

**Real Estate Investment: A Strategic Approach
Fourth Edition, 2023**

Andrew Baum

Chapter Thirteen
Property attribution

Real Estate Investment: A Strategic Approach

Andrew Baum

1

Total return

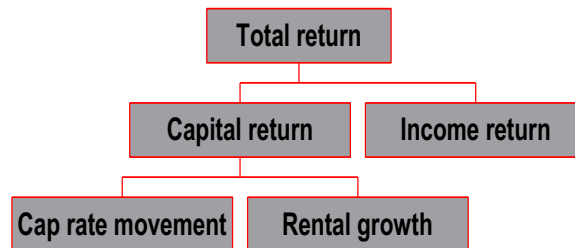
- Income return = Y_{0-1}/CV_0
- Capital return is the change in value over the measurement period divided by the value at beginning of the period
- $CR = [CV_1 - CV_0]/CV_0$
- Total return is the sum of income return and capital return
- $TR = [Y_{0-1} + CV_1 - CV_0]/CV_0$

Real Estate Investment: A Strategic Approach

Andrew Baum

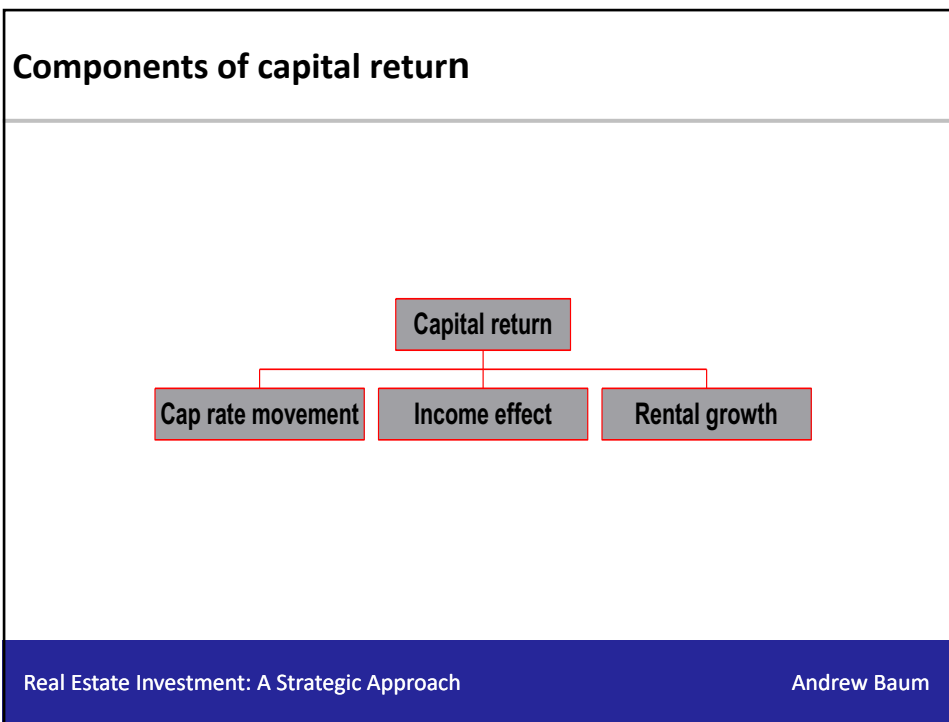
2

Components of total return

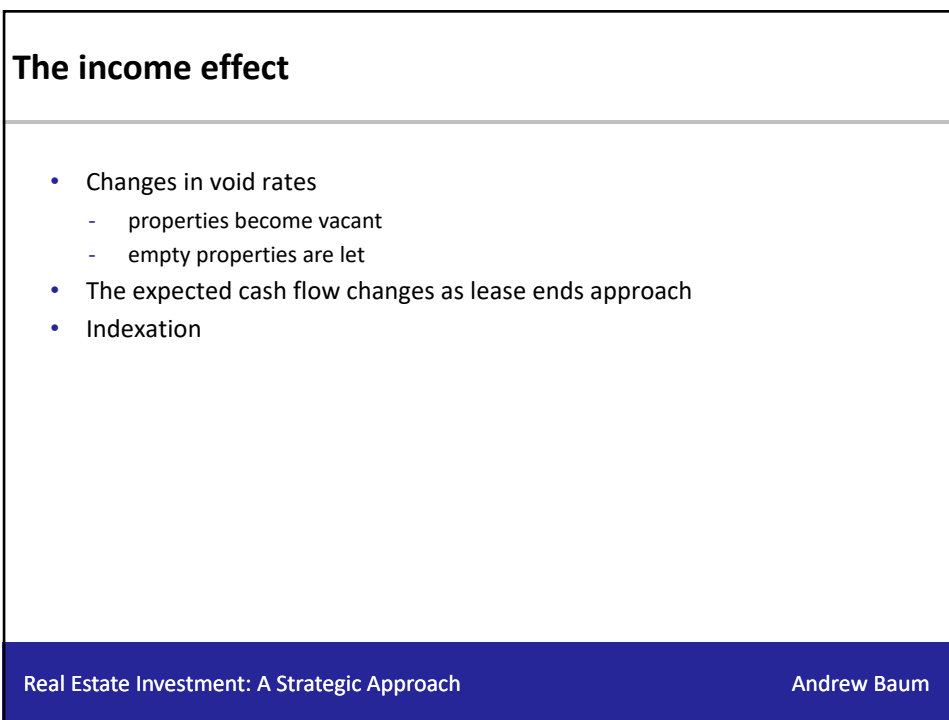


Residuals - the income effect

- Rental growth and yield changes may not pass directly through to value
- The residual – split into sample and income effects – describes the amount of capital growth that cannot be accounted for by changes in either rental value or cap rates (valuation yields)
- Components are not additive
- Sample effects are pure unexplained returns where, for example, capital value changes are reported but rental value changes are not
- Income effects are everything else



5



6

Example

- Rent passing £10,000 2020
- ERV £15,000 at Q4 2019
- Rises to £16,500 at Q4 2020
- 4 years to lease end at Q4 2019
- 3 years to lease end at Q4 2020
- Cap rate 6% at Q4 2019
- Falls to 5.75% at Q4 2020
- Indexation in NL with 1% inflation in 2020

7

Valuation: Q4 2019

Core income:	£10,000	
YP perp @ 6.00%	16.6667	
Capital value		£166,667
Top slice:	£5,000	
YP perp @ 6.00%	16.6667	
PV 4 yrs @ 6.00%	0.7921	
Capital value		£66,008
Total		£232,674

8

Valuation: Q4 2020

Core income (indexed):	£10,100	
YP perp @ 5.75%	17.3913	
Capital value		£175,652
Top slice:	£6,400	
YP perp @ 5.75%	17.3913	
PV 3 yrs @ 5.75%	0.8456	
Capital value		£94,119
Total		£269,771

Total return

- $CV_0 = £232,675$
- $CV_1 = £269,770$
- $Y_{0-1} = £10,000$
- $TR = [Y_{0-1} + CV_1 - CV_0]/CV_0$
- $TR = [£10,000 + (£269,770 - £232,675)]/£232,674$
- $TR = [£10,000 + £37,095]/£232,674$
- $TR = £47,095/£232,674$
- $TR = 20.24\%$
- $IR = 4.30\%; CR = 15.94\%$

Rental growth effect (1)		
Core income:	£10,000	
YP perp @ 6.00%	16.6667	
Capital value		£166,667
Top slice:		£6,500
YP perp @ 6.00%	16.6667	
PV 4 yrs @ 6.00%	0.7921	
Capital value		£85,811
Total		£252,478

Real Estate Investment: A Strategic Approach Andrew Baum

11

Rental growth effect (2)
<ul style="list-style-type: none"> • $CV_0 = £232,674$ • $CV_1 = £269,770$ • $Y_{0-1} = £10,000$ • $TR = [Y_{0-1} + CV_1 - CV_0]/CV_0$ • $TR = [£10,000 + (£252,478 - £232,674)]/£232,674$ • $TR = [£10,000 + £19,804]/£232,674$ • $TR = £29,804/£232,674$ • $TR = 12.81\%$ • $IR = 4.30\%; CR = 8.51\%$

Real Estate Investment: A Strategic Approach Andrew Baum

12

Cap rate effect (1)		
Core income:	£10,000	
YP perp @ 5.75%	17.3913	
Capital value		£173,913
Top slice:	£5,000	
YP perp @ 5.75%	17.3913	
PV 4 yrs @ 5.75%	0.7996	
Capital value		£69,531
Total		£243,444

Real Estate Investment: A Strategic Approach Andrew Baum

13

Cap rate effect (2)
<ul style="list-style-type: none"> • $CV_0 = £232,674$ • $CV_1 = £243,444$ • $Y_{0-1} = £10,000$ • $TR = [Y_{0-1} + CV_1 - CV_0]/CV_0$ • $TR = [£10,000 + £243,444 - £232,674]/£232,674$ • $TR = [£10,000 + £10,770]/£232,674$ • $TR = £20,770/232,674$ • $TR = 8.93\%$ • $IR = 4.30\%; CR = 4.63\%$

Real Estate Investment: A Strategic Approach Andrew Baum

14

Indexation effect (1)		
Core income:	£10,100	
YP perp @ 6.00%	16.6667	
Capital value		£168,333
Top slice:	£4,900	
YP perp @ 6.00%	16.6667	
PV 4 yrs @ 6.00%	0.7921	
Capital value		£64,688
Total		£233,021

Real Estate Investment: A Strategic Approach Andrew Baum

15

Indexation effect (2)	
•	$CV_0 = £232,674$
•	$CV_1 = £233,021$
•	$Y_{0-1} = £10,000$
•	$TR = [Y_{0-1} + CV_1 - CV_0]/CV_0$
•	$TR = [£10,000 + (£233,021 - £232,674)]/£232,674$
•	$TR = [£10,000 + £347]/£232,674$
•	$TR = £10,347/£232,674$
•	$TR = 4.45\%$
•	$IR = 4.30\%; CR = 0.15\%$

Real Estate Investment: A Strategic Approach Andrew Baum

16

Lease effect (1)		
Core income:	£10,000	
YP perp @ 6.00%	16.6667	
Capital value		£166,667
Top slice:	£5,000	
YP perp @ 6.00%	16.6667	
PV 3 yrs @ 6.00%		0.8396
Capital value		£69,968
Total		£236,635

Real Estate Investment: A Strategic Approach Andrew Baum

17

Lease effect (2)	
•	$CV_0 = £232,674$
•	$CV_1 = £236,635$
•	$Y_{0-1} = £10,000$
•	$TR = [Y_{0-1} + CV_1 - CV_0]/CV_0$
•	$TR = [£10,000 + (£236,635 - £232,674)]/£232,674$
•	$TR = [£10,000 + £3,961]/£232,674$
•	$TR = £13,961/£232,674$
•	$TR = 6.00\%$
•	$IR = 4.30\%; CR = 1.70\%$

Real Estate Investment: A Strategic Approach Andrew Baum

18

