

Understanding Real Estate Risk-Return



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Investment Environment

I - RE Micro Economics II - Basic Legal for RE III - Basic Tax for RE



Real Estate is a "Real" Market

VA Place of Trade

- For goods & services
- With buyers & sellers
- Where Supply & Demand meet

✓ With Equilibrium

- At certain prices
- For certain volumes of traction
- ✓ With 2 types of Tractions
 - Letting
 - Investment





"Controlled" market and shortage

V Rental Housing

- Tenants more protected than landlords
- Rent controlled, not
 "marked-to-market"
- Or fixed rent (social housing)

✓ Demand

- Basically strong...
- ... even stronger with
- cheaper rent

V Supply

- Basically limited...
- ... even shorter due to negative incentive



Cobweb Curve

✓ Context

- Supply and Demand normally expressed...
- ... but adaptation affected by production delay

V Pig Price Curve

- 6 weeks market adaptation (necessary to adjust production)
- Producers arrive to Market with a rigid pre-determine Supply, that can't change in short term



"Pig Curve" For Parisian Flats

✓ Context

- At Market bottom, volumes increase ...
- ... then prices increase...
- ... then volumes decrease...
- ... and Prices decrease

✓ Rationale

6

- Vendors are not immediately forced to
- Supply adaptation is marginal



Thünen: the "Isolated State"

✓ Optimal Agricultural Land USe (1826)

- Based on distance from the City ...
- ... and trport costs
- From high to low market value

✓ Microeconomics

- Supply is widespread
- Demand is centralized
- A linear function: R=Q(P-TC-xt)
- Rent=Quantity × (Price - Total Costs - Distance x Trfert Costs)





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Alonso: the Bid Rent Function

✓ A Bid price Curve (1964)

- Combinations of land prices and distances rendering indifferent
- Showing rent to pay at each distance to achieve a predetermined utility level

V Specificities

- Specific Bid price Curve for each Customer
- Specific Utility level
 for each bid price
 curve



Real Market: doubt & uncertainty

✓ Asymmetry of Information

- Between vendor and buver
- Among buyers
- Among vendors

✓ Traction Costs

- Buy and re-sell at same price => you lose money

✓ Unpredictable Behavior

- Bounded rationality
- Non cooperation
- Cheating



\$100 Bill Auction

✓ Simple global auction

- Highest bid wins
- Outcome = bid-100
- Cents matters

✓ One-to-One Duals

- Bids are compared on dual-fight basis
- Outcome = (bid-100) × number of victories
- Outcome depends on Group's behavior

✓ Shubik's #Auction

- Irrational escalation commitment
- Miscalculation of Expected value

10



Source: Shubik's Dollar Auction Game: A Paradox in Noncooperative Behavior and Escalation," The Journal of Conflict Resolution, 1971

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Auction Theory: Private Value

✔ Good Example of Free Market ? Bid b 1st Bid 2nd Bid 1st Bid 2nd Bid - Perfect competition b wins Pays Bida nd Bid Bid c 1st Bid - From watches on Eb-price Bay to Bandwidth sold **English Option Dutch Option** Silent Option Sealed Bid Option by government descending bids (loud) ascending bids (written) ascending bids (loud) Undisclosed bids previous bid known previous bid known previous bid known (envelop before deadline) - Flexible tool e.g.: Antiques Seller OK e.g.: Flowers Buyer OK e.g.: Charity Seller OK e.g.: Real Estate Seller OK ✓ Rationale ? ? - Initially: price based ? Bid b Bid b Bid b b wins b wins b wins Bida Bid a Bid a pays b-price everybody pays a-price - Vickrey's vision: a is 2nd pays a-price pays its price Bid c Bid c Bid c different people have different values Vickrey 2nd Price Escalade Sealed Everybody pays Option Option Sealed Option Undisclosed bids (envelop before deadline) disclosed or undisclosed Undisclosed bids (envelop before deadline) bids e.g.: in real life ? Seller OK e.g.: charity, politics ? e.g.: in real life ? Seller OK Seller OK See Journal of Finance 1961 paper by William Vickrey (Nobel Prize in 1996)

Auction Theory: Common Value

V Known Value

- The asset Value is approximately the same for all bidders
- However, it remains impossible to assess this " Common Value"

V The Winner's Curse

- Real Value equals
 Common Value + ε
 (Spread could be positive or negative)
- Winner is & max
- Only good if & max <=0





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Asymmetry of Information

✓ Market For Lemons

- Seller's incentive to exaggerate asset quality or to sell first low quality assets
- Buyers are prone to anticipate bad quality (due to asymmetric information
- Example: used cars market, lemons vs. cherries

√ Solutions

- Credible disclosure technology limiting asymmetry
- Insurance and Warranty



Herbert Simon: Bounded Rationality

✔ Wrong Model

- Perfect Market with omniscient actors, able to "rationally" compute each decision and its consequence
- Real Life with imperfect information, limited computation, strong interdependence

✔ Organizational Decision-Making

- Management of information is complex and costly
- Multiple Utility functions

14



Source: DR ; See Models of Bounded Rationality, 1982, Vols. 1 and 2. MIT Press by H. Simon (Nobel Prize in 1978)

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Game Theory: Chicken

✓ Toward the Cliff Or Toward Each Other

- The first to jump is the "Chicken" (Jimmy)
- The second to jump is victorious...
- ... if not dead (Buzz).

✓ Nash Equilibrium

- Knowing the other strategy, no interest too change if the other doesn't
- In" Chicken, there is two" Nash Equilibria"





Contract Theory

✓ Moral Hazard

- Asymmetry of information renders actions unpr<u>edictable</u>
- Protection against risk trough incentives
- That could be costly

V Adverse Selection

- Insurance company (Principal) is not informed of driver's behavior (agent)
- Bad drivers would be tempted to get a cheap insurance while making a lot of accidents
- Insurer should dissuade bad drivers

16



Same Press

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Unpredictable

. Trauma

✓ Limits of Lognormal Distribution

- Gauss curve is not always relevant
- Dispersion around average could be hectic
- Poisson's distribution:
 discrete probability
 (noise & small
 courrences)

✓ Pangloss View

- " All is for the best in the best possible world..."



± 1 Standard Deviation

Source: DR

68%





Market Players

V Property Owners

- Could be users (owners-occupiers)...
- ... or pure investor letting the premise (landlords)...
- ... or, for a short term period, developers who produces properties of the 2 first categories

V Property users

- Could be owners (owners-occupiers)...
- ... or tenants



Lease: A contract by which (i) one conveys real estate, [...], (ii) for a specified term and (iii) for a specified rent.

<u>Rent:</u> Fixed periodical return (i) made by a tenant or occupant of property to (ii) the owner (iii) for the possession and use thereof.

Source: Webster Dictionnary



Lease Contract Main Terms

✓ Duration

- Landlord commitment
- Tenant commitment
- Termination clauses
- (for tenant: breaks)
- Right of renewal

✓ Rent - Fixed or mark-to-

- market (MTM) ? – Indexation
- Indexación

- "Tunnel" of

20

protection against market



Lease Contract Duration

✓ Most European lease contracts

- Are with mutual firm period
- With indexed rents

V Average Duration

- 5-10 years
- French exception: 3-6-9 year lease
- UK long term leases (sometime more than 20 years)





Rental Cycle

✓ 10 Year Cycle ?

- RE Cycles are linked to major economic cycles
- Comparable with "Kitchin" cycles (investment in inventories)

V Rental Commitment

- Landlord harvests
 "over-performance" if tenant commits at peak
- Landlord gets stuck
 with "underperformance" if he commits at bottom



Rent Negotiation

✔ When market bottoms down

- Today's rents reach historical low values, and future rents are expected to rise again
- Power of negotiation in favor of tenant

V Concessions

- Maintain a" facial" rent artificially high
- Through rent-free period & works done for tenant
- So on the duration of the lease," economic" rent is attractive



Occupancy

✓ Physical Occupancy

- Surface Let vs. Total space: here 70%
- Property may be concerned with <u>"structural</u>" vacancy

✓ Financial

24

Occupancy

- Total rent in place vs. maximum" potential" rent (if all space let @ market value): here s6%
- Complementary ratio,
 expresses 2 types of
 "vacancy"



Occupancy

V Physical

- Occupancy - Surface Let vs. Total
- space: here 70% - Property may be
- rropercy may be concerned with "structural" vacancy

✓ Financial Occupancy

- Total rent in place vs. maximum" potential" rent (if all space let @ market value): here 56%
- Complementary ratio,
 expresses 2 types of "vacancy"



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Occupancy Through Cycles

✓ Cycles Impact

- Market rent variance
- Occupancy variance

V Positive Reversion

- Space let at rent below current market
- Empty space to re-let

V Negative Reversion

- Space let at rent above current market
- Occupied space to be vacated



Occupancy Dynamic 1/2

✓ Occupancy:

- Physical & Financial
- Decrease in recession
- Increase in boom

V Reversion

26

- Positive when Market is booming
- Negative when market falls

€/m2		
Increase of Rental Market		
	55%	
	0070	
L		Physical



Occupancy Dynamic 2/2 V Rent Maximization Rental ratio - Organized vacancy... €/m2 - ... to reshape spaces and boost" product" V Cycle Movement - Use Market boom to reposition product 100% - Capture rent max **RE-LETTING** through capex Physical Occupancy in % 28 LK - IHEDATE Nov. 2008



Tax On Capital Gain

✓ Tax Basis

- Net Disposal proceed ...
- ... less Book value (historical price less amortization)

VTax Rates

30

- 20 to 33[%] (depending on countries, often comparable with income tax rate)
- Could be matched with losses (negative incomes)
- Exemptions: REITS



Tax Impact

✓ Investment

- Asset bought 100
- Incomes: 25 in 5 years
- Disposal Proceed: 115
- Gross Profit: 40

✓ Transfer Tax

Impact

31

- Acquisition: + 6 (additional expense)
- Disposal Proceed: 6.9 (proceed reduction)

✓ Profit Tax Impact

- In Total: 6.8
- Income Tax: 6.3
- Capital Gain: -0.5



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Acquisition Structuring

✓ Investment Vehicle

- In Tax Efficient Jurisdiction
- Limiting Tax on K-gain
- Take a Mortgage

✓ Financing

- Loan &Internal debt (quasi-equity) creating deductible interests
- Limited by "thin capitalization" rules

V Bi-Lateral Treaty

- Avoiding double taxation
- Rendering certain countries attractive



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