

EDUCATION BRIEFING

The plethora of yields in property investment and finance: a summary

Nick French and Michael Patrick

*Department of Real Estate and Construction, Oxford Brookes University,
Oxford, UK*

Abstract

Purpose – The purpose of this paper is to provide a summary, with examples, of the various types of yields that are used as benchmarks in the UK for property and finance.

Design/methodology/approach – Simple examples explain the differences between the various benchmarks used for different assets.

Findings – The paper highlights the differences between the various benchmarks for different assets.

Research limitations/implications – This is an Education Briefing.

Originality/value – The paper provides a summary of the various types of yields that are used as benchmarks in the UK for property and finance.

Keywords Property, Returns, Bonds, Benchmarks, Gilts, Yields

Paper type General review

Introduction

There is always a lot of confusion about the calculation and use of the plethora of yields types found within the property and finance professions. It should be remembered that a yield is simply an expression (normally in percentage terms) of the attractiveness of an investment. It is a benchmark; nothing more, nothing less. Different investors use different benchmarks. Different investors will want to relate the attractiveness of the investment against a range of different criteria. Thus different yield types will reflect different criteria and different viewpoints. It is for this reason that you should always ensure that you are comparing like to like. For example, an All Risk Yield (ARY) (for a particular property) cannot be directly compared with a Target Rate (for the same property).

In this summary, which is by no means exhaustive, the main property and finance yields are considered.

Types of property yield

For the property world, the following yield types will be considered:

- (1) Rack-rented property:
 - the Net Initial Yield (NIY) (implicit);
 - the ARY (implicit);
 - the Target Rate (explicit DCF); and
 - the Internal Rate of Return (IRR) (explicit DCF).

The yields listed under (1) are all related to a property that has just been let, or reviewed, to Market Rent (MR).



(2) Reversionary property:

- the Equivalent Yield (implicit); and
- the Reversionary Yield (implicit).

The second set of yields (2) are all related to a property that has a rent passing that is different to the MR. This could be an under-rented or over-rented reversionary property. Remember the all implicit property yields are derived with reference to income figures in current day terms. The DCF yields are derived by discounting (present valuing) projected cash flows to produce an annual rate of return for the duration of the cash flow. Or, in both cases, market sentiment might be the sole derivation of the various yields.

The NIY

The NIY is simply the ratio of the initial NET rent over the gross capital value (price). It is normally calculated with reference to a fully let (rack-rented) property using the MR as the Net Income. It is the yield that the investor achieves initially, and each year until the rent changes. Technically, the NIY is an observed yield calculated by looking at comparables.

Method. Determine the NIY from a comparable sale; divide the net initial rent (rent receivable immediately) by that gross capital value (Market Value plus costs).

Example 1. Fully let freehold: Net MR = £200, Gross capital value (derived from comparable evidence – see Example 4) = £2,500.

$$\text{Net Initial Yield} = \frac{\text{Net Initial Income}}{\text{Gross Capital Value}} = \frac{200}{2,500} = 8\%(\text{NIY})$$

The valuer will analyse a number of comparables to derive different NIYs for each respective property. These NIYs can then be analysed to determine an appropriate capitalisation rate (ARY) for the valuation of a subject property. The NIY is the yield that an investor will accept initially, knowing all the risks and all the growth (rental and/or capital) potential for that property.

The ARY (or Property Yield or Capitalisation Rate)

The ARY is the application of an appropriate yield from the analysis of comparables of similar fully let properties. In practice it is derived from comparable evidence. The NIY of the rack-rented comparables is used to determine the ARY for your subject property[1].

Example 2. Fully let freehold: MR = £400, ARY = 8 per cent (derived from comparable evidence (NIY)). Purchase Costs = 5.75 per cent.

Valuation	Market Rent	£400.00	(Net)
	YP perp @ 8%	12.50	
	Capital Value (CV)	£5,000.00	(Gross)
	Less costs at 5.75%		
	Market Value (MV)	£4,725.00[2]	(Rounded)

The Target Rate (or Hurdle Rate or Required Rate of Return – in some textbooks, it is still referred to as the Equated Yield)

The Target Rate is the yield that investor requires on an annual basis for the duration of the investment. It is calculated by reference to a neutral yield or risk-free rate (say a government stock) adjusted for risk. It is then applied to the expected (forecasted) cash flow of the investment.

Example 3. Fully let freehold: MR = £400, FH capitalisation rate = 8 per cent (derived from comparable evidence (ARY)), Target Rate required 12 per cent, five-year rent reviews (this implies a required growth rate of 4.63 per cent using the growth formula). Assume sale after ten years (Table I).

The IRR

The Target Rate is the one rate which when used to discount all future (estimated) income and capital receipts equates that cash flow precisely to the capital value. It can be calculated for both a fully let (rack-rented) property or a reversionary property. It is the yield that the investor achieves overall knowing all the risks and all the projected growth (rental and/or capital) for that property. It is the growth explicit IRR of the property.

Method. Obtain the capital value, the rent passing and the MR of the property. Apply growth to the income flow. Insert this information into the normal layout of DCF freehold valuation. Then by trial and error find the one discount rate which solves the equation.

Example 4. A reversionary freehold: rent passing £100, Market Rent = £200, Capital Value £2,243, term three years, five-year rent reviews, explicit growth rate of 4.63 per cent. Assume sale after nine years (Table II).

Year	Income	YP at 12%	PV at 12%	PV (£)
1-5	400	3.6		1,442
6-10	502 ^a	3.6	0.567	1,026
11-perp.	630 ^b	12.5 ^c	0.321	2,532
			Gross Capital Value	5,000
			Less costs at 5.75%	
		(Rounded)	Market Value (MV)	4,725

Table I.
Valuation – DCF explicitly allowing for growth

Notes: ^aGrown at 4.63 per cent per annum = $500 \times (1.0463)^5$; ^bgrown again at 4.63 per cent per annum = $502 \times (1.0463)^5$; ^cthis is the YP perp. at 8 per cent

Year	Income	YP at x%	PV at x%	PV (£)
1-3	100	2.4		239
4-8	229	3.6	0.707	580
9-perp.	287	12.5	0.396	1,424
			Capital Value	2,243

Table II.
Analysis – DCF explicitly allowing for growth

Notes: By trial and error, $x = 12.25\%$ NB. The target rate is the IRR, if the property is bought for the calculated capital value figure

The Equivalent Yield (this is an ARY)

The Equivalent Yield is simply the one rate which when used to capitalise both the term and the reversion of a reversionary property equates precisely to the capital value. It can only be calculated for a reversionary property. It is the yield that the investor achieves overall knowing all the risks and all the growth (rental and/or capital) potential for that property. It is the ARY for a reversionary property. Mathematically, it is also the growth implicit IRR of the property.

Method. From comparable information obtain the capital value, the rent passing and the MR of the property. Insert this information into the normal layout of an implicit reversionary freehold valuation. Then by trial and error find the one capitalisation rate which solves the equation.

Example 5. Comparable reversionary freehold.

Capital Value = £2243, MR = £200, rent passing = £100, term = 3 years.

Valuation	Rent passing	£100.00		
	YP 3 years at $x\%$	A		£X
	MR	£200.00		
	YP perp. at $x\%$	B		
	PV 3 years at $x\%$	C		£Y

By trial and error, $x\% = 8\%$, £2,243.00.

The Reversionary Yield

The Reversionary Yield is simply the ratio of the reversionary rent over the capital value (price). It can only be calculated for a reversionary property. It is the yield that the investor expects to achieve at reversion assuming that rents remain at current day levels.

Method. Calculate the capital value by the implicit method and then divide the reversionary rent (rent receivable at reversion in current day terms) by that capital value.

Example 4. Reversionary freehold.

MR = £200, rent passing = £100, term = 3 years.

Freehold capitalisation rate (Equivalent Yield) = 8 per cent (derived from comparable evidence).

Valuation	Rent passing	£100.00		
	YP 3 years at 8%	2.58		£258.00
	MR	£200.00		
	YP perp. at 8%	12.50		
	PV 3 years at 8%	0.79	£1,985.00	£2,243.00

$$\text{Reversionary Yield} = \frac{\text{Reversionary income}}{\text{Capital Value}} = \frac{200}{2,243} = 8.91\%$$

Types of stock market yield

For the finance world, the following yield types will be considered:

(1) Government bonds or gilts[3]:

- gilt yield;
- coupon;

- daily yield; and
- yield to maturity (YTM).

(2) Equities (shares):

- dividend yield;
- earnings yield; and
- price earnings ratio or P/E.

Gilt yields

Gilts have a number of yields so it is important to use the correct one when comparing with property. These are the coupon, the daily or running yield and the YTM. It is the YTM which is used to compare with property yields.

Coupon

Gilts are identified by the interest rate they pay and the date on which they mature, e.g. Treasury 5% 2025 refers to a bond which pays 5 per cent interest each year and matures in 2025. The 5 per cent is known as the interest rate or coupon. For every £100 borrowed the government pays £5 interest each year until 2025 when it also returns the original £100 capital. This will not change, whatever happens to interest rates between now and 2025.

Daily yield

If you own this bond you don't have to keep it until 2025 when it matures. You can sell it to another investor at any time at the current market price. Although the amount the government pays back is fixed until maturity the market price of a bond moves up and down as interest rates change. If interest rates fall the price of the bond will rise and you will be able to sell the bond to another investor for more than the £100 at which it was originally issued. Dividing the coupon payment by the current market price gives us the yield known variously as the daily yield, running yield, flat yield or interest yield.

YTM

If the investor to whom you sell the bond then keeps it until maturity he will still receive the £5 a year interest but will clearly lose on the capital value as the government will only pay back the original £100 on maturity. This leads us to the most important yield for a bond, the YTM or gross redemption yield. This is the return the investor gets taking into account the price they paid for the bond in the market, the interest payments and the £100 maturity value. Only for the investor who buys the bond (either on issue or later in the market) at £100 and keeps it until maturity are the coupon, daily yield and YTM the same.

Dividend yield

For equities (shares) we need to distinguish between earnings yields and dividend yields. The earnings of a company are the profits that it makes. The dividends are what it pays out to investors. These are rarely the same as the earnings. A prudent company only pays out some of its profits as a dividend and retains the rest of its

earnings for re-investment back into the business. Both measures are important to investors but it is the dividends, like rent from property or interest from bonds, which are a cash payment to them. They are based on historic dividends and earnings. There are a number of ways of calculating the dividend yield but for UK listed equities it is generally taken as:

$$\frac{\text{Most recent full year dividend (per share)}}{\text{Current share price}}$$

Earnings yield

Similarly the earnings yield is:

$$\frac{\text{Most recent full year earnings (per share)}}{\text{Current share price}}$$

Price earnings ratio or P/E

The reciprocal of the earnings yield is the price earnings ratio or P/E. It tells you what multiple the share price is of the earnings, i.e. how many years earnings does the price represent? In this sense it is similar to the YP in property which tells you what multiple the value is of the rent.

As with property, but unlike with gilts, there is some uncertainty about future cash flows. It is important to remember this when comparing an equity yield with that on gilts. Remember also that equity and property yields reflect expectations of growth in the future, whereas a conventional (not index-linked) gilt yield is based on fixed cash flows. In the UK dividends are frequently paid semi-annually, in arrears. These are known as interim and final payments.

Examples of stock market gilt and equity yields

As an example if we look at the Treasury 5% 2025 on 1 September 2014 the market price was £124, the daily yield was 4.03 per cent and the YTM or gross redemption yield was 2.52 per cent. How are these yields calculated?

The coupon is self-explanatory – it is 5 per cent.

The daily yield is the coupon divided by the market price – $5/124 = 4.03$ per cent.

The YTM is the IRR of the cash flow which includes paying £124 today, receiving £5 a year interest until 2025 and also the £100 maturity value. As this bond is priced above the issue price (or par) we can tell that the general level of interest rates is currently lower than the level (5 per cent) when the bond was first issued. It reflects the yield at which investors are currently prepared to lend to the UK Government for a given period – in this case the approximately nine years until maturity.

The interest on gilts is paid semi-annually (i.e. half the coupon is paid every six months). In the case of Treasury 5% 2025 the government pays £2.50 (in arrears) on each £100 borrowed every six months. This contrasts with rent from property which is paid quarterly in advance.

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Notes

1. The initial yield on rack-rented properties can be used to determine an ARY. The initial yield on a reversionary property cannot be used in this way.
2. To determine the MV, net of costs, the Gross Capital Value is divided by 1+costs, i.e. $£5,000/1.0575 = £4,728$ (say $£4,725$).
3. In the UK, government bonds are referred to as “Gilts”. This is a throwback to their origins as “gilt-edged securities” when the bonds were edged in gold leaf.

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Corresponding author

Professor Nick French can be contacted at: Author@NickFrench.org.uk

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