



CONSOLIDATED DOCUMENT ON PROPERTY VALUATION

A compilation of information and examples.

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PREAMBLE

The valuation and pricing of government land and property is an important task which at both a conceptual and technical level may present an element of increased complexity when compared to the appraisal of market value within the private real estate context (Kaganova, O., 2012). Proper valuation is paramount for the adequate management of government finance, asset management and also transactions involving government land and property.

The process of valuing property is not a rigid, all-encompassing one. It adapts itself to the type of property being valued, the definition of value being sought (basis of the valuation), the purpose of the valuation, available data, its use and interpretation, legislation and judgements, the choice of methodology and date of valuation amongst other factors. Valuations also depend on explicitly selected inputs and parameters which are at the discretion of the valuer. No one property is the same as another, however one can draw on similarities. Therefore, each valuation is a unique exercise in itself.

This consolidated document is an attempt of compiling concise information and guidance relating to selected internationally recognised valuation approaches from published material as per reference list and bibliography, as well as a set of examples. It is not a fully comprehensive text or bible on the subject, and is not a substitute for published books on the subject matter, research, recognised standards (such as the KTP Valuation Standards 2012, TEGoVA European Valuation Standards 2016), practice guidance by internationally recognised bodies (including TEGoVA, RICS, IVSC) and continual professional development (CPD). This document supersedes any/all previous versions of this document. The function of this document is that of an aid to the qualified valuer.

It is the absolute responsibility of the valuer to work within his/her knowledge and competencies backed by the relevant experience. Once the valuer has identified himself/herself capable for the task, it is in the hands of the professional and duly qualified

valuer to identify the methodology to be adopted for the subject property and also to identify, interpret and utilise the available data to arrive at a valuation, whilst making qualified decisions in the process. The valuer must also be impartial to the valuation. The requirement that the subject property is valued by more than one individual (depending on the type, size, anticipated value whether it be high or low etc.) should further ascertain a level of reliability about the correctness and impartiality of the valuation. In the scenario that a valuer does not agree with any of the content in this document, or it is unclear to him/her, then it is his/her duty and responsibility to immediately contact the Lands Authority about this and request a clarification and a way forward.

Compliance with professional standards is paramount. The KTP Valuation Standards 2012 draw heavily on the TEGoVA European Valuation Standards 2009 (superseded by the EVS 2016), and therefore it is expected that the valuer is compliant primarily with these two standards on all the aspects relating to the valuations.

An essential tool in property valuation is the availability of up-to-date and reliable statistics and comparable market data, which is the foundation upon which most of the valuation approaches depend on. The best source of such data consists of property transaction databases and statistics, providing comprehensive details about location, property type, size as well as other characteristics, with regards to achieved rents, yields and capital values. Drawing on the UK as being at the forefront in this aspect, reference is made to the statistics and reports available from the Valuation Office Agency, an executive agency, sponsored by HM Revenue and Customs. Independent service providers have also established themselves in highly developed markets, which provide research-driven reports, benchmarks and statistics for institutional investors. The availability of such data serves the purpose of also reducing uncertainty in a valuation exercise.

Locally available published statistics mainly consist of residential market price indices by the Malta Central Bank and National Statistics Office. The establishment of actual property market databases at a national level is a pressing issue in ensuring improved

accuracy and transparency in property valuation. The publication of periodic reports about the performance of the government estate is also encouraged and considered a useful tool for valuers working within this field.

The property market report drawn up by Perit Denis Camilleri (part of dhi Periti) forming part of this consolidated document, to be periodically updated, aims to shed light on the local property market.

The role of the client, in this case the Lands Authority, must also be highlighted. This includes the provision of clear and unequivocal instructions on appointment to the valuer, reasonable time frames, making readily available that data pertinent to the valuation whilst refraining from exerting influence on the valuation process.

When considering the valuation of government owned property, the following pertinent points are also to be considered:

- Factors in the valuation calculation that seek to return the highest and best value for the property, especially when this is being transferred to a private entity / individual for commercial purposes;
- Any restrictions imposed by the government especially applicable in the case of land which is not within the development boundary or for which planning guidance is not available from the Planning Authority;
- Special cases when government property is being transferred or granted for the benefit of the community for example to voluntary organisations, for national/local administration and/or as social housing.

The Lands Authority should be in a position of influencing the tone of the quality of valuations to be expected. Both the client and the valuer play central roles and each have responsibilities to fulfil in ascertaining accountability and transparency throughout the valuation process. CPD is central in further ensuring a high level of knowledge by those who undertake such valuations.

LIST OF ACRONYMS

A	Future Value
ARY	All Risks Yield
DCF	Discounted Cash Flow
DRC	Depreciated Replacement Cost
ERV	Estimated Rental Value
EVS	European Valuation Standards
FRI	Full Repairing and Insuring
GDC	Gross Development Cost
GDV	Gross Development Value
IVS	International Valuation Standards
IVSC	International Valuation Standards Council
PV	Present Value
RICS	Royal Institution of Chartered Surveyors
RFR	Risk Free Rate
RP	Risk Premium
RR	Rent Reviews
SF	Sinking Fund
TEGoVA	The European Group of Valuers' Associations
UORR	Upwards Only Rent Reviews
YP	Years' Purchase
YTM	Yield to Maturity

INVESTMENT MATHEMATICS FORMULAE SHEET

As used or referred to in this document.

Actuarial Symbol	Formula	Actuarial Name	Valuation Name
A_n	$(1+i)^n$	Future Value	Amount of €1
V_i^n	$(1+i)^{-n}$	Present Value	Present Value of €1
$a_{\overline{n} i\%}$	$\frac{1 - V_i^n}{i}$	Present Value of an Ordinary Annuity	Years' Purchase (YP) or Present Value of €1 per annum
$a_{\infty i\%}$	$\frac{1}{i}$	Present Value of a Perpetuity	Years' Purchase in Perpetuity
$S_{\overline{n} i\%}$	$\frac{(1+i)^n - 1}{i}$	Future, Terminal of Accumulated Value of an Ordinary Annuity	Amount of €1 per annum
	$\frac{i}{(1+i)^n - 1}$	Annual sinking fund	

1.1. The Valuation Report

A valuation report is a document detailing the scope, key assumptions, valuation methods, and conclusions of an assignment. It should be written and laid out in such a way so that it is unambiguous and according to established professional standards. Such standards include the KTP Valuation Standards 2012 locally, the TEGoVA European Valuations Standards 2016, the RICS Valuation Global Standards 2017 and the IVSC International Valuation Standards 2017. The KTP Valuation Standards 2012 draw heavily on the EVS 2009 (now superseded by the EVS 2016), and therefore it is expected that the valuer is compliant primarily with these two standards (or their latest versions). **The duty of adherence to standards by the valuer extends to all the aspects of valuation and professional practice, and is not limited to the reporting.**

The valuation report should provide the intended reader with a clear and accurate understanding of the property (or interest) being valued, outlining the instruction, terms of engagement, purpose, basis, method, conclusion and prospective use of the valuation, including any limitations and assumptions. It should provide a professional opinion of value without being misleading, should be unambiguous, and also highlight issues affecting the degree of certainty or uncertainty of the valuation.

On the importance of clear and transparent reporting, within the context of the European Union's Capital Requirements Regulation 575/2013, article 229 states that

'An institution shall require the independent valuer to document the market value in a transparent and clear manner.'

It is imperative that the Authority, as the client, provides clear unequivocal instructions to the valuer. It is also its responsibility to make available all the pertinent information required for a valuation in a timely fashion. Extraordinary requirements for particular scenarios should be dealt with on a case by case basis and may require the attainment of

data or involvement of other professionals as the valuation at hand may require. The Authority is to be informed about such cases directly by the valuer. The valuer is not expected to be burdened by such requirements, but these are to be dealt with separately including any associated professional fees.

The KTP Valuation Standards for Accredited Valuers 2012 sets out the requirements for valuation reporting under chapter 4, whilst the EVS 2016 tackle this under EVS 5 'Reporting the Valuation' (TEGoVOA, 2016). The following sections attempt to summarise the main and general requirements of a valuation report, however the valuer is referred to the respective standards for detailed requirements.

1.2. Key Characteristics of the Valuation Report

- i. The report is to be set out in writing, either in Maltese or English, in a clear, concise and objective manner.
- ii. The report is to be signed by the person undertaking the valuation exercise, clearly identifying the date of the report accordingly.
- iii. The report should record the scope of the assignment and set out the terms of engagement clearly and unequivocally.
- iv. A full valuation report will typically include:
 - identification and status of the valuer;
 - the instructions for the assignment including details of the client and purpose of valuation, identifying the end user;
 - address of the property;
 - the asset or interest to be valued (freehold, leasehold etc.);
 - purpose of the valuation;
 - the basis of the valuation;
 - adherence to valuation standards and identification thereof;
 - the date of the report;

- the valuation date which could be distinct from the date of inspection and/or the valuation report date, all of which are to be recorded and distinguished;
- documents received and studied;
- reliance of information from the client;
- extent of the investigation and description of the property including the state of repair (identifying whether a site visit has been carried out, if so to what extent or whether the valuer is relying on drawings or other documents for data);
- investigations not carried out or documents/information not made available which may impact on the value;
- in the case of reported superficial areas, identification of the relevant code of measuring practice;
- identification of any special plant/equipment and how this is to be included in the valuation;
- a summary of the local legal and development planning contexts and implications thereof;
- identification of any burdens bearing on the property(e.g. easements, usufructs etc.);
- identification of the tenure and any tenancies;
- a brief commentary on the property market at date of valuation;
- details of any comparable data utilised, including nature and source;
- details of the valuation approach/methodology adopted including any pertinent calculations undertaken as part of the valuation;
- in cases where applicable the identification of any goodwill or intangible property;
- amount of the valuation/s;
- any assumptions that have been made;
- any limitations on the report;

- restrictions on the use, distribution and publication of the report;
- any comments relating to elements of uncertainty and how these may impact the valuation, ensuring clarity to the end user;
- a statement declaring any interest on behalf of the valuer in the property or conflict of interest that may arise;
- a statement declaring that the valuer is competent in carrying out such valuation, based on knowledge, skill, experience and understanding of the specific property market;
- a concluding explanation which is clear and unambiguous and remarks about the opinion of the value reached. This should also state whether transfer costs have been included.

1.3. Additional Supporting Documentation

Depending on the property type and the valuation methodology adopted, the following documentation may be necessary, in whole or in part as available:

- A site plan indicating the location of the property;
- A measured survey of the property when readily available by the client or absolutely necessary in special cases, which cost is not to be borne by the valuer;
- A photographic survey of the property;
- Approved permits;
- Any lease agreements relating to the property;
- Proof of comparable market data;
- Data relating to sales and receipts if the accounts method of valuation is the chosen method of valuation;
- Data relating to contracting prices (material and labour) if the residual method is utilized, or applicable professionally accepted rates for the construction, finishing and/or other stages of the development;

- Other data as necessary such as the risk free rate, index of inflation etc.

1.4. Adequate investigation and property description

Inspections and investigations must always be carried out to the extent necessary to produce a valuation which is professionally adequate for its purpose. Many matters which become apparent during the inspection may have an impact on the market's perception of the value of the property.

The description of the valuation should provide details about and may include according to the subject property:

- the characteristics of the surrounding area (e.g. access and amenity);
- the characteristics of the property such as construction, layout, finish;
- the current uses of the land and buildings;
- the description of installations, amenities and services;
- the fixtures, fittings and improvements;
- any plant and equipment which would normally form an integral part of the building;
- the apparent state of repair and condition based on a visual inspection;
- environmental factors;
- contamination, hazardous materials and deleterious materials;
- any physical restrictions on further development, if appropriate;
- added features such as views.

In the case of shorthand valuations, or when a site visit is not possible, then this must be explicitly indicated in the valuation report. The valuer in such cases should identify and make available the sources of data that have been relied upon in the absence of a site visit such as drawings, photographs or previous reports.

2.1. The Valuation Approaches

There is a general consensus between the TEGoVA European Valuations Standards 2016 (EVS 2016), the RICS Valuation Global Standards 2017 and the IVSC International Valuation Standards 2017 (IVS 2017) that property valuation approaches can be categorised as follows:

- the **market approach**;
- the **income approach**; and
- the **cost approach**.

The EVS 2016 address the various valuation methodologies in a technical paper which forms part of the standards, EVIP 5, referring to them as 'Europe-wide accepted methodologies' (TEGoVA, 2016). The information and guidance provided is concise and to the point, dealing also with issues of the reliability of market evidence, its analysis and use. The general observations also refer to the importance understanding the local market, the property being valued and its attributes.

In comparison the IVS 2017 (IVSC, 2017) provides more detailed information about each of the approaches and their respective methodologies. It also includes step by step guidance on the application of the methodologies. Reference to this document may be useful for the valuer in understanding certain principles and parameters relating to the valuation methodologies in more depth, within the context of recognised standards of good practice.

The **comparative method** is a market approach, which provides an indication of value based on the comparison of the asset with an identical or similar one, on the available evidence. When applicable, it is identified as the 'preferred method to arrive at market value' since it is directly linked to the market (TEGoVA, 2016). This method is outlined in part 3 of this document.

The income approach can be split into two broad sub-categories; the **capitalization methods** which typically rely on the all risks yield, and the **discounting methods** which include discounted cash flow techniques. This approach provides an indication of value by the conversion of future incomes or cash flows which are discounted to a present value, and depends on the property's capability of generating 'net benefits' (TEGoVA, 2016). These methods are outlined in part 4 of this document.

The **depreciated replacement cost method** is a cost approach. This method is based on the premise that the amount a buyer is ready to pay for an asset, will not exceed the cost to obtain a similar asset or replica. An indication of value is arrived at by consideration of the current replacement or reproduction cost, taking into account depreciation and obsolescence. The EVS 2016 make it explicitly clear that this method is 'most commonly used to estimate the replacement value of specialized properties' for which there does not exist market data and hence the comparative or income approaches are not applicable (TEGoVA, 2016). This approach is outlined in part 5 of this document.

Part 6 of this document provides a very brief description of the **profits method**, which is a very specialized method of valuation. This method is considered as falling under the group of income approaches, 'based on the accounts of the enterprise that is being carried out on the property' (TEGoVA, 2016).

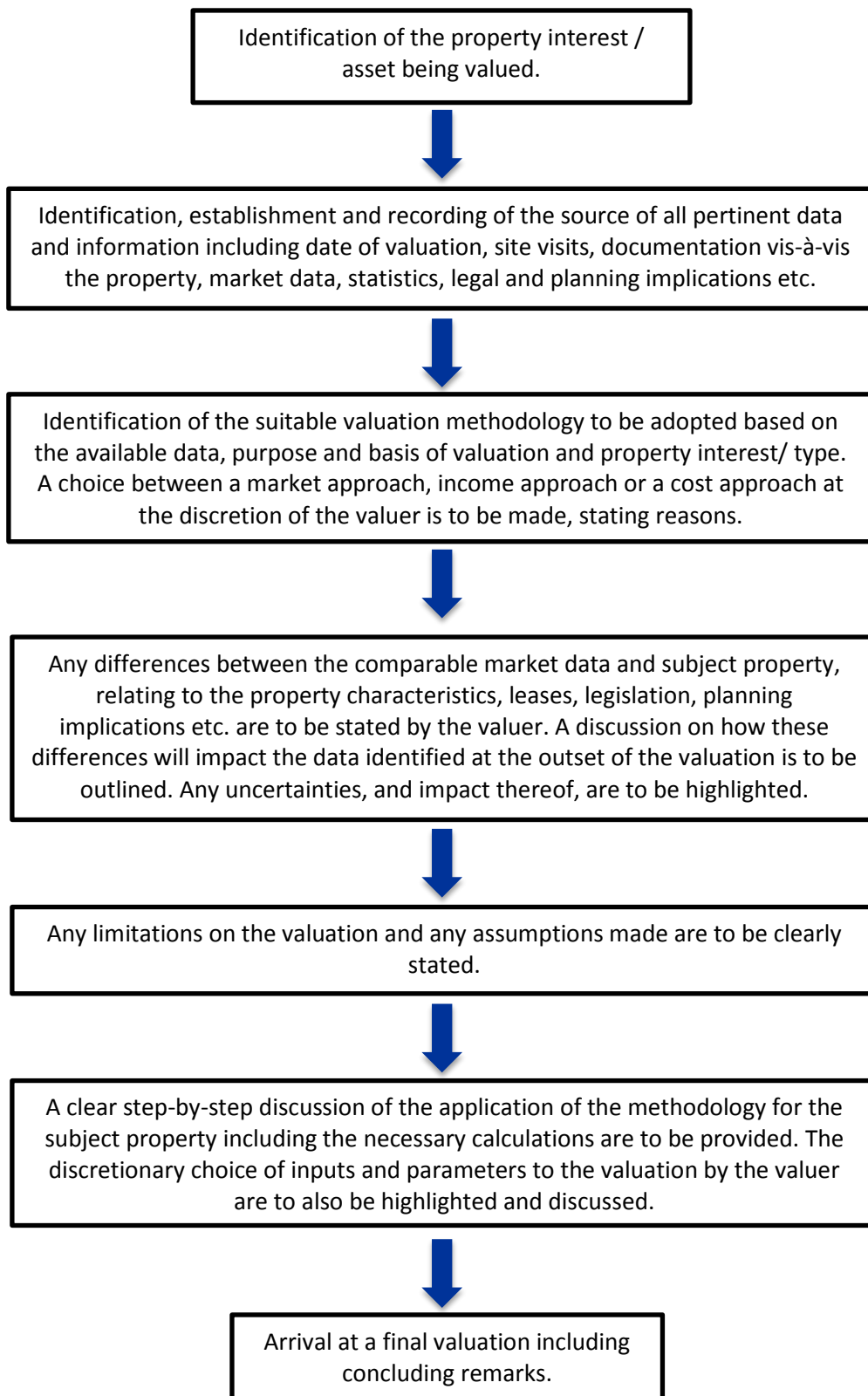
The **residual method** as described in the EVS 2016 makes the assumption that 'the process of development, redevelopment or refurbishment is a business' (TEGoVA, 2016). This method is based on multiple inputs, in terms of anticipated costs and anticipated revenues, which returns a residual amount by deduction. This residual figure may represent the market value of the development property, but this is not necessarily always the case. This is outlined in part 7 of this document.

The responsibility of identifying the appropriate approach(es) and method(s), and applying them accordingly to the valuation task, rests with the valuer. It is specifically stated in the EVS 2016, under section 1.3 of EVIP 5, that the standard does not impose the use of a

particular methodology, but this should be based on the 'professional judgement of the valuer in each case' (TEGoVA, 2016).

2.2. The Valuation Exercise

The flowchart presented on the subsequent page attempts to outline the various stages of the actual valuation exercise, following engagement by the client and agreement thereof with the valuer.



3.1. Introduction

This method entails a process of identifying identical or similar assets (properties) or liabilities that have been sold, analysing the sale prices achieved and the relevant market data and establishing value by comparison with those properties that have been sold. Listings and offerings can be used with caution as secondary evidence, particularly in new markets.

The method is fairly straight forward to apply, however it strongly depends on good quality and transparent up to date comparable data of sales or rents. The method utilises a unit of comparison, typically price per unit (for example per square meter, or per bedroom) be it for a rental or a sale, which is then adjusted accordingly to reflect differences between the comparable property and the subject property by the valuer. It is the valuer's duty and responsibility to identify and report differences between the comparable and subject property and to state how such differences will reflect on the valuation. Whilst differences inherent to the characteristics of the property can be adjusted for, such as physical differences, locational differences and even differences arising from structures such as leases which might be attached to the property, it is not possible to utilise the comparative method to arrive to a valuation of a property with a different use from the use of the comparable data (i.e. the value of one asset class, such as residential property, cannot be deduced from the sale prices of another asset class, such as commercial property).

The comparative method still presents a number of difficulties and possible complications arising from the nature of the asset being valued i.e. property. The valuer must be aware of these, the most salient of which are highlighted hereunder:

- Real estate has a fixed geographic location, which location has a major impact on the property's value. Locational differences on a micro scale (such as a seafront location vis-à-vis a normal residential street within the same town) impact the

property, as do differences on a macro scale (city location vis-à-vis a village location);

- There is no common world unit of comparison as property markets are heterogeneous. Furthermore variations can exist in the basis of measurement, particularly for rental purposes, although this is now being addressed by the proposed implementation of common standards of measurement. The valuer should be conversant with the code of measuring practice as per the KTP Valuation Standards 2012 Appendix A and/or the European Valuation Standards 2016 as published by TEGoVA or their more recent equivalent versions.

These methods are outlined in the EVIP 5 section 6.2 of the EVS 2016 (TEGoVA, 2016). Additionally comprehensive information and guidelines about the market approaches are provided under IVS 105 Valuation Approaches and Methods (IVSC, 2017), sections 20 and 30.

3.2. Application of the Comparative Method in Establishing the Capital Value of a Property

As outlined above, this is an evidence based method and hence the starting point for the valuer should be that of having a good understanding of the subject property and subsequently identifying comparable market evidence of similar property. The most reliable source of evidence is actual realised prices in the market. Databanks which record property sales providing information about the type of property, date of sale, floor areas, land areas, accommodation, construction type, finishes, state, age and location are excellent tools. In the absence of such data, the valuer may, exercising caution, refer to advertised or asking prices.

Given the heterogeneous nature of property it is highly unlikely that an identical comparable property is found, in which case direct comparison without any adjustment could be made. For this reason the valuer must identify differences between the

comparable data and the subject property and highlight these in the report. The valuer must also give a reasonable explanation of how such differences impact on the value of the property. Such differences include:

- date of sale;
- market conditions;
- sale conditions;
- age, condition, size and location;
- in the case of farm land, its productivity, fertility, etc.
- in the case of operating assets (such as hotels), turnover, price per room, etc. and quality of the source.

The dynamic nature of the property market as well as the time lag typically associated with property sales, require the valuer to be knowledgeable of the state of the local market. Backed by market evidence and statistics the valuer should be capable of making a judgment as to whether the market is rising, falling or is static. This awareness should ultimately support the valuer's opinion of the level or rate of price movement between sale dates and valuation dates. It would be normal to apply a percentage to adjust for such variances. The valuer should discuss these factors explicitly in the valuation report.

Other factors which go beyond the characteristics inherent to the subject property, but which however may still have an impact on the valuation, include changes in the bank interest rates, terms and conditions relating to lending policies and taxation impacting on spendable incomes.

Regarding comparables derived from recorded sale data, these should be of those sales where there has been no financial, family or fiduciary relationship. Nevertheless, all sales need to be considered and great care taken where:

- the comparable sale was time constrained (such as is the case with repossessions);
- the sale is between family, friends or business associates; and

- there is a special purchaser (such as an adjoining property owner for whom a property has a value above the market level).

In certain property sectors it is possible to utilise a unit of comparison such as price per square meter or price per tumolo. This is especially applicable when valuing land, whether this has development potential or is agricultural land. In the case of the latter, comparable sales must be of land with similar attributes and farming potential. The fixed nature of real estate requires that the evidence used in the valuation is from the same location.

The implications of a particular location of a property on its value can be very specific, such that considerable variation in value may result from similar properties which are located on opposite sides of a highway, for example. Another example is the case of land with development potential, where two parcels of land may have similar potential but varying access restrictions, and hence impacting the value of the property.

Step by step guidance is provided under IVS 105 Valuation Approaches and Methods section 30.6 (IVSC, 2017).

3.3. Application of the Comparative Method in Establishing the Rental Value of a Property

The concepts underlying the establishment of the rental value of a property by direct comparison are the same as those for establishing the capital value. The quality of the valuation is directly affected by the quality of the market evidence it is based upon. In the case of rental data, a continuous analysis of the achieved rents for various property types and in various locations is necessary. This data should be holistic and up to date, providing as much information about the property itself as it does of the lease attached to it. The proper recording of that information together with precise details of lease terms and all the other factors considered pertinent by tenants in formulating rental bids is essential for accurate assessment by comparison. This data is then used to arrive at an estimate of

market rent through a process of comparing and adjusting for any differences between the subject space and the known rental level of tenanted space.

The valuer should identify differences between the comparable property and subject property, making note of these and discussing how they are likely to impact on the market rent. Since most real estate markets are imperfect and subjective adjustments are based on the valuer's experience, a spot sum may be added (favourable difference) or subtracted (disadvantageous difference) or a percentage adjustment may be made.

As with the valuation for the capital value, market influences may play a role in adjustments to be made when applying the direct comparative method to establish the market rent. The valuer may have to adjust for changing market conditions between the date of known lettings and the date of valuation and any differences that might exist in lease terms.

It is the responsibility of the valuer to consider the reliability of the source of comparable data carefully. For example, actual market lettings at market rent with no incentives are considered to be the best type of evidence, in contrast to asking rents on which an agreement has not as yet been reached.

It is also important for the valuer to take note of the appropriate lease terms of the comparable data, since a property let on full repairing and insuring terms will fetch a lower rent than one for which the landlord is responsible for insurance and repairs. Additionally it is important to state the frequency of payment, i.e. is it an annual figure or a monthly rent being quoted and how this is received/paid.

4.1. Introduction

These income approach methods of valuation are applicable to various property types capable of producing an income (rent). They can be utilized for valuing the freehold interest or the leasehold interest. The models allow implications arising from leases and emphyteusis, for example, to be identified and reflected within the valuation process. The methods depend on the valuer identifying the expected cash flow of the property, in terms of rent received and applying a suitable capitalization rate. The income approach methods are dealt within the EVIP 5 under section 6.3.

These methods are generally sub-divided into the implicit and the explicit methods as per guide by the RICS titled Property Investment in the UK (2010). The former are also known as the (current) conventional methods whilst the latter the contemporary methods.

The conventional method utilises a capitalization rate based solely on comparison, also referred to as the all risks yield (ARY), which is then adjusted intuitively by the valuer for differences that might exist between the comparable and subject property. The valuation relies on the strength of the comparable. Furthermore, an underlying assumption is that future (explicitly calculated) rental growths are ignored, and rents are reviewed only up to the known current market levels. This since the yield as a measure of comparison, has within it an expectation of growth. Deferment in the case of a reversionary property valuation is also carried out at the yield.

The contemporary approaches distinguish between the yield, implied growth and target rate of return (discount rate), making them more synonymous of a true investment approach. Whilst also relying on comparable data with regards to the yield, the choice of target rate by the valuer introduces a certain amount of subjectivity, which in turn impacts the implied rental growth. The growth in rental value is treated explicitly in the contemporary approaches, unlike the conventional ones.

Variants exist within the two categories. The hardcore approach (horizontally sliced), the term and reversion approach (vertically sliced) and the equivalent yield approach are all conventional techniques. The discounted cash flow (DCF) model, whether by formula or explicit cash flow, real value models or arbitrage models are all classified as contemporary techniques.

The following sections attempt to outline the steps associated with the hardcore model, as a conventional approach, and the explicit DCF models as a contemporary approach. This does not exclude the use any of the other recognised methods as listed in the previous paragraph, nor is does it impose the use of one method over the other. Reference to published books, research and practice guidance as listed in the bibliography will guide the valuer accordingly in the use of the other models. The choice of approach and method is ultimately at the discretion of the valuer.

4.2. A Basic Understanding of the Term “Yield”

The following draws on the key points identified in chapter 2, section 4 of Property Investment Appraisal (Baum, A.E. and Crosby, N., 2008) and the RICS guide titled Property Investment in the UK (2010).

The initial yield is considered a popular indication of the quality of an investment and arrived at by dividing the current income from a property by its price. Nonetheless it is a fairly complex measure since it encapsulates expectations of growth, market risk, liquidity and expenses all within one figure. The basis for yield construction, which underpins the investment valuation methods, is a result of the work carried out by Baum (1988a), whereby it was established that:

$$k = RFR + RP - g + d \quad (1)$$

Property is an unusual asset when compared to other investment classes since it tends to depreciate over time, both as a result of physical deterioration and obsolescence. Hence depreciation (d) is included in the equation.

The foundations for this equation lie in the work of Irving Fisher and Meiron Gordon, where the initial return (k) available on an investment can be related to the required total return (r) simply in terms of the net income growth (g) that is anticipated:

$$k = r - g \quad (2)$$

The required return (r) according to Fisher is a function of time preference or liquidity, expected inflation and the associated risk and uncertainty. Extensive work has led to the required return (r) being expressed in terms of a risk free rate, hence making good for the liquidity and inflation, to which a risk premium (RP) is added:

$$r = \text{RFR} + \text{RP} \quad (3)$$

A recognised proxy for the risk free rate is the redemption yield on fixed-interest gilts. The choice of this depends on the time period of the investment, as well as the state of the market, and whether an average rate either based on gilt yields over say the past ten years or a forecast rate would be more relevant as suggested by Hutchinson (2015).

Next the RFR is adjusted accordingly by way of the risk premium to reflect the subject property investment. Risks can be broadly classified into two sub-headings as follows:

i. Market Risks

- Illiquidity associated with property, due to characteristics related to lot size, transaction times and availability of finance amongst other things;
- Inability to meet market rental expectations based on forecast rental growth;
- Inability to meet market yield prediction based on forecast yield shift;
- Risks related to the location, the economic scenario, physical and functional depreciation as a result of structural change;
- Risks resulting from changes in legislation (e.g. planning/privity of contract, changes in fiscal policy).

ii. Specific Risks

- Chances of the tenant defaulting on rental payment, termed also the covenant risk

- Inability to re-let resulting in voids;
- Expenses relating to ownership and management;
- Variations in lease structures (e.g. rent review structure, lease breaks).

The interpretation of the above risks with regards to a particular property is at the discretion of the valuer and should be based on his expertise backed by sensitivity towards the current market and the subject property's attributes. It is suggested that the assessment of risk premiums on an individual property basis is an 'unrealistic proposition' within the context of property valuation (Baum, A.E. and Crosby, N., 2008). Therefore the target rate choice, which is dependent on the interpretation of a risk premium, for property valuation purposes is a subjective element in the DCF-based valuation process, left within the intuition of the experienced valuer, similar to conventional techniques (Baum, A.E. and Crosby, N., 2008).

Referring back to equation (1) this leaves the valuer with the task of determining the growth and depreciation, which together produce the net expected rental growth.

The implied rental growth rate can be extracted from comparable evidence of similar investment properties subject to similar lease structures. An implied rental growth rate can be calculated based on the initial yield (capitalisation rate, k), the assumed target rate of return (r) and timing of rent reviews (t):

$$(1+g)^t = \frac{\text{YP perp. @ } k - \text{YP } t \text{ years @ } r}{\text{YP perp. @ } k \times \text{PV } t \text{ years @ } r}$$

Alternatively the rental growth can be based on accepted long term market data forecasts if these exist.

Depreciation depends on the property type, its age as well as market demands. Physical deterioration refers to the wear and tear of the property through use, whilst obsolescence refers to changes through time such as those relating to technology which may render a building redundant. These factors will impact both rental and capital values since they affect

the attractiveness of a property to a potential tenant may be ready to pay. This in turn would impinge on future cash flows.

Appendix A provides a short explanation of the various yield terms as utilized in the field of property valuation.

4.3. General Steps Common to Both Methodologies

Step 1 Identify the property type and interest being valued.

Is it a valuation for the freehold or leasehold interest?

Step 2 Identify comparable data for similar property, both in terms of sales and rents. Provide details of the source and reliability. Identify and discuss any differences that may exist between the comparable data and subject property.

Sources of data may include recorded sales or rents (first preference) as well as advertised sales or rents. Differences may be related to location, current state of the building, as well as differences arising from the lease structures (for example insuring and repairing terms, rent review pattern, adjustment in rent).

Step 3 Identify whether the property, if leased, is at current ERV (rack rented), below the ERV or over-rented.

This is done by comparison with the market data identified in (2).

Step 4 Identify events or data in the lease that may impact the property's ability to make a return.

Such examples include a protected tenancy, life expectancy of the tenant, minimum or maximum rent, imposed rental growth, rent reviews, adjustment in rent, rent free periods, breaks, lease expiry, sub-letting etc.

Step 5 Identify between a conventional or contemporary approach.

Is growth implicit in the yield or is growth calculated explicitly?

4.4. Approach Specific Steps: The Conventional Hardcore Layer Method

Conventional (capitalisation) methods are dealt with in section 6.3.2 of the EVIP 5 of the EVS 2016 (TEGoVA, 2016).

Step 6 Identify the all risks yield.

The all risks yield suggests that all the risks are wrapped up or hidden in the yield, whilst also having in-built within it an expectation of growth. An accurate pricing technique will depend on the best evidence of market prices derived from the same sub-market (strength of the comparable) from which the ARY is calculated. This is calculated directly from comparable market data i.e. Achieved Market Rent divide by Sale Price.

Step 7 Make any adjustments to the ARY stating reasons.

Unless a perfect comparable property exists, the valuer should intuitively adjust for differences that might exist between the subject property and the comparable. Differences might arise due to location, physical attributes (e.g. state/age of the building), tenure (e.g. fully let or reversionary etc.) or even from the lease structures themselves (e.g. unexpired term, repairs and insurance etc.). This is left at the discretion of the valuer, by making comparisons. Generally speaking, any of these differences which render the subject property less attractive in terms of an investment will increase

the risk associated with it, and hence a hypothetical investor would expect a greater return. Therefore, in such cases the ARY is adjusted upwards. The opposite is the case if the subject property has advantageous attributes when compared to the comparable property, and hence a qualified adjustment downwards would be acceptable.

Step 8 **Proceed with the calculations accordingly, based on steps 1 and 3.**

For the valuation of the freehold interest

A. If the property is freehold (free and unencumbered) or leased at current ERV (rack rented) capitalize the ERV by calculating YP at the adjusted ARY into perpetuity. If a perfect comparable exists then the valuation is simplified to ERV divide by ARY (ARY expressed as a decimal).

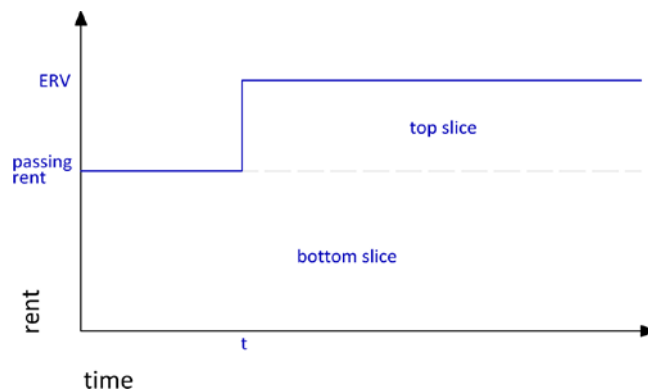


B. If the property is leased below ERV, the hardcore layer approach can be utilized¹. Such leases are referred to as reversionary. The valuer must in such cases:

- i. Identify the passing rent, referred to as the bottom slice;

¹ This does not exclude the use of the methods such as the term and reversion or the equivalent yield approach.

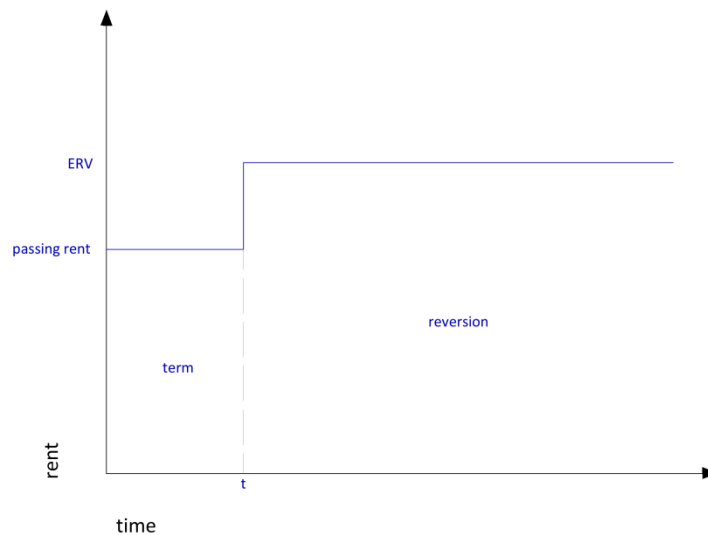
- ii. Identify the time, t , to the next lease event when it is likely that the rent is adjusted to ERV – this is done by referring to the lease agreement and/or implications from legislation regulating leases;
- iii. Identify the current ERV likely to be expected from a similar fully let property from comparable data;
- iv. Calculate the top slice by deducting the passing rent (bottom slice) from the current ERV;
- v. Calculate the multiplier by which the term rent (bottom slice which is assumed to be received into perpetuity) is multiplied, by way of YP at the adjusted ARY into perpetuity. This is the first part of the valuation;
- vi. Calculate the multiplier for the reversion by which the top slice is multiplied (which will be received into perpetuity, but deferred by t), by way of YP at the adjusted ARY into perpetuity, multiplied by the PV at the adjusted ARY deferred by t . This is the second part of the valuation;
- vii. Add the values from (v) and (vi) to arrive at the final valuation.



Notes

- The valuer is to note that the bottom-slice income is perceived to be received into perpetuity i.e. the rent will never fall below the passing rent. This may be due to either upward only rent-reviews or due to positive growth prospects/forecasts.

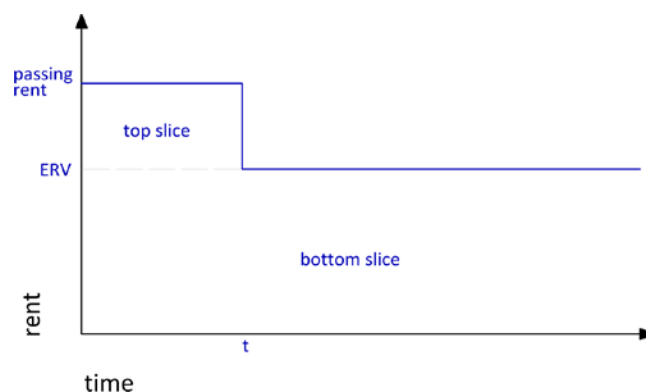
- The ARY applied to the bottom slice may vary from that of the top slice. Typically the top slice carries with it an increased uncertainty as an income stream than the bottom slice, and hence the ARY is adjusted slightly upwards to reflect this (increased risk). Likewise the ARY can be further adjusted if the comparable ERV is suspect. It is left within the valuer's professional discretion to make such adjustments and to clearly outline the reasons in the valuation report.
- In the case of conventional methods, the deferral rate is taken to be equal to the yield, whether adjusted or applied directly as deemed suitable by the valuer. This is a widely recognised approach, as identified in publications on the subject matter and in practice. It is important to understand that the yield utilised in the conventional methods is primarily a comparable measure of the attractiveness of a property income, within which growth is implicitly catered for.
- Depending on the task at hand however, the valuer may opt for a different deferment rate as deemed appropriate. Any differences must be highlighted and explained accordingly. For example one argument might be to defer at the bank lending rate on the basis of the local financial scenario, to reflect the expense associated with borrowed money.
- The term and reversion method, which is also a conventional approach, identifies the income from the property term and reversion by vertically slicing the income. Whilst in the hardcore method the slicing is horizontal as has been shown above, in the term and reversion method the slicing is vertical as demonstrated below. The passing rent is capitalised at the ARY over the term t . The current ERV is capitalised into perpetuity at the ARY and discounted for the term t . Any adjustments to the ARY applied to the term and reversion due to differences between the subject property and the comparable, or differences in the passing rent and ERV with respect to perceived risk are at the discretion of the valuer.



- The ARY is not equivalent to the investor's overall rate of return since as outlined in section 4.2 the yield implies rental growth. This increases the income during the holding period (even if this is stable) and also results in a capital gain when the property is assumed to be sold off. In reality the investor's rate of return will be higher.
- The workings of the conventional methods present limitations, arising from the assumptions made. One case in point is the adjustment in the yield applied to different parts of a reversionary income profile. Such adjustments are not completely logical because in the hardcore approach the passing rent (bottom slice) may not necessarily extend into perpetuity, whilst in the term and reversion model the passing rent (term) may actually extend beyond the term.
- The equivalent yield model provides a simpler approach to the above problem by adopting a higher capitalization rate to both parts of a reversionary valuation. Further information about this can be found in the references and bibliography.

- C. If the property is over-rented** determine the overage, proceed similarly as in (b) above. The valuer must in such cases:
- Identify the passing/contractual rent;

- ii. Identify the time, t , to the next lease event when it is likely that the rent is adjusted downwards to ERV – this is done by referring to the lease agreement and/or special laws regulating leases.
- iii. Identify the current ERV from comparable data – this will be considered as the core income (bottom slice which will be received into perpetuity);
- iv. Calculate the overage by deducting the current ERV from the passing/contractual rent;
- v. Calculate the multiplier by which the core income is multiplied, by way of YP at the adjusted ARY into perpetuity. This is the first part of the valuation;
- vi. Calculate the multiplier by which the overage is multiplied (which will be received for a period t) by way of YP at the appropriate rate for t . This is the second part of the valuation;
- vii. Add the values from (v) and (vi) to arrive at the final valuation.



Notes

- Any difference between the ARY applied to the overage and the core income is to be justified by the valuer, stating reasons.

- Note should be taken of the implication of upward only rent reviews, which would prohibit the adjustment of the rent downward at lease events, if ERV is less than the passing rent.
- The valuer must be aware that the application of the ARY (growth implicitly included in this figure) to an over-rented property results in an element of double-counting and possible over-valuation. Furthermore, the conventional approach does not allow the calculation of the time when the overage might be eliminated.
- In view of the limitations expressed above, the contemporary approaches lend themselves better at valuing over-rented properties since they explicitly are capable of calculating the growth and hence it is possible to forecast the point at which the overage is eliminated. For this reason the use of a conventional method for over rented properties is not advisable.

For the valuation of the leasehold interest

Since this method for valuation relies solely on the quality of comparable evidence and the valuer's intuitive adjustments and the fact good leasehold investment comparisons are much harder to come by, then a conventional approach is not advisable. This is due to differences which arise not only from the property's physical and locational attributes, but also the head-lease and sub-lease structures.

4.5. Approach Specific Steps: The Contemporary Discounted Cash Flow Method

Discounting methods are dealt with in section 6.3.3 of the EVIP 5 of the EVS 2016 (TEGoVA, 2016). Additionally extensive guidance on the discounted cash flow method is also provided in section 50 under IVS 105 (IVSC, 2017).

Step 6 Calculate the initial yield (k).

This can be obtained by calculating the initial yield achieved on a fully let property, which is arrived at by using comparable market data as identified by the valuer i.e. Achieved Rent divide by Sale Price.

Step 7 Calculate the target rate of return (r).

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

r = target rate of return

RFR = risk free rate

RP = risk premium

- i. Identify and record the RFR from government bonds (YTM) with a similar time to redemption as the lease structure in place. Up to date data for Malta Government Stocks is available from the Malta Central Bank website. Hutchinson (2015) advises about the sensibility of utilising an average for this.
- ii. Identify and record the risk premium. This is associated with the market mechanics at the time (supply and demand), added risk, uncertainty² of the cash flow and illiquidity associated with investing in the particular property being valued. State reasons.
- iii. Calculate the target rate of return according to the above formula.

Step 8 Calculate the implied growth (g).

$$(1+g)^t = \frac{\text{YP perp. @ } k - \text{YP t years @ } r}{\text{YP perp. @ } k \times \text{PV t years @ } r}$$

g = nominal rental growth pa

t = review patterns

²For a general understanding on the impact of uncertainty on the valuation refer to the RICS guide *Reflecting uncertainty in valuations for investment purposes A brief guide for users of valuations* (Bywater, N., 2010).

k = initial yield

r = target rate of return

The above equation can be re-arranged to calculate k , if for instance the growth is known or fixed.

If t (review patterns) is equal to 1 year (i.e. rent is revised yearly), then the above equation will reconcile with the result of the Fisher and Gordon equation i.e. $k = r - g$. This simple equation is also a good “check” on the value of the implied rental growth, g , obtained from the above equation, since it should be fairly similar in cases when t is more than 1 year.

Step 9 Proceed with the valuation.

For the valuation of the freehold interest

For an explicit discounted cash flow valuation of a freehold interest:

- i. From the comparable data collected as per step 2, make any necessary adjustments in order to establish the ERV of the subject property by comparison, unless a perfect comparable is found. Outline any adjustments and reasons for these.
- ii. Identify whether the passing rent is equivalent to ERV (rack rented), is lower or is higher than ERV. If the property is vacant (or owner-occupied) then an assessment of the imputed rental income should be undertaken, based on an analysis of current rents being paid, rents being quoted and the vacancy rate of comparable properties.³ For the first three cases, identify the time period left until the next rent review, t_1 , when the rent is likely to be

³ *If market demand is good, rents being paid tally with rents being quoted and vacancy is low, then the ERV can be adopted.*

adjusted. This information is typically found in the lease agreement or in legislation governing such property. In the case of a vacant property it is typical that $t_1=t_2=t_3=t_4\dots$, unless special conditions are envisaged.

- iii. Identify the holding period, t_h . Even though freeholds are perpetual in nature a cut-off time has to be decided by the valuer, when it is assumed the property is sold off (even though no sale might be envisaged by a purchaser), in order to limit the length of the calculations. The reason behind this arises from the fact that it is primarily the early years that dictate the overall value of the interest, unless there is a substantial reversionary value expected. The holding period might well also be a result of implications from the lease agreement or any special legislation.
- iv. Identify future events throughout the holding period which might impact the cash flow, such as rent reviews, breaks or rent free period and timeliness of these ($t_{1,2,3,4\dots}$). Start by identifying whether at t_1 the rent will remain the same, increase or decrease depending on clauses in the lease agreement or legislation. Set out a cash flow based on the time periods $t_{1,2,3,4\dots}$ for the full holding period. The time periods may vary in length from one another, or may be the same. The latter is a typical scenario when a vacant property is being valued, and no special conditions exist. For each time period, the growth is explicitly calculated based on a constant growth rate, g . This is done by compound interest i.e. by calculating the future value (A). Multiply the passing rent by A to arrive at the forecast income.
- v. Identify any costs associated with the property and include them into the cash flow. These will bear a negative sign since they are outgoings and shall be deducted from the overall cash flow⁴.

⁴ Alternatively when costs are constant throughout the period of the DCF and fairly straightforward, then the final valuation result can be adjusted accordingly at the end, by for example deducting 5% management and maintenance fees. These will depend on the type of property and lease.

- vi. Capitalize the net income by calculating the YP multiplier for each time period, at a yield equal to the target rate of return, r . If all time periods, $t_1, 2, 3, 4...$, are equal in length then it follows that all YP multipliers will be the same. If the DCF is constructed on a yearly basis, then there is no need of a YP multiplier as this will always be 1.
- vii. Calculate the PV multiplier, based on the number of years elapsed at each respective time period $t_{1,2,3,4...}$ at a rate equal to the target rate of return, r . The calculation of the PV multiplier will differ for rents received in advance or in arrears. The valuer is to decide whether rents in the DCF are in advance or in arrears, with his/her judgement being based on the lease in place and/or market practices as well as the availability of data. Multiply the results from (vi) by this value.
- viii. Calculate the inflated ERV (by calculating the future value A) at the end of the holding period. Next calculate the YP multiplier into perpetuity, when it is assumed that the property is sold (based on a fully let property). In this instance the yield used is equal to the market rate, k , as obtained from comparable data, adjusted accordingly. Multiply the inflated ERV by this multiplier. Discount this to the present value by multiplying by PV at r for t_h .
- ix. Add the resultant values from the cash flow as obtained from (vii) to the value obtained in (viii) to arrive at a final valuation.

In the sample DCF that follows it has been assumed that ERV = €10,000; $r = 5.5\%$; $t_h = 30$ years; $t = 5$ years (review pattern); $k = 3.5\%$, $g = 2.14\%$ p.a.

From the investment approach formulae sheet:

$$A = (1+g)^{t_{1, 2, 3, 4...}}$$

$$\text{YP } t \text{ years @ } r = \frac{1 - (1+r)^{-t}}{r}$$

$$\text{PV @ } r = (1+r)^{-t}$$

$$\text{YP perp. @ } k = \frac{1}{k}$$

Sample DCF

Years	Current rent (€ p.a.)	A €1 @ <i>g</i>		Forecast income (€)	YP <i>t</i> years @ <i>r</i>		PV @ <i>r</i>		Present Value (€)
1 to 5	€10,000	0	1.000	€10,000	5	4.2703	0	1.000	€42,703
6 to 10	€10,000	5	1.112	€11,116	5	4.2703	5	0.765	€36,320
11 to 15	€10,000	10	1.236	€12,357	5	4.2703	10	0.585	€30,892
16 to 20	€10,000	15	1.374	€13,736	5	4.2703	15	0.448	€26,275
21 to 25	€10,000	20	1.527	€15,270	5	4.2703	20	0.343	€22,348
26 to 30	€10,000	25	1.697	€16,974	5	4.2703	25	0.262	€19,008
Total of income flow									€177,546
Assumed sale @ year 30	€10,000	30	1.887	€18,869	YP perp @ <i>k</i>	28.571	30	0.201	€108,168
Valuation									€285,714

Notes

- The holding period (t_h) in the case of this rack rented fully let property has been arbitrarily chosen as 30 years. If a different figure is chosen for this, then the DCF will still give the same result. The RICS publication titled Property Investment in the UK (2010), suggests 10-15 years as being a common holding period.
- The above valuation reconciles with the conventional valuation:

$$\text{ERV}/k = 10,000/0.035 = \mathbf{€285,714}$$

- The inputs utilized in the above approach can be adjusted if differences exist between the comparable data from which k is derived and the subject property, such as differences in the review pattern. An appropriate k to be utilized in the DCF can be

calculated which takes into account such differences, typically arising from differing review patterns.

$$k = r - (SF \times p)$$

k = appropriate / adjusted capitalization rate

r = target rate

SF = annual sinking fund over rent review period t at r

p = percentage rental growth over the review period t such that $p = (1 + g)^t - 1$, where g = annual rental growth

- For the valuation of certain two-stage reversionary freeholds, there is the possibility of opting for a short-cut DCF. The valuer need only identify the remaining term rent and how long this is to be received for (t_t). This is capitalized at YP t_t at r and this constitutes the first part of the valuation. The second part of the valuation consists in valuing the reversion. This is done by calculating the ERV at time t_t (inflated rental value), by calculating the future value A at g by which the current ERV is multiplied. This is assumed to be received into perpetuity and hence can be capitalized into perpetuity by calculating YP perp at k , and discounted by PV t_t years at r .

For instance referring back to the previous example, assume that the passing rent is €8,000 instead of the ERV. The unexpired term is of 4 years. Based on the data from the previous example the short-cut DCF calculation would be as follows:

Term rent	€8,000
YP 4 years @ 5.5%	3.505
	€28,040

Reversion to ERV	€10,000
Amount of €1 in 4 years @ 2.14%	1.088
Inflated rental value	€10,880
YP perp. @ 3.5%	28.571
PV 4 years @ 5.5%	0.807
	€250,858

Valuation = term + reversion = €278,898

- This figure is €6,816 lower than the fully let freehold as calculated in the sample DCF above. However, the difference in rent over the term is of €2,000 per annum, which by simple arithmetic would add up to €8,000 over four years. This is due to the time value of money, and discounting to the present day. The valuer should be able to identify the influence of discounting and highlight them in his report, whilst arriving at a sensible conclusion.
- In the case of over-rented properties, the valuer must identify the point at which the ERV exceeds the passing rent. Consider two scenarios:
 - i. The ERV does not exceed the passing rent before the expiry of the lease. For the first part of the valuation, the valuer must capitalize the passing rent by calculating YP t years at r , where t is the remaining time frame of the existing lease. The second part of the valuation assumes that the property would from the end of the lease onwards, be fully let at the then ERV. The valuer must therefore calculate the inflated ERV at t , by calculating the future value A at g by which the current ERV is multiplied. This is assumed to be received into perpetuity and hence can be capitalized by calculating YP perp at k , and discounted by PV t years at r .
 - ii. The ERV exceeds the passing rent before the expiry of the lease. The valuer must identify at which point this happens, and the next event in the lease which would allow for this to happen at time t (e.g. rent review). Similarly as in (i) the inflated

ERV is calculated at the next upcoming event, time t . From this point onwards it can be assumed that this rent is received into perpetuity and therefore is capitalized by calculating YP perp at k , and discounted by PV t years at r . This is added to the valuation of the passing rent, received for t years which is obtained by capitalizing the passing rent by calculating the YP t years at r .

- The target rate of return and subsequently the yield in the case of over-rented properties will vary from their rack-rented counterparts. The valuer must identify whether the risk of default by the tenant in an over rented property is considerable enough for an investor to require a higher rate of return for such an investment. The certainty of the income flow will depend mainly on the quality of the tenant (weak, average or strong) and the strength of the covenant.

For the valuation of the leasehold interest

The technique utilized to value leaseholds is similar to that of freeholds. The value of a leasehold interest lies in the potential for the head-lessee to sub-let and make a return. This scenario typically arises when the rent of the head-lease is less than the market rent, resulting in a profit rent, given that subletting is allowed and not prohibited by the lease agreement or otherwise. The marked difference between a freehold and a leasehold valuation is that fact that the latter is a wasting asset; once the head lease terminates, so does the ability to continue making a return by subletting.

Comparable data from freehold transactions form the basis for the data utilized in leasehold valuations, in the sense that the implied growth rate adopted for such freehold valuations can also be adopted for leasehold valuations, since this is an implied rental growth for all similar property in the particular location. Unless this is known, then it can be calculated directly from comparable data (i.e. k and r) from freehold transactions of similar properties and according to the formula in (step 8).

There exists a market perception that leaseholds are inherently riskier than freeholds, and typically this is reflected in an increased risk premium by about 1-2% (or as the valuer deems necessary) over and above that expected of a freehold and thus a higher target rate of return, as indicated to be the usual practice (Baum, A.E. and Crosby, N., 2008). The cash flow is discounted at this target rate of return.

A difference which stands out from a freehold valuation using a cash flow method is that at the end of the envisaged income stream (expiry of the head lease) there will be no assumed sale of the property since the property reverts back to the landlord.

On the other hand, similarly to a freehold valuation the valuer must identify whether the sub-lease is rack-rented, reversionary or over rented, as this data will impact the cash flow. The valuer must also calculate the rents due to the landlord, as outgoings in the cash flow, which when deducted from the receivable rent from the sub-lease, give the profit rent. An explicit contemporary approach also allows increases in rents, whether in the head lease or sub lease, to be modelled effectively and precisely according to the estimated inflated rent at the time and at the varying times as necessary.

For an explicit discounted cash flow valuation for a leasehold interest:

- i. From the comparable data collected as per step 2, make any necessary adjustments in order to establish the ERV of the subject property by comparison, unless a perfect comparable is found. Outline any adjustments and reasons for these.
- ii. From details of the lease agreement or otherwise, firstly determine the cash flow of the rents due to the landlord related to the head-lease. The valuer must be careful to identify appropriately whether this rent is constant or whether there are structures in place which allow it to increase, and if so how and when. The cash flow must represent such data accurately as outgoings.

- iii. For the sub-lease, identify whether the passing rent is equivalent to ERV (rack rented), is lower or is higher than ERV. If the property is not as yet sub-let, but this potential exists, in this case an assessment of the imputed rental income should be undertaken, based on an analysis of current rents being paid, rents being quoted and the vacancy rate of comparable properties. A notional rent equal to the ERV, fully let, would give the optimal scenario in terms of income from the sub-lease. For the first three cases, identify the time period left until the next rent review, t_1 , when the rent is likely to be adjusted. In the case of a vacant property it is typical that $t_1=t_2=t_3=t_4...$, unless special conditions are envisaged.
- iv. Identify the unexpired term of the lease. This is how long for the cash flow will extend.
- v. Identify future events throughout the remaining unexpired term of the lease which might impact the cash flow (for both the head lease and sub-lease), such as rent reviews, breaks or rent free periods and the timeliness of these ($t_{1,2,3,4...}$). Start by identifying whether at t_1 the rent will remain the same, increase or decrease depending on clauses in the lease agreement or special legislation.
- vi. Set out a cash flow based on the time periods $t_{1, 2, 3, 4...}$ until the head lease expiry. The time periods may vary in length from one another, or may be the same. Also to note that the timing of events in the head lease and sub-lease might not necessarily coincide. The cash flow will therefore document the impact of events in both the head lease and the sub lease. For each time period, the growth is explicitly calculated based on a constant growth rate, g . This is done by compound interest i.e. by calculating the future value (A). Multiply the passing rent by A to arrive at the forecast income.
- vii. Identify any costs associated with sub-letting the property and include them into the cash flow. These will bear a negative sign since they are outgoings and shall be deducted from the overall cash flow.

- viii. Capitalize the net income by calculating the YP multiplier for each time period, at a yield equal to the target rate of return, r . If all time periods, $t_1, 2, 3, 4, \dots$, are equal in length then it follows that all YP multipliers will be the same. If the DCF is constructed on a yearly basis, then there is no need of a YP multiplier as this will always be 1.
- ix. Calculate the PV multiplier, based on the number of years elapsed at each respective time period $t_1, 2, 3, 4, \dots$ at a yield equal to the target rate of return, r . Multiply the results from (viii) by this value. The calculation of the PV multiplier will differ for rents received in advance or in arrears. The valuer is to decide whether rents in the DCF are in advance or in arrears, with his/her judgement being based on the lease in place and/or market practices as well as the availability of data. Multiply the results from (vi) by this value.
- x. Add up the results from (ix) for each time period. This gives the final valuation figure.

PART 5: THE DEPRECIATED REPLACEMENT COST METHOD APPLIED TO PROPERTY

VALUATION

5.1. Introduction

The depreciated replacement cost (DRC) method, also referred to as the contractor's method, is a specialized method applied to specialized property which is not frequently traded on the market and therefore for which there is not enough market evidence, and neither would a valuation by reference to the accounts of the undertaking (income method) be appropriate. This method is often considered as a method of last resort, or in cases to double check a valuation carried out by other methods.

The term 'specialised' property refers to qualities inherent to the property, such as the use, size, location and design amongst other factors which mean that there is no relevant or reliable evidence of sales involving similar property. Examples of such property include schools and hospitals.

As the name itself implies, the method seeks to calculate the replacement cost of the building as new, followed by the identification and application of a factor for depreciation since the property being valued is not new, and also the separate valuation of the land upon which the property is built. The final valuation is a summation/combination of these.

The cost methods are outlined in the EVS 2016 under section 6.4 of EVIP 5 (TEGoVA, 2016). Sections 60 and 70 of IVS 105 (IVSC, 2017) provide additional comprehensive information and guidelines. The RICS Valuation Information Paper 10 titled The Depreciated Replacement Cost Method for Financial Reporting (2007)⁵ provides information and outlines prevalent practice on the subject.

⁵ This is now archived as its contents have been incorporated into the red book.

5.2. Application of the DRC Method for Property Valuation

Step 1. Identify the property being valued

Is the interest freehold or leasehold?

Step 2. Confirm that no other approach is applicable to the valuation of this type of property and state reasons for this.

These include a market approach or an income approach.

Step 3. Consider and examine the built property.

Pertinent questions for the application of this method include:

- Is the building's use to continue and still valid today? – if yes, then this method is applicable.
- Is the building's design and specifications according to today's standards? – it is likely that building methods, standards, specifications and space requirements related to a particular specialized use change with time, and it is therefore likely that a modern equivalent would not necessarily consist of an exact replica.

Step 4. Assess the gross replacement cost of the asset by firstly producing a valuation for building a replacement modern equivalent building.

Pertinent points to consider include:

- The actual or estimated cost of reproducing the existing building may be relevant in this assessment, but this will often not necessarily be the case, especially with old or obsolete assets, where this information is irrelevant.
- If information of the actual cost incurred to build the building is available and it is reasonable to rely on this, then it may also be possible to consider indexation in terms of inflation to make the necessary adjustments. Reference to be made to

either the KTP Valuation Standards 2012 Appendix G or statistics available from the National Statistics Office.

- All the costs associated with delivering a new building should be considered – planning fees, site preparation works, professional fees, materials and labour (construction and finishing), contingencies if necessary, variations, delays, finance costs.
- If reliable published cost data is available then the valuer may refer to these in assessing the estimate of the new build. Published construction cost data may not be directly applicable to specialized property and hence the valuer will have to assess the value more accurately and specifically in relation to the asset.
- The workings of the costs are best presented in the form of a bill of quantities. Fees, sums and rates are to be based on those applicable at the time. Construction costs and rates as available from contractors, typical professional fees as available in established tariffs, planning fees as applicable under the relative Planning Authority legislation and applicable lending rates based on the Central Bank base rate plus the commercial bank's premium.
- Given the specialized nature of the property it could be the case that the valuer will have to refer to information from the client. In this regard the valuer must discuss, and agree the extent to which reliance on such information provided by the client is acceptable or, if further specialist input is to be obtained by the valuer from independent professionals. Disclosure of this in the report is paramount.

Step 5. Assess the adjusted replacement cost, by identifying the applicable depreciation factor.

Pertinent points to consider include:

- The applicable factor of depreciation will depend on physical deterioration (wear and tear over the years), functional obsolescence (differences arising from changes

in the design and specification of the building) and external obsolescence (the impact of changing external conditions on the demand for goods or services produced by the asset).

- Cases of total obsolescence may arise and this is often clear from the outset of the valuation exercise, in which case the DRC is not applicable. Hence it follows that the DRC method is normally used where obsolescence is only partial.
- Depreciation can be categorised into physical obsolescence, functional obsolescence and external/economic obsolescence.
- The applicable factor of depreciation will depend on the estimated remaining life of the existing building; the higher the expectancy, the lower the depreciation. The life of the asset must therefore be established and recorded by the valuer, giving suitable reasons, considering normal maintenance and servicing but not a complete refurbishment which might extend the 'natural' life of the building.
- Amongst the three methods of calculating depreciation, namely the reducing balance, the 'S' curve and the straight line, the latter is identified as being the simplest and most frequently utilized method of depreciation (RICS, 2007). This assumes the same amount is allocated for depreciation for each year of the estimated life, and hence having also estimated the remaining years the factor of depreciation can be calculated accordingly.

Step 6. Calculate the value of the land.

Pertinent points to consider include:

- The valuer is expected to estimate what it would cost to acquire that site in the market at the date of valuation, based on market data, typically by using a direct comparison approach.
- If the identification of comparable data by property type presents difficulties, arising from the fact that specialized property is typically 'sui generis' uses under planning

legislation, the valuer is compelled to refer to the closest comparable which is plausible in terms of land use, and outline this in the report.

- In the case of extremely specialized property where a similarity in use cannot be drawn in order to identify a comparable to establish the value of the land, the valuer has to determine with what other uses a buyer of an alternative site for the specialized use would have to compete in the market.
- Adjustment to the value of the land must be considered where necessary.

Step 7. Arrive at a final valuation for the property by way of reconciliation. This will consist of the addition of the depreciated replacement value to the value of the land.

The mathematical conclusion must be consistent with the underlying valuation objective i.e. to establish a price.

Step 8. In the case of establishing the rental value, identify the appropriate yield, k . Rental value is based on this.

5.3. A Practice Checklist

The checklist on the subsequent page has been adopted from the RICS Valuation Information Paper 10 (2007). Its intention is to assist the valuer in a simple way in identifying whether the all pertinent matters have been considered.

Items for Consideration	Comments
i. Is it appropriate to use the DRC?	
ii. Is the valuer adequately qualified?	
Specialist assistance	
iii. Have the terms of engagement been settled?	
iv. Assessment of the replacement cost – what factors should be considered?	
Site value	
Actual	
Modern equivalent	
v. Buildings, site improvements and related calculations	
Plant identified	
Infrastructure works	
Size of modern equivalent	
Specification of modern equivalent	
vi. Does the exercise involve historic buildings?	
Sources of cost information	
vii. Has an assessment of depreciation been undertaken?	
Physical deterioration	
Functional or technical obsolescence	
Economic obsolescence	
Asset life	
viii. Which depreciation method is being considered as applicable?	
Straight line	
Reducing balance	
S-curve	
ix. Other considerations	
x. Final Reconciliation	
xi. Reporting Requirements	

PART 6: THE PROFITS METHOD APPLIED TO PROPERTY VALUATION

6.1. A Brief Overview

The profits or income/expenditure method is a form of investment method based on the income generated by a property arising from its existing trading potential in use. In such cases the main driver affecting the property's value is not solely related to characteristics such as location, size, and state of the building as otherwise an investment method as discussed previously could be considered.

This is a particular and elaborate method which is applicable to a limited number of properties and sub-scenarios of such properties. It should be applied with caution and only when a valuation by comparison or rental income approach is not possible. There exist cases when a property's value arises from a business associated with it, and hence sold off as part of the business or use. Properties which classify as such include petrol stations, hotels, leisure properties such as cinemas or golf courses and catering establishments such as bars and restaurants. The EVS 2016 consider this method as being an income approach and is treated under EVIP 5 section 6.3.4 (TEGoVA, 2016).

This method requires specialist knowledge, and should be undertaken by individuals who have previous experience in this sector. It is in the interest of the individual who does not feel well versed with this methodology to decline the commission as outlined in the KTP Valuation Standards 2012.

PART 7: THE RESIDUAL METHOD APPLIED TO PROPERTY VALUATION

7.1. Introduction

The residual method can be classified as a type of cost and income based method, utilized both for valuation and development appraisal purposes. It is applicable to sites with development potential or else existing property with re-development potential. As a method it could also be used to appraise the viability of a project from an investor's point of view. These guidelines deal with the first scenario, that of utilizing the residual method for valuation purposes.

This valuation method operates by calculating the expenditures and revenues, based on estimates, associated with the envisaged development project, treating the profit expected from the investor as a cost in order to arrive at a residual amount which should represent the value of the site (or the property with redevelopment potential as the case may be). This method, as any other cost based method, is highly sensitive to the quality of the input data, which should be comprehensive, derived from reliable sources and preferably supported by comparable data.

This method of valuation, being associated with development property, is featured under EVIP 5 section 6.5 of the EVS 2016 (TEGoVA, 2016). Further details and guidance can be found under IVS 410 section 90 (IVSC, 2017). The RICS Valuation Information Paper 12 titled The Valuation of Development Land (2008) provides information and outlines current practice.

7.2. Application of the Traditional Residual Method for Property Valuation

Step 1. Identify the site/property being valued.

Does the property have development potential (aggregate worth more than its component?)? If yes then proceed with this method.

Step 2. Identify the 'vision' i.e. type of development which is most likely to be considered.

Refer to the Planning Authority documents such as the Strategic Plan for the Environment and Development, Local Plans, Action Plans, Development Briefs, Sanitary Guidance, Design Policy and Guidance etc. in order to identify the maximum allowable development on the site (best use of the site). Consider special aspects of the site, its configuration, size and/or other limitations/advantages. The valuer should also be aware of any special restrictions imposed by the Lands Authority in the case of government owned property.

Step 3. In parallel with step 2, reference should also be made to property market data relating to supply/demand characteristics and demographic data/statistics, which should serve as supporting evidence for the choice of the 'vision'.

Useful sources of data include the Central Bank, real estate agents, National Statistics Office, Planning Authority, consideration of development activity in the nearby area. The valuer should also bear in mind the final target consumer and what is required, sought and afforded by this target consumer.

Step 4. Identify the various stages related with the envisaged development.

- Acquisition
- Project design – what is allowed to be built vs. what should one realistically build?
- Financing
- Construction including site work such as clearing and excavation, finishing et.
- Project disposal
- Marketing and promotion

- Desired profit

Step 5. Identify the expenditures and revenues associated with the various stages. outlined in step 4.

- Acquisition
 - Apply the relevant taxation in force at the time as per the Duty on Documents and Transfers Act administered by the Capital Transfer Duty branch (Inland Revenue Department) or any other law in force at the time.
 - Estimate the associated professional fees as necessary, typically notary's and architect's fees at this stage.

- Project design
 - Estimate the Planning Authority levies – planning application fees and any obligations / contributions.
 - Estimate the associated professional fees as necessary, typically the Perit's fees at this stage. The Perit's fees are to be considered as per established tariff over all or part of the development fees as deemed appropriate.

- Financing

The commercial lending rate can be verified from that being offered by the local banks. Typically full financing is assumed on the purchase of the site/property. As a rule of thumb for the traditional residual approach, it is assumed that finance charges related to the development costs are calculated over half the development period (Baum, A.E. et, 2011; Wyatt, P., 2013). The discounted cash flow approach discounts the flow at the interest rate throughout to allow for the cost of money. In cases when the project is funded by the individual's own money, financing should still be included in the calculation to reflect the time value and cost of money.

- Construction including related site work

- Estimate any costs related to demolition, clearance and excavation based on market rates and figures.
- Estimate the building and finishing costs to shell or finished state based either on a recognized/published rate per square meter or produce a preliminary high level estimate based on a preliminary design of the development. Source of costs and rates is to be quoted in the report and should be up to date.

- Disposal of project

This should be based on market research and data regarding what the proposed development would sell for on the market at the valuation date.

- Marketing and promotion

Mainly these consist of estate agent's fees.

- Desired profit

This will depend on the risk associated with the development. Reference should be made to published guidance accordingly.

Step 6. Apply the basic formula

<p>Land Value =</p> <p>Value of completed development – Costs of completing development (inc. profit)</p>

The value of the completed development is also referred to as Gross Development Value (GDV), whilst the costs associated with completing the development (inc. profit) is termed the Gross Development Costs (GDC).

Step 7. Choose between a traditional residual approach or a (discounted) cash flow approach for the calculation.

The former is a more straightforward approach which is likely to be applicable to a vast majority of cases treated by the Lands Authority. The latter allows timing of the development to be modelled in the cash flow, according to various stages inherent to the project, whilst also factoring in the impact of inflation on construction costs and expected market growth which might impact property pricing. The latter is a more sophisticated model and lends itself to being utilised in the case of more complex projects as well as in cases of project management.

Step 8. For a traditional residual approach:

- i. Estimate GDV;
- ii. Estimate GDC;
- iii. Deduct Profit;
- iv. Identify the 'residual', this being the surplus from the above calculation at completion of development;
- v. Calculate the present value of the surplus deferred at the bank lending rate, based on the estimated time frame of the development;
- vi. Deduct transaction costs (stamp duty and professional fees related to the sale) to arrive at the net value of the land.

Step 9. For the discounted cash flow approach:

- i. Identify the various phases (timeline) of the development project, for example on a quarterly basis, from start to end; this should also entail identifying when the various expenditures and revenues are expected/assumed to materialize;
- ii. Estimate the GDV and GDC for each phase;

- iii. Prepare a cash flow presented as a spread sheet; this is to clearly indicate the various expenditures (-ve) and revenues (+ve), identified accordingly (not as a lump sum);
- iv. Calculate the net cash flow resulting from each quarter;
- v. Calculate the present value factor (PV) at the rate of financing, per quarter;
- vi. Calculate the present value of the net cash flow by multiplying the net cash flow resulting from each quarter by the relative PV factor calculated for that quarter;
- vii. Calculate the completion surplus which is the summation of the values calculated in (vi);
- viii. Completion surplus is equivalent to the land value (gross). In order to calculate the net value of the land, then deduct purchaser's costs.

7.3. Assumptions of the Traditional Residual Valuation Model

The use of the traditional residual model requires the valuer to be aware of and make a number of assumptions. These are a natural result and necessity since timing is not catered for within the calculation. This is the main difference from a cash flow approach. Based on the publication by Wyatt, P. (2013), these can be identified as follows:

- Revenues from the disposal of the project are assumed to be received all at the end of the development period.
- The development costs and purchase of the land are assumed to be debt finance, payable in full at the end of the development period.
- Expenditures are assumed to be incurred evenly throughout the construction period, with interest being calculated over half the time period.
- Expenditures and revenues are assumed to take place at the end of the development period, at the end of project completion.

- Profit is treated as a cost, calculated as a proportion of the total development costs or value, expressed as a lump sum. This is also assumed to be deducted at the end of the development period.
- The residual amount resulting from the deduction of the GDC from the GDV is gross of the interest accrued on the purchase over the development period. The residual amount is therefore discounted at the interest rate, for the duration of the development period, since the purchase is made at the start.

7.4. A Note on Sensitivity Testing

Due to the nature of the residual approach, being driven by inputs, a number of variables, unknowns and assumptions, sensitivity testing allows changes in the underlying variables to be made. It is possible to apply simulation techniques to model the probability of outcomes. This fact is recognised in the EVS 2016 section 6.5.6 of EVIP 5, which requires that sensitivity analysis is undertaken (TEGoVA, 2016). It is not the scope of this document to delve into the details of sensitivity testing. The reader is referred to the reference list and bibliography for further guidance on the subject.

PART 8: A COLLECTION OF VALUATION EXAMPLES

- The following examples are an attempt to demonstrate the application of the various methodologies only. They are not to be relied upon for professional advice. They are hypothetical valuations of hypothetical scenarios and properties.
- In no case is the approach to a valuation, as presented in the examples, to be considered absolute. Other methodologies or approaches may be applicable.
- The data utilised in the examples is for demonstration purposes only and is not a reflection of current actual data. It is not to be relied upon or reproduced in any instance.
- The utilised yield rates including target rates and growth are for the purpose of the examples only and do not purport to represent actual market rates.
- Any assumptions or adjustments made are not to be relied upon and treated as professional advice. They are applicable only within the hypothetical context of the example.
- Reference to legislation and the attempt made at its interpretation excludes any case law or judgements. The interpretation as presented in the examples is not to be relied upon as professional advice.
- Unless otherwise stated, the results represent a hypothetical valuation to market value as per TEGoVA definition and the valuation is assumed to be undertaken in 2016.
- Unless otherwise stated, the final valuation figure arrived at in the examples is expressed without deduction for purchasing costs.

Example 8.1. The Valuation of a Tenanted Shop Subject to an Old Lease

1. Property Description

The property consists of a shop, having a frontage of 6m and a depth of 12m, utilised for the sale of clothes with full permits. The property is located on the main thoroughfare of the city, with excellent exposure to passing trade, and is in a good state of maintenance. The property is subject to a pre-1995 lease, with no specific lease agreement or clauses in place. The passing rent as at date of valuation (2016) is of €12,800 p.a. The ERV is €75,000 p.a. of a rack rented similar property, both in terms of physical characteristics and location, with 5 year upward only review patterns and full repairing and insuring terms. This property has just been sold at a capitalisation rate of 4.5%.

2. Appointment Brief Instructions

Scenario 1

In this scenario it is being assumed that sub-letting is allowed and was agreed to in the contract. The tenant has shown an interest to become the freeholder in possession of the property. What would be the fair price for the tenant to offer and the landlord to accept?

Scenario 2

In this scenario it is being assumed that sub-letting is not allowed, and hence this is an occupation lease. The tenant wishes to assign the lease, which is assignable with the landlord's consent, as per lease terms. What would be the fair price for the tenant to accept for the assignment of the lease?

3. Considerations for Arriving at Market Value

- In the absence of an agreement between the parties, according to article 1531D of Chapter 16 of the Civil Code amended by Act X of 2009 an increase of 5% p.a. is

operative (in the absence of the establishment of the property market value index or agreement between the parties otherwise).

- Reference is also made to articles 1613 and 1614 with regards to sub-letting.
- According to article 1531I the existing commercial lease terminates on the 1st of June 2028 and hence the remaining time is of 12 years (valuation date 2016).
- All maintenance costs are assumed to burden the lessee, except structural repairs, as per article 1556. In this case, this being a street level shop with overlying third party property, and since it is in a good state of maintenance with no visible structural problems, then a nominal amount of 2.5% is deducted from the term rent should any repairs become due.
- The location of the property is considered a top prime location.
- The ERV for the subject property by comparison is taken as currently standing at €75,000.
- Currently the passing rent paid by the tenant is less than the ERV (market rent).

4. Valuation Calculations

4.1. Scenario 1

The following calculations are being carried out using the contemporary approach.

The valuation considers:

1. **The landlord's interest;** i.e. the income from the existing lease which expires on the 1st June 2028 plus the value of the property in 2028 as free and unencumbered, discounted to the present date.
2. **The tenant's interest;** i.e. valuation of the leasehold arising from the potential of the landlord to sub-let at a profit rent.

3. **The market value of the unencumbered freehold;** i.e. of a hypothetical replica of the property based on ERV from comparable market data if it were rack rented.

Calculation 1 - The Landlord's Interest

This is a reversionary lease, since the passing rent is less than the ERV. By virtue of the legislation concerning this type of property and lease, some level of rental increase is in place. The revenues from the existing lease for the coming 12 years is set out in table 1 below, where one can observe that at year 12 the passing adjusted rent would still be way below the current market rent.

It is essential that rationality is exercised in interpreting one type of transaction for the use in valuing another. With reversionary situations the prospect of a lack of similarity between the comparables and the subject property increases. Nevertheless, since the target rate is for the property and since a contemporary approach is being utilised which explicitly calculates the implied growth rate from market data, this problem is relieved to a certain extent in comparison to a conventional approach.

The passing rent which extends to 2028, even though there is an allowance for increases by virtue of the current law, is not an accurate representation of the market since it remains well below ERV throughout the term (less than 25% of ERV). The target rate of return is therefore applied to the reversion, and not the growth implicit yield.

At year 12 the property reverts to the ERV at the time, and hence an inflated ERV. It is assumed that there is a notional sale of the property newly leased at the inflated ERV, capitalised at 4.5%. This is discounted at the target rate of return.

The calculation of the implied growth rate is based on the following data from the comparable:

- Capitalisation rate (k) = 4.5%;
- Rent reviews (t) are every 5 years;

- Risk free rate (RFR) from published data by the Central Bank of Malta for MGS 3.00% 2040 I, YTM = 2.25% (as at date of valuation – possibility of also utilising an average figure over say a 5 year period; refer to Hutchinson 2015);
- Risk premium (RP) = 4.25% for this type of property, lease (rack rented) and valuation.
- Rate of return (r) = RFR + RP = 6.5%;

$$k = 4.5\%, r = 6.5\%, t = 5 \text{ years}$$

$$\begin{aligned}
 (1+g)^t &= \frac{\text{YP perp. @ } k - \text{YP } t \text{ years @ } r}{\text{YP perp. @ } k \times \text{PV } t \text{ years @ } r} \\
 \text{YP } t \text{ years @ } r &= \frac{1 - (1+r)^{-t}}{r} = \frac{1 - (1.065)^{-5}}{0.065} = 4.156 \\
 \text{YP perp. @ } k &= \frac{1}{k} = \frac{1}{0.045} = 22.222 \\
 \text{PV } t \text{ years @ } r &= (1+r)^{-t} = (1.065)^{-5} = 0.729 \\
 (1+g)^5 &= \frac{22.222 - 4.156}{22.222 \times 0.729} = 1.115 \\
 g &= 0.022 \text{ or } 2.2\%
 \end{aligned}$$

With reference to the discounted cash flow below, table 1, **the valuation of the landlord's interest is of = €1,198,368.**

Calculation 2 - The Tenant's Interest

Given that the rental agreement allows subletting, then since the passing rent is less than the ERV, the tenant has the potential to sublet. The profit rent based on the passing rent and ERV at the date of valuation is equal to:

$$\text{Profit rent} = \text{ERV} - \text{passing rent} = €75,000 - €12,800 = \mathbf{€62,200}$$

The discounted cash flow for the tenant's interest is set out in table 2. The profit rent is calculated at each assumed review of the sub-lease, by deducting the rent payable to the landlord from the inflated ERV calculated at *g* at the respective year. The growth in this kind of property is location driven, and hence the same growth in the leasehold rents is assumed as that calculated from the comparable data.

This leasehold has a finite lifetime until the end of the lease agreement between landlord and tenant i.e. 2028 and hence for another 12 years. The risk associated with a leasehold investment is almost completely dependent upon the strength of the lease agreement of the sub-lessee. In this case the additional risk is taken arbitrarily as an extra 2% since there is no sub-lease yet in place, so that the target rate of return is of 8.5%. Five yearly rent reviews are assumed to be in place in this case, as in the comparable, to best reflect the market. Maintenance costs and repairs are assumed to be transferred to the sub-lessee, hence no outgoings in this valuation.

With reference to the discounted cash flow below, table 1.2, the **valuation of tenant's interest = €518,402.**

Calculation 3 – The Market Value of the Unencumbered Freehold

This can be arrived to utilising a direct capitalisation method based on the ARY achieved on the comparable. Considering in this valuation, rents are receivable in advance, then, a multiplier of $(1+k)$ should be applied:

$$(\text{€}75,000 / 0.045) * (1.045) = \mathbf{€1,741,667}$$

A discounted cash flow for this valuation is also provided in table 3 below. A hypothetical holding period of 15 years, with 5-yearly rent reviews is assumed, after which the property is assumed to be sold. The valuation returned by the DCF is slightly higher than

the figure above, by less than 1%. This negligible discrepancy is likely due to the rents being received in advance.⁶

How much should the tenant offer the landlord to purchase the unencumbered freehold?

The tenant's interest is currently worth €518,402; the gain of purchasing the unencumbered freehold would be of:

$$€1,741,667 - €518,402 = \mathbf{€1,223,265}$$

This is the maximum that the tenant can offer to the landlord. On the other hand the landlord's interest is currently worth €1,198,368.

The final settlement amount for the tenant to become the freeholder in possession is likely to be somewhere between these two figures and is usually reached through negotiation between both parties.

4.2. Scenario 2

An occupation lease which is assignable has a value when the rent payable is less than the market rent. As per brief instructions, the valuation will focus on deciding on the fair value that the assignee should pay the assignor for the remaining term of this occupation lease.

As calculated in scenario 1, the profit rent arising from the passing rent being less than the ERV is currently of €62,200. Since the rent due to the landlord is revisable every year by 5%, then subsequently so does the profit rent change. In this case this is considered a saving on other leases at market rent and an advantage to the tenant. Intrinsically this 'saving' has a value, which is the amount likely to be paid by the assignee for the current tenant to assign the lease. In such a case it is appropriate to discount the profit rent at the typical cost of borrowing rate (assumed to be 6% in this example), since the payment of this sum may need to be funded with borrowed money.

⁶ If the same valuation is carried out in arrears, both the DCF and the direct capitalization methods return the precise same figure.

For the purpose of clarity, table 4 sets out the DCF for this scenario. The amount indicated in this case of €561,826 is what the assignee might be willing to pay, however this also depends on an element of negotiation, and the chosen discount rate. To note that by simple arithmetic, and ignoring any discounting, the summation of the hypothetical savings by the assignee over the remaining 12 year period adds up to more than €810,000.

4. Notes

- Rents in this valuation are receivable yearly in advance. This is assumed true also of the yield achieved on the comparable.
- The formulas for rent receivable in advance are as follows:

$$\text{YP for } n \text{ years @ } i = \frac{1 - V^n}{i} * (1+i)$$

$$\text{YP in perpetuity @ } i = \frac{(1+i)}{i}$$

- When a discrepancy arises between the sizes of the retail shops, then one must make reference to the zoning principle, as demonstrated in the following example. The valuer is referred to the RICS website and publications about this matter.
- The implications of taxation are not being considered in this valuation example, nor are the implications of purchaser's costs, hence all valuation figures are gross.
- The workings of this valuation are subject to the applicability of current legislation as at date of valuation. The workings could be subject to change in the light of specific case law and judgements.
- The availability of transaction evidence is dependent on market activity and disclosure of related data. These two factors determine the accuracy and faithfulness of a valuation to current market conditions. A contemporary approach is able to make better use of this information when market evidence is available; whilst where

evidence is poor then contemporary techniques serve to produce more rational valuations.

- The assumption utilised in this example, relating to the direct application of the comparable data achieved on a fully let, rack rented property is considered to be a limitation of this approach. This since the yield, target rate and implied growth from the comparable evidence have been applied directly to the valuation of a property which has an existing lease below ERV with 12 years unexpired. One of the biggest challenges with reversionary valuations is the lack of perfect comparable data, since the property not only has to be comparable in terms of location and physical attributes, but also with regards to the lease, unexpired term, rent reviews whilst also having the same rent received-rental value ratio. The implications as discussed above become more considerable with longer reversions.
- If comparable data from a similar reversionary property was available (i.e. passing rent, unexpired term, ERV and sale price) then this would allow the analysis of the comparable and calculation of the yield and growth rate by the use of spread sheets and other computer applications. The use of the data obtained on such a comparable, utilised in valuing the subject property represents more faithfully the market and thus provides increased objectivity in the valuation. The analysis of comparables is best understood with reference to chapter 6 of Property Investment Appraisal (Baum, A.E. and Crosby, N., 2008).

5. Tables and Calculations

Table 1: Discounted Cash Flow of Freeholder's (Landlord's) Interest

[illegible]

Table 2: Discounted Cash Flow of Tenant's Interest					
g	2.18%				
Additional RP	2.00%				
r	8.50%				
t	12 years				
Start of Year	Inflated ERV @ 2.18%	Rent payable to the landlord	Profit rent	PV @ 8.5%	Present Value
1	€ 75,000	€ 12,800	€ 62,200	1.000	€ 62,200
2	€ 76,635	€ 13,440	€ 62,200	0.922	€ 57,327
3	€ 78,306	€ 14,112	€ 62,200	0.849	€ 52,836
4	€ 80,013	€ 14,818	€ 62,200	0.783	€ 48,697
5	€ 81,758	€ 15,558	€ 62,200	0.722	€ 44,882
6	€ 83,540	€ 16,336	€ 67,204	0.665	€ 44,694
7	€ 85,362	€ 17,153	€ 67,204	0.613	€ 41,192
8	€ 87,223	€ 18,011	€ 67,204	0.565	€ 37,965
9	€ 89,125	€ 18,911	€ 67,204	0.521	€ 34,991
10	€ 91,068	€ 19,857	€ 67,204	0.480	€ 32,250
11	€ 93,053	€ 20,850	€ 72,204	0.442	€ 31,935
12	€ 95,082	€ 21,892	€ 72,204	0.408	€ 29,433
					€ 518,402

Table 3: Discounted Cash Flow of Unencumbered Freehold

[illegible]

To note that when calculating YP in perpetuity, since the rent is assumed to be received yearly in advance, formula is adjusted accordingly for this fact by multiplying by $(1+i)$.

Table 4: Discounted Cash Flow of Assignment Scenario					
<i>g</i>	2.18%				
<i>r</i>	6.00%				
<i>t</i>	12 years				
Start of Year	Inflated ERV @ 2.18%	Rent payable to the landlord	Saving by the assignee	PV @ 6%	Present Value
1	€ 75,000	€ 12,800	€ 62,200	0.943	€ 58,679
2	€ 76,635	€ 13,440	€ 63,195	0.890	€ 56,244
3	€ 78,306	€ 14,112	€ 64,194	0.840	€ 53,899
4	€ 80,013	€ 14,818	€ 65,196	0.792	€ 51,641
5	€ 81,758	€ 15,558	€ 66,199	0.747	€ 49,468
6	€ 83,540	€ 16,336	€ 67,204	0.705	€ 47,376
7	€ 85,362	€ 17,153	€ 68,209	0.665	€ 45,363
8	€ 87,223	€ 18,011	€ 69,212	0.627	€ 43,425
9	€ 89,125	€ 18,911	€ 70,213	0.592	€ 41,559
10	€ 91,068	€ 19,857	€ 71,211	0.558	€ 39,764
11	€ 93,053	€ 20,850	€ 72,204	0.527	€ 38,036
12	€ 95,082	€ 21,892	€ 73,190	0.497	€ 36,373
					€ 561,826

Example 8.2. The Valuation of a Tenanted Shop and the Impact of Zoning

1. Property Description

The property consists of a shop in a very good location within the high street in a central town location. The property is let on a modern type of lease which has 4 years unexpired on full repairing and insuring (FRI) terms at a rent of €120,000 p.a. At present it has an internal usable space of 6m frontage by 20m depth on the ground floor, and 6m by 14m on the first floor. Half of the first floor is storage, and the other half is retail space.

Two comparables are available as follows:

1. A ground floor only shop in the same street location with usable internal dimensions of 7m frontage by 24m depth, which has just been let on a 15 year, full repairing and insuring terms with 5 year upwards only rent reviews for €180,000 p.a.
2. A shop with the same configuration as comparable no.1, which just sold for €3,150,000.

2. Appointment Brief Instructions

The brief requires a fully annotated market valuation of the subject property.

3. Implications of the Zoning Principle

Reference is made to the tables presented on the following pages.

Comparable no.1 – Calculation of Zone A rental value

	Frontage (m)	Depth (m)	Total Area (m ²)	Value relative to Zone A	Area ITZA (m ²)	Rental Value (€)	Equivalent Rental Value Zone A (€/m ²)
Zone A	7	6	42	1	42		
Zone B	7	6	42	0.5	21		
Zone C	7	6	42	0.25	10.5		
Remainder	7	6	42	0.125	5.25		
Total					78.75	180,000	180,000 / 78.75 = 2,285.7

Therefore the **ERV for zone A** as calculated from the first comparable property is of say **€2,290 per square meter**.

Subject Property – Calculation of Zone A passing rent

	Frontage (m)	Depth (m)	Total Area (m ²)	Value relative to Zone A	Area ITZA (m ²)	Passing Rent (€)	Equivalent Passing Rent Zone A (€/m ²)
Zone A	6	6	36	1	36		
Zone B	6	6	36	0.5	18		
Zone C	6	6	36	0.25	9		
Remainder	6	2	12	0.125	1.50		
First floor sales	6	7	42	0.10	4.20		
First floor storage	6	7	42	0.06	2.52		
Total					71.22	120,000	120,000 / 71.22 = 1,684.9

Subject Property – ERV assessment

	Frontage (m)	Depth (m)	Total Area (m ²)	Value relative to Zone A	Area ITZA (m ²)	Equivalent Passing Rent Zone A (€/m ²)	ERV (€)
Zone A	6	6	36	1	36		
Zone B	6	6	36	0.5	18		
Zone C	6	6	36	0.25	9		
Remainder	6	2	12	0.125	1.50		
First floor sales	6	7	42	0.10	4.20		
First floor storage	6	7	42	0.06	2.52		
Total					71.22	2,290	2,290 * 71.22 = 163,093.8

From the analysis carried out for the subject property, it can be seen that the passing rent is much lower than the ERV based on comparable data, in terms of the rental value per square meter of zone A area.

The **ERV of the subject property** on the date of valuation is say **€163,000 p.a.** as per above analysis.

4. Valuation Calculations

The following employ a conventional income hardcore approach.

The **all risks yield** can be calculated from comparable no.2.

ERV = €180,000; Sale price = €3,150,000

$$\text{ARY} = \frac{180,000}{3,150,000} = 0.0571 \text{ or } 5.7\%$$

In a hardcore approach (horizontal layer) the bottom slice is considered to extend into perpetuity. Given the combined effect of upward only rent reviews and perceived rental growth prospects, it is therefore considered unlikely that the rent will ever fall below the passing rent. The ARY achieved on the comparable is applied directly here.

The top slice is perceived to be more risky, due to the fact that this is based on an ERV on which one can't be absolutely certain. Differing ERVs will subsequently result in varying top slice figures. Such differences will be augmented further when arriving at the valuation of the top slice by capitalisation. For this reason it is typical for the valuer to utilise a yield which is adjusted slightly upwards on the top slice.



Bottom slice

Passing rent	€120,000
YP perp @ 5.7%	17.544
	<u>€2,105,263</u>

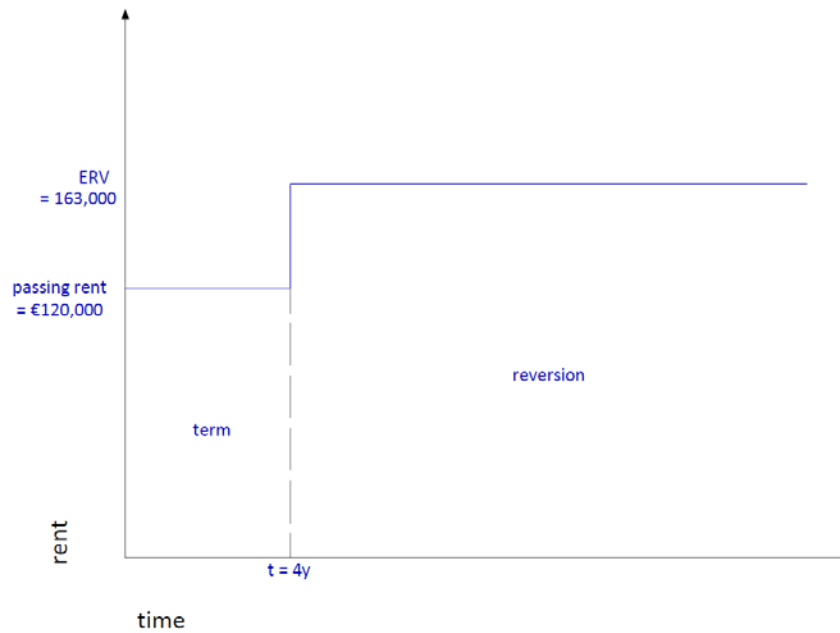
Top slice

ERV – passing rent	€43,000
YP perp @ 6.2%	16.129
PV def'd 4 years @ 6.2%	0.786
	<u>€545,128</u>

Valuation = €2,650,391 say **€2,650,000**

5. **Notes**

- Calculation of the 'In terms of Zone A' (ITZA) areas is as per RICS definition of the zoning principle found in the knowledge glossary of the website (<http://www.rics.org/uk/knowledge/glossary/zoning/>).
- A conventional approach based on direct comparison with the comparable is possible in this case, based on the ARY. This in consideration that the term is fairly short.
- The typical usance when utilising a conventional approach is for the ARY, whether adjusted or not, to also be used in the deferment of the valuation. An alternative consideration may involve for example the deferment (i.e. PV factor utilised in discounting the reversion) being carried out at the average bank lending rate on the basis of the local financial scenario, to reflect the cost of borrowed money. This is at the valuer's discretion, giving reasons, according to the task at hand.
- It is at the discretion of the valuer to make intuitive adjustments to the top slice and bottom slice income in comparison to the ARY as obtained from the comparable, based on the tenant and market perception.
- Alternatively another conventional method, the term and reversion (vertically sliced) would also be applicable to such an example.



The ARY achieved on the comparable is applied directly on the reversion. In the case of the ARY applicable to the term, this is adjusted slightly downwards to reflect the security of tenure being a rent less than ERV, and hence advantageous to the tenant with less likelihood of default.

Term

Passing rent	€120,000
YP 4 years @ 4.7%	3.571
	<u>€428,520</u>

Reversion

ERV	€163,000
YP perp @ 5.7%	17.544
PV def'd 4 years @ 5.7%	0.801
	<u>€2,290,597</u>

Valuation = €2,719,117 say **€2,720,000**

- Even though both the hardcore and term and reversion methods are variations of the same method, the only scenario when both methods will produce the same valuation is when the same yield is utilised on all parts of both valuations. If yield adjustment is to be accepted, then the valuer should be sensitive to a number of factors including the quality of the comparable, the lease/tenant and the market sentiment.
- A third alternative method is of utilizing an equivalent yield, which is based on the internal rate of return, and is applicable to both parts of a two stepped property valuation. The equivalent yield amasses all the risk factors inherent to the subject property in its entirety. Arriving to an equivalent yield figure requires the analysis of sale prices and reliable comparable data. It is arrived to either by trial and error, or by utilising goal seek in excel. Further details on this method are available in the references and bibliography.
- The use of a conventional method in this example does not exclude that the valuation could also be arrived at utilising a contemporary approach.

Example 8.3. The Valuation of a Residential Property subject to a Ground Rent

1. Property Description

The property consists of a residential tenement located in the southern part of the island subject to a temporary emphyteusis granted by the directus dominus for a period of 50 years, due to expire in 15 years' time, for the non-revisable amount of €150. Information about the emphyteuta reveals that he is 68 years of age, and has occupied the property with his sister who is 57 years of age since the grant of the emphyteutical concession. This emphyteutical concession is non-transferable, and prohibits any sub-emphyteusis or the grant of a lease.

Comparable data of a similar property in the area which has just been let indicates that the ERV currently stands at €4,800 p.a. with 2 yearly upward only rent reviews. The all risks yield for this type of property achieved on a recent sale is of 3.5%.

2. Appointment Brief Instructions

The brief requires a fully annotated market valuation of the subject property. This valuation is intended for the directus dominus, who as a client has also requested the professional opinion regarding the fair amount that it should offer to the emphyteuta to resume possession of the freehold.

3. Considerations for Arriving at Market Value

- Taking note of the length of the temporary emphyteusis as well as the remaining period of 15 years till expiry, then it can be deduced that the emphyteusis was granted in 1981 ($[2016+15] - 50 = 1981$).
- With reference to the Housing (Decontrol) Ordinance, Chapter 158 of the Laws of Malta article 12, then the law makes a provision in this case for any such temporary emphyteusis granted in respect of a citizen of Malta who occupies the property as

his ordinary residence on the date of the expiry of the temporary emphyteusis, to be entitled to continue in occupation of the house under a lease from the directus dominus.

- The law makes provision for the establishment of the rent due to be equal to the ground rent payable immediately before the expiration of the temporary emphyteusis but which is capped at a maximum increase which does not exceed an amount equal to the ground rent when this was last established.
- With reference to article 16 of the Housing (Decontrol) Ordinance, the said lease is to be treated as a pre-1995 lease, even though the emphyteutical concession is transformed into a lease after the 1st June 1995 (i.e. in this case in 2031 since there are still 15 years till expiry).
- In view of the above, reference is made to article 1531 of Chapter 16 of the Civil Code. Of special importance to this case is article 1531C(2) which deals with the revision of rent and article 1531F(ii) which gives a definition of tenant for a residential tenement.
- From article 1531C(2) it follows that a revision in the rent is operative, unless agreed otherwise in writing, every 3 years according to the increase in the index of inflation.
- From article 1531F(ii) it follows that that the sister has a right to continue in occupation of the tenement if on the date of death of the tenant she was still living with the tenant.
- The index of inflation in 1981 stood at 408.16, whilst that in 2015 stood at 832.95 (this is the latest index available, since statistics of 2016 are not yet available). The difference in the indices translates to more than a doubling in prices, and hence the rent fixed once the temporary emphyteusis is converted into a rent is capped at €300.
- The life expectancy at birth for Malta as per the NSO publication 'Malta in Figures 2014' stands at 81.9 years. For this valuation this is rounded up to 82 years.

4. Valuation Calculations

The following employ a conventional term and reversion approach.

From the comparable data:

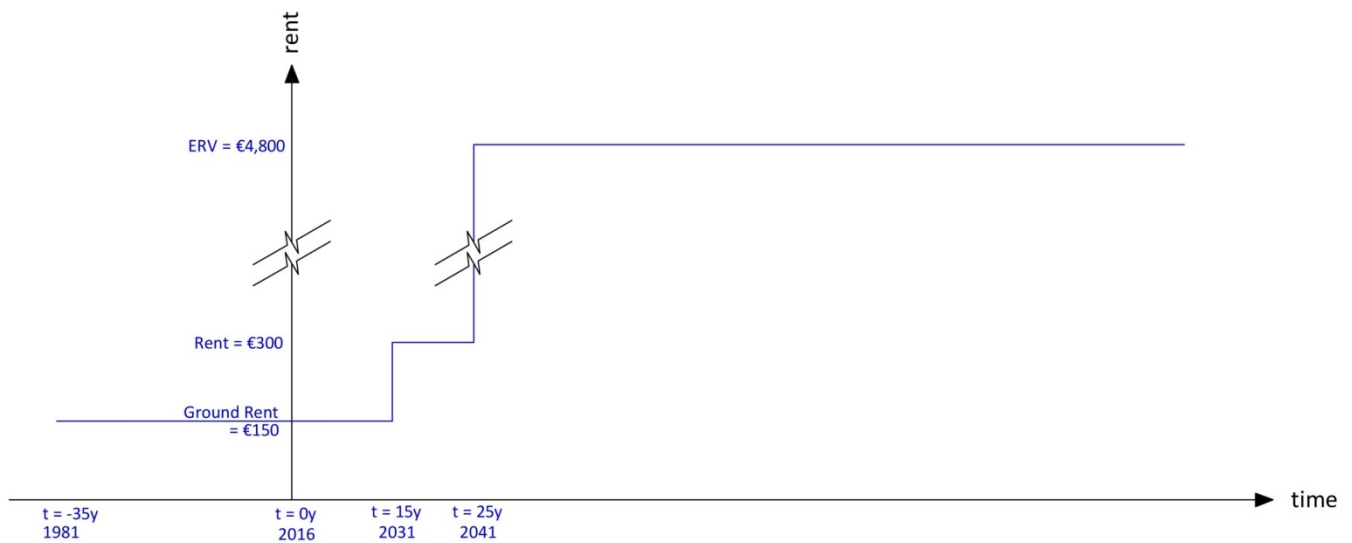
- ERV = €4,800 p.a.
- ARY = 3.5%

With reference to life expectancy statistics, as well as the relative ages of the occupants of the tenement, then the tenant is expected to remain alive for another (82-65 = 17) 17 years, whilst his sister is expected to remain alive for another (82-57 = 25) 25 years.

Based on this information and for the purposes of this valuation, it is being assumed that following the expiry of the existing ground rent and the commencement of the lease in 15 years' time, the lease is to run for (25-15 = 10) 10 years before it terminates (due to the assumed demise of the sister) and the property reverts back to the directus dominus.

The term and reversion approach is being utilised for this valuation. The valuation consists of three parts:

- i. the valuation of the temporary emphyteusis at a ground rent of €150 p.a., expiring in 15 years' time;
- ii. the valuation of the lease starting in 2031 at a rent of €300 p.a., which is assumed to run for 10 years. Even though according to the provisions of the law this is to be revised every three years according to the index of inflation, the application of a conventional approach ignores this;
- iii. the valuation of the property once it becomes free and unencumbered and reverts back to the directus dominus, and can from this point onwards be leased at market rent.



The ARY utilised on both part 1 and part 2 of the valuation will be adjusted since the passing rent, being lower than ERV, is safer and hence the risk of tenant default is negligible.

In these cases a direct utilization of the yield achieved on fully let comparables at ERV with structures in place for normal rent revisions is not ideal, since the comparable differs from the subject property. The ARY applied to the term rent, in the case of under rented properties, may be adjusted downwards, as the valuer deems appropriate, to reflect the security of tenure which is related to the lower default risk since the tenant is paying less than the ERV. Such a scenario can be compared to a property bond based on the tenant and lease strength.

Having opted for a conventional approach, and since the property is reversionary (to quite a severe extreme if one considers the graphical representation), then any increases in the rent during the reversionary period, are to an extent insignificant. The ARY utilised in a conventional approach based on market comparables, reflects the sentiment of the market by intrinsically including within it an element of growth. Moreover, the graph profile of this increase approximates to a quasi-straight line, considering the projected rent of €300 at the start of the lease, the duration of the lease estimated at 10 years and more importantly the ERV.

Part 1

Ground rent	€150
YP 15 years @ 1.5%	13.343
	€2,001

Part 2

Rent in 2031	€300
YP 10 years @ 1.5%	9.222
PV def'd by 15 years @ 1.5%	0.800
	€2,213

Part 3

ERV	€4,800
YP perp @ 3.5%	28.571
PV def'd 25 years @ 3.5%	0.423
	€58,011

Therefore, the interest of the directus dominus is currently valued at say **€62,000**.

With regards to the fair amount that the directus dominus should offer the emphyteuta in order for him to vacate the property, one must consider the gain (by the directus dominus) that will be made once the property can be leased immediately at ERV. Based on the comparable data, the valuation of the unencumbered freehold of the property would hypothetically be:

ERV	€4,800
YP perp @ 3.5%	28.571
	€137,141

The current value of the directus dominus' interest is of €62,000, therefore the gain to be had is of (€137,141 - €62,000) **€75,141**. This is therefore the maximum value that the

directus dominus can offer to the emphyteuta to vacate the premises immediately, however this is subject to negotiation between the two parties.

5. Notes

- The calculations in this valuation are for rent received in arrears. The appropriate adjusted formulas can be utilised in the case of rent received in advance.
- Any outgoings, relating mainly to any structural repairs as per article 1556 of Chapter 16 of the Civil Code, have been ignored in this valuation. Depending on the age and current state of the building then an informed opinion can be made about these and thus incorporated into the valuation.
- The workings of this valuation are subject to the applicability of current legislation as at date of valuation and its interpretation thereof as outlined. The workings could be subject to change in the light of specific case law, judgement and any other legislation enacted in the future.
- One should also measure the potential impact of the slew of constitutional cases which have in recent history been won in favour of the property owner, ruling that the conversion of a temporary emphyteusis into a lease is unconstitutional.
- The typical usance when utilising a conventional approach is for the ARY, whether adjusted or not, to also be used in the deferment of the valuation. An alternative consideration may involve for example the deferment (i.e. PV factor utilised in discounting the reversion) being carried out at the average bank lending rate on the basis of the local financial scenario, to reflect the cost of borrowed money. This is at the valuer's discretion, giving reasons, according to the task at hand.
- With reference to the adjustment of the yield downwards as applicable to the term (parts 1 and 2), a counter argument to the one discussed above can be brought, especially applicable to investment properties leased out at a peppercorn rent. This will relate to the length of the term of the subject property, the difference between

the passing rent and the ERV as well as the state of the market and trends. It is not always an advantage to have leases below market rent, but rather a disadvantage so the risk associated with these not being inflation proof increases, resulting in an ARY being adjusted upwards. In a rising market it may be an advantage to lose a tenant paying below ERV and gain a new tenant paying at ERV. From an investment point of view, the above factors increase the risk in money terms as the income generated is not inflation proof, nor is it a reflection of the current ERV.

- In view of the above parts 1 and 2 of the valuation are being calculated for demonstration purposes, utilizing a 1.5% increase, so that the capitalization rate is of 5%.

Part 1

Ground rent	€150
YP 15 years @ 5%	10.380
	€1,557

Part 2

Rent in 2031	€300
YP 10 years @ 5%	7.722
PV def'd by 15 years @ 5%	0.481
	€1,114

- The final valuation, adding to the above figures also the valuation of Part 3 of the valuation, comes to €60,682 rounded off to €61,000.

Example 8.4. The Valuation of a Residential Property subject to a Pre-1995 Lease

1. Property Description

A residential property subject to a pre-1995 lease was granted to the original tenant for an original rent of €100 p.a. This has another 10 years to run. The tenant occupies the residence with his wife, who are both 55 years of age. Market data has shown that a similar rack rented property let at €5,000 p.a. in the same street and of the same size has just sold at €150,000.

2. Appointment Brief Instructions

The brief requires a fully annotated market valuation of the subject property, subject to the existing lease.

3. Considerations for Arriving at Market Value

- Reference is made to the Civil Code, Chapter 16. Of special importance to this case are:
 - article 1531C which stipulates that the minimum rent due is to be fixed at €185 p.a. as of the 1st January 2010. This rent is to be increased every three years by a proportion equal to the increase in the index of inflation according to article 13 of the Housing (Decontrol) Ordinance;
 - article 1531F which gives a definition of tenant for a residential tenement, and includes the spouse;
 - article 1536 relating to the tacit renewal of the lease.
- Given the date of valuation (2016) and that currently no one else resides in the property except for the tenant and his spouse, then by virtue of article 1531F the lease will cease upon the death of the tenant (in this case both of them).

- The life expectancy at birth for Malta as per the NSO publication 'Malta in Figures 2014' stands at 81.9 years. For this valuation this is rounded up to 82 years.

4. Valuation Calculations

The following employ a contemporary income approach.

The original contract rent is less than the rent stipulated by article 1531C and therefore the passing rent is immediately adjusted to a minimum of €185. Two rent reviews since 2010 should have taken place, adjusting this minimum rent according to the index of inflation.

According to the statistics available from the Malta Central Bank (since the index for inflation as per Housing (Decontrol) Ordinance does not extend so far), the index in 2010 stood at 770.07 and that at 2015 stood at 832.95. This is equivalent to a change of 8.2% over the six year period (or 1.32% p.a.). Therefore, the rent just revised due this year is of:

$$1.82 \times 185 = \text{€}200.17 \text{ say } \textbf{€200 p.a.}$$

Even though the rate of inflation was calculated at 1.32% p.a. based on statistics for the past 6 years, the CBM publication 'Economic Projections for 2016 and 2017' forecasts the inflation to rise to 1.8% in 2017. This figure is being adopted and is assumed to be applicable in future 3-yearly rent revisions.

Even though the revision in rent is indexed, and hence allowing adjustment according to inflation, central to this valuation is the fact that the rent due from the protected lease is a fraction of the ERV. This is in no way a true reflection of the market.

Based on life expectancy statistics, the lease has another 27 years to run till its assumed end in 2043. Since the passing rent is less than the ERV, then this is a reversionary freehold valuation. The maximum inflated rent at the last review will be of c. €307, according to the indexing of the rent as discussed above in accordance to the rate of inflation at three yearly intervals.

With reference to the comparable data:

- Capitalisation rate (k) = €5,000 / €150,000 = 3.33%;
- Rent reviews (t) are every 2 years;
- Risk free rate (RFR) from published data by the Central Bank of Malta for MGS 3.00% 2040 I, YTM = 2.25% (as at date of valuation – possibility of also utilising an average figure over say a 5 year period; refer to Hutchinson 2015);
- Risk premium (RP) = 3.5% for this type of property, lease (rack rented) and valuation.
- Rate of return (r) = RFR + RP = 5.75%;
- The implied growth is calculated from the following equation:

$$(1+g)^t = \frac{\text{YP perp. @ } k - \text{YP } t \text{ years @ } r}{\text{YP perp. @ } k \times \text{PV } t \text{ years @ } r}$$

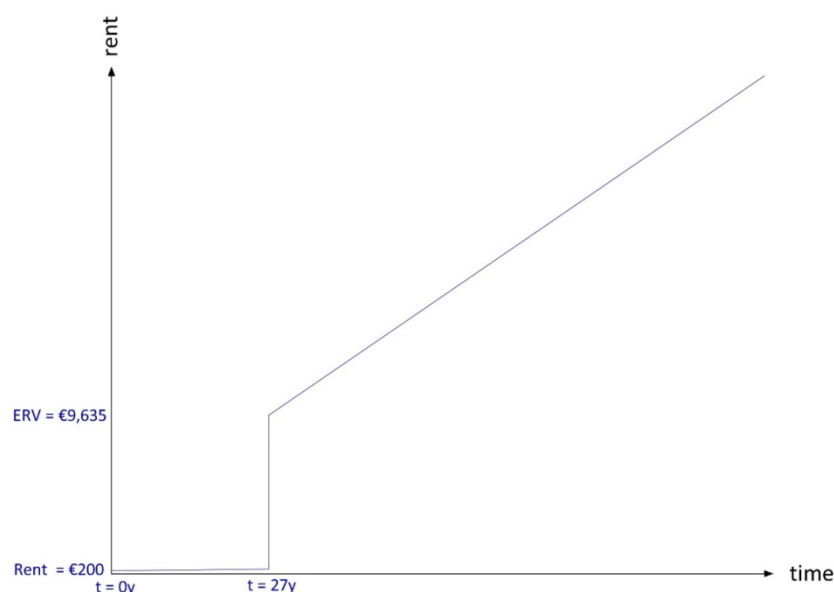
$$\text{YP perp @ 3.33\%} \quad 30.303$$

$$\text{YP 2 years @ 5.75\%} \quad 1.840$$

$$\text{PV def'd 2 years @ 5.75\%} \quad 0.894$$

$$(1+g)^2 = 1.051$$

$$g = 0.025 \text{ or } 2.5\%$$



The graphical representation of the lease above shows that this is a reversionary valuation of the freehold interest. A contemporary approach is able to deal accurately with such scenarios, as the approach recognises that the term value is practically fixed (slope of the term is nearly zero), and therefore not a representation of the current market and economic scenario. Thus, unlike a conventional approach, the 'fixed' term is valued at the appropriate required return based on the tenant/covenant quality instead of the all risks yield used in a conventional approach (which is a growth implicit yield). The importance of this fact increases with longer reversions.

The income from the term is considered to be less risky since the rent is low and the tenant is unlikely to default. It can be argued that the application of the property discount rate (i.e. 5.75%) is inappropriate in this case as it takes into account greater uncertainty of nominal rental growth rates, in comparison to an indexed lease, as well as being for a rack rented property.

The rate of return for the term in this case is based on the risks perceived in conjunction mainly with the tenant quality and the lease (such as reviews, conditions) and is set to 4%. An approximation of the yield in this case, for comparison purposes, would be

$$k = r - g \quad k = 4 - 1.8\% \quad k = 2.2\%^7$$

It is generally recognised that the required rate of return for an investment is a weighted average across the whole of the cash flow period but in certain situations risks may change depending on the nature of the income and its timing. Adjustments will also depend on the comparable data available.

At reversion:

- i. the projected value of the current ERV is calculated based on the implied growth;

⁷This calculation ignores the fact that the reviews as per legislation are operative every 3 years, but assumes that these are carried out yearly. The precise yield for this scenario can be calculated by the equation $k = r - \frac{r}{[(1+r)^t - 1]} \times [(1+g)^t - 1]$. This gives a yield equal to 2.24%.

- ii. the projected rental value is capitalised into perpetuity at the capitalisation rate, since this includes the implied growth rate factored into it; and
- iii. the figure obtained in (ii) is deferred by the time until reversion, at the appropriate target rate of return.

The **final valuation** as per explicit discounted cash flow, as set out below, is of say **€70,000.**

5. Notes

- Rent in this example is received yearly in advance. This is assumed true also of the yield achieved on the comparable.
- The formulas for rent receivable in advance are as follows:

$$\text{YP for } n \text{ years @ } i = \frac{1 - V_i^n}{i} * (1+i)$$

$$\text{YP in perpetuity @ } i = \frac{(1+i)}{i}$$

- Any outgoings, for example maintenance costs, have been ignored. If reliable information is available about these, they could be easily incorporated into the discounted cash flow and deducted from the projected rent, which gives a net income which is then discounted.
- The workings of this valuation are subject to the applicability of current legislation as at date of valuation. The workings could be subject to change in the light of specific case law and judgements.
- The implications of taxation are not being considered in this valuation example, nor are the implications of purchaser's costs, hence all valuation figures are gross.
- A short cut DCF method would be difficult to adopt in this case, without any loss of accuracy and assumptions made by the valuer and hence it is not recommendable.

This since the rent during the term is indexed. For demonstration purposes, on the crude assumption of the adoption of an average rent throughout the term of €254 (i.e. $[\text{€}200 + \text{€}307] / 2$), then the short cut DCF could be set out as follows (rent also received in advance):

Term

Rent	€254
YP 27 years @ 4%	16.983
	€4,314

Reversion to ERV

A of €1 27 years @ 2.46%	1.927
Inflated rental value	€9,637
YP perp @ 3.33%	31.03
PV 27 years @ 5.75%	0.221
	€66,087

Final valuation say **€70,000**.

- The attempt made in this example to adjust the target rate applicable on the unexpired term of the lease, is done subjectively based on the fact that the passing rent is lower than ERV and perceived as being less risky. This adjustment tries to relieve the limitation arising from the assumption relating to the direct application of comparable data achieved on fully let, rack rented property (as was done in example 1). This adjustment may however introduce an element of inconsistency, since the comparable data is for a fully let, rack rented property, and the target rate (as well as the growth) achieved on the comparable is derived from an analysis of perpetual capitalisation.
- One of the biggest challenges with reversionary valuations is the lack of perfect comparable data, since the property not only has to be comparable in terms of

location and physical attributes, but also with regards to the lease, unexpired term, rent reviews whilst also having the same rent received-rental value ratio.

- If comparable data from a similar reversionary property was available (i.e. passing rent, unexpired term, ERV and sale price) then this would allow the analysis of the comparable and calculation of the yield and growth rate by the use of spread sheets and other computer applications. The use of the data obtained on such a comparable, utilised in valuing the subject property represents more faithfully the market and thus provides increased objectivity in the valuation. The analysis of comparables is best understood with reference to chapter 6 of Property Investment Appraisal (Baum, A.E. and Crosby, N., 2008).

6. Tables and Calculations

<u>Discounted Cash Flow</u>				
Term			Reversion	
<i>g</i>	1.80%		<i>g</i>	2.46%
<i>r</i>	4.00%		<i>k</i>	3.33%
			<i>r</i>	5.75%
Start of Year	Inflated Rent @ 1.8% pa	PV @ 4%	Present Value	
1	€ 200	1.000	€	200
2	€ 200	0.962	€	192
3	€ 200	0.925	€	185
4	€ 211	0.889	€	188
5	€ 211	0.855	€	180
6	€ 211	0.822	€	173
7	€ 223	0.790	€	176
8	€ 223	0.760	€	169
9	€ 223	0.731	€	163
10	€ 235	0.703	€	165
11	€ 235	0.676	€	159
12	€ 235	0.650	€	153
13	€ 248	0.625	€	155
14	€ 248	0.601	€	149
15	€ 248	0.577	€	143
16	€ 261	0.555	€	145
17	€ 261	0.534	€	140
18	€ 261	0.513	€	134
19	€ 276	0.494	€	136
20	€ 276	0.475	€	131
21	€ 276	0.456	€	126
22	€ 291	0.439	€	128
23	€ 291	0.422	€	123
24	€ 291	0.406	€	118
25	€ 307	0.390	€	120
26	€ 307	0.375	€	115
27	€ 307	0.361	€	111
			€	4,075
		<u>Sale of Property @ Year 27</u>		
		Projected Rent	€	9,635
		YP perp @ 3.33%		31.030
		PV @ 5.75% def'd 27 years		0.221
			€	66,080
		Valuation	€	70,155

Example 8.5. The Valuation of a Freehold Mixed Use Property

1. Property Description

The property consists of an operational mixed use property in an area characterised by industrial and commercial activity located in the centre of the island. The property's strategic location provides it with good access to the main arterial roads. The property is owner-occupied.

The property is built on a plot of c. 1,200m² and consists of 5 floors with a mix of uses approved by the necessary permits;

- Basement – approved as parking;
- Ground floor – approved as a mix of office space, retail/showroom and warehousing;
- First floor – approved as a mix of retail/showroom and warehousing;
- Second floor – approved as a mix of office space and warehousing;
- Third floor – approved as warehousing.

The floor areas per floor, and volume in the case of warehouse space, are indicated in table A as calculated from the approved permit plans, according to the relevant code of measuring practice.

	Showroom/Retail	Warehouse	Offices	Parking	Ancillary ⁸
Basement	NIL	NIL	NIL	966 (32 spaces)	181
Ground floor	336	577 * 18 courses	66	NIL	158
First floor	270	797 * 13 courses	NIL	NIL	50
Second floor	NIL	818 * 13 courses	183	NIL	102
Third floor	NIL	785 * 12 courses	NIL	NIL	336
Total	606m²	10,812m³	249m²	966m²	827m²

Table A

The property is fully finished and includes:

⁸ This refers to circulation spaces, service shafts etc. In the case of the third floor it also includes the terrace areas.

- Showroom, office areas and ancillary facilities: gres tiling, gypsum plastering, double glazing, passenger lift, HVAC system, solid timber internal doors, modular tiled soffits, fully equipped kitchenette and sanitary facilities;
- Warehouse and manufacturing areas: concrete floor to a smooth finish, industrial and passenger lifts, goods lift, security shutters, double glazed apertures;
- Throughout: security installation (CCTV and intruder alarm), service installations (water, electricity, low voltage, and waste), fire detection system.

The building dates back c. 6 years. The building fabric, including its finishing and installations are well maintained, with no manifest structural problems.

The property is free and unencumbered.

2. Appointment Brief Instructions

The valuation which is required is for the market value of the freehold interest of the property.

3. Considerations for Arriving at Market Value

- The method being used in this case makes use:
 1. a direct comparative approach; and
 2. the investment approach.
- The first approach is being considered suitable for the warehousing space and the parking, since good quality up to date comparable data for sales is available as follows, directly applicable to this valuation;
 - Ground floor warehousing with street frontage at €275/m³;
 - Upper level warehousing at €180/m³;
 - Underground parking spaces at €16,000 each.

- The second approach is being utilised since there exists a lack of good quality and reliable comparable data relating to capital values for the office and retail.
- Even though owner-occupied this type of property still has rental potential and is therefore capable of giving a return. In this case an assessment of the imputed rental income should be undertaken, based on an analysis of current rents being paid, rents being quoted and the vacancy rate of comparable properties.
- Comparable data of similar finished property on the market in the area has yielded average figures as demonstrated in table B.

Showroom	Office	Ancillary Space
€125 - €145 per square meter per annum	€100 per square meter per annum	€25 per square meter per annum

Table B

- For the showroom at ground floor the higher end of the bracket is being considered, whilst for the first floor the lower end of the bracket is being considered since ground floor show/retail space is considered to bear a premium.
- The total estimated rental value of the subject property, fully let at ERV, is as tabulated in the following table C.

	Showroom	Offices	Ancillary
Basement	NIL	NIL	181 * 25 = €4,525
Ground floor	336 * 145 = €48,720	66 * 100 = €6,600	158 * 25 = €3,950
First floor	270 * 125 = €33,750	NIL	50 * 25 = €1,250
Second floor	NIL	183 * 100 = €18,300	102 * 25 = €2,550
Third floor	NIL	NIL	336 * 25 = €8,400
Total	€82,470	€24,900	€20,675

Table C

- Key values central to the market valuation are as follows:
 - Yield (k) = 5.75% based on comparable data of similar rack rented property subject to a new lease (i.e. initial yield = sale price / ERV), with a rent review

pattern of 5 years, full repairing and insuring terms with upward only rent reviews. There is evidence that the yield of 5.75% in this particular example is taken as being applicable for both the office space and the showroom/retail. However there might arise scenarios when different uses attract different yields.

- ii. Risk free rate (RFR) from published data by the Central Bank of Malta for MGS 3.00% 2040 I, YTM = 2.25%.⁹
- iii. Risk premium (RP) = 5% which can be broken down into 2% property market risk, 1.5% tenant/lease risk, 1.5% building risk (depreciation). This risk premium also reflects any uncertainty of future incomes.
- iv. Rate of return (r) = RFR + RP = 7.25%. In this example this figure is also being taken as representative of both the retail and office space.
- v. Implied growth calculated at $g = 1.67\%$ (based on 5 yearly reviews as in the comparable):

$$\begin{aligned}
 (1+g)^t &= \frac{\text{YP perp. @ } k - \text{YP } t \text{ years @ } r}{\text{YP perp. @ } k \times \text{PV } t \text{ years @ } r} \\
 \text{YP } t \text{ years @ } r &= \frac{1 - (1+r)^{-t}}{r} = \frac{1 - (1.0725)^{-5}}{0.0725} = 4.073 \\
 \text{YP perp. @ } k &= \frac{1}{k} = \frac{1}{0.0575} = 17.391 \\
 \text{PV } t \text{ years @ } r &= (1+r)^{-t} = (1.0725)^{-5} = 0.705 \\
 (1+g)^5 &= \frac{17.391 - 4.073}{17.391 \times 0.705} = 1.086
 \end{aligned}$$

$$g = 0.0167 \text{ or } 1.67\%$$

⁹ A refinement on this would be utilization of an average RFR over a five year period as per Hutchinson, N.E (2015).

4. Valuation Calculation

The following calculations are being carried out using a contemporary income approach (DCF).

Part 1

As outlined above the valuation of the warehouse space and parking is arrived at by applying directly a capital value rate, in the case of the warehousing per cubic meter whilst in the case of the parking it is per space. This gives:

Ground floor warehousing;	$275 \times 2,752 = \text{€}756,800$
Upper levels warehousing;	$180 \times 8,060 = \text{€}1,450,800$
Parking	$16,000 \times 32 = \text{€}512,000$

Total = €2,719,600

Part 2

As per table C the grand total of the estimated rental value is calculated at **€130,000** (rounded off to the nearest €5,000).

A discounted cash flow is set up, presented at the end of this example in table 1, which clearly and explicitly shows the streams of income and outgoings, calculating at each time period the projected rent (based on 5 year rent reviews) which are discounted accordingly. The holding period is arbitrarily taken as 30 years. Since in this valuation example the property is assumed to be fully let at ERV, a shorter holding period as deemed adequate by the valuer can also be considered for the valuation calculation. The result would practically be the same. A notional 5% deduction per annum from the ERV is made to cover management and/or maintenance fees, either built into the DCF as in this example, or else deducted at the end of the valuation. The DCF valuation is of **€2,295,086**.

<u>Final Valuation Figure</u>	= Part 1 + Part 2 (DCF)
	= <u>€5,014,686 say €5,000,000</u>

5. Notes

- Any further development potential of the subject property is not being considered at this stage since the height limitation has been reached according to local planning authority policies and local plans.
- Rent in this example is received yearly in advance. This is assumed true also of the yield achieved on the comparable.
- The discounted cash flow is capable of clearly reflecting and representing differences in the payment of the rent in leases, be it in advance or arrears and at a monthly, quarterly or yearly frequency or as the case may be.
- The formulas for rent receivable in advance are as follows:

$$\text{YP for } n \text{ years @ } i = \frac{1 - V_j^n}{i} * (1+i)$$

$$\text{YP in perpetuity @ } i = \frac{(1+i)}{i}$$

- The reported valuation figure is gross of purchasing expenses.
- The discounted cash flow presented in this example assumes that the property is let as a whole unit, for simplification purposes.
- If the property was leased to multiple tenants, then the cash flow would include the revenues from the various leases (in conjunction with the different spaces and uses of the building). The discounted cash flow in this case would allow the leases to be modeled quite accurately in terms of timing and is capable of representing faithfully the conditions of the various leases, any rent free period or possible voids.
- The assumption of 5 year upward only rent reviews is based on the comparable data for this example.
- If special plant and equipment is present on site which is not normally included in comparable data, then this must be valued separately.

- A further refinement over and above the risk adjusted discount rate, is sensitivity testing and simulations. These rely on the availability of statistics to assess and sustain a valuation figure. Such methods are resorted to on the basis of data availability and valuation complexity.
- Since this valuation is for a fully let property at ERV, a direct capitalisation of the ERV using the initial yield also produces a similar figure. This serves as a good counter check. Adjusting for rents received in advance:

$$(\text{€}130,000 / 0.0575) * (1.0575) = \text{€}2,390,869 \text{ minus } 5\% \text{ costs} = \text{€}2,271,326$$

- A shortcut DCF (rents received in advance) for the second part of the valuation would be as follows:

Part A

Rent	€130,000
Less outgoings @ 5%	€123,500
YP 5 years @ 7.25%	4.368
	€539,470

Part B

A of €1 5 years @ 1.67%	1.086
Inflated rent	€141,180
Less outgoings @ 5%	€134,162
YP perp @ 5.75%	18.391
PV def'd 5 years @ 7.25%	0.705
	€1,738,830

Final valuation say **€2,278,300.**

6. Tables and Calculations

Table 1: Discounted Cash Flow									
<i>g</i>	1.67%								
<i>k</i>	5.75%								
RP	5.00%								
RFR	2.25%								
<i>r</i>	7.25%								
Outgoings	5%								
Start of Year	Current ERV Offices, Showroom/Retail	A of 1 pound @ 1.67%		Projected Rent	Outgoings	Forecast Income	PV @ 7.25%		PV
		t					t		
1	€ 130,000	0	1	€ 130,000	-€ 6,500	€ 123,500	0	1.000	€ 123,500
2	€ 130,000	1	1	€ 130,000	-€ 6,500	€ 123,500	1	0.932	€ 115,152
3	€ 130,000	2	1	€ 130,000	-€ 6,500	€ 123,500	2	0.869	€ 107,367
4	€ 130,000	3	1	€ 130,000	-€ 6,500	€ 123,500	3	0.811	€ 100,109
5	€ 130,000	4	1	€ 130,000	-€ 6,500	€ 123,500	4	0.756	€ 93,342
6	€ 130,000	5	1.086	€ 141,224	-€ 7,061	€ 134,162	5	0.705	€ 94,546
7	€ 130,000	6	1.086	€ 141,224	-€ 7,061	€ 134,162	6	0.657	€ 88,155
8	€ 130,000	7	1.086	€ 141,224	-€ 7,061	€ 134,162	7	0.613	€ 82,196
9	€ 130,000	8	1.086	€ 141,224	-€ 7,061	€ 134,162	8	0.571	€ 76,640
10	€ 130,000	9	1.086	€ 141,224	-€ 7,061	€ 134,162	9	0.533	€ 71,459
11	€ 130,000	10	1.180	€ 153,416	-€ 7,671	€ 145,746	10	0.497	€ 72,381
12	€ 130,000	11	1.180	€ 153,416	-€ 7,671	€ 145,746	11	0.463	€ 67,488
13	€ 130,000	12	1.180	€ 153,416	-€ 7,671	€ 145,746	12	0.432	€ 62,926
14	€ 130,000	13	1.180	€ 153,416	-€ 7,671	€ 145,746	13	0.403	€ 58,672
15	€ 130,000	14	1.180	€ 153,416	-€ 7,671	€ 145,746	14	0.375	€ 54,706
16	€ 130,000	15	1.282	€ 166,662	-€ 8,333	€ 158,329	15	0.350	€ 55,411
17	€ 130,000	16	1.282	€ 166,662	-€ 8,333	€ 158,329	16	0.326	€ 51,666
18	€ 130,000	17	1.282	€ 166,662	-€ 8,333	€ 158,329	17	0.304	€ 48,173
19	€ 130,000	18	1.282	€ 166,662	-€ 8,333	€ 158,329	18	0.284	€ 44,917
20	€ 130,000	19	1.282	€ 166,662	-€ 8,333	€ 158,329	19	0.265	€ 41,880
21	€ 130,000	20	1.393	€ 181,051	-€ 9,053	€ 171,998	20	0.247	€ 42,421
22	€ 130,000	21	1.393	€ 181,051	-€ 9,053	€ 171,998	21	0.230	€ 39,553
23	€ 130,000	22	1.393	€ 181,051	-€ 9,053	€ 171,998	22	0.214	€ 36,879
24	€ 130,000	23	1.393	€ 181,051	-€ 9,053	€ 171,998	23	0.200	€ 34,386
25	€ 130,000	24	1.393	€ 181,051	-€ 9,053	€ 171,998	24	0.186	€ 32,062
26	€ 130,000	25	1.513	€ 196,682	-€ 9,834	€ 186,848	25	0.174	€ 32,475
27	€ 130,000	26	1.513	€ 196,682	-€ 9,834	€ 186,848	26	0.162	€ 30,280
28	€ 130,000	27	1.513	€ 196,682	-€ 9,834	€ 186,848	27	0.151	€ 28,233
29	€ 130,000	28	1.513	€ 196,682	-€ 9,834	€ 186,848	28	0.141	€ 26,325
30	€ 130,000	29	1.513	€ 196,682	-€ 9,834	€ 186,848	29	0.131	€ 24,545
									€ 1,837,845

Example 8.6. The Valuation of a Multi-Tenanted Property

1. Property Description

The subject property is an office building in a prime location which has established itself recently as a business hub. The landlord retains the use of part of the building, whereas the rest of the space is leased out to two independent companies (tenant A and tenant B).

The yield for such property from comparable data stands at 5.25% if freehold and let on normal lease terms.

2. Appointment Brief Instructions

Task 1

A fully annotated valuation is required for the freehold interest by the landlord.

Task 2

The landlord would like an opinion of the amount he should offer company A to surrender the lease so he can gain additional space due to an expansion of his operations.

3. Considerations for Arriving at Market Value

	N.U.A.	Contract Rent (€ p.a.)	Lease start	Length	Years to next Review	Rent Review Patterns	E.R.V. (€)
Landlord	250						62,500
Tenant A	250	25,000	2005	15 years	4	No reviews	62,500
Tenant B	400	100,000	2016	15 years	3	3 yr, UORR	100,000

Details of the property are presented in the table above and hereunder:

- The lease signed by tenant B is the most recent, and it taken as a good comparable of the market rent at valuation date (2016).

- Being an owner-occupier, the landlord does not actually pay any rent. However, by comparison he would have to pay rent based on the market rent if this building was unavailable. This requires the assessment of the imputed rental income, based on an analysis of current rents being paid, rents being quoted and the vacancy rate of comparable properties. Given the high demand for prime office property at time of valuation, low vacancy and tenant B's lease, therefore the imputed rent is taken to be equal to €62,500 (calculated on a pro-rata basis from the rent of tenant B).
- At the time of signing of the lease between tenant A and the landlord, the market scenario and sentiment were very different than they are today. The lease was given at the then market rent of €100/m². Furthermore, the landlord wanted to secure a good lease with an anchor tenant.
- In today's market scenario, for this type of property normal lease terms are considered to consist of full repairing and insuring terms, with 3 yearly upward only rent reviews. Sub-letting is prohibited.
- Given that the property is in a prime location it is assumed that the demand for this type of office space will remain constant.
- Marketing fees in this example are ignored.

4. Valuation

The valuations employ a conventional approach.

Task 1

The freehold valuation can be split up into three shares as follows below.

Landlord's Share – Given that it is being assumed that the landlord would pay the market rent for the space, then this is the valuation of an annuity into perpetuity. Here the ARY available from comparable data can be applied directly.

ERV	€62,500
YP perp @ 5.25%	19.048
	€1,190,500

Tenant B's Share – Similarly given that the lease by tenant B has just been signed and the rent is a true reflection of the market, as well as the lease having normal terms and conditions, the ARY is applied directly here. Even though this lease is for technically speaking 15 years, ERV can be capitalised directly into perpetuity, since it is assumed that the existing lease would eventually be superseded by a new lease.

ERV	€100,000
YP perp @ 5.25%	19.048
	€1,904,800

Tenant A's share – Since the passing rent is below ERV, then this is a revisionary type of valuation. Adopting the term and reversion method, the term is capitalised at a yield which in this case is adjusted down to 3.5% to reflect the advantageous rent to the current tenant and decreased tenant default risk. The adjustment is left in the hands of the valuer on the basis of his experience and awareness of the building, leases and property market. The reversion is capitalised at the ARY, since within 4 years' time, at the end of the existing lease, the property will be available to lease at the ERV.

Term	
Passing rent	€25,000
YP 4 years @ 3.5%	3.673
	€91,825

Reversion

ERV	€62,500
YP perp @ 5.25%	19.048
PV 4 years @ 5.25%	0.815
	€970,258

Valuation: €1,062,083

The market valuation based on a conventional income approach for the office building at date of valuation is of €4,157,383 (i.e. addition of all the shares). A 5% adjustment for management and maintenance expenses gives a figure is of €3,949,514 rounded to **€3,950,000**.

If one were to apply the capitalisation rate directly to the ERV of the building, which adds up to €225,000, the valuation would be of

$$\frac{225,000}{0.525} = €4,285,714$$

adjusted for management and maintenance by
5% gives a rounded off figure of **€4,070,000**.

This higher valuation figure results because the reversionary lease is not being taken note of, and is in fact the valuation of the unencumbered freehold. The difference of roughly €120,000 arises from the fact that tenant A is paying a rent lower than ERV, and even though the building is fully let, it is all let at its maximum potential (full ERV).

Task 2

By deduction the figure of €120,000 represents the minimum amount the landlord is likely to pay for tenant A to vacate the property early, based on market data and calculations. This will depend on negotiations between the two parties.

5. Notes

- The valuation is for rents receivable yearly in arrears.
- Valuation is gross of purchasing costs.
- The typical usance when utilising a conventional approach is for the ARY, whether adjusted or not, to also be used in the deferment of the valuation. An alternative consideration may involve for example the deferment (i.e. PV factor utilised in discounting the reversion) being carried out at the average bank lending rate on the basis of the local financial scenario, to reflect the cost of borrowed money. This is at the valuer's discretion, giving reasons, according to the task at hand.

Example 8.7. The Valuation of a Property with Development Potential

1. Property Description

The property consists of a residential tenement located in a prime location in one of the seaside towns on the island. The street upon which the property is located, towards the town centre and therefore does not enjoy any particular views, is characterised by apartment block developments. The property occupies a site of c. 10.2m width and 29m depth, at all levels and includes also the full airspace. The property is in a state of disrepair. The layout of the property is that of typical family home developed over 2 floors, including a garage at semi-basement and a 10m deep back garden. The property is freehold.

2. Appointment Brief Instructions

The client, who is the owner of the property, requires a professional opinion on the market value of the property if it were to be sold today.

3. Considerations for Arriving at Market Value

- The interest to be sold is the **freehold interest**.
- Based on the property description and location, there arises a **potential for development**. This development potential is further confirmed with reference to the Planning Authority's documentation with particular reference to the relevant Local Plan, the Strategic Plan for Environment and Development and the Development Control Design Policy, Guidance and Standards 2015.
- The **traditional residual method of valuation** is utilised in this specific case since up-to-date comparable data is not available relating to such a particular property and scenario, as well as due to the fact that the property has an intrinsic value realisable through development. Hence a direct comparative approach cannot be utilised.

- It is being assumed that the envisioned development would consist of the following¹⁰:
 - two levels of underground parking, consisting of a total of 18 garages;
 - a retail outlet at elevated ground floor;
 - 9 three bedroom apartments;
 - a three bedroom penthouse.
- Table 1 provides a summary of the envisioned development, as well as the amount it is likely to be sold for in a finished state, being equivalent to the **gross development value** (GDV). These figures are based on comparable market data.
- Table 2 provides a summary of the **anticipated costs** related to the project. Costs are based on established published data, guidelines and current market rates¹¹.
- It is anticipated that the project will be spread over a timeframe of **2 years** from the acquisition of the property, subsequent application and approval of permits, demolition of the existing building, excavation, construction and finishing.
- With a traditional residual method, it is assumed that the project is fully sold at the end of the development period.
- Financing is assumed to be applicable on the full purchase price of the development property / site. Financing on the development costs is calculated on the full amount, but for half the development period (i.e. equivalent to 50% gearing). This is a rule of thumb applicable for the traditional residual method, which is unable to model effectively the timing of the development, in comparison to a discounted cash flow residual approach. The time of valuation, the business bank lending rate, assumed to be fixed, is considered to stand at **5.5%** for this type of scheme, according to the prevailing bank base rate and premium typically charged over this. Both elements of financing costs can be calculated effectively. The amount accumulated over the

¹⁰ Based on a height limitation according to the local plan of 8 floors with semi-basement, and a corresponding total built height of 35.5m including set-back floor.

¹¹ These are indicative and solely for the purpose of this example. It is the responsibility of the valuer to base these values on market rates as applicable.

geared portion of the development costs is calculated by compound interest and taken into account as one of the incurred development costs. The element relating to the debt for purchasing the site is catered for by discounting the surplus available for the site at completion, over the time period of the project at the rate of borrowing.

4. Valuation Calculations

Reference is made to Table 3 where the development cash flow is set out. The residual represents the surplus amount for the hypothetical purchase of the land. This is discounted to the present value, over a time period of 2 years at 5.5% to arrive at a net of interest figure. Professional fees due related to the purchase as well as stamp duty are deducted from the present value to arrive at a **final valuation figure** of €1,997,673 say **€2,000,000**. This equates to a rate of c. €6,760 per square meter, which is representative of the land values in the area with the same development potential, in comparison with comparable data.

This figure represents the amount that should be paid for the site if the proposed development was to proceed and all of the valuation assumptions held true. The valuation has not taken account of taxation at property disposal (capital gains tax). However the potential bidder may wish to consider these for negotiation purposes.

5. Notes

- Costs used in this exercise are for demonstration purposes and are not to be used as a source for actual market valuations.
- The development scheme is considered that which makes full use of the site's potential according to the prevailing planning policies. Speculation is avoided.
- Since this is a market valuation, special conditions specific only to a particular investor or developer have been ignored.

- VAT is assumed to be unrecoverable, and hence an allowance for this has been made in the development costs where applicable.
- This example utilises a recognised approach, adopting universally accepted assumptions.
- Distinguishing between worth and market value in a development appraisal can be quite challenging. For a market value appraisal the inputs should typically be what the expected (hypothetical) land buyer would assume for the most likely scheme.
- The market information, which can be broken down into current and future data, should not be affected by the client's specific requirements. Client specific information will be required only for a calculation of worth, as in contrast to a market valuation.

6. Tables and Calculations

	Table 1: Development Profile						
	Level	Unit Description	No. of Units	Gross Floor Area (c. m² unless otherwise specified)	Anticipated Sale Price per Unit	GDV	Cost per square meter
<i>Basement</i>	-2	garages	9	1 car	€ 30,000	€ 270,000	
<i>Semi-basement</i>	-1	garages	9	1 car	€ 38,000	€ 342,000	
<i>Ground floor</i>	0	retail	1	75	€ 150,000	€ 150,000	€ 2,000
<i>Ground floor</i>	0	residential 2 bed	1	110	€ 250,000	€ 250,000	€ 2,273
<i>First floor</i>	1	residential 3 bed	1	185	€ 350,000	€ 350,000	€ 1,892
<i>Second floor</i>	2	residential 3 bed	1	185	€ 350,000	€ 350,000	€ 1,892
<i>Third floor</i>	3	residential 3 bed	1	185	€ 350,000	€ 350,000	€ 1,892
<i>Fourth floor</i>	4	residential 3 bed	1	185	€ 400,000	€ 400,000	€ 2,162
<i>Fifth floor</i>	5	residential 3 bed	1	185	€ 400,000	€ 400,000	€ 2,162
<i>Sixth floor</i>	6	residential 3 bed	1	185	€ 400,000	€ 400,000	€ 2,162
<i>Seventh floor</i>	7	residential 3 bed	1	185	€ 440,000	€ 440,000	€ 2,378
<i>Eighth floor</i>	8	residential 3 bed	1	185	€ 440,000	€ 440,000	€ 2,378
<i>Nineth floor</i>	9	residential 3 bed	1	185	€ 440,000	€ 440,000	€ 2,378
<i>Penthouse</i>	10	residential 3 bed	1	185	€ 570,000	€ 570,000	€ 3,081
					Total	€ 5,152,000	

Table 2: Project Costs			
Cost Description	Amount exc. VAT	Unit / Notes	Amount inc. VAT where applicable
Stamp Duty	0.05 X	5% of purchase price, where purchase price is X according to the prevailing rates as stipulated by the IRD.	N/A
Professional fees related to the purchase	0.025 X	2.5% of purchase price, where purchase price is X, relating mainly to notarial fees, searches and architect's fees.	0.03X
Development Permit Fees	€ 19,000	As calculated from the prevailing Planning Authority fees - depending on the accuracy of the proposal, then the application of a contingency on this is not absolute. In this case it is deemed not necessary to apply the contingency due to a fair well developed proposal.	N/A
Demolition	€ 11,500	Lump sum.	€ 13,570
Excavation	€ 25,475	Calculated on c. 25 euro per cubic meter; excavation of all the site by 13 courses deep giving a volume of 1019m ³ .	€ 30,061
Construction	€ 365,122	Calculated on a cost of c. 140 euro per square meter for the lower basement; c. 200 euro per square meter for the upper basement and c. 130 euro per square meter for all other levels in all cases of gross floor area.	€ 430,844
Finishing	€ 502,245	Calculated on a cost of c. 75 euro per square meter of gross floor area for the garages, c. 225 euro per square meter of gross floor area for retail and residential for a good level of finish.	€ 592,649
Additional Costs	€ 1,357	Calculated at 0.15% of demolition, excavation, construction and finishing costs to cover costs such as insurances and health and safety requirements.	€ 1,601
Special Plant Cost	€ 55,000	6 person passenger lift to serve 12 floors.	€ 64,900
Architect's Professional Fees	€ 63,304	Calculated at 6% + 1% based on the demolition, excavation, construction and finishing costs.	€ 74,699
Financing for the Project Costs	€ 58,943	Compound interest at 5.5% for 2 years calculated on half the development permit fees, demolition, excavation, construction, finishing, additional costs, special plant cost and professional fees.	N/A
Contingency	€ 110,195	Given the possibility of future increases in costs, until development commencement and due to a number of unknowns (e.g. a ground investigation has not been undertaken) and certain items which have not been considered at this stage, a 10% contingency is being considered fair in this case. This has been applied to the permit fees, demolition, excavation, construction, finishing, additional costs, special plant costs, professional fees and finance.	€ 130,030
Developer's Profit	€ 1,030,400	Assumed that the fair required profit by a hypothetical investor for this type of project is 20% of GDV.	N/A
Marketing / Agents' Fees	€ 257,600	Calculated at typical estate agent's fees of 5% of GDV.	€ 303,968

Table 3: Traditional Residual Valuation	
Gross Development Value (GDV)	€ 5,152,000
Gross Development Costs (GDC)	
Development Permit fees	€ 19,000
Demolition	€ 13,570
Excavation	€ 30,061
Construction	€ 430,844
Finishing	€ 592,649
Additional Costs	€ 1,601
Special Plant Costs	€ 64,900
Architect's Professional Fee	€ 74,699
Financing on Project Costs	€ 58,943
Contingency @ 10%	€ 130,030
Developer's Profit	€ 1,030,400
Marketing / Agents' Fees	€ 303,968
Total GDC inc. Profit	€ 2,750,663
Surplus Available for the Site on Completion; GDV - GDC	€ 2,401,337
PV def'd 2 years @ 5.5%	0.898
Property Value net of debt but gross of transfer costs	€2,157,487
Let property value be X; Purchasing fees @ 8%	0.08X
X + 0.08X	1.08X
Property Value Net of Transfer Costs and Debt (X)	€1,997,673

Example 8.8. The Various Residual Valuation Approaches Applied to a Site with Development Potential

1. Property Description

The property consists of a former industrial site with a site area of c. 2,000m², and is currently occupied by a large manufacturing unit. There is planning permission to demolish the factory and construct 10 three-bedroom houses. The vendor intends to demolish and clear the site up to ground level prior to the sale.

2. Appointment Brief Instructions

A professional opinion on the market value of the site is required.

3. Considerations for Arriving at Market Value

- The interest to be sold is the **freehold interest**.
- The **residual method** of valuation is utilised in this specific case since the former industrial use is no longer to be retained in line with the recently published action plan for the area, and since a full development permit has already been obtained by the vendor for the redevelopment into residential units as described above. The 10 three-bedroom units, conceived as terraced houses, have been approved to consist of a semi-basement garage, with an overlying residential unit over 2 floors and each occupy a plot of c. 200m².
- Each unit consists of a semi-basement with a gross floor area of c. 120 square meters, with two overlying floors each with a gross floor area of 100 square meters. There is access to the overlying roof, however no washroom. Therefore, the gross floor area per unit is of c. 320 square meters.
- Based on current market rates at date of valuation (2016) and similar figures achieved on one of the developer's recently completed projects consisting of similar

units, it is expected that each house will cost c. **€38,000 exc. VAT** to build to shell form (construction).

- Based on current market rates and a good but not luxurious level of finish it is expected that each unit will cost **€48,000 exc. VAT** to finish.
- Additional costs amounting to **0.15%** of the construction and finishing costs have been included to take into account costs arising from insurances, health and safety as well as requirements typically related to a development project.
- Contingencies are allowed for at **5%** of the total costs in this case since planning consent has already been obtained, this giving more certainty vis-à-vis the project realisation. Furthermore, this fact also translates in an advantage insofar as site work can practically start immediately onsite after purchase, resulting in a diminished possibility of a rise in contract prices. This has been applied on the excavation, construction, finishing, additional costs, professional fees and financing of the development. The profit has been excluded from this calculation, as have the marketing costs and duty on documents and transfers, since these are a function of the GDV.
- Comparable data has shown that such properties in a similar location are currently selling at around **€500,000**.
- Sale prices are kept fixed as at the estimated current market value on the date of valuation.
- The project is realisable within a time frame of **1.5 years** from the acquisition of the property.
- The developer has a borrowing facility with a major bank fixed at **6% p.a.** Financing related to the project development costs is treated differently in the various approaches. It is assumed that the purchase of the site is fully financed, save for the purchasing costs (professional fees and stamp duty).

4. Valuation Calculations

Traditional Residual Approach

This is the most simple and straightforward approach is set out in table 1 at the end of the example. The cost of finance on the project is calculated as accumulated interest which is applicable to the expenditure (consisting of the excavation, construction, finishing, additional costs and professional fees) for a period assumed to be half the project duration (0.75 years). This approximation represents the fact that not all the money for the contract will be required at the beginning of the contract but that money will be drawn down as work proceeds. This arises from the limitation that the traditional residual approach does not allow for the timing of the project to be effectively modelled. For this reason it is also assumed that revenues (sales of units) are collected at one go, assumed to happen at the end of the project completion. This does not take any regard that some revenues may be received before, such as when deposits are collected for units sold 'on plan', or that the sale of units and collection of revenue can take a number of months (or in cases years) from project completion.

The surplus available for the purchase of the site is discounted at the cost of finance deferred by the project duration (1.5 years) to allow for the interest which would be charged on the money borrowed to finance the acquisition today, in this case at 6%. Purchasing costs (stamp duty and professional fees) are deducted to arrive at a net of costs valuation. This is repeated in each of the other two approaches.

Cash Flow Approach

This approach, set out in table 2 at the end of the example, offers a refinement over the traditional residual approach, in that it allows the effects of timing of development cash flows, both expenditure and revenues, to be appraised more rigorously. Expenses related to the construction and finishing have been phased, even if in a simple way, to better reflect

reality. Likewise as has already been noted, it is highly probable and therefore realistic to assume that revenues will be fully collected within a year from the completion date and not immediately on project completion. Finance is now calculated throughout the project per time period, in this case quarterly, and as compound interest.

If data is available for the RPI for the construction industry, then this data can be used to effectively forecast any probable changes in prices, which are built into the cash flow. Likewise if data is available about the anticipated growth (positive or negative) of the residential unit prices until the anticipated sale date, then these figures can be projected accordingly. Both of these are possible, even in a discounted cash flow approach, but have not been utilised in this case.

As is done in the traditional residual approach the surplus available for the purchase of the site is discounted at the cost of finance, however now the deferral is 2.5 years. This also applies to the discounted cash flow.

Discounted Cash Flow

This approach is set out in table 3. As is done in standard discounted cash flow development appraisal, the target rate of return (r) is taken as the cost of finance (6%) and profit is included as a cash outgoing that occurs at the end of the development period, which reflects the assumed timing of the sales income (including the associated fees). The estimated net present value (NPV) of the development scheme is calculated and in this case this is equal to the surplus available for the purchase of the site after all costs have been deducted.

Discussion

The impact of timing on the valuation figure obtained from the three approaches can be appreciated in this example. In reality the valuation figures obtained from the three approaches are fairly similar (maximum 2% difference in value).

Had it to be assumed that all the revenues are received upon project completion (i.e. in the 6th quarter as in table 2' and table 3'), hence as is the case with the traditional residual approach, then both the cash flow valuation and discounted cash flow return the same valuation results. The reason for this lies in the differing way of how financing is modelled, one model explicitly calculating the interest due, whilst the other discounting the full cash flow.

With reference to the above, it is also to be noted that the highest valuation figure is returned by the cash flow or discounted cash flow approaches when the revenues are collected in full at the completion of the project development period.

5. Notes

- Costs used in this exercise are purely for demonstration purposes and are not to be used as a source for actual market valuations.
- The development scheme is considered that which makes full use of the site's potential according to the prevailing planning policies. Speculation is avoided.
- The valuation has not taken account of taxation at property disposal (capital gains tax). However the potential bidder may wish to consider these for negotiation purposes.
- VAT is assumed to not be recoverable, and hence an allowance for this has been made in the development costs where applicable.
- There are so many variables in the residual valuation that inaccuracy can easily occur. Changes in the elements, especially the GDV, can dramatically alter the residual land value. A sensitivity analysis may be considered necessary to understand the outcome due to alterations in the variables on a case by case basis.
- The traditional residual method will be applicable to most of the valuations which are envisaged to be undertaken by the Lands Authority Valuer.

- In the case of larger scale, more complex projects the cash flow or discounted cash flow approaches will allow a greater degree of flexibility in modelling the project. These methods are also extensively used in project management, where project phasing is key. In such situations it would be appropriate to reflect the deferment of some costs as well as some of the receipts to a date when it might be reasonable to expect them to be incurred.
- Due to this method being very sensitive to variations in the estimated costs, the choice of procurement route imposes differing responsibilities on the parties and is a key consideration in determining the building cost.
- This example utilises a recognised approach, adopting universally accepted assumptions.
- Distinguishing between worth and market value in a development appraisal can be quite challenging. For a market value appraisal the inputs should typically be what the expected (hypothetical) land buyer would assume for the most likely scheme.
- The market information, which can be broken down into current and future data, should not be affected by the client's specific requirements. Client specific information will be required only for a calculation of worth, as in contrast to a market valuation.

6. Tables and Calculations

<u>Table 1: Traditional Residual Approach</u>	
Gross Development Value (GDV)	€ 5,000,000
Gross Development Costs GDC	
Construction	€ 448,400
Finishing	€ 566,400
Additional Costs	€ 1,522.2
Professional Fees @ 7%	€ 83,822
Financing Costs @ 6%	€ 49,144
Contingency @ 5%	€ 57,464
Required Profit @ 20%	€ 1,000,000
Marketing / Agents' Fees @ 5%	€ 295,000
Total GDC (inc. profit)	€ 2,501,753
Surplus Available for the Site on Completion; GDV - GDC	€ 2,498,247
PV def'd 1.5 years @ 6%	0.92
Land Value net of debt but gross of acquisition costs	€ 2,191,276
Let property value be X; Purchasing fees @ 8%	0.08X
X + 0.08X	1.08X
Property Value Net of Transfer Costs and Debt (X)	€ 2,028,959

Table 2: Residential Development Quarterly Cash Flow											
	Purchase of site	End of quarter 1	End of quarter 2	End of quarter 3	End of quarter 4	End of quarter 5	End of quarter 6	End of quarter 7	End of quarter 8	End of quarter 9	End of quarter 10
Quarter	0	1	2	3	4	5	6	7	8	9	10
Construction		-€ 112,100	-€ 112,100	-€ 112,100	-€ 112,100						
Finishing				-€ 141,600	-€ 141,600	-€ 141,600	-€ 141,600				
Additional Costs		-€ 254	-€ 254	-€ 254	-€ 254	-€ 254	-€ 254				
Professional Fees @ 7%		-€ 13,970	-€ 13,970	-€ 13,970	-€ 13,970	-€ 13,970	-€ 13,970				
Contingency @ 5%		-€ 6,316	-€ 6,316	-€ 13,396	-€ 13,396	-€ 7,791	-€ 7,791				
Required Profit @ 20%								-€ 250,000	-€ 250,000	-€ 250,000	-€ 250,000
Marketing / Agents' Fees @ 5%								-€ 73,750	-€ 73,750	-€ 73,750	-€ 73,750
Sales Income								€ 1,250,000	€ 1,250,000	€ 1,250,000	€ 1,250,000
Net Cash Flow		-€ 132,640	-€ 132,640	-€ 281,320	-€ 281,320	-€ 163,615	-€ 163,615	€ 926,250	€ 926,250	€ 926,250	€ 926,250
Capital O/S		-€ 132,640	-€ 267,227	-€ 552,469	-€ 841,896	-€1,017,865	-€1,196,416	-€ 287,722	€ 634,306	€ 1,560,556	€ 2,486,806
Interest		-€ 1,946	-€ 3,921	-€ 8,107	-€ 12,354	-€ 14,936	-€ 17,556	-€ 4,222			
Surplus Available at the End of the Development (shaded cell)	<u>€ 2,486,806</u>										
PV def'd 2.5 years @ 6%	0.86										
Land Value net of debt but gross of acquisition costs	<u>€ 2,149,697</u>										
Let property value be X; Purchasing fees @ 8%	0.08X										
X + 0.08X	1.08X										
Land Value Net of Debt and Acquisition Costs	<u>€ 1,990,460</u>										

Table 2' : Residential Development Quarterly Cash Flow							
	Purchase of site	End of quarter 1	End of quarter 2	End of quarter 3	End of quarter 4	End of quarter 5	End of quarter 6
Quarter	0	1	2	3	4	5	6
Construction		-€ 112,100	-€ 112,100	-€ 112,100	-€ 112,100		
Finishing				-€ 141,600	-€ 141,600	-€ 141,600	-€ 141,600
Additional Costs		-€ 254	-€ 254	-€ 254	-€ 254	-€ 254	-€ 254
Professional Fees @ 7%		-€ 13,970	-€ 13,970	-€ 13,970	-€ 13,970	-€ 13,970	-€ 13,970
Contingency @ 5%		-€ 6,316	-€ 6,316	-€ 13,396	-€ 13,396	-€ 7,791	-€ 7,791
Required Profit @ 20%							-€1,000,000
Marketing / Agents' Fees @ 5%							-€ 295,000
Sales Income							€ 5,000,000
Net Cash Flow		-€ 132,640	-€ 132,640	-€ 281,320	-€ 281,320	-€ 163,615	€ 3,541,385
Capital O/S		-€ 132,640	-€ 267,227	-€ 552,469	-€ 841,896	-€1,017,865	€ 2,508,584
Interest		-€ 1,946	-€ 3,921	-€ 8,107	-€ 12,354	-€ 14,936	
Surplus Available at the End of the Development (shaded cell)	€ 2,508,584						
PV def'd 1.5 years @ 6%	0.92						
Land Value net of debt but gross of acquisition costs	€ 2,298,634						
Let property value be X; Purchasing fees @ 8%	0.08X						
X + 0.08X	1.08X						
Land Value Net of Debt and Acquisition Costs	€ 2,128,365						

Table 3: Residential Development Quarterly Discounted Cash Flow											
	Purchase of site	End of quarter 1	End of quarter 2	End of quarter 3	End of quarter 4	End of quarter 5	End of quarter 6	End of quarter 7	End of quarter 8	End of quarter 9	End of quarter 10
Quarter	0	1	2	3	4	5	6	7	8	9	10
Construction		-€ 112,100	-€ 112,100	-€ 112,100	-€ 112,100						
Finishing				-€ 141,600	-€ 141,600	-€ 141,600	-€ 141,600				
Additional Costs		-€ 254	-€ 254	-€ 254	-€ 254	-€ 254	-€ 254				
Professional Fees @ 7%		-€ 13,970	-€ 13,970	-€ 13,970	-€ 13,970	-€ 13,970	-€ 13,970				
Contingency @ 5%		-€ 6,316.21	-€ 6,316.21	-€13,396.21	-€13,396.21	-€ 7,791.21	-€ 7,791.21				
Required Profit @ 20%								-€ 250,000	-€ 250,000	-€ 250,000	-€ 250,000
Marketing / Agents' Fees @ 5%								-€ 73,750	-€ 73,750	-€ 73,750	-€ 73,750
Sales Income								€ 1,250,000	€ 1,250,000	€ 1,250,000	€ 1,250,000
Net Cash Flow		-€ 132,640	-€ 132,640	-€ 281,320	-€ 281,320	-€ 163,615	-€ 163,615	€ 926,250	€ 926,250	€ 926,250	€ 926,250
PV @ Borrowing Rate (quarterly rate calculated at 1.47%)		0.986	0.971	0.957	0.943	0.930	0.916	0.903	0.890	0.877	0.864
PV of Cash Flow		-€ 130,722	-€ 128,832	-€ 269,291	-€ 265,397	-€ 152,122	-€ 149,922	€ 836,456	€ 824,359	€ 812,438	€ 800,688
Surplus Available at the End of the Development (summation of shaded cells)	€ 2,177,656										
Let property value be X; Purchasing fees @ 8%	0.08X										
X + 0.08X	1.08X										
Land Value Net of Acquisition Costs	€ 2,016,348										

Table 3': Residential Development Quarterly Discounted Cash Flow							
	<i>Purchase of site</i>	<i>End of quarter 1</i>	<i>End of quarter 2</i>	<i>End of quarter 3</i>	<i>End of quarter 4</i>	<i>End of quarter 5</i>	<i>End of quarter 6</i>
<i>Quarter</i>	0	1	2	3	4	5	6
Construction		-€ 112,100	-€ 112,100	-€ 112,100	-€ 112,100		
Finishing				-€ 141,600	-€ 141,600	-€ 141,600	-€ 141,600
Additional Costs		-€ 254	-€ 254	-€ 254	-€ 254	-€ 254	-€ 254
Professional Fees @ 7%		-€ 13,970	-€ 13,970	-€ 13,970	-€ 13,970	-€ 13,970	-€ 13,970
Contingency @ 5%		-€ 6,316.21	-€ 6,316.21	-€13,396.21	-€13,396.21	-€ 7,791.21	-€ 7,791.21
Required Profit @ 20%							-€1,000,000
Marketing / Agents' Fees @ 5%							-€ 295,000
Sales Income							€ 5,000,000
Net Cash Flow		-€ 132,640	-€ 132,640	-€ 281,320	-€ 281,320	-€ 163,615	€ 3,541,385
PV @ Borrowing Rate (quarterly calculated at 1.47%)		0.986	0.971	0.957	0.943	0.930	0.916
PV of Cash Flow		-€ 130,722	-€ 128,832	-€ 269,291	-€ 265,397	-€ 152,122	€ 3,244,997
Surplus Available at the End of the Development (summation of shaded cells)	€ 2,298,634						
Let property value be X; Purchasing fees @ 8%	0.08X						
X + 0.08X	1.08X						
Land Value Net of Acquisition Costs	€ 2,128,365						

Example 8.9. Synergistic Value of Merging Interests

1. Property Description

The subject property is a single industrial unit, let to a small company, with 3 years until expiry of the lease located in an industrial area earmarked to be redeveloped into an industrial park. The passing rent is €25,000 per annum, and the property occupies a site of 300m². Sub-letting is prohibited in the lease contract. The building is very old and is at the end of its physical life. All risks yields achieved similar industrial units in the area stand at around 7.5%.

2. Appointment Brief Instructions

The client, who is the landlord, requires a professional opinion of the fair amount which should be paid to the tenant for an early surrender, in order to be able to redevelop the land.

3. Considerations for Arriving at Market Value

- The passing rent payable by the tenant when compared to market data and with due consideration to the fact of the age of the building, is considered to be broadly rack rented. In view of this and since subletting is prohibited then the tenant's interest has a nil value.
- The landlord's interest is subject to the current lease, which does not reflect the full value potential of the property/site.
- At lease termination, given that the existing building is at the end of its physical life, reversion is back to the land value, since this is where the highest value is to be found.
- Comparable market data shows that recently realised sale prices for land in the same area of the subject property with development potential stand at €1,350 per square

meter. Alternatively a residual valuation could have been carried out in the absence of this data.

- The 7% ARY available from comparable data has been intuitively adjusted slightly upwards due to the fact that the property is old and therefore not a perfect comparable.
- The reversion to land value is discounted at a different yield, based on the perceived low risk related to developable land. This is roughly arrived to by referring to the average of the RFR on short term government bonds (5 years) which stands at around 1.7% (CBM statistics) plus a risk premium for property illiquidity and market uncertainty.

4. Valuation

The valuation employs a conventional income approach.

Income until lease expiry

Passing rent	€25,000
YP 3 years @ 7.5%	2.600
	€65,000

Reversion to land value

300m ² @ €1,290 ¹² per square meter	€387,000
PV def'd 3 years @ 3%	0.915
	€354,105

Valuation	€419,105
less purchaser's costs (@ 6.2%)	€393,120

¹² This value is less than the land value of €1,350 as it takes into account an amount allocated for demolition of the building.

The current value of a similar plot of land is of **€405,000**. The synergistic value, also referred to as the marriage value, created by merging interests is of:

$$€405,000 - €393,120 = \mathbf{€11,880}$$

This figure represents the upside that would be shared between the parties if the lease were to be surrendered. This is the maximum amount that the landlord could pay the tenant in order to take an early surrender – although the normal practice might be to split the upside on an equal basis between them.

APPENDIX A: VARIATIONS OF THE TERM YIELD

The property yield, referred to often as the capitalisation rate (cap rate), is a measure for capitalisation of income in the context of investment valuation as the majority of commercial property is held as investments.

The property yield at an international level can, depending on the subject of measurement to be adopted, be defined into further sub-terms. The following are extracts from the publication 'Valuation of investment properties - a frame of reference for the yield' (Danish Property Federation, 2013).

Net Initial yield

The initial yield is defined as the initial net operating income (NR), which is rent and other income less any ground rent and after deduction of expenses and operating costs, at the date of transaction or valuation expressed as a percentage of the purchase price or gross capital value

Running yield

The running yield is defined as the net operating rental income, which is rent and other income less any ground rent and after deduction of expenses and operating costs, at a given date t expressed as a percentage of the purchase price or gross capital value.

Reversionary yield

This is used to express the difference in a property which is under- or over-rented and the variance from the initial yield to the reversionary yield reflects the extent of the security of income from the time taken to achieve market rent. A property in a stabilised position, fully let and rack-rented to market terms will have the same reversionary yield as the initial yield as there is in effect no reversion.

Equivalent yield

The equivalent yield is thus a weighted average between the initial and reversionary yield without allowing for growth, as opposed to an equated yield or discount rate which allows for growth before discounting back.

Equated yield

The discount rate or internal rate of return which, when applied to the income expected over the life of the investment, produces a present value that is equal to the capital outlay

Exit yield

The exit yield is the capitalisation rate applied to the net income at the end of the DCF model period to provide a capital value or exit value which an entity expects to obtain for an asset after this period.

APPENDIX B : PROPERTY MARKET MECHANISMS OF THE MALTESE ISLANDS REPORT 2017

BY DHI PERITI

Reference is made to the Property Market Mechanisms of the Maltese Islands Report 2017 by dhi Periti, pages X1 to X34. All the data presented in this report, including observations and conclusions is the sole responsibility and copyright of dhi Periti, researched and compiled by Perit Denis Camilleri.



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Property market mechanisms of the Maltese islands 2017

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Introduction

The total population includes both Maltese and non-Maltese nationals. Of the total population of 440,433 (News 2017) persons up to 1.4 per cent when compared to 2015, 30,923, or 7.1 per cent, are non-Maltese nationals, an increase of 155.3 per cent over 2005 Census, where the number of non-Maltese nationals stood at 12,112, or 3 per cent, of the total population. In 2005 the population stood at 404,962. In the last census held in 2011, the population grew by 2.7 per cent to 417,432, indicating a slowdown in population growth with an average annual increase of 1,849 compared to nearly 2,700 evidenced in the previous decennium. (Source: Census 2011). The total population of Malta at the end of 2013 stood at 425,384, up by 1.0 per cent when compared to 2012 (NSO News Release July 2014). The total population of Malta at the end of 2014 stood at 429,344, up by 0.9 per cent when compared to 2013 (NSO News Release July 2015). The number of foreigners residing in Malta in 2015 stood at 30,923. This comprised nearly 43% being citizens of another EU member state, with third country nationals TCN's standing at 44%. 2016 experienced the highest positive net migration for a decade standing at 4876 persons.

The NSO News Release 2017 notes that, more males are residing in Malta than females. This due to the 8,946 who immigrated to Malta 2/3's are noted as males. Similarly for the 5,907 persons who emigrated from Malta 2/3's are again noted as males. Of these in 2014, 547 were noted as irregular immigrants arriving with 5 boatloads, a far cry from 2008 when this totaled 80 boatloads.

As opposed to population size, Malta by far ranked first among all EU Member States in terms of population density, with an average 1,375 persons per square kilometre, compared with the EU average of 117 persons per square kilometre. The second most densely populated country within the EU was the Netherlands, with 495 persons per square kilometre, whereas Sweden was the least densely populated with an average of 23 persons per square kilometre.

The high density rate was even more pronounced when analysed at regional and locality level. Mainland Malta was more densely populated than Gozo, with an average 1,602 persons per square kilometre, compared with Gozo's 477 persons per square kilometre, as per the 2014 Demographic Review.

Due to its strategic location and its high population density, Malta may be compared to Singapore and Hong Kong. However, this is where the comparison ends, as in its housing, Malta's is largely privately owned unlike Singapore's and Hong Kong's housing.

The Characteristics of the Housing Market over the past 65-year period.

This has been a period of high Homeownership, varying from just over 50% up to 77% over this period. This was not always such a high percentage when in 1948 this registered a mere 23.1 %, as noted in table 1.

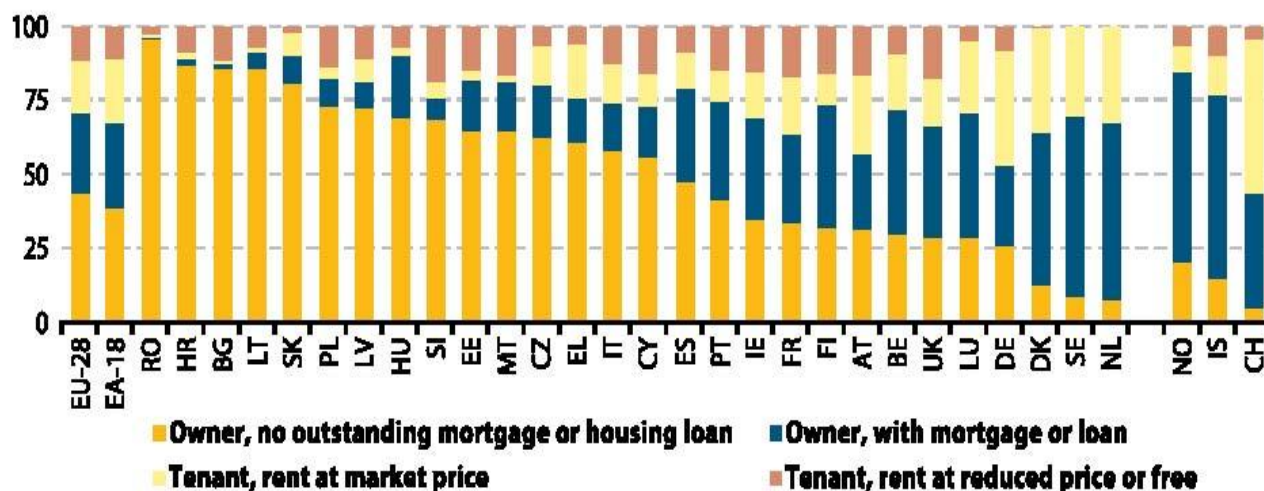
TABLE 1: HOMEOWNERSHIP RATE AS AT CENSUS DATE

YEAR	1948	1957	1967	1985	1995	2005	2011
%	23.1	26.1	32	53.9	68	75.2	77.0

In 2011, over one quarter (27.6 %) of the EU-27 population lived in an owner-occupied home for which there was an outstanding loan or mortgage, while more than two fifths (43.1 %) of the population lived in an owner-occupied home without a loan or mortgage. As such, just over seven out of every ten (70.7 %) persons in the EU-27 lived in owner-occupied dwellings, while 18.1 % were tenants with a market price rent, and 11.2 % tenants in reduced-rent or free accommodation.

More than half of the population in each EU Member State (see below) lived in owner-occupied dwellings in 2011; ranging from 53.4 % in Germany up to 96.6 % in Romania. In Switzerland, the proportion of people who lived in rented dwellings outweighed those living in owner-occupied dwellings; some 56.1 % of the population were tenants. In Sweden (65.9 %), the Netherlands (59.6 %) and Denmark (52.7 %) more than half of the population lived in owner-occupied dwellings with an outstanding loan or mortgage; this was also the case in Norway (63.0 %) and Iceland (62.7 %). In Malta the population that lived in owner occupied dwellings with a mortgage stood at 20%

CHART 1 - HOME OWNERSHIP RATES FOR EU COUNTRIES



Source: Eurostat (online data code: ilc_lvho02)

This high homeownership was helped by an efficient mortgage market over this period with the mortgage rate varying from an initial stable 8% in a period of high global inflation rates, when similar overseas mortgage rates were above 12%, to the recent low mortgage rate of 3.15%.

A drop in the home ownership rate over the coming years is a possibility, due to prospective households harboring the idea of renting out instead of taking out a mortgage, due to the new affordability issue as revolving around the initial expenses issue. See section on Housing Affordability Index for more details.

The economic importance of the property market is related to the National GDP with a high 8% slice obtained from the Construction Sector due to the multiplier effect as evidenced in 2006, having a beneficial effect on other sectors, whilst the Real Estate sector is only 2nd in the importance of the compilation of the GDP. To date this effect although still important has a reduced effect due to the calming of the property market, especially in the residential sector. Table 2 now notes the importance of the Construction Sector and the Real Estate sector over the period 1980 – 2014.

TABLE 2 – PERFORMANCE OF CONSTRUCTION & REAL ESTATE ACTIVITIES OVER THE YEARS

	CONSTRUCTION			REAL ESTATE ACTIVITIES		
	1995	2004	2014	1995	2004	2014
BREAKDOWN OF VALUE ADDED	6.14%	7.76%	4.03%	5.68%	6.64%	5.59%
BREAKDOWN OF EMPLOYMENT	4.71%	6.37%	5.66%	0.28%	0.31%	0.32%

Source – Grech A.G, *The Diversification of the Maltese Economy*, CBM – 2015

Table 3 now notes the salubrious effect of both the Construction Sector and the real estate Sector with regard to the multiplier effect and their effect on job creation.

TABLE 3 - VALUE ADDED AND EMPLOYMENT MULTIPLIERS: SELECTED SECTORS*

	Value Added	Employment
Construction	0.8	32
Real estate	1.0	7
Public administration	1.3	39
Education	1.5	56
Financial Services	1.2	32
Computer programming	0.9	18
Gambling & betting	0.6	7
Legal & accounting services	1.1	24
Manufacture of electronics	0.3	7
Manufacture of pharmaceuticals	0.8	12

*The multipliers show the impact on value added and employment of a €1 million increase in exogenous final demand for that sector. For instance a €1 million increase in the demand for electronics would generate a €0.3 million increase in gross value added in the economy and generate 7 additional jobs.

Source: Cassar (2015).

Affordable Housing over the past 35-year period

Affordable Housing is related to the ability to pay. This as opposed to social housing, where the State helps out those, not having the ability to pay for their accommodation. Affordable housing costs should not exceed 35% of gross household income. This signifies that households who would have to spend more than 1/3 of their net income to purchase a starter home are eligible for a housing sale at below market value. To be noted that normally financial institutions do not accept that the borrower pays more than 25% of the household income towards mortgage monthly repayments.

Over the past 35 year period 1982 – 2017, as per tables 4 and 5, it is noted that affordable house prices have increased by 950%. Doubling in price occurred over the initial 10-year period 1982 - 1992, doubling again in price over the subsequent 10-year period 1992 - 2002 and then nearly doubling again in price over the 5-year period 2002-2007. Over the past 10-year period, the housing price in 2017 is 42% above the 2007 value. On the other hand 28.5% of this increase occurred over 2016 – 2017, reducing to 6.3% over the trend value. The affordable house price growth over the 35 year period 1982 – 2017, stands at

6.38% pa as per table 4, decreasing to 4.36% pa over the past immediate 15-year period, as per table 5. The above, is to be compared with the gut feeling that growth rates for Maltese properties used to double in value over every 10 to 12 year period. This signifies that doubling of property values over this period will double over an 18 -year period

Table 4 further notes that for 2017 a 116% differential in market rate exists between the most expensive district Sliema and the less expensive is the Fgura/Paola/Zabbar district. This differential has again surpassed the 100% as noted back in 1982 between the most expensive inner Sliema and the least expensive Fgura/Paola/Zabbar.

TABLE 4: AFFORDABLE PROPERTY RATES €/SQM FOR THE MALTESE ISLANDS OVER A 35 YEAR PERIOD

Zone	Locality	1982	1987	1992	1997	2002	2007	2012	2014	2015	2016	2017	%growth rate Pa 1982-2017
A	Fgura /												
	Paola /	105	128	256	408	466	987	893	1038	999	1016	1137	7.09%
	Zabbar												
B	M'scala	116	175	373	373	505	1001	881	980	992	998	1260	6.35%
C	Mosta /	186	198	291	478	524	1242	1167	1180	1337	1443	1545	7%
	Naxxar												
D	San Gwann	151	175	256	431	557	1092	962	1076	1022	1152	1558	6.65%
	Sliema	210	338	443	710	883	1373	1402	1457	1720	1756	2459	6.33%
	inner prime												
E	St. Julians	186	233	408	547	687	1321	1186	1311	1369	1447	1998	6.45%
F	Swieqi	198	245	419	641	785	1473	1443	1376	1535	1539	2070	6.53%
	Malta	163	212	349	512	629	1211	1134	1203	1282	1336	1718	6.56%
	Trend	172	241	337	471	660	924	1294	1460	1521	1693	1802	6.92%
	Gozo					432	857	903	906	1029	1017	1106	5.44%
<i>Source: DHlperiti in-house valuations 2017</i>													

Further over the years, the affordable accommodation floor area has been shrinking, with a 3 bed/r apartment in 1982 having an average floor area of 135sqm, reducing by 2015 to 105sqm, whilst a 2 bed/r apartment in 1982 having an average floor area of 95sqm reducing to 80sqm by 2015. The MEPA (DC2014) document notes the minimum floor areas are being proposed from 45sqm to 55sqm for a 1-bed/r apartment, 76sqm to 90sqm for a 2 bed/r apartment & 96sqm to 115sqm for a 3 bed/r/apartment

Over the initial 5-year period, 1982 -1987 this growth rate stood at a low of 5.4% pa. Over the next 5-year period, 1987 – 1992 this growth rate increased to 10.5%, whilst for the following 5 year period 1992 -1997 it stood at 8% pa, easing off to its lowest in the following 5-period 1997 -2002 to 4.2%pa. Table 4 notes double figure growth rates averaging 20% pa as existing in the period 2003 - 2006. In 2008, a decrease in value is recorded for the first time under this 35-year period. Leveling off in values is noted in the years 2007 – 2012, signifying that the previous 5-year double figure growth rate has now been registered as an overall loss of 6.79%. This is not considered as drastic as residential property losses as registered in America or Europe where drops exceeding 30% had been noted. It is further

noted that as from 2013 property values were again registering increases with the previous 2007 property values, again registered in 2017.

Table5: Affordable Property Rates €/sqm for the Maltese Islands Over the past 15-Year Period

Locality	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	% growth rate Pa 2002-2017	% growth rate Pa 2012-2017
Fgura / Paola / Zabbar	466	575	678	762	928	987	961	948	971	906	893	961	1038	999	1016	1137	4.11%	3.89%
M'Scala	505	601	808	864	1032	1001	984	917	826	948	881	886	980	992	998	1260	3.25%	6.36%
Mosta / Naxxar	524	650	929	967	1149	1242	1176	1147	1154	1105	1167	1196	1180	1337	1443	1545	4.84%	6.15%
San Gwann	557	666	752	969	1251	1092	1100	981	965	1026	962	1111	1076	1022	1152	1558	3.77%	7.31%
Sliema inner prime	883	820	929	1316	1381	1373	1380	1322	1263	1398	1402	1361	1457	1720	1756	2459	4.96%	11.27%
St. Julians	687	724	839	1267	1246	1321	1299	1327	1311	1286	1186	1261	1311	1369	1447	1998	4.54%	9.15%
Swieqi	785	806	948	1058	1430	1473	1378	1367	1418	1348	1443	1399	1376	1535	1539	2070	4.56%	6.48%
Malta	629	692	841	1030	1202	1211	1183	1144	1130	1146	1134	1168	1203	1282	1336	1718	4.36%	7.54%
Trend	660	706	755	808	864	924	988	988	1130	1146	1134	1509	1566	1521	1693	1802	6.94%	7.81%
Gozo	432					857	841	913	988	853	903	916	906	1029	1017	1106	4.87%	4.24%

Source: DHIperiti in-house valuations 2017

Table 5 relating to the period 2002 – 2017, notes the average annual growth of 4.36% pa (Table 5), as reduced from the 35-year registered growth of 6.6% (Table 4). The towns of San Gwann and M'Scala offered a lower annual growth over the past 15-year period, with some other localities witnessing a growth rate higher than 3.98%pa. All regions noted an increase over 2017, although a minimal increase was registered for M'Scala.

Properties located in the South of Malta have always experienced the lowest property values. Tables 4 & 5 note that up to 2007 the lowest property market rate was located in the Fgura, Tarxien, Zabbar, however since 2008 the lowest market rate is being experienced in M'Scala. According to the 2011 Census Fgura, Zabbar & Tarxien have all experienced nominal population growths over the inter-censal period. However M'scala over this inter-censal period has witnessed an 18.3% growth. This is not surprising as this region provides the most affordable properties.

Malta's affordable property annual increases for 2013 at 3%, 3% for 2014 & 6.5% for 2015, following a total drop in value of 6.36% over the years 2007-2012, is to be compared to what is happening over the globe.

To be further noted however, that the affordable property rate in Gozo at €1,106/sqm for 2017 has increased by 8.75% over its 2016 value. It is to be noted that Gozo over the past 15-year period has been subjected to a 4.87% pa increase in value, as compared to Malta which has been subjected to a 4.36% annual increase in value over the same period. The Maltese 2nd home market carries a positive outlook on the Gozo property market, with the Gozo market standing at 64.38% of the Maltese value.

Housing Bubbles & Trend Line.

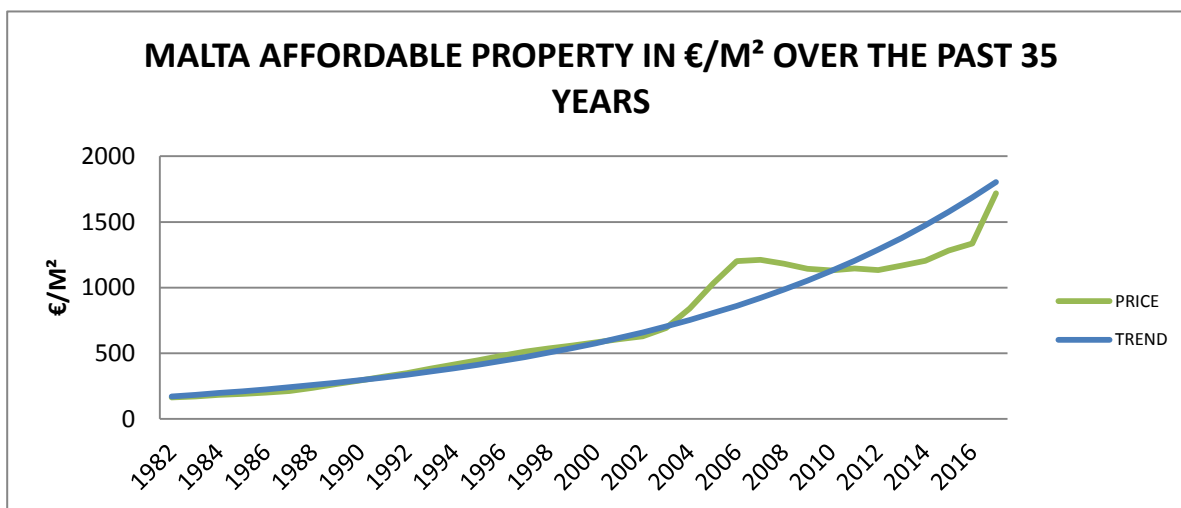
A housing bubble is said to occur if:

Real prices have at least doubled during a 5-year period, table 5 above notes that this has occurred for Malta from 2002 – 2007.

Real prices have increased with at least 50% during a 3-year period. Table 5 again demonstrates this to have occurred from 2002 – 2005.

Thus, Malta's residential market had been subjected to a property bubble as from 2002 up to 2007, correcting itself in 2010. As noted further down in the HAI section, this bubble was not considered too serious, but substantial.

CHART 2 reflects the affordable Maltese property growth rate over the past 35 years, with an average growth rate over this period of 6.6% pa. This figure shows the peak in market prices to have been reached in 2007, with the tailing off in prices commencing in 2008 and then gradually increasing to 2016.



The Trend line plotted over this period as per Chart 2 shows that the property market line coincides in the initial years 1982 – 1997 with the trend line, but underperformed for the period 1997 – 2002 as outlined above. Over the period 2004 – 2008 as per Table 5 the property market had overshot the trend line with the actual value for 2006 standing at €1202/sqm as compared to the expected growth over the past 24 year period, which worked out at €959/sqm. This discrepancy in values signified that a purchase undertaken in 2006 for an affordable property was purchased at a price 36.75% higher than the trend value. On the other hand in 2016 an affordable property is being purchased 21% cheaper than the trend line value as noted in table 5.

Chart 2 now notes that the bust property cycle is again on its upswing, with a housing affordability problem again looming ahead. This, in say 5 years' time, if measures are not taken to counteract this Housing Affordability dilemma. (See HAI section on page 11)

The Maltese Up market Housing Market.

This market is defined as those properties which attract a market rate 2.5 X higher than the affordable market.

The above average affordable Malta house rate of €1,718/sqm is to be compared with the up market residential developments that presently average out at €5,252/sqm, with the top end in the €6,000/sqm bracket, whilst the same up market Gozo rate averages out at €2,000/sqm, as noted in table 6. Furthermore, the annual growth rates of these up market developments have been subjected to growth rates varying from 15% pa down to 9.5% pa, as compared to the comparable growth rate for affordable properties over the same 35-year period at 6.6% p.a.

TABLE 6: SEAFRONT PROPERTY COMPARED WITH INTERNAL PROPERTY OVER AN 11 YEAR PERIOD IN EURO/SQM.

	2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017	
Location	front	int	front	int	front	int	front	int	front	int	front	int	front	int	front	int	front	int	front	int	front	int	front	int
M,skala	1473	1032	1696	1001	1413	985	1186	918	957	826	2307	948	-	881	802	886	693	980	1492	992	2763	998	2118	1260
Sliema	3246	1383	2602	1373	3296	1380	3428	1322	3311	1263	3086	1398	3706	1402	2381	1361	4591	1457	4063	1720	7417	1756	6728	2459
St Julians	1575	1245	2973	1322	2856	1299	2991	1327	2905	1311	4067	1286	1963	1186	2460	1261	2478	1311	4300	1396	5610	1447	4927	1998
Gozo					1705	841	1484	913	988	988	1462	853	1548	903	459	916	0.00	906	2245	1029	1996	1017	1854	1106
Malta	2098	1220	2424	1232	2522	1221	1088	1189	2391	1134	3153	1211	2835	1157	2420	1169	2587	1249	3285	1249	5263	1249	5827	1906

Source: DHiperiti in-house valuations 2017

The prime residential property market, with this related to wealth is not subjected to the same market influences as that of the affordable market. The prime market, which is fixed in demand, is influenced by the same trends as in the luxury retailing. In general, over a long time span luxury prices have been rising every year by an additional 2.6%, compared to general prices, confirming the superior growth rates for Maltese prime properties as noted above. Wealth exists in Malta, providing for the need of a prime residential market, whereby growths are above the mainstream growths. As wealth increases, luxury products and services continue to rise in value, as they are more desirable the more expensive they are, with prime property being the ultimate product.

These up-market developments may be compared to similar developments in Monaco at €56,571.43/sqm, Hong Kong at €41,720.06/sqm, New York at €32,089.48/sqm, London at €27,802.75/sqm, Geneva at €19,865.09/sqm, Singapore at €19,503.19/sqm, Shanghai at €18,135.34/sqm, Paris at €15,171.94/sqm, Beijing at €14,383.71/sqm, Sydney at €14,143.57/sqm, Los Angeles at €13,676.84/sqm, Miami at €10,559.79/sqm, Berlin at €9,588.46/sqm, Tokyo at €9,166.99/sqm, Mumbai at €8,425.42/sqm, Rome at €8,262.50/sqm, Istanbul at €8,176.56/sqm, Melbourne at €7,581.03/sqm, Dubai at €5,147.21/sqm, Sao Paulo at €4,737.64/sqm, Cape Town at €3,989.09/sqm (Source: Knight Frank – The Wealth Report – 2017)(Knight Frank – International Report – 2017)(Numbeo)

The global housing boom appears now to be losing momentum, with most of the Middle East, Latin America, New Zealand and some parts of Asia experiencing either house price falls or a deceleration of house price rises.

Europe, Hong Kong and Canada continue to experience strong price rises, however.

The five strongest housing markets in our global house price survey for the second quarter of 2017 were: Iceland (+21.28%), Hong Kong (+19.27%), Ireland (+13.52%), Canada (+13.08%), and Romania (+8.87%).

During the second quarter of 2017 house prices rose in 28 out of the 43 world's housing markets which have so far published housing statistics, using inflation-adjusted figures. The more upbeat nominal figures, more familiar to the public, showed house price rises in 33 countries, and declines in 10 countries.

The biggest y-o-y house-price declines were in Puerto Rico (-9.59%), Russia (-7.58%), Qatar (-6.25%), Macedonia (-5.99%), and Egypt (-5.32%).

Momentum. During Q2 2017, only 16 of the world's housing markets for which figures are available showed stronger upward momentum, while 26 housing markets showed weaker momentum, according to Global Property Guide's research. The U.S. showed mixed results, with the Case-Shiller index showing stronger momentum, in contrast to the FHFA's index's slightly weaker momentum in Q2 2017 from a year earlier. Momentum is a measure of the "change in the change"; simply put, momentum has increased if a property market has risen faster this year than last (or fallen less). The momentum data show that most housing markets covered in our survey are now slowing.

Inflation-adjusted figures are used throughout this survey. In the case of Kiev, Ukraine, the Global Property Guide adjusts using the official U.S. inflation rate since Ukrainian secondary market dwelling sales are denominated in U.S. dollars.

Analysis by continent: Europe's house price boom continues

House prices continue to rise in most of Europe but the momentum is weaker. Six of the ten strongest housing markets in our global survey are in Europe and house prices have risen in 18 of the 22 European housing markets for which figures were available during the year to Q2 2017. However, only 10 European housing markets showed stronger upward momentum during Q2 2017, while the 12 markets showed weaker momentum.

Iceland is now the strongest housing market in our global survey, amidst spectacular economic growth. Nationwide house prices surged 21.28% y-o-y in Q2 2017, sharply up from last year's 6.34% growth and the highest increase since Q4 2005. This surge is attributable to strong demand, coupled with limited housing supply, especially in the capital city of Reykjavik. Quarter-on-quarter, house prices increased 5.76% during the latest quarter.

Ireland's house prices continue to surge, fuelled by robust economic growth. Residential property prices were up by 13.52% during the year to Q2 2017, a sharp increase from last year's 4.57% rise. On a quarterly basis, Irish house prices increased 4.7% in Q2 2017.

Romania's housing market continues to perform well, with the average selling price of apartments rising by 8.87% during the year to Q2 2017. Quarter-on-quarter, Romanian house prices increased 1.95% during the latest quarter.

Sweden's housing market remains strong, despite the introduction of new amortization requirements in June 2016 that aim to curb speculative demand. The nationwide house price index surged 7.5% during the year to Q2 2017. House prices increased 2.34% q-o-q during the latest quarter.

The Netherlands' housing market continues to grow stronger, with the average purchase price of all dwellings rising by 7.44% during the year to Q2 2017, the strongest rise in more than 16 years. On a quarterly basis, house prices rose slightly by 0.68% in Q2 2017.

Other strong European housing markets included **Germany**, with house prices rising by 6.96% during the year to Q2 2017, followed by the **Slovak Republic** (6.02%), **Norway** (4.71%), **Riga**, **Latvia** (4.68%), **Tallinn**, **Estonia** (4.25%), and **Portugal** (3.47%).

Somewhat weaker European housing markets included **Montenegro** with house prices rising by 2.8% y-o-y in Q2 2017, **Turkey** (1.63%), **Vilnius**, **Lithuania** (1.48%), **Switzerland** (1.1%), **Spain** (0.85%), **Finland** (0.41%), and **the UK** (0.22%).

Europe's weakest housing markets. **Russia** remains the weakest housing market in Europe and the second worst performer in our global survey - but things are getting better. Nationwide residential property prices plunged by 7.58% y-o-y in Q2 2017, the smallest decline since Q4 2014. Russia's house prices fell by 1.44% during the latest quarter.

Macedonia's housing market is struggling, with the nationwide average price of dwellings falling by 5.99% during the year to Q2 2017, in contrast with the y-o-y rise of 0.84% the previous year. On a quarterly basis, house prices increased slightly by 0.13% during the latest quarter.

Ukraine's housing market remains depressed, even if the conflict with Russia officially ended in 2015. Kiev's house prices fell by 5.13% during the year to Q2 2017, the fifteenth consecutive quarter of house price falls. House prices fell 1.67% quarter-on-quarter in Q2 2017.

Greece's decade-long housing market bust is not yet over, with the average price of dwellings falling by 2.53% during the year to Q2 2017, worse than its 1.55% y-o-y price decline in Q1 2016. Quarter-on-quarter, house prices fell by 1.58% in Q2 2017. House prices have been falling in Athens since 2008.

Asia: Hong Kong and the Philippines are among the best performers in our global house price survey

Hong Kong was the world's second strongest housing market during the year to Q2 2017, despite higher stamp duties for non-first time homebuyers. **The Philippines** also had strong price rises, continuing the pattern of the past six years, amidst continuing economic growth. **China**, **Japan**, and **Taiwan** posted more modest house price rises.

Hong Kong's housing market is now accelerating, despite the higher stamp duties for non-first time homebuyers introduced in November 2016. Residential property prices surged by 19.27% during the year to Q2 2017, in sharp contrast with the y-o-y decline of 10.51% during the same period last year. House prices rose 4.24% during the latest quarter.

The Philippines' housing market continues to grow stronger, with the average price of 3-bedroom condominium units in Makati CBD rising by 8.45% during the year to Q2 2017, up from the previous year's 7.94% rise. Housing prices increased 2.81% during the latest quarter. Makati CBD property prices have soared more than 49% from Q1 2011 to Q4 2016, amidst rapid economic growth.

In **China**, house prices continue to rise, albeit at a much slower pace, as new regulatory and monetary tightening policies are starting to impact developers and speculative buyers. In Shanghai the price index of second-hand houses rose by 6.76% during the year to Q2 2017, a sharp slowdown from a y-o-y rise of 20.73% in Q2 2016. During the latest quarter, house prices in Shanghai increased slightly by 0.6%.

In **Japan**, the average price of existing condominiums in Tokyo rose by 3.54% during the year to Q2 2017, from y-o-y rises of 2.93% in Q1 2017, 9.32% in Q4 2016, 6.56% in Q3 2016, 5.7% in Q2 2016, and 5.45% in Q1 2016. Residential property prices in the capital city increased 0.37% during the latest quarter.

Taiwan's housing market is now improving, amidst modest economic growth. The nationwide house prices rose slightly by 0.37% during the year to Q2 2017, in contrast with a y-o-y decline of 4.58% last year. Quarter-on-quarter, house prices increased 1.28% in Q2 2017.

Other Asian housing markets have lost steam. House prices fell in four of the nine Asian markets for which figures were available during the year to Q2 2017.

Singapore's housing market is still weak. House prices fell by 3.23% during the year to Q2 2017, after a 2.16% y-o-y decline during the same period last year. It was the fifteenth consecutive quarter of house price falls. House prices fell by 0.19% q-o-q during the latest quarter.

Thailand's property market continues to lose steam. Nationwide house prices fell 2.8% during the year to Q2 2017, in contrast to a y-o-y rise of 4.29% the previous year. House prices increased slightly by 0.68% q-o-q in Q2 2017.

Indonesia's housing market remains sluggish, despite a booming economy. Residential prices in the country's 14 largest cities fell by 1.1% during the year to Q2 2017, the tenth consecutive quarter of y-o-y declines. House prices increased slightly by 0.5% q-o-q during the latest quarter.

South Korea's housing market is also fragile, with the nationwide housing purchase price index falling slightly by 0.67% y-o-y in Q2 2017, in contrast to the rise of 1.07% a year earlier. House prices rose by 0.67% q-o-q during the latest quarter.

U.S. house price rises remains steady, Canadian house prices surging

The pace of price-rises in the **U.S.** housing market remains steady amidst bullish homebuilder sentiment. **Canada** meanwhile is in the middle of a house price boom.

The S&P/Case-Shiller seasonally-adjusted national home price index rose by 4.07% during the year to Q2 2017 (inflation-adjusted), slightly up from a y-o-y rise of 3.86% in Q2 2016. House prices increased 2.62% during the latest quarter. This was supported by Federal Housing Finance Agency's seasonally-adjusted purchase-only **U.S.** house price index, which rose by 4.65% y-o-y in Q2 2017 (inflation-adjusted), from y-

o-y rises of 3.72% in Q1 2017, 4.44% in Q4 2016, 5.11% in Q3 2016, and 4.81% in Q2 2016. The index increased 1.07% q-o-q in Q2 2017.

Canada's house prices are rising strongly, despite repeated market-cooling measures. House prices in the country's eleven major cities surged by 13.08% during the year to Q2 2017, up from a y-o-y rise of 5.67% in the previous year and the biggest annual increase since Q3 2006. House prices increased 5.69% q-o-q in Q2 2017.

Middle Eastern housing markets have lost steam

House prices fell in all four Middle Eastern housing markets for which figures were available during the year to Q2 2017.

Qatar's housing market is very weak, amidst a sharp economic slowdown and the ongoing diplomatic crisis in the region. The nationwide real estate price index dropped 6.25% during the year to Q2 2017, a sharp turnaround from the previous year's rise of 1.75%. However property prices increased 1.1% q-o-q during the latest quarter.

Egypt remains weak, with the nationwide real estate index falling by 5.32% during the year to Q2 2017, an improvement from the annual decline of 11.2% a year earlier. House prices fell by 3.92% during the latest quarter.

Dubai's residential property prices fell 2.51% during the year to Q2 2017, an improvement from the price decline of 6.96% a year earlier. But it was the tenth consecutive quarter of y-o-y house price falls. House prices fell by 0.06% during the latest quarter.

Israel's decade-long house price boom could now be over, as government cooling measures intensify. The nationwide average price of owner-occupied dwellings dropped 1.93% y-o-y in Q2 2017, a sharp turnaround from the annual rise of 5.31% in Q2 2016. House prices fell by 4.25% q-o-q in Q2 2017.

Pacific. New Zealand slowing sharply

New Zealand's housing market is now slowing sharply, mainly due to new lending restrictions introduced in October last year, and worsening affordability. The nationwide median house prices rose by 3.99% during the year to Q2 2017, a sharp slowdown from y-o-y growth of 10.43% the previous year. House prices dropped 2.49% q-o-q during Q2 2017.

Latin America's housing markets remain weak

Brazil's house prices continue to fall, albeit at a slower pace, amidst gradually improving economic conditions. In Sao Paulo, house prices fell by 2.15% during the year to Q2 2017, an improvement from a y-o-y decline of 7.59% in Q2 2016. Quarter-on-quarter, house prices rose slightly by 0.05% in Q2 2017, the first quarterly increase after nine consecutive quarters of decline.

Chile's housing market remains weak, amidst a slowing economy. The average price of new apartments in Greater Santiago increased by 2.11% during the year to Q2 2017, from a y-o-y rise of 2.78% during the same period last year. House prices increased by 0.79% during the latest quarter (Q2 2017).

Mexico's housing market is cooling sharply. The nationwide house price index rose by a meagre 0.73% during the year to Q2 2017, a sharp slowdown from the y-o-y rise of 5.32% the previous year. However on a quarterly basis, house prices actually increased 3.02% in Q2 2017.

Puerto Rico is unexpectedly now the weakest housing market in our global house price survey, amidst continued economic woes, high unemployment, massive emigration, and a near-catastrophic national debt crisis and credit rating downgrades. The seasonally-adjusted purchase-only house price index dropped 9.59% during the year to Q2 2017, in sharp contrast with the y-o-y rise of 3.26% a year earlier. House prices fell by 2.89% q-o-q in Q2 2017.

TABLE 7 - YEAR ON YEAR % PRICE CHANGE - COMPARISON						
COUNTRY	% CHANGE 2013	% CHANGE 2014	% CHANGE 2015	% CHANGE 2016	% CHANGE Q1 2017	% CHANGE Q2 2017
DUBAI	5.38	23.73	-14.09	-1.64	-3.69	-2.51
ESTONIA	12.46	20.85	4.56	7.36	4.76	4.25
IRELAND	3.45	7.8	6.53	8.15	8.91	13.52
U.K.	1.47	8.95	4.36	3.28	1.84	0.22
TURKEY	4.65	7.51	14.32	3.40	1.84	1.63
ICELAND	2.00	6.7	6.93	12.53	16.01	21.28
ISREAL	5.38	6.43	5.17	5.36	-0.54	-1.93
LATVIA	-	4.71	2.48	5.85	5.13	4.68
LITHUANIA	-	4.62	3.68	5.07	3.56	1.48
NEW ZEALAND	6.4	3.93	3.24	9.47	7.26	3.99
NETHERLANDS	-	3.89	3.95	4.37	7.11	7.44
CANADA	1.61	3.31	4.52	10.66	11.7	13.08
BRAZIL	-	3.29	-7.37	-5.51	-3.75	-2.15
U.S.A.	9.31	3.08	5.29	3.71	3.37	4.07
CROATIA	-17.6	2.64	3.8	2.13	-	-
SOUTH AFRICA	1.3	1.91	0.56	0.32	-	-
PORTUGAL	-	1.86	3.99	3.88	4.18	3.47
SWITZERLAND	-	1.48	1.83	-0.94	-1.69	1.10
NORWAY	-	1.32	1.99	6.38	7.38	4.71
ROMANIA	-	1.12	7.74	11.01	7.61	8.87
SLOVAKIA	-	0.42	1.62	6.00	6.61	6.02
SPAIN	9.96	-4.15	-1.71	0.10	0.41	0.85
RUSSIA	3.46	-5.68	-15.35	-9.27	-8.33	-7.58
GREECE	-9.69	-7.08	-4.91	0.03	-3.13	-2.53
UKRAINE	4.62	-10.45	-2.76	-3.34	-5.05	-5.13
AVERAGE INCREASE	3.03	3.69	1.61	3.53	3.11	3.43

Housing affordability index (HAI)

The Housing Affordability Index (HAI) table 8, as defined in the sub-script to this table has been calculated for the period 1982 - 2017. For a 3-bed/r median apartment, the HAI has since 2007 at 74 risen to 135 in 2014, the best year, lowering worryingly to 108 as at 2017. The worst for this period stood in 1997 at 65, coinciding with the introduction of VAT in 1995. However, the declining value in 2017 is due to the buy to let bonanza which due to spiraling rental values is thus increasing the market value of property, which over the period 2016 – 2017, over 1-year increased by 28% in value.

Over the years it has always appeared affordable to purchase a 2 bed/r median apartment with the HAI peaking to 123 (1987) and dipping to 101 (1997). In recent years from 2008 onwards up to 2014 it has improved from 125 up to 200 for 2014, dipping to 159 as at 2017.

The above HAI index is to be compared to France, where the HAI was 100 in 1992, increasing steadily to 160 in 1999, then dipping to 140 by 2003.

TABLE 8: HOUSING AFFORDABILITY INDEX FOR THE MALTESE ISLANDS – HAI

Year	Mortgage Monthly Payment		Medium Monthly Family Income**	Qualifying Monthly Income		Ratio of Qualifying Family Income		HAI		House Price: Earnings Ratio
	3-bed/2-bed/r			3-bed/2-bed/r		3-bed/2-bed/r		3-bed/2-bed/r		
1982	€ 140	€ 56	€ 229	€ 559	€ 391	1.30	0.91	77	110	4.28
1987	€ 161	€ 114	€ 564	€ 643	€ 457	1.14	0.81	88	123	4.23
1992	€ 252	€ 168	€ 745	€ 1,006	€ 531	1.35	0.90	74	111	5.27
1997	€ 384	€ 247	€ 995	€ 1,537	€ 988	1.55	0.99	65	101	5.80
2002	€ 394	€ 263	€ 1,215	€ 1,575	€ 1,057	1.29	0.86	77	116	5.60
2006	€ 606	€ 429	€ 1,665	€ 2,119	€ 1,500	1.27	0.90	79	111	7.22
2007	€ 673	€ 478	€ 1,738	€ 2,152	€ 1,670	1.35	1.01	74	104	6.97
2008	€ 615	€ 410	€ 1,798	€ 2,152	€ 1,435	1.20	0.80	84	125	6.58
2009	€ 478	€ 319	€ 1,872	€ 1,673	€ 1,118	0.89	0.60	112	168	6.11
2010	€ 472	€ 315	€ 1,914	€ 1,652	€ 1,102	0.86	0.58	116	174	5.99
2011	€ 469	€ 315	€ 1,959	€ 1,641	€ 1,103	0.84	0.56	119	179	5.29
2012	€ 448	€ 305	€ 2,058	€ 1,568	€ 1,067	0.76	0.52	132	192	5.05
2013	€ 461	€ 314	€ 2,144	€ 1,613	€ 1,099	0.75	0.51	133	196	4.99
2014	€ 472	€ 322	€ 2,237	€ 1,652	€ 1,127	0.74	0.50	135	200	4.93
2015	€ 504	€ 346	€ 2,325	€ 1,764	€ 1,211	0.76	0.52	132	192	5.28
2016	€ 520	€ 358	€ 2,354	€ 1,820	€ 1,253	0.77	0.53	130	189	5.44
2017	€ 668	€ 453	€ 2,521	€ 2,338	€ 1,585	0.93	0.63	108	159	6.25

Source: DHIperiti in-house valuations 2017

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.

*****the median family income is factored at 1 for 1982, and by 1.35 for 2002 increasing to 1.65 for 2012 to account for the effect of the 2nd wage earner.***

A long-term 35 Year average level of house prices to income ratio is given at 3.5. The UNCHS (habitat) indicators mention the price earnings ratio desirable range lie between 2 & 6.

The affordability for first time buyers over this period has varied slightly as noted in table 8 averaging out at 89.6 for a 3 bed/r apartment and at 130.75 for a 2 bed/r apartment. This occurred, despite the increase in house prices over the period at 6.49%pa, as compared to the reduced wage growth at 3.75% pa over the same period.

The HAI was kept at a relatively stable level over this period, due to the following: household income being supplemented by the provision of a greater reliance on the: wage of the 2nd wage earner, which in fact signifies 7.1% p.a. increase in the household's earnings over the period. A lower mortgage rate from 8% in 1982 down to 3.10% in 2015, a higher repayment period from 25 years in 1982 up to 40 years in 2015, together with a reduction in the floor area purchased, as noted earlier on.

Over the past 1982-2007 the HAI averaged out at 75.8, a 3 bed/r apartment was unaffordable for the median Maltese household, whilst a 2 bed/r apartment over the same period with an average HAI of 110.8 was affordable. Now the Maltese family is known for its house pride and over this period, the foreclosures are considered minimal. The answer to the above dilemma probably lies in the industrious characteristics of the Maltese worker, who to own his residence over this period worked overtime to cap his wage packet by:

$100/75.8 = 1.32$ i.e. over this 32-year period an affordable residence averaged 32% more expensive, than could have been purchased by the median wage earner. Table 8 notes this to have been reversed since 2009, when the HAI then reads 112 onwards.

The present low mortgage rate era and decline in property values as anticipated up to 2014 signifies that for Malta, the global credit crunch has been beneficial to the first time homeowners. An improvement in the quality of life of the Maltese family is to occur, as a main job should be sufficient to own one's home.

The price earnings ratio noted in table 8 above, has increased gradually from 4.28 in 1982 peaking in 2006 at 7.22, before declining to 4.93 in 2014. Presently for 2017 this now reads 6.25. These ratios are considered high, as a long-term 35-Year average level of house prices to incomes ratio is given at 3.5. The UNCHS (habitat) indicators mention the price earnings ratio desirable range to lie between 2 & 6.

Referring back again to property bubbles, a little property bubble will occur if the price earnings ratio is less than 6 and a serious bubble will occur if higher than 10. As the highest price earnings ratio stood at 7.22 in 2006, Malta's property bubble was characterized as substantial but not serious.

Table 9 gives a comparison between the price per square metre for apartments and the price earnings ratios of island states similar to Malta. Cyprus at 5.04 has presently the best affordable characteristic, however probably marred by the highest mortgage rate at 4.48%. The price earnings ratio for Singapore has varied from 3.6 in 1995 up to 4.8 in 2009 rising over the years to its now high 22.85. Here the Government by possessing most of the land provides most of the housing requirements together with

the provision of grants. Malta on the other hand has gone for land speculation via planning measures, considered as having boosted the economy.

TABLE 9: HOUSING DATA 2017 FOR SIMILAR STATES.

	Market Rate euro/sqm	Median monthly Individual income euro	Mortgage rate	Price: earnings ratio.
Malta	2,179	1,117	3.65%	9.75
Cyprus	1,287	1,249	4.48%	5.15
Hong Kong	17,890	2,190	2.28%	40.85
Singapore	12,012	2,640	2.37%	22.75

Source: Numbeo (Updated 12th October 2017)

Housing affordability nowadays may be achieved by educating the first time buyer in restraining his housing requirements to cause less strain on his resources. Prospective homebuyers should learn the new low inflation housing market game by moderating their borrowings and house price bids. Interest rates are not to remain at this low end for long, probably stabilizing again at 5% to 6%. A rise of 1% to 3% over the next years would raise mortgage costs by 16% for a 1% mortgage rate increase, 33.33% for a 2% mortgage rate increase, and 52.75% for a 3% mortgage rate increase. What happens to the personal finances of those who borrowed large sums relative to their income?

Furthermore, with the present low inflation climate the monthly paybacks are going to erode far slower than previously in the high inflation era, with a consequent lowering of the household's quality of life. A prospective homebuyer should possibly look out for a price-earnings ratio closer to the long-term average of 3.5 than the present value in the 5 region.

Further to the above mortgage payments, expenses accumulate due to the normal present 10% - 20%+ deposit anticipated, down from the 20% deposit requested in the earlier years. To this deposit purchase expenses are added onto, which includes for stamp duty + notaries and survey fees.

This tallies with the Irish experience as quoted, that by focusing on the costs of mortgage repayments, measures such as 'housing expenditure to income ratio' ignore the deposit, which is often an important barrier to housing affordability. This notes that to accumulate the 10% deposit to purchase the average new house in 2016; an individual must save 88.5% of the median annual household wage, up from 62% in 1989. In Malta's case in 1982 to purchase the 20% deposit + further expenses as outlined, still required 100% of the then average annual wage.

The above, further notes that a new affordability measure has been introduced. Presently the mortgage payback amount appears affordable, what is not presently affordable are the forward payments to be undertaken as noted above. These payments are noted as being a hindrance towards getting onto the property ladder.

The measure to be extended whereby the 3.5% stamp duty for properties less than 150,000euro in price, will again definitely ease the present affordability outlined above, this signifies a 20% reduction in the required forward payment necessary to purchase the 1st time residence. This measure at some point will have to be retracted, for if not it will stimulate an increase in the future asking prices of property, thus nullifying if desired effect of improving affordability.

Renting nowadays could also be an option, with the rentals presently higher than mortgage monthly payments, as noted in Rental Matters section, but without the initial expenses to be undertaken.

Residential development permits

The surge in the number of residential permits issued as from 1995 onwards noted in tables 10a& 10b, being well above the supply required should surely have righted any affordability problem?

TABLE 10a: DEVELOPMENT PERMITS FOR DWELLINGS OVER THE INTERCENSAL PERIODS

YEAR	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
APPROVED DWELLING	4229	3351	3411	3004	2273	2369	4180	5481	6128	6707	9081	10409	11343	6836	5298	4444	3955	2064	2705	2937	3947	7508

Table 10a shows a slowdown over the residential permits issued up to the year 2000. This was followed by a surge from 2001 onwards, as increasing to 11,343 in 2007, Table 10a then notes that the number of permits for 2006 increased to 10,409 permits and then topped to 11,343 permits in 2007, however leveling off to a more sustainable level of 6,836 & 5,298 for 2008 & 2009 respectively as noted in table 10a. From 2010 onwards the number of permits has dropped to a figure below the national supply requirement bottoming out at 2,705 for 2013. In 2014 the number of permits increased to 2,937 permits, which notes an increase reoccurring which is necessary to reach over a period the 4,500-5,000 mark, otherwise a deficit would again stimulate a shortage in the market with spiraling of property prices to re-occur. In 2016 development permits plummeted to 7508.

TABLE 10b: RESIDENTIAL UNITS AS APPROVED BY MEPA, TOGETHER WITH COMPLIANCE CERTIFICATES BEING ISSUED:

YEAR	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Number of total Units	5481	6128	6707	9081	10409	11343	6836	5298	4444	3955	3064	2705	2937	3947	7508
Apartments approved		4548	5265	7539	8961	10252	6184	4616	3736	3276	2489	2062	2221	3019	6316
Compliance Certificates	2552	2719	4975	3884	3400	7169	7796	8055	7784	6438	6314	6703	6948	7358	
% Completed	47%	44%	74%	43%	33%	63%	114%	152%	175%	163%	206%	248%	237%	237%	
Source: PA															

Table 10b indicates that the take-up of residential units has fallen from 2/3's of the supply as at 2001 falling to 1/3 of the supply as at 2006. The number of compliance certificates as issued by MEPA as noted in table 10b, gives a further indication of the excess supply being produced in the bubble years 2002-2006. On the other hand from 2007 onwards, the % of compliance certificates issued increased, even surpassing the 100% mark as from 2008 onwards. This is an indication of a take up of the surplus property produced during the bubble years, when the market produced a lower supply than necessary. Over this period of low supply, the previous oversupply aided in keeping the market prices in check, even decreasing over the period 2008-2013, as noted from table 5.

The increase in the number of residential permits was witnessed in the apartment/maisonette types. Apartments had grown from a base of 64% in 2000 to 90% in 2007, whilst terraced housing had decreased from 10% to 2.25% over the same period. On the other hand terraced housing for 2014 increased to 6.95%, whilst apartments decreased to 75.6%. The number of apartments on the other hand in 2014 was a $\frac{1}{5}$ of those granted in 2007.

In 2001, the average number of residential units per permit issued stood at 3.2 increasing to 4.2 by 2005, decreasing again to 3.0 in 2010. The above signifies moving away from the traditional low-density terraced house to the more highly-dense units comprising maisonettes and apartments, although a decrease in apartments/maisonettes due to the present oversupply is being witnessed.

Table 10b indicates that over the past 2003 - 2007 period a higher supply had been provided, with possibly the increase in demand not being matched. This, as evidenced by the number of annual property contracts undertaken, noted in table 11A. This prior to 2014, presently stood below the 12,000 mark, notwithstanding the present property slump which does not appear to have affected the sales market. These annual property contracts include for not only the sale of residential but also commercial premises.

The number of marriages over the period has averaged out at 2250 annually, although a surge in marriages at 3,034 is noted for 2016. This, together with separations/annulments, which presently average at 725 annually creates a further strain on additional accommodation required. Further the household size has been reducing from 3.12 persons per household in the 1995 census, down to 2.9 persons per household in the 2005 census and to 2.67 persons per household in the 2011 Census.

Considering these figures together with 2nd home and foreign buyer purchases excluding EU citizens in the 870 region as noted from table 16, the demand figure does not appear to be too far off from the above supply figure of 4,750 units annually, as noted above. Thus in the coming years it is anticipated that building permit applications for residential units will again revert to the pre-2002 figures.

TABLE 11A: PROPERTY CONTRACTS, AVERAGE PRICES OF TOTAL AND MARRIAGES/SEPARATIONS.

Year	No of annual Contracts	Average Price €	% of Gross National Income 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	7,837	€71,031	12.6	2240	375
2005	10,610	€97,004	20.8	2374	
2006	10,252	€82,068	16.2	2536	447
2007	12,856	€78,714	18.2	2479	
2008	11,505	€77,287	14.9	2482	738
2009	11,904	€69,500	13.9	2353	731
2010	11,620	€72,057	13.1	2596	737
2011	12,246	€73,361	13.5	2562	923
2012	11,845	€77,170	13.3	2823	1,229
2013	11,140	€84,826	13.1	2578	1,206
2014	15,087	€89,189	17.16	2871	1,220
2015	14,942	€102,005		3002	1,351
2016				3034	1,326

CTD Property counts MOF as from 2007

Table 11A further gives an indication of the bubble that the property market has passed through. The highest average contract price stood at €97,004 for 2005. This then slid down to €69,500 in 2009 and slowly picked up until 2015 where it stands at €102,005. The number of contracts witnessed for 2015 at 14,942 the second highest undertaken over the past 33-year period after 15,087 for 2014, is in sync with Governments 1st buyers' incentives undertaken. The average contract price quoted in table 11A includes for all property types mainly residential, business, garages except for others, which includes for land, redemption of ground rents.

Table 11B now shows the number of building contracts undertaken and average value of Maltese Purchased Property Types over the years 2008 – 2015, a comparison of foreign bought property for the latest year is also included.

TABLE 11B: BUILDING CONTRACTS UNDERTAKEN & AVERAGE VALUE FOR MALTESE BOUGHT PROPERTY WITH A COMPARISON OF FOREIGN BOUGHT PROPERTY FOR THE LATEST YEAR										
YEAR	2008		2011		2014		2015		FOREIGN BOUGHT PROPERTY - 2015	
PROPERTY TYPE	NO. OF CONTRACTS	AVERAGE VALUE	NO. OF CONTRACTS	AVERAGE VALUE	NO. OF CONTRACTS	AVERAGE VALUE	NO. OF CONTRACTS	AVERAGE VALUE	NO. OF CONTRACTS	AVERAGE VALUE
BUSINESS	188	€ 56,459.47	134	€ 88,942.19	216	€ 77,851.24	200	€ 100,621.06	1	€ 325,000.00
GARAGE	2951	€ 17,017.47	2932	€ 17,807.00	3030	€ 21,038.89	2848	€ 23,910.50	115	€ 15,283.46
CARSPACE	138	€ 7,948.92	154	€ 9,926.18	114	€ 8,682.46	105	€ 20,908.00	26	€ 36,220.94
AIRSPACE	729	€ 25,162.47	815	€ 24,093.05	831	€ 36,545.53	993	€ 41,705.56	49	€ 89,287.76
BUNGALOW	12	€ 390,251.11	19	€ 439,944.64	14	€ 317,973.57	18	€ 396,490.36	1	€ 660,000.00
DAR	785	€ 132,412.39	1026	€ 97,633.18	1355	€ 131,039.21	1368	€ 140,898.72	153	€ 292,232.16
FARMHOUSE	42	€ 211,819.75	58	€ 129,461.35	42	€ 173,950.52	60	€ 232,448.28	3	€ 555,000.00
FLAT/APARTMENT	2618	€ 103,904.06	2725	€ 96,631.29	3821	€ 105,931.95	3850	€ 117,727.62	670	€ 252,330.42
MASOINETTE	757	€ 107,520.32	795	€ 99,067.43	1087	€ 114,417.10	1029	€ 115,044.50	89	€ 151,801.91
MEZZANIN	125	€ 50,047.28	153	€ 60,009.81	219	€ 63,505.60	241	€ 73,451.70	4	€ 78,250.00
PENTHOUSE	230	€ 123,186.66	310	€ 117,039.93	438	€ 122,311.06	452	€ 127,110.66	100	€ 275,458.43
PLOT OF LAND	1276	€ 42,888.46	1429	€ 34,368.16	1656	€ 45,915.94	1594	€ 59,111.10	21	€ 79,327.66
SEMI DETACHED VILLA	16	€ 344,317.60	43	€ 325,518.19	38	€ 392,263.24	59	€ 381,707.28	4	€ 544,500.00
TERRACED HOUSE	86	€ 179,275.10	136	€ 159,261.48	208	€ 193,299.90	192	€ 177,315.90	22	€ 228,016.50
VILLA	29	€ 530,173.73	66	€ 327,939.98	90	€ 320,298.90	72	€ 394,330.61	14	€ 851,856.30

Source: Inland Revenue - CTD Property Counts - Jan 2016

Vacant dwellings

The number of vacant dwellings, as at 2011 (Census), stood at 71,080, of these 41,232 were completely vacant, whilst 29,848 were used seasonally or as a secondary residence, up from the 2005 value of 53,120, and then as compared to the 1995 value of 35,723. In 1995, 23% of total dwellings were vacant, whilst in 2005 this increased to 27.6% of 192,314 units available, increasing to 31.7% of 223,625 total units available.

More than half of unoccupied dwellings (53.0 per cent) consisted of flats, apartments or penthouses, while terraced houses, townhouses, maisonettes or ground floor tenements followed with 26.2 per cent and 15.5 per cent respectively. In addition, half the unoccupied dwellings were in a good state of repair while 6,989 either needed serious repairs or were in a dilapidated form. Another 6,937 dwellings were in shell form.

Table 12 (Census, 2011), shows that over the censial periods from 1861 to the present date, vacant dwellings were always high for the Maltese Islands. The highest stands in 2011 at 31.7%. Double figure

percentages exist for all censuses except for 1957, which strangely gives this at 4%, as noted in table 12. This is due to the building devastation as undertaken during the 2nd World War period 1940-1942.

TABLE 12: VACANCY RATES OVER THE VARIOUS MALTESE CENSUS'S

YEAR	1861	1881	1891	1901	1911	1921	1931	1957	1967	1985	1995	2005	2011
%	25	29	20	20	22	19.9	19.4	4	14.9	19.2	23	27.6	31.7

Thus, a high property vacancy rate, which is not limited solely to Malta, but is also even noted as being a Mediterranean characteristic as noted in table 13, may be considered to have more of an adverse effect on our surroundings and built environment than on the proper functioning of the property market.

TABLE 13: VACANCY RATES OVER MEDITERRANEAN COUNTRIES.

COUNTRY	CYPRUS	GREECE	MALTA	PORTUGAL
% VACANCY RATE	23.1	35.44	31.7	29.5

Rental matters

This is a sorely debated point; has the releasing of a number of rental premises at market rates been beneficial to the better workings of the affordable property market?

TABLE 14: % NO. OF DWELLINGS BY OWNERSHIP

Year	owned	Free of charge	Rented furnished	Rented unfurnished
2011 (Census)	77.0%	3.0%	5.0%	15.0%
2005 (Census)	75.2%	2.7%	3.1%	19.0%
2002 (NSO)	70.0%	3.8%	2.6%	23.6%
1995 (Census)	68.0%	3.69%	2.49%	25.82%

Rental amounts for both furnished and unfurnished housing, as of the 1985 to 2011 census, are given in Table 15 below. It is further to be noted that the % of the rental houses has slid down from 76.9% as per the 1948 census to the 2011 Census percentage at 23.0%.

TABLE 15 - COMPARISON 1985-2011 Census Reports									
Census year	€0 - €199.99	€200 - €499.99	€500 - €699.99	€700 - €1,499.99	€1,500 - €5,999.99	€6000 - €9,999.99	€10,000 or more	TOTAL Rentals*	% of total residences
1985	39657	2617	1394	-	-	-	-	46,814	46.1%
1995	27015	3275	808	1766	-	-	-	37,271	32.0%
2005	18015	3890	1,416	1,452	3987	-	-	28,760	24.8%
2011	12,503	5752	1,518	2,191	7,251	824	306	30,345	23.0%
*includes for free accommodation									

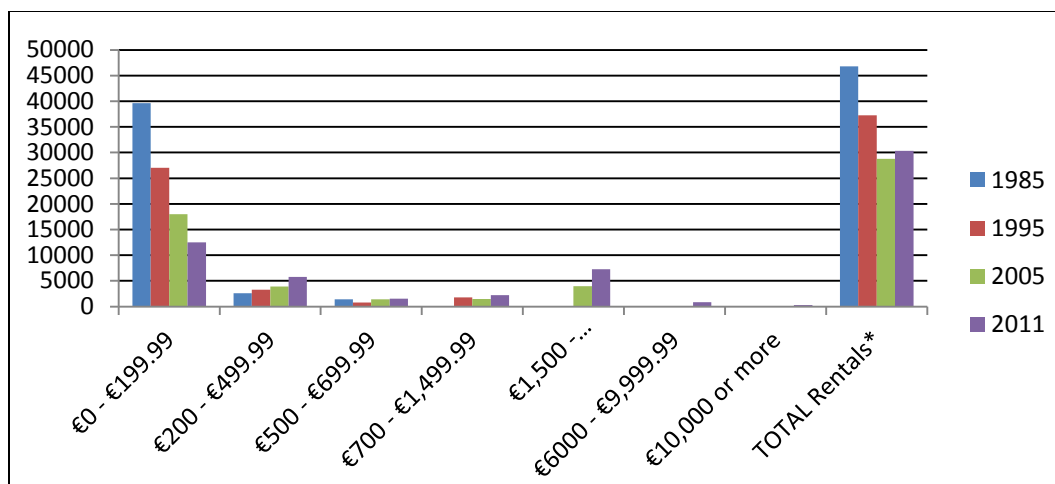


CHART No. 4 – DISTRIBUTION ON RENTAL AMOUNTS WITHIN THE CENSAL PERIODS 1985-2011

*includes for free accommodation

Although from above table 15 the present rental marketing 2011 accounts for under a ¼ of the total housing tenure, The median annual rent paid by those residing in a rented furnished dwelling stood at €3,537, compared to €186 for unfurnished dwellings. Another 25.0 per cent of members paid a rent exceeding €4,800 for their furnished dwelling. In Gozo and Comino, the median rent paid for unfurnished dwellings (€200) was higher than that paid in Malta (€186), while the opposite emerged for furnished dwellings, where the rent paid in Malta (€3,600) was significantly higher than that paid in Gozo and Comino (€2,520).

A total of 141,140 occupied dwellings were located on mainland Malta, while another 11,630 dwellings were recorded in Gozo and Comino. In total, household members in 56,296 dwellings paid some form of rent or emphyteusis to a landlord. Of these 71.2 per cent were private landlords, while the rest paid either the government (26.2 per cent) or the Church (2.6 per cent). Further, all rental agreements have now to be undertaken via a written contract, whereby previously even a verbal contract sufficed.

Rent paid varied significantly by locality, with the largest rents for unfurnished dwellings in Malta being observed in Swieqi, St Paul's Bay and Marsaskala while the highest rates for furnished property were recorded in Swieqi, Ħal Lija and St Julian's. In Gozo and Comino, the highest rates for furnished and unfurnished dwellings were recorded in Ta' Kercem and Qala respectively.

On the other hand, Table 15 outlines the present monthly rents payable for free and unencumbered apartments. The free rental market should be here to stay with the recent Rent Laws Act X of 2009 that came into force on 19 June 2009. This Act has righted Act 31 of 1995, as now all pre-1995 leases over a period will revert to their open market rental levels. This was not the case for the 1995 Act, whereby previous leases to this date were still regulated by the outdated tied rental regulations. This signifies that uplift will occur over a transition period for existing leases to the open market rental of the previously tied rental market. The 2009 Act is further more exhaustive than any previous Acts, as this relates not only to main residences but embraces the whole tied rental market mainly, summer residences, garages & clubs and commercial premises.

A restricted security of tenure is still included whereby a tenant's spouse not legally separated may linger on indefinitely, together with any natural or legal child of the tenant who has been living with

tenant as on the 1st June 2008 and continued up to death of tenant, this date also refers to any person living with tenant. In some particular instances a three/five, year lease extension on demise is also possible.

The minimum rental amount is imposed at €202.34 per annum, unless agreed otherwise. The rent shall then be increased on a 3-yearly basis according to the index of inflation, with the next increase being due as on the 1 January 2019. On noting this restricted security of tenure still in existence, it appears that premises may take a further period possibly varying between 20 years and 35 years prior to revering to open market conditions.

An amendment occurring to the repairs and maintenance undertaking, now imposes external ordinary maintenance to be within the tenant's remit. If the landlord undertakes any structural repairs then the rental amount may be increased by 6% of the costs incurred instead of the previous 10%, although a capping in value had previously existed in that the rental amount could not be more than doubled.

Summer residences and garages not connected to a leased premises or not considered a commercial tenement, as from 1st June 2010, unless there is an agreement between the landlord and the tenant may be terminated. Clubs whether political, social, sports, musical or philanthropic are to retain their security of tenure, although amendment presently underway.

TABLE 16A - RENTAL PROPERTY 2016										
	1Bed/r			2 Bed/r			3 Bed/r			average
	Market Value	Rent	yield	Market Value	Rent	yield	Market Value	Rent	yield	%
Bugibba front							815,280.00	500.00	0.74	0.74
Bugibba internal	89,100.00	300.00	4.04	96,307.69			111,660.00	800.00	8.60	6.32
Qawra internal	83,666.67			102,392.86	550.00	6.45	124,612.50	670.00	6.45	6.45
Swieqi		750.00		148,080.60	916.67	7.43	212,571.00	1,150.00	6.49	6.96
M'Scala internal				99,750.00	600.00	7.22	118,300.00	691.67	7.02	7.12
M'Scala front					800.00					
St Julians front					700.00					
St Julians internal	104,745.00						187,142.86	1,500.00	9.62	9.62
Sliema front								1,462.50		
Sliema internal		700.00		174,000.00	850.00	5.86	243,555.56	1,083.33	5.34	5.60
Averages		583.33			736.11			982.19		6.11

TABLE 16B - RENTAL PROPERTY 2017										
	1Bed/r			2 Bed/r			3 Bed/r			average
	Market Value	Rent	yield	Market Value	Rent	yield	Market Value	Rent	yield	%
Bugibba front	485,000.00	600.00	1.48		807.69		440,000.00	1,070.91	2.92	2.20
Bugibba internal		487.50		95,000.00	536.60	6.78	113,500.00	594.25	6.28	5.08
Qawra internal		532.50			578.57		130,000.00	642.86	5.93	5.93
Swieqi		787.50		210,000.00	1,200.00	6.86	270,000.00	1,507.14	6.70	6.70
M'Scala internal	187,500.00	607.14	3.89	121,000.00	561.00	5.56	155,827.78	675.00	5.20	4.88
M'Scala front	125,000.00	607.14	5.83	254,100.00	777.50	3.67	262,345.00	1,075.00	4.92	4.81
St Julians front		1,375.00		556,666.67	1,680.00	3.62	675,000.00	2,112.50	3.76	5.18
St Julians internal	145,000.00	1,193.75	9.88	282,500.00	1,360.00	5.78	257,882.35	1,300.00	6.05	6.05
Sliema front		1,368.75			2,621.43		975,600.00	2,829.17	3.48	3.48
Sliema internal	187,500.00	1,032.14	6.61	246,000.00	1,342.86	6.55	331,607.14	1,487.50	5.38	5.97
Averages		859			1,147			1,329		5.03

TABLE 16C - DHI - TOM 2016.						
	DHI	TOM	DHI	TOM	DHI	TOM
	3 Bedroom		2 Bedroom		1 Bedroom	
2007	€ 491		€ 448		€ 238	
2010	€ 492		€ 422		€ 258	
2012		€ 833		€ 618		€ 137
2013	€ 541	€ 903	€ 522	€ 635	€ 331	€ 458
2014	€ 478	€ 984	€ 393	€ 693	€ 345	€ 490
2015	€ 752	€ 1,023	€ 615	€ 796	€ 493	€ 605
2016	€ 983		€ 723		€ 583	
2017	€ 1,329	€ 879	€ 1,147	€ 663	€ 859	€ 498

Values in green are taken from *The Sunday Times of Malta Article (20 August 2017)* whose source is the *Malta Bid European Medicine Agency*-see note below.

The above residential/rental information is obtained from Estate Agents web sites and is then averaged out to present a non-bias valuation. Table 16C notes the average monthly rent for a 3-bedroomed hovering around €1,330 per month. According to the *Global Property Guide 2017*, Malta's monthly rental rate of €1,814 is to be compared with London with a rate of €8,213, followed by Monaco at €7,480, Singapore at €3,498, Hong Kong at €7,470, then France at €3,564, whereas Netherlands, Finland, Austria, Ukraine and Denmark average around €2,470 then Germany and Belgium, Portugal, Czech Rep. come in around €1,460 rounding off with Cyprus at €810 (*Source Global property Guide 2017*).

According to Malta Bid European Medicines Agency 2017 Report as noted in Table No.16C, rental rates for 3-bedroom apartments in Central Malta stand at €1,169, €775 in the North and at €693 in the South. 2-bedroom apartments stand at €909 in Central Malta, €567 in the Northern area and €514 in Southern Malta. 1-bedroom apartments stand at €700 in Central Malta, €411 in Northern Malta and €382 in Southern Malta.

On the other hand the surge in rental values over the past 5-year period as noted in table 16C has now created a housing problem due to the affordability of rental payments. It is presently noted that the rental amount of €860 monthly for a 1 bedroom apartment, up from €225 monthly as at 2012. With the present incomes at the low end pegged to €600 monthly, the present rentals have created a housing crisis for the lowest income families.

Table 17 then notes the more sustainable residential rental capitalization rates, which since 1997 have shifted to the more realistic market residential annual capitalization rates, as standing at between 4.20% and 6.63% in 2015 & 3.0% - 5.10% in 2011, from the 5.5% - 8.5% highs in 1997. Highs are now being represented in 2017 within a range of 3.48% - 6.70%.

Now the rental market is a better indicator of the housing market, as people will pay the rental amount that is fair. This thus notes that with the high capitalization rates for 1997, this gives an indication that the market was underpriced at that point in time. Corrections to the market price occurred over the period 2004 – 2007. In 2017 it is noted that the capitalization rate is again on the high side having topped the 4.35% range and is an indication of underpricing to the market value of property.

TABLE 17: RENTAL VALUES FOR VARIOUS LOCALITIES AS A % OF MARKET VALUE						
Locality	Rental value as % of market value - 1997	Rental value as % of market value - 2004	Rental value as % of market value - 2007	Rental value as % of market value - 2015	Rental value as % of market value - 2016	Rental value as % of market value - 2017
Bugibba – internal	8%	3.60%	3.25%	5.01%	6.32%	5.08%
Qawra - internal	8.50%	4.30%	2.75%	4.89%	6.45%	5.93%
Sliema front	5.50%	2.00%	3.50%	4.20%	0.00%	3.48%
Sliema inner	5.50%	4.10%	4.50%	5.90%	5.60%	5.97%
St Julian's	7.50%	3.50%	3.75%	6.63%	9.62%	6.05%
Swieqi	7.00%	4.15%	4.18%	5.64%	6.96%	6.70%
<i>Source: DHlperiti in-house valuations 2017</i>						

Malta's gross rental yields at 4.35% are generally lower than mainland Europe, hovering around the 4.86% mark. To be noted that the ex-Soviet satellite countries together with ex-Yugoslavia countries have yields exceeding 5%, with Moldova at 10%, Ukraine at 9.09%, Montenegro at 7.53% and Ireland at 7.18%. Cyprus has a yield of 5.29%, Belgium at 4.87%, Spain at 4.7%, the Netherlands at 4.51%, Luxemburg at 4.44%, Greece at 4.17%, the Czech Republic at 3.74%, Russia at 3.22%, the United Kingdom at 3.21%, Andorra at 3.16%, Germany at 2.99%, France at 2.79%, Italy at 2.37% and finally Austria has the lowest rental yield at 2.18%. (*Source: Global Property Guide research – 2017*)

Reference to tables 8 & 9, it is presently noted that the mortgage payment for a 3-bedroomed affordable residence at 520euros monthly is presently 47% cheaper than renting calculated at 982euro monthly. On the other hand the mortgage payment for a 2-bedroomed affordable residence at 358euro monthly is again presently 50% cheaper than renting at €723 monthly. In 1997 it is noted that the mortgage payment for a 3-bedroomed residence equated to the rental due, whilst for a 2-bedroomed residence renting stood at 160% of the mortgage payment due.

Considering the above present residential rental capitalization rate to hover around 4.25%, the net return to the property investor, who also anticipates to achieve a future estimated 4% pa annual capital return and after deducting 0.75% for maintenance costs is seen to receive a net annual return given by:

$$4.25\% + 4\% - 0.75\% = 7.50\% \text{ pa}$$

Thus homeownership annual return is superior to a present safe Government 15-year bond issue averaging at around 2.75% pa, as averaged over the past 5-year period.

Malta's Real Estate & the Malta Stock Exchange.

Property has always been a favourite investment medium with the Maltese. With the recent creation of the Malta Stock Exchange in 1995, this has provided a void where the small investor can address his funds, even prior to settling on the property ladder. What are the risk scenarios for the affordable property market vis-à-vis investing in the Malta Stock Exchange?

Chart No. 5 compares the growth of the affordable property market in comparison with the growth of the Stock Exchange Index, since its inception, from 1996 up to 2016. It is to be noted that if trading by an investor commenced in 1996, this investment on the Stock Exchange as at 2007 would have grown by 5 times, whilst investment in the affordable property market over the same period would have only

increased by 2½ times. This is half the growth experienced by the Stock Exchange over the same period. Up to the year 2016 the Stock Exchange is noted to have increased by four & a half times in value, whilst the property market has only grown by 2 ¾ times.

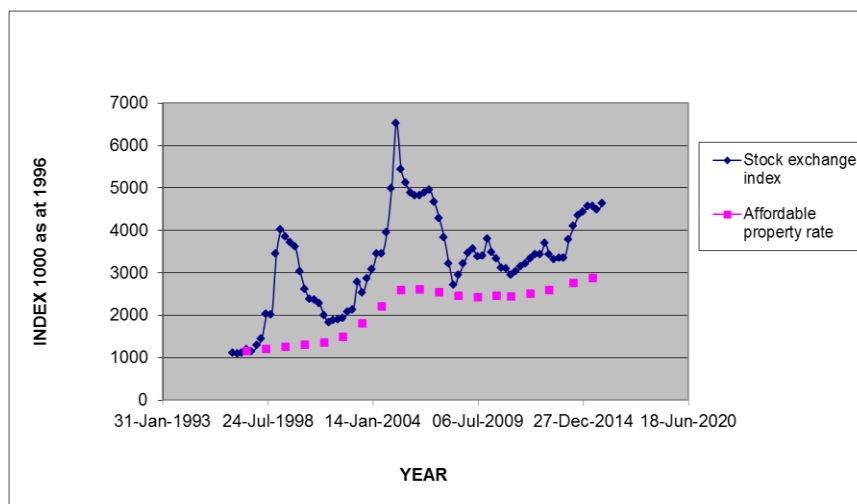


CHART No. 5: PROPERTY vs STOCK EXCHANGE INDEX 1996 – 2016

Source: DHI Periti in-house valuations: Camilleri updated table

The above appears to suggest that trading in the Stock Exchange is superior to dealings in the Property Market. This is the case if the risks involved in both investments are not accounted for. The serrated curve of the Stock Exchange is a clear example of a very volatile market, unlike the Property Market's smooth growth curve. The timing of entry in the Stock exchange is of prime importance.

If an entry had been undertaken in the 1st quarter of the year 2000, the growth up to 2016 in the Stock Exchange would have registered an increase of 19% over this 16-year period, whilst over the same period the Property Market registered a +129% growth. On the other hand if one entered the Stock Exchange at its peak during the 1st quarter of 2006, the loss registered on the investment by 2016 works out at -16%, whilst investing in the property market over the same period will have registered a gain of +11%.

Foreign property buyers

Since 1974 when a foreigner purchases property in Malta, it has to be registered via a law known as the Immovable Property (Acquisition by Non-Residents) AIP Act. 13,836 permits have since been registered, i.e. an average of 419 permits per year. These foreign resident purchases, peaked in 1989 at 899, then plummeted to 155 in 1998. These annual foreign contracts are to be compared to the property contracts occurring in Malta exceeding 10,000 annually, as per table 9. Since 2003, Malta's accession to the EU, EU residents need not apply for an AIP permit.

Table 18A demonstrates that presently, foreign buyers are purchasing property in the up-market range, unlike in the initial years of this study. This signifies that the affordable property market transactions are not being negatively affected from foreign property purchases.

**TABLE 18A: NO OF AIP PERMITS ISSUED, WITH AVERAGE PRICE IN EURO
COMPARED TO AFFORDABLE PROPERTY RATE (TABLES 4&5).**

YEAR	PERMITS – MALTESE ISLAND	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	843	€200,449	1,542	1,211
2008	763	€195,835	1,506	1,183
2009	606	€192,187	1,478	1,144
2010	596	€204,797	1,575	1,130
2011	691	€217,283	1,671	1,146
2012	760	€194,942	1,500	1,134
2013	715	€241,743	1,860	1,168
2014	884	€223,214	1,717	1,203
2015	1131	€249,960	1,923	1,282

Source: AIP data & CTD property counts MOF as from 2007

TABLE 18B - VALUE OF PROPERTIES SOLD TO FOREIGNERS OVER THE PAST 4 YEAR PERIOD								
	2012		2013		2014		2015	
District	Number	Price	Number	Price	Number	Price	Number	Price
Southern Hrabour	11	€ 3,020,121	20	€ 3,224,753	21	€ 3,737,720	29	€ 24,534,356
Northern Harbour	112	€ 36,260,476	111	€ 25,972,957	111	€ 40,628,063	148	€ 72,529,586
South Eastern	13	€ 1,910,925	7	€ 626,550	7	€ 2,016,798	11	€ 987,816
Western	8	€ 362,921	4	€ 2,239,000	5	€ 627,000	10	€ 1,499,859
Northern	61	€ 31,253,259	36	€ 13,699,353	36	€ 7,139,338	42	€ 81,913,504
Gozo	39	€ 10,472,277	24	€ 3,974,500	22	€ 4,880,526	30	€ 6,064,821
Unclassified	2	€ 444,500	5	€ 3,129,000	6	€ 9,690,000	10	€ 1,936,692
Total No./ Price	246	€ 83,724,479	207	€ 52,866,113	208	€ 68,719,445	280	€ 189,466,634
Average Price	-	€ 340,343	-	€ 7,552,302	-	€ 9,817,064	-	€ 27,066,662
Average Price table 18A	-	€ 194,192	-	€ 241,743	-	€ 223,214	-	€ 249,960
Rate/sqm	-	€ 2,618	-	€ 58,095	-	€ 75,516	-	€ 208,205
Rate/sqm - table 18A	-	€ 1,500	-	€ 1,860	-	€ 1,717	-	€ 1,923

TABLE 18C - AIP PERMITS - AVERAGE PRICE OF PROPERTIES BY LOCALITY & YEAR				
Locality/Average Price	2012	2013	2014	2015
Southern Harbour :- (Valletta, Cospicua, Zabbar)	€ 274,556	€ 161,237	€ 273,225	€ 846,012
Northern Harbour:- (Birkirkara, Qormi, St. Julians, Pembroke)	€ 323,754	€ 233,991	€ 366,019	€ 490,065
South Eastern:- (Marsaxlokk, Marsaskala, Birzebbugia)	€ 146,994	€ 89,650	€ 288,114	€ 89,801
Western:- (Mdina, Rabat, Attard, balzan)	€ 460,365	€ 559,750	€ 125,400	€ 149,985
Northern :- (St. Pauls Bay, Mosta, Naxxar)	€ 53,332	€ 380,538	€ 198,315	€ 195,032
Gozo & Comino:- (Victoria, Munxar, Nadur)	€ 286,519	€ 165,604	€ 221,842	€ 202,161

Table 18A shows that the number of transactions to foreign purchasers in 2003/4 is well above the 32-year average at 405 annual permits, coinciding with Malta's entry into the EU. It is however, to be noted that from 2003 onwards EU nationals did not require to apply for an AIP permit. 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 table 12 did not require an AIP permit.

Another interesting point is that for the first time in 2002 since 1982, these foreign purchases were well above the affordable price range. Evening out had occurred in 2004, with a surge in the number of premises purchased at 705 occurring, with again the market rate hovering towards the affordable range. A surge in the quality of premises purchased occurred in 2005 at a market rate of €2,261/sqm, with a specification decline following in thereafter. The up-market property rate over the immediate past period has averaged out at €2,680/sqm. In 1987 and 1992, foreigners were actually purchasing properties below the minimum local standards. It appears that the recent up-market developments are attractive to foreigners.

On a regional basis, a higher proportion of non-Maltese nationals reside in the Northern Harbour, South Eastern and Northern Districts. The majority of non-Maltese residents (7,548 or 37.6%) reside in the Northern Harbour, which includes tourist haunts Sliema and St Julians. The next most popular region for foreigners to live was the northern District, with 5,137 non Maltese residents. This district includes Mellieha and St Paul's Bay. Gozo has 1,290 foreign residents out of a total population of 31,143. On a demographic level 52.9% of non-Maltese nationals are males and the average age of foreign residents is 39.5 years. The highest proportion (13.2%) of non-Maltese residents is in the 25-34 age bracket.(Source 2011 Census)

The 2011 Census report indicates that the foreign population has increased by 65% since 2005. Of the total population of 417,432(2011 Census) people, 20,454, or 4.9% are non-Maltese nationals. The number of non-Maltese residents stood at 12,112, or 3 percent of the population in the 2005 census.

Two factors likely to have increased the foreign population are Malta gaining EU status in 2004 and the publication of Remote Gaming Regulations, also in 2004, which enticed many foreign remote gaming companies to set-up offices on the island.

A new residence programme for foreigners (non-EU) was launched on 1st June 2013, replacing the foreign residents' scheme. The Global Residence Programme, as the new scheme is called, will allow people who buy high value property and pay taxes in Malta to benefit from a residence permit. The previous scheme was suspended and initially replaced by the High Net Worth Individuals Scheme. Under the Global Residence Programme, the value of immovable property bought in Malta by foreigners has to be at least €275,000. However, when the property is in the south of Malta or in Gozo, the minimum value can be €220,000. Whereas under the High Net Worth Individuals Scheme. Applicants would also have been eligible if they rented a property for a minimum of €9,600 pa in Malta and €8750 pa in Gozo or the South of Malta.

The minimum tax to be paid in advance is a minimum of €15,000 on income derived in Malta, with further income charged at 15%. Foreign residents under this programme, including their dependants, have to be covered by health insurance. They will not be entitled to Free State health services. (Source S.L. 123.79)

Commercial property data of the Maltese islands – 2017

Although overall European investment volumes were down year-on-year in Q2, sentiment remained buoyant in many key markets.

European commercial property investment totalled €43.3 billion in Q2 2017, slightly below the previous quarter's level (Figure 1). Transaction volumes for the first half of the year amounted to €90.3 billion, representing an 8% decrease year-on-year.

Germany remained a stand-out performer among major European markets throughout H1, with commercial investment volumes for the first halfyear reaching €22.4 billion, 41% up on H1 2016. With the UK market affected by political uncertainty, Germany has become the leading European investment destination for North American investors and the dominant location for intraEuropean cross-border investment.

The investment markets of Spain and the Netherlands were also buoyant throughout H1, with investors attracted by strengthening rental growth prospects. Conversely, investment volumes in the UK remained well below the levels seen prior to last year's Brexit vote, despite an increased volume of Asian capital flowing into the London market. The French investment market was very subdued during H1, reflecting investor caution in the run-up to the presidential and legislative elections. However, there is a significant backlog of deals in the pipeline and volumes are expected to pick up in the second half of the year.

During H2, European investment volumes should also receive a boost from the completion of China Investment Corporation's €12.25 billion acquisition of Blackstone's pan-European logistics company, Logisor. This deal was agreed in Q2 and, on its expected closure later this year, will be the largest-ever European real estate deal.

European prime yield compression showed no signs of abating in Q2, with prime office yields hardening in markets including Amsterdam, Brussels, Milan and Vienna. Prime yields also continued to fall in the major German office markets, and are now over 100 basis points below previous record cyclical lows in Berlin, Frankfurt, Hamburg and Munich. The Knight Frank European Weighted Average Prime Office Yield hardened by nine basis points over the quarter to a new low of 4.35% (Figure 2).

Aggregate office take-up in the European markets monitored by Knight Frank was up by 4% in the first half of the year, driven largely by the continued strength of the major German markets, as well as increased activity in Spain following a relatively subdued 2016. However, mirroring the investment market, occupier activity in France slowed around the elections in Q2.

Office rental growth gained traction in the tightening Amsterdam and Madrid markets during Q2, while moderate increases in prime rents were also recorded in Frankfurt, Milan, Paris and Stockholm. In contrast, prime rents declined in the West End of London, where they are now down by 13% year-on-year. Overall, the Knight Frank European Prime Office Rental Index climbed by 0.7% during Q2, to reach a nine-year high (Figure 3). The diminishing availability of prime CBD office space should drive further rental growth, particularly in key markets in Germany, the Netherlands, Spain and Sweden.

(Source: Knight Frank European Quarterly Commercial Property outlook- Q 2 - 2017)

The present Malta office demand is quoted at 4,000sqm pa, with Midi&Pender Place to provide 50,000sqm of modern office space over a number of years. The MIA development has now been completed and operational, being taken over mainly by Vodafone & AirMalta.

Over the immediate past 14-year period, the number of commercial permits issued averaged out at 723 annually. The lowest number of commercial permits issued was during 2008 - 2009 just surpassing the 400 mark, with the highest number occurring in 2016 at 1567 permits. This surge in commercial permits also for 2010, as opposed to the drop in residential permits noted in table 10b, notes the above healthy situation of the Maltese economy over the past immediate future. Table 19 notes a doubling in increase for warehousing, retail and office permits over the past 5 years, this surged on by the Gaming sector, with the possibility of a dent to occur due to the recent money laundering indicators surfacing. This together with a surge of hotel permits noted in 2014, spiralled off by the additional hotel floors policy granted in certain areas, with a slight decrease for 2015, indicating a possible slowdown for the coming years. It is however to be noted that totally new hotel developments might be in the pipeline.

TABLE 19: DEVELOPMENT PERMITS FOR COMMERCIAL, SOCIAL AND OTHER PURPOSE

Period	Commercial and social								Total permits
	Agriculture	Manufacturing ²	Warehousing, retail & offices ³	Hotels & tourism related	Restaurants & bars	Social ⁴	Parking	Total	
2003	242	26	181	15	24	91	134	713	3,398
2004	261	31	192	8	25	49	105	671	3,254
2005	293	33	217	16	25	43	103	730	3,710
2006	267	38	169	9	26	30	84	623	3,752
2007	325	27	185	8	14	30	60	649	3,667
2008	182	29	137	6	14	8	66	442	2,917
2009	160	31	123	6	20	23	47	410	2,691
2010	293	55	231	10	46	118	79	832	2,354
2011	192	33	256	4	47	74	49	655	1,720
2012	169	33	247	17	32	87	58	643	1,598
2013	123	33	266	15	49	43	47	576	1,540
2014	124	35	347	29	42	55	78	710	1,631
2015	221	21	403	21	54	77	101	898	1,722
2016	357	23	719	60	213	113	82	1,567	2,124
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. Excludes applications for dwellings and minor works on dwellings.									
² Includes mineral working and industry.									
³ Including the construction of offices, retail services, warehouses, mixed offices and retail outlets, mixed residential premises, offices and retail outlets, mixed residential premises and retail outlets, mixed residential, offices, retail and catering premises.									
⁴ Including the construction of premises related to the provision of community and health, recreational and educational services.									
⁵ Including the installation of satellite dishes and swimming pools, the display of advertisements, demolitions, change of use, minor new works and others.									
Source: Malta Environment & Planning Authority.									

A recent decrease is noted in agricultural permits, which indicates lack of income for this important sustainable sector. This is probably due to drying up of EU funding for this important sector, which has recently been activated. The decrease in the agricultural sector is amplified by tables 20&21. Table 20 notes the gross value added as decreasing by 2% over a 35-year period. Table 21 then notes that over the same period the employment in the agricultural sector has decreased by 5%.

TABLE 20 - SHARE OF GROSS VALUE ADDED BY BROAD ECONOMIC SECTOR 1980

	1980	1990	2000	2004	2014
Agriculture	4%	4%	3%	2%	2%
Industry	39%	31%	27%	28%	17%
Services	59%	65%	70%	70%	81%

Source: *The Diversification of the Maltese Economy Aaron G. Grech CBM Policy Note September 2015*

TABLE 21 - SHARE OF FULL-TIME EMPLOYMENT BY BROAD ECONOMIC SECTOR 1980

	1980	1990	2000	2004	2014
Agriculture and fisheries	6%	2%	2%	2%	1%
Industry	39%	36%	32%	28%	15%
Services	55%	62%	66%	70%	84%

Sources: *The Diversification of the Maltese Economy Aaron G. Grech CBM Policy Note September 2015*

Industrial:

There does not appear to be a free industrial market as most factories are leased from Malta Industrial Parks (MIP) at the maximum rate of €32.50/m²pa but recently an escalation clause is being decided upon to vary as from 3% to 5% every 5 years. On the other hand warehousing may easily be obtained on the market from market rates ranging from €105/m³ up to €300/m³, thus equating to a rental rate of €30/m² to €70/m² pa.

These rental rates are to be compared with the prime European industrial standing at €188/m², with prime yields averaging 5.92%. Note that the highest rental amount stands at €575/m² in London, whilst the lowest at €96/m² in Budapest.

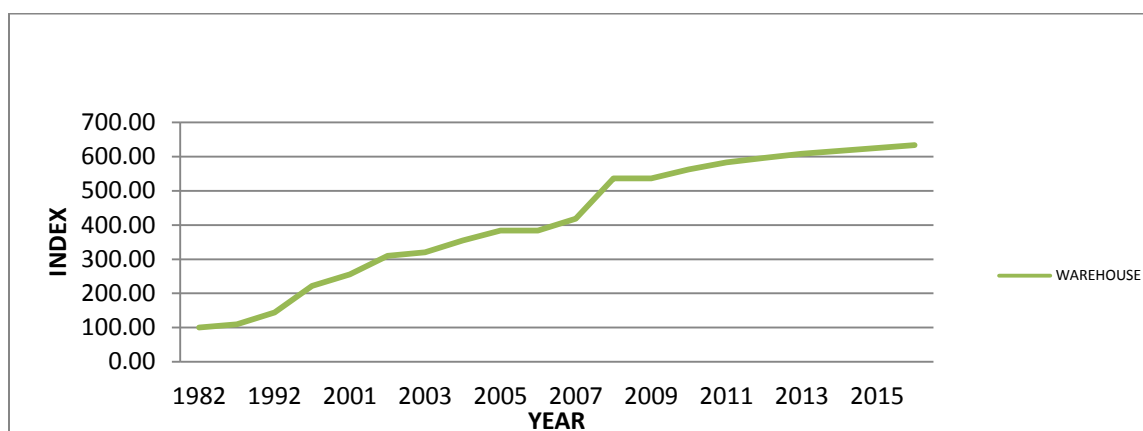
In the past, industrial property had generally offered investors a premium over other sectors, with yields running several % points higher than those of retail and office property. Industrial property yields are moving closer to the levels found in the other property sectors. Prime yields stand between 5% and 7% in most European markets. Converging of yields has also occurred in Central and Eastern Europe with prime yields in Prague at 7% and Warsaw standing at 7.5%, whilst Bucharest stands out at 9.5%.

Table No. 22 is the database for warehousing over the past 34-years. As warehousing is a very important sector for the Maltese Islands, note that no drop in value in this sector has been experienced over the past 5-year period. To be noted however, that due to the improved frequent Catamaran Service between Malta & Sicily, the volume of food warehousing has decreased, due to orders being delivered even on a daily basis.

TABLE 22 –WAREHOUSING PROPERTY INDEX 1982-2016

YEAR	1982	1988	1992	1998	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
WAREHOUSE	100.00	110.00	144.00	222.00	256.00	310.15	320.00	354.36	384.00	384.00	418.46	536.68	536.68	562.03	583.16	595.84	608.52	616.97	625.42	633.87

Growth rates over the past 34-year period recorded at 6.70% pa (indicating a doubling in value every 10.25 years by applying the 72-rule). Whereas over the past 10-year period, at 4.50% pa (indicating doubling in value every 12¼ years), whilst over the past 5-year period sliding down to 1.66% pa with doubling in value occurring every 16½ years, as noted in Chart 4, also depicting this steady growth in value. This recent decline in annual growth for warehousing may be explainable, due to the above noted daily deliveries, thus reducing this demand.

**CHART No. 4: WAREHOUSING PROPERTY PRICE GROWTH 1982-2016****Offices:**

The office rental market varies from €20/m² up to €475/m² with Malta's Central Business District average rate standing at €155/m².

These are to be compared with the prime European office rents averaging out at €470/m² within a range of €1,223/m² in London(West End), Moscow at €684/m², Paris at €772/m², Frankfurt at €474/m², Dublin at €646/m², Warsaw at €276/m², Brussels at €300/m², Prague at 240/m², and Barcelona €270/m².

Prime European office yields vary from a low of 3.00% in Paris, Zurich and Geneve to a high of 9.75% in Moscow and 7.50% in Bucharest. Most European cities fall in the 3.25% to 5.25% averaging out at a yield of 4.39%.

Table No 19 is the database for a prime multi-tenanted Floriana office block over the past 28-year period. Again, office premises have not been subjected to a property slump in recent years due to the proliferation of the volatile Gaming Industry in Malta.

TABLE 19: OFFICE PREMISES INDEX 1988-2016

YEAR	1988	1993	1998	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
TYPE																			
OFFICES	100	141	203	260	260	233	255	253	278	274	266	281	306	310	320	326	350	378	410

Although the database attached is for an office block with Local Companies, this block has still attracted a growth rate of 4.70% over the past 28-year period (indicating a doubling in rental rate every 15¼ years by applying the 72-rule). Over the immediate 5-year period a 5.80% pa growth rate has been achieved, which is noted to have increased from the past 10-year period given at 4.07%. As noted in Chart No 5 flattening in price growth rate noted from 2000 onwards.

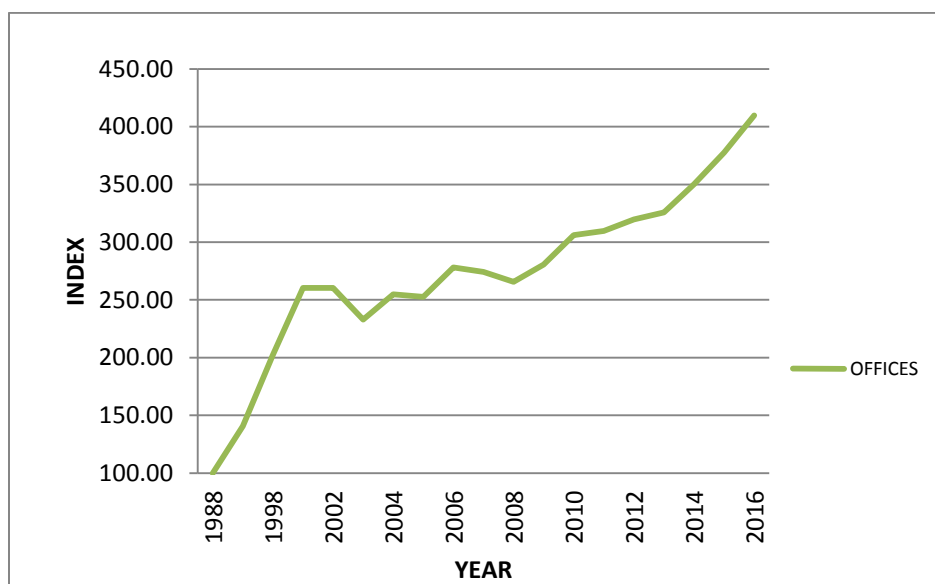


CHART No. 5: OFFICE PRICE GROWTH 1988-2016

Further to above growth rate over the period 2006-2016, this has noted to have increased further in various localities such as Valletta, Floriana & the Strand within a growth band of 0.5% pa up to 4.75% pa, for offices mostly tenanted by local companies.

The above office growth rates have not taken note of the remote i-gaming sector that has continued to grow taking up much of the office space in the Ta' Xbiex/ Sliema/St. Julians conurbation. Chart No. 5 thus excludes these areas. It has been reported that in this locality offices rental rates have increased by 11% pa over the immediate 5-year period, as compared to a 3.25% pa growth rate for Central Malta. Noting this, the i-gaming industry is however being again noted as being a volatile market.

Retail:

In the retail sector high street shops in the towns and villages have a rental amount varying from €7.50/day up to €175/day, for a front retail unit having a 4m frontage with a 9m depth.

The rental rates for shopping malls vary from €856/m² down to €131/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. Over the past 10-year period prime retail units in Malta have appreciated at 2.95% pa.

These rents are to be compared to the prime best positioned 100m² retail European rents averaging out at €1,640/m² within a range of: 5,444/m² for London and Dublin at 3,500/m² with Paris at €2,500/m²,

and Frankfurt at €1,560/m², Amsterdam at €1,000/m², and Stockholm at €816/m², Brussels €1,800/m² and Vienna at €1,320/m², Milan at €850/m², Prague at €1,560/m² and Warsaw at €1,800/m².

Prime European retail yields vary from a low of 3.75% in Paris, Berlin, Munich and Hamburg to a high of 10.25% in Moscow, however most European cities fall in the 4% to 5.5% range.

Table No 20 is the database for prime retail outlets over the past 34-year period, as located in Valletta & The Ferries Sliema. Retail premises performance depends on footfall & consumer preferences. Minimal drop in value has been experienced over the past 5-year period.

TABLE 20: RETAIL PREMISES PROPERTY INDEX 1982-2016

YEAR	1982	1987	1988	1992	1996	1997	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
TYPE																						
RETAIL	100	109	157	194	232	256	350	373	397	420	425	430	435	440	445	450	455	500	525	550	580	580

Growth rates over the past 34-year period is recorded at 5.46% (indicating doubling in value to occur every 13.15 years by applying the 72-rule). Over the past 5-year period the growth rate has narrowed down to 3.89% pa, which is an improvement from the past 10-year period at 2.95% pa. Chart No. 6 notes flattening in growth rate from 2004 to 2011 with steady increases over the past 3 years.

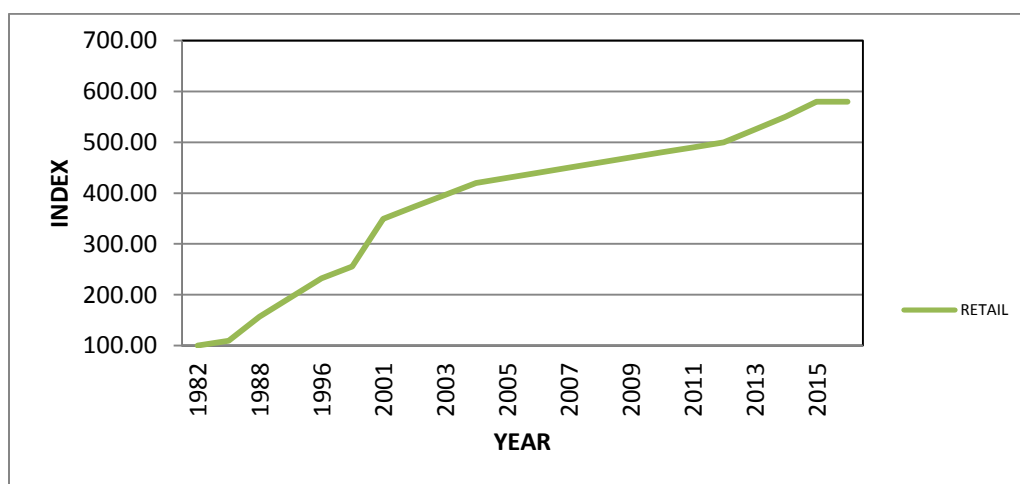


CHART No. 6: RETAIL PREMISES PRICE GROWTH 1982-2016

This subdued growth rate for retail properties as compared to the other market types explained may be related to the subdued footfall of local retail outlets. Over the immediate past period the standard & quality of these retail outlets has leapfrogged, as stimulated by the completion of The Point Complex. This quantum leap has not been validated by a rise in footfall. Malta has not as yet managed to become the regional retail hub of the Mediterranean, notwithstanding even the increase in tourist arrivals over the previous years. This could then explain the minimal rental growth rate of 3.89%pa over the past 5-year period, as compared to the 32-year growth rate of 5.30%pa (34-year growth rate of 5.46%).

Comparative commercial rental analysis

The above commercial rental data is summarized in the table 21 below.

TABLE 21 – COMPARING MALTESE COMMERCIAL RENTALS WITH THE EUROPEAN AVERAGE.

Property type	Rental range of the Maltese Islands €/m ²	Capital Appreciation over 10 years	European best positioned Average rentals in €/m ² – (Max)	European Prime Yields
Industrial	up to €70	4.50% pa	€188/m ² (575)	5.0% - 7.0%*
Offices	€20 - €475	4.07% pa	€470/m ² (1,223)	3.25% - 5.25%
Retail	€70 - €450**	2.95% pa	€1,640/m ² (5,444)	4.0% - 5.50%

* 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.

DhiPERITI

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Managing Partner

APPENDIX C: MALTA RESIDENTIAL PROPERTY MARKET DHI DATABASES BY DHI PERITI

Reference is made to the Malta Residential Property Market DHI Databases by dhi Periti, pages Y1 to Y9. All the data presented in this report, including observations and conclusions is the sole responsibility and copyright of dhi Periti, researched and compiled by Perit Denis Camilleri.

Client:



Date: 12/10/2017

Malta Property Market DHI Databases

Table 1: Affordable Property Rates €/sqm for the Maltese Islands Over a 35 Year Period

Zone	Locality	1982	1987	1992	1997	2002	2007	2012	2014	2015	2016	2017	%growth rate Pa 1982-2017
A	Fgura / Paola / Zabbar	105	128	256	408	466	987	893	1038	999	1016	1137	7.09%
B	M'scala	116	175	373	373	505	1001	881	980	992	998	1260	6.35%
C	Mosta / Naxxar	186	198	291	478	524	1242	1167	1180	1337	1443	1545	7%
D	San Gwann	151	175	256	431	557	1092	962	1076	1022	1152	1558	6.65%
	Sliema inner prime	210	338	443	710	883	1373	1402	1457	1720	1756	2459	6.33%
E	St. Julians	186	233	408	547	687	1321	1186	1311	1369	1447	1998	6.45%
F	Swieqi	198	245	419	641	785	1473	1443	1376	1535	1539	2070	6.53%
	Malta	163	212	349	512	629	1211	1134	1203	1282	1336	1718	6.56%
	Trend	172	241	337	471	660	924	1294	1460	1521	1693	1802	6.92%
	Gozo					432	857	903	906	1029	1017	1106	5.44%

Source: DHIperiti in-house valuations 2017

Table 2: Affordable Property Rates €/sqm for the Maltese Islands Over the past 15-Year Period

Locality	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	% growth rate Pa 2002-2017	% growth rate Pa 2012-2017
Fgura / Paola / Zabbar	466	575	678	762	928	987	961	948	971	906	893	961	1038	999	1016	1137	4.11%	3.89%
M'Scala	505	601	808	864	1032	1001	984	917	826	948	881	886	980	992	998	1260	3.25%	6.36%
Mosta / Naxxar	524	650	929	967	1149	1242	1176	1147	1154	1105	1167	1196	1180	1337	1443	1545	4.84%	6.15%
San Gwann	557	666	752	969	1251	1092	1100	981	965	1026	962	1111	1076	1022	1152	1558	3.77%	7.31%
Sliema inner prime	883	820	929	1316	1381	1373	1380	1322	1263	1398	1402	1361	1457	1720	1756	2459	4.96%	11.27%
St. Julians	687	724	839	1267	1246	1321	1299	1327	1311	1286	1186	1261	1311	1369	1447	1998	4.54%	9.15%
Swieqi	785	806	948	1058	1430	1473	1378	1367	1418	1348	1443	1399	1376	1535	1539	2070	4.56%	6.48%
Malta	629	692	841	1030	1202	1211	1183	1144	1130	1146	1134	1168	1203	1282	1336	1718	4.36%	7.54%
Trend	660	706	755	808	864	924	988	988	1130	1146	1134	1509	1566	1521	1693	1802	6.94%	7.81%
Gozo	432					857	841	913	988	853	903	916	906	1029	1017	1106	4.87%	4.24%

Source: DHIperiti in-house valuations 2017

Table 3: Housing Affordability Index for the Maltese Islands – HAI

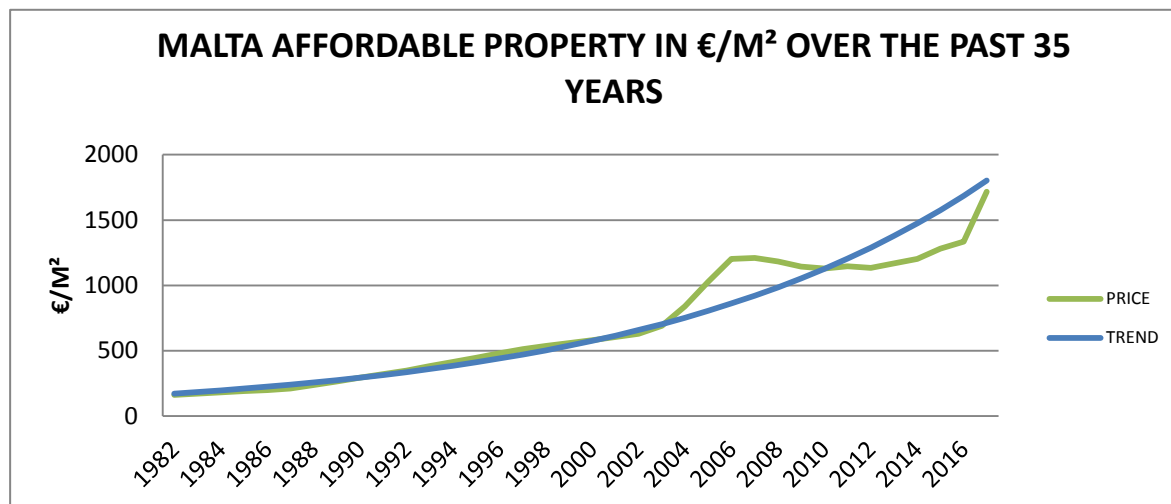
Year	Mortgage Monthly Payment		Medium Monthly Family Income**	Qualifying Monthly Income		Ratio of Qualifying Family Income		HAI		House Price: Earnings Ratio
	3-bed/2-bed/r			3-bed/2-bed/r		3-bed/2-bed/r		3-bed/2-bed/r		
1982	€ 140	€ 56	€ 229	€ 559	€ 391	1.30	0.91	77	110	4.28
1987	€ 161	€ 114	€ 564	€ 643	€ 457	1.14	0.81	88	123	4.23
1992	€ 252	€ 168	€ 745	€ 1,006	€ 531	1.35	0.90	74	111	5.27
1997	€ 384	€ 247	€ 995	€ 1,537	€ 988	1.55	0.99	65	101	5.80
2002	€ 394	€ 263	€ 1,215	€ 1,575	€ 1,057	1.29	0.86	77	116	5.60
2006	€ 606	€ 429	€ 1,665	€ 2,119	€ 1,500	1.27	0.90	79	111	7.22
2007	€ 673	€ 478	€ 1,738	€ 2,152	€ 1,670	1.35	1.01	74	104	6.97
2008	€ 615	€ 410	€ 1,798	€ 2,152	€ 1,435	1.20	0.80	84	125	6.58
2009	€ 478	€ 319	€ 1,872	€ 1,673	€ 1,118	0.89	0.60	112	168	6.11
2010	€ 472	€ 315	€ 1,914	€ 1,652	€ 1,102	0.86	0.58	116	174	5.99
2011	€ 469	€ 315	€ 1,959	€ 1,641	€ 1,103	0.84	0.56	119	179	5.29
2012	€ 448	€ 305	€ 2,058	€ 1,568	€ 1,067	0.76	0.52	132	192	5.05
2013	€ 461	€ 314	€ 2,144	€ 1,613	€ 1,099	0.75	0.51	133	196	4.99
2014	€ 472	€ 322	€ 2,237	€ 1,652	€ 1,127	0.74	0.50	135	200	4.93
2015	€ 504	€ 346	€ 2,325	€ 1,764	€ 1,211	0.76	0.52	132	192	5.28
2016	€ 520	€ 358	€ 2,354	€ 1,820	€ 1,253	0.77	0.53	130	189	5.44
2017	€ 668	€ 453	€ 2,521	€ 2,338	€ 1,585	0.93	0.63	108	159	6.25

Source: DHIperiti in-house valuations 2017

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.

**the median family income is factored at 1 for 1982, and by 1.35 for 2002 increasing to 1.65 for 2012 to account for the effect of the 2nd wage earner.

A long-term 35 Year average level of house prices to income ratio is given at 3.5. The UNCHS (habitat) indicators mention the price earnings ratio desirable range lie between 2 & 6.

Chart 1 : Malta Affordable Property in €/M² over the Past Years**Table 4: Seafront Property Compared with Internal Property over an 11 Year Period in Euro/Sqm.**

	2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017	
Location	front	int	front	int	front	int	front	int	front	int	front	int	front	int	front	int	front	int	front	int	front	int	front	int
M,skala	1473	1032	1696	1001	1413	985	1186	918	957	826	2307	948	-	881	802	886	693	980	1492	992	2763	998	2118	1260
Sliema	3246	1383	2602	1373	3296	1380	3428	1322	3311	1263	3086	1398	3706	1402	2381	1361	4591	1457	4063	1720	7417	1756	6728	2459
St Julians	1575	1245	2973	1322	2856	1299	2991	1327	2905	1311	4067	1286	1963	1186	2460	1261	2478	1311	4300	1396	5610	1447	4927	1998
Gozo					1705	841	1484	913	988	988	1462	853	1548	903	459	916	0.00	906	2245	1029	1996	1017	1854	1106
Malta	2098	1220	2424	1232	2522	1221	1088	1189	2391	1134	3153	1211	2835	1157	2420	1169	2587	1249	3285	1249	5263	1249	5827	1906

Source: DHIperiti in-house valuations 2017

Table 5: Residential Units as Approved by MEPA, together with Compliance Certificates Being Issued:

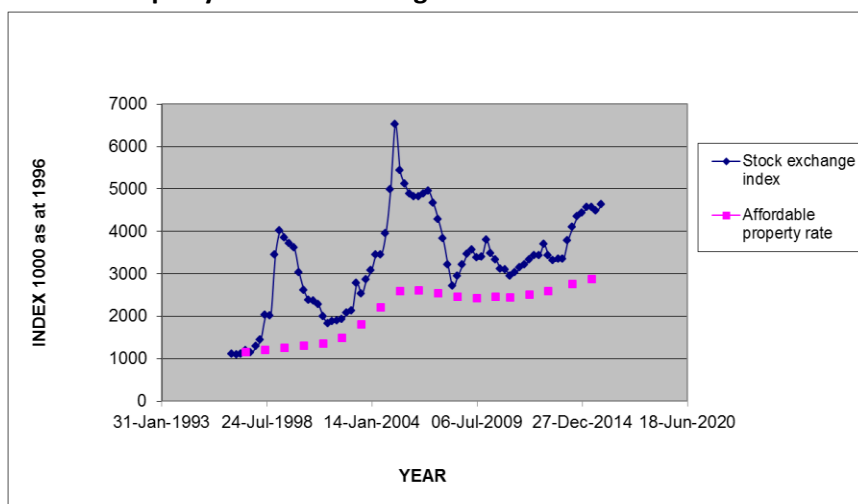
YEAR	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Number of total Units	5481	6128	6707	9081	10409	11343	6836	5298	4444	3955	3064	2705	2937	3947	7508
Apartments approved		4548	5265	7539	8961	10252	6184	4616	3736	3276	2489	2062	2221	3019	6316
Compliance Certificates	2552	2719	4975	3884	3400	7169	7796	8055	7784	6438	6314	6703	6948	7358	
% Completed	47%	44%	74%	43%	33%	63%	114%	152%	175%	163%	206%	248%	237%	237%	

Source: PA

Table 6: Monthly Apartment Rentals: DHI – Times of Malta (TOM) 2017

	DHI	TOM	DHI	TOM	DHI	TOM
	3 Bedroom		2 Bedroom		1 Bedroom	
2007	€ 491		€ 448		€ 238	
2010	€ 492		€ 422		€ 258	
2012		€ 833		€ 618		€ 137
2013	€ 541	€ 903	€ 522	€ 635	€ 331	€ 458
2014	€ 478	€ 984	€ 393	€ 693	€ 345	€ 490
2015	€ 752	€ 1,023	€ 615	€ 796	€ 493	€ 605
2016	€ 983		€ 723		€ 583	
2017	€ 1,329	€ 879	€ 1,147	€ 663	€ 859	€ 498

Values in green are taken from The Sunday Times of Malta Article (20 August 2017) whose source is the Malta Bid European Medicine Agency.

Chart 2: Property vs Stock Exchange Index 1996 – 2016

Source: DHIperiti in-house valuations 2016

TABLE 7: DEVELOPMENT PERMITS FOR COMMERCIAL, SOCIAL AND OTHER PURPOSE

Period	Commercial and social								Total permits
	Agriculture	Manufacturing ²	Warehousing, retail & offices ³	Hotels & tourism related	Restaurants & bars	Social ⁴	Parking	Total	
2003	242	26	181	15	24	91	134	713	3,398
2004	261	31	192	8	25	49	105	671	3,254
2005	293	33	217	16	25	43	103	730	3,710
2006	267	38	169	9	26	30	84	623	3,752
2007	325	27	185	8	14	30	60	649	3,667
2008	182	29	137	6	14	8	66	442	2,917
2009	160	31	123	6	20	23	47	410	2,691
2010	293	55	231	10	46	118	79	832	2,354
2011	192	33	256	4	47	74	49	655	1,720
2012	169	33	247	17	32	87	58	643	1,598
2013	123	33	266	15	49	43	47	576	1,540
2014	124	35	347	29	42	55	78	710	1,631
2015	221	21	403	21	54	77	101	898	1,722
2016	357	23	719	60	213	113	82	1,567	2,124

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. Excludes applications for dwellings and minor works on dwellings.

² Includes mineral working and industry.

³ Including the construction of offices, retail services, warehouses, mixed offices and retail outlets, mixed residential premises, offices and retail outlets, mixed residential premises and retail outlets, mixed residential, offices, retail and catering premises.

⁴ Including the construction of premises related to the provision of community and health, recreational and educational services.

⁵ Including the installation of satellite dishes and swimming pools, the display of advertisements, demolitions, change of use, minor new works and others.

Source: Malta Environment & Planning Authority.

TABLE 8: WAREHOUSING PROPERTY INDEX 1982-2016

1998	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
222.00	256.00	310.15	320.00	354.36	384.00	384.00	418.46	536.68	536.68	562.03	583.16	595.84	608.52	616.97	625.42	633.87

Source: DHIperiti in-house valuations 2016

Prime yields stand between 5% and 7% in most European markets. Converging of yields has also occurred in Central and Eastern Europe with prime yields in Prague at 7% and Warsaw standing at 7.5%, whilst Bucharest stands out at 9.5%.

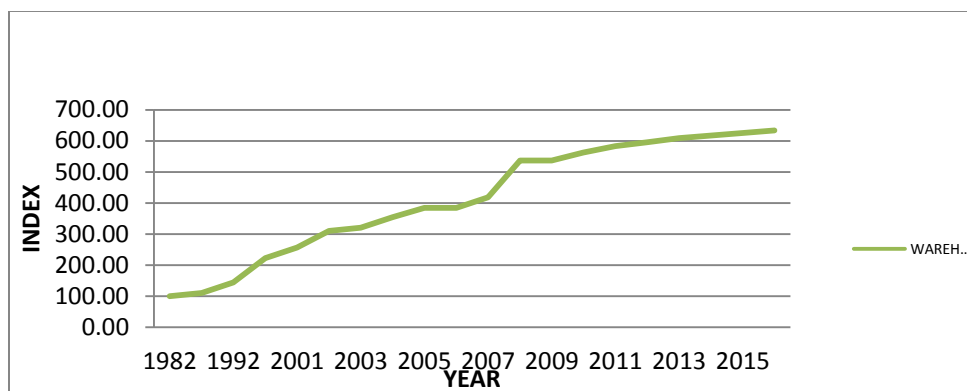
CHART 3: WAREHOUSING PROPERTY PRICE GROWTH 1982-2016

TABLE 9: OFFICE PREMISES INDEX 1988-2016

YEAR	1988	1993	1998	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
TYPE																			
OFFICES	100	141	203	260	260	233	255	253	278	274	266	281	306	310	320	326	350	378	410

Source: DHIperiti in-house valuations 2016

Prime European office yields vary from a low of 3.00% in Paris, Zurich and Geneve to a high of 9.75% in Moscow and 7.50% in Bucharest. Most European cities fall in the 3.25% to 5.25% averaging out at a yield of 4.39%.

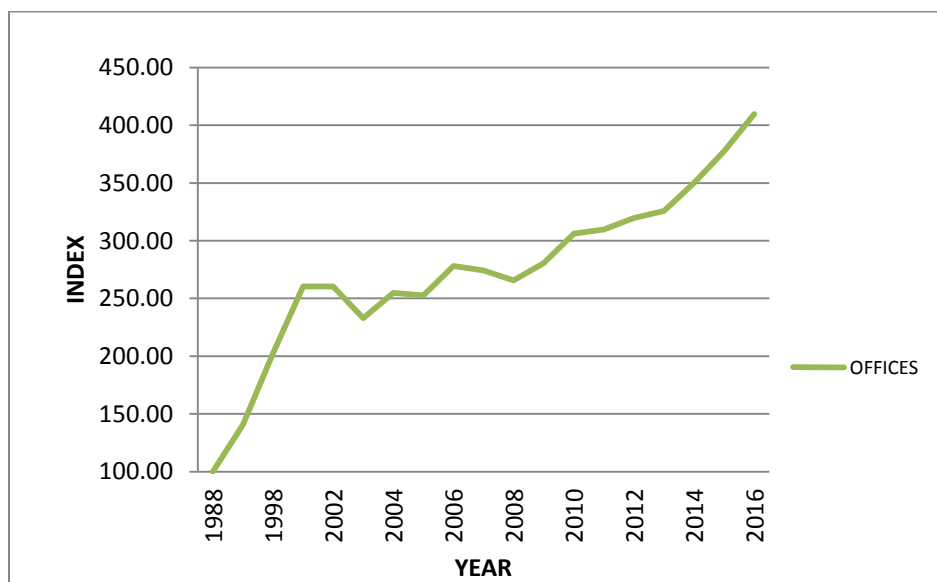
CHART No. 4: OFFICE PRICE GROWTH 1988-2016

TABLE 10: OFFICE CHARACTERISTICS 2017 FOR THE MEPA LOCAL PLAN REGIONS

LOCAL PLAN	RENTAL RATE €/m ²	TOTAL FLOOR AREA m ²	AVERAGE FLOOR AREA m ²
Central Malta	133	23,878	282
North Harbour	162	27,025	204
Grand Harbour	191	5,020	176
Malta average 2017	149	62,275	204
Malta average 2016	127	79,946	298
Malta average 2014	125	24,848	275
Malta average 2012	132	47,917	198
Malta average 2010	110	29,220	187
Malta average 2007	100	59,560	317

Source: DHIperiti in-house valuations 2017

These are to be compared with the prime European office rents averaging out at €470/m² within a range of €1,223/m² in London(West End), Moscow at €684/m², Paris at €772/m², Frankfurt at €474/m², Dublin at €646/m², Warsaw at €276/m², Brussels at €300/m², Prague at €240/m², and Barcelona €270/m².

TABLE 11: RETAIL PREMISES PROPERTY INDEX 1982-2016

YEAR	1982	1987	1988	1992	1996	1997	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
TYPE																						
RETAIL	100	109	157	194	232	256	350	373	397	420	425	430	435	440	445	450	455	500	525	550	580	580

Source: DHIperiti in-house valuations 2016

Prime European retail yields vary from a low of 3.75% in Paris, Berlin, Munich and Hamburg to a high of 10.25% in Moscow, however most European cities fall in the 4% to 5.5% range.

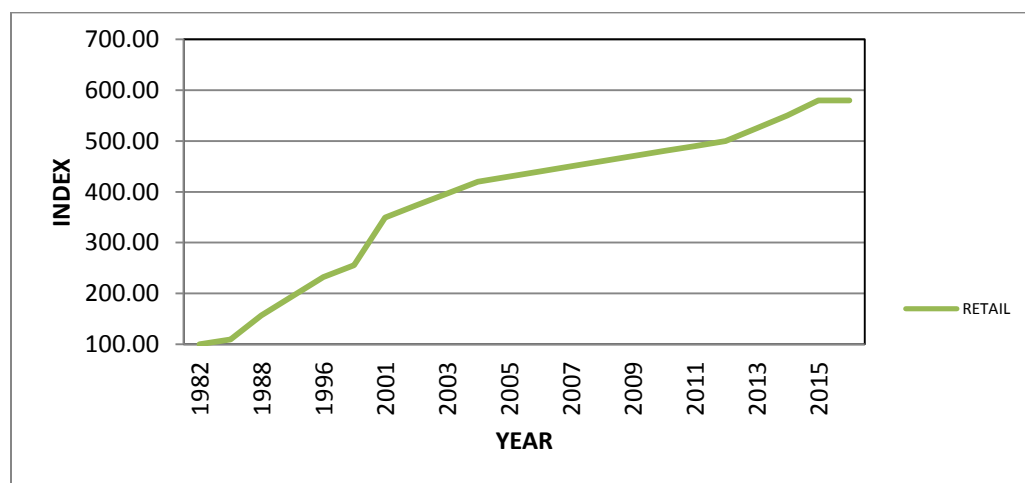
CHART 5: RETAIL PREMISES PRICE GROWTH 1982-2016

TABLE 12 – COMPARING MALTESE COMMERCIAL RENTALS WITH THE EUROPEAN AVERAGE.

Property type	Rental range of the Maltese Islands €/m ²	Capital Appreciation over 10 years	European best positioned Average rentals in €/m ² – (Max)	European Prime Yields
Industrial	up to €70	8.50% pa	€189/m ² (611)	5.25% - 7.0%*
Offices	€20 - €475	3.5% pa	€472/m ² (1,495)	3.90% - 5.50%
Retail	€70 - €450**	2.75% pa	€1,684/m ² (5,789)	4.25% - 5.50%

Table 13 - RELATIVE ECONOMIC MALTESE DATA RELATING TO VALUATION METHODOLOGY 2017

From Central Bank's Yield Curve

CBM Base Rate 3.75% (2006) 4.25% (2007) 2.5% (2008) 1.0% (2009) 1.0% (2010) 1.50% (2011) 0.75% (2012) 0.25%(2013) 0.15%(2014) 0.05%(2015) 0.025% (2016)

CBM	2004	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
2 YR	3.25	3.50	4.50	4.25	2.40	1.85	1.87	1.87	1.06	0.75	0.17	0.03	-0.02
5 YR	4.25	4.00	4.70	4.50	3.65	3.00	3.31	2.80	2.23	1.75	0.71	0.37	0.25
10 YR	4.70	4.50	5.10	4.75	4.55	4.25	4.30	3.95	3.43	2.85	1.49	1.07	1.02
15 YR	4.95	4.50	4.90	5.25	4.95	4.75	4.90	4.85	4.35	3.85	2.11	1.76	1.66

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