decreased in value and returns on bonds have been flat to negative over last 12 months
- Further announcements around pace of tapering in January caused similar effect, as well as uncertainty in equity markets.
- SA Reserve Bank announced surprise rate hike in Jan 2014 with expectations that we are entering a rate hiking cycle – RSA yield curves moved upward as a result causing further fall in bond yields.
- Cost of fixed annuities has also become cheaper as a result – so the amount of income can purchase with Fund value remains more or less the same.
- Portfolio also has an not insignificant allocation to equities at 27%
- At the same time as bond markets responded negatively to announcements regarding tapering of stimulus, equity markets (particularly emerging markets) responded negatively as well on fears that prior liquidity driven gains would halt or even reverse.

iv)

Fixed Life Annuity (with or without fixed increases)

- Member purchases an annuity from insurer. Annuity is guaranteed to be paid for life of annuitant and may be designed to pay a percentage income to a qualifying widow/er on death of the annuitant. Annuity amount remains fixed throughout the life of the annuitant, reducing for the spouse. No annual increases are awarded.
- On death of spouse no further payment is made
- No longevity risk but significant inflation risk
- Costs associated with writing guaranteed annuity business are high for insurers – expensive option
- Living Annuity
 - Member invests their Fund credit with a life insurer or an investment manager with a linked life licence. Member then draws down a monthly income from their investment at a level of their choice. Regulation limits this to between 1.7% and 18% of the capital balance every year.
 - Member has a degree of choice around the investment strategy and portfolios for his/her fund value.
 - Any remaining balance in the account at death is paid to estate/beneficiaries
 - Member assumes longevity risk – if funds run out before death he will run out of money.
 - Member assumes investment risk – if asset perform poorly it may affect his level of income

- Inflation-linked annuity
 - As for level annuity, but annuity amount is guaranteed to increase with inflation every year
 - Therefore removes inflation risk as well as longevity, investment risk
 - Due to high level of guarantees offered by the LifeCo/issuer, this is the most expensive type of annuity to secure
- With Profits annuity
 - As for level annuity, but annuity amount will increase every year by an amount declared by the issuer. This will depend on the performance of the underlying assets as well as a degree of smoothing.
 - Increases are therefore not guaranteed
 - Amount of annuity cannot however decrease from one year to the next.
 - A popular alternative to a inflation linked annuity as the costs are more palatable due to the lower degree of guarantee offered
 - Member may still assume some inflation risk – particularly when market conditions are poor

v)

- Inflation linked annuity (ILA) – pricing of ILA closely linked to (longer dated) inflation linked bonds (ILBs).
- In order to protect the level of income that can be purchased should have a significant allocation to a portfolio of ILBs
- Need to consider what is the appropriate duration of the ILB portfolio
- This should represent the duration and yield curve sensitivity of the insurer's ILA underlying portfolio.
- Hence would need to take care in how to measure the performance of the ILB portfolio as it may not be represented by a typical index.
- Exposure to ILB's will also protect the (real) value of capital if ILB yields are not too volatile – may be more appropriate for the portion intended to be taken in cash at retirement
- Yields on ILB's are low, so may want some exposure to growth assets (such as equities) given the period of time in this portfolio
- With Profit annuities – these policies usually back by a range of assets such as equities, bonds, ILB's.
- Risks are pooled and returns are effectively “smoothed” in order to provide a sustainable predictable level of pension increase
- Pricing of with profit annuities not closely linked to a particular asset class. Prices usually more static (given the pooling/smoothing)
- A combination of cash, equities and bonds – not unlike what fund has right now – would be appropriate
- Will still need to protect the capital for a portion of the assets intended to be taken as cash at retirement

vi) a and b)

Because SAVI is based on implied volatilities of options it is forward looking

- i.e. it incorporates investors' assumptions about future volatility

Volatility is a measure of risk in financial markets. It estimates how far prices are expected to move in a given time frame.

- The SAVI is an expectation or forecast of the markets perception of risk in ZA

SAVI provides investors with a measure of equity market sentiment on the JSE

- When volatility is low, there is a measure of complacency evident in the markets. A lack of fear.
- High volatility, however, suggests a fearful market.

SAVI enables investors to monitor this “sentiment” forecast on a daily basis.

SAVI can also be used as a country/political risk measure

- Just as the VIX is a first-world fear gauge, the SAVI is a gauge of fear in the South African emerging market
- The difference between the VIX and SAVI approximates the equity market “fear premium” between an emerging market and a first world equivalent
 - o High risk differentials are associated with weak ZAR/USD

SAVI is useful as a timing tool or directional indicator

- Spikes in the SAVI are accompanied by troughs in the TOP40 (signalling a buying opportunity)
- However, although the TOP40 typically rallies after sharp upward moves in implied volatility, low levels of the SAVI do not imply a weaker TOP40 market

The SAVI Future enables volatility to be traded as a separate asset class

- SAVI futures are negatively correlated with the TOP40
- Consequently they can be used as a hedge against equity market falls
- Studies show the benefit of combining volatility and equities to manage downside risk
 - o E.g. one showed that a hypothetical investment consisting of a 10% long position in the spot VIX index combined with the balance allocated to the S&P 500 index, rebalanced weekly, would have outperformed the S&P500 by approximately 5% per year with 25% lower risk since 1986
 - o Similar results have been obtained in ZA using SAVI
- Volatility futures can provide an alternative hedging instrument to put options based on their relative value (for a given implied volatility term structure)

Question 3

This question had a generally lower average mark than other questions and required some understanding of the hedge fund industry. Candidates, however, who applied their understanding from traditional fund management to the questions did gain marks.

i)

Advantages of multi-strategy hedge funds relative to fund of funds:

- Single layer of fees: Fund of funds have a double layer of fees because they charge management fees in addition to the fees charged by the underlying single-strategy funds.
 - Multi strategy funds charge a single layer of fees and generally they net their losses against their gains across strategies when calculating overall performance fees.
 - (This is normally the case but sometimes the multi-strategy funds fees are higher because they run multiple teams plus an “asset allocation” team on top of the underlying teams.)
- Flexibility: Multi strategy funds can reallocate capital easily, based on changing market conditions. Fund of funds are subject to redemption terms of the underlying hedge funds and may be less flexible as a result

Disadvantages of multi-strategy hedge funds relative to fund of funds:

- Operational risk: this risk can be larger for multi-strategy funds, in particular blow-up risk (i.e. fund failure due to operational difficulties), compared to fund of funds where it is unlikely that all the underlying individual funds will simultaneously blow up.
- Agency risk: Investors cannot directly see the multi strategy fund managers’ underlying strategies. These strategies are observable in a fund of fund because the investor can observe the individual investments.
- Control: Multi strategy fund managers must understand a range of strategies to be able to identify opportunities and risks. Managers may not actually possess the expertise to recognise risk and returns across multiple types of strategies.
- Potential for underperforming managers: Fund of funds can choose from the entire universe of single-strategy managers and are therefore able to select the best managers. In contrast multi-strategy funds may find it difficult to fire underperforming managers.
- Talent retention: Some top managers may not like the corporate environment of a multi strategy fund. They may also have to reduce their positions in favour of others. Also, their performance fees may be tied to less talented managers operating a similar strategy.
- Two members at opposite ends of the same trade – costs without exposure.

ii)

Mandate of the fund

- The FoHF manager will have an objective or investment goal like (A) outperforming Cash + x% (B) preserve capital over a rolling 24 month period
 - This will drive the selection of what hedge fund strategies are targeted e.g. long short, market neutral, commodity, fixed income etc.
 - Whether this is static or dynamically altered to suit economic conditions etc.
 - How risk exposures are managed across the portfolio
- Constraints such regions, or exposure to specific industries, instruments or indices
- Level of acceptable risk
- Minimum liquidity acceptable in underlying funds
- What are the lock up periods for disinvestments

Quality

- Process – decision making process i.e. consistent investment process.
 - o the fund needs to have independent and quality auditors, administrators, prime brokers and custodians.
- People – making decisions, ability of organization to attract and maintain key people
- Management – putting people in place
- Investment risk controls in place
 - o how transparent is the manager with his book. You don't want to invest in a fund where the fund manager doesn't want to show his trades.
- Operational risk management
- Legal structure of sub-funds, jurisdiction etc.
- Transparency and reporting standards
- Quality of systems and administration
- Other clients, and size of the fund. Concentration with one client.

Alignment of incentives

- Any conflicts of interest between hedge fund manager and investors?
 - o Positive indication is if the manager invests in their own fund
- Incentive structure in line with actual performance and take relevant risk measures into account
 - o Fee structures should not reward managers for beta, only alpha generation

Past performance

- Hedge funds are normally selected because they provide a low correlation with traditional indices / asset classes.
 - o So you want to select funds that have low correlations with each other and to ensure that the FoHF is expected to have a low correlation with the asset class indices.
- FoHF are normally selected for their low volatility nature and low downside deviation. You want to look at funds whose strategies complement this.
- Not necessarily a predictor of the future, but nonetheless useful non-subjective indicator
 - o Past performance tells you a story. You use the past performance to interrogate the fund manager to understand how he thought about his portfolio when he under/overperformed against his benchmark or an index.
- Should be interpreted against the broad economic environment, and at least one complete business cycle should be considered
- Also should take into account the level of risk the fund took, and comparison should be with similar funds
- Legal and tax structure of fund
- Exposure that the manager has to the fund.

iii)

- Currently there is little in the way of specific regulation of hedge funds in the South African market.
- Hedge funds are a **complex and diverse asset class** which may have unusual legal structures and tax residencies to suit their investors. Their risk characteristics differ from traditional funds, and as such should be controlled and measured differently.
- Pension funds according to **Reg 28** can invest up to 2.5% in a hedge fund and 5% into FoHF. Therefore, Treasury have looked at hedge funds and its structures so that should give even an individual investor some comfort.
- The hedge fund structures are not yet regulated
 - but hedge fund managers are regulated under FAIS according to a Cat 11A license.
 - The Hedge Fund manager needs to have around R3m capital available in order to trade.

- The white draft is still circulating with regards to regulating hedge funds in the local unit trust environment i.e. CISCA act.

Key gaps in regulation:

- Lack of **prudential** regulation: Capital requirements are limited and do not reflect the inherent risk of the fund
 - Complexity in **fee** structures without concomitant **disclosure** requirements
 - Regular **valuations** of funds is not required which means that a lot could go wrong before the investor realizes it
 - **Liquidity** risk - no requirements for funds
 - **Custodianship** of assets are not required to be separate and distinct from the managers introducing transparency issues
 - Limited regulatory **reporting** requirements
 - Limited **disclosure** requirements, specifically the requirement to disclose the strategy of the hedge fund, risk management strategy and measures such as its asset liability ratio
 - No limitations on **potentially** dangerous strategies such as short selling
- Nonetheless, the lack of regulation does not stop a fund from complying with **best practice strategy** formulation, disclosure and risk management (and potentially why using a Hedge fund of funds could be important).
 - Funds have been notoriously **opaque** in terms of disclosure to investors, however. Despite this, there are **key risk indicators** that are used in assessing riskiness of hedge funds.
 - Because of the nature of hedge funds, a position based approach as opposed to a return based one more commonly used in assessing traditional funds is important. (Such as VaR and conditional VaR)
 - This measures the inherent risk of a portfolio over **a range of possible futures**, as hedge funds are prone to large and infrequent losses in the “tails”. Traditional market risk measures do not measure this at all.
 - These measures are, however, are complex to implement and can introduce significant **model risk**.
 - Assessment of **counterparty risk** – limitations on who the fund enters contracts
 - Limit exposure to the individual hedge fund and diversification between hedge funds

iv)

[Much of this answer is contained in the Government paper on the subject]
http://www.treasury.gov.za/comm_media/press/2012/ANNEXURE%20A%20-Regulation%20of%20Hedge%20Funds%20in%20South%20Africa-%20A%20proposed%20framework%20%20September%202012.pdf

- A combination of **market conduct** and **prudential regulation** should be considered.
 - Market conduct should focus on disclosure, and
 - prudential regulation on issues of risk management, solvency, custodianship, asset eligibility etc.

Risk management

- Hedge funds should be required to have a formal risk management process which adequately captures the risks of its positions

Transparency and disclosure requirements to investors

- Regular valuation and exposition of methodology
- Require disclosure of policy and objectives of fund, including limitations to focus areas
- Require sufficient disclosure of risk measures, potentially with a mandated minimum of measures e.g. conditional VaR, gross and net leverage positions etc
- This should be accompanied with a narrative explanation of risk

- Past performance data
- Disclosure and calculation of fees, and alignment of interests.

Regulatory disclosure

- Enables regulator to monitor systemic risks
- It does, however, have its limitations and requires capacity on the part of the regulator.
- This could include outline of positions (particularly short positions) and leverage.

Regulation of prime brokers

- Only registered banks and financial service providers with sufficient risk management systems and controls in place (to monitor counterparty risk)
- Separation of prime broker and trustee/custodian roles

Only eligible assets allowed:

- The potential loss on the investment is limited to the amount paid to acquire it (e.g. one cannot lose more money than one has invested).
- The liquidity of the instruments or securities must not compromise the ability of the hedge fund to meet its repurchase obligations.
- A reliable valuation for the investment must exist.
- Appropriate information on the investment must be available.
- The instrument must be negotiable.
- The acquisition of the investment must be consistent with the investment policy of the hedge fund.
- For derivatives on indices, the underlying indices should be published appropriately, not be based on superfluous factors, and be an adequate benchmark of the market they reflect. Non financial indices should be restricted.
- For other derivatives, the underlying assets should be eligible as well.

Maximum exposure limits could be considered, though effective risk control measure and disclosure should inherently pick this risk up and the effectiveness of this measure could be questionable:

- Maximum exposure limits to individual companies and markets could be considered,
- Maximum exposure limits to single derivatives in the case of OTC could be considered.
- Leverage limits (in particular a maximum of 100% gross leverage limit)

Short selling should be allowed but limited

- In line with the funds policy and mandate,
- as well as for the purposes of risk reduction and cost reduction
- No naked short selling should be allowed – which will help reduce systemic risk to the financial system.