



**Jon Spain**

*"Yes, we have no equities..., but we should"*

**YES**

**WE HAVE NO EQUITIES...**

**July 2, 2002**

***GAD Professional Briefing (July 2002)***

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## **...BUT WE SHOULD**

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- personal remarks
- preliminaries
- critical points
- market values : planning ahead?
- implications
- the “Mrs Purves” effect
- conclusions



## **PRELIMINARIES**

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- can't cover all points in 15 minutes (Chester allocation)
- sometimes, bonds are more appropriate than equities
  - but certainly not always
- theory no better than practical effects
- but mustn't try to intimidate poor financial economists
- whose views are relevant?
- trustees **NORMALLY** have very long timeframe
  - quite different to other shareholders
- short-term shareholders not sole constituency
  - pensions just one element of business



## **CRITICAL POINTS**

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### ■ “two actuarial laws”

- (1) we don’t know future (but must make assumptions; more honesty?)
- (2) no such thing as free lunch over time (BUT can be opportunities)
- all the rest is just commentary

### ■ very long-term can imply different restraints

- can’t aim “short” and “long” at same time

### ■ three principal mantras targeted

- “equities are risky”
- “equities not a match for pay increases”
- “higher returns don’t reduce costs”



## **EQUITIES ARE RISKY {1 of 5}**

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- most investments are risky
- equities do tend to provide higher return than bonds
  - generally denied by financial economists
  - but admitted as possible (FE seminar 18 May 2000)
  - FEs say higher return is merely compensation for extra risk
  - recent “junk bonds” SIAS paper suggested higher returns
- a few charts
  - rolling periods of 10 years
  - UK indices from 1920 (thanx Inqa!)

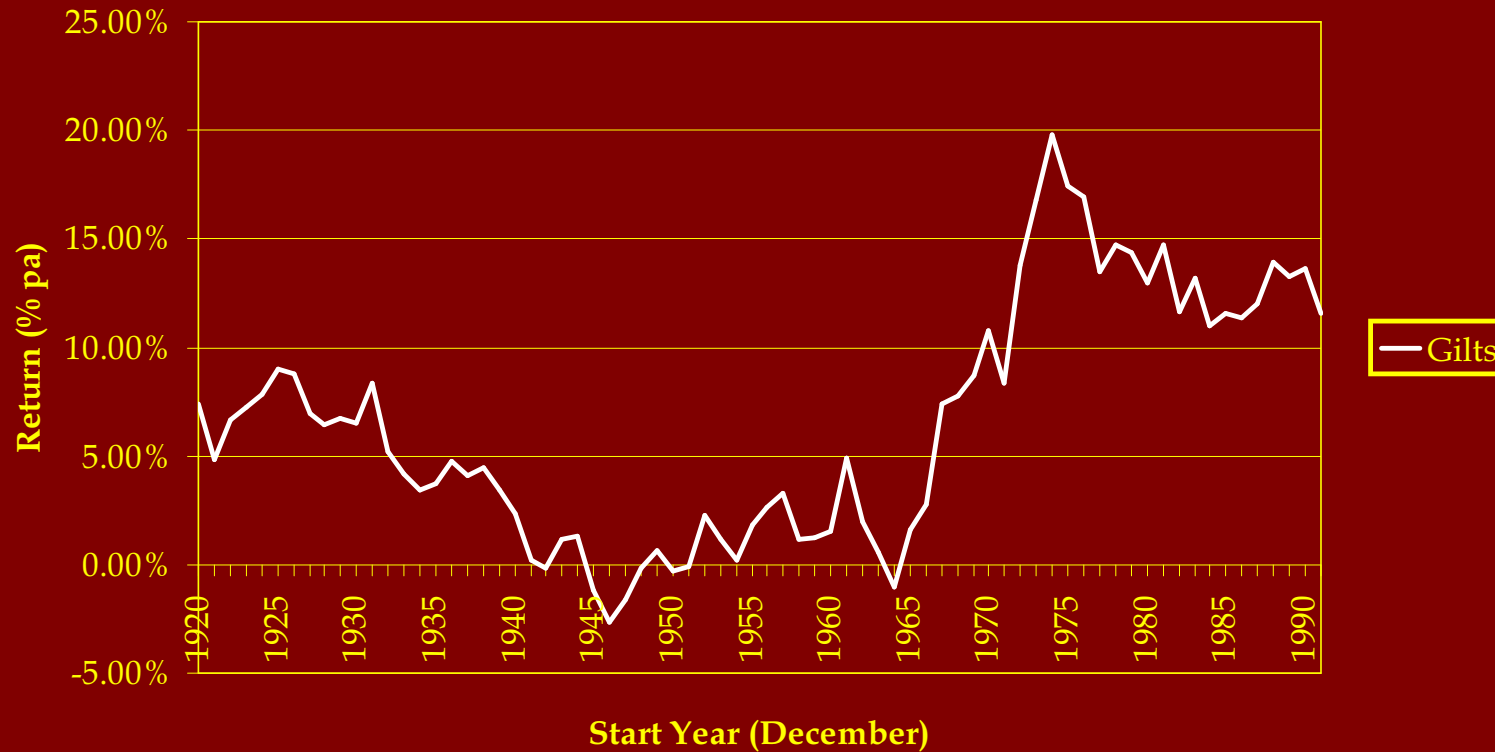


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## **EQUITIES ARE RISKY {2 of 5}**

**Gilt Total Returns (Consols)**



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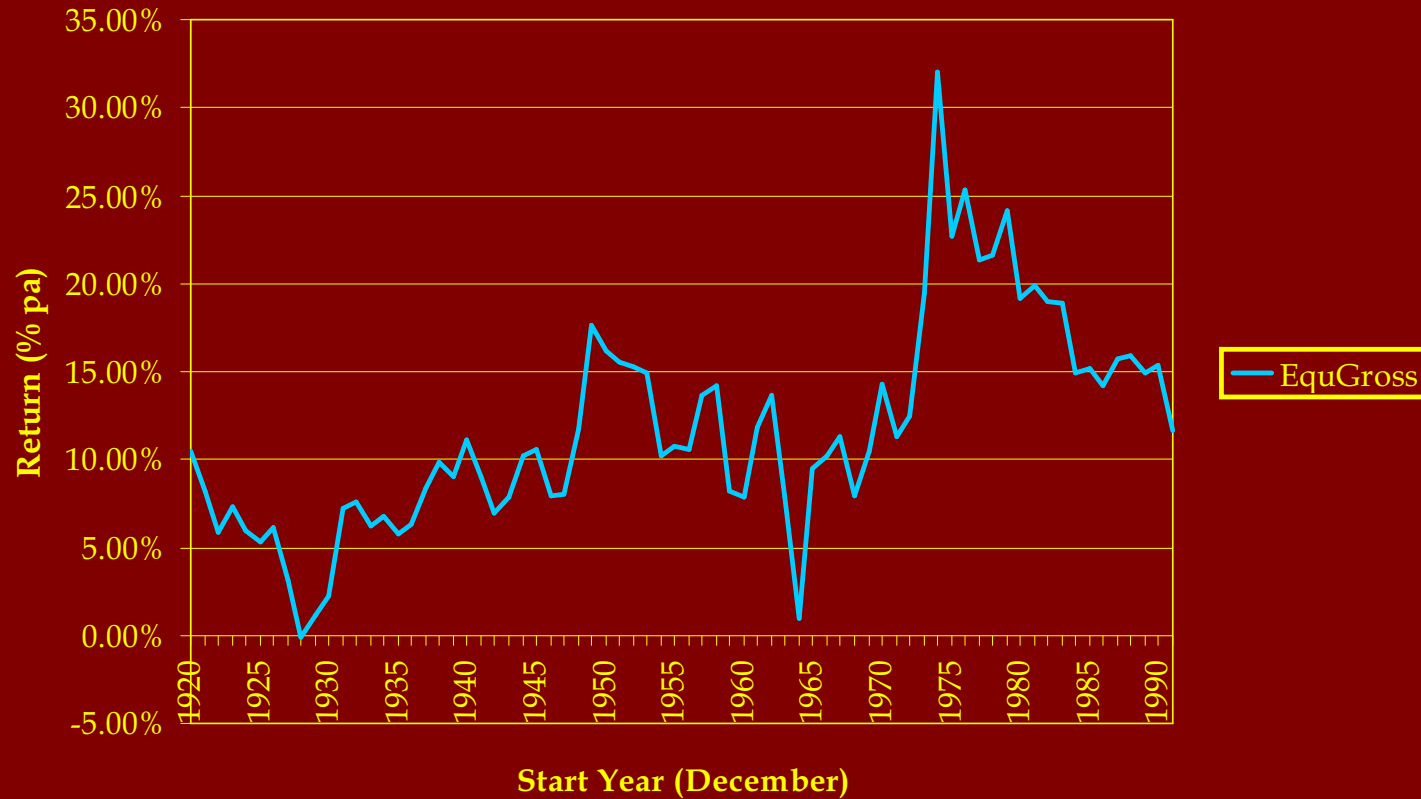


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## **EQUITIES ARE RISKY {3 of 5}**

**Equity Total Returns (Gross)**



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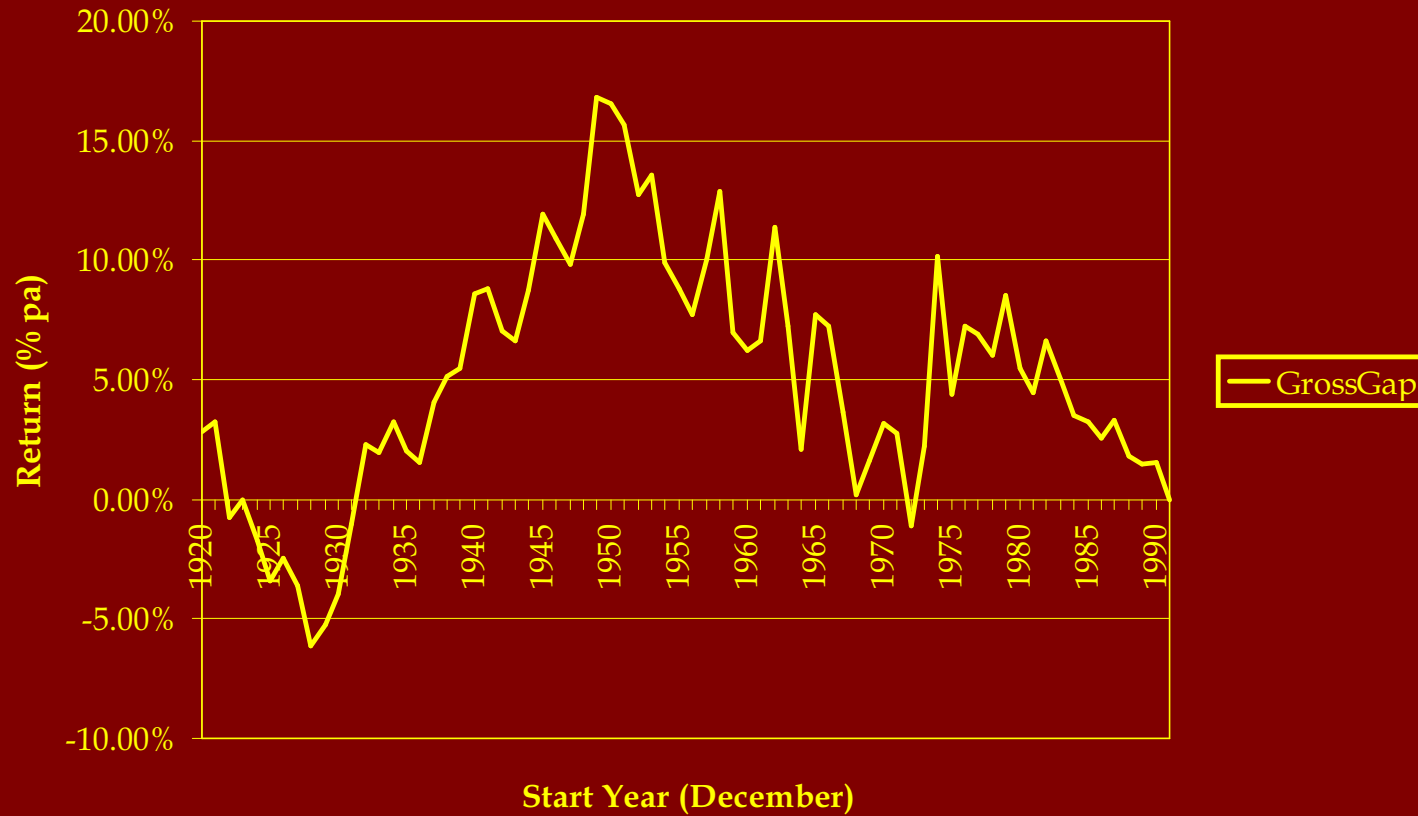


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## **EQUITIES ARE RISKY {4 of 5}**

**Equity Risk Premiums (Gross)**



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## **EQUITIES ARE RISKY {5 of 5}**

- higher returns actually observed
  - not over all periods (especially over short terms)
  - figures already allow for failures (but not yet for Enron)
- investment is not a zero sum game



## **EQUITIES NO MATCH FOR PAY INCREASES {1 of 8}**

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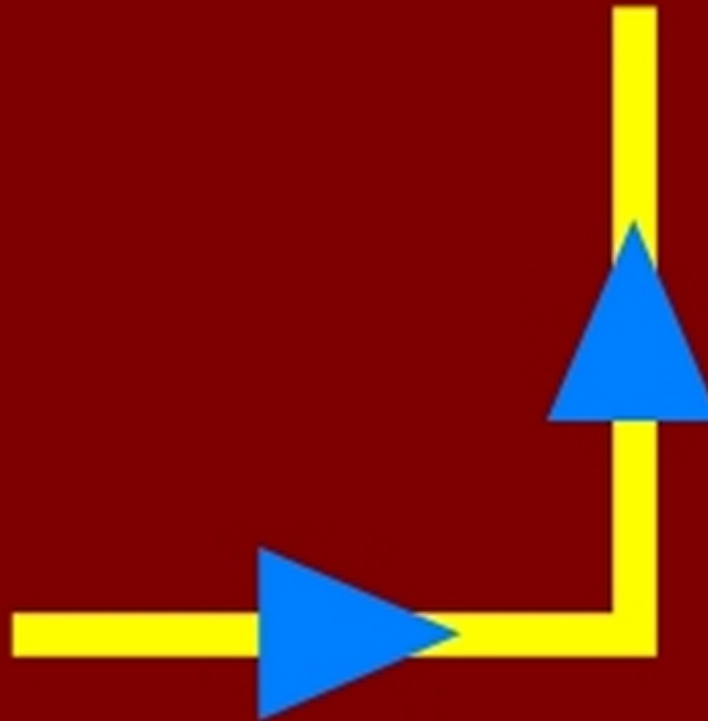
- correlations are not positive
- may have been formally accepted by actuarial profession
- but not really our concern
- instead, focus upon differences between means
- similar endpoint but different route
- we're only interested in the endpoint
- think of a square



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## **EQUITIES NO MATCH FOR PAY INCREASES {2 of 8}**



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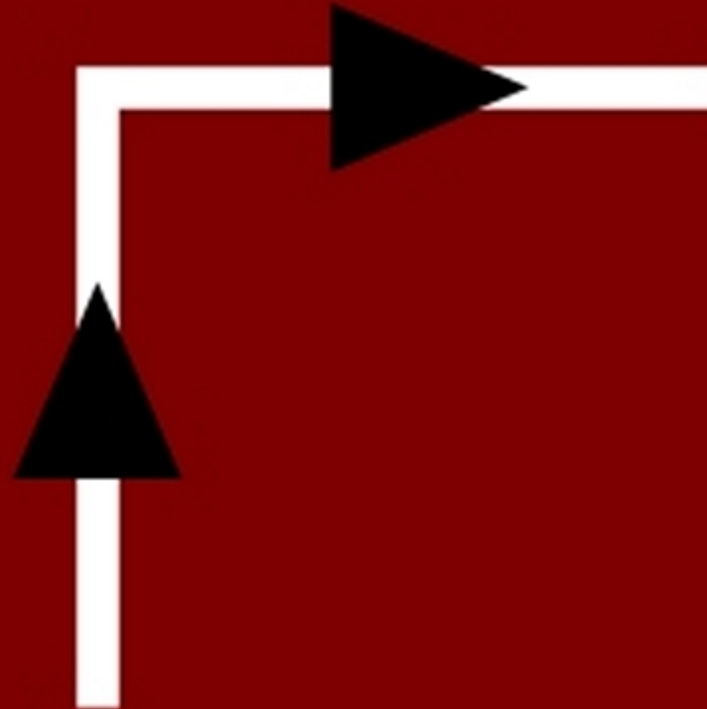
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## **EQUITIES NO MATCH FOR PAY INCREASES {3 of 8}**



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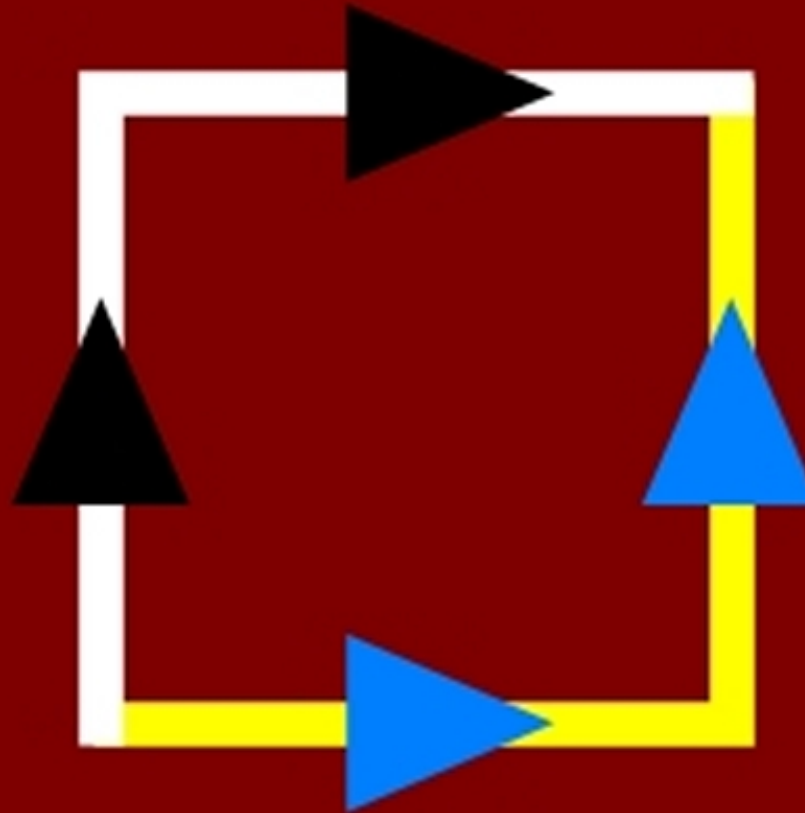
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## **EQUITIES NO MATCH FOR PAY INCREASES {4 of 8}**



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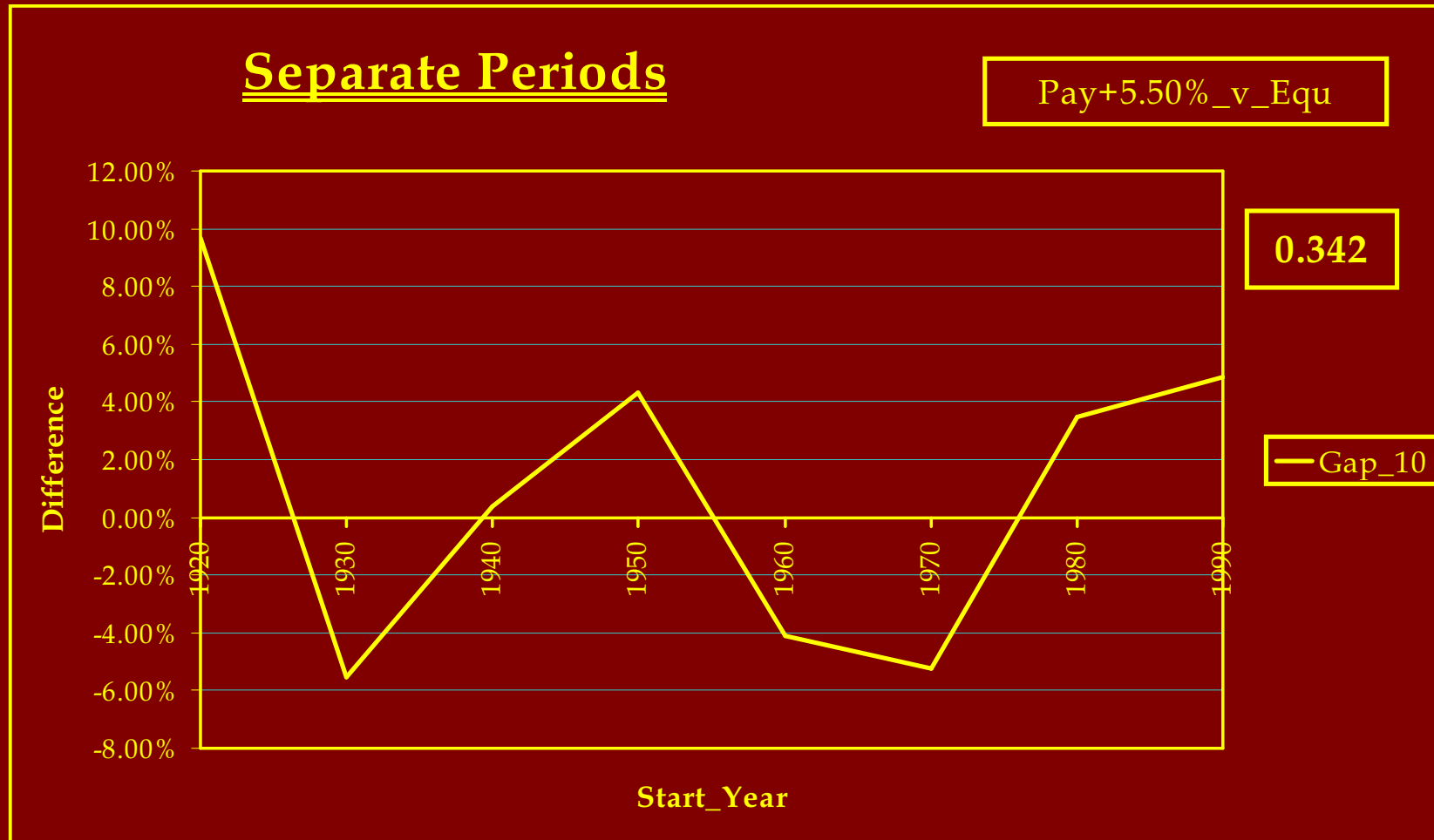
## **EQUITIES NO MATCH FOR PAY INCREASES {5 of 8}**

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- we're really only interested in the endpoint
- charts for separate periods shown
  - 10 years
  - 15 years

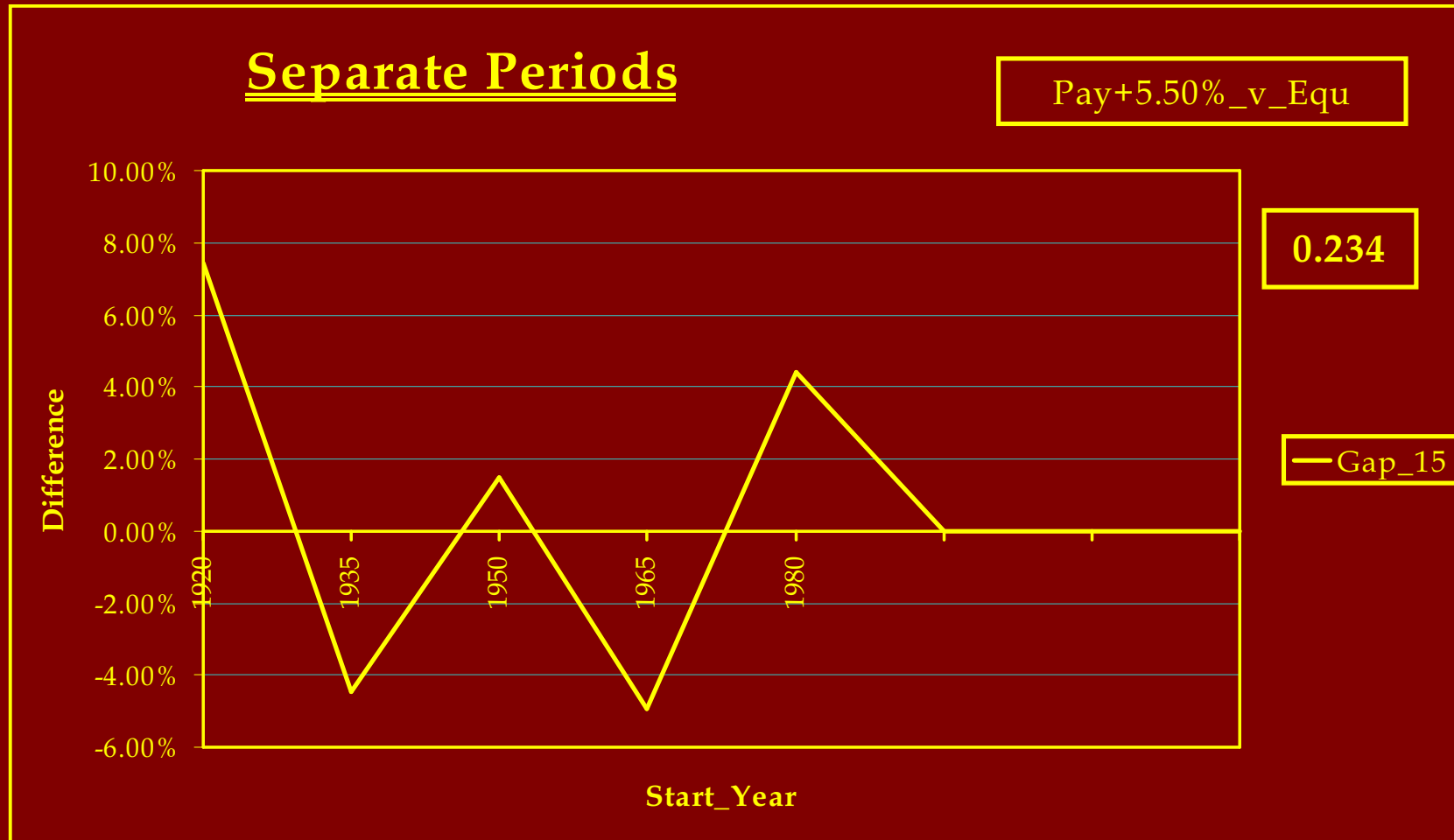


# EQUITIES NO MATCH FOR PAY INCREASES {6 of 8}





# EQUITIES NO MATCH FOR PAY INCREASES {7 of 8}







## **EQUITIES NO MATCH FOR PAY INCREASES {8 of 8}**

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- we're really only interested in the endpoint
- over longish terms, we see seesaw effect
  - neither “over” nor “under” over whole period
  - movements admittedly extreme
- means not significantly different



## HIGHER RETURNS **DO** REDUCE COSTS {1 of 7}

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- generally denied by financial economists
- basic equation no longer true?
- *costs + return = benefits cost + surplus*
- look at it graphically



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## **HIGHER RETURNS **DO** REDUCE COSTS {2 of 7}**

**the fund**

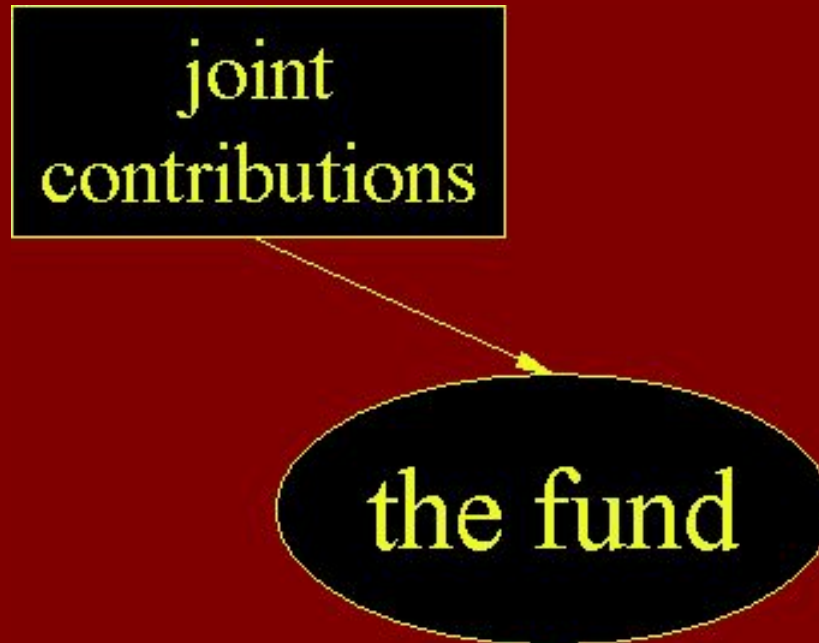
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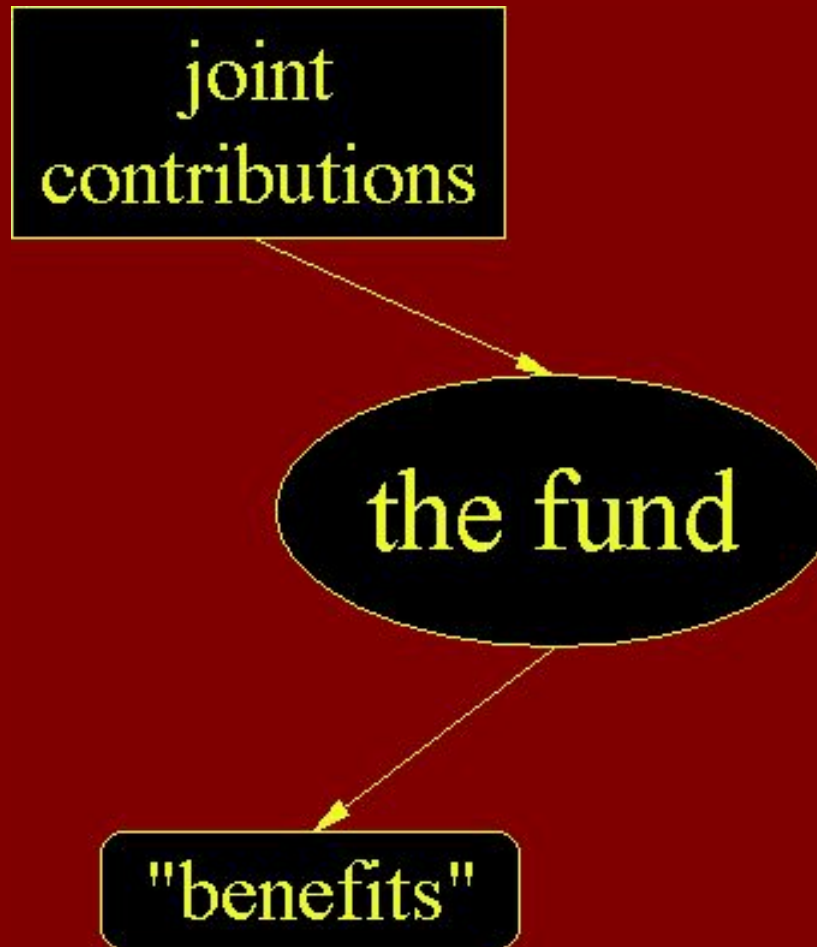


## HIGHER RETURNS **DO** REDUCE COSTS {3 of 7}



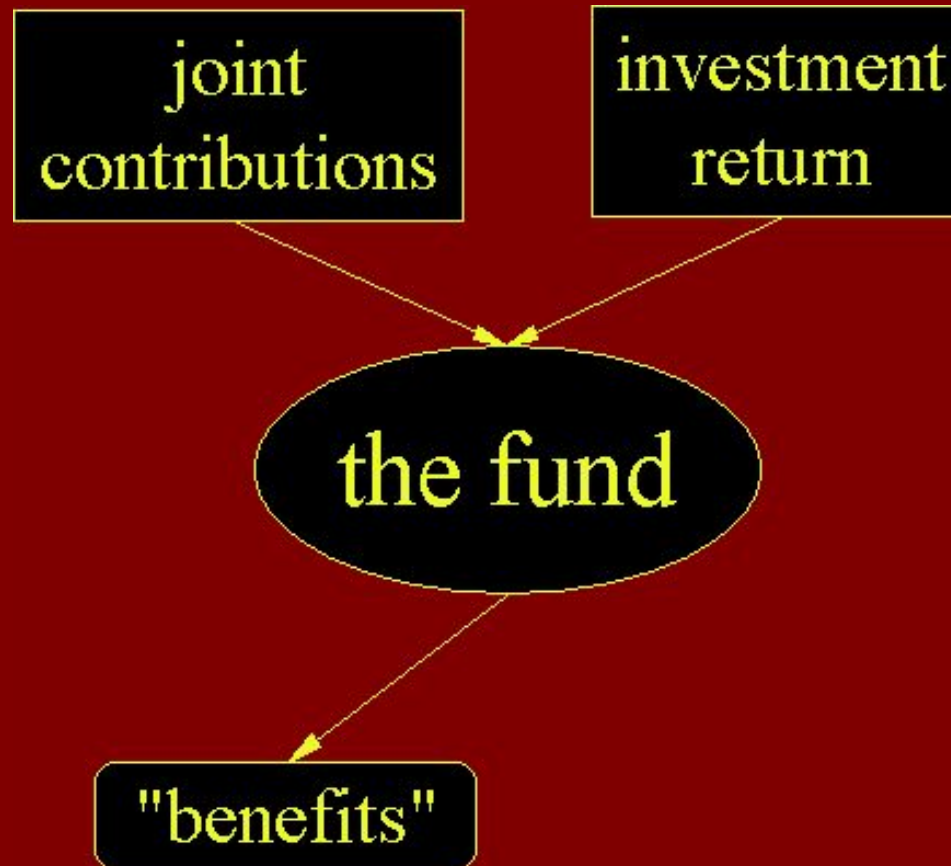


# HIGHER RETURNS **DO** REDUCE COSTS {4 of 7}



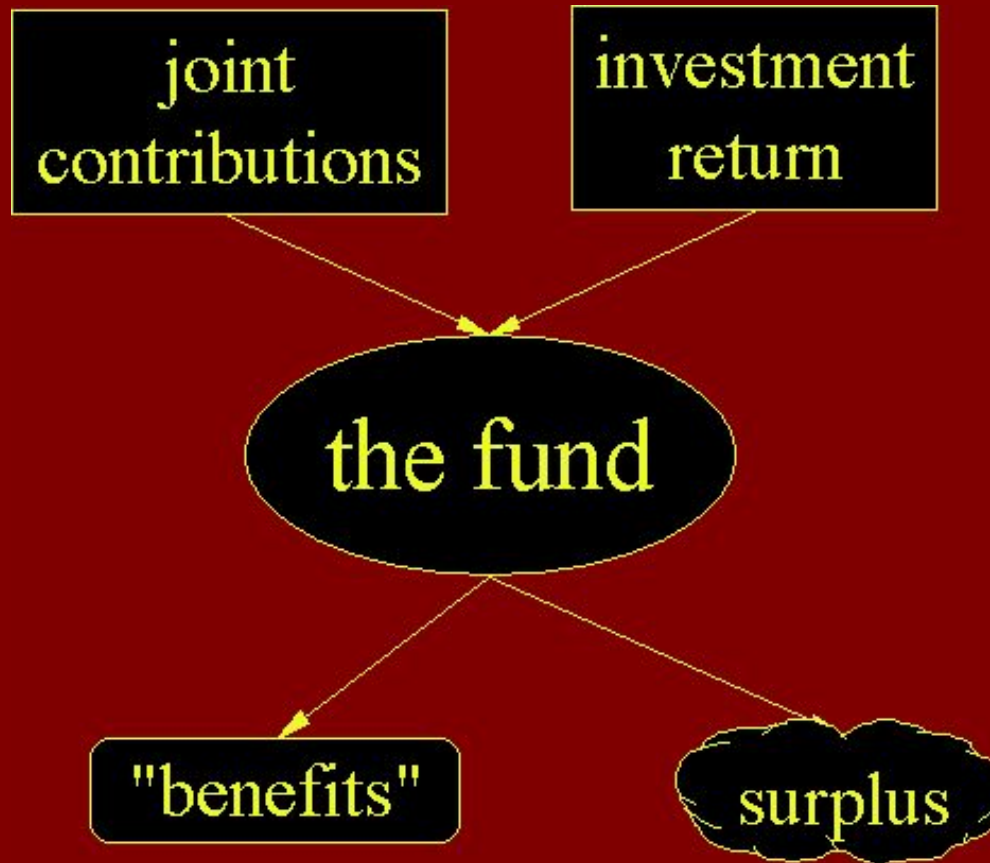


## HIGHER RETURNS **DO** REDUCE COSTS {5 of 7}





## HIGHER RETURNS **DO** REDUCE COSTS {6 of 7}





## **HIGHER RETURNS **DO** REDUCE COSTS {7 of 7}**

- therefore, higher returns **DO** reduce costs





## **MARKET VALUES : PLANNING AHEAD?**

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- market values are not stable
- we KNOW that future will be different
  - don't know how far
  - don't know which direction
  - don't know how long
- contemporary conditions very poor indicator of future reality
- investment returns considered on [www.dvr.org.uk](http://www.dvr.org.uk)
- simplified annuity-certain initial pricing problem



## **SIMPLIFIED ANNUITY PRICING PROBLEM {1 of 7}**

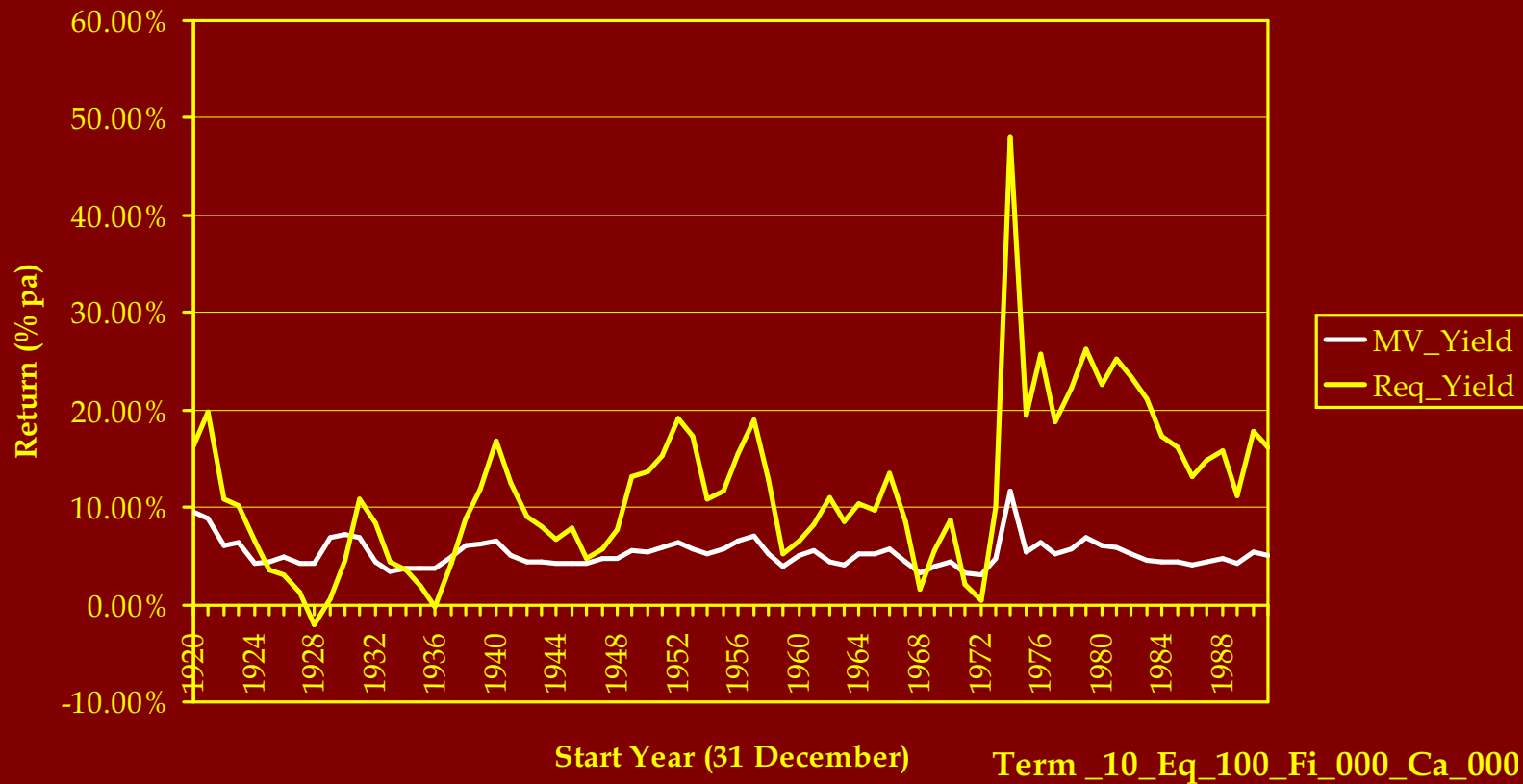
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- no mortality (more complex example used for Chester)
- level payments annually in arrears
- no expenses
- take account of “actual future investment experience”
  - no, I know we can’t, I said so!
- initial return required?
- yes, it certainly is simplistic
  - but it should give some reasonable indication



# SIMPLIFIED ANNUITY PRICING PROBLEM {2 of 7}

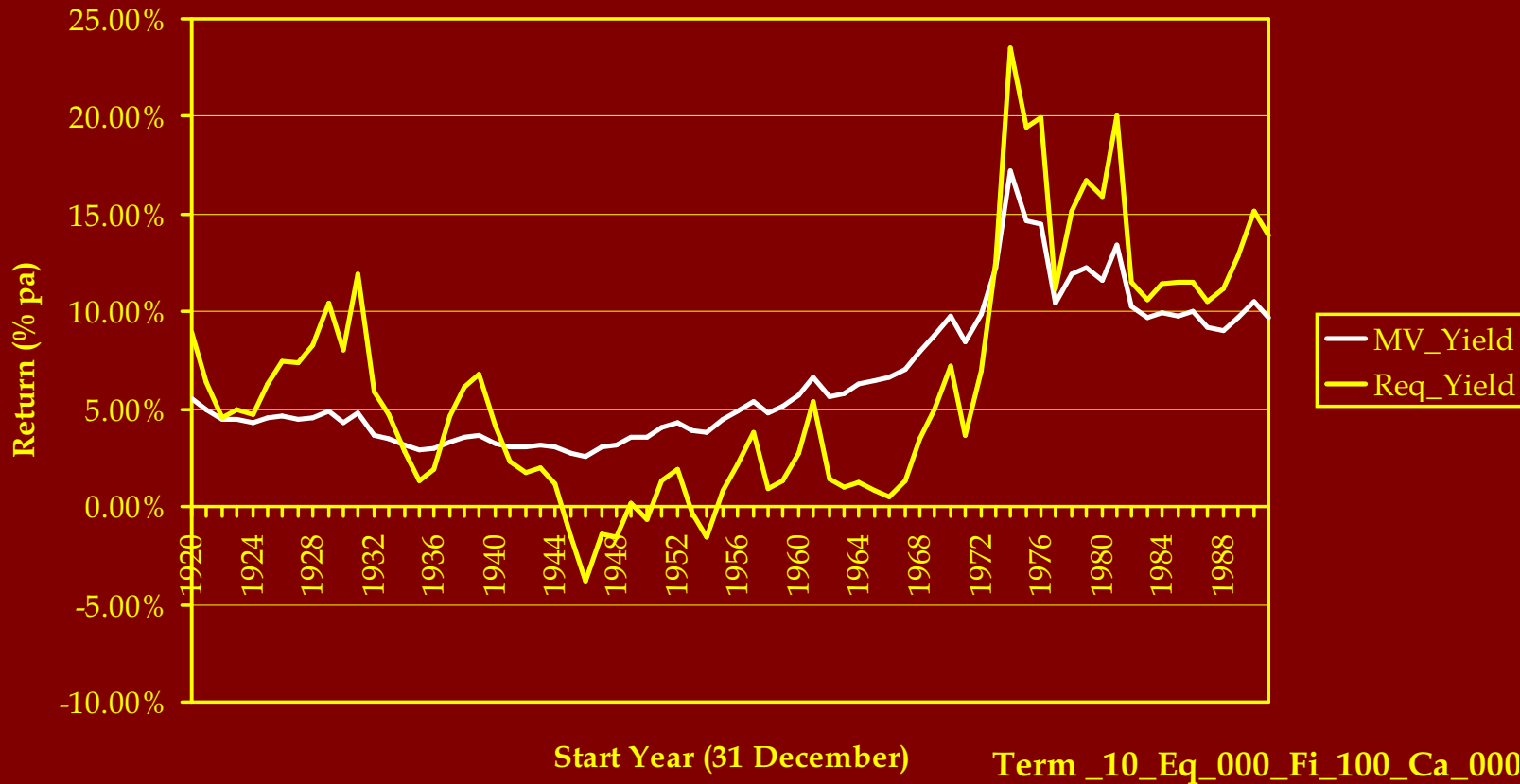
## MARKET VALUE PROJECTIONS : ANNUITIES CERTAIN





# SIMPLIFIED ANNUITY PRICING PROBLEM {3 of 7}

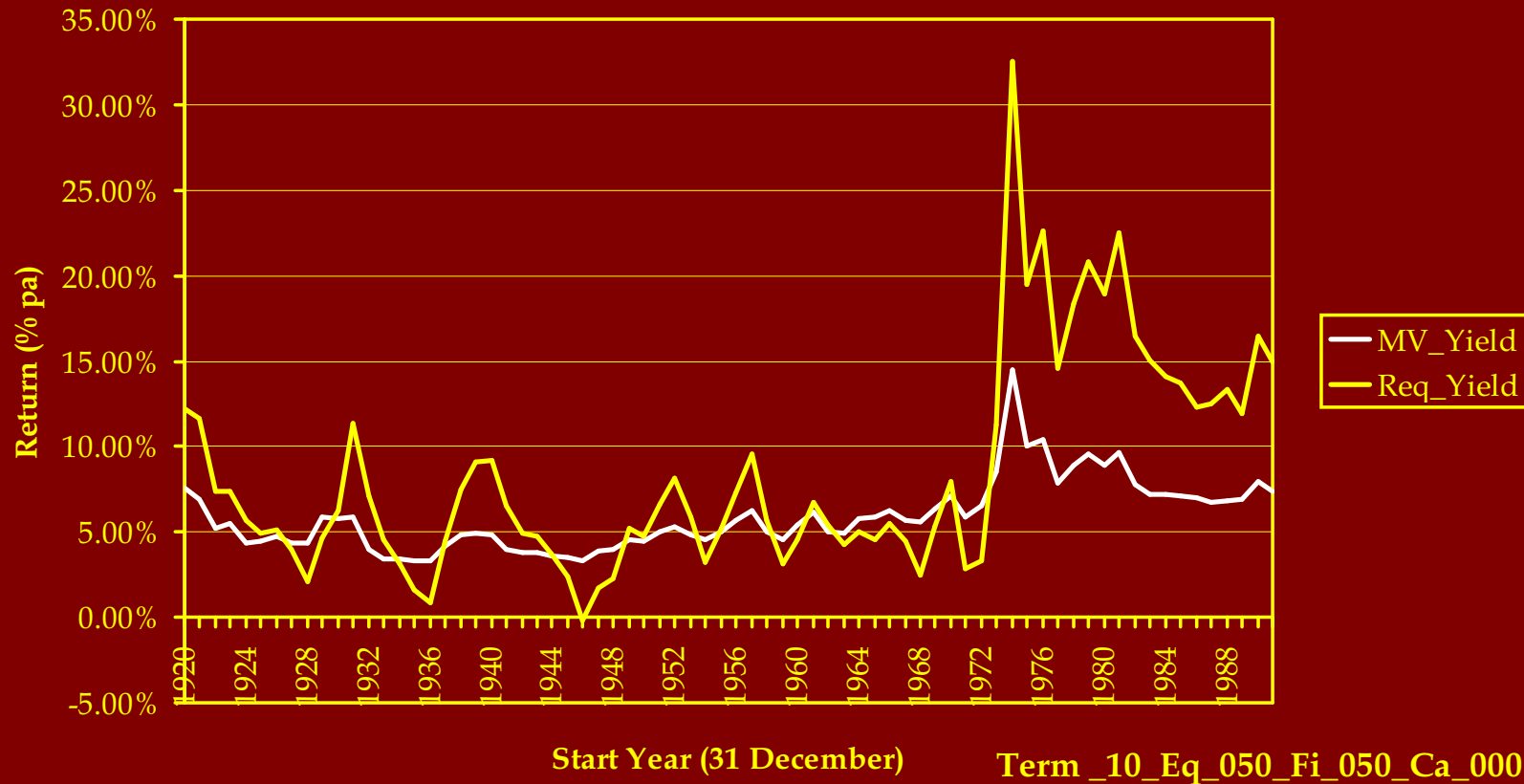
## MARKET VALUE PROJECTIONS : ANNUITIES CERTAIN





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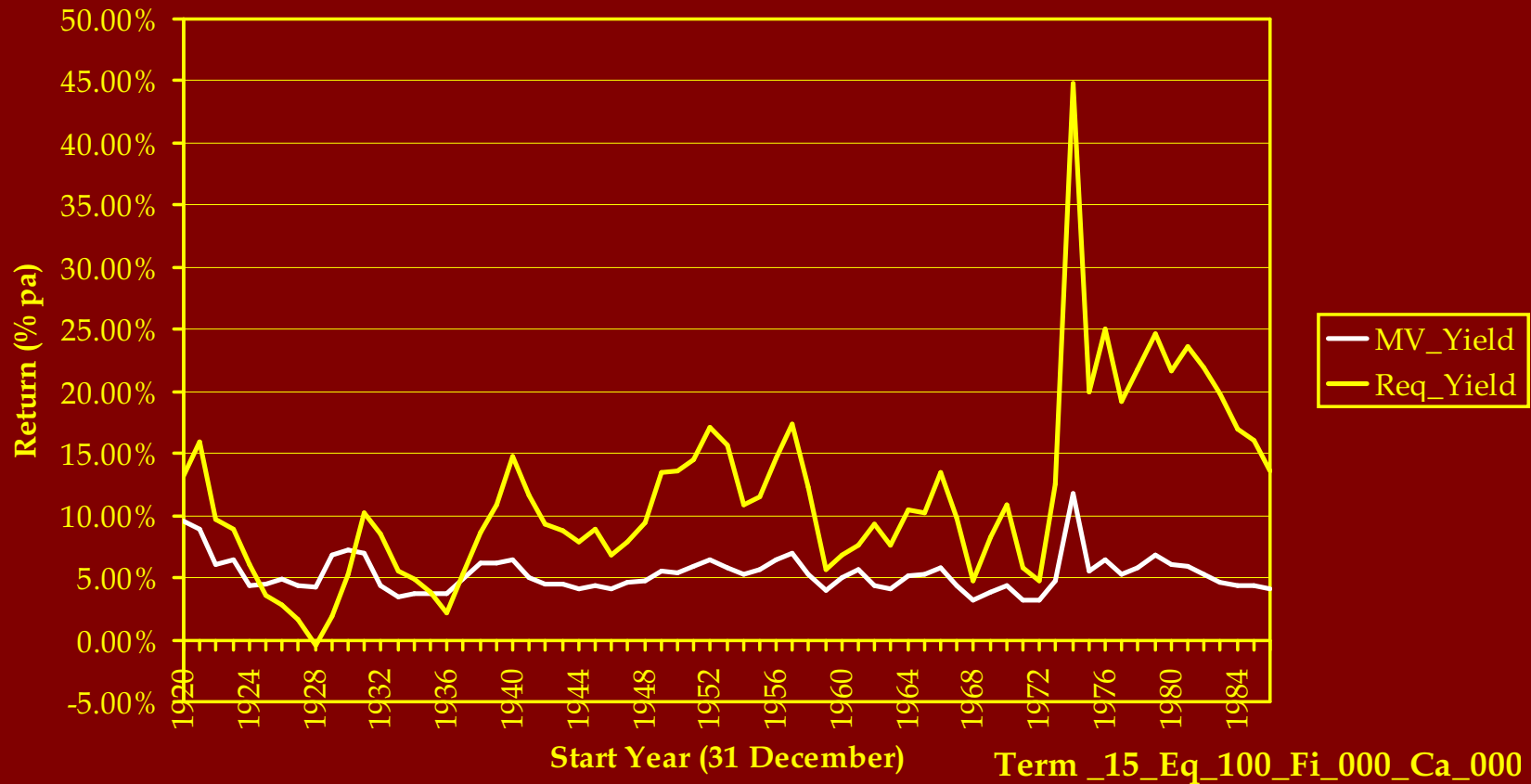
## MARKET VALUE PROJECTIONS : ANNUITIES CERTAIN





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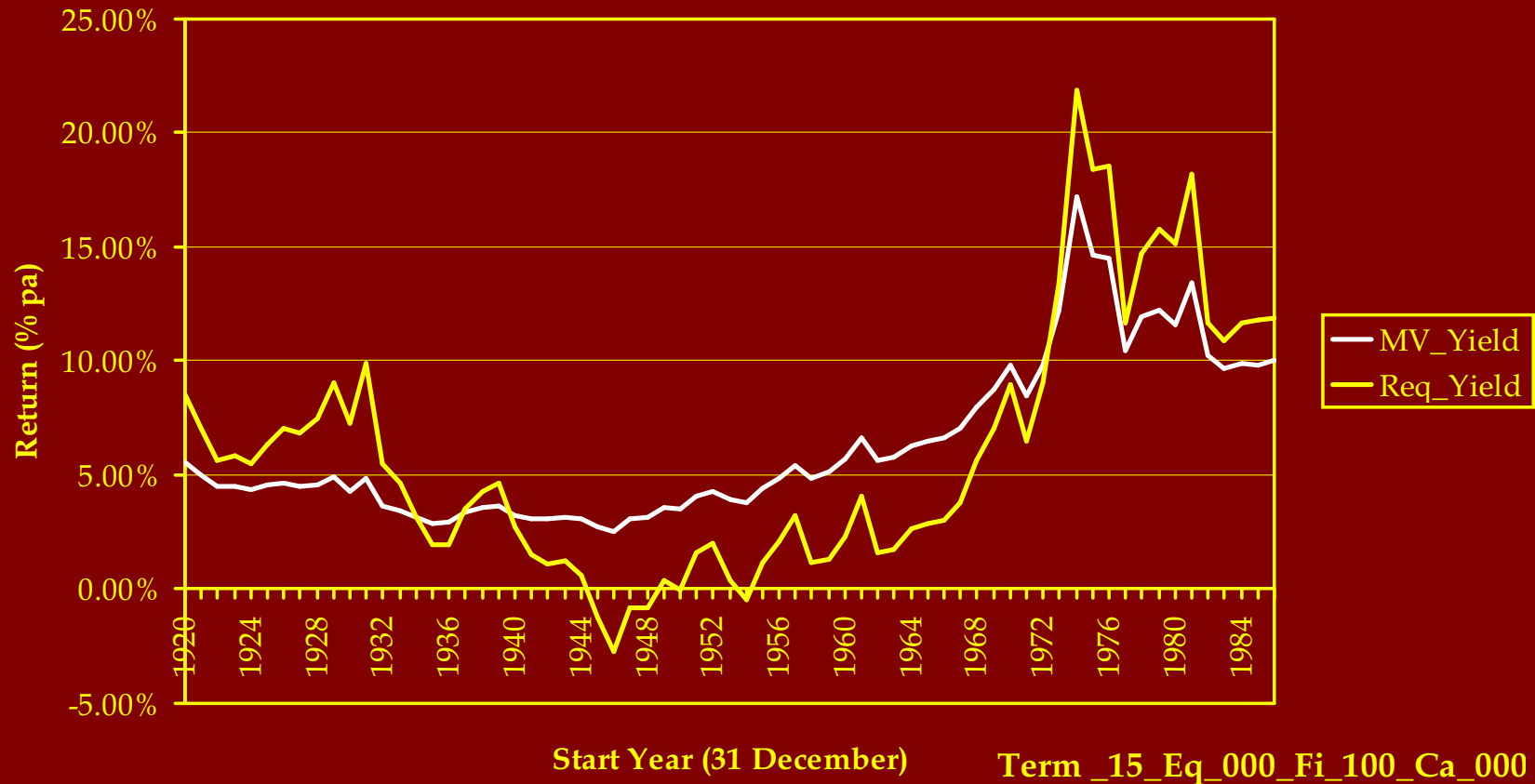
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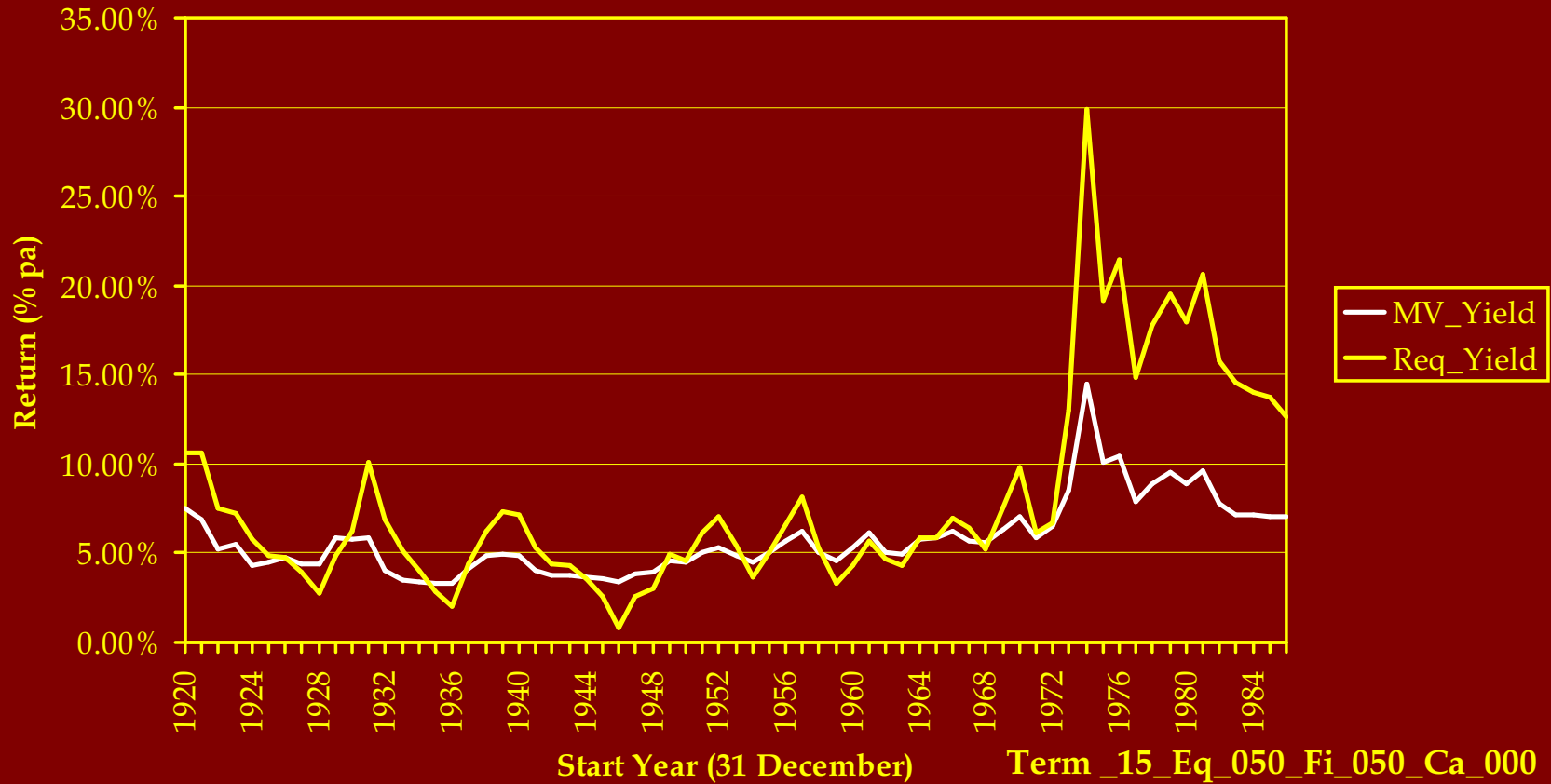
## MARKET VALUE PROJECTIONS : ANNUITIES CERTAIN





# SIMPLIFIED ANNUITY PRICING PROBLEM {7 of 7}

## MARKET VALUE PROJECTIONS : ANNUITIES CERTAIN







## **IMPLICATIONS**

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- equities held should be reflected in costing basis
  - ding-dong, the wicked dividend discount model is dead
  - long live amended dividend discount model
  - give alternative description?
- excluding equities will
  - upset most (not all) employers
    - extra volatility and higher costs
  - upset most trustees
    - may become less willing to accept responsibilities
  - upset members
    - lower possibility of better benefits



## **THE “Mrs PURVES” EFFECT**

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- “Mrs Purves”
- pension actuaries in particular
- a few TLAs (“SP”, “ASP”, “ISP”)
- but “USP” is the most important of all
- what is our function?
- our long-term outlook is virtually unique
- are we actuaries?
  - or are we just financial economists?



## **CONCLUSIONS**

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- excluding equities **WILL** lead to
  - greater volatility
  - higher costs
- pragmatic point
  - don't ignore Paul Myners
- going for bonds alone will be precisely wrong
  - instead of being in broadly reasonable region
- is that what we really want?
- if we don't behave like proper actuaries...
- ...we'll be treated as mere actuaries (clerks)