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K A M R A T A L - P E R I T I

To support members of the profession in achieving excellence in their practice of architecture and engineering in the interest of the community

May 11, 2012

Dear Colleague

Valuations of Immovable Property

In response to the need for updated guidelines regarding real estate valuation, the Council of the *Kamra tal-Periti* had, mid last year, established a Committee to revise its publication "*Valuations Standards for Accredited Valuers*" which was published in 2004. Such Committee has now concluded its work and a revised version of the document is currently being printed.

This process was felt to be necessary due to the revisions in the local Rent Laws (Rent Law Act X of 2009) and the ever changing scenario of the local built environment and stock. The importance of accurately drawn up valuations cannot be overemphasized, particularly when such valuations are the basis on which the Banks, the Law Courts and the Inland Revenue Department base their respective assessments. The inclusion of immovable property valuation reports in audited Company accounts, in liaison with Auditors, also bear a responsibility on the Profession.

In order to address these issues the Kamra tal-Periti is organizing the following activities:

1. A **Conference** entitled "**Property Valuation Standards**" which will introduce the revised edition of the *Kamra tal-Periti* "*Valuation Standards for Accredited Valuers*". This Conference which will be addressed by the Minister for Finance, the Economy and Investment, the Hon Tonio Fenech, by Mr John Zarb on behalf of the Malta Institute of Accountants and by members of the Committee who were responsible for drawing up the revised edition of the publication, is primarily open to Periti. Other interested parties such as Accountants, Bankers, Insurers and Notaries are also being invited to attend.
2. A **Course on the Impact of the Rent Law Act X of 2009 on Valuations** specifically earmarked for Periti will outline the important data in the Rent Law Act X of 2009 as impacting on valuation methods. As this Act dwells on both the residential as well as the commercial market, this 3 hour course will establish distinct methods for both of these property markets.
3. A **Valuation Course for Accredited Valuers** also specifically earmarked for Periti will introduce the latest methodology necessary for the application of the revised "*Valuation Standards for Accredited Valuers*". This 10-module course will also focus on methods more in line with the functioning of the financial markets of which the valuer has to be aware, in particular on the workings of Discounted Cash Flow (DCF) techniques. Since the mid-nineties, there has been less reliance on the traditional methods of valuation being dependent on current all-risks yield methods.

This Course will be followed by a Tutorial for all participants.

Specific details about each event are given in the attached documentation.

It would be greatly appreciated if those interested in attending the Conference and/or the Courses could signify their interest by filling in and forwarding the attached Registration Form to the Administrative Secretary, Kamra tal-Periti together with payment as indicated in the same Registration Form.

Regards

Simone Vella Lenicker
Honorary Secretary

PROPERTY GROWTH RATES

MODULE I

Perit Denis H. Camilleri

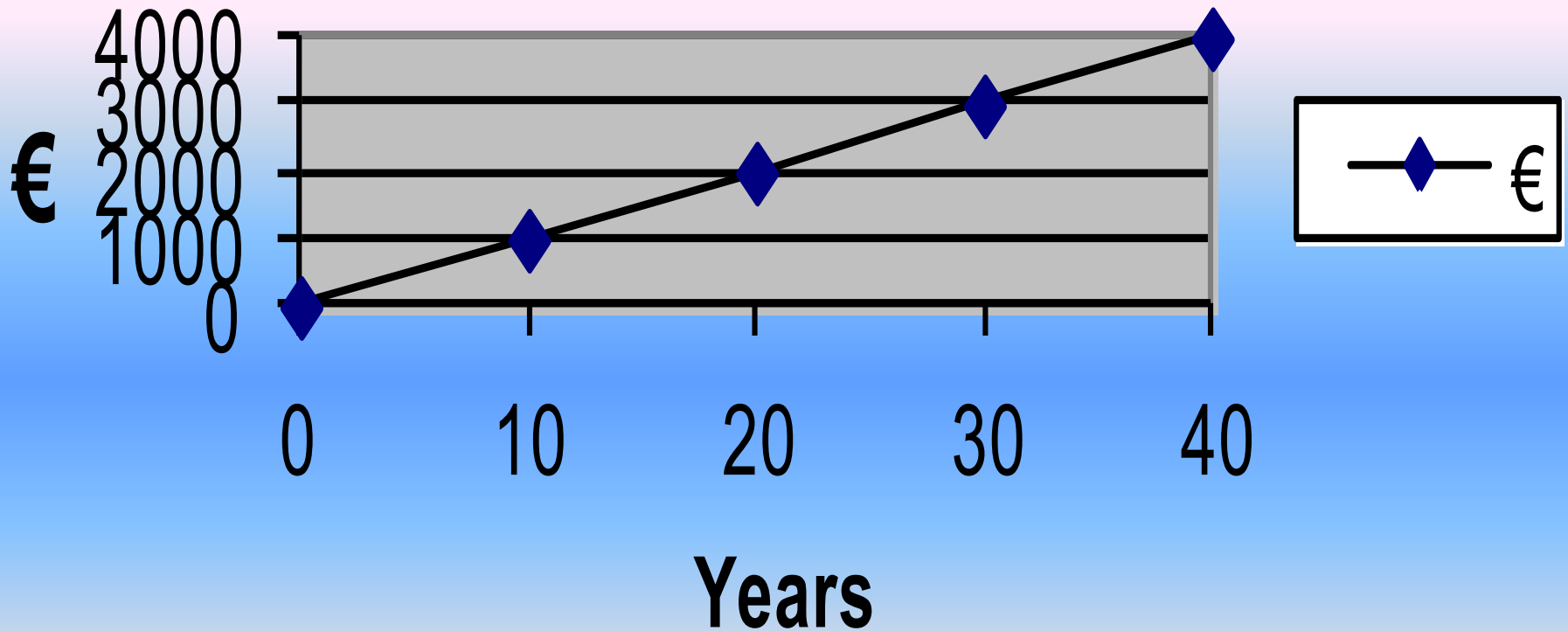
June/July 2012

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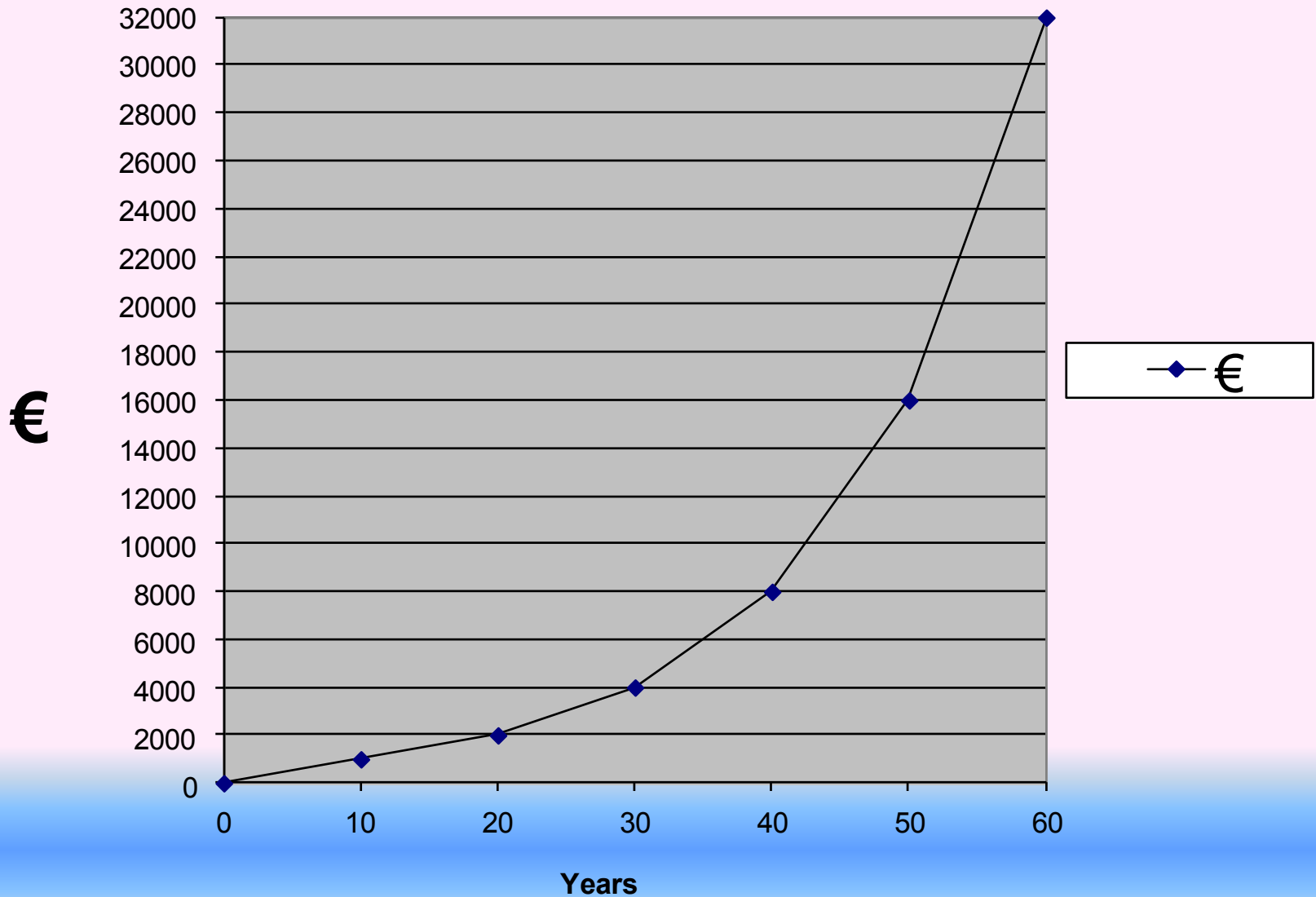
Linear Growth

(Lm1000 every 10 years)



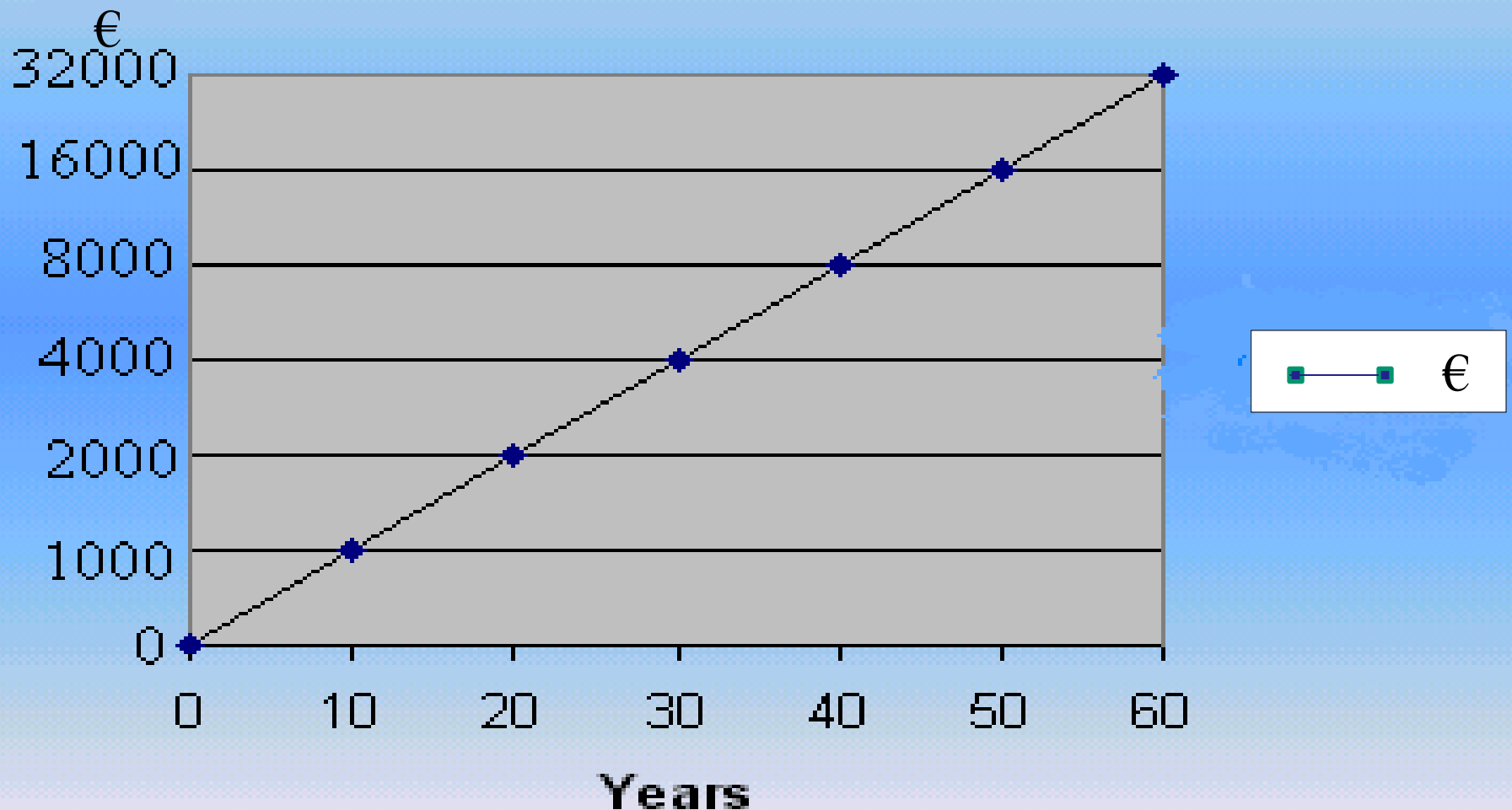
Exponential Growth

(doubling of value every 10 years)



Exponential Growth

(plotted on 2-way log paper)



72 Year Doubling Growth

The % growth rate for a value to double over a number of years is given by:

$$\% \text{ growth} = 72/\text{No of years}$$

Ex 1. – for an asset to double in value over a period of 10 years require an annual growth rate given by

$$72/10 \text{ years} = 7.2 \% \text{ p.a.}$$

Ex. 2 – for an asset with a growth of 5%, it requires

$$72/5\% = 14.4 \text{ years to double in value}$$

GROWTH RATES OF MALTESE AFFORDABLE HOUSING

Year	1982	1987	1992	1997	2002
Lm/m ²	70	91	150	220	270

Excel logest for $y = ab^x$ gives $a = 69.12$ $b = 1.0743$ the b value indicates a 7.43% annual growth over the 20 year period

Excel growth calculates predicted growth values

Eg. @ year 25 – Lm /m² @ year 30 – Lm /m²

Goto Scenario testing

FORECASTS

The assessment of future value will include:

- **An analysis of market trends in respect of overall income, expenditure, rates of void occupation, capitalization and discount rates,;**
- **An analysis of economic trends which entails a review of the evolution of demographic and socio-economic patterns, employment co-efficient, and future competition;**
- **A study of business cycles, and macro and micro-economic climatic indicators.**

All limiting factors, agreed basis of forecasts and the exclusion of liability to the client and third parties for unforeseeable events must be pre-agreed when accepting instructions and in subsequent reporting.

FORECASTING LEADING INDICATORS

1. Treasury Bill Rate
2. Gilt yield
3. Volume of retail sale
4. Narrow money supply

All limiting factors, agreed basis of forecasts and the exclusion of liability to the client and third parties for unforeseeable events must be pre-agreed when accepting instructions and in subsequent reporting.

MUTLIPLE AGGRESSION ANALYSIS

- An MRA model is essentially an equation used to predict the value of property
- Simplistic additive model structure is limited because it does not allow for the incorporation of elements, such as location, housing size, garage, whilst a multiplicative model is more effective
- Market value = $b_0 \times \text{House size}^{b_1} \times b_2 \times \text{Garage} \times b_4 \text{ location}$

TRADITIONAL VS MODERN VALUATION MODELS

MODULE II

**Dual rate is defunct? – A review of dual valuation, its history & its irrelevance to Today's leasehold market
– David Mackmin - 2008**

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June/July 2012

**KAMRA TAL-PERITI
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MECHANICS of FREEHOLD INVESTMENT VALUATIONS - 2012

Suppose a freehold property has a rental income R of €13,000 p.a.

An appropriate investment yield rate Y for the property is 6%

$$C = R/Y = R \times YP$$

$YP = 100/6 = 16.67$ years is a multiplier similar to applying a P/E ratio to the earnings of a quoted company to arrive at market price for investment.

$$\begin{aligned} \text{Capital value ignoring transaction costs } C &= €13,000 \times 16.67 \\ &= €216,710 \end{aligned}$$

$$YP \text{ at } 4\% = 100/4 = 25 \text{ years}$$

Thus the lower the risk the lower the yield

THE 'TERM & REVERSION' VALUATION (not widely used in the Institutional Market) - 2012 -

The current rental income is presently €10,000 p.a. with the next review to €13,000 p.a. in 2 years' time.

Rent passing

YP for 2 years @ 5.5%	€10,000	1.846	€18,330
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Estimated rental value

YP in perp @ 6.5%

Deferred 2 years @ 6.5%	€13,000	13.564	<u>€176,332</u>
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Gross Capital Value	€194,792
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The owner here loses out on €6,000 in rental income,
however this valuation has devalued property by

$$€216,710 - €194,792 = €21,918$$

THE RATIONAL VALUATION MODEL (shortened DCF method)

- 2012 -

Opportunity cost of money (discount rate) = 9%

Implied growth rate in rental value = 3% p.a.

Rent passing €10,000

YP for 2 years @ 9% 1.759 € 17,590

Present rental value €13,000

Amount of €1 in 2 yrs @ 9% 1.061

€13,793

YP in perp @ 6.0%*

Deferred 2 years @ 9% 14.028 €193,488

Gross Capital Value €211.078

*Comparable to Bank lending rate

As compared to freehold value of €216,710

TRADITIONAL LEASEHOLD VALUATION

- 2012 -

The same previous is now considered a leasehold interest with an unexpired term of 60 years

Rent passing	€10,000	
*YP in perp @ 6.5% with SF		
For 60 yrs @ 3% & taxed at 35%	<u>€13.434</u>	€134,340

Estimated rental value	€13,000	
Less rent passing	<u>€10,000</u>	€3,000 p.a.
Reversionary increase		
*YP in perp @ 7% SF		
For 58 yrs @ 3% taxed @ 35%		
& deferred 2 yrs @ 7%	12.478	<u>€ 37,434</u>
		€171,774

$$*YP = \frac{1}{(i + \left\{ \frac{SF}{100} \times \frac{100}{100 - IT} \right\})}$$

THE LEASEHOLD 'RATIONAL VALUATION' MODEL - 2012

Adapts the same discount rate of 9% together with the implied rental growth of 3% for rent reviews every 5 years thus considering adequate a rack-rented capitalisation rate of 7%

Rent passing		€10,000 p.a.	
YP for 2 yrs @ 9%		<u>1.759</u>	€ 17,590
Present rental value	€13,000 p.a.		
Amount of €1 in 2 years @ 3%	<u>1.061</u>	€13,793 p.a.	
YP in perp @ 6.0% deferred 2 yrs @ 9%		<u>10.802</u>	
Gross Freehold Value			€193,488
Less			
Present rental value	€13,000		
Amount of €1 in 60 yrs @ 3%	<u>5.895</u>		
Rental value in 60 years' time		€76,596pa	
YP in perp @ 6.5% deferred 60 yrs @ 9%		<u>0.0874</u>	€ <u>6,694</u>
GROSS CAPITAL VALUE			€186,794

FREEHOLD INVESTMENT VALUATIONS

- 2004 -

The rack rented valuation:

Suppose a freehold property has a rental income of Lm13,000 p.a. with the property just experiencing a recent review and therefore rack-rented.

An appropriate investment yield rate for the property is 7%, as further open-market rent reviews will occur every 5 years

$$C = R/Y = R \times YP$$

$$\begin{aligned} \text{Capital value ignoring transaction costs } C &= \text{Lm}13,000 \times 100/7 \\ &= \text{Lm}185,718 \end{aligned}$$

$YP = 100/7 = 14.286$ is a multiplier similar to applying a P/E ratio to the earnings of a quoted company to arrive at market price for investment.

THE 'TERM & REVERSION' VALUATION (not widely used in the Institutional Market) - 2004 -

The current rental income is presently Lm10,000 p.a. with the next review to Lm13,000 p.a. in 2 years' time.

Rent passing	Lm10,000		
YP for 2 years @ 6%		1.833	Lm 18,330
Estimated rental value	Lm13,000		
YP in perp @ 8%			
Deferred 2 years @ 8%		10.717	Lm139,321

Gross Capital Value			Lm157,651

The owner here loses out of Lm6,000 in rental income,
however this valuation has devalued property by

$$\text{Lm185,718} - \text{Lm157,651} = \text{Lm28,067}$$

THE RATIONAL VALUATION MODEL

- 2004 -

Opportunity cost of money (discount rate) = 15%

Implied growth rate in rental value = 9% p.a.

Rent passing Lm10,000

YP for 2 years @ 15% 1.626 Lm 16,260

Present rental value Lm13,000

Amount of Lm1 in 2 yrs @ 9% 1.188

Lm15,444

YP in perp @ 7%

Deferred 2 years @ 15% 10.802 Lm166,826

Gross Capital Value Lm183,086

TRADITIONAL LEASEHOLD VALUATION

- 2004 -

The same previous is now considered a leasehold interest with an unexpired term of 60 years

Rent passing	Lm10,000	
YP in perp @ 9% with SF		
For 60 yrs @ 4% & taxed at 40%	<u>10.309</u>	Lm103,090

Estimated rental value	Lm13,000	
Less rent passing	<u>Lm10,000</u>	Lm3,000 p.a.
Reversionary increase		
YP in perp @ 9% SF		
For 58 yrs @ 4% taxed @ 40%		
& deferred 2 yrs @ 9%	8.62	Lm 25,800

		Lm128,950

THE LEASEHOLD 'RATIONAL VALUATION' MODEL - 2004

Adapts the same discount rate of 15% together with the implied rental growth of 9% for rent reviews every 5 years thus considering adequate a rack-rented capitalisation rate of 7%

Rent passing		Lm10,000 p.a.	
YP for 2 yrs @ 15%		<u>1.626</u>	Lm 16,260
Present rental value	Lm13,000 p.a.		
Amount of Lm1 in 2 years @ 9%	<u>1.188</u>	Lm15,444 p.a.	
YP in perp @ 7% deferred 2 yrs @ 15%		<u>10.802</u>	
Gross Freehold Value			Lm183,086
Less			
Present rental value	Lm13,000		
Amount of Lm1 in 60 yrs @ 9%	<u>176.031</u>		
Rental value in 60 years' time		Lm2,288,403	
YP in perp @ 7% deferred 60 yrs @ 15%		<u>0.003</u>	Lm 6,865

GROSS CAPITAL VALUE			Lm176,221

CALCULATING A PROPERTY CAPITALISATION RATE

MODULE III

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June/July 2012

**KAMRA TAL-PERITI
-ACCREDITED VALUERS'
CPD COURSE**

All Risks Yield (Capitalization Rate)

SHOPS

Prime sites occupied by national retail

Organisations.....	4.5%
District centres.....	6.5%
Small parades.....	8.0%

OFFICES

In financial centres.....	5.5%
Other main provincial.....	8.0%

FACTORIES

Single storey.....	8.0%
Multi-storey.....	10.0%
Depressed area.....	15.0%

INVESTMENT YIELDS AND INFLATION

1950 - 2012

YEAR	ORDINARY SHARES	BANK RATE	RETAIL PRICE INFLATION	PRIME SHOPS	PRIME OFFICE	PRIME INDUSTRIAL
1950	5.5	2.0	2.4	5.5	6.5	N/A
1955	6.25	4.0	6.2	5.5	7.0	N/A
1960	5.0	6.0	1.8	5.5	7.0	10
1965	5.25	6.5	4.6	6.0	6.5	9.0
1970	5.0	7.5	7.9	7.5	7.5	9.0
1975	6.75	10.0	24.9	6.5	6.5	9.0
1980	6.45	15.0	15.1	4.5	5.5	7.5
1985	4.75	19.0	5.3	4.5	5.5	8.0
1990		12.0	4.0	4.5	5.5	7.5
1995		7.0	3.0	4.5	5.5	7.0
2000	6.25	6.5	2.4	4.5	5.5	7.0
2005	5.00	3.15	3.0	4.75	5.25	6.75
2010	4.50	1.35	1.5	4.75	5.25	6.50
2012	4.25	1.40	(2.75)	4.75	5.00	6.25

RELATIONSHIP BETWEEN TOTAL RETURN & INITIAL RETURN

Fischer Equation $e = p + i + r$

e is the total return required from an investment

p is the reward for liquidity preference or consumer impatience

i is the expected inflation

r is the risk

The return given by medium term risk free Government Bonds (RFR) is given by (p+i)

The Fischer Equation is re-written as

$$e = \text{RFR} + r$$

Property risk is normally taken at 2% risk premium together with a 1% premium for tenant risk

Thus a present property discount rate is assumed at

$$4.75\%(\text{Govt Bond}) + 2\% + 1\% = 7.75\%$$

GORDON'S GROWTH MODEL

$$k = e - g$$

Where k = initial yield from an investment

e = total return required from an investment

g = annual expected growth

Which may be written as

$$k = \text{RFR} + r - g$$

In simple arithmetic, the return summed to infinity on an investment with a growing income stream may be approximated to the initial yield plus the growth rate at which it is compounding

DEPRECIATION

DEPRECIATION – “ the loss in real existing use value of property”

OBSOLESCENCE (‘functional’ & ‘obsolescence’) a decline in utility not directly related to physical usage or passage of time curable or incurable

Buildings depreciate through physical deterioration and economic obsolescence. Buildings, unlike companies age and become less valuable as a passage of time

$$\text{thus } RFR + r = k + g - d$$

$$\text{so } k = RFR + r - g + d$$

Findings for London Offices (Baum) found the annual rate of depreciation 'd' in rental value over the first 35 years @ 1.1% p.a. The period of greatest depreciation was years 17 to 26 @ 1.8%.

The annual rate of depreciation in capital values averaged 1.6% p.a. The period of greatest depreciation was years 20 to 29 @ 2.1%.

Similarly rental Industrials deteriorated at 0.65% p.a.

$$R_n = R_0 (1-d)^n$$

R_n rental value of building n years old

R_0 rental value of building 0 years old

d is rate of rental depreciation p.a.

n is number of years

DEPRECIATION – New hypotheses: Baum (2003)

- A relationship exists between repairing liabilities, lease lengths and depreciation rates
- Continental European Markets have shorter leases & pass on lease repairing liability to occupiers.
- Thus London has a depreciation rate of 1.1% p.a
Paris & Frankfurt of 0.74% p.a
Amsterdam of 2.8% p.a. &
Stockholm of 0.15% p.a.

IMPLIED RENTAL GROWTH EQUATIONS

$$y = d \left[\frac{(1+d)^n - (1+g)^n}{(1+d)^n - 1} \right]$$

where y = capitalisation rate (initial yield)

d = discount rate (opportunity cost of money)

g = the implied long-term rental value growth

n = the number of years to the next rent review

Alternatively $g = \left[\frac{(d-y)(1+d)^n + y}{d} \right]^{1/n} - 1$

EXAMPLE OF IMPLIED RENTAL GROWTH EQUATION

For a rack-rented capitalisation rate $y = 5\%$ and discount rate (opportunity cost of money) = 8.75%

For a 3-yearly period rental review

$$g = \left[\frac{(0.0875 - 0.05)}{0.0875} (1 + 0.0875)^3 + \frac{0.05}{0.0875} \right]^{1/3} - 1$$

$$g = 0.0393 \text{ or } 3.93\% \text{ p.a.}$$

FURTHER TO GROWTH EQUATION

Assume a present risk free 10 year bond rate at 4.75%, increments for property investment at 2% & tenant risk at 1%.

A property discount rate taken at
 $4.75\% + 2\% + 1\% = 7.75\%$

If a 10% rental increase assumed every 3 years, an all risks yield given at

$$Y = 0.775 \left[\frac{(1+0.0775)^3 - (1+0.0333)^3}{(1 + 0.775)^3 - 1} \right]$$

$$AFY = 4.56\%$$

$$\text{Compare to } 7.75\% - 10\%/3 = 4.42\%$$

FURTHER TO VALUATION TABLES

MODULE IV

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June/July 2012

**KAMRA TAL-PERITI
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RENTAL PAYMENTS

Rent unlike other payments is frequently paid $\frac{1}{2}$ yearly or quarterly in arrears. As payment is in arrears, the 1st payment of rent starts at period 0. Annual inputs, outputs and rates of interest will need to be adjusted

For an annual capitalization rate of 10%, for payments quarterly in arrears the rent is divided by 4, whilst the target rate is less than a quarter of the annual figure because of the effect of compounding

$$\begin{aligned} &\text{given by } (1+i)^{1/n} - 1 \\ &= (1 + 0.1)^{0.25} - 1 = 2.4114\% \end{aligned}$$

Examples of valuation tables

	Purchase Price	1250000				
	Rent	100000				
	Sale Price	1500000				
	NPV Rate	10%				
Year	Purchase Price	Rent	Sale Price	Net Cash Flow	PV factor	PV Cash flow
0	-1250000			-1250000	1.0000	-1250000
1		100000		100000	0.9091	90909
2		100000		100000	0.8264	82645
3		100000		100000	0.7513	75131
4		100000		100000	0.6830	68301
5		100000	1500000	1600000	0.6209	993474
						60461
	Net present value	60461				
	IRR	11.199%				

Discounted cash flow

EXAMPLES OF RENTAL PAYMENTS

Value a rental payment in arrears of €1,000 p.a. for 3 years @ 10%

YP for 3 years @ 10% = 2.48685 X €1,000 = €2,486.85

The same payment but in advance

YP for 1 payment is 1 year + YP's for 2 years is 1.736

YP in advance totals 2.736 X €1,000 = €2,736

- for perpetual investment payable in advance increase years purchase by 1.

FURTHER TO RENTAL PAYMENTS EXAMPLES

- Value a perpetual €1,000 rental investment paid quarterly in advance at 12% rate of return.
- Quarterly rate $(1+0.12)^{0.25} - 1 = 2.874\%$
- YP in advance = $100/2.874 + 1 = 35.795$
- Valued at $€1,000/4 \times 35.795 = €8,950$
- As opposed to $€1,000 \times 100/12 = €8,333$

CONTINUOUS COMPOUNDING

When interest is added more frequently than annually, the compound interest $(1+i)^n$ is adjusted to $(1 + i/m)^{mn}$ where m is the number of times p.a. that interest is added, i is the normal interest rate and n is the no of years.

Mathematically the max sum to which Lm1 could compound in 1 year at 100% p.a. works out at

$$1 + \frac{1}{1} + \frac{1}{1 \times 2} + \frac{1}{1 \times 2 \times 3} + \frac{1}{1 \times 2 \times 3 \times 4 \dots} + \frac{1}{n!} = e \quad (2.718282)$$

Thus Lm1 invested at i with interest compounded continuously over n years accumulates to e^{in}

EXAMPLE OF CONTINUOUS COMPOUNDING

To what sum will €1 compound over 2 years at 10% p.a. nominal rate of interest assuming continuous compounding

$$\begin{aligned}e^{in} &= 2.718282^{(0.1)(2)} \\ &= 2.718282^{0.2} \\ &= \sqrt[5]{2.718282} \\ &= €1.221\end{aligned}$$

As opposed to annual compound rate of $(1.1)^2 = €1.21$ thus where interest compounds continuously

$$PV = e^{-in}$$

i.e. 0.819 as opposed for the normal PV of 0.826 for 2 years @ 10%

MONEY-WEIGHTED & TIME-WEIGHTED RATES OF RETURN

Money-weighted returns take no account of fluctuations in the capital (market) value of an investment between the date of commencement of the measurement period, and the final date of the cash flow. It is a measure of the return on the investment over the total period, acknowledging only the value at the beginning and value at the end of the period.

Time-weighted returns, on the other hand, take account of the capital value of the investment at each cash flow sub-period (say quarterly) and measure the individual returns for each sub-period on the basis of notional market values at the start and finish of each sub-period and actual cash flow during that time.

The distinction between time-weighting and money-weighting may be clarified when it is realised that an index (such as the F.T. Actuaries All Share Index) is a time-weighted measure.

EXAMPLE OF MWRR & TWRR

Period	Market Growth	Asset Value
Year 0	-	€100
Year 0 to 1	5%	€105
Year 1 to 2	10%	€115.50
Year 2 to 3	20%	€138.60
Year 3 to 4	2%	€141.37
Year 4 to 5	4%	€147.02

$$\begin{aligned} \text{TWRR} &= \sqrt[5]{(1.05 \times 1.1 \times 1.2 \times 1.02 \times 1.04)} - 1 \\ &= 8.014\% \end{aligned}$$

For the above example as there are no intermediate cash flows, MWRR is calculated as follows

$$\text{IRR} = (-€100, 0, 0, 0, 0, €147.02) = 8.014\%$$

To be noted that in a rising market $\text{MWRR} > \text{TWRR}$
whilst in a falling market $\text{MWRR} < \text{TWRR}$

FURTHER EXAMPLE OF MWRR & TWRR

Property Asset	purchase price	€100,000
	net income	€ 10,000 p.a.
	value end of year one	€125,000
	sale price end of year two	€145,000

IRR(MWRR) = (-100,000, 10,000, 155,000) = 29.6% p.a.

To calculate TWRR

growth end of year 1 = $(€125,000 + €10,000 - €100,000) / €100,000 = 0.35$

Growth end of year 2 = $(€145,000 + €10,000 - €125,000) / €125,000 = 0.24$

TWRR = $\sqrt{1.35 \times 1.24} - 1 = 29.4\%$

SIMPLIFIED METHODS OF CALCULATION FOR MWRR & TWRR

$$\text{MWRR} = (V_1 - V_0 + \Sigma C) / V_0$$

Where V_0 = capital value at start of period

V_1 = capital value at end of period

Σc = rental income in period

$$\text{MWRR} = (\text{€}145,000 - \text{€}100,000 + \text{€}20,000) / 100,000 = 65\%$$

Over 2-year period as opposed to $1.296^2 = 1.68$ i.e 68%

$$\text{For continuous time MWRR} = \ln (V_1 + a) = \ln (165,000) = 0.5011$$

V_0

(100,000)

INTRODUCING THE MALLISON REPORT

MODULE V

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June/July 2012

KAMRA TAL-PERITI
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Price/value are market driven

**Worth (part of groundbreaking Mallison report 1995)
based on client's circumstances (value in use).**

- Price is the actual observable exchange price in the open market**
- Value is an estimate of the price that would be achieved if the property were to be sold in the market**
- Worth is a specific investor's perception of the capital sum which he would be prepared to pay (or accept) for the stream of benefits which he expects to be produced by the investment.**

- Worth is the underlying investment value as opposed to valuation being an estimate of the most likely selling price termed the open market value. Individual worth is the maximum bid price of an individual purchaser who takes account of all available information in an efficient manner. Market worth is the price at which an investment would trade on a market where buyers and sellers were using all available information in an efficient manner.

VALUATION & CALCULATION OF WORTH

A rational investor will decide to purchase an asset if the price in the market is equal to or below his assessment of the present worth of future cash flows.

Conversely a decision to sell is triggered when the price in the market is equal to or greater than the owner's calculation of worth.

Methods should be developed for measuring & expressing valuation uncertainty.

FIGURE 1: DISCOUNTED CASH FLOW SCHEDULE
EXAMPLE 1: SINGLE-LET MODERN RACK-RENTED OFFICE

Quarterly Cash Flows					
Quarter	Rental Income	Exit Value	Net Cash Flow	Present Value Factor	Present Value
1997.00	250,000		250,000	1.000000	250,000
1997.25	250,000		250,000	0.974797	243,699
1997.50	250,000		250,000	0.950229	237,557
1997.75	250,000		250,000	0.926280	231,570
1998.00	250,000		250,000	0.902935	225,734
1998.25	250,000		250,000	0.880178	220,044
1998.50	250,000		250,000	0.857994	214,499
1998.75	250,000		250,000	0.836370	209,093
1999.00	250,000		250,000	0.815291	203,823
1999.25	250,000		250,000	0.794743	198,686
1999.50	250,000		250,000	0.774713	193,678
1999.75	250,000		250,000	0.755187	188,797
2000.00	250,000		250,000	0.736154	184,039
2000.25	250,000		250,000	0.717601	179,400
2000.50	250,000		250,000	0.699515	174,879
2000.75	250,000		250,000	0.681885	170,471
2001.00	250,000		250,000	0.664699	166,175
2001.25	250,000		250,000	0.647946	161,987
2001.50	250,000		250,000	0.631616	157,904
2001.75	250,000		250,000	0.615697	153,924
2002.00	280,302		280,302	0.600180	168,232
2002.25	280,302		280,302	0.585053	163,992
2002.50	280,302		280,302	0.570308	159,858
2002.75	280,302		280,302	0.555934	155,830
2003.00	280,302		280,302	0.541923	151,902
2003.25	280,302		280,302	0.528265	148,074
2003.50	280,302		280,302	0.514951	144,342
2003.75	280,302		280,302	0.501972	140,704
2004.00	280,302		280,302	0.489321	137,158
2004.25	280,302		280,302	0.476989	133,701
2004.50	280,302		280,302	0.464967	130,331
2004.75	280,302		280,302	0.453248	127,046
2005.00	280,302		280,302	0.441825	123,844
2005.25	280,302		280,302	0.430689	120,723
2005.50	280,302		280,302	0.419835	117,680
2005.75	280,302		280,302	0.409253	114,715
2006.00	280,302		280,302	0.398939	111,823
2006.25	280,302		280,302	0.388884	109,005
2006.50	280,302		280,302	0.379083	106,258
2006.75	280,302		280,302	0.369529	103,580
2007.00		17,051,513	17,051,513	0.360216	6,142,223

Discount Rate Per Annum	10.75%
Discount Rate Per Quarter	2.59%
DCF Value (Gross) at December 1996	12,776,977
Total DCF Value (Net), say	12,435,000

TOTAL **12,776,977**

FIGURE 2: DISCOUNTED CASH FLOW SCHEDULE

EXAMPLE 2a: SINGLE-LET OVER-RENTED FREEHOLD, CITY OF LONDON OFFICE

Quarter	Income After Re-Let	SHORT-TERM INCOME			Variation Costs & Exit Value
		Rent Passing	Core Income	Froth Income	
1997.00	0	500,000	250,000	250,000	0
1997.25	0	500,000	253,068	246,932	0
1997.50	0	500,000	256,174	243,826	0
1997.75	0	500,000	259,318	240,682	0
1998.00	0	500,000	262,500	237,500	0
1998.25	0	500,000	268,217	231,783	0
1998.50	0	500,000	274,058	225,942	0
1998.75	0	500,000	280,027	219,973	0
1999.00	0	500,000	286,125	213,875	0
1999.25	0	500,000	287,545	212,455	0
1999.50	0	500,000	288,972	211,028	0
1999.75	0	500,000	290,406	209,594	0
2000.00	0	500,000	291,848	208,152	0
2000.25	0	500,000	291,848	208,152	0
2000.50	0	500,000	291,848	208,152	0
2000.75	0	500,000	291,848	208,152	0
2001.00	0	500,000	291,848	208,152	0
2001.25	0	0	0	0	-1,076,620
2001.50	0	0	0	0	-1,076,620
2001.75	0	0	0	0	-172,468
2002.00	0	0	0	0	-172,820
2002.25	0	0	0	0	-242,439
2002.50	0	0	0	0	0
2002.75	0	0	0	0	0
2003.00	0	0	0	0	0
2003.25	404,064	0	0	0	0
2003.50	404,064	0	0	0	0
2003.75	404,064	0	0	0	0
2004.00	404,064	0	0	0	0
2004.25	404,064	0	0	0	0
2004.50	404,064	0	0	0	0
2004.75	404,064	0	0	0	0
2005.00	404,064	0	0	0	0
2005.25	404,064	0	0	0	0
2005.50	404,064	0	0	0	0
2005.75	404,064	0	0	0	0
2006.00	404,064	0	0	0	0
2006.25	404,064	0	0	0	0
2006.50	404,064	0	0	0	0
2006.75	404,064	0	0	0	0
2007.00					23,190,603
Discount Rate per annum	10.75%		8.75%	8.75%	10.75%
Discount Rate per quarter	2.59%		2.12%	2.12%	2.59%
DCF Value (gross)	2,694,198		3,986,703	3,238,496	6,624,266
Total DCF Value (gross)	16,543,662				
Total DCF Value (net)	16,100,888				

16,101,000 say

Present value factors are calculated and applied in a similar fashion to Example 1.

RESIDUAL VALUATION & SENSITIVITY TESTING

MODULE VI

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June/July 2012

KAMRA TAL-PERITI
-ACCREDITED VALUERS'
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GENERAL BASIS OF RESIDUAL VALUATION

$\text{SITE VALUE} = \text{Valuation on Completion} - \text{Cost of Work} - \text{Profit}$

Alternatively

$\text{PROFIT} = \text{Value on Completion} - \text{Site Cost} - \text{Cost of Work}$

RESIDUAL VALUATIONS

Value of Scheme		p.a.	
Income		658500	
Yield @ 7%	7%	14.2857	
			9407143
Costs of Scheme			
Land cost (incl. Acquisition costs)	1345000		
Building cost (incl. Acquisition costs)	4125000		
Professional fees	515500		
Contingencies	139000		
Short term finances @ 14% p.a.			
Land cost	521000		
bldg. Etc cost	493500		
letting delay on building costs	357000		
Agency fees			
letting and marketing	124000		
sale of investment	188000		
Total Development Cost			7808000
			1599143
Percentage of Value Cost	16.999241		
Percentage of Total cost	20.480826		

SIMPLE SENSITIVITY TESTING

Matrix of Site Values

Estimated Rental Value
of office space € per m²

Investment Capitalisation Rate

6.75%

7%

7.25%

145

1.38m

1.18m

1.0 m

150

1.54m

1.35m

1.16m

155

1.72m

1.51m

1.31m

Developer's Profit Change with 10% change in Variable

Change in Variable \pm 10%	Return for risk and profit		Change in profit
	Amt. €	% of CV	%
Rent	+ 2.51m	24.0	+57.0
	- 0.69m	8.0	-57.0
Yield	+ 0.76m	9.0	-52.5
	- 2.62m	25.0	+64.0
Bldg. Cost	+ 1.03m	11.0	-35.5
	- 2.16m	23.0	+35.5
Finance rate	+ 1.45m	15.5	-9.0
	- 1.74m	18.5	+9.0
Bldg period	+ 1.51m	16.0	-6.0
	- 1.69m	18.0	+6.0
Letting period	+ 1.55m	16.5	-3.0
	- 1.65m	17.5	+3.0
Pre-building period	+ 1.59m	17.0	-1.0
	- 1.61m	17.0	+1.0
Land Cost	+ 1.41m	15.0	-11.5
	- 1.78m	19.0	+11.5

PROFIT SENSITIVITY TO BREAK EVEN POINT

Variable	Change in variable to eliminate profit	New value of variable (approx)	Original value of variable
Rent	17.5%	€124 per m ² (office rent)	€150 per m ² (office rent)
Yield	21%	8.5%	7%
Building Costs	28.5%	€960 per m ² (office cost)	€750 per m ² (office cost)
Finance rate	105%	29%	14% p.a.
Building period	153%	3.75 yrs	1.5 yrs
Letting period	295%	2 yrs	0.5 yrs
Pre-building period	953%	5.25 years	0.5 yrs
Land cost	87%	€2.4m	€1.3m

COMBINED SCENARIOS

Variable	Optimistic scenario	Realistic scenario	Original estimate	Pessimistic scenario
Rental growth	7% p.a.	5% p.a.	-	3% p.a.
Investment yield	6.75%	7%	7%	7.25%
Building costs increase	6% p.a.	7.5% p.a.	-	9% p.a.
Finance rate	12% p.a.	14% p.a.	15% p.a.	16%
Building period	18 mths	18 mths	18 mths	18 mths
Letting period	No delay	6 mths	6 mths	9 mths
Prebuilding period	6 mths	6 mths	6 mths	9 mths
Contingencies	3%	3%	3%	3%
Land cost (incl acquisition cost)	€1.35m	€1.35m	€1.35m	€1.35m

DEVELOPER'S RETURN FROM COMBINED SCENARIO

	Optimistic scenario	Realistic scenario	Original estimate	Pessimistic scenario
Developer's return	€3.5m	€2m	€1.6m	€0.5m
% of CV	31.5%	19.2%	17%	5.8%
% of total costs	46.1%	23.8%	20.5%	6.2%
Increase over original estimate	120%	25%		-65%

This method suffers two main problems; firstly it is unlikely but not impossible, that the optimistic or pessimistic values for each variable would combine together to give the optimistic and pessimistic profit levels shown, and secondly no information is provided on the likelihood or probability of these estimates occurring.

MONTE CARLO METHOD

Variable	Range	Probability	Probability numbers (out of 100)
Rental growth (rate of annual Increase during Development)	0%	15%	1 –15
	+3%	20%	16-35
	+5%	40%	36-75
	+7%	20%	76-95
	+10%	5%	96-100
Investment yield	6.5%	5%	1-5
	6.75%	15%	6-20
	7%	50%	21-70
	7.25%	30%	71-90
	7.5%	10%	91-100
Construction cost inflation per annum	+5	10%	1-10
	+6	25%	11-35
	+7.5	40%	36-75
	+8.5	20%	76-95
	+10	5%	96-100

MONTE CARLO METHOD - continued

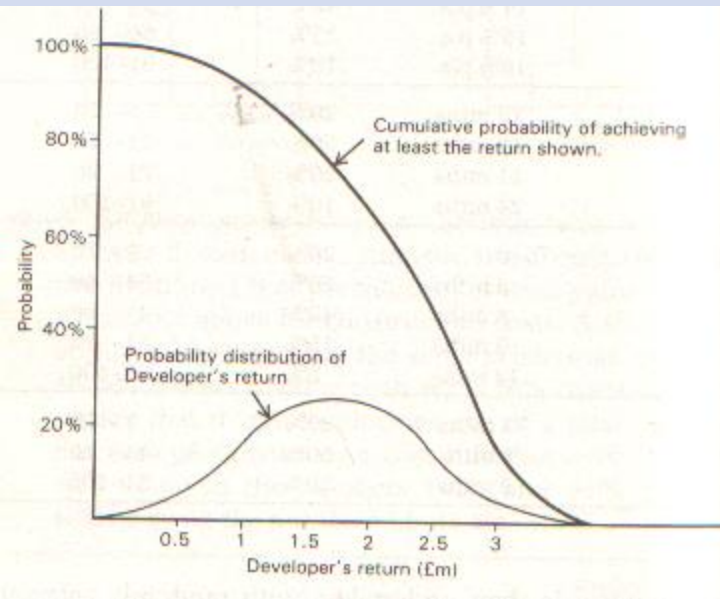
Finance Rate	12% p.a.	5%	1-5
	13% p.a.	25%	6 – 25
	14% p.a.	40%	26 – 65
	15%p.a.	25%	66 – 90
	16% p.a.	10%	91- 100
Building period	15 mths	20%	1 – 20
	18 mths	50%	21 – 70
	21 mths	20%	71 – 90
	24 mths	10%	91 - 100
Letting period	0	20%	1 – 20
	3 mths	20%	21 – 40
	6 mths	40%	41 – 80
	9 mths	15%	81 – 95
	12 mths	5%	96 – 100
Pre-building period	3 mths	20%	1 – 20
	6 mths	60%	21 – 80
	9 mths	20%	81 – 100

RANDOM NUMBERS

If one of the random runs gives these random numbers 22, 53, 14, 80, 42, 77 and 68 this scenario is calculated

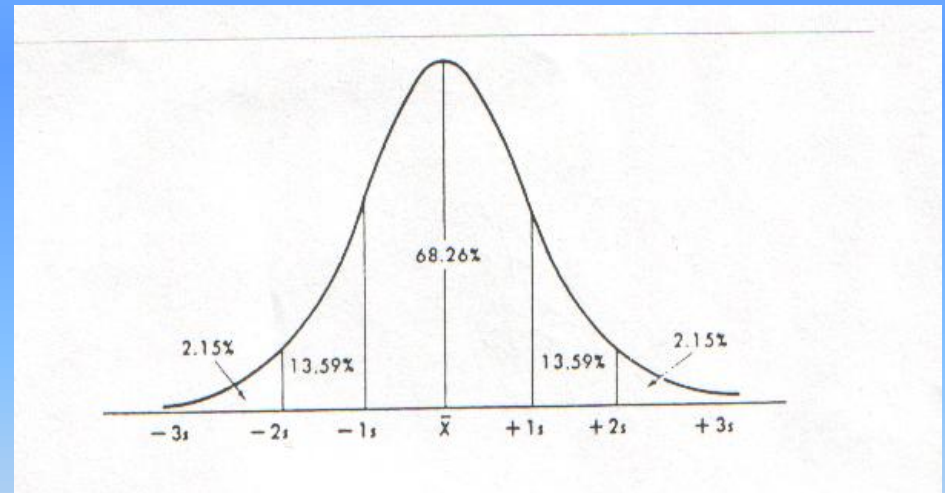
Rental Growth	Investment Yield	Construction cost inflation	Finance rate	Building period	Letting period	Pre-building period
+ 3% p.a.	7%	+6% p.a.	14%	18mths	6 mths	6 mths

MONTE CARLO SIMULATION IN 1000 RUNS



	Capital value (£)	Total costs (£)	Profit (£)	Return on CV%	Return on TC%	Change in profit %
1	9.4m	8.7m	0.7	7.8	8.4	-54
2	11.2m	8.2m	3m	26.8	36.6	87.2

Simulation No's 1 & 2



	Mean	Standard deviation
Capital value	£10.2m	£0.61m
Total cost	£8.3	£0.36m
Profit	£1.9m	£0.65m
Return on CV	18.8%	
Return on TC	23.2%	
Change in profit from original appraisal	= 20.3%	

Result of 1000 runs

The Normal Distribution

MONTE CARLO SIMULATION IN 1000 RUNS

(continued)

Assuming that profit in this simulation is normally distributed, a 95% prediction interval ($\pm 2 \times$ standard deviations) for a single result for profit is: €1.9m \pm 2. €0.65m = €0.6m, €3.2m

This means that the developer can be virtually certain that profit from this development scheme will not be less than €0.6m and not more than €3.2m

RISK & UNCERTAINTY IN PROPERTY INVESTMENT

**- The probability of achieving less
than expected**

MODULE VII

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June/July 2012

KAMRA TAL-PERITI
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CPD COURSE

INVESTMENT DECISIONS

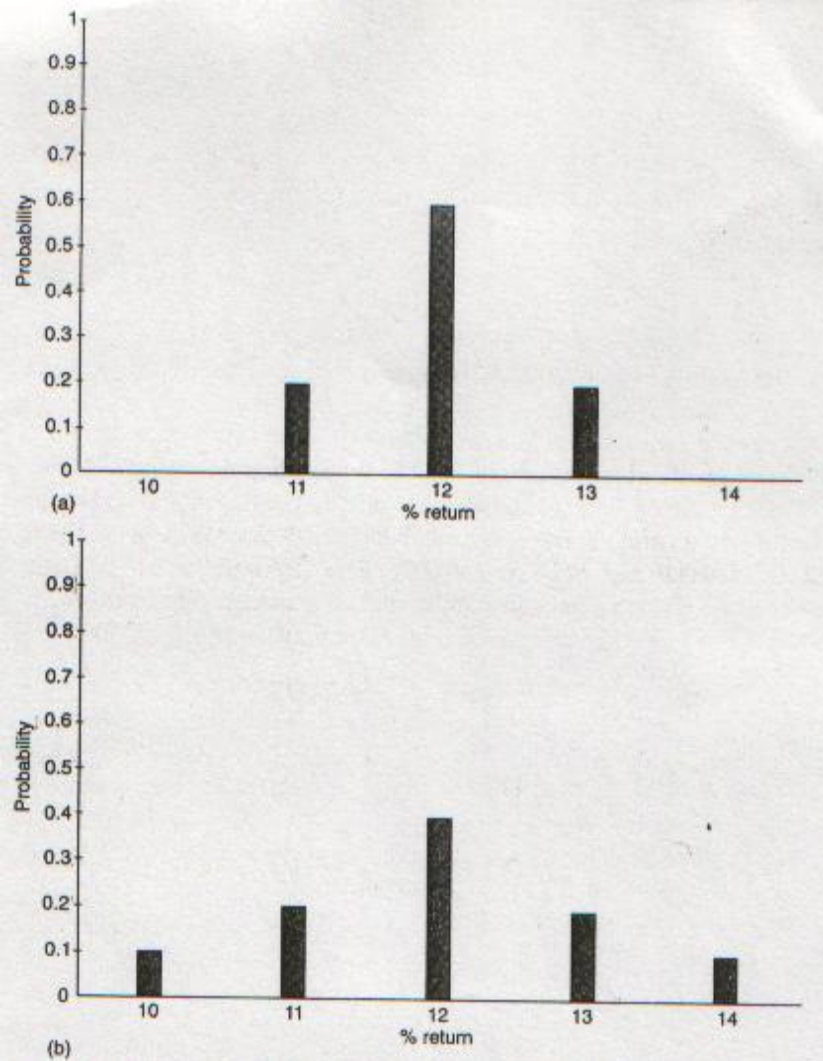
Probability distributions		
Return	Probability of return	
	Investment A	Investment B
10	0.0	0.1
11	0.2	0.2
12	0.6	0.4
13	0.2	0.2
14	0.0	0.1
	1.0	1.0

Expected returns for each investment

$$E(A) = 11(0.2) + 12(0.6) + 13(0.2) = 12\%$$

$$E(B) = 10(0.1) + 11(0.2) + 12(0.4) + 13(0.2) + 14(0.1) = 12\%$$

AMOUNT OF VARIABILITY, DISPERSION, SCATTER IN EACH DISTRIBUTION



$$\text{VAR}(A) = 0.2(11-12)^2 + 0.6(12-12)^2 + 0.2(13-12)^2 = 0.4$$

$$\text{VAR}(B) = 0.1(10-12)^2 + 0.2(11-12)^2 + 0.4(12-12)^2 + 0.2(13-12)^2 + 0.1(14-12)^2 = 1.2$$

$$\text{SD}(A) = \sqrt{0.4} = 0.63$$

$$\text{SD}(B) = \sqrt{1.2} = 1.09$$

Coefficient of variation (CV) = SD of returns/means

$$\text{CV}(A) = 0.63/0.12 = 5.25$$

$$\text{CV}(B) = 1.09/0.12 = 9.08$$

Thus investment A is preferred to investment B

(a) Investment A (b) Investment B

RISK AVERSION

– UTILITY CHARACTERISTICS

Consider a project which if successful will give a gain of €200,000 but if it fails will give a loss of €100,000 with the probability of success given at 80%.

The expected monetary value (EMV)

$$= (0.8) \text{ €}200,000 + (0.2)(-\text{€}100,000) = + \text{€}140,000$$

Although positive result prefers to doing nothing, developer considers whether he can shoulder a €100,000 loss

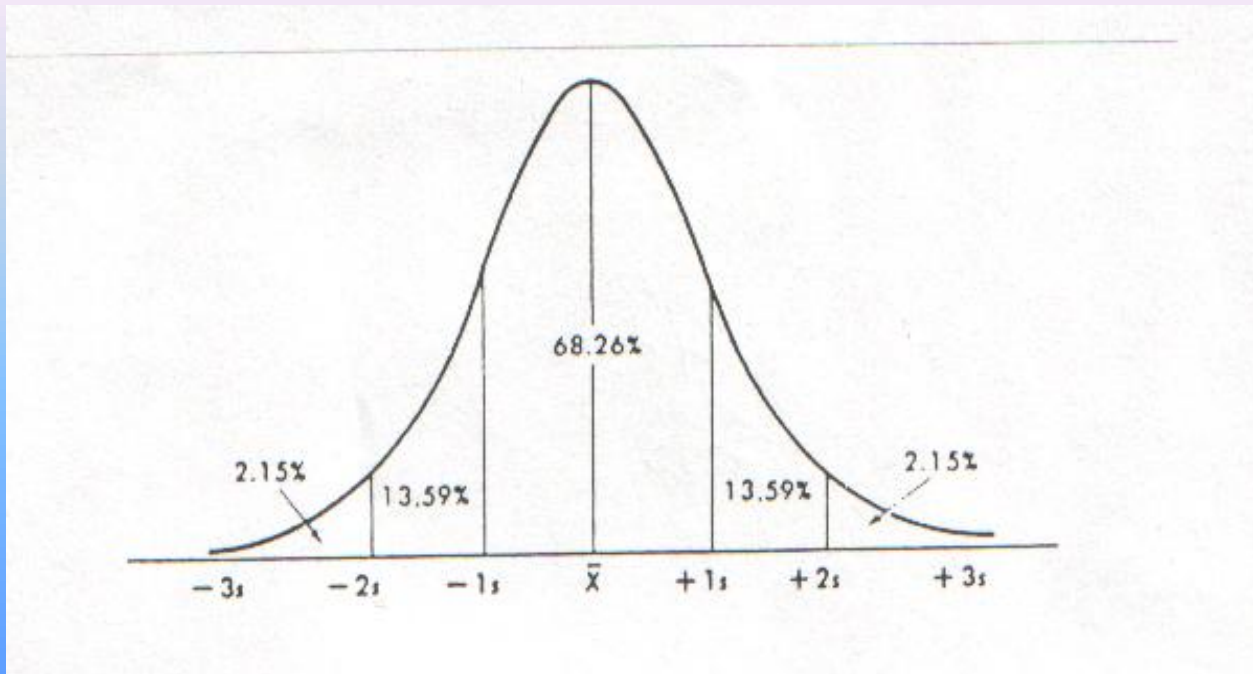


Fig 1 – The Normal Distribution

Risk & return can be characterised by the mean & standard deviation as shown in Module VI.

If you have an investment with an expected return of 10%, with a standard deviation of 5%, you can say that for 68% or 2/3 of the time, your returns on this investment will lie between $10\% \pm 1 \text{ s.d.} + 5\% - 15\%$

HIGHEST, LOWEST AND MOST LIKELY VALUES

Presently a rental agreement of €15,000 p.a is to be updated in 5 years' time. Its most likely future value stands at €18,000 p.a. with its most optimistic value at €21,000 p.a. and the worst scenario to stand at €15,000 p.a.

For a normal distribution, the difference between the highest and lowest and the most likely values is 3SDs

$$SD = (\text{€}21,000 - \text{€}18,000) / 3 = \text{€}1,000 \text{ p.a.}$$

HIGHEST & LOWEST VALUE APPROACH (continued)

If the present capitalization rate is 6.5%, with the highest rate to be taken at 7% and lowest rate at 6% in 5 years' time

$$SD = (7\% - 6.5\%) / 3 = 0.167$$

$$\left[\frac{SD_c}{C} \right]^2 = \left[\frac{SD_R}{R} \right]^2 + \left[\frac{SD_R}{I} \right]^2 \text{ where } C = R/I$$

$$(SD_c) = \left\{ \left[\frac{1000}{18,000} \right]^2 + \left[\frac{0.167}{6.5} \right]^2 \right\}^{1/2} = 0.061C$$

or 6.1% of Capital Value is the Standard Deviation

FURTHER TO THE HIGHEST & LOWEST APPROACH

The most likely capital value

$$C = \text{€}18,000 / 6.5\% = \text{€}276,923$$

However there is a

68% probability of value lying between $\text{€}276,923 \pm 6.1\%$

95% probability of value lying between $\text{€}276,923 \pm 12.1\%$

100% probability of value lying between $\text{€}276,923 \pm 18.3\%$

The above gives a range of values $\text{€}310,440$ down to $\text{€}243,423$
@ 95% probability

(to be noted that if pessimistic rental amount of $\text{€}15,000$ p.a. $\times 100/7 = \text{€}214,285$ however it is highly unlikely that the worst scenarios occur simultaneously)

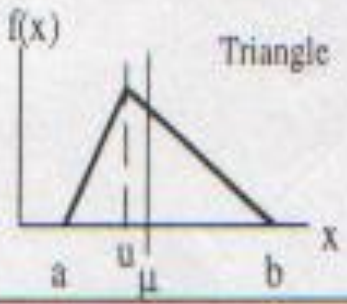
FURTHER DISTRIBUTIONS

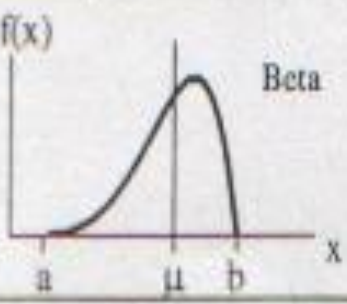
The Standard Distribution tends to zero on either side of the curve and is symmetrical about the mean value.

In property Investments, the highest and lowest values would be finite value probably in a skewed distribution.

Better distributions having finite value are the Triangle Distribution & Beta Distribution with properties shown below.

DISTRIBUTION TYPES

	$-\infty < a < b < +\infty$ $\mu = \frac{1}{3}(a + b + u)$ $\sigma = \sqrt{\frac{1}{18}(a^2 + b^2 + u^2 - ab - au - bu)}$	$a \leq x \leq u$ $f(x) = \frac{2}{b-a} \left(\frac{x-a}{u-a} \right)$ $F(x) = \frac{x^2 - 2ax + a^2}{(b-a)(u-a)}$	$u \leq x \leq b$ $f(x) = \frac{2}{b-a} \left(\frac{b-x}{b-u} \right)$ $F(x) = 1 - \frac{x^2 - 2bx + b^2}{(b-a)(b-u)}$
---	---	---	---

	$-\infty < a < b < +\infty \quad r, s \geq 1$ $\mu = a + (b-a) \cdot \frac{r}{r+s}$ $\sigma = \frac{b-a}{r+s} \cdot \sqrt{\frac{rs}{r+s+1}}$	$f(x) = \frac{\Gamma(r+s)}{\Gamma(r)\Gamma(s)} \frac{(x-a)^{r-1}(b-x)^{s-1}}{(b-a)^{r+s-1}}$ $F(x) = \frac{\Gamma(r+s)}{\Gamma(r)\Gamma(s)} \int_a^x \frac{(u-a)^{r-1}(b-u)^{s-1}}{(b-a)^{r+s-1}} du$
--	--	---

TRIANGULAR DISTRIBUTION FOR HIGHEST & LOWEST - (example)

$$v = \text{€}300,000; \quad a = \text{€}245,000; \quad b = \text{€}354,000$$

$$\text{Mean value} = 1/3 (245,000 + 354,000 + 300,000) = \text{€}300,000$$

$$\begin{aligned} \text{SD} &= [1/8 (245,000^2 + 354,000^2 + 300,000^2 - 245,000 \times 354,000 \\ &\quad - 245,000 \times 300,000 - 354,000 \times 300,000)]^{1/2} \\ &= \text{€}22,250 \end{aligned}$$

What is the probability that Capital Value is €325,000 or higher

$$F_{(x)} = 1 - \frac{(325,000 - 354,000)^2}{(354,000 - 245,000)(354,000 - 300,000)}$$

= 0.857 I.e. 14.3% chance of €325,000 or higher occurring

BETA DISTRIBUTION FOR HIGHEST & LOWEST - (example)

mean value $m = \frac{a+4v+b}{6} = \frac{245,000 + 4,300,000 + 354,000}{6} = 299,833$

variance $v = \frac{(b-a)^2}{6} = \frac{(354,000 - 245,000)^2}{6} = 330,027,777$

$$\alpha_1 = \frac{(m-a)^2}{(b-a)} \left(1 - \frac{m-a}{b-a}\right) \left(\frac{v}{(b-a)^2}\right)^{-1} - \frac{(m-a)}{(b-a)} = 4.024$$

$$\alpha_2 = \frac{(m-a)}{(b-a)} \left(1 - \frac{m-a}{b-a}\right) \left(\frac{v}{(b-a)^2}\right)^{-1} - (1 - \frac{m-a}{c-a}) = 8.503$$

SIMULATION EXERCISE:

(Latin Hypercube on a 50,000 run)

The following variables have now been given optimistic & pessimistic values varying thus

	Pessimistic €	Expected €	Optimistic €
Market Value Rate	1,000/m ²	1225/m ²	1350/m ²
Open Public Space	90,000	115,000	125,000
Construction Costs	+25%	0%	-2%
Construction Period (years)	5	3.5	3.25
Selling Period (years)	3.50	4	5.0

CRYSTAL BALL ANALASYS

Statistics Data		Percentiles	
Mean	6678125	100%	8953045
Medium	66718967	90%	7709743
Standard Deviation	805214	80%	7400643
Skewness	-0.2296	70%	7156222
Kurtosis	2.62	60%	6933391
Coeff of Variability	0.1206	50%	6718838
Min	3577800	40%	6494974
Max	8953045	30%	6251015
Mean Std Error	3601	20%	5970137
		10%	5592343
		0%	3577800

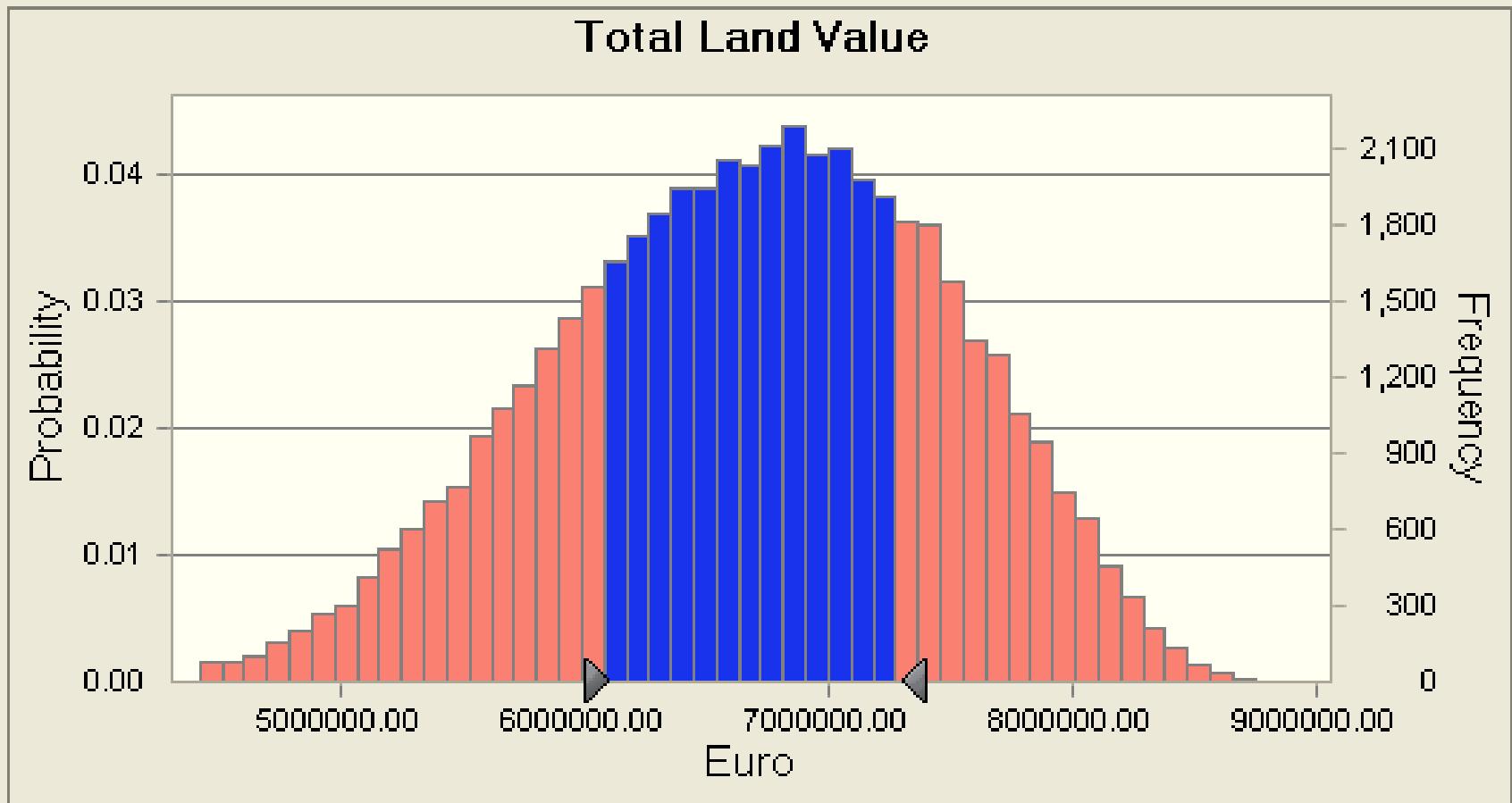
The statistics data above gives a range for land value varying between €3,577,800 (0% probability) up to €8,953,045 (100% probability).

CRYSTAL BALL CHART

50,000 Trials

Frequency View

49,881 Displayed



▶

Certainty: %

◀

PROPERTY IN A PORTFOLIO CONTEXT

MODULE VIII

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June/July 2012

KAMRA TAL-PERITI
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CPD COURSE

WHAT ARE THE IMPLICATIONS OF PROPERTY?

The Case for Property: Property is negatively related to equity & gilts. Therefore, including property will enhance portfolio returns & reduce risk.

Property offers more opportunities for active management than equity & gilts. The only way to improve performance on the latter 2 investments is to sell & purchase something else. With property you can restructure the lease, marriage value, refurbishment & finally re-development.

MEASURING RISK QUANTITATIVELY

- (a) The standard deviation of series for return from property investment which shows the variability around the “average” return
- (b) The correlations coefficient by which movements in returns of property are related to movements in returns of other assets, to show its risk reduction qualities in a mixed asset portfolio.
- (c) The Beta coefficient of property i.e the slope of the regression line when returns from property are regressed against market returns, to show its relative sensitivity to market movements

CORRELATION BETWEEN ASSET CLASSES

1987-1995

	Property Direct	Property Companies	Gilts	Shares
Property Direct	1.0	-0.01	-0.38	-0.09
Property Companies		1.00	N/A	0.80
Gilts			1.0	0.78
Shares				1.00

Note: The correlation coefficient varies between 0 (not strong) and 1 (strong) and may be positively or negatively (- in table) correlated

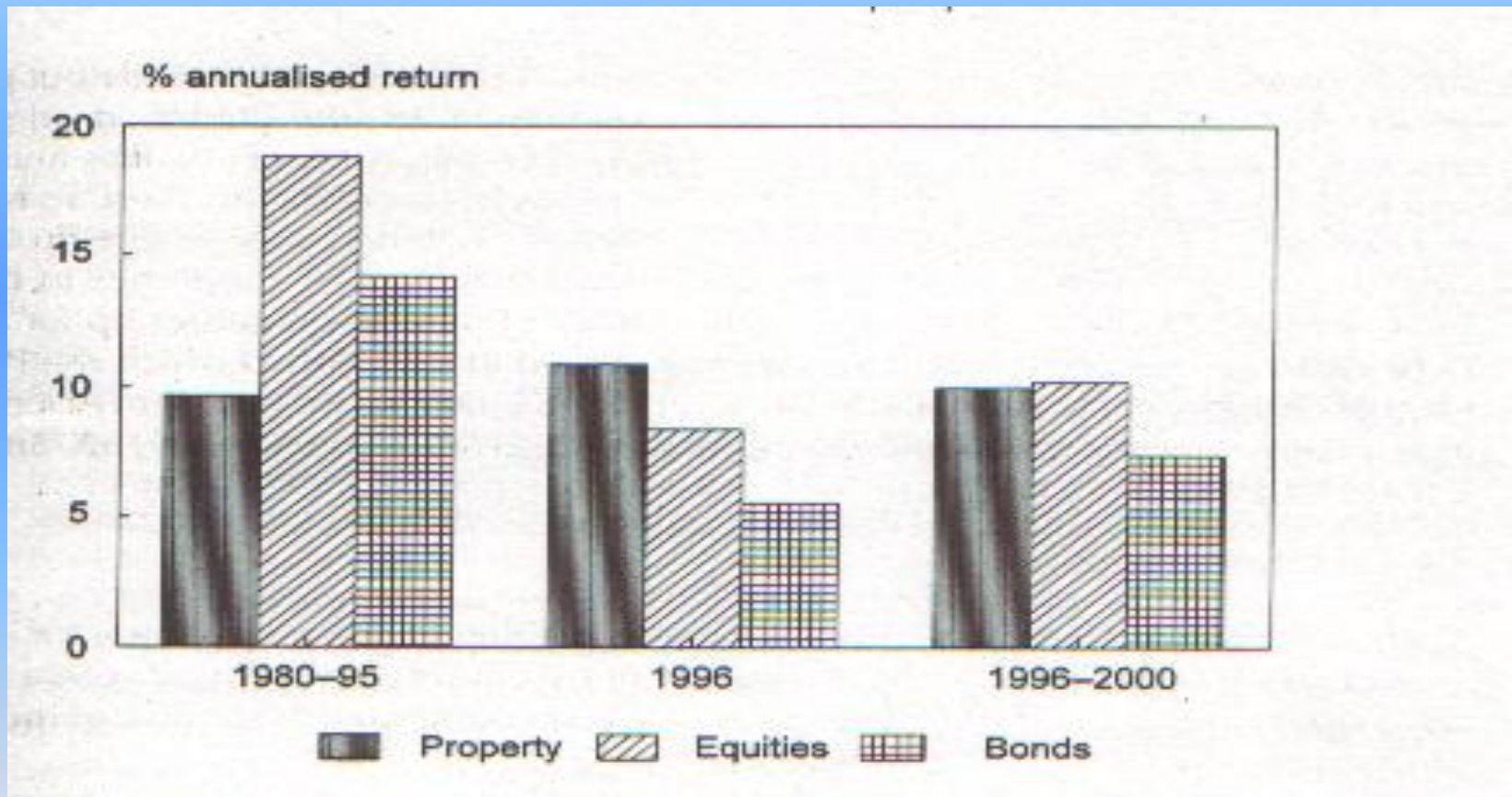
Source: RICS (1997)

However, property companies exhibit high correlation with the stock market and low correlation with the direct property market, capturing only a small portion of direct property market returns.

AVERAGE RETURNS & RISK FOR PROPERTY 1987 – 1995

SECTOR	AVERAGE RETURN %	STANDARD DEVIATION %
Direct Property Total	10	3.64
Offices	8.7	4.56
Retail	9.4	3.13
Industrial	14.2	4.17
Property Companies	13.3	23.57
Equities	15.7	18.71

COMPERATIVE PERFORMANCE OF INVESTMENTS

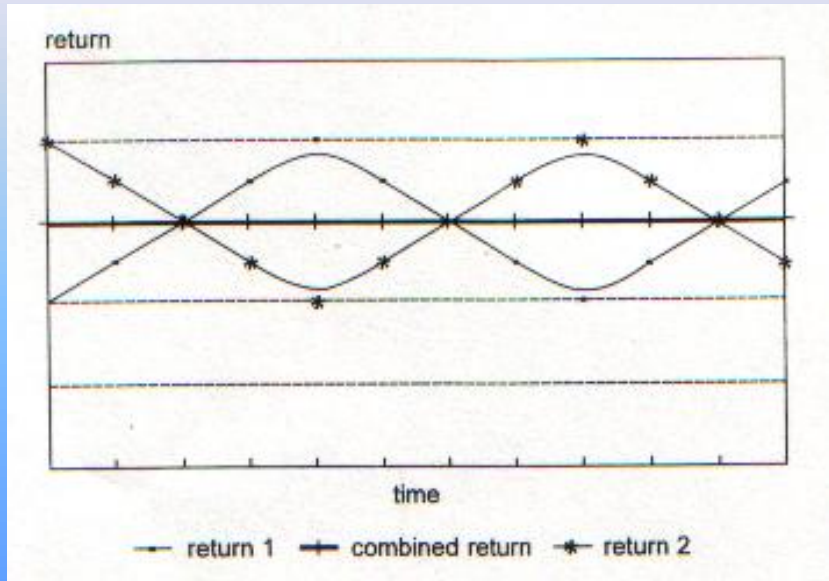


FURTHER TO DIRECT & INDIRECT PROPERTY

On the other hand yearly valuation-based series for direct property as opposed to the indirect property markets subjected to continuous transaction-based property information, tends to indicate that the publicly-traded indirect property vehicles are more likely to reflect changes in property market fundamentals.

Studies have shown this time-lag could be up to one year with property companies leading direct property.

Perfect negative correlation of investment returns



Diversification in a two-asset portfolio:

Assume a two-asset portfolio with three investments to choose from. Investment A is a low-risk investment, B & C are both volatile. 50% of funds will be invested in each investment.

Expected return:

Investment	Return			Average return	Standard deviation
	Optimistic	Average	Pessimistic		
A	12	10	8	10	1.63
B	20	10	0	10	8.16
C	0	10	20	10	8.16

Combined portfolio:

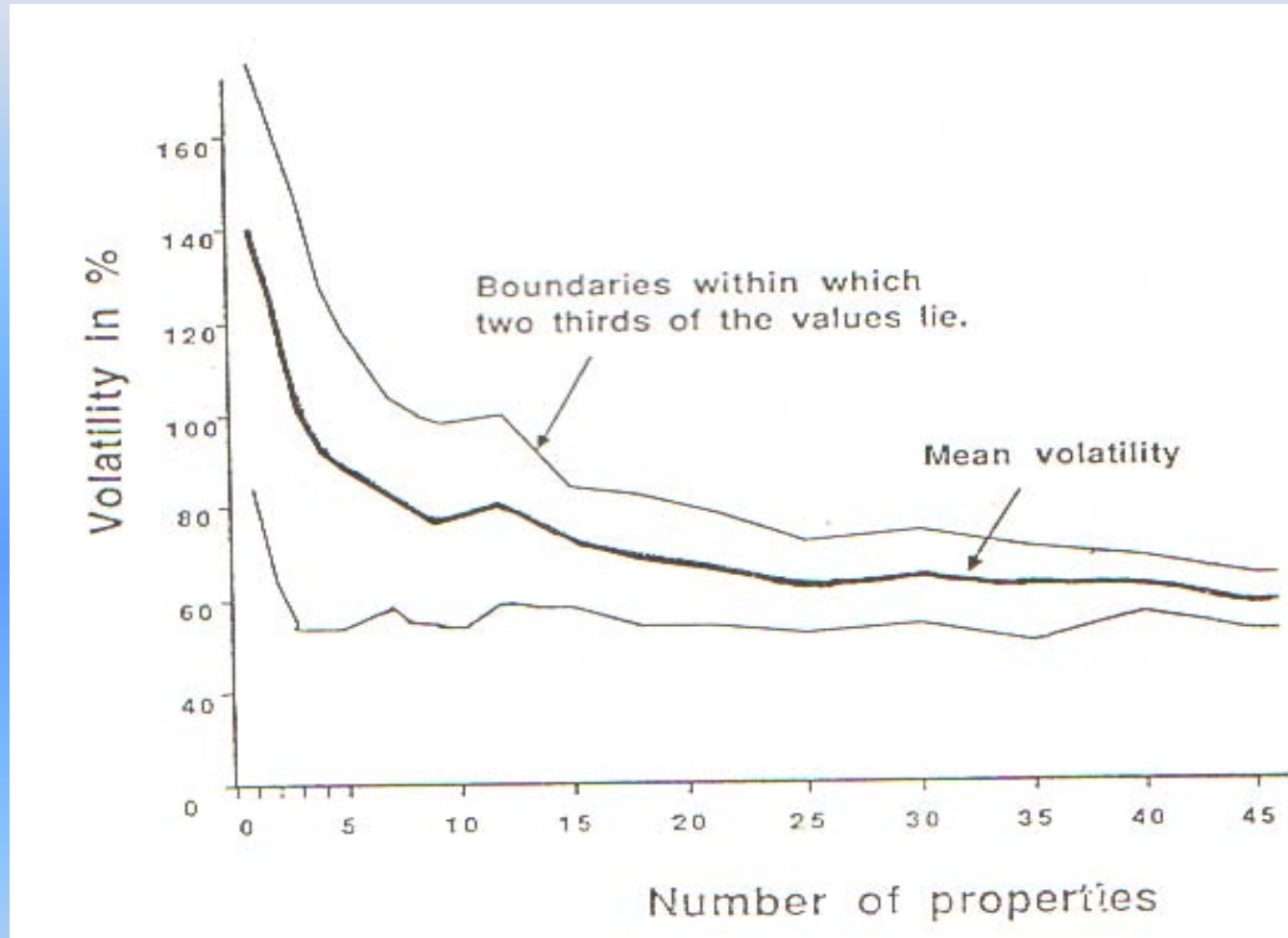
Investment	Return			Average return	Standard deviation
	Optimistic	Average	Pessimistic		
$(A + B)/2$	16	10	4	10	4.89
$(A + C)/2$	6	10	14	10	3.26
$(B + C)/2$	10	10	10	10	0

Expected Return on a Security = Risk-free Rate + beta (expected return on market portfolio – Risk –free rate)

Sector	Beta
Office	0.943
Retail	1.041
Industrial	0.850

If an investment has a Beta of 2 and the market rises 10%, this Investment will rise 20% +/- the Alpha value.

PORTFOLIO CONSTRUCTION - I



This shows that the number of properties necessary to remove the majority of specific risk is in the order of 30 to 45 equally sized investments. In the equities market note that 10 to 20 randomly selected shares would diversify away 90% of the non-market risk.

CORRELATION MATRIX BETWEEN SECTOR

	Industrial	Offices
OFFICES	0.9	0.82
RETAIL	0.82	

PORTFOLIO CONSTRUCTION II

DIVERSIFICATION ACROSS SECTORS - This could vary from

UK	35% offices	50% retail	15% Industrial	
UK	40% offices	40% retail	20% Industrial	
USA	30% offices	25% retail	10% Industrial	35% apartments

COMPUTER SPREADSHEET TECHNIQUES

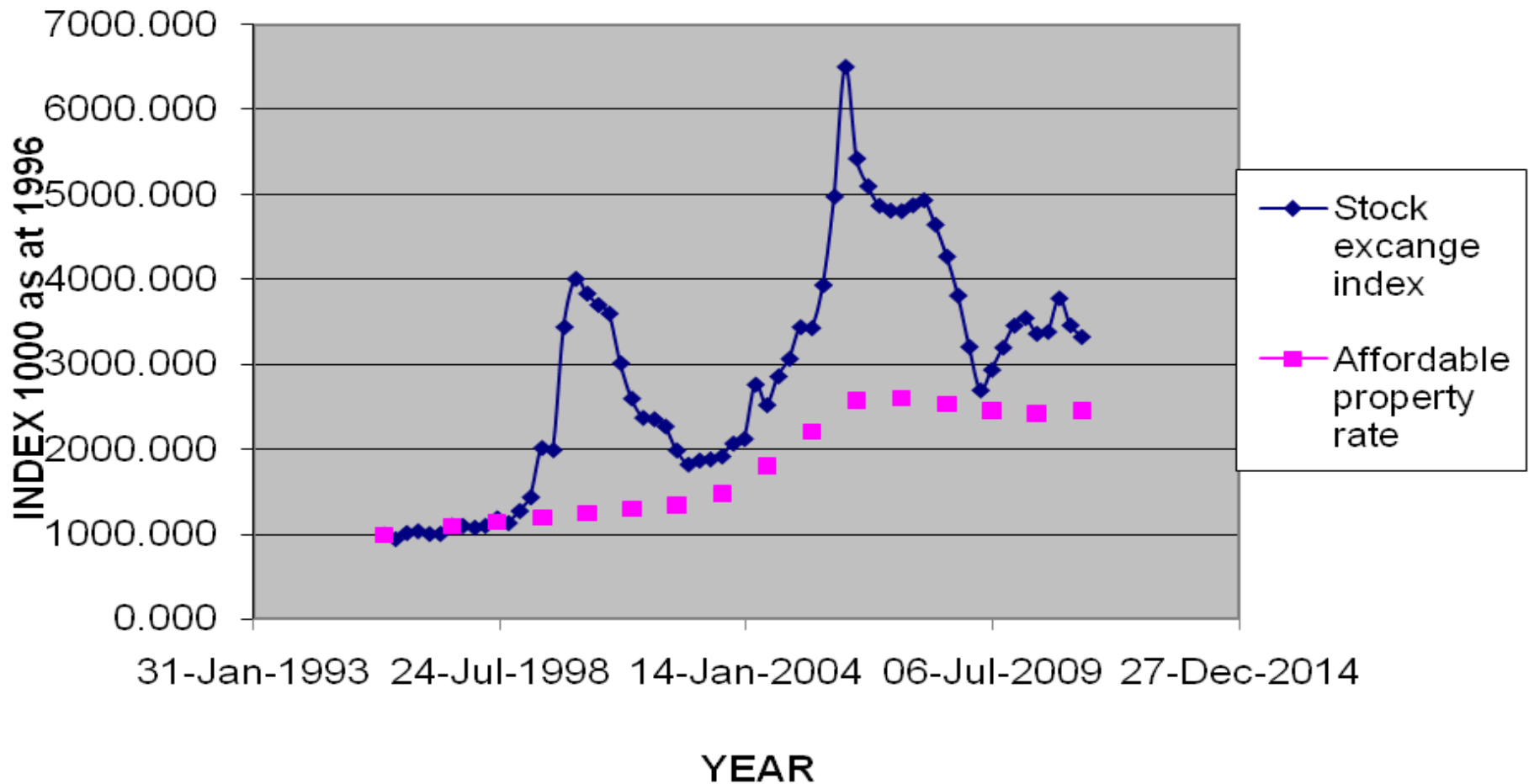
Computer software known as an Optimiser can calculate how much of each asset should be held in order to achieve an efficiently diversified portfolio.

Inputs required are expected return on each asset, the uncertainty of this return (SD) and the extent of co-variance of pair of assets measured by correlation coefficient.

PERCEPTIONS OF PROPERTY RISK

1. The most important reasons for including property in a portfolio were the long term return and the low level term risk. The next most important reason was the need to diversity the portfolio.
2. 85% said that they considered the lack of short term volatility of property an advantage.
3. The most important disadvantage of property was illiquidity. Only 19% were neutral to this feature.
4. High units costs were a severe problem to 22% and minor problem to 44% but for large investors this was perceived to be a key advantage.
5. 40% were neutral to management costs. They were seen as recoverable and active management was viewed as an opportunity for increasing return not a burden.
6. The specialist knowledge needed to investing in property was seen as a further disadvantage.

PROPERTY vs STOCK EXCHANGE INDEX 1996 - 2011



Source: DHI Periti in-house valuations: Camilleri (2012) updated table

MARKET EFFICIENCY

Access to property market information is more restricted thus leading to more inefficiency.

There is thus a greater likelihood of dealers earning abnormal returns.

Efficiency of the market is difficult to test with valuation models based on the comparison method, as no indication is given whether property is under or over-priced.

VALUERS TO SHIFT FROM THE TECHNICAL TO THE STRATEGIC ROLE

The use of 'appraisal' rather than 'transaction' date in portfolio analysis taking into account the risk involved leads onto 'Market Worth' which is the price at which an investment trades where buyers and sellers use, in an efficient manner, all available information.

TYPES OF INVESTORS

- **Risk Averse** – actions involving high risk or large monetary loss are avoided.
- **Risk Neutral** – typical of owners of enormous wealth.
- **Risk taker** – takes the possibility of achieving the maximum reward from even the most dangerous gamble.

EPILOGUE

- Clients are return orientated
- Client is not happy to hover around the bottom of the performance table because he has a commensurately low level of risk.
- Competition will not be removed from the market – therefore RETURN will always be KING.

DIFFERING BASES OF MARKET VALUE

**-Use of Recognised bases of Valuation as statutory
requirements in respect of financial statements**

MODULE IX

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June/July 2012

KAMRA TAL-PERITI

-ACCREDITED VALUERS'

CPD COURSE

DIFFERENT DEFINITIONS OF MARKET DERIVED AND NON MARKET DERIVED BASES OF VALUATION

- | | |
|--|-------------|
| I. Market Value ... | CH 5 |
| II. Mortgage Lending Value ... | CH 6 |
| III. Fair Value – Market Value
for existing use ... | CH 5 |
| IV. Value in Use ... | CH 5 |
| V. Alternative Use Value ... | CH 5 |
| VI. Negative Values ... | CH 5 |
| VII. Depreciated Replacement Cost ... | CH 5 |
| VIII. Social Cost Benefit Analysis ... | CH 5 |
| IX. Retrospective Valuation ... | CH 5 |

OPENMARKET VALUE – CH 5

Market value shall mean the price at which land and buildings could be sold under private contract between a willing seller and arm's-length buyer on the date of valuation, it being assumed that the property is publicly exposed to the market, that market conditions permit orderly disposal and that a normal period having regard to the nature of the property, is available for the negotiation of the sale.

MORTGAGE LENDING VALUE – CH 6

- This means the value of the property by making a prudent assessment of the future marketability by taking into account long term sustainable aspects of the property, the normal and local market conditions, the current use and alternative appropriate uses. Speculative elements may not be taken into account.
- Mortgage lending value is thus close to Market value, but introduces a smoothing of market trends, rents and yields.

FORCED SALE & LIQUIDATION VALUE CH 6

The forced sale value is identical to Market Value, with the exception that the time allowed for marketing is unduly short, and publicity and market exposure is inadequate. The seller may also be under duress or compulsion.

FAIR VALUE – (I) CH 5

- **Synonymous to Existing Use of an Asset should be adopted in relation to valuations to market of fixed assets for the purpose of financial statements. For most purposes regarded as synonymous with the Market Value**
- **IAS 16.6 (Appendix D) defines it as:-**
- ***“the amount for which an asset could be exchanged between knowledgeable, willing parties in an arm’s length transaction.”***

FAIR VALUE (II) – CH 5

Article 30 of IAS 16 (Revised 1998) (Appendix D) deals with revaluations of assets and states as follows:

“The fair value of land and buildings is usually determined from market-based evidence by appraisal that is normally undertaken by professionally qualified valuers..”(IAS 16.32)

FAIR VALUE is also professionally used to provide a legal definition for attributing an equitable settlement between the parties to an action which is before the courts or is in contemplation of proceedings.

VALUE IN USE (THE CONCEPT OF WORTH)

– INVESTMENT VALUE – CH 5

In real estate valuation reporting, it is good practice, in order to avoid misleading the recipient, to use the word “value” only when expressing an objectively established value in exchange at a given date, to use the word “worth” only in the context of value in use.

Value in use is the amount obtainable from the use of an asset until the end of its useful life and from its subsequent disposal. Value in use is calculated as the present value of estimated future cash flows. The discount rate should be a pre-tax rate that reflects current market assessments to the time value of money and the risks specific to the asset.

Refer to IAS 16 (Appendix D)

ALTERNATIVE USE VALUE – CH 5

Often required in the case of valuation and appraisal for security purposes or as part of a highest best use analysis.

Alternative Use Values, which cannot be realized except on liquidation, closure or removal of the business to other premises, are not suitable for inclusion in the accounts except where an intention is adduced, on the part of the directors, to dispose of the asset, when it may form part of the assessment of Market Value, and be separately classified in valuation certificate.

Where Alternative use Value differs materially from existing use value it must be reported to the client by the valuer.

TRADE RELATED VALUATIONS – Chapter 8

Leisure Properties (regarded as a high risk area)

Theme/Country parks

Golf Courses

Hotel & bars/restaurants

Theatres, cinemas, bingo hall & casinos

Swimming and leisure Pools

CAPITAL VALUATION OF LEISURE PROPERTIES

- Profits or Accounts method – most common leading onto income capitalisation approach with earnings multiplier (Years' purchase) taken at between 5 & 13
- Brick & Mortar value + goodwill + furnishings + stock
- Discounted Cash flow method (DCF) grown in importance discounted at 14.5% for an established business & @ 16% for a new business
- Sales comparison approach – value/bed for hotel or value/table cover for restaurant
- A terminal value may need to be established at the end of its economic life

GOODWILL

For goodwill to exist there is to be “custom & business!”
as per following zoological classification

1. The cat – who stays faithful to the location not person
2. The dog – who stays faithful to the person not the location
3. The rat – who is casual and is attracted to neither person nor location
4. The rabbit – who comes because it is close by and for no other reason

EXCLUSION FOR GOOWILL

Personal goodwill to be excluded – thus analogy of dog not to be considered.

The market value of a fully equipped operational entity operated by an **average competent operator** in annual parlance derives for the behaviour of the cat, rabbit and topped up by the rat.

Rule of thumb for calculating goodwill is to be given a multiplier in the range of 1-1.75 to the adjusted net profit (value to be inserted in a Brick & Mortar Valuation)

NEGATIVE VALUES

Negative values arise where real estate assets are subject to physical, legal, financial or contractual obligations which are attached to the legal interest and which generate a negative real or hypothetical cash flow or which require substantial remedial works. The assets convert into a liability, or negative value.

If positive values are shown in accounts, then logic and principles of transparency require that negative values must also be reported. To report the value of a legal interest, which is actually a liability at a 'nil' valuation will fail to present a true and fair view of the company's overall position.

If a negative value is reported, the directors' attention must be drawn to the matter in notes to the valuation certificate.

DEPRECIATED REPLACEMENT COSTS – CH 5

(using replacement or rebuilding cost suitably adjusted)

Fire stations, power stations, chemical works fall into this category

Depreciated Replacement Cost (DRC) is a valuation procedure which is employed to arrive at existing use value, or value in use, of specialized properties which are rarely if ever sold or let in the market other than as a part of a business. This is not considered to be a market-derived method, except for the land element of the valuation.

In the absence of any market data, DRC is often adopted as a substitute for market generated analysis. It is, therefore, unsuitable for use in respect of properties that are held for the purpose of investment, or are surplus to the operational requirements of the company that owns them.

DRC of a purpose-built high security cash centre

1	Cost of construction replacement or modern substitute	€20,430,438
2	Effective capital value – allowance for deductions for age,obsolescence et all @ 11%	€18,099,355
3	Land Value – limited to existing use Lm400,000 per acre less 11%	€ 5,598,100
		<hr/>
		€23,697,455
4	Decapitalization rate @ 3.5%	€ 829,411p.a.
5	General considerations disabilities not considered previously @ 7.5%	€ 62,206 p.a.
		<hr/>
		€ 767,205 p.a.
6	Negotiations – reflecting the relative bargaining strengths of the parties	€ 750,000 p.a.

DECAPITALIZATION RATES

The rate of interest to be applied as the criterion of rental value, is not what a contractor would risk, but what he would get after negotiation in the market.

The decapitalization rate is taken as the 'real' rate of interest plus a borrower's premium.

'Real' rate = min. lending rate – inflation rate

These rates have varied from

4% - 3.5% for educational or healthcare properties

7% - 5.5% for profit making activity

SOCIAL COST BENEFIT ANALYSIS

Previous research into public sector leisure properties revealed that extant valuation methods (e.g. DRC and trading-related valuations for capital accounting purposes produced unhelpful figures where those assets were owned and operated primarily for social purposes (i.e. value to the community) as opposed to investment (i.e. value to the owner)

This leads to a search for a social value methodology into the realms of social Cost Benefit Analysis (SCBA). This essentially measures direct and indirect gains and losses to the impacted individuals and aggregates them as an expression of net economic value.

RETROSPECTIVE VALUATIONS

Retrospective valuations are required for a number of purposes including property tax, capital gains and wealth taxation, inheritance tax, and in connection with negligence and compensation. They may also be required for the purpose of reviewing existing valuations.

Whilst all this evidence may be relevant, it is important not to give too much weight to data that would not have been available to a valuer at the date of valuation, except, possibly to confirm or reject trends that would have been apparent at the time of the valuation.

Particular attention needs to be paid to valuations that require a review of other valuers' reports or could involve possible negligence claims. Available market reports, data bases, and valuation reports prepared at the time provide useful indicators of real market sentiment. This emphasizes the importance of keeping proper market and business records.

MALTA BASED PROPERTY DATABASES

MODULE X

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June/July 2012

KAMRA TAL-PERITI
-ACCREDITED VALUERS'
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Residential Property Data of the Maltese Islands

- Affordable housing capital growth(1982 – 2012) – 7.24% pa
- Upmarket housing capital growth (1982 – 2012) – 9.25% pa
- Affordable housing plots growth (1982 – 2002) – 16.4% pa
- Building Cost increases (1982 – 2002) – 1.25% pa
- Building Cost increases (2002 – 2012) – 2.5% pa
- GDP per capita growth (1982 – 2002) – 5.8% pa
- GDP per capita growth (2002 – 2012) – 5.2% pa
- Median wage growth (1982 – 2002) – 4.4% pa
- Median wage growth (Employees)(2002 – 2012) – 3.50% pa
- Median wage growth (Managerial)(2002 – 2012) – 3.75% pa
- Inflation index growth (1982 – 2011) – 2.1%
- Inflation index growth (1982 – 1992) – 1% pa
- Inflation index growth (1992 – 2002) – 3% pa
- Inflation index growth (2002 – 2011) – 2.4% pa

HOME OWNERSHIP & VACANCY RATES

HOME OWNERSHIP RATE AS OF CENSUS DATE

YEAR	1948	1957	1967	1985	1995	2005
%	23.1	26.1	32	53.9	68	75.2

VACANCY RATES OVER THE VARIOUS MALTESE CENSUSES

YEAR	1861	1881	1891	1901	1911	1921	1931	1957	1967	1985	1995	2005
%	25	29	20	20	22	19.9	19.4	4	14.9	19.2	23	27.6

DEVELOPMENT PERMITS FOR DWELLINGS, BY TYPE¹

Period	Number of permits ²			Number of units ³				
	New dwellings ⁴	Minor works on dwellings	Total	Apartments	Maisonettes	Terraced houses	Others	Total
2003	1,321	517	1,838	4,548	1,085	414	81	6,128
2004	1,378	435	1,813	5,265	966	353	123	6,707
2005	1,852	570	2,422	7,539	1,058	363	121	9,081
2006	2,502	492	2,994	8,961	932	375	141	10,409
2007	2,636	411	3,047	10,252	696	257	138	11,343
2008	1,770	375	2,145	6,184	361	164	127	6,836
2009	1,241	368	1,609	4,616	400	182	100	5,298
2010	1,499	1020	2,519	3,736	375	227	106	4,444
2011	1,159	832	1,991	3,276	401	191	87	3,955

Notes:

¹ Changes to the data are mainly due to the Malta Environment & Planning Authority's policy of reassessing permit applications on a continuous basis.

² Total for permits granted is irrespective of the number of units.

³ Data comprise the actual number of units (e.g. a block of apartments may consist of several units).

⁴ Including new dwellings by conversion.

Source: Malta Environment & Planning Authority

HOUSING DATA 2009 FOR SIMILAR STATES

	Market Rate €/m²	Median monthly household income euro	Mortgage rate	Price: earnings ratio.
Malta	1,350	1,775	3.5%	6.11
Cyprus	1,600	2,000	4.5%	5.13
Hong Kong	4,000	1,050	2.0%	14
Singapore	1,350	2,250	2.25%	4.80

AFFORDABLE PROPERTY RATES €/M² FOR THE MALTESE ISLANDS OVER THE PAST 30 YEAR PERIOD

Locality	1982	1987	1992	1997	2002	2007	2012	%growth rate Pa 1982-2011
Fgura / Paola / Zabbar	105	128	256	408	466	987	893	8.26%
M'scala	116	175	373	373	505	1001	881	7.31%
Mosta / Naxxar	186	198	291	478	524	1242	1167	7.23%
San Gwann	151	175	256	431	557	1092	962	7.40%
Sliema inner prime	210	338	443	710	883	1373	1402	6.78%
St. Julians	186	233	408	547	687	1321	1186	7.06%
Swieqi	198	245	419	641	785	1473	1443	7.54%
Malta	163	212	349	512	629	1144	1134	7.24%
Gozo						857	903	

Source: DHiperiti in-house valuations: Camilleri (2012) updated table

2011 Highest : Lowest market rate 1.5:1

1982 Highest : Lowest market rate 1.9:1

AFFORDABLE PROPERTY RATES €/M² FOR THE MALTESE ISLANDS OVER THE PAST 6 YEAR PERIOD

Locality	2006	2007	2008	2009	2010	2011	2012	% growth rate Pa 2006-2011
Fgura / Paola / Zabbar	928	987	961	948	971	906	893	-0.98%
M'Scala	1032	1001	984	917	826	948	881	-2.67%
Mosta / Naxxar	1149	1242	1176	1147	1154	1105	1167	-0.73%
San Gwann	1251	1092	1100	981	965	1026	962	-3.66%
Sliema inner prime	1381	1373	1380	1322	1263	1398	1402	-0.03%
St. Julians	1246	1321	1299	1327	1311	1286	1186	-0.69%
Swieqi	1430	1473	1378	1367	1418	1348	1143	-2.89%
Malta	1202	1211	1183	1144	1130	1146	1134	-1.17%
Gozo		857	841	913	988	853	903	

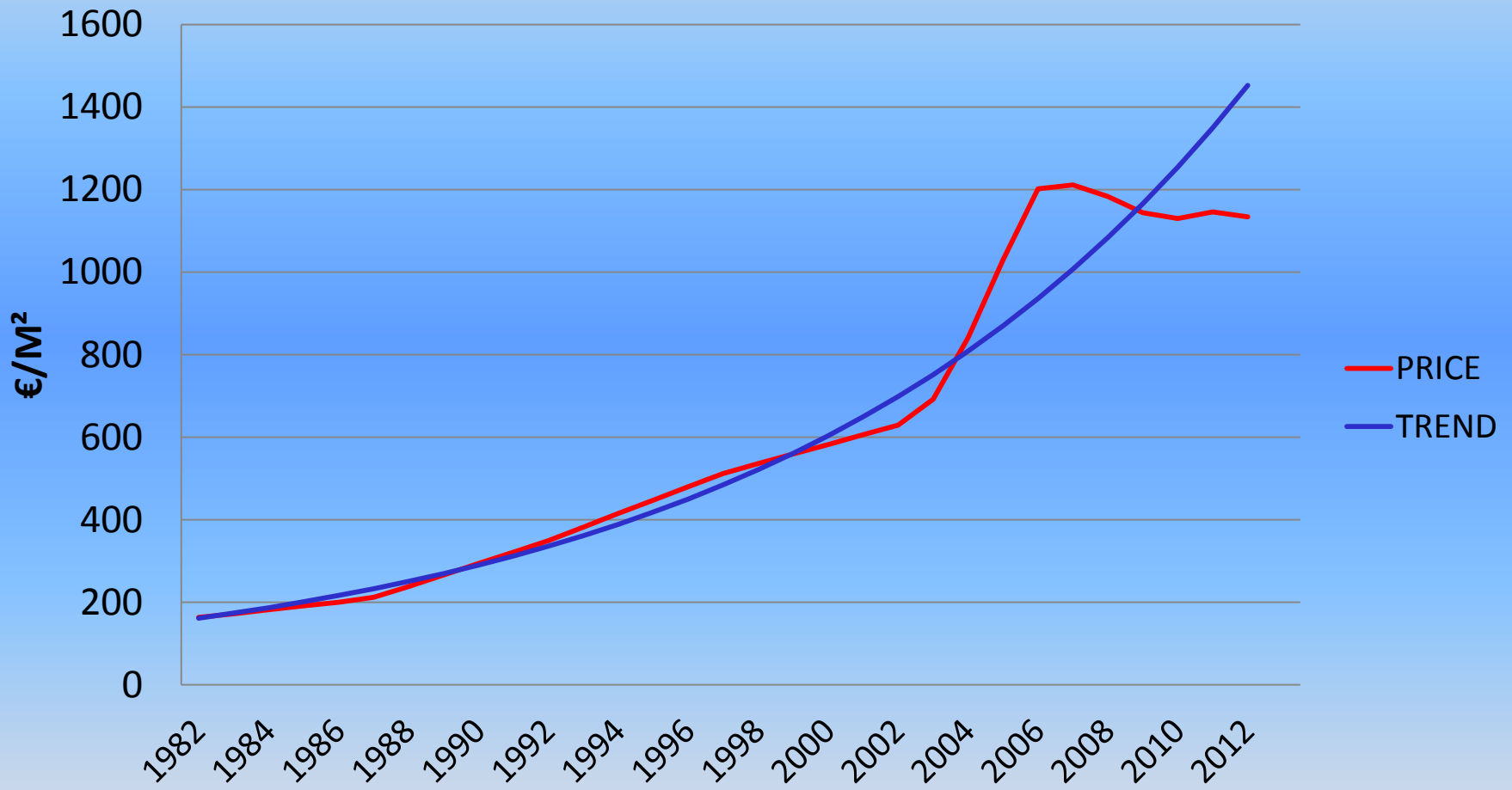
Source: DHIperiti in-house valuations: Camilleri (2012) updated table

Housing Bubble occurs if:

Doubling during a 5 – year period 2002 – 2007

50% increase over a 3 – year period 2002 – 2005

Malta Affordable Property in €/m² over the Past 30 Years



Source: DHI Periti in-house valuations: Camilleri (2012) updated chart

Housing Affordability Index for the Maltese Islands - HAI

Year	Mortgage Monthly Payment		Medium Family Income**	Qualifying Monthly Income		Ratio of Qualifying Family Income		HAI		House Price: Earnings Ratio
	3-bed/2-bed/r			3-bed/r	2-bed/r	3-bed/2-bed/r		3bed/r	2bed/	
1982	€140	€ 56	€ 229	€559	€ 391	1.3	0.91	77	110	4.28
1987	€161	€114	€ 564	€643	€ 457	1.14	0.81	88	123	4.23
1992	€252	€168	€ 745	€1006	€ 531	1.35	0.90	74	111	5.27
1997	€384	€247	€ 995	€1537	€988	1.55	0.99	65	101	5.80
2002	€394	€263	€1215	€1575	€1057	1.29	0.86	77	116	5.60
2006	€606	€429	€1665	€2119	€1500	1.27	0.90	79	111	7.22
2007	€673	€478	€1738	€2152	€1670	1.35	1.01	74	104	6.97
2008	€615	€410	€1798	€ 2152	€1435	1.20	0.80	84	125	6.58
2009	€478	€319	€1872	€1673	€1118	0.89	0.60	112	168	6.11
2010	€472	€315	€1914	€1652	€1102	0.86	0.58	116	174	5.99

An HAI of 100 according to the US National Association of Realtors' signifies that a family earning the median household income just qualifies for a median residence, whilst with a HAI of less than 100 signifies that the median family has to do away with other necessities.

CONTRACTS, AVERAGE PRICES OF TOTAL AND MARRIAGES/SEPARATIONS

Year	No of annual Contracts	Average Price €	% of National GDP at current market prices	Annual Marriages	Separations & Annulments
1982	13,281	€ 8,772	9.7	2475	
1987	9,388	€ 12,182	8.5	2535	
1992	11,642	€ 12,410	7.1	2377	303
1997	9,300	€40,836	12.7	2370	275
2002	12,394	€70,738	22.2	2240	375
2006	10,252	€82,068	17.1	2536	447
2008	9,033			2482	738
2009	8,734			2353	731

Source: Ministry of Justice and Home Affairs, Annual Reports

SEAFRONT PROPERTY COMPARED WITH INTERNAL PROPERTY OVER A 6 YEAR PERIOD IN €URO/SQM

	2006		2007		2008		2009		2010		2011	
Location	front	internal	front	internal	Front	internal	front	internal	front	internal	front	internal
M,scala	1473	1032	1696	1001	1413	985	1186	918	957	826	2307	948
Sliema	3246	1383	2602	1373	3296	1380	3428	1322	3311	1263	3086	1398
St Julians	1575	1245	2973	1322	2856	1299	2991	1327	2905	1311	4067	1286
Gozo					1705	841	1484	913	988	988	1462	853
	2098	1220	2424	1232	2522	1221	1088	1189	2391	1134	3153	1211

Source: DHI Periti in-house valuations 2011

These up-market developments may be compared to similar developments in London at €45,000/m², Paris at €30,000/m². Madrid & Sydney at €8,000/m², Edinburgh & Prague at €6,000/m², whilst Croatia, Ibiza and the Algarve attract the same Malta price tag at €4,000/m². On the other hand, Hong Kong, Singapore and Cyprus attract a €20,000/m² market rate. The wealthiest location is Monaco at €50,000/m².

RESIDENTIAL DEVELOPMENT PERMITS

DEVELOPMENT PERMITS FOR DWELLINGS OVER THE INTERCENSAL PERIOD

YEAR	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
APPROVED DWELLINGS	4229	3351	3411	3004	2273	2369	4180	5481	6128	6707	9081

Source: Malta Environment and Planning Authority

RESIDENTIAL UNITS AS APPROVED BY MEPA, TOGETHER WITH COMPLIANCE CERTIFICATES BEING ISSUED:

YEAR	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number of total Units	3970	4180	5481	6128	6707	9081	10409	11343	6836	5298	4444
Apartments approved				4548	5265	7539	8961	10252	6184	4616	3736

Source: BICC State of the Construction Industry Report 2005

The annual residential property permits granted to foreigners

YEAR	PERMITS –	AVERAGE VALUE	PRICE €/SQM	AFFORDABLE PRICE €/SQM
1982	175	€28,080	207	163
1987	351	€24,151	179	212
1992	315	€46,261	342	349
1997	163	€80,752	599	512
2002	465	€163,962	1,214	629
2003	669	€162,756	1,204	692
2004	705	€145,993	1,081	841
2005	400	€294,130	2,261	1,030
2006	399	€205,753	1,581	1,209
2007	478	€209,783	1,612	1,211
2009	211	€201,514	1,549	1,144

It should be noted that from 2003 onwards EU nationals did not require to apply for an AIP permit and hence are not included in totals above. It has been reported that over the past 3 years, some 6,000 residences were sold to foreigners, thus many of these foreigners according to the above table did not require an AIP permit.

AGRICULTURAL PROPERTY

Land is a very scarce commodity in Malta and thus it is no surprise that agricultural land values have been increasing in Malta at 15% p.a. over the past 25 year-period.

Range of advertised prices (€/tomna) in Estate Agents' lists

	Advertised Lists	Present Market Values	Bare Agricultural Land
MALTA	€13,000 - €625,000	€6,000 - €70,000	€9,250 (€8.25/m ²)
GOZO	€7,000 - €435,000	€5,000 - €60,000	€4,500 (€4.00/m ²)

This farmland in the UK averages out at €1,500/tomna as compared to Malta's bare agricultural land which has been valued at €9,250/tomna. On the other hand the average yield of agricultural leases is taken at 1% for Malta, whilst this is given at 2.3% for the UK

Comparing Maltese Commercial Rentals with the European Average.

Property type	Rental range of the Maltese Islands €/m ²	Capital Appreciation over 15years	European best positioned Average rentals in €/m ²	European Prime Yields*
<i>Industrial</i>	Up to €60	7.50% pa	€80/m ²	5.25% - 7.25%
<i>Offices</i>	€7 - €544	6.00% pa	€385/m ²	4.25% - 6.25%
<i>Retail</i>	€70 - €400**	6.75% pa	€1,400/m ²	4.75% -6.75%

*Moscow excluded

**This value applies for shopping malls, as prime street frontage retail units could fetch a maximum rental amount of €1250/m², even topped up to €3250/m² for speciality shopping, where it appears that this amount is paid more for the Company's Corporate image, than based on amount of turnover generated.

DEVELOPMENT PERMITS FOR COMMERCIAL, SOCIAL AND OTHER PURPOSES¹

Period	Commercial and social							
	Agriculture	Manufacturing ¹	Warehousing, retail & offices ²	Hotels & tourism related	Restaurants & bars	Social ³	Parking	Total
2003	242	26	181	15	24	91	134	713
2004	261	31	192	8	25	49	105	671
2005	293	33	217	16	25	43	103	730
2006	267	38	169	9	26	30	84	623
2007	325	27	185	8	14	30	60	649
2008	182	29	137	6	14	8	66	442
2009	160	31	123	6	20	23	47	410
2010	293	55	231	10	46	118	79	832
2011	192	33	256	4	47	74	49	655

Notes:

¹ Includes quarrying.

² Including the construction of offices, shops and retail outlets, warehouses, mixed offices and retail outlets, mixed residential premises, offices and retail outlets, mixed residential premises and retail outlets.

³ Including the construction of premises related to the provision of community and health, recreational and educational services.

Source: Malta Environment & Planning Authority.

MECHANICS OF THE COMMERCIAL PROPERTY MARKET VIA THE INVESTMENT METHOD

Office Rentals:

10% of employees earnings who occupy 12m² of floor area

Average Malta wage €300/wk

Office rental 10% of €300/wk X 52wks/12m² = €130/m²

Managerial Malta wage = €500/wk

Office rental 10% of €500/wk X 52wks/12m² = €217/m²

Retail Rental Values:

average out at 7% of annual turnover This again depends on footfall.

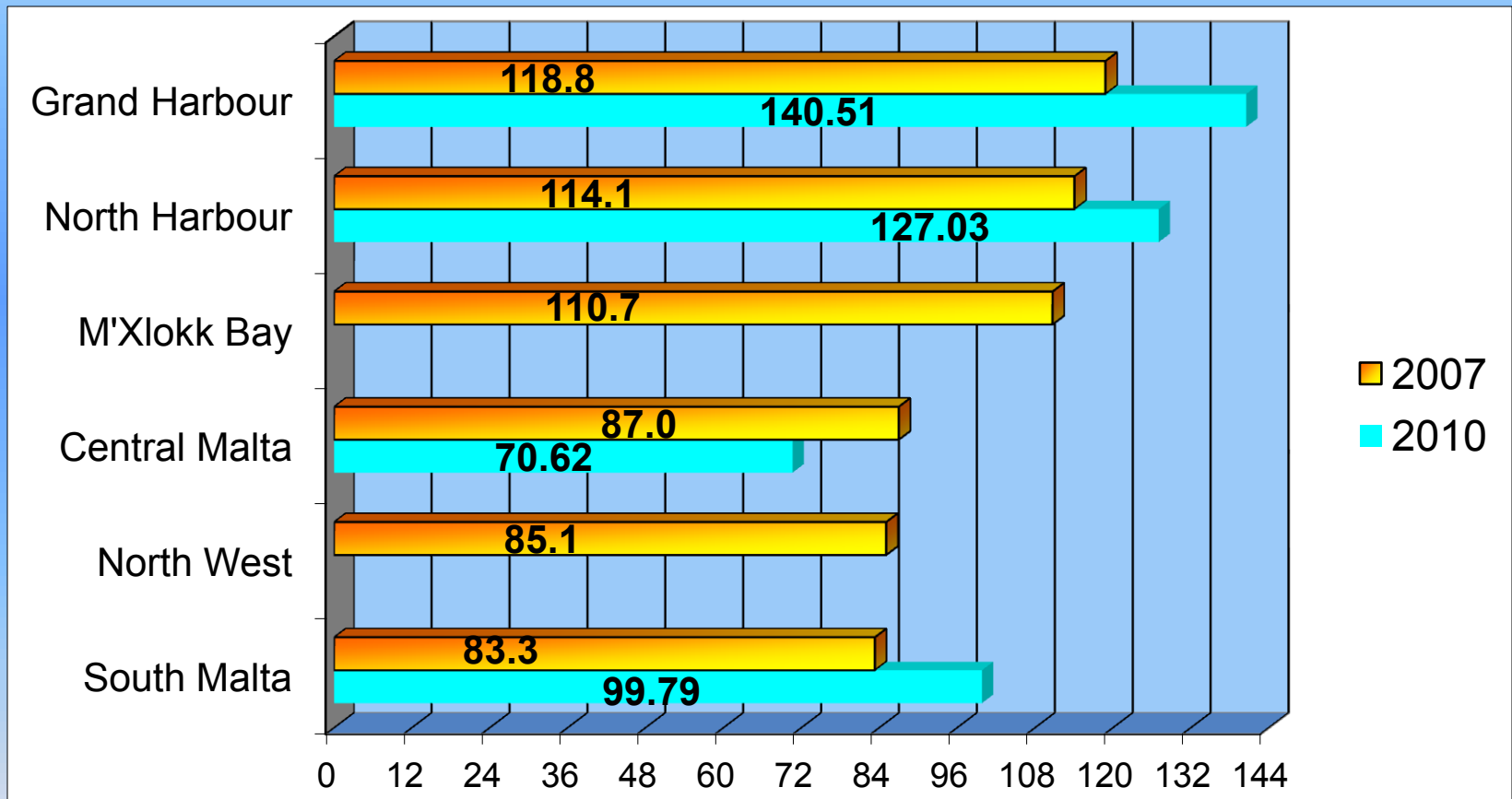
OFFICE RENTAL VALUES

Over the past 3-year period with a substantial increase in e-Gaming activity rental rates over this period have increased on average by 35%.

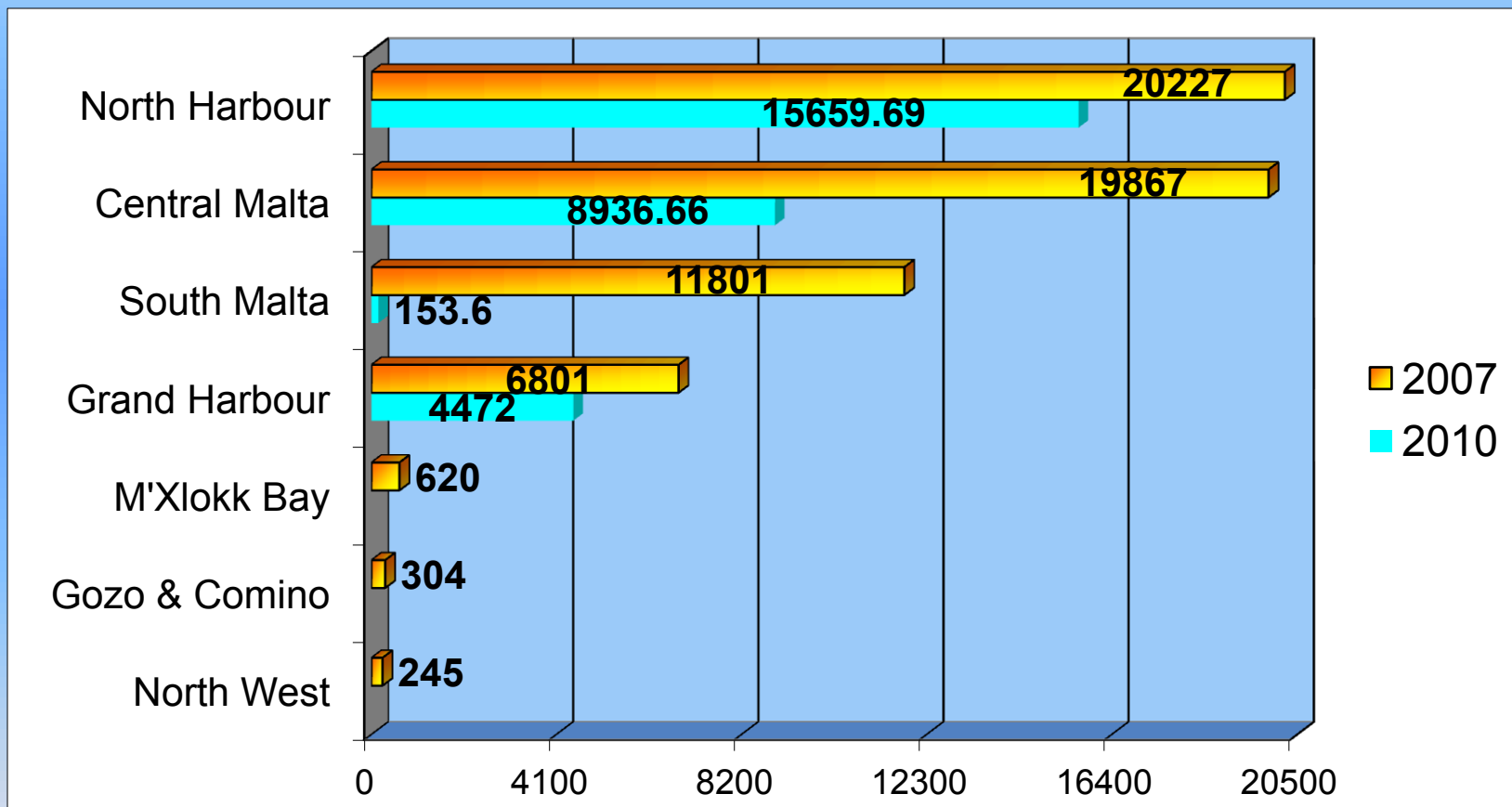
The office rental market varies from €7/m² up to €544/m² with Malta's average rate standing at €110/m². It is further noted that 87% of the available office spaces lie within the €35/m² – €150/m² range with 17% within the highest range of €151/m² to €375/m².

These are to be compared with the prime European office rents averaging out at €385/m² within a range of €1068/m² in London, Paris at €780/m², Geneva at €700/m², Frankfurt at €432/m², Dublin at €376/m² and Brussels at €310/m², Warsaw at €288/m², Prague & Budapest at €243/m². Prime European office yields vary from a low of 4.00% in London (WE) to a high of 12% in Kiev. Singapore rents are at €715/m², Dubai at €550/m² whilst rents in Hong Kong stand at €902/m². The provincial city rents vary from Birmingham at €358/m² and Newcastle at €289/m².

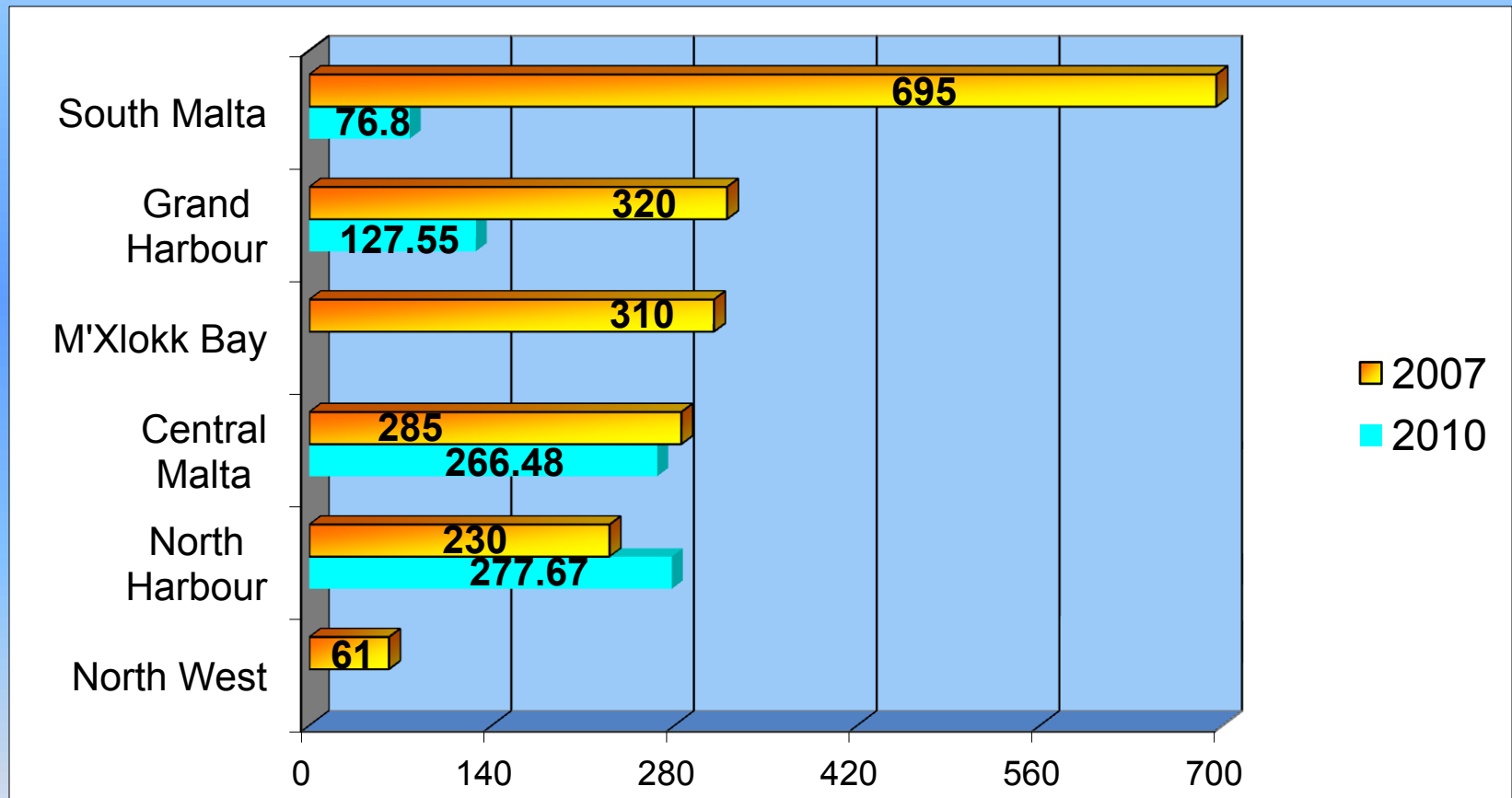
RENTAL RATE AS PER LOCAL PLAN IN €/M² - COMPARISON BETWEEN 2007 AND 2010



TOTAL AVAILABLE FLOOR AREA AS PER LOCAL PLAN IN M² – COMPARISON BETWEEN 2007 AND 2010



AVERAGE FLOOR AREA AS PER LOCAL PLAN IN M² – COMPARISON BETWEEN 2007 AND 2010



RETAIL RENTAL VALUES

In the retail sector high street shops in the towns and villages have a rental Amount Varying from €5/day up to €125/day, for a front retail unit having a 4m frontage with 9m depth.

The rental rates for shopping malls vary from €400/m² down to €70/m². Rental Values also vary according to the retail type. Department stores and major tenants may be given preferential treatment by paying as little as a ¼ of the rental amount, with Specialty retailers paying the higher amounts. Turnover rents in existence vary from an amount equated at 10% to 25% of annual turnover, although this form of rental agreement has Lost its appeal over the recent years.

These rents are to be compared to the prime best positioned 100m² retail European rents averaging out at €1,400/m² within a range of: €5,556/m² for London and Dublin at €3,750/m² with Paris at €2,000/m², and Frankfurt at €1,800/m², Amsterdam at 1,000/m², and Stockholm a €800/m², Brussels 1,250/m² and Vienna at €1,080/m², Milan at €750/m², Prague at €840/m² and Warsaw at €1,020/m².