

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

Andrew Baum

**Chapter Three
Market Fundamentals and Rent**

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Google: lease, buy or build?



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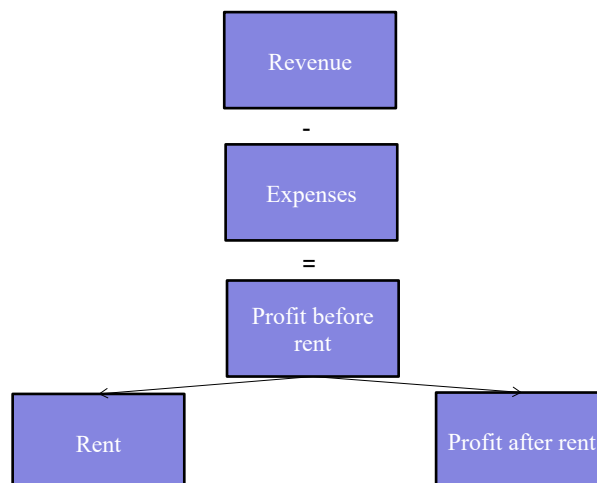
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Lease, buy or build?

- 2013: Google has completed a £1bn property deal to move its UK headquarters to London's King's Cross. The US technology giant has purchased a 2.4 acre site and plans to build a complex due to be complete in 2016.
- 2014: Google's design review of its planned £650m UK headquarters at King's Cross is expected to take as long as two years. Sources close to the King's Cross project said the design review, announced last November, is expected to take around two years.
- Why would Google lock up capital in real estate? Why would it develop its own buildings?

Rent and profit



Lease or buy?

- | | |
|---|--|
| <ul style="list-style-type: none"> • Lease <ul style="list-style-type: none"> – Preserves capital – Tax effects? – Balance sheet? – Risk of operation? – Return impact? – Who manages the asset? | <ul style="list-style-type: none"> • Buy <ul style="list-style-type: none"> – Maximises control – Diversifies balance sheet |
|---|--|

Alternative real estate investment?

- The old income model – lease rents
 - Investors – pension funds - prefer leases

- The new income model – operational revenue
 - Leases have shortened - non-lease revenue increasingly accepted
 - Workspace Group, Unite
 - Operations and real estate are converging – turnover rents
 - Who are the natural operators?

Rents psf, London, Oxford, Kuwait



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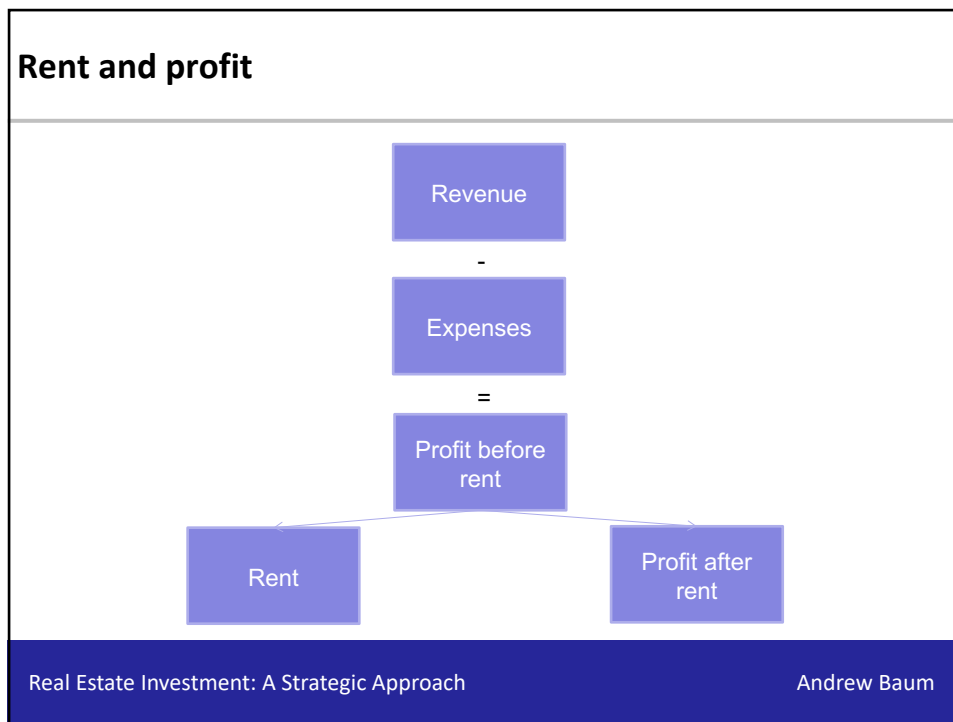
The economics

- OpCo/PropCo: the profit earned by a freeholder business
= rent + profit
- Revenue – costs (excluding rent) = gross profit including rent
- Gross profit including rent = reward for entrepreneur's labour, return on capital invested and rent for land
- Where is super-profit allocated?

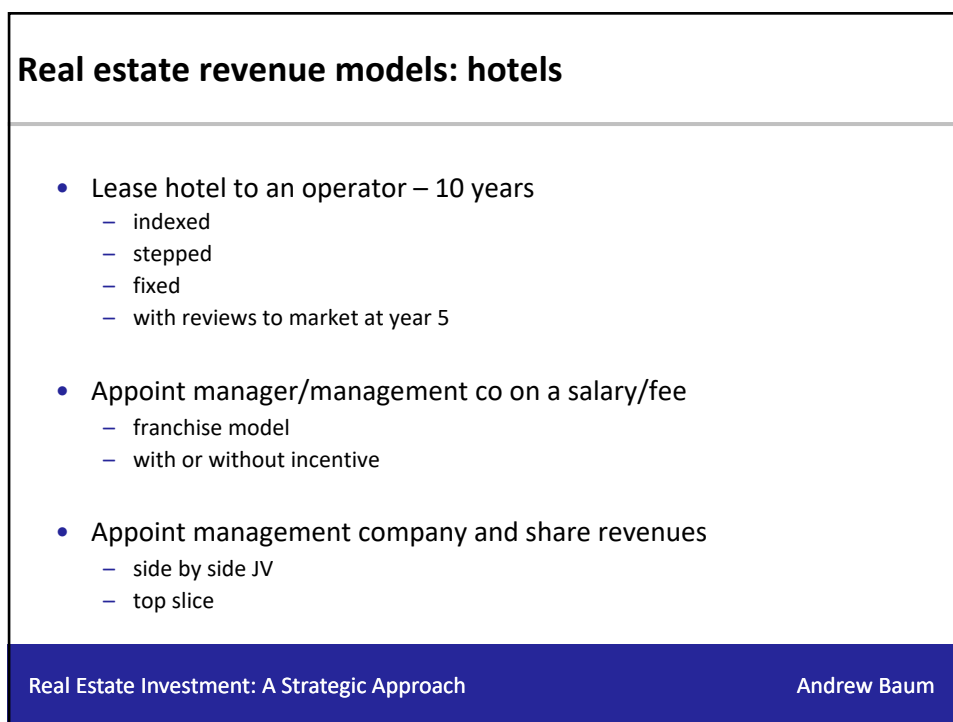
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OpCo/PropCo arbitrage

- Maximise value
 - Property owning operating business (Enterprise Inns)
 - Property owning business plus non property owning operator
- Southern Cross case

Ricardo on rent (1817)

- “Rent is that portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible powers of the soil”
- Higher quality land earns more rent
- Rent is an unearned surplus because it derives not from skill, or effort, or capital, but from the original and indestructible powers of the soil



Ricardo: rent as a surplus

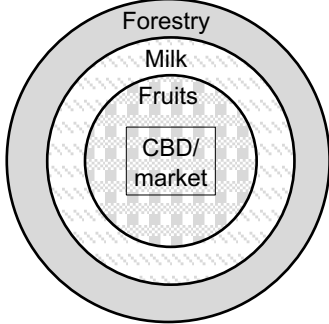

	High fertility	Medium fertility	Low fertility
Costs per acre			
Capital	£10	£10	£10
Labour	£50	£50	£50
Materials	£20	£20	£20
Normal profit	£10	£10	£10
Total	£90	£90	£90
Output per acre tons	2	1.5	1
Revenue per ton	£90	£90	£90
Revenue per acre	£180	£135	£90
Rent per acre	£90	£45	£0

Powers of the soil?

- “Rent is that portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible powers of the soil”
- How can we think of land for development? What are the ‘original and indestructible powers of the soil’ in central London?
- The productive capacity of land for development depends on:
 - economics (demand and supply)
 - government regulation (zoning, planning, permits to build)
 - physical feasibility (can the land bear the load?)
- This produces the ‘highest and best use’

Location – a power of the soil?

- What about ‘location, location, location’?
- Enter Von Thunen (1826) and his concentric rings

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Location/accessibility theory

	Distance from market		
	1 mile	5 miles	10 miles
Fixed costs per ton (a)	10	10	10
Transport costs per ton per mile (b)	1	5	10
Variable costs per ton (c)	5	5	5
Total costs per ton (a + b + c)	16	20	25
Output per acre, tons	2	2	2
Costs per acre	32	40	50
Revenue per ton	25	25	25
Revenue per acre	25	25	25
Rent per acre	18	10	0

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The coffee shop and rent

			Oxford St		Bond St
Costs					
	Equipment		£12,500		£12,500
	Energy		£20,000		£20,000
	Wages		£200,000		£200,000
Sales					
	Cups of coffee: 000 p.a.	250,000		170,000	
	Price per cup	£2.50		£2.50	
	Material cost per cup	£0.10		£0.10	
Costs					
Base costs			£232,500		£232,500
Materials			£25,000		£17,000
Total costs			£257,500		£249,500
Sales revenue			£625,000		£425,000
<i>Gross profit</i>			<i>£367,500</i>		<i>£175,500</i>
Coffee shop 'normal' profit (20% costs)			£51,500		£49,900
Rent			£316,000		£125,600

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What explains rent levels?

Rent	Sticky prices, rent pressure
Demand	Building quality
	Macro-location
	Accessibility
Supply	Substitutability

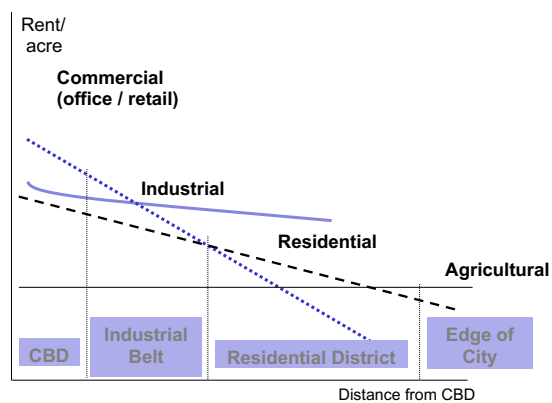
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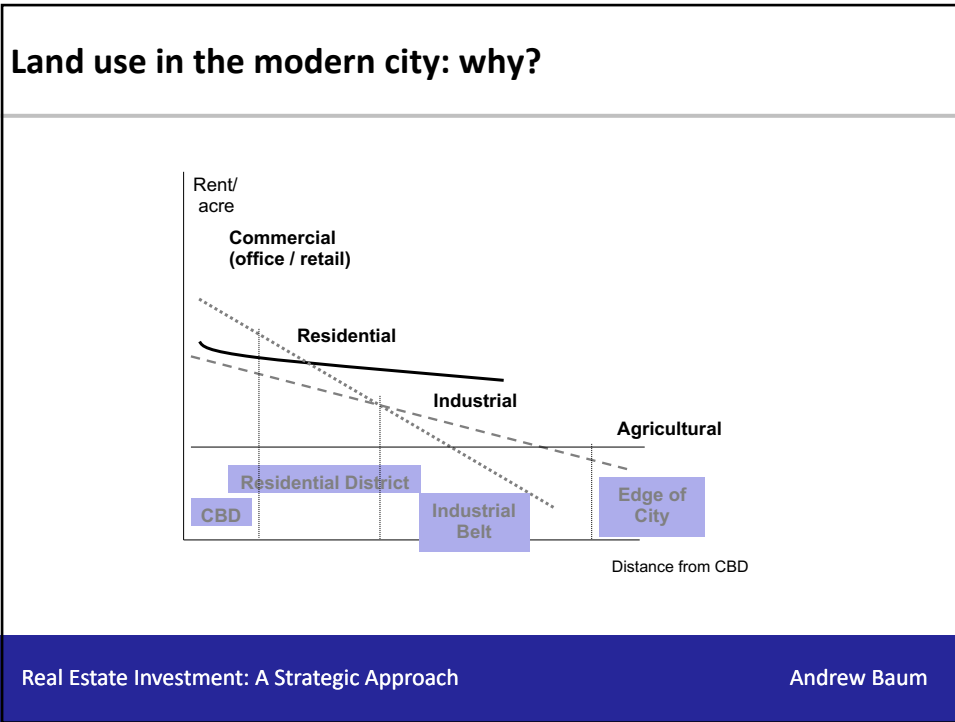
Highest and best use (Ratcliff, 1949)

- The highest and best use of a property will maximise land value or developer's profit
- The highest and best use must be:
 - Legally allowable
 - permitted by local zoning/planning
 - permitted by national regulation
 - permitted by covenants imposed by current or previous owners
 - Physically possible/feasible/sustainable
 - Financially optimal

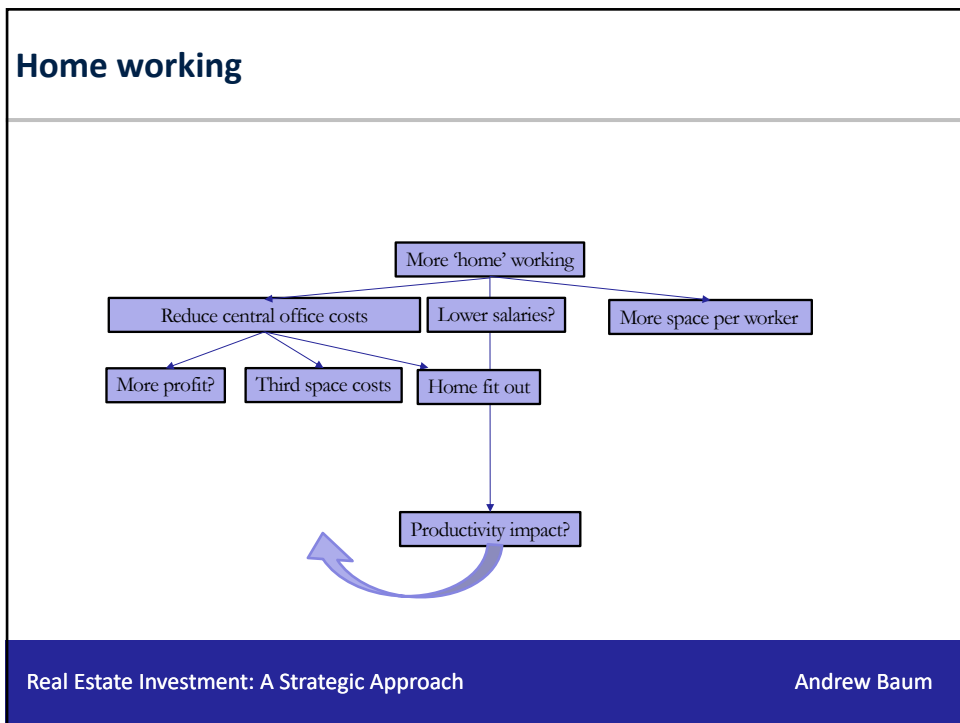
Land use in the 19th century city



How has this changed?

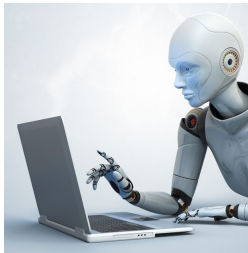
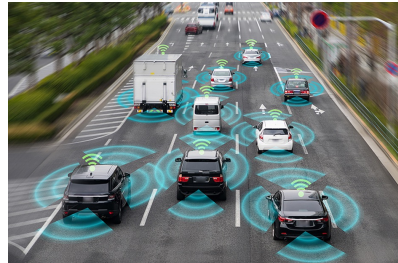


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Land use in 2030?



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Why skyscrapers?

- Agglomeration effects in manufacturing and financial services
 - Industrial efficiency and vertical integration (19th century)
 - Information sharing (21st century)
- The agglomeration effect decays much faster with distance in financial services than in manufacturing
- Lateral v vertical travel and maximum travel times
- Hence density in modern cities, and urbanisation

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What drives rent growth?

- Supply
 - Price elasticity
- Demand
 - Indirect measures – productivity
 - Space per employee
- Cycles?

Economic and property cycles

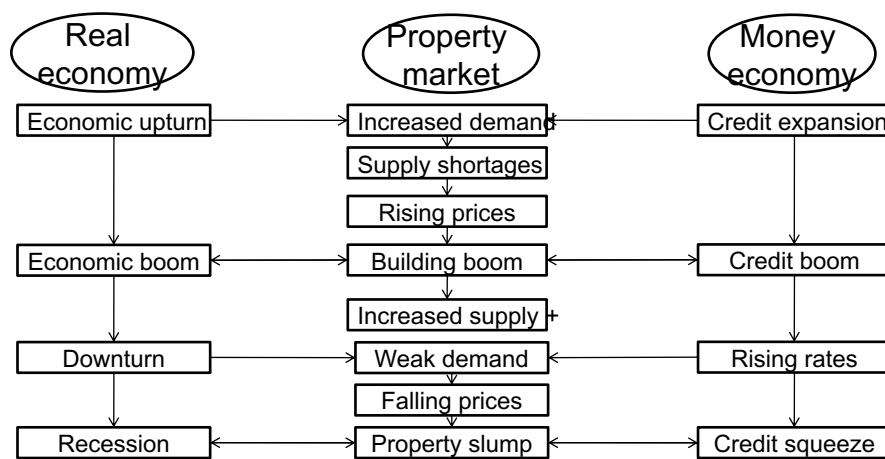
- Which cycle are we interested in?
- There are several distinct components
 - Economic/occupier markets (rents)
 - Development industry (new supply)
 - Investment markets (cap rates)
 - Rates of return and capital values
- Property cycles are driven by development cycles – an example of the classic ‘hog cycle’

What creates a 'hog cycle'?

- Producers work with imperfect knowledge of other producers - farmers do not know what other farmers are doing
- Non-substitutability of the product – storage, importing
- Delay between demand indicator and supply response (inelasticity)
- In the 19th century there was no importing or storage
- Delay between prices rising and production

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How the building cycle works (Barras)

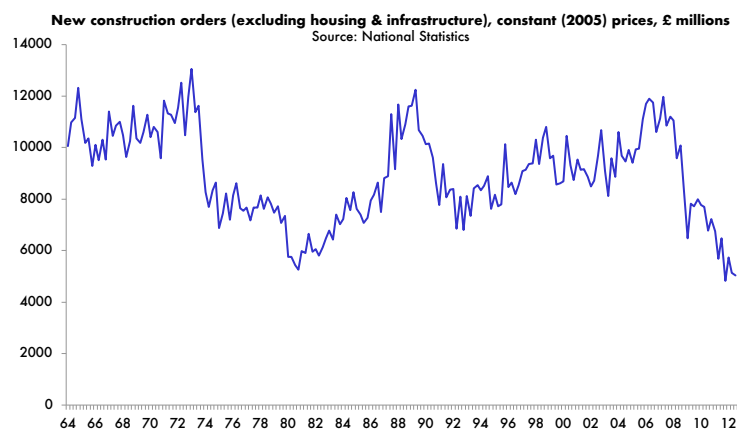


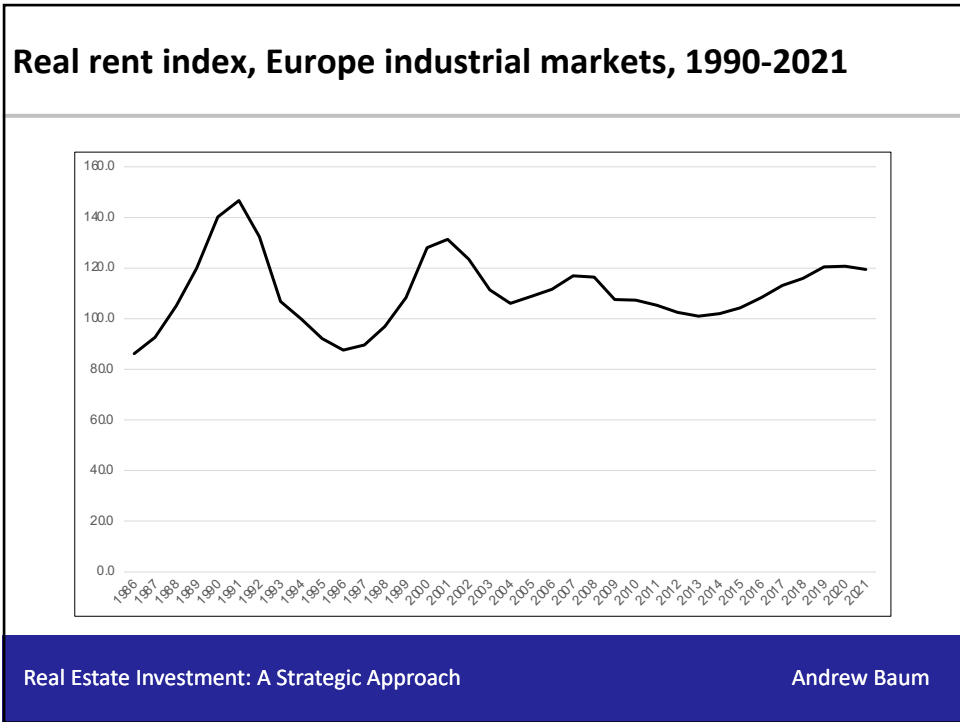
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Long swings in UK commercial building

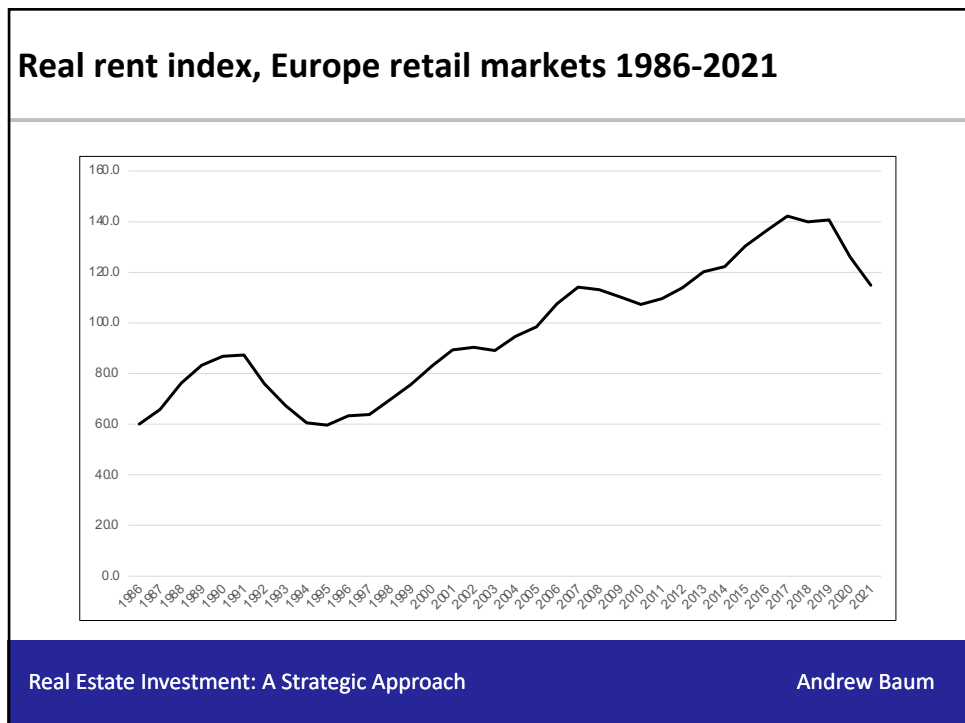
Cycle	Trough	Peak	Duration T – T	Duration P – P
1	1856	1865		
2	1870	1876	14	11
3	1888	1902	18	26
4	1908	-1930	20	-28
5	-1933	(WW2)	-25	
6	(WW2)	1973		
7	1981	1990		17
8	1996	2007	15	17
9	2012		16	

Commercial new building orders, UK

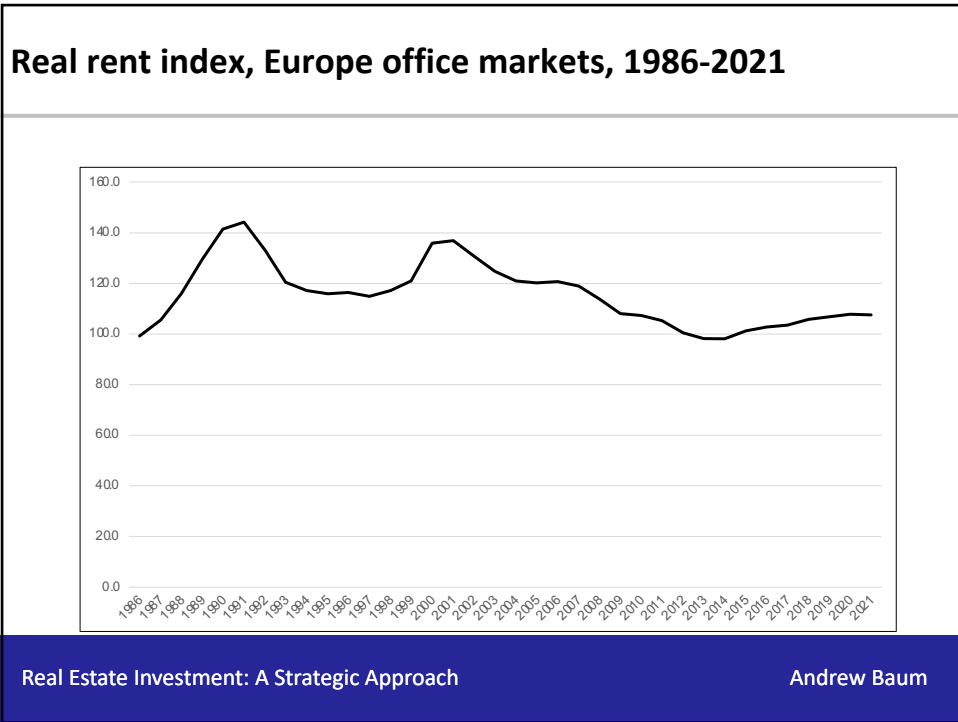




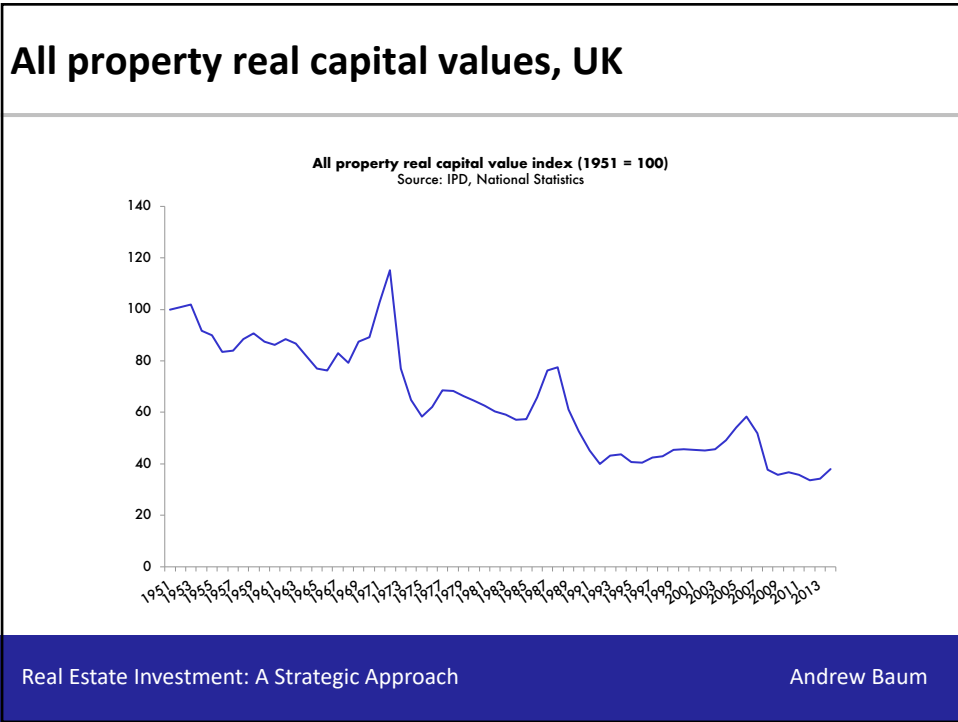
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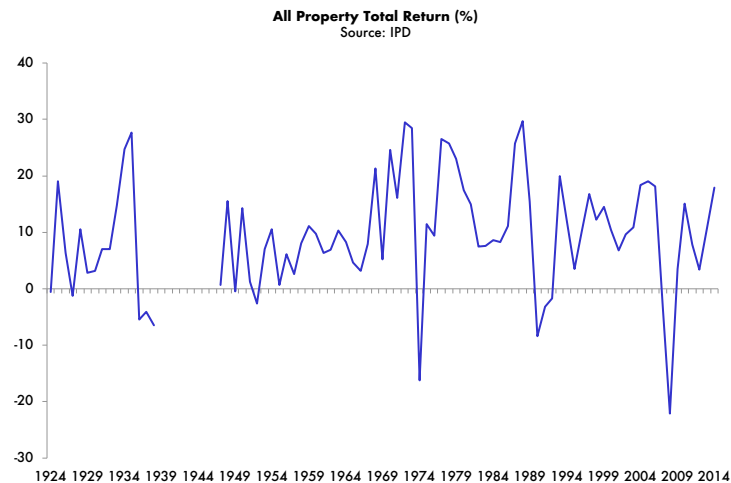


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Total returns, UK



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Some conclusions

- Development, the economy and bank lending explain cycles
 - There is a relationship between property crises and banking crises
 - 'No developer ever turned down a bank loan'
- Long cycle in occupier markets
 - Economy-driven, 8-10 years
- Long swings in real estate capital markets
 - Bank lending and development driven, 15-20 years
- Is the next cycle predictable?

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A retail rent model

$$\begin{aligned}
 \text{Rent (0)} = & 0.88 \times \text{rent}(-1) \\
 & -0.28 \times \text{rent}(-2) \\
 & +1.48 \times \text{consumer expenditure} \\
 & -2.36 \times \text{floorspace}(-2) \\
 & -0.09 \times \text{constructions starts}(-2) \\
 & -0.10 \times \text{interest rate}(-1) \\
 & -4.88
 \end{aligned}$$

Note: the model is specified in log form and real terms

Source: IPD/University of Aberdeen

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Rent pressure

Percentage difference from predicted 'structural rent'

City	Percentage Difference (%)
Bucharest	-95
Brazil - São Paulo	-90
Buenos Aires	-85
Paris - La Défense	-80
Prague	-75
Bombay	-70
Warsaw	-65
Conam - W	-60
Beijing	-55
Chennai	-50
Chicago	-45
Thailand	-40
Hong Kong	-35
Hamburg	-30
Paris - Centre West	-25
Rome	-20
Leeds	-15
Colombia	-10
Geslow	-5
UK - South East	0
Edinburgh	5
Birmingham	10
Bangkok	15
Munich	20
Manchester	25
Utrecht	30
Berlin	35
Amsterdam	40
Düsseldorf	45
Vienna	50
Lisbon	55
Madrid	60
Barcelona	65
Dubai	70
Helsinki	75
Israhel	80
London - City	85
Frankfurt	90
Milan	95
Amsterdam	100
Luxembourg	105
Stockholm	110
Porto	115
Geneva	120
Moscow	125

Source: PFR, CBRE, OEF, IMF, World Bank, Eurostat

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