“Derivatives are nothing more than a set of tools. And just as a saw can build your house, it can cut off your arm if it isn't used properly.”

Walter D. Hops, (Treasurer, Ciba-Geigy)

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Introduction to Derivatives

Bonga Mokoena & Dwayne Kloppers

27 September 2011

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Why now?

- Derivative guidance is part of the most recent investment legislation (still in draft, released 29 July 2011)

- Compliance to Regulation 28 required by 31 December 2011

- Alexander Forbes initiative to assist trustees in understanding of compliance for derivatives notice
  - One of the most complex areas of compliance

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Agenda

- Why consider derivatives?
- Introduction to current legislation
- Introduction to derivatives
- New legislative requirements

Outcomes

- Understanding the principles of Regulation 28 as applicable to derivative usage

- Understanding “Conditions for the use and disclosure of derivative instruments”
  - Understanding why relevant *on nearly all portfolios*
  - Explicit new ongoing trustee requirements
  - Issues trustees are required to formulate a view on
  - Basic grounding in derivatives & terminology required for the above

Why consider derivatives at all?

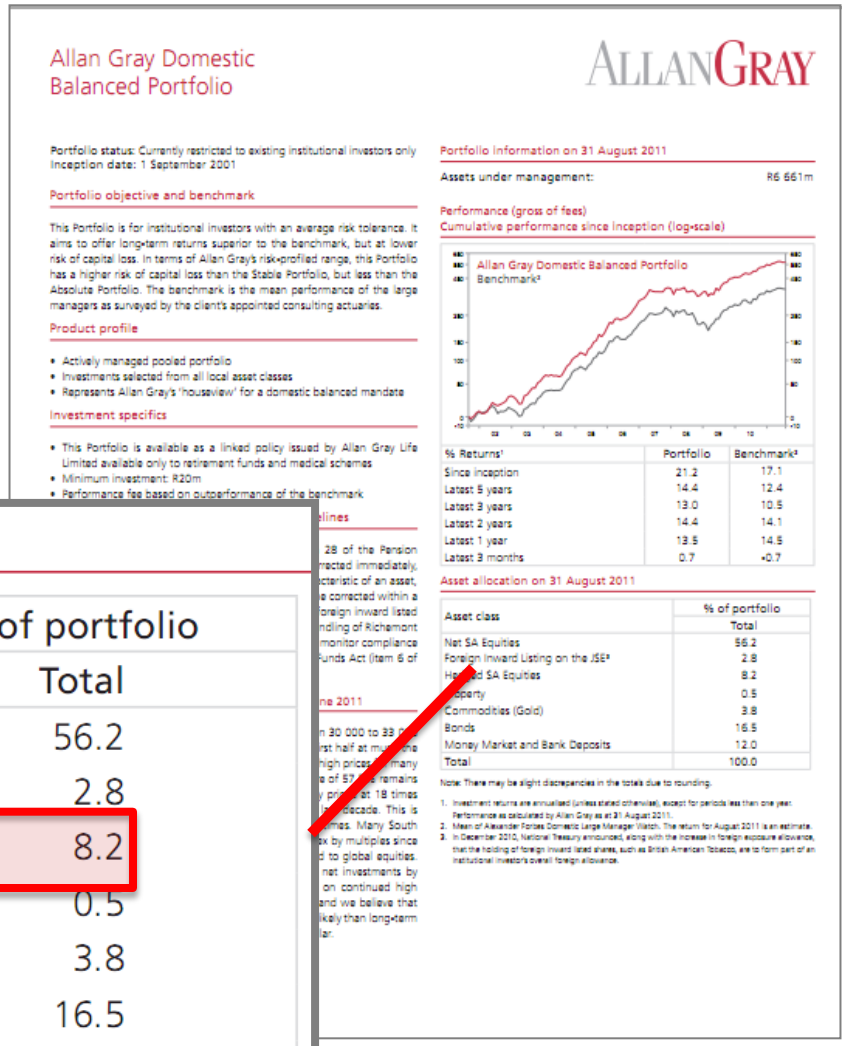
Introduction to derivatives

- Should trustees concern themselves with these instruments?
  - Given all the poor publicity derivatives have received?
  - Derivatives…financial crisis 08…wasn't there a link???
  - 'Alternative' investment class? (Not according to FSB)
  - Small exposures at best?
  - Only relevant to larger, more complex funds?

Introduction to derivatives

- Regulation 28:
  - Many managers use derivatives in pooled portfolios:
    - “Monitor compliance with this regulation by its advisors and service providers”
    - Which requires a basic understanding of legislation and derivative terminology for many portfolios
  - Trustees need to “act in the best interests of members”
  - “Prudent investing”
  - Promote trustee education with regard to pension fund investments
  - *29 July 2011: Conditions for the use of derivatives and disclosure of derivative instruments*

Commonly used in pooled portfolios



Allan Gray Domestic Balanced Portfolio

ALLAN GRAY

Portfolio status: Currently restricted to existing institutional investors only
Inception date: 1 September 2001

Portfolio objective and benchmark

This Portfolio is for institutional investors with an average risk tolerance. It aims to offer long-term returns superior to the benchmark, but at lower risk of capital loss. In terms of Allan Gray's risk-profiled range, this Portfolio has a higher risk of capital loss than the Stable Portfolio, but less than the Absolute Portfolio. The benchmark is the mean performance of the large managers as surveyed by the client's appointed consulting actuaries.

Product profile

- Actively managed pooled portfolio
- Investments selected from all local asset classes
- Represents Allan Gray's 'houseview' for a domestic balanced mandate

Investment specifics

- This Portfolio is available as a linked policy issued by Allan Gray Life Limited available only to retirement funds and medical schemes
- Minimum investment: R20m
- Performance fee based on outperformance of the benchmark

Portfolio information on 31 August 2011

Assets under management: R6 661m

Performance (gross of fees)
Cumulative performance since inception (log-scale)

% Returns¹	Portfolio	Benchmark²
Since inception	21.2	17.1
Latest 5 years	14.4	12.4
Latest 3 years	13.0	10.5
Latest 2 years	14.4	14.1
Latest 1 year	13.5	14.5
Latest 3 months	0.7	+0.7

Asset allocation on 31 August 2011

Asset class	% of portfolio
	Total
Net SA Equities	56.2
Foreign Inward Listing on the JSE³	2.8
Hedged SA Equities	8.2
Property	0.5
Commodities (Gold)	3.8
Bonds	16.5
Money Market and Bank Deposits	12.0
Total	100.0

Note: There may be slight discrepancies in the totals due to rounding.

1. Investment returns are annualised (unless stated otherwise), except for periods less than one year. Performance as calculated by Allan Gray as at 31 August 2011.
2. Mean of Alexander Forbes Domestic Large Manager Watch. The return for August 2011 is an estimate.
3. In December 2010, National Treasury announced, along with the increase in foreign exposure allowance, that the holding of foreign inward listed shares, such as British American Tobacco, are to form part of an institutional investor's overall foreign allowance.

Asset allocation on 31 August 2011

Asset class	% of portfolio
	Total
Net SA Equities	56.2
Foreign Inward Listing on the JSE[3]	2.8
Hedged SA Equities	8.2
Property	0.5
Commodities (Gold)	3.8
Bonds	16.5
Money Market and Bank Deposits	12.0
Total	**100.0**

Should Trustees Consider Derivatives?

- Most definitely:
  - Affects funds in pooled solutions
    - Where managers use derivatives, trustees now have a number of new responsibilities
    - Derivative use is relatively common
  - Many absolute return portfolios include derivatives
  - Massive market available
  - Risk control opportunities not available elsewhere
  - ***Responsibilities include at least understanding the opportunities, costs and risks available***

Legislation

Dwayne Kloppers
27 September 2011

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Introduction to Current Legislation

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Introduction to Pension Legislation

- Pension Funds Act of 1956
  - Includes (nearly) all the rules governing pension funds
  - Contrary to popular belief, it has been amended since 1956!
  - Included Regulation 28, outlining the Prudential Investment Guidelines (last updated in 1998)
    - The rule book for pension fund investment
    - Eventually antiquated; did not accommodate a number of new (and not so new) instruments available to institutional investors
    - Commonly used and poorly understood “2.5% other category”

Introduction to Pension Legislation

- 1 July 2011, new Reg 28 came into force
- A concession is made to allow compliance by 31 December 2011
- Hence *new Reg 28 is already in force, with a grace period for compliance*
- “a fund may invest in derivative instruments subject to conditions as prescribed”….

Introduction to Pension Legislation

- "Conditions for the use and disclosure of derivative instruments" is released
  - First draft December 2010
    - Established the principles the FSB sought to entrench
  - Second draft 29 July 2011
    - AF believe principles are appropriate, remaining drafting issues are limited
    - Believe principles are unlikely to significantly change
    - No indication of final release date though

Why introduce explicit guidance

- Trustees already have a fiduciary responsibility
- FSB states regulation ensures retirement savings:
    - invested in a prudent manner
    - protects the pension fund *member*
    - achieve economic development and growth
    - Hence last line of defense in establishing prudence that *may be overlooked by certain Trustees in protecting members*

Conclusions

- Compliance to new Regulation 28 : 31 December 2011
- Include derivative requirements
  - Not finalised
  - Advanced draft; principles not expected to change
  - We advise clients to move toward compliance
- Purpose of the course:
  - Educate Trustees on responsibilities related to derivatives under new Regulation 28
  - Establish basic competence in derivative usage
  - Act as proof of Trustees receiving education on derivative usage

Basic Introduction to Derivatives

Dwayne Kloppers
27 September 2011

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Introduction to Derivatives

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Introduction to derivatives

"Derivatives are contracts/agreements with a value dependant upon underlying variables"

Introduction to derivatives

- Best illustrated using a broad array of examples…
  - An investor pays a premium to insure his share portfolio's capital value
  - An investor buys a 'future' giving him the exact returns of an equity index
  - A farmer buys weather 'insurance'; receives R5 million if rainfall is below 300mm
  - Buying foreign currency 'forward' before going on holiday
  - Pension funds insuring longevity risk
  - *Even a home loan, linked to prime is a derivative*

Introduction to derivatives

The common theme…something which pays (or requires payment of) a return based on (‘derived’ from) another ‘quantity’ (or number). This number could be a stock price, index, interest rate/yield, inflation, weather statistic or *any other quantity*.

Uses of derivatives

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Uses

- May use for (and only for):
  - Investment
  - Manage risks (‘hedging’)
  - Efficient portfolio management

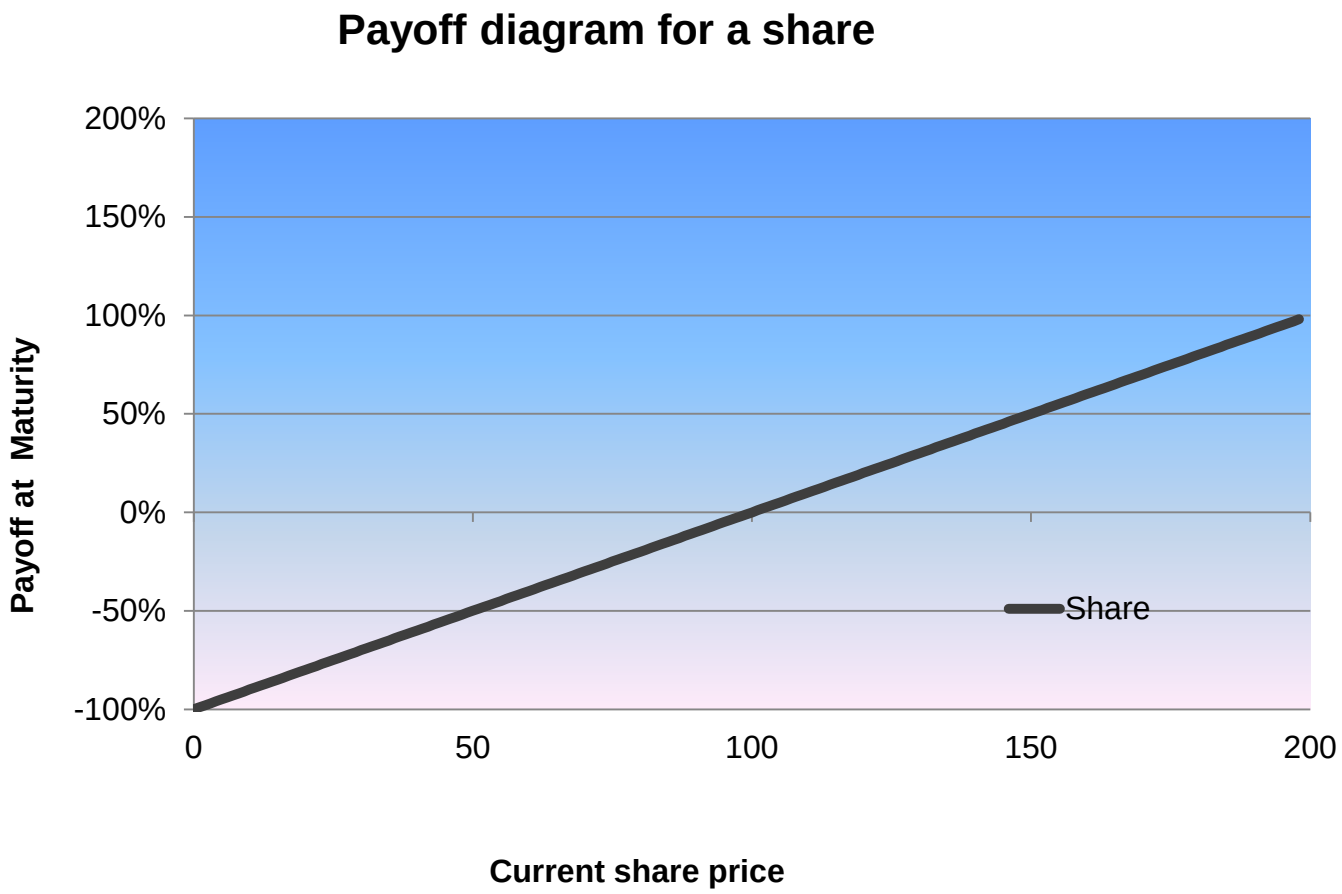
- Consider examples of each use as we work through a basic introduction to derivatives

Introduction to derivatives

- Easiest (and most common) way to understand a derivative is through a ‘payoff diagram’

- Payoff diagram shows the return an investor can expect:
  - For different prices for the instrument underlying the derivative
  - At maturity of the derivative (in these diagrams)
  - Useful, but only one way of considering risk/reward – important to investigate other dimensions fully

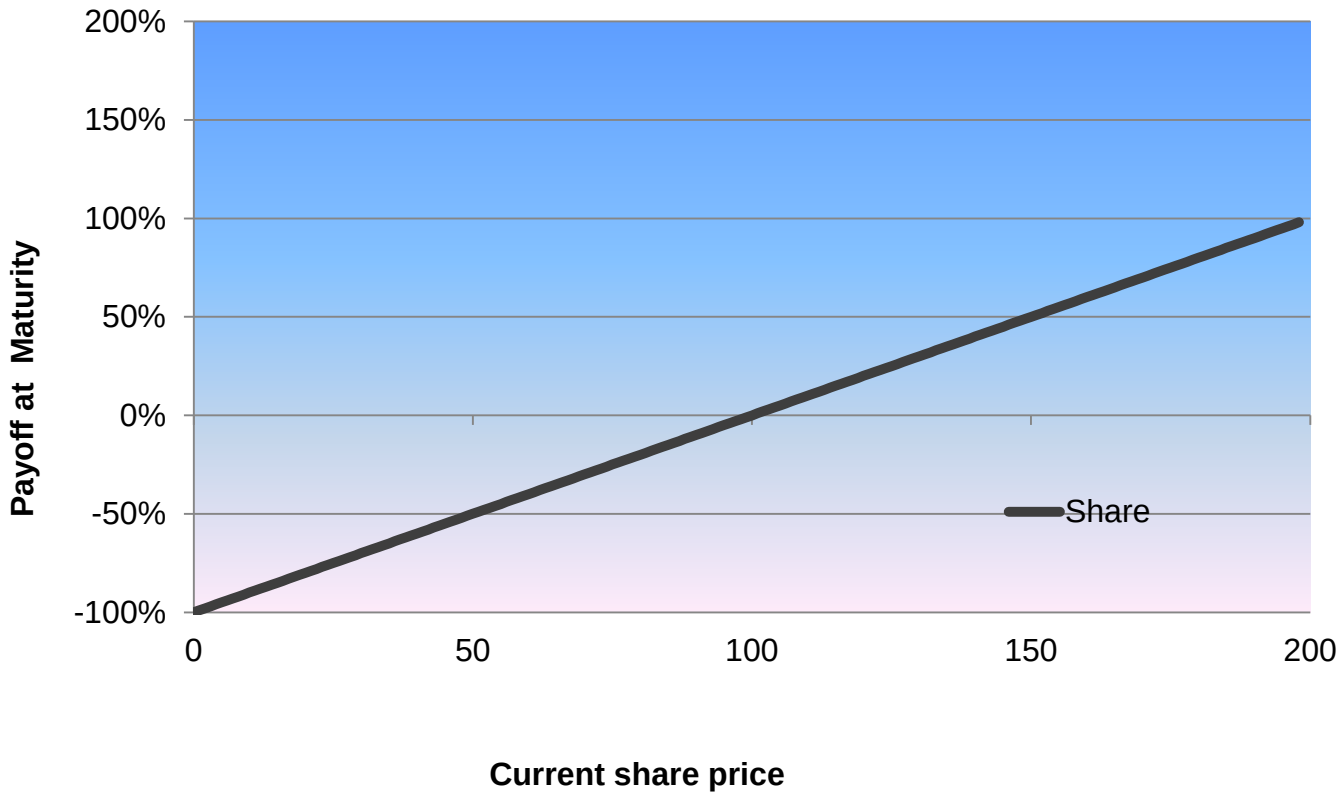
Share “payoff diagram”



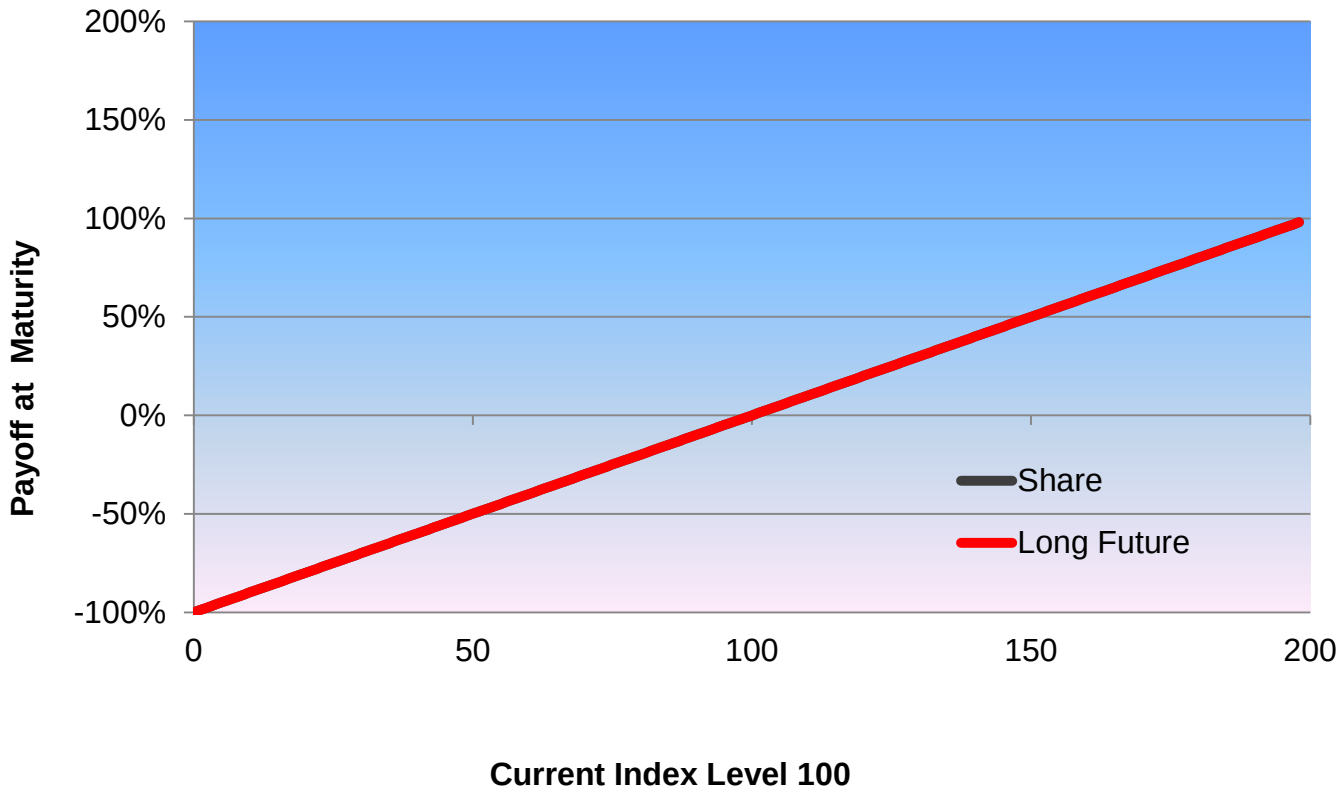
Future

- Futures are the most basic derivative
- Upfront a ‘strike price’ is agreed, based on current price
- Offer payoff at maturity equal to the share price less strike

Share “payoff diagram”



Future “payoff diagram” (Long)



“Investment” – (Lower trading costs than share)

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Future

- Future, as with any derivative, is only a contract

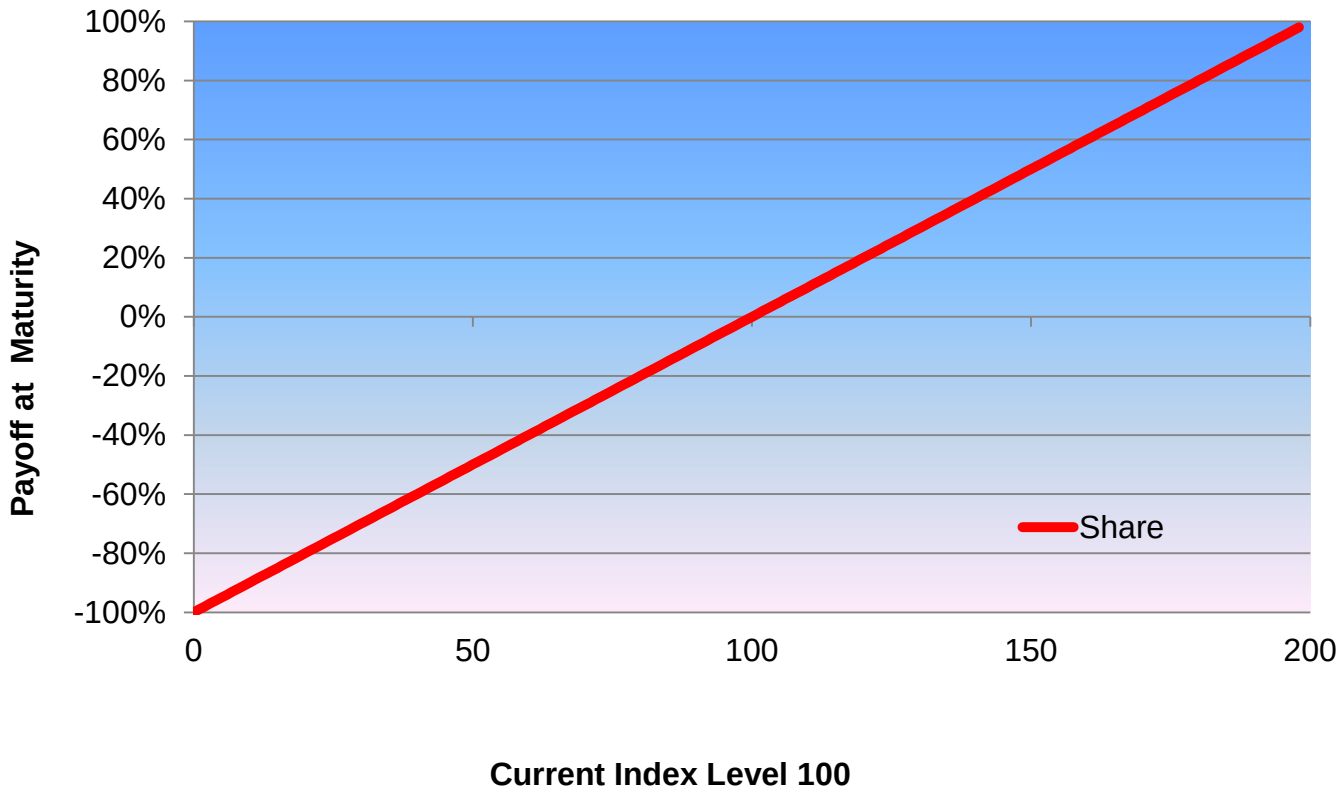
- For each buyer there is a seller
  - If the investor buying the future profits, the bank selling it loses
  - If the investor buying the future loses, the bank selling it profits

- In fact, *investors* can buy or sell futures
  - But why would an investor want to do this?

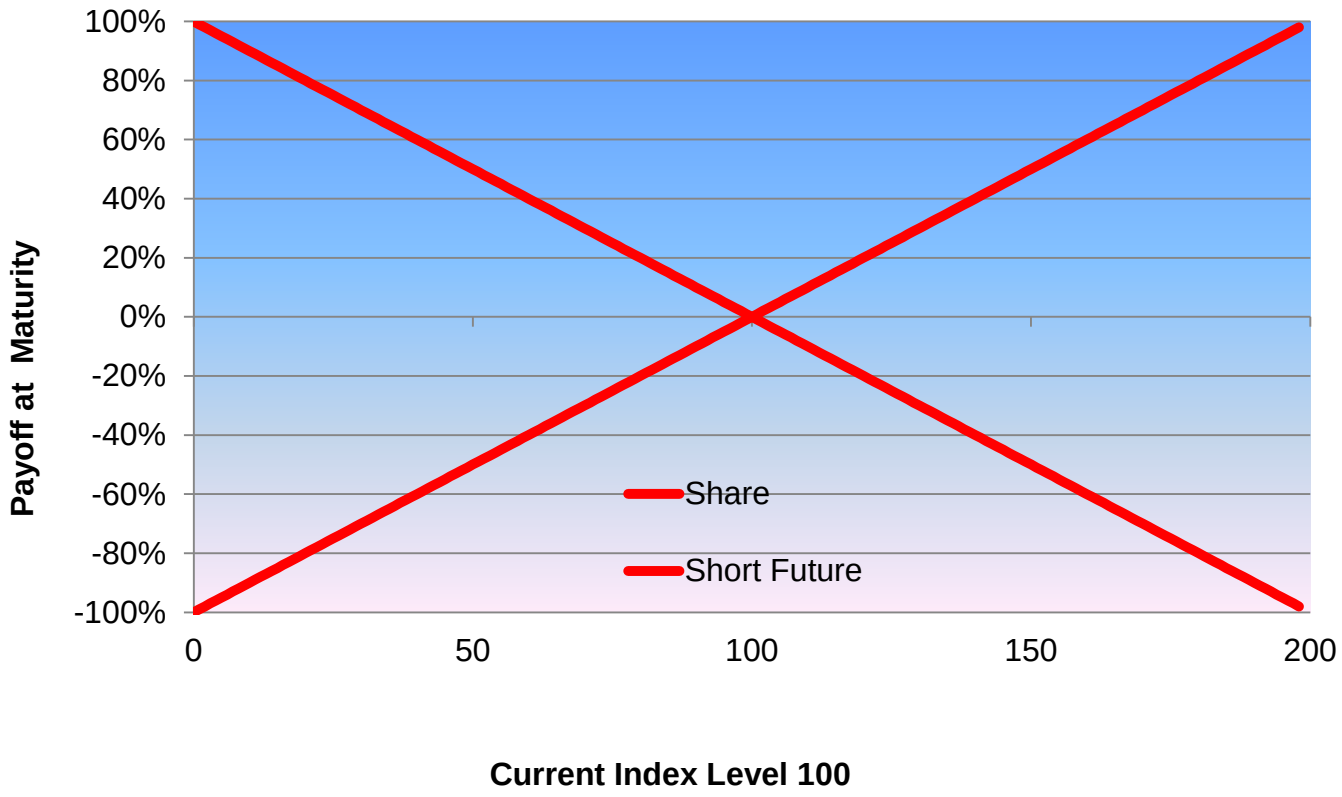
Future

- What if you are were convinced the share price will go down…
- You would make a loss on your share
  - Could sell share, but this incurs fees and taxes
  - Or use futures (cheaper)….but how?
- You would want an investment that makes a profit if the share price *falls (to offset the loss on the share)*

Future “payoff diagram” (Long)



Future “payoff diagram” (Short)



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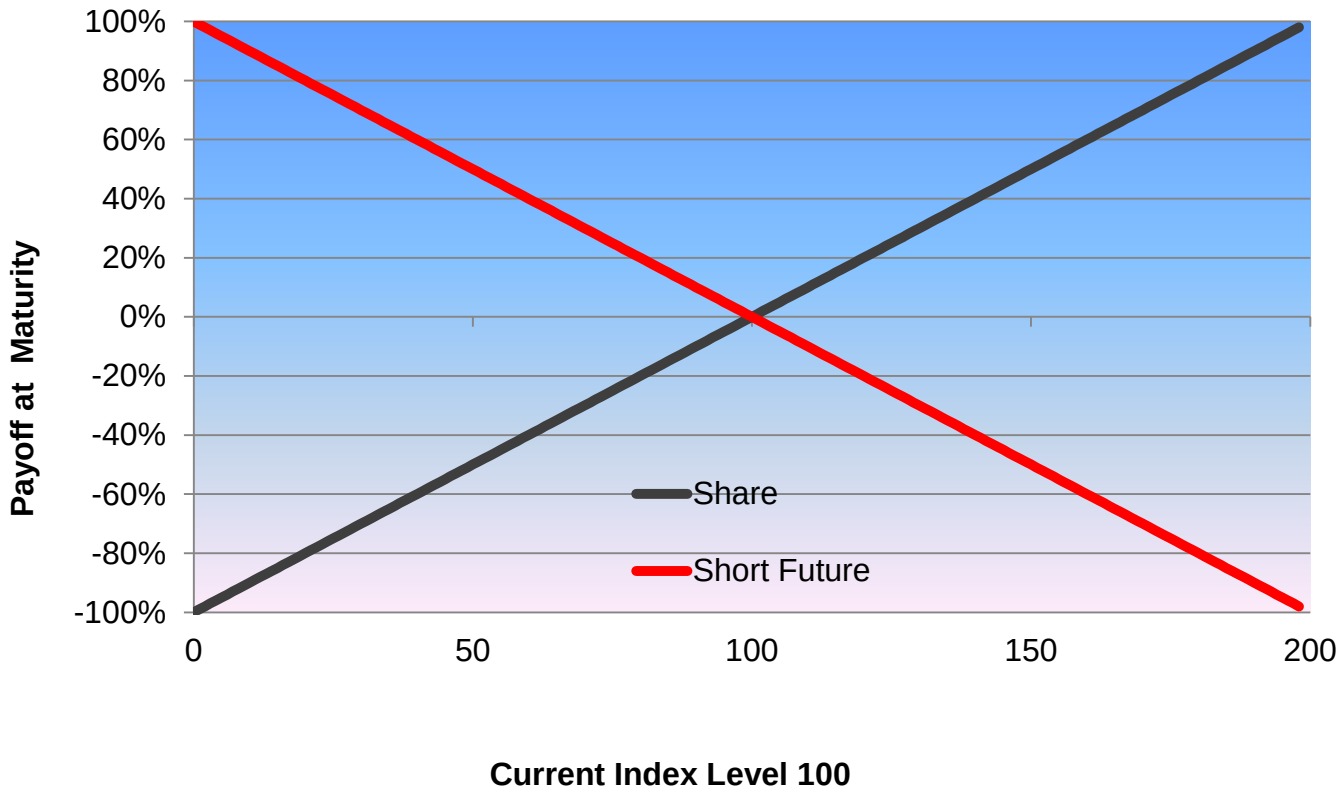
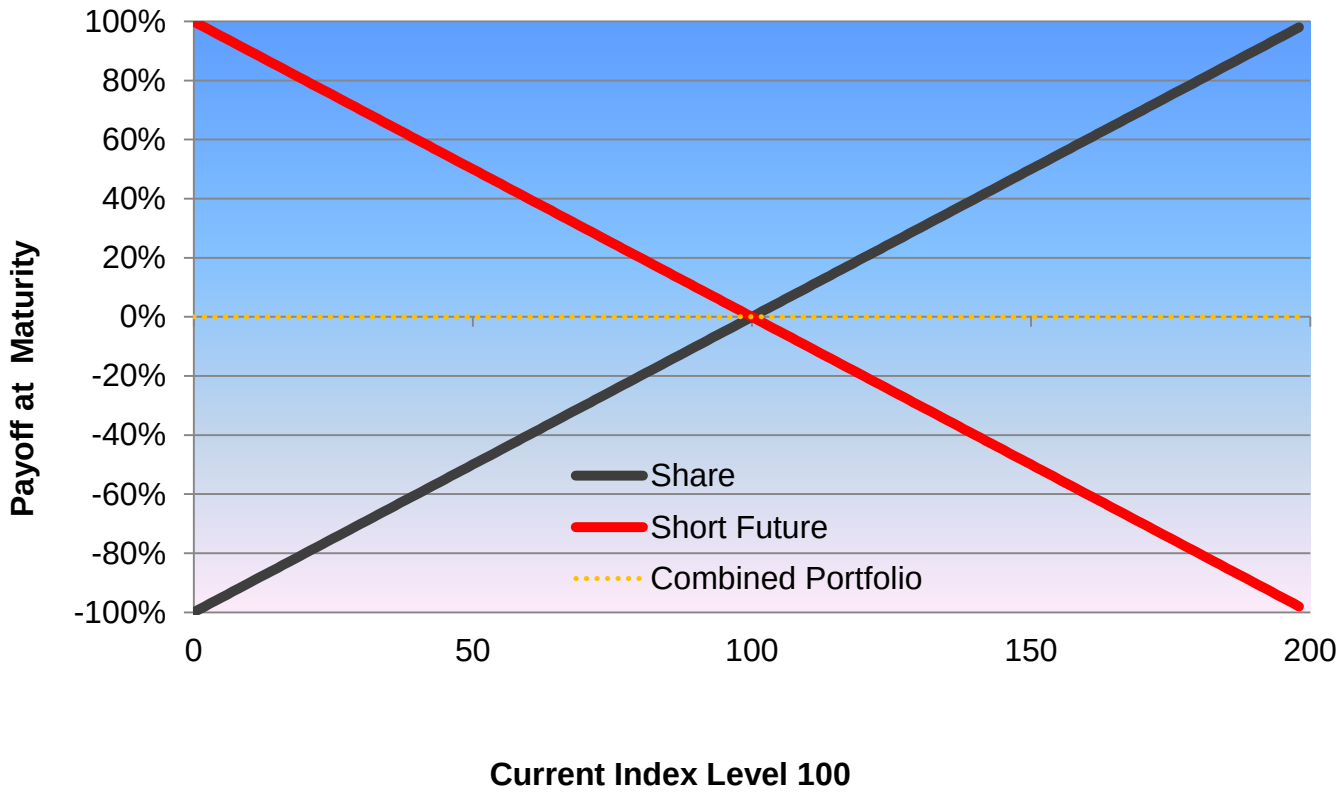
Short Future & Share



Future “payoff diagram” (Short)



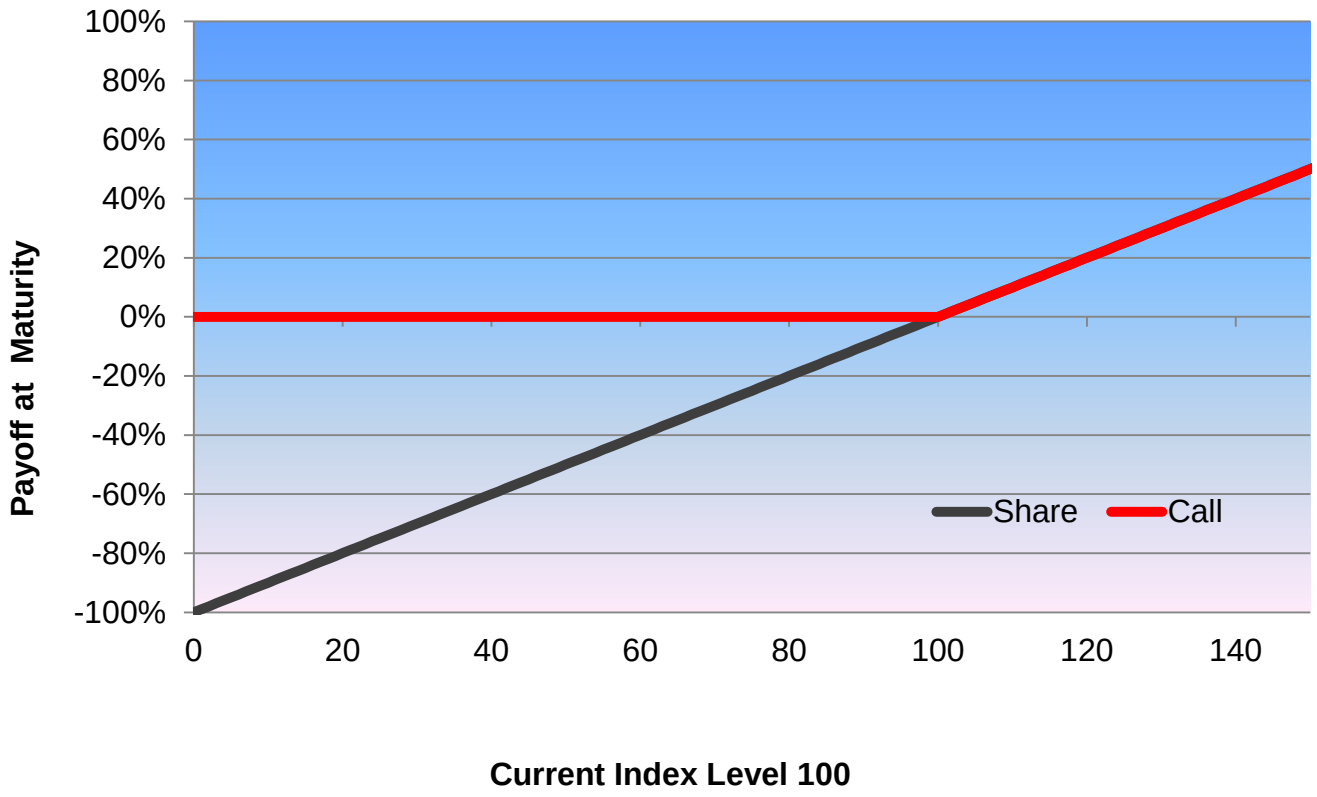
“Efficient Portfolio Management”
“Managing Risk”

Options

- Options offer slightly more flexibility in achieving investment objectives

- Can be used to ‘protect’ or ‘hedge’ against falls in markets

Protected exposure



“Hedging” (Protective put)

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Derivative usage in SA pension & savings industry

- What is the human impact or difference that derivatives make?
  - Assisting pension funds to *guarantee* inflationary increases
  - Guaranteeing the capital of members' benefits in our portfolios
  - Offering "best-of" selected portfolios returns ("Success is inevitable" campaign)

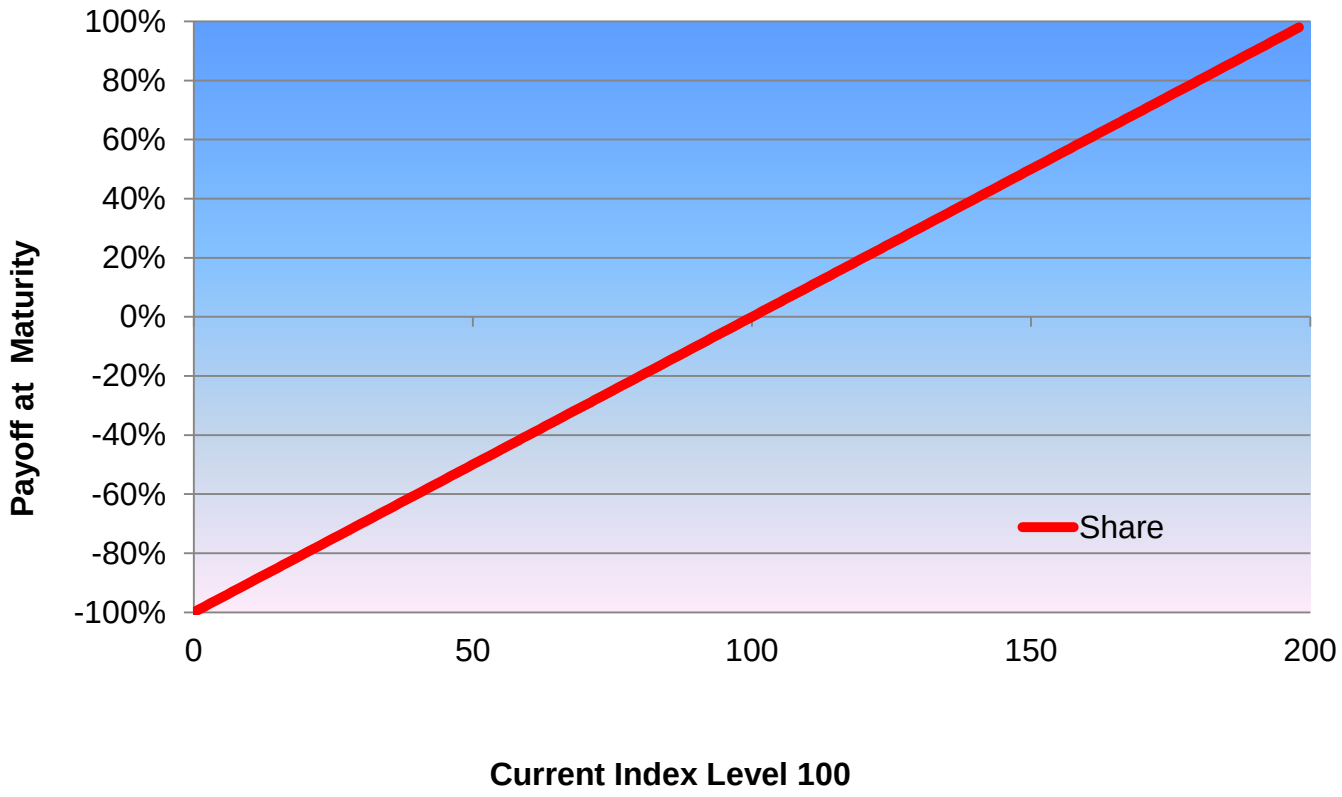
Measuring Exposure and Risk

How does the new legislation require me to account for derivative exposures and risk?

Delta

- The derivatives notice requires the use of a concept known as delta
- It is merely a sensitivity measure
- Delta is (roughly) how much profit you will make per rand the underlying share price moves

Future “payoff diagram” (Long)



Exposure (delta) of 1 (profit of R1 per R1 increase in price)

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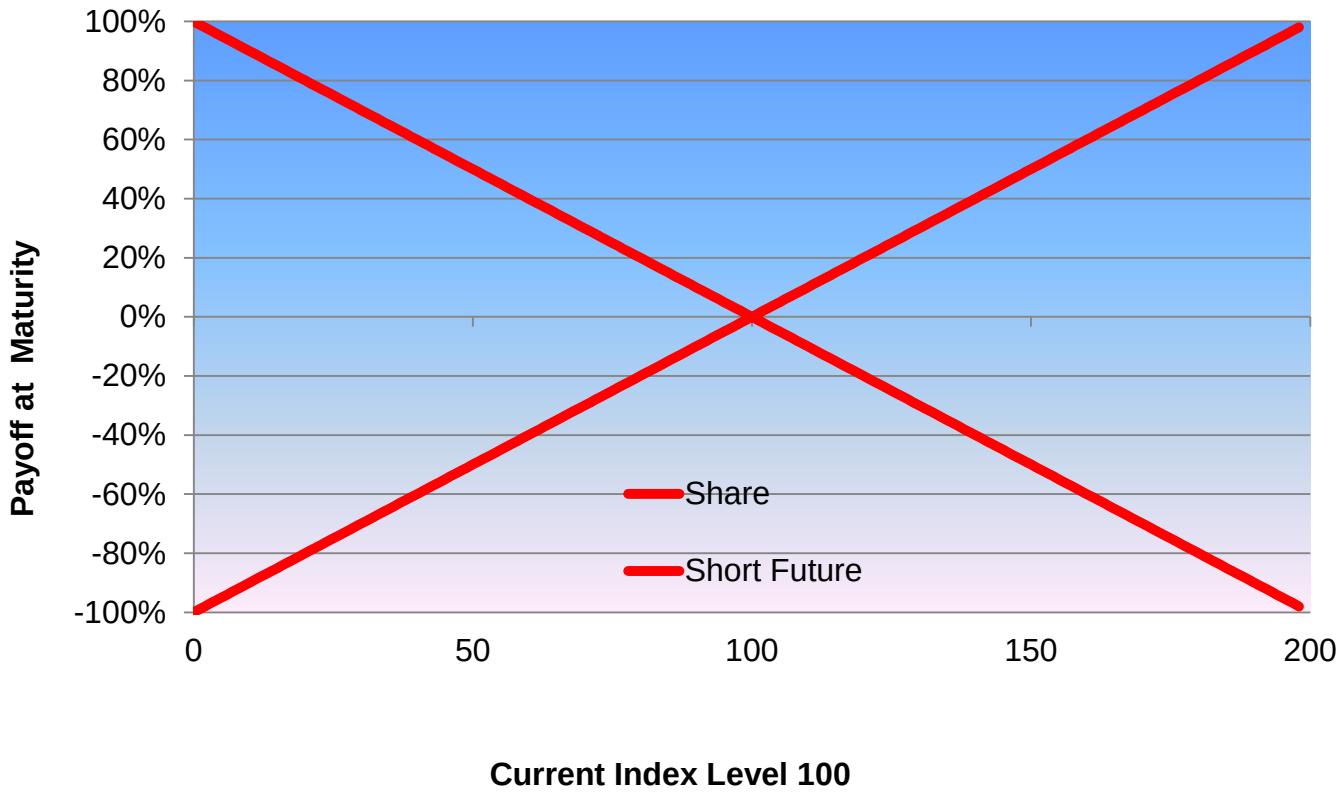
Future “payoff diagram” (Short)



Exposure (delta) of *-1* (*loss* R1 per R1 increase in price)

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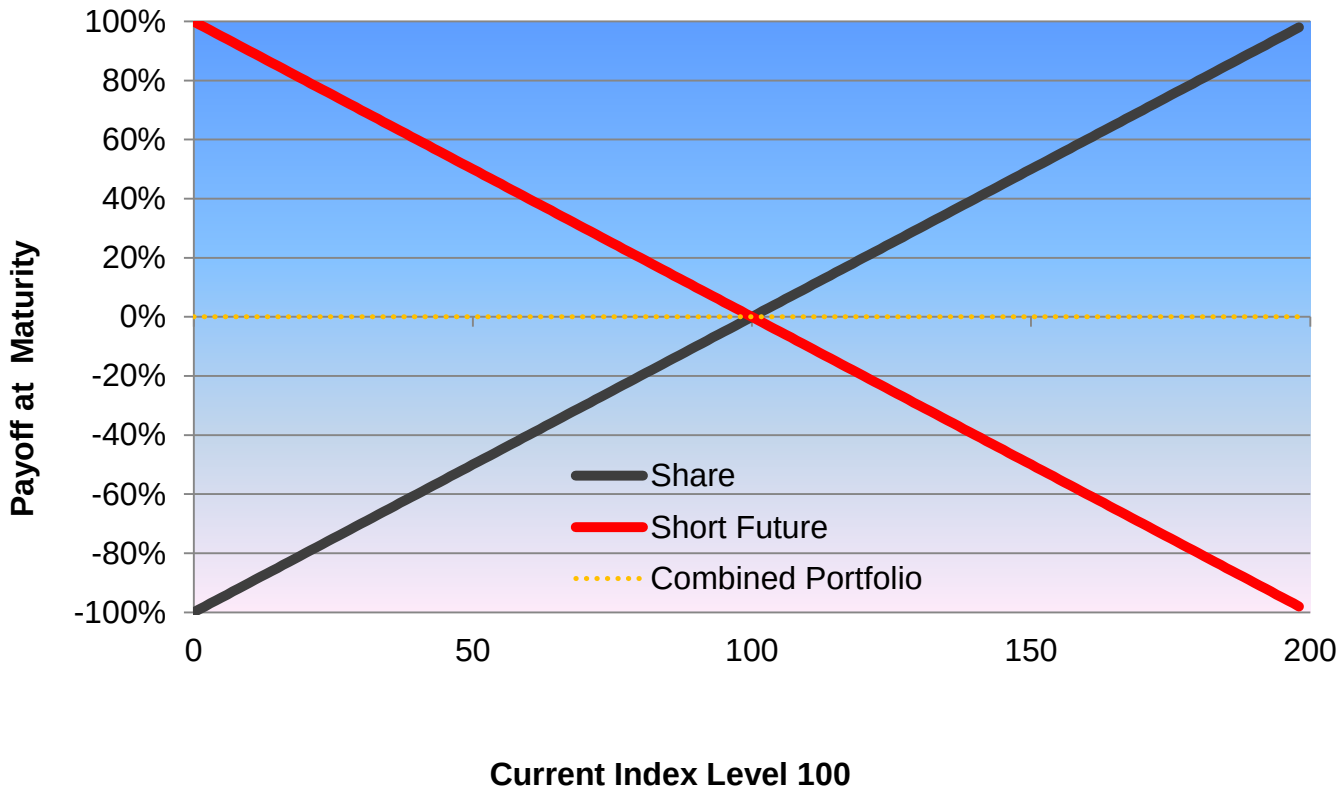
Future “payoff diagram” (Short)



“Efficient Portfolio Management”
“Managing Risk”

Delta

- Delta is hence an important measure for understanding the exposure to an asset class
- Delta shows how the Fund's assets will react to market movement.
- The monetary amount underlying a derivative, multiplied by the delta gives the 'exposure' to a share or asset class
- This is a corner stone in the application of Regulation 28's 'look through principal'

Look through principle

- Main Regulation 28 stipulates numerical maximum exposures
  - *Example. No more than 75% invested in equity. No more than 25% exposure to each large South African bank*

- These are applied on a ‘look through’ or effective exposure (except in special asset classes <15%)

- *Example. If Company A issues a share, but calls it a bond, the instrument needs to be recognised as a share, wherefore futures on a share are counted as share exposure*

Look through principle

- Delta is very important in applying the look through principle; establishes ‘exposure’ at portfolio level

- Single derivatives can have delta exposure to:
  - Single shares
  - Market indices (E.g. “Top 40”)
  - Multiple sources, eg positive exposure to gold price and to Edcon share price, negative exposure to interest rates
  - Derivative deltas often not stationary (change with time, market level and other factors)

Look through principle

- Derivatives notice requires (at least monthly):
  - *Effective (delta based)* and physical exposures to each category of assets in Regulation 28
    - Protects the Fund
    - Allows Trustees to understand true exposure to markets
  - Effective economic exposure must then be compliant with the limits in Regulation 28
    - “Look-through principle”

Netting

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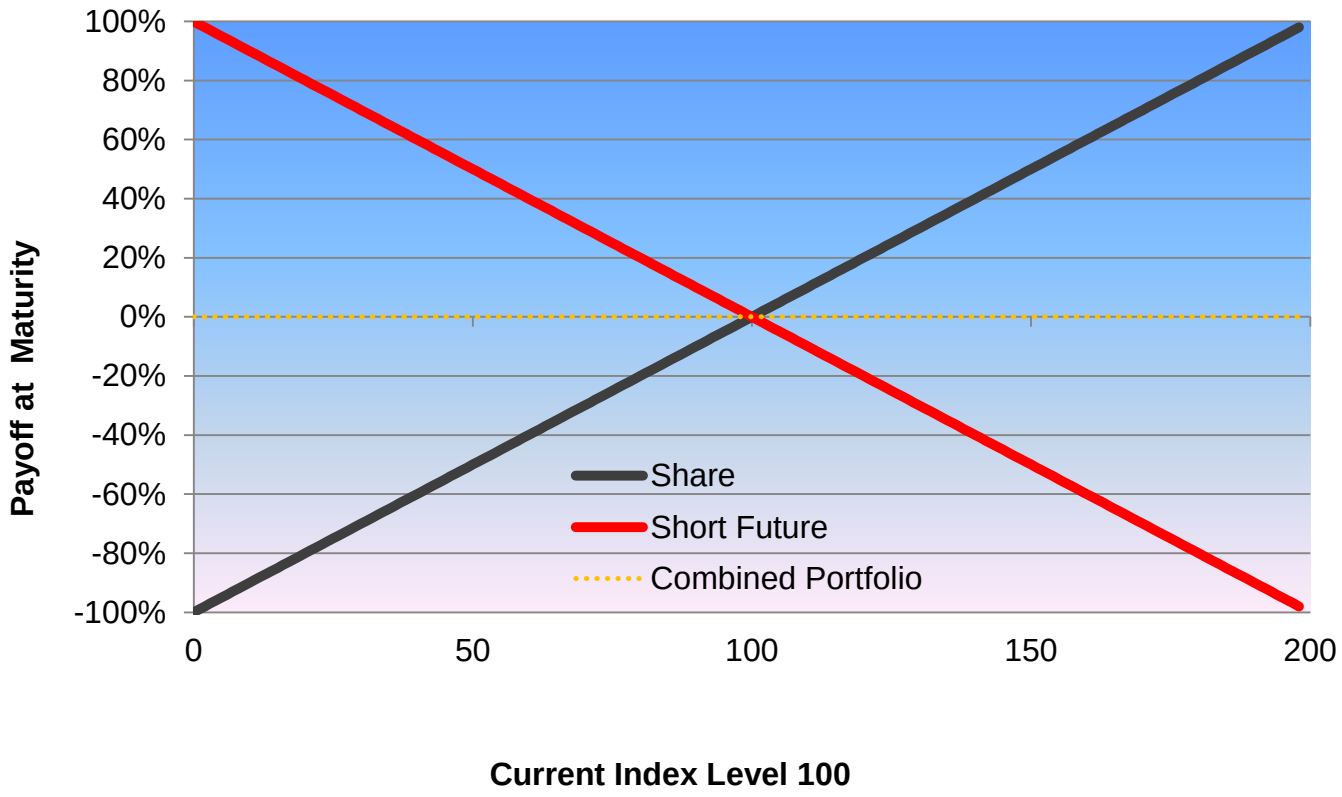
Future “payoff diagram” (Short)



“Netting”

Netting

- With positive and negative exposure possible through derivatives, Regulation allows for *‘netting’*
- Netting involves short exposures offsetting or neutralizing long positions
- Derivatives notice has very specific requirements before netting is allowed, need to ensure managers apply these principles

Netting

- *Example of common use:*
  - Asset managers hold portfolio of stocks similar to TOP40
  - Manager chooses over and underweight positions in certain stocks according to views on stock
  - Portfolio is similar but not identical to TOP40
  - Manager hopes to add outperformance by ‘active positions’
  - May choose to hedge back the portfolio using futures
  - Easy, cheap and liquid to hedge using TOP40 futures, hence commonly done

Netting

- *Example of common use:*
  - Derivatives notice allows for this
  - “Netting”
    - “Reducing or eliminating” risk
    - “Identical or similar” assets underlying derivative
    - ***“leaving no material residual risk”***
    - Other requirements

Netting

- This needs to be addressed with managers
  - Ensure that mandates adequately capture trustees' views on "material residual risk"
  - Trustees will likely need to first apply their minds to determining an appropriate view
    - Rely on feedback from asset managers and consultants

Collateral

- Appropriately collateralised credit exposure can be offset by collateral
- *E.g. If a bank owes a fund R100m, but posts R100m in government bonds to the fund, the fund need not count the credit exposure to the bank (on a net basis)*
- This is consistent with the look through principle in the notice.
- Number of operational requirements listed (e.g. independence of the custodian from credit counterparty)

Reporting

"Investment in derivatives should always be preceded by investment in controls"

Arthur Levitt, SEC Chairman, Risk/Emerging Markets, April, 1996, p. 43

Reporting

- Derivatives guidance note introduces a comprehensive list of reporting requirements
- Trustees should request this from their asset managers or third party service providers
- Aggregation is required where different managers are used (and using derivatives)

Reporting

- At least monthly:
  - Listing of each asset
  - Effective exposure to each Regulation 28 category
  - Physical exposure to each Regulation 28 category
  - Report showing effect of netting credit exposure to each entity
  - Report showing aggregate credit exposures to each entity
  - Sensitivity report – show impact of market movement on portfolio value (extent of potential loss recognised)
  - Statement showing compliance with International Financial Reporting Standards

Trustee responsibilities

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Trustee responsibilities

- Required to update investment policy statement:
  - When and how derivative instruments are to be used
  - Whether unlisted derivatives may be used
  - Include that all mandates allowing derivative usage will require
    - Compliance to the derivatives notice
    - Appropriate risk management by manager
    - Appropriate reporting by manager
  - Requirement to monitor compliance to mandates regularly
  - Requirement for board to “apply its mind to understanding all risks related to the use of derivative instruments”

Other important principles

- Regular, reliable, independent valuations
- At fund level no short positions
- Board is required to do due diligence on derivatives and counterparties:
  - All risks
  - Including credit, market, liquidity and operational
  - May consider credit ratings, but not to rely on these

Other important principles

- Operational issues
  - Manager would be responsible for *implementing*
  - E.g. May only trade with SA government, banks and clearing house
  - E.g. Manager must employ appropriate risk management processes
  - *Trustees must ensure this happens* (Main Regulation "monitor compliance with this regulation by its advisors and service providers")
    - Due diligence processes
    - Update of mandates and investment policy statement indicating compliance requirement
    - If required, expert exetrnal assistance

Conclusions

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Conclusions

- Derivative market is hugely powerful resource for asset managers & trustees (and hence members)
- Compliance to new Regulation 28 required by 31 December 2011
- Number of responsibilities trustees need to investigate:
  - Updating mandates
  - Updating investment policy documents
  - Updating reporting
  - Need to apply minds to various issues such as ‘netting’

Thank you for your time

“Blaming derivatives for financial losses is akin to blaming cars for drunk driving fatalities.”

Christopher L. Culp

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