

# Placing Value on Tax Losses in the Unit Pricing of Life Company Internal Funds

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# Agenda

- Key Conclusions
- Introduction
- Reasons for Placing Value on Tax Losses
- Market Background
- Objective Test for Review of Methods
- Fund Value Method
- Transaction Value Method
- Implementation
- Recommendations

# Key Conclusions

- Terminology for “current methods”
  - Fund Value Method (“FV”) in Ireland
  - Zero Value Method (“ZV”) in the UK
- Current methods unfair in some circumstances
  - FV – Overstates value of tax losses to detriment of continuing unit-holders
  - ZV – Understates value of tax losses to detriment of exiting unit-holders
- Recommend change to ***Transaction Value*** method

# Introduction

- Presentation restricted to: 'I – E', contracting funds in the Irish market
- Funds considered on stand-alone basis
  - Transfers of tax losses to other funds/shareholder for consideration outside scope
- Paper also considers expanding funds and UK 'I – E' funds

# Why Place any Value on Tax Losses?

- Redemption of all the units in a unit-linked fund
  - No value placed on a fund's tax losses in a valuation for the purpose of redeeming all the units
- Redemptions over time
  - Continuing unit holders could benefit from tax losses of exiting unit holders and could pay consideration
    - Tax losses only have value if the unit fund generates sufficient taxable investment return in the future
    - Some unit holders must remain to provide the capital to generate the investment return

# What Value should be placed on Tax Losses?

- Main purpose of unit pricing
  - To determine a fair price for transactions between incoming/exiting unit holders and continuing unit holders
- Value placed on Tax Losses (Contracting Fund)
  - Exiting unit holders are leaving a share of tax losses behind
  - How much should continuing unit holders pay for the 'left behind' tax losses?
- **'Hand-out No. 1'** - examples – Transaction Value principles

# Why Place a Value on Tax Losses?

- Unit holders perspective
  - Exiting, entering and continuing unit holders have an expectation of being treated fairly
- Regulatory perspective
  - Requirement to treat unit holders fairly in their transactions with the fund – Consumer Protection Code (General Principles)
- Life company operational and reputational risk in relation to unfair treatment of unit holders
- Industry-wide consensus approach desirable for all parties

# Unit Pricing Working Party

(December 2009 Report including survey results)

- Difference of opinion in the Working Party as to the correct approach to placing value on tax losses in unit funds
- Majority of companies do not have limits for the percentage of a fund's value that is represented by the value of tax losses
- Focus seems to be on how much investment return can be received tax-free and deriving value of tax losses from that – Fund Value Method



# Current Approach to Placing Value on Tax Losses

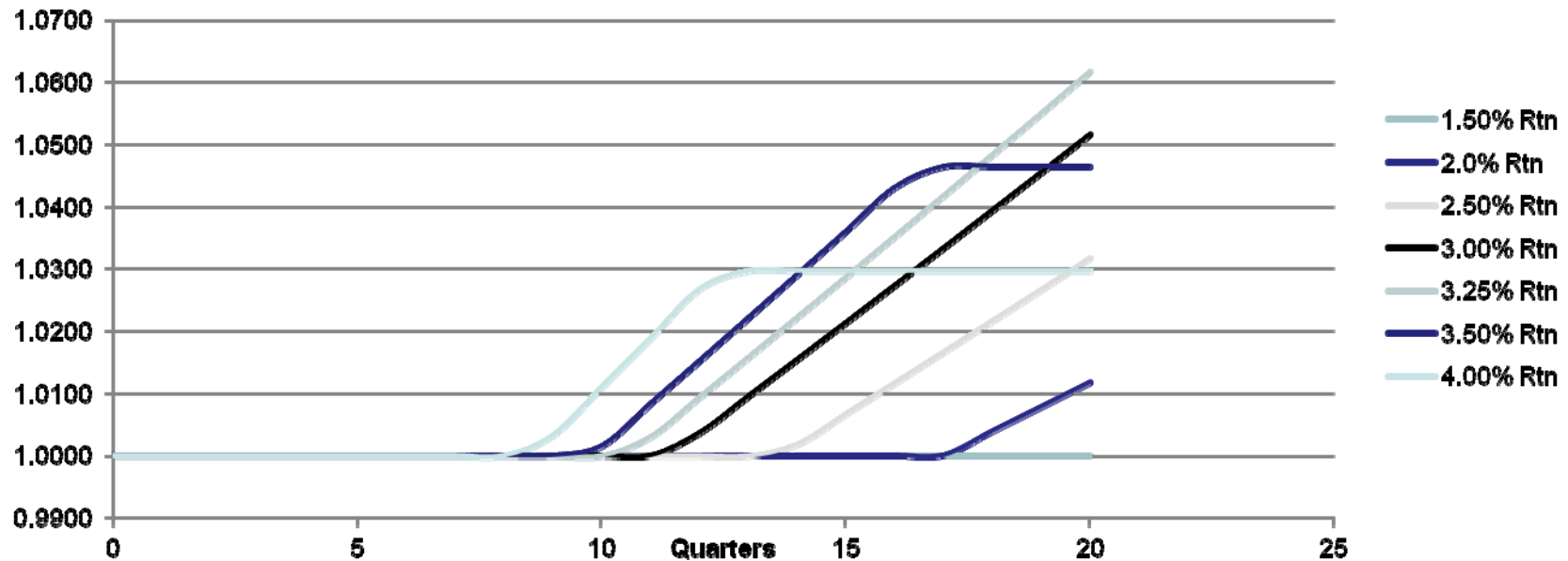
- The 'Fund Value' Method
  - Focuses on value to fund of tax losses as if it had little implications for pricing of tax loss transfer transactions
  - May give very different results from Transaction Value for the same underlying economic assumptions
  - **'Hand-out No.2'** - example
- Need to move to a unit-holder transaction pricing focus
  - Focus on what consideration should be paid by continuing unit holders to exiting unit holders for tax losses left behind

# Assessment of Merits of Methods for Placing Value on Tax Losses

- How to assess the merits of any method?
  - Evaluate based on a comparison of its unit prices over time (under various scenarios) compared to the unit prices of a **base case**
- The **base case** proposed
  - All policyholders are assumed to exit the fund at the same point in time
  - No value is placed in the unit pricing on tax losses
- Rationale: Tax loss valuation basis should not affect subsequent unit prices

# Implication of Placing Zero Value on Tax Losses – Contracting Fund

## Ratio of Unit Prices to Base Case Unit Prices



Graph 3.4.1: ROI, Contracting, 40% Tax Losses, No Value

# Conclusion

- Placing value on tax losses is essential
  - Expected by unit holders
  - Regulatory requirement to treat unit holders fairly
  - Reputation and operational risk
- Recommend ***Transaction Value*** method
  - Practical & fair
  - **'Hand-out No. 3'** - formula
- Philosophy used to determine [Tax Loss Value Proportion]
  - The proportion of tax losses on which full value is placed

How should a value be placed on tax losses for unit pricing transactions?

## Value of Tax Losses -Contracting Funds

- We need a Method to place a value on tax losses in unit pricing
  - Determine value on perfect foresight basis (known parameter values for key economic assumptions)
- Apply objective test to assess results of any Method
  - Firstly results for various deterministic scenarios
  - Secondly, if deterministic results satisfactory, results assuming an investment return distribution
  - Conduct sensitivity analysis e.g. withdrawal rates

# Objective Test

- Principle that unit prices applied to earlier exits shouldn't affect unit prices for later exits (old GN1)
  - Likely to be reasonable expectation of unit holders & regulators
  - Reasonable basis for objective test that value placed on tax losses was fair
- Develop a set of **Base Case** unit prices
  - All unit holders exit at same time (i.e. no prior exits)
  - Therefore no value placed on tax losses in unit pricing
- Compare the unit prices of any Method with those of the **Base Case** for multiple scenarios
- Objective test quantifies extent to which method used to place value on tax losses has affected subsequent unit prices

# Value of Tax Losses –Contracting Funds

- Possible Tax Loss Value Methods
  - ‘Zero Value’ Method
  - ‘Fund Value’ Method
  - ‘Transaction Value’ Method
  - Other?
- Calculate Tax Loss Value Proportions for Method on perfect foresight basis for key economic assumptions
- No perfect foresight
- Tax Algorithm
  - Investment return distribution
  - Central withdrawals
  - TLVPs on weighed average basis



# 'Fund Value' Method

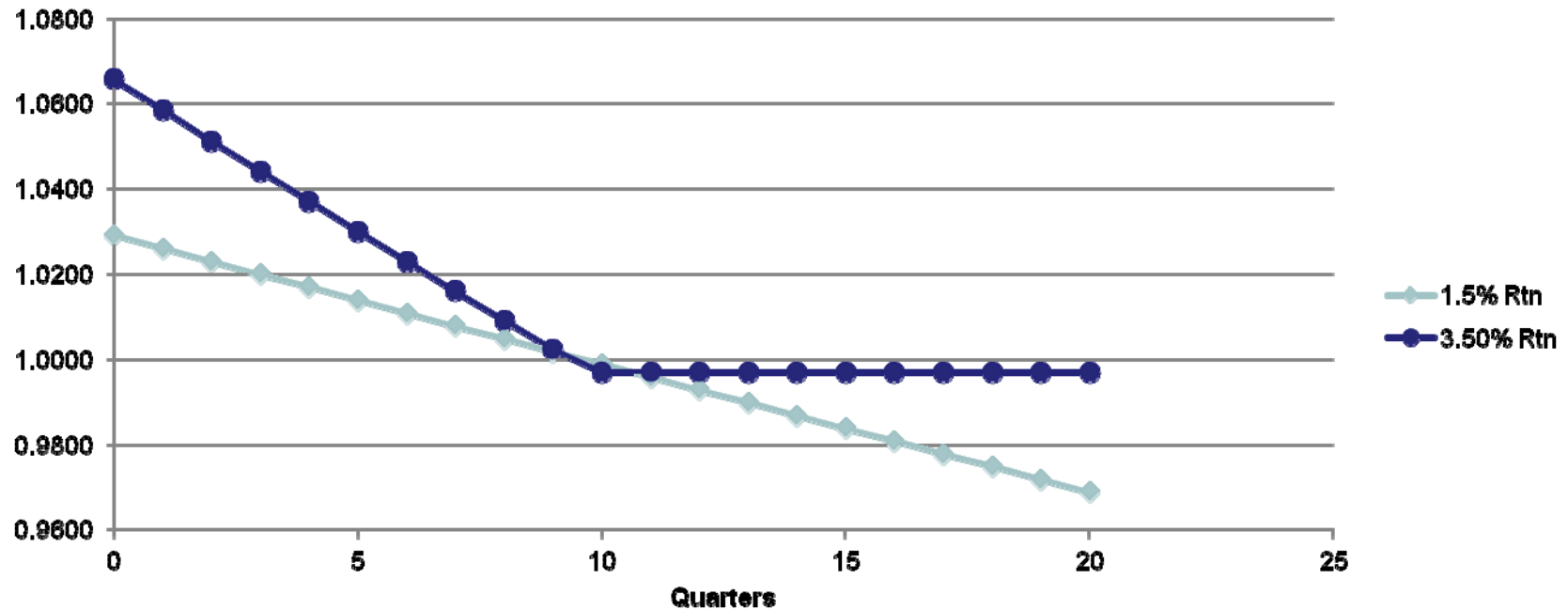
- Tax Losses are a Contingent Tax Asset
- Philosophy that all policyholders share equally in value to fund of reduced tax charges
- Method (Best estimate or prudent estimate)
  - Determine likely future exits on prudent basis
  - Project future Investment Return
  - Compute [Value of Tax Losses] as [PV of Tax Charge (without losses)] - [PV of Tax Charge (with losses)]
  - Err on the side of prudent assumptions
  - Include [Value of Tax Losses] as Fund Asset in Unit Pricing
  - Place limit on [Value of Tax Losses] as percentage of [Fund Value] for prudence reasons

# Tax Losses: 'Fund Value' Method

- Derives value to fund of tax losses
- Doesn't apportion value between leavers and continuing unit-holders
- [Tax Loss %] relevant only as limit on tax-free future Investment Return
  - Undiscounted value of  $0.2 * \min(\text{IR}\%, \text{TL}\%)$
  - For projected future investment return (allowing for withdrawals) of  $x\%$ , FV method gives same answer for all [Tax Loss %s]  $>x\%$  as min is IR%.
  - For projected future investment return of  $x\%$ , FV method gives different answer for all [Tax Loss %s]  $\leq x\%$  as min is TL%.
  - For projected future investment return of  $50\%$  (not allowing for withdrawals) Transaction Value Method gives very different answers from FV for [Tax Loss %] of  $30\%$ ,  $40\%$ ,  $100\%$  or  $200\%$  i.e. zero for  $100\%$  and  $200\%$  and possibly non-zero for  $30\%$  and  $40\%$

# 'Fund Value' Method

## Ratio of Unit Prices to Base Case Unit Prices



Graph 4.4.4: ROI, Contracting, 40% Tax Losses

Perfect Foresight Basis

# 'Transaction Value' Method

- Philosophy: There are two groups of policyholders: Continuing & Exiting
  - Split existing tax losses pro-rata
- [Value Placed on Tax Losses] represents a consideration paid by Continuing to Exiting for tax losses passed on based on estimated value received by continuing unit holders
- Method does not seek to share value arising from tax losses between exiting and continuing unit-holders
  - Gives all value arising from leavers' share of tax losses to leavers provided that can be done without disadvantage to the continuing unit-holders
- Averaged over all tax loss transfer transactions

# 'Transaction Value' Method

- Project investment return and withdrawals over future lifetime of fund on two bases
  - Projection 1: With the existing tax losses
  - Projection 2 : Only difference that tax losses of exits are removed from the fund with no compensation
- Compute [Value Placed on Tax Losses] as  $\{[\text{Difference in Tax Charges}] / [\text{Tax Losses Foregone}] \} * [\text{Tax Losses}]$
- Issues
  - Divisor of [Tax Losses Foregone] not immediately intuitive
  - Price is average over all continuing unit-holders
  - Future fund lifetime is critical to calculation of value
- Method Comparison
  - TV: Result is proportional to tax-free investment return  $>$  tax losses % (Hurdle Rate)
  - FV: Result is proportional to tax-free investment return

# Essential Difference between 'Fund Value' & 'Transaction Value' Methods

	<b>Fund Value Method</b>	<b>Transaction Value Method</b>
Projection A (1)	Present value of fund tax charges allowing for WITHDRAWALS only <i>TAX LOSSES are ignored</i>	The present value of fund tax charges allowing for TAX LOSSES but removing from the fund for each batch of exits the TAX LOSSES of exiting unit holders
Projection B (2) <b><u>Same for both Methods</u></b>	Present value of fund tax charges allowing for TAX LOSSES and WITHDRAWALS	Present value of fund tax charges allowing for TAX LOSSES and WITHDRAWALS
Difference (1) – (2)	Value of TAX LOSSES to the fund	Value placed on TAX LOSSES = [Diff]/[Tax Losses Foregone] * [Tax Losses]

**Fails to apportion tax losses between 'stayers' & 'leavers'**

**PV of taxes not paid due to 'leavers' passing on of tax losses to 'stayers'**

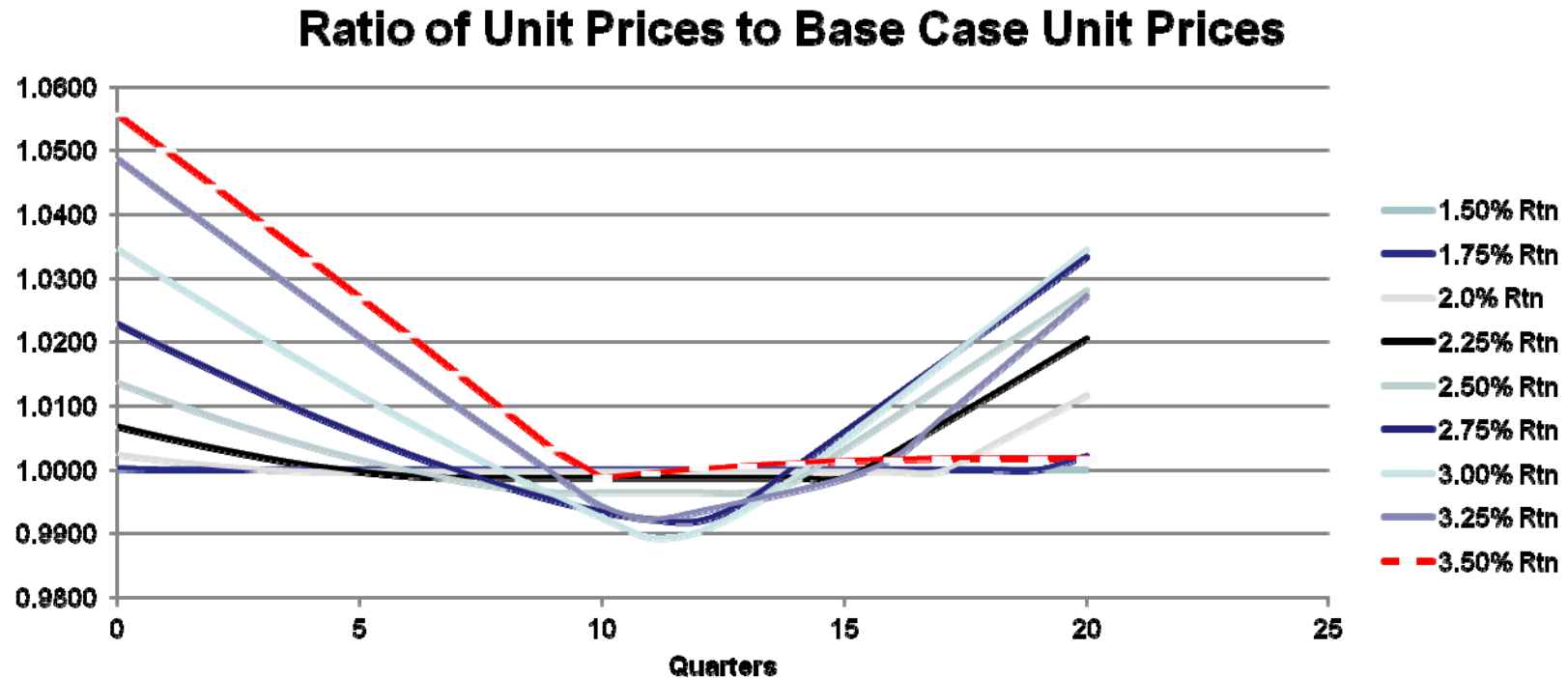
# Scenario: Value Placed on Tax Losses

- Scenario – Contracting Funds
  - Fund A : Tax Losses of 10%
  - Fund B : Tax Losses of 100%
  - Funds A & B otherwise identical
- Which Fund is likely to have higher Value placed on Tax Losses?
- Fund Value Method: Fund B
- Transaction Value Method : Fund A

How does the 'Transaction Value'  
Method perform against the  
objective test?



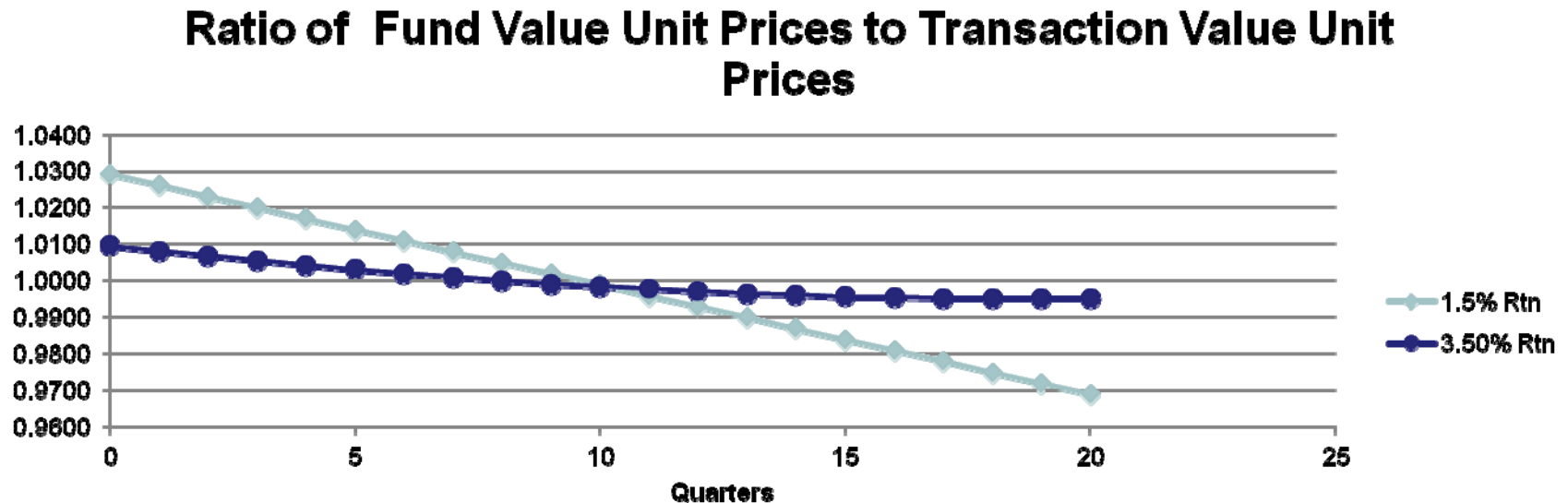
# Tax Losses: 'Transaction Value' Method – Contracting Fund



Graph 4.8.1: ROI, Contracting, 40% Tax Losses

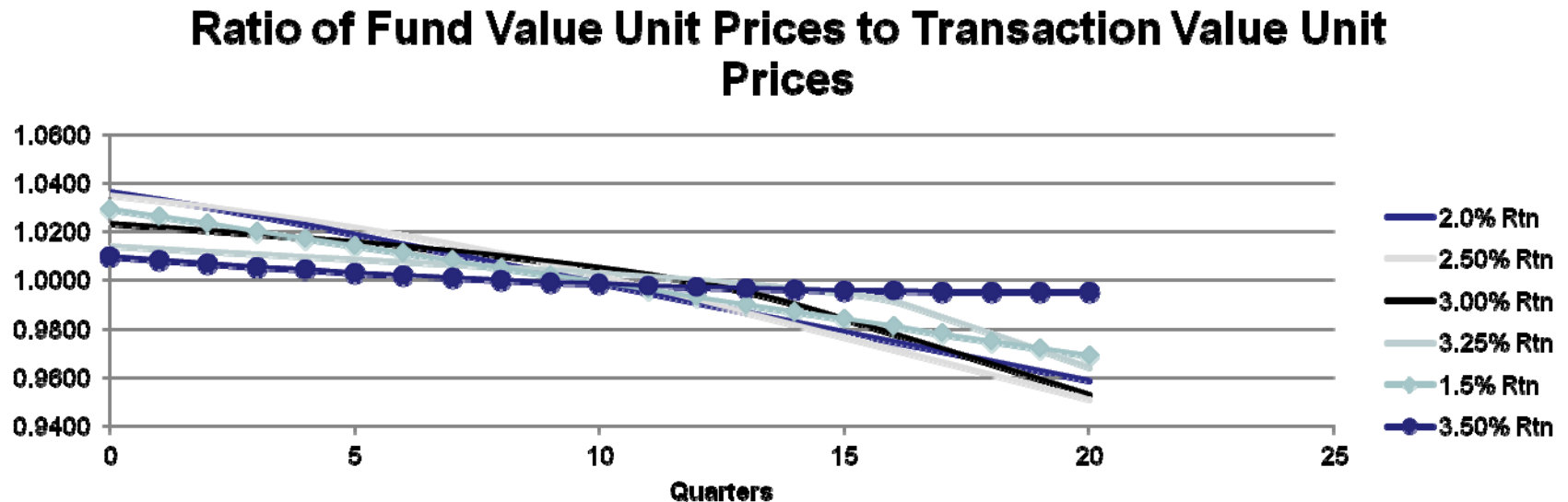
Perfect Foresight Basis

# Comparing the 'Fund Value' & 'Transaction Value' Methods – Contracting Fund



Graph 4.4.5: ROI, Contracting, 40% Tax Losses

# Comparing the 'Fund Value' & 'Transaction Value' Methods – Contracting Fund

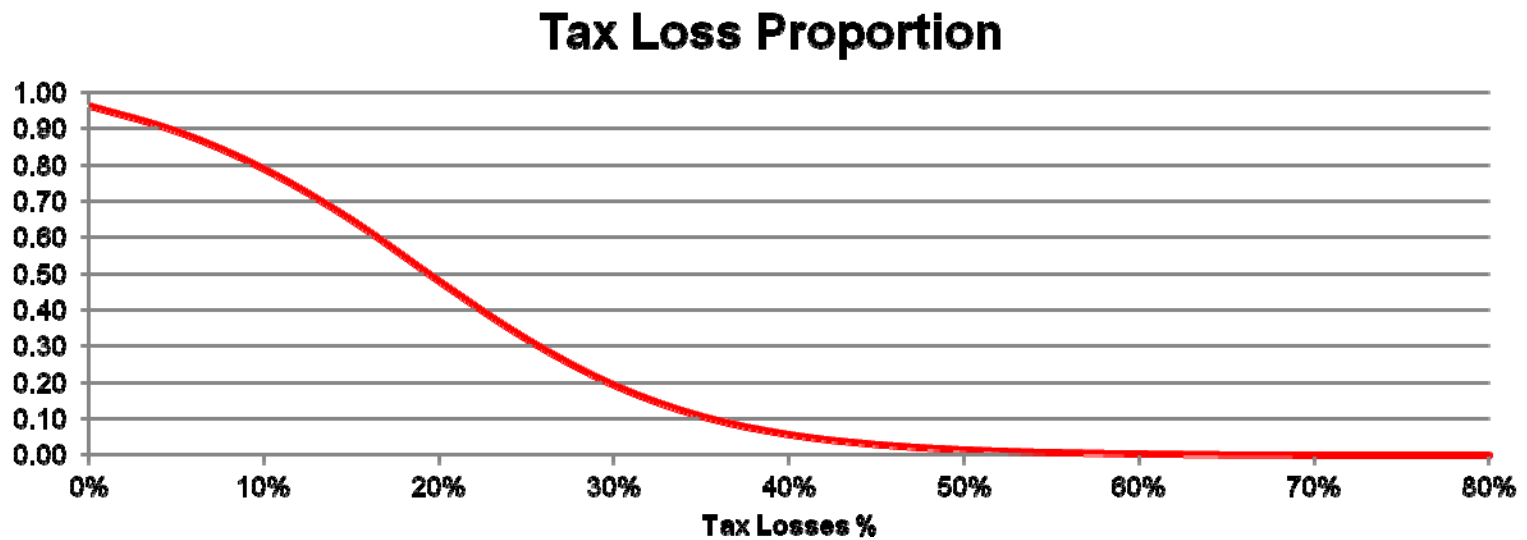


Graph 4.4.5: ROI, Contracting, 40% Tax Losses

# Practical Implementation of Transaction Value Method - Contracting Fund

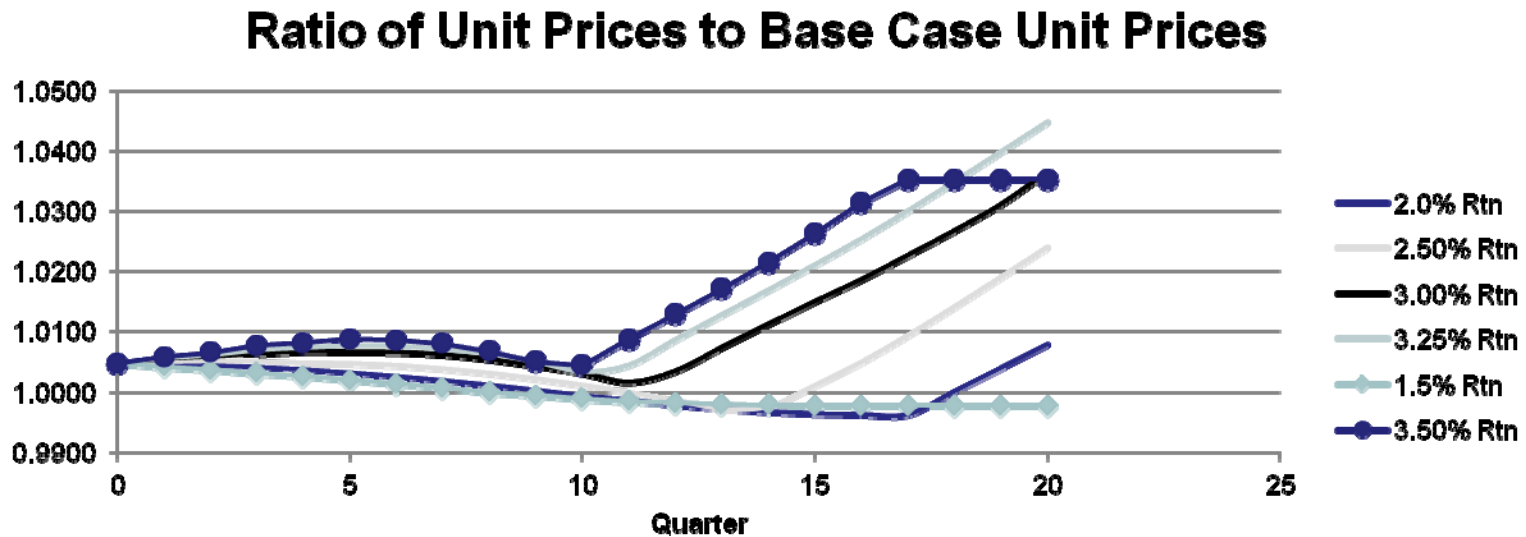
- Transaction Value Method
  - Projection calculations no more difficult than Fund Value Method
- Assumptions
  - Investment Return Distribution e.g. Normal Distribution
  - Central Withdrawals
- Generate [Tax Loss Value Proportion] schedule by [Tax Loss %]
- Residual Term Weighting
  - Calculate TLVPs based on fixed term
  - Apply factor reducing linearly from 1 to 0 over fund lifetime

# Transaction Value Method - Tax Loss Value Proportion



Graph 4.11.1: ROI, Contracting, 40% mean and 20% standard deviation

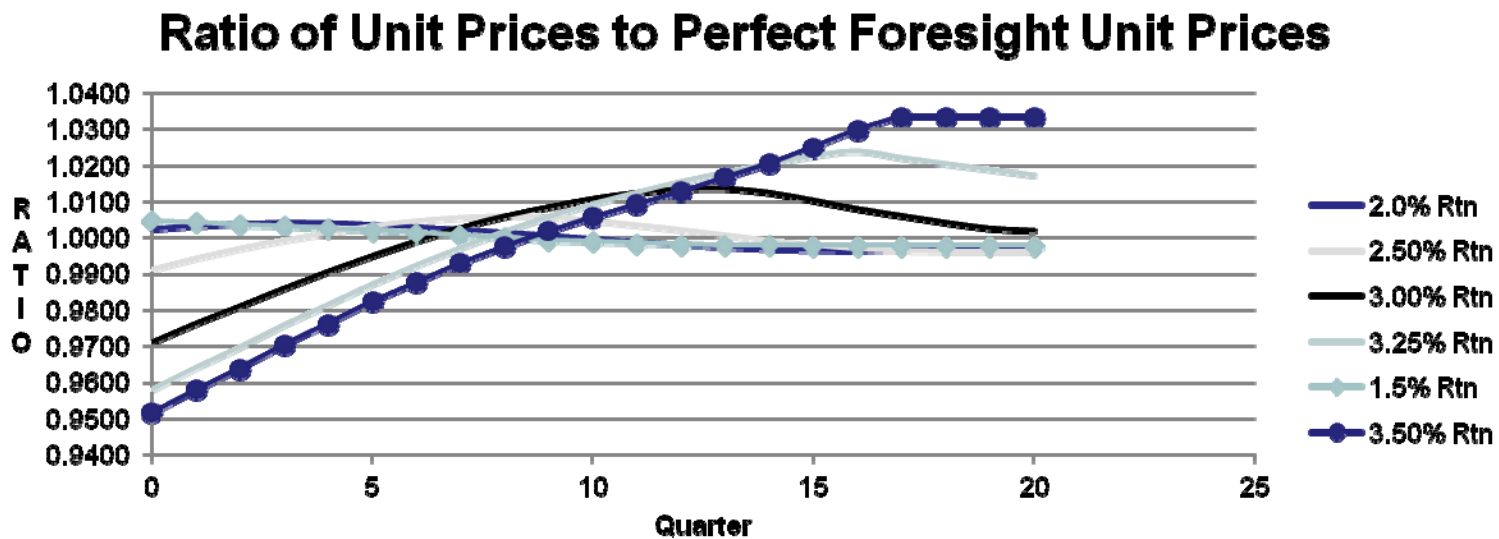
# Tax Losses: 'Transaction Value' Method – Contracting Fund



Graph 4.12.2: ROI, Contracting, 40% Tax Losses, 40% mean and 20% standard deviation

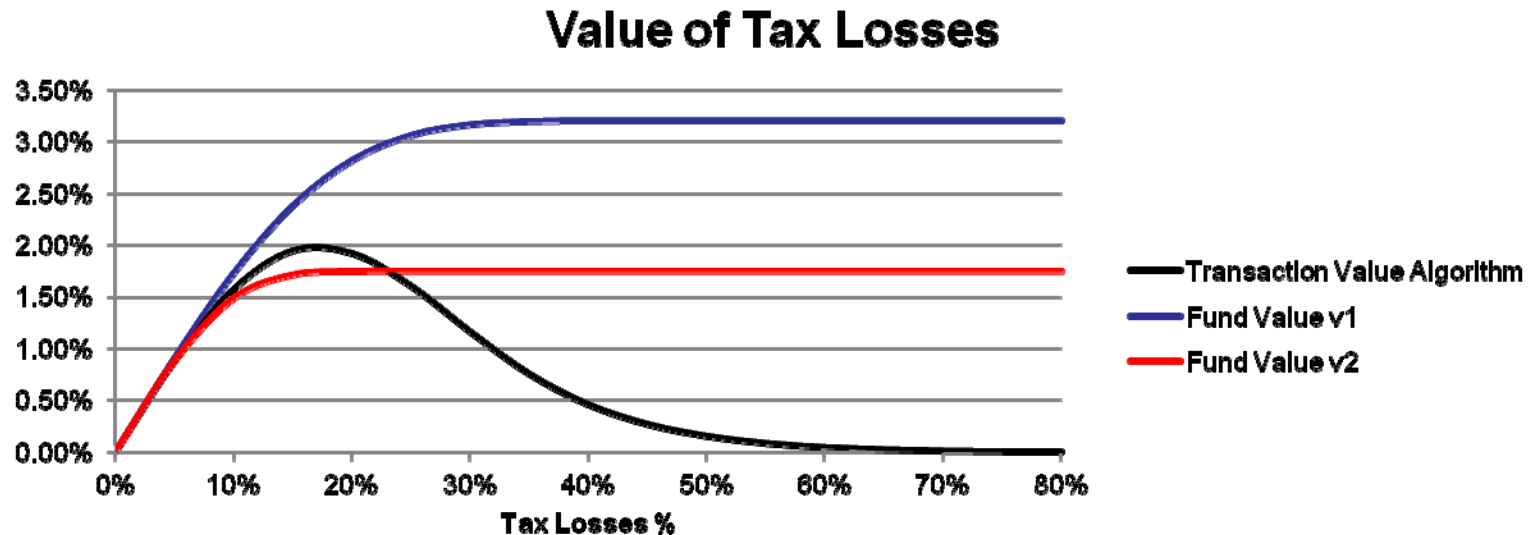
# Tax Losses: 'Transaction Value' Method – Contracting Fund

## Statistical distribution v. Perfect foresight



Graph 4.12.1: ROI, Contracting, 40% mean and 20% standard deviation

# Value of Tax Losses - Contracting



Graph 4.4.7: ROI, Contracting, 40% mean and 20% standard deviation

**Shape of 'Fund Value' method is completely wrong**

Based on statistical distribution of returns



# Key Conclusions & Recommendations

- Both 'Fund Value' and 'Zero Value' Methods fail objective tests of fairness expected by unit holders & regulators
- Authors Recommend 'Transaction Value' Method
  - Strength of inherent logic of Transaction Pricing
  - Analysis shows it meets objective tests of fairness
- 'Transaction Value' Method is theoretically sound, demonstrably fair and also practical
- Desirability of Industry-Wide Consensus Approach
- ***Authors recommend that the Life Committee consider the issues in the paper***

# Tax Provision Estimator

- App available for “Unit Linked Tax Provision Estimator”
- [www.frsLtd.com](http://www.frsLtd.com)
  - Go to bottom of home page, submit email address
  - Receive email link to download
- Shows results for Transaction Value Method
- Input Tax loss %
- Input Assumptions
  - Investment return rates, withdrawal rates, fund lifetime
- Get expected value placed on tax losses for the selected deterministic scenario
  - For ROI, enter zero for both income rate and non taxable capital gain rate
- Life companies can use this to see the approx. % investment return rates required to validate current value placed on tax losses for a particular fund for its tax loss %.

# End of Presentation

- Questions
- Comments