Actuarial Society of South Africa

EXAMINATION

13 May 2010 (pm)

Subject F205 – Investment Specialist Applications

EXAMINER'S REPORT

Question 1
This question is the first to have been based on property investment and tested candidates' knowledge of the workings of the property market in general, the retail market in particular and the mechanics of a specific investment . Answers were very disappointing given that bookwork and general investment knowledge could have garnered many of the marks available.

i. <u>Concentration risks</u>
This part was adequately answered but many candidates failed to consider the possible implications of the type of insurance product.

The property is already 25% of the portfolio, an unhealthy concentration in a single asset as it will represent 1.25% of a policyholder portfolio.
How acceptable this risk is will depend to a large degree on the nature of the products that have property as part of their assets.
As a % of the retail and geographic components it is an even bigger risk since there are economic and market factors as well as risks like natural disasters that can impact more heavily on one sector or area than on others
and there could also be excessive exposure to individual tenants
Increasing the investment will increase this concentration, exposing the portfolio to extreme risks if something were to go wrong with this investment
Scenarios range from (possibly uninsurable) catastrophes, to attrition by competition or changes to local rates and taxes in affluent areas etc.
If the funding for the new investment comes from selling existing investments this will further exacerbate the concentration risks

ii. <u>Prospects for returns</u>
This part was poorly answered. Candidates addressed the economic issues fairly well but were weak on property considerations and demonstrated very little knowledge of the local property market. Crucially they failed to construct a coherent logic to their answers i.e. drawing the thread from the macro environment (global and local economic conditions) through to the property in general and finally retail property in particular. Consequently this 15 mark question was costly to most candidates.

Although the solution sketches a gloomy forecast for property returns candidates who logically motivated a different outcome were also awarded the marks.

(This part of the question is fairly open ended and so answers are likely to vary widely. The marking schedule is designed to ensure that credit is given for relevant observations but not for undue concentration on a single aspect.)

<u>Global economy impact</u> (half mark per point or similar relevant points)
The world economy experienced a sharp recession following the credit crisis.
This recession has been characterised by loss of jobs and the collapse of consumer spending as households seek to repair their over-geared balance sheets and banks adopt very strict lending criteria.
The result has been a sharp contraction in retail spending in the developed economies.
It is likely that this process will take several years to work itself out.
The structural increase in energy costs will further dampen prospects through the impact on growth and disposable income.
All these forces will act to dampen exports from SA into the developed world, reducing incomes and spending power in SA.

<u>SA economic situation</u>
SA (along with some other developing economies) has not been as severely hit.
This is partly due to the massive infrastructure development program underway prior to WC2010 and partly to the resilience of the resources sector thanks to China's continued strong growth.
SA banks were also much less affected as a result of more stringent local regulation.
But SA still shed hundreds of thousands of jobs in 2009 and entered a recession.
In addition curbs on credit extension as a result of the National Credit Act and a desire by banks to avoid bad debts have constrained consumer spending as S Africans have high levels of personal debt.
The fall in interest rates has ameliorated this to some extent.
But the negative impact on consumers is visible in the extent to which the profits of the listed retailers have been under pressure.

<u>Condition of SA property market</u>
This decline was also reflected in the returns on retail properties which were much more modest in 2009 than in previous years.
With shrinking consumer spend, landlords were affected immediately through diminished turnover rentals.
And, over time, by more voids, increasing arrears and downward pressure on renewals.
But property values also reflect the expected growth of rentals into the future and so declined when tenants' ability/willingness to afford future increases declined.
Through the mechanism of higher capitalisation rates and discount rates this translated into lower valuations.
During the past decade there has been an explosion of growth in retail properties much of it through the growth of large regional shopping centres.
This had added a huge amount of lettable area and for some time there have been concerns that SA is becoming "over-shopped".
This is supported by the fact that vacancies are increasing.

<u>Expectations for economy</u>
GDP growth is forecast at 2% to 4% over the next few years.
Going forward there must be concerns about the shedding of jobs post 2010 and the consequent impact on retail demand.
However, rapidly rising wages will support spending for a while.
Government finances are in a poor state with revenue declining sharply, expenditure rising and the deficit growing alarmingly.
This suggests that Government will have to curb spending in the next few years which will have negative trickle down effects on consumer spending.
Interest rates are unlikely to fall much further and can reasonably be expected to rise within a year or so to curb inflation.
The strong rand will make exports less competitive resulting in job losses and a contraction in consumer demand.
This will be negative for consumers: directly for those indebted; indirectly via poorer growth prospects, pricing impacts etc.

<u>Expectations for retail property</u> (half mark per point or similar relevant points)

It is difficult to see the SA consumer bouncing back strongly in the short term given the economic and employment outlook.
Most of the problems internationally cannot be resolved quickly and the effects of slowly withdrawing the massive government rescue packages, though uncertain, cannot be positive.
This will continue to suppress growth prospects for SA for the forseeable future.
There are hundreds of thousands of square metres of new retail space already in the planning and building phase much of it in extensions to existing shopping centres.
Tenant capacity to pay is likely to diminish.
There is likely to be a supply overhang due to lag associated with the pipeline of projects already under way; this will put downward pressure on rental rates.
Landlords of retail centres are anxious to minimise voids since beyond a threshold level they seriously impact on a centre's appeal. This could put further downward pressure on rentals.
Increasing costs are also likely. Electricity prices will double over 3 years and higher rates and taxes are likely. Even where these are passed on to the tenant it diminishes the ability to increase rentals or even maintain them at current levels.
On the positive side building costs are very favourable presently as there is a lot of spare capacity.
Low interest rates should continue to support capital values.
Also, the cycle will eventually turn and the development should be timed to come on stream as that happens.
And retail tends to recover faster than offices or industrial property when the economy improves.

<u>Prospects for returns</u>
Little of this bodes well for handsome returns on retail property.
Lower rack rentals, slow turnover growth, increasing voids, declining escalation rates will all result in lower returns than have been the norm for the past decade or more.

iii. <u>View on specific property</u>
This part and part iv. were well answered by a few candidates and very poorly by the rest who failed to engage with any of the specifics given in the question or general knowledge of the workings of individual property investments. Property investment is a very practical matter and common sense should have suggested many of the points in the solution.

Individual properties possess unique characteristics that cause them to experience economic conditions differently. In any scenario some properties will perform better and some worse than their peers.
Demand, especially in hard times, can vary by
- Target market; in this case top end may be more resilient as incomes are more stable; but look for signs of consumers buying down as that would hurt this centre
- Type/size of property; large shopping centres such as this will tend to continue to attract footfall by providing one-stop convenience
- Convenience stores appear to be taking a harder knock than larger centres.
- Location; becomes more critical when consumers become conscious of cost of getting to shops, less likely to go out of their way. This centre has been popular over many years so presumably has a convenient location for its target market; but this can be undermined by newer, more appealing centres
- The demographics of the area may be changing in ways that help or hinder the prospects for this centre

- Customer experience; centres that provide a satisfying shopping experience (in terms of ambience, range of shops, entertainment) draw customers away from dull ones. This centre appears in danger of losing its edge in this regard to newer rivals.
- Its past success may indicate better management and more astute marketing and promotions than competing centres

Supply can vary too for each characteristic

- In this instance would need to take note of directly or indirectly competing centres, existing or planned and any that are closing down.

The specifics of the rents and vacancies at this property might differ from the norm and there could be opportunities or threats in this regard.

iv. Assumptions (SE = supporting evidence)

See comments in iii. above.

In estimating retail potential of the centre:

Growth in target market

SE: Proper demographic projections for the area

Growth in households, urbanization patterns, spending power etc.

Growth in retail shopping space in vicinity (over and above existing projects)

SE: Plans submitted but not yet passed; publicly announced intentions etc.

Zoning changes, changes to planning permissions, infrastructure developments...

Proportions in which market share (footfall) will be shared among competing centres

For "no upgrade" and "upgrade" scenarios;

Terminal value at end of projections

probably based on expected forward rental and capitalisation rate

IRR at which cash flow projections are to be discounted

For "no upgrade" scenario

Rental projections for existing area

current contractual rentals, expected escalations as leases renew

pattern of voids

SE: history of rental growth and returns for similar properties without refurbishment

For "upgrade" scenario

Tenants signed up for additional area.

SE: Signed letters of commitment

Rental projections for existing area:

as before but allowing for loss of rental due to disruption, inconvenience to shoppers, rental relief during construction etc.

and higher rentals once lease renewals are due as a result of more pricing power post refurbishment, positive impacts of changes

Rental projections for additional lettable area;

initial rent per m^2; escalations; vacancy %

SE: current rack rentals for comparables; recently signed leases

Detailed of costs of refurbishment and extension

SE: QS estimates

Statistics for similar projects.

v. Anomalous returns

Roughly half the candidates scored well here while the rest fared very poorly. The key to this section is recognising that the price of any asset represents its value* given everything that is known about it at the time. *The quoted forecast returns that vary wildly year by year are therefore highly questionable. The challenge for candidates was to deduce the possible underlying causes of this anomaly.

(a)

With regard to the return profile over 5 years:

At every point the value of the property reflects the discounted value of all future cash flows; this should limit sudden large changes in performance in the absence of changes to valuation assumptions over time.

And there would be no reason to change most of these assumptions over this time with the exception of the cap rate which will likely be lowered to acknowledge the higher growth potential from the revamped centre.

Cash flow in the "no upgrade" scenario should be fairly stable so the gently declining returns (indicating growth rates lower than the discount rate) are not too surprising

Cash flow in the upgrade scenario will suffer initially as a result of:

- Financing costs
- A decline in rental income during the refurbishment phase due to disruption, rental relief etc.
- Outflows, but zero inflows on the extension before completion

In addition a large part of the expenditure (the upgrade of finishes) is not directly income producing.

These would dampen returns strongly unless the NPV of increased future income compensates.

But this should still not produce such large fluctuations in the returns.

One reason for declining returns will be if current valuation parameters are too optimistic; as future valuations are simulated they are done on progressively more conservative assumptions (possibly lower rental growth, higher voids)

The profile shown may be an artefact of the modelling used. The investor should be very cautious of accepting these forecasts at face value and question the formulae and assumptions used and check that all costs and management fees are included.

It is in the developer's interest to make the upgrade option as attractive as possible and overstate the benefits of the upgrade.

(b)

With regard to policyholder equity:

Assuming the forecasts are correct (unlikely) there is indeed an issue of policyholder equity between joiners and leavers.

The severity of this will be diluted in the context of the entire portfolio (this property constitutes less than 2%) and the directors will have to decide if that is acceptable.

If the products are of a smoothed bonus type, where inter-generational subsidies are already an accepted feature, the issue is probably not material.

vi. <u>Alternatives</u>

Although this section may require more in depth knowledge of property investment, the comments in iii. above apply here too. Judging by the paucity of points made, several candidates appear to have given little thought to this 8 mark question.

a. <u>Scaling back</u>

Still saddled with issues of

Excessive concentration
Excessive exposure to retail
Even though less pronounced than with the full investment
Without the extension it will be very difficult to make the refurbishment financially attractive since the expenditure will not immediately be income producing, it will significantly reduce returns in the short term and deliver a very low IRR.
This may exacerbate the uneven returns over the next few years
The extension will give more scope to change the tenant mix
and move tenants to more optimal locations.
The disruption of construction, and associated impact on tenants, will have to be endured twice if the extension does go ahead later.
By phasing the expenditure can gauge success of first phase before committing further capital to the second.
There is a fine balance between moving cautiously and forfeiting the opportunity to establish a market leading position.

b. <u>Selling and diversifying</u>

Resolves the issues of concentration in a single property and, depending on the composition of the new portfolio, of sector and geographic concentration
Management and maintenance costs for a number of properties may become significant and less economical.
Given the illiquidity of property it may take a long time to effect the portfolio changes and this would delay the project for ProPLS which has indicated it wishes to proceed
Property sales and purchases involve heavy transaction costs, and as this is a big proportion of the portfolio impact on returns may be material
Both liquidity and cost issues could be considerably reduced if ProPLS is willing to undertake a swap
Which it may be since it has indicated that it wishes to invest more in this property and may prefer larger investments
An elegant solution could have SALCo swap only a part of its holding thereby
still retaining some exposure to the property and participating in its renewal.
This has the added appeal that the decision makers do not have to part entirely with a very successful investment, something that is behaviourally difficult.
The price obtained by selling will discount the current state of affairs (inadequate finishings and layout etc) as purchaser would need to incur the cost of refurb. Would need to compare projected IRRs of:

- going ahead with refurb.
- reinvesting the proceeds of sale of property

Question 2
This question examined candidates' knowledge of some typical asset consulting issues for equity portfolios viz. core/satellite investing and specialist equity mandates. In general the question was poorly answered despite the fact that much of the information required was very straightforward. Candidates demonstrated very little aptitude for what are stock in trade issues for actuaries consulting on investment arrangements to institutions.

i.
This part was generally very poorly answered. The majority of candidates' answers were far too meagre for the 15 marks on offer. Most of the points were made by at least one candidate but none managed to cover the topic with any breadth.

Solves some problems related to multiple managers with same mandate:

- Quite possible that some will outperform and some underperform resulting in mediocre overall performance, possibly failing to beat the benchmark
    - The core portfolio (bulk of assets) should perform closely in line with the benchmark
- But still paying active manager fees;
    - in fact paying performance related fees to some even though overall performance may be average
    - In general, passive fund management reduces the need for active management expertise & so offers lower management fees.
- Managers with different views could cause the fund to be simultaneously buying and selling the same counters, thereby incurring trading costs for no gain
    - Although this could still happen among the satellite managers, there will be no trading required within the indexed portion

Apart from diversifying single manager risk (i.e. the risk that one manager's view in wrong and performance suffers) the current arrangement is very inefficient:

- No style diversification
- Duplication of resources and expenses e.g. time and costs to monitor & appraise many similar managers

Solves problems related to the size of the fund:

- If markets are efficient, then is difficult to out-perform over the long-term, therefore, employing active managers incurs a cost that is not rewarded.
    - Historical evidence can be shown to support this view.
- The fund will have been limited to using large managers as only they will have the capacity to manage large mandates;
    - Excludes possibility of accessing the expertise of smaller managers or managers with niche styles
    - With specialist mandates of smaller size can tap into niche managers
    - And access specialist styles in a bid to extract alpha
- Very large funds are restricted in their ability to trade effectively due to marketability constraints
    - Market impact costs will be very high: aggressive buying or selling will push prices against them and impair performance
    - Limiting their ability to take active positions and so achieve a result much better than the benchmark
    - Consequently they often become closet index trackers
    - They may not be able to take meaningful stakes in small cap stocks without falling foul of internal tradability or ownership limits
    - The returns of the large managers are highly correlated
- The active satellite funds would be considerably smaller than the original portfolio

    - Therefore could be managed actively without many of the disadvantages of large funds.
    - In addition, the active management mandate could involve a much greater degree of risk-taking because the funds represent only a small proportion of the total fund.
    - This will allow the active manager to back his “bets” with more conviction without worrying about commercial matching or risk relative to a benchmark or liabilities. This should lead to more efficiency and success in the longer term.

Other considerations:

- Reduces the tracking error of the portfolio for the indexed part and hence volatility against benchmark.
    - This might be helpful when using derivatives to eliminate cross-hedging risk.
    - Or in managing risk relative to actuarial assumptions
- Allows a more structured approach to risk budgeting.

- Indexation will result in the bulk of the equities producing a return of less than the benchmark, after payment of fees.
- On that part the fund foregoes any chance of benefitting from superior stock selection or sector rotation or manager selection.
- The trustees (via their advisors) will have to do far more initial and ongoing due diligence on the specialist managers
    - in order to identify managers that produce reliable sources of alpha
    - and ensure that they are performing according to expectations for their individual mandates.
- And having more diverse managers will lead to greater administration and monitoring costs.
    - It may be more difficult to obtain overall performance data on a regular basis and do meaningful performance attribution
- The mix and spread of satellite portfolios will be a subjective decision to a large extent since it is not possible to model an optimum allocation;
    - also some styles will overlap.
    - This may introduce some structural risk in that the combination of all of the passive portfolio’s benchmark and the active managers’ mandates may not exactly equal the overall benchmark set by the actuaries for the scheme
- Index funds cannot be made to fit the needs of a particular fund and can only be based on an established index. So there is a loss of control of any customization.
- There will also be significant restructuring costs – both administrative costs of appointing new managers and costs associated with realigning the portfolio holdings - if such a policy is implemented.
- The fund’s bargaining power will be less with the smaller mandates allocated to satellites causing higher fees.

ii.

This part constituted another 14 marks of the paper and precisely the same comments made in i. above apply.

a) Small cap portfolio

- Small caps definitely produce a distinctly different performance profile and so are worth considering as a possible way to add alpha.
- They are also less researched and there tends to be less information about them leading to a higher probability of mispricing which savvy investors can exploit (i.e. this market is less efficient).
- There are managers that specialise in small caps who could be appointed to manage a mandate.
- The availability of small and mid cap indices make benchmarking and performance measurement straightforward.
- The biggest problem with small caps is the lack of liquidity.
- The contrary argument is that there might be a liquidity premium to be captured.
- Liquidity on the JSE falls off sharply beyond the top 100 shares, so even mid caps are not easy to trade.
- Even assuming that the small cap mandate is as small as R1bn, the manager would experience severe tradability issues.
    - And the larger the manager's portfolio under management the more severe the problem.
    - A portfolio of the order of magnitude of R1bn may be too small to warrant the effort.
    - The potential impact on performance cannot justify the effort required to monitor an extra manager.
- Should the manager disappoint, it will be extremely difficult to liquidate or re-align the portfolio given the liquidity constraints.
- Might be constrained by limits on % ownership of individual companies.

b) A deep value style mandate

- An advantage would be that certain managers are better at managing to a particular style and hence produce better long-term returns.
- The deep value philosophy is intuitively attractive for a long-term savings vehicle since it is predicated on buying shares when they are out of favour and prices are much lower than the intrinsic value and then holding them until they rerate.
- Deep value builds in a "margin of safety"
- The downside is that the fund will miss out on momentum driven rallies and the performance of fast growing companies.
- There is a value index that can be used for benchmarking.
- But value can take many years to emerge so performance assessment over the short-term is not meaningful.
    - The fund may have to endure long periods of underperformance.
- The lack of depth on the JSE makes implementation of this type of philosophy problematic
    - The portfolio is likely to hold few shares and hence have concentration risks.
    - The lack of liquidity may be worse in deep value stocks since they are out of favour.
    - At times there may be few or no shares that fit the deep value description and in that case the mandate will usually allow the manager to hold cash.
    - But this could result in paying high fees for a cash portfolio
- This can be seen as a risk control that reduces the equity exposure when markets are overvalued.

- Deep value tends to perform better in bear markets as well.

c) A high dividend portfolio

- These funds are usually targeted at individuals who require a high level of income but wish to maintain some exposure to capital growth opportunities

  Companies with high dividend yield tend to have less volatile prices and often offer a solid value proposition, attributes that the fund might like
- But they would also tend to produce slower capital growth
- The focus on yield is likely to be at the expense of superior overall returns which is what the active members would want an equity portfolio to deliver
- There is likely to be a large overlap with the deep value fund at times so this fund would cause some duplication among the satellites

d) Portfolio managed using a quantitative model

- This would add diversity to the mix of managers since most will have a strong bias towards fundamental analysis.
- This type of fund attempts to identify cheap and dear shares by using only quantitative data (although this is usually based on relevant information obtained from the companies' financial accounts, economic data etc.).
- The benchmark will be the universe of shares in which the manager may invest.

- This can be valid method for finding alpha and many mainstream managers use an element of quantitative analysis in their process.
    - It can reduce the susceptibility to behavioural mistakes by removing the element of human judgement which is fraught with behavioural pitfalls
    - But equally it removes the application of common sense.
- But the trustees need to be aware of the model risks - a model may produce excellent results for a long time and then become invalidated by a change in the economic or market environment. Certainly the trustees must avoid any "black box" processes and interrogate the rationale and the assumptions of the model very thoroughly.
- And set risk controls that are appropriate to the tracking error they are comfortable with.

iii.

This section and section iv. were intended to be more challenging and required candidates to apply their minds to something unusual. Not surprisingly it was not well answered but candidates again showed lack of exam technique by failing to build on what they should know (in this case the qualities required of an index) in dealing with the unfamiliar.

There is empirical evidence that indicates that equally weighted portfolios produce better returns than cap weighted ones
This can be explained intuitively by the fact that cap weighted portfolios force the investor to be overweight in expensive shares and underweight cheaper ones. (Strong momentum bias)

The situation becomes even more pronounced when a bubble forms in one sector (such as the tech boom prior to 2001). When the bubble bursts, performance is wrecked by the excessive exposure combined with the sector's steep valuation decline.
It is difficult to justify an equally weighted portfolio when there are very large disparities of size and marketability; but on the SWIX Top 40 constituents this should not be an issue.
It prevents domination of the index by a few counters.

It will lessen the exposure to Resources stocks which are more volatile.

As a benchmark an equally weighted index has some of the attributes of good benchmarks:

- It is specified in advance, understandable and easy to calculate
- It covers the investable large cap universe
- It will behave like a real portfolio

But it also lacks some of the characteristics of a good benchmark:

- There is no reliable, independent source of calculation
- Most importantly it will require continual rebalancing as the market prices of the constituents move and cause the weightings to change.
- The benchmark will require some form of rigorous rebalancing algorithm;
    - Perhaps quarterly rebalancing;
    - Possibly only rebalance half way to avoid unnecessary trading should the market movements reverse
- A portfolio tracking such an index will incur trading costs even when there is no change in fundamental view, causing a drag on performance.
- This benchmark will lack the associated data that enriches the conventional indices (items like income yields, subsector performance etc.)
    - Which will hamper performance attribution
- There will be no liquid, exchange traded derivatives that match such a benchmark
    - So limiting the portfolio management techniques available for changing exposures with well-priced instruments

iv.
See comments in iii. above.

Fundamentals advantages:

- Higher weight given to companies with good fundamentals
- These indices offer lower volatility than market cap weighted indices because fundamentals fluctuate less than market prices
- Not affected by sentiment; based on measurable economic fundamentals
- Avoids over exposure to expensive shares
- Some studies show that fundamental indices outperform cap weighted (Arnott)

Disadvantages:

- Not readily available. May have to pay provider.
- Subjective in choice of fundamentals to use (eg sales or profit?)
- The chosen fundamental statistic might be quite volatile causing drastic changes to index composition
- Many statistics are more relevant to some sectors than others. E.g. Resources and financials have very differing characteristics.
- Could result in overweight in small and mid cap stocks with associated liquidity problems
- Normal cyclical changes would alter the balance between cyclical and defensive sectors over time

v.

The comments above apply here too. In addition candidates showed little appreciation for the practical aspects of portfolio construction. This was the one section where* all *candidates failed to make many of the points required.

It requires a fairly radical change in mindset for trustees to accept such a benchmark

- It contradicts the entire basis on which most portfolios are constructed in which the investable universe is assumed to be the shares that are freely tradable in the proportion in which they are available i.e. by their market capitalisation (as per CAPM theory)
- There are few precedents anywhere of funds using such benchmarks
- If performance is good relative to this benchmark but poor relative to the conventional benchmarks (as is highly likely in some – hopefully shorter term – periods) the trustees could face some very uncomfortable criticism for taking an untested route
- The impact on performance fees will need to be considered; the fund may pay them even when the fund does not meet its assumed actuarial returns.

On the other hand the empirical evidence and the logical arguments in favour of an equally weighted benchmark are quite compelling.
Some comfort can be gained with regard to the particular circumstances of the mandate envisaged:

- It is a satellite mandate; i.e. aimed at adding value around the fringes by exploiting market anomalies.
    - Arguably the unconventional mandate is precisely such an anomaly
- The exposure of the fund in total will be small (probably between 5% and 10% of equities and even less of the total portfolio) so any unforeseen risks will be limited to a small proportion of the overall portfolio.

  Many funds (and fund managers) are instinctively wary of the concentration risk inherent in the top few counters of the conventional benchmarks
    - The equally weighted benchmark will arguably just codify what many are already practising to some extent in a covert manner

Ultimately the decision might rest on the manager's performance track record and arguments as to why they are able to perform better using this benchmark.

vi.

This section relied mainly on bookwork and was the best answered question of the paper. However, many candidates failed to capitalise fully on the opportunity for easy marks.

- ETF's are listed securities that trade as equities on the JSE and daily prices are available.
- They have all the protections of instruments traded on the JSE.
- They are only available on a very limited number of indices.

  These, like the SWIX 40, are the indices with the fewest constituents and hence will have the highest concentration and least spread.
- Once the investment is made there is no need for active management (e.g. rolling upon expiry as for derivatives) and the investment behaves just like a portfolio of shares including receiving dividends.
- Tradability is very good

- Exchange traded derivatives like futures will create a synthetic exposure to the index that is bought.
- The governance structures around them (margining, trade guarantees etc.) provide a high level of comfort to the investor regarding the security of the investment.

- Liquidity in the more popular contracts is excellent; important for such a large fund.

- But they lack flexibility: the investor is constrained to investing only in those contracts which are quoted.

- OTC derivatives offer the greatest flexibility; contracts can be tailor made to suit the fund's needs in terms of index tracked, underlying constituents, term, etc.

- But they expose the investor to counterparty risk since the contract is made with a bank without the benefit of the protections (such as margin collateral) provided by the JSE.
- They are less liquid and liquidity can be highly variable depending on the propensity of banks to make a market.
- They can be difficult and/or expensive to unwind early.

END OF EXAMINER'S REPORT

