Hotel valuations earning multipliers – terminal value: Malta's scenario

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Abstract

Purpose – The purpose of this paper is to establish whether a terminal value is a substantial amount of the final figure in a hotel's valuation. Malta's scenario has been delved into. This due to the fact that owing to Malta's high population density and its restrictive land area, land values attract a high premium as compared with larger developed countries. Other matters such as earnings' multipliers derived from a cap rate (initial yield), CAPEX has also been delved into.

Design/methodology/approach – The methodologies adopted in hotel valuation practice has been delved into. An extensive literature review is undertaken to analyse the earnings multiplier adopted by various authors over the past 30-year period. The hotel cap rate (initial yield) has been compared with similar yields adopted in the institutional and property markets and then compares to market-based data. A discussion is undertaken on the validity of adopting discounted cash flow, as against the short cut market appraisal approach. Capitalization rates, cap rates have also been referred to as obtained from the academic and practitioners field and compared. Depreciation and the anticipated annual accommodation charges have been analysed. A database of hotel rooms value over the past 20-year period has been referred.

Findings – A table outlines the earnings' multipliers in perpetuity or for the limited expected design life for various cap rates. This data will act as a guide in guiding practitioners to establish an earnings' multiplier to be applied in their valuation methodology. An example in the Appendix clarifies the manner in which this data table is to be utilized. The finding of this example notes that for this hotel in Malta, as constructed on private land, the terminal value for this development hovers around the 30 per cent of the market value.

Research limitations/implications – This analysis is based on five valuations as undertaken on five hotels in Malta with classification grades varying from III to V. This notes that the terminal value varies within a range of 9-45 per cent of the total value. This analysis has to be undertaken for other countries for a global range of land terminal values percentages to be established.

Practical implications – Establishing the terminal value of a hotel business, will offer greater security for secured lending facilities required. It will further act as an important tool to establish the feasibility of a hotel development.

Originality/value – Updated insight is given to existing hotel valuation methodologies by delving into the workings of the earnings' multiplier and establishes that in today's market the terminal value of the hotel basis has to be accounted for. The above findings are based on a link between theory and practice.

Keywords CAPEX, Caps rate (initial yield), Depreciation, Discount rates, Earnings' multiplier, Terminal value

Paper type Research paper

Introduction

Most trading properties have a finite life. This includes also for hotels that are situated on freehold land. The exception to this would probably be boutique hotels situated in historic buildings/settings with upgrading defensive refurbishments as undertaken over specific periods for the running of the hotel business to sustain existing cash flow without the expectation of significant upside.

Thus, a trading property is valued in two tranches. The first is according to its trading profits capitalized over the estimated life of the business. The methods as

undertaken to capitalize on the trading profits are discussed in the following section "The valuation of hotels". It is to be noted that this trading capitalized potential could also contain an element of goodwill that has to be identified. To capitalize on the trading profit an earning multiplier has to be identified.

The "Literature review" section addresses this, although it is noted that the earnings' multipliers quoted is only illustrative rather than indicative of the most recent market trends. Further with not too great insight given on how the earnings' multipliers are analysed, the question then revolves on whether this is undertaken solely by the comparative method.

The section "Market-based earnings' multiplier" looks into analysing the earning multiplier from market-based data taken from international practices of hotel valuers. Table IV in this section is a calculation of the earnings' multipliers, depending on the life expectancy of the hotel business and the cap rate (initial yield) to be adopted. A methodology on how an earnings' multiplier can be calculated is then undertaken.

The following section dwelling on the "Earnings' multiplier as affected by the inverstment and corporate fields" endeavours to reconcile the earnings' multiplier. This is obtained by considering the workings of the investment property market or the corporate property market. Following the 2008 global financial meltdown, this effected the earnings' multiplier. Further on, an insight on how the highs and lows, together with the economic bubbles of the financial market affect the earnings' multipliers is gauged.

The second tranche in the valuation process then occurs at the end of its business life, with the terminal value popping in, due to economic obsolescence, which generally will be the projected land value at the estimated end of the business life, as discounted back to its present value. This economic obsolescence is gauged from Rushmore's (1997) observations that for a hotel development to be feasible its land value is not to exceed 15-20 per cent of its market value, with this percentage being even higher in countries with low labour costs. Rushmore (1997) then continues that the hotel business may have a life span as short as 20 years, or as long as 60 years, averaging out over 40 years. Further, a terminal value will not ensue for land held on a leasehold basis, with the leasehold expiring during the life span of the hotel.

These feasibility ratios are tested by hotel valuations as undertaken in the densely populated Islands of Malta, Gozo and Comino. This archipelago situated in the centre of the Mediterranean is a small island state of 316 km^2. In the 2005 Malta census the population stood at 404,962. In the last census NSO (2011), although the population grew by 2.7 per cent to 416,055, a slowdown in population growth occurred due to an average annual increase of 1,849 compared to nearly 2,700 evidenced in the previous decennium. Malta remains by far the most densely populated European Union (EU) Member State, with an average of 1,320 persons per km^2, compared to an overall average of 116.6 persons per km^2 for the EU.

The section on "Land values in densely populated areas" outlines some global statistics on land values. This is then followed by the section "Landed property Malta's database", which includes for data as compiled by the practice of DHI Periti. This section notes that for the highly populated Islands of Malta, landed value annual increases over the past 30-year period is double the annual increases for the affordable residential property market.

The previous sections then lead onto the following section "Terminal hotel values – the Maltese scenario". Table XIII in this section outlines the present market value and exsiting use value together with the terminal land value of 5 in number hotels as valued by the practice of DHI Periti over the past three-year period.

The above simplified two tranche method had been challenged by the British Association of Hotel Accountants (BAHA, 1993), arguing that the terminal (residual) value is not a very important component of the estimated market value. The Royal Institution of Chartered Surveyors (1994) had responded to this by stating that in some valuations the terminal (residual) value accounts for as much as 50 per cent of the estimated market value. The difficulty here arises that the terminal value accounts for a significant proportion of the estimated market value, but based on a distant ultimate uncertain year. Thus, techniques should be employed to reduce the risk of error in deriving this terminal value (Nilsson *et al.*, 2001).

The "Recommendations" section identifies an earnings' multiplier methodology, then analyses the benefits if any on applying the discounted cash flow (DCF) method for an ongoing hotel business. The final comments relate on the terminal value of the hotel development, and whether the above BAHA (1993) statement of the terminal value is still valid.

The Appendix includes for a mid-market hotel valuation example. This then discusses the methodology, based on a link between theory and practice as outlined in all of the above sections. The cyclical maintenance and capital expenditure CAPEX requirements as effecting the valuation are also delved into.

The valuation of hotels
This is undertaken according to the valuation of premises based on operational performance of business trading properties. The type of properties which are normally valued on the basis of fully operational business units include for hotels, bars, restaurants and other licenced premises, a wide range of private health care facilities and most types of leisure property from amusement arcades to squash courts. The valuation will therefore include trading potential and it must exclude personal goodwill. Goodwill is classified if the company is presumed to be carrying on its business as a going concern and that all the assets are being utilized on a continuing basis. Goodwill may be made up of tangible and intangible elements. Transferable goodwill as attached to the business is known as tangible as opposed to intangible personal goodwill. This calls for intangible goodwill to be excluded from the valuation figure, that is any turnover that accrues solely from the personal skill, expertise, reputation attached to the existing management. On the other hand the intangible element of goodwill can be included on the basis of worth, thus being defined as a "value in use". A hotel that is open and trading will attract a higher value than a closed one. Similarly a newly built hotel attracts a lower value than a hotel with a proven record. The difference between these two market values, that is of the open and trading hotel as opposed to the value of a closed hotel or a newly built one can be taken as the goodwill value. Finally the valuer must exclude any trade due to personal goodwill, but include for the potential realized by an average competent operator.

Royal Institution of Chartered Surveyors (RICS, 2011) notes a Reasonably Efficient Operator as: "A market-based concept whereby a potential purchaser, and thus the valuer, estimates the maintainable level of trade and future profitability that can be achieved by a competent operator of a business conducted on the premises acting in an efficient manner. The concept involves the trading potential rather than the actual level of trade under existing ownership so it excludes personal goodwill".

Hospitality properties are not frequently sold and when sold, difficult to be similar due to the variety in the services offered. The sales comparison approach relies heavily on a large number of recent sales to support a strong predictive value. Appraisal

experts widely believe that the sales comparison approach is the strongest approach only when a high number of representative sales have accurate and readily available data for the development of sales adjustments; this is not the case for such a specialized property with significant variance in ownership interests.

The comparative method even applies for investment properties mainly office, retail and industrial premises, also considered as non-specialized property (French, 2004). Pagourtzi *et al.* (2003) discuss that for these properties a market exists for rental rates and the yields which may be obtained by the comparative method. The rental income is considered a cash flow and as such, the value of the rented property may be determined by the present value of the predicted cash flow. A gross rent multiplier can be obtained by analyzing other previous comparable sales and obtaining this figure by de-capitalizing.

On the other hand hotels which fall under the specialized property category are those properties where there are insufficient market data to value them by some form of comparison, here rental data are lacking, thus the market value of the hotel in owner-occupation will be dependent on the potential cash flow. That cash flow is dependent on the number of bedrooms, the room rate, and the average occupancy for the year. Thus, the property is simply viewed as a unit of production and it is the valuer's role to assess the economic rent for the property from first principles. This includes for assessing the potential expected annual revenue followed by deducting all costs to arrive at the earnings before interest, taxation, and depreciation and amortization (EBITDA) value. Audited accounts will guide the valuer in arriving at this figure. Further, now the economic rent may also be established after allowing for the remuneration due to the hotelier, together with monies/interest incurred in the running of the hotel. However, both Pagourtzi *et al.* (2003) and French (2004) simply refer to the business element for hotel valuations with no reference given to their terminal value.

Sayce (1995) had noted that in addition to studying the actual or projected accounts, the valuer must be cognisant of competition, statutory requirements that could impact on the operation of the business, quality of management, locational potential, style, etc. Grants, too, can have a major impact on the notional profitability of a business. The role of the valuer, therefore, is not one of accountant – but interpreter of financial and physical information and for this, a high level of market research is required, together with a clear understanding of the nature of the business. It is for this reason that the profits method has long been argued to be specialist.

The sale of hospitality premises is not merely the sale of brick and mortar. These generally involve the sale of the real estate and the business of the hospitality entity. Sale prices reflect both the value of the real estate and the value of the business. The market value for hotels includes four major components, namely (Nilsson *et al.*, 2001):

(1) the land;

(2) buildings;

(3) contents; and

(4) the business value.

The existing use of property lacks the normal requisites from marketability and complicates the application of traditional valuation techniques. Emphasis is placed on the cost and income approaches in valuing hospitality premises with the income approach given the most emphasis to reflect market factors, which result in a valuation of the premises as a going concern.

Of the numerous valuation methods available there appears to be a consensus that they constitute three main approaches, namely (Nilsson *et al.*, 2001):

(1) the cost approach;

(2) the sales comparison approach; and

(3) the income-capitalization approach.

From the above it is noted that method (3), the income-capitalization approach is the preferred one. This goes beyond the relative simplicity of the cost and the sales comparison approaches by attempting to relate the wealth-generating capacity of the hotel to its value. With regards to the Cost Approach IVSC 2011 Standards notes that this is only applicable in the startup approach, in the case of early stage or startup businesses, when profits or cash flow cannot be reliably determined.

The income-capitalization approach has a further number of subdivisions, namely:

(1) The single capitalization rate that applies an earnings' multiplier. This simplicity is, however veiled, as establishing the earning's multiplier truly applies a shortened DCF method, as outlined in the following section. IVSC 2011 Standards hint that not too much weight should be given to this short cut market appraisal. But it then notes that it is common for value to be determined by applying an appropriate multiplier to the EBITDA amount. Care has to ensure that the multiple used is based on analysis of other similar asset classes.

(2) The DCF analysis, which however caters for the prediction of future estimated cash flows, normally goes into a ten-year period, with then capitalizing the tenth year projected earnings. This surely warrants that a thorough analysis of the earnings' multiplier is as robust as the DCF dubious estimated analysis. Forecasting is always treading on slippery ground, trying to anticipate what is to occur four years into the future is already a large step into the dark, let alone anticipating the effects over a ten-year period.

(3) Band of investment method based on the average cost of capital by splitting up the investment into an equity portion and a geared portion. This method has not caught up in Europe, with this being more at home in American appraisal. IVSC 2011 Standards specifically note that the capitalization or discount rate for the capitalization of profits or cash flows is the weighted average cost of capital (WACC), of an appropriate mix of debt and equity.

The most important single capitalization rate figure to determine for the profit's method of valuation is the "adjusted net profit" that the existing premises is capable of producing and then adds back any items that are personal to the individual operator, which includes finance and depreciation charges. This figure is known as EBITDA.

RICS (2011) notes that: "The determination of the capitalization factor applied in arriving at the capital value of the property relies on the experience and judgment of the valuer. It should reflect the valuer's opinion of the market's perception of the risk and desirability associated with the subject property or the class of property, the relevant market sector's approach to value, the availability and likely cost of funding for startups, and transfers of the type of business and the property's current and future trading potential. It should take into account and be supported by all available market evidence, intelligence and general economic factors".

A less reliable approach (method (1)) is the assessment of the value of the building on a (method (1)) bricks and mortar value, after taking note of the state of repair of the property. It then adds on value of the goodwill. Rees and Hayward (2002) notes that, goodwill is catered for by applying a figure of 1-1.5 times the adjusted net profit. Dunse *et al.* (2004) notes slight updating at 1-1.75.Finally, an estimate of the value of the trade fixtures, fittings and furnishings in their present condition is also to be added on.

The other method (2), which is really to be utilized as a check, is a per-bed multiplier, which suffers from the shortfalls of the comparison method for hotel property as outlined above, due to lack of transactions available. Other rule of thumb methods quote the value of a room at 1,000 times its average daily rate, or 100,000 the price of a coke can in the bedroom's mini-bar (Rushmore, 1997), but these are only to be looked upon as very rough rules of thumb.

Fair market value is defined as "the price at which property would change hands between a willing buyer and a willing seller when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of relevant facts". The most important distinction between fair market value and investment value is that fair market value is determined by the price of a general willing buyer, while for a particular buyer, a price that reflects the particular facts and circumstances of that investor, defines investment value.

An investor can realize that if he has to undertake a similar hotel development, he would have to incur the brick and mortar value expense. He could possibly thus be prepared to recognize this figure, although it may be superior to the present trading potential existing use of the hotel. Undertaking this option, it is recognized that he forfeits the hassle of participating in the development, with all its inherent risks. Further a long-term investor beyond taking note of the existing use value of the hotel, will also give due weighting to its terminal value. The terminal value will also relate to an upgraded hotel use or a viable change of use such as condominium apartments, even a mixed hotel development. Ultimately with all uses having reached their obsolescence the terminal land value is to be considered.

Identifying the earnings' multiplier – a review of the literature
As noted above, since the valuation of hotels as based on its trading potential is considered a specialized form of the valuation process, it is not given much coverage in textbooks (Sayce, 1995). The textbook, *The Valuation of Licensed Premises*, is truly more concerned with valuations for compulsory purchase, rating, taxation, asset valuations and applies a earning's multiplier of between 8 and 10×, with however giving no explanation on the basis of how these applied figures are to be ascertained. Scott in the publication *Valuation, Principles into Practice* (Rees and Hayward, 2002), discusses the earnings multiple approach. The multiplier is noted as being derived from the rate of return, which a hotel operator requires in order to purchase the property. This return should take account of the security and growth prospects of the income. This approach is looked upon as a mature solution based upon the maintainable level of net profit in the normal stabilized year of trading. For new hotels, a deduction is applied to reflect any shortfall in earnings prior to the stabilized years. An earnings' multiplier of 10× is applied to the ensuing example, with again however no breakdown on how this figure was arrived at. This example was then supplemented with a DCF analysis with a discount rate of 15 per cent, which gives a comparable figure to the earnings multiplier. The revised publication (Hayward, 2008) utilizes a YP in perpetuity of 8.5 per cent which equates to an earnings' multiplier of 11.76×. Further to what had

been quoted in 1995 (Sayce, 1995), the authoritive text *Modern Methods of Valuation* (Shapiro *et al.*, 2009) still dedicates a minimal amount of pages to trading properties. Isaac and O'Leary (2012) then undertakes a hotel valuation in "The profits' method of valuation" chapter. This valuation undertaken via the dual capitalization approach estimates the rental income of these premises and then capitalizes at 8 per cent, then adding on a value for goodwill, which worked out at 3× the residual profit for the premises together, with value of fixtures, fitting stock and cash at hand. The resulting value obtained in truth works out at a multiplier of 7× the net adjusted profit.

Colborne (1992) stated that the market usually refers to a multiplier and not a yield. He then continues whether a multiplier of 4 represents a YP in perpetuity at 25 per cent or a YP for ten years at 15 per cent. Menorca (1993) had applied an earnings' multiplier of 13.33×, which however, produced a value, which fell far too short of the income-capitalization approach value. This may be due to an example with a hotel having a growing income stream, not a stabilized income. If the earnings' multiplier were to be applied on the successive year's earnings then it is noted that an earnings' multiplier of 13× is sufficient for the two values to coincide. This outlines the importance to the valuer that the multiplier is to be applied to a stabilized income stream.

Sayce (1995) had applied an earning's multiplier of 11.11× in an example as attached to the Appendix. Then there is a disparity of values amongst the five valuation methods undertaken on the same premises. The second example undertaken reflects perfectly the example as undertaken by Isaac and O'Leary (2012). To be noted that there is a 40 per cent reduction in value between examples (1) and (2). Sayce in *Valuation, Principles into Practice* (Hayward, 2008), now applies the same two methods, however for a leisure property, with no difference in value this time round occurring. In the first example, an earnings' multiplier of 8× is applied to the operating profit. In the second example via the dual capitalization approach, the rental value is capitalized at 8.5 per cent, giving an earning's multiplier of 11.76, whilst the residual profit is given a multiplier of 2×. These multipliers are as opposed to the 2002 edition of *Valuation, Principles into Practice*, when the operating profit was applied a multiplier of 6×, then again in the dual capitalization approach, whilst for the rental income this was capitalized at 11 per cent, signifying a multiplier of 9.091, whilst the residual profit was given the same multiplier of 2×. The dual capitalization approach is normally used where owner operators dominate the market. The rental portion which is considered more secure is capitalized at a property yield. The residual profit is considered less secure and is assessed by a multiplier normally in the range 2-5. It is stressed that the residual value in the hands of the operator does not represent personal goodwill, but it is the residue that an efficient operator would expect to make over and above the rental amount.

Dunse *et al.* (2004) mention that they were advised that hotels in Scotland had multipliers of between 5 and 7 as applied to the adjusted net profit remaining steady over the past ten-year period. It is then questioned whether a multiplier of 5 represents a years' purchase in perpetuity of 20 per cent or a year's purchase for only ten years at 15 per cent. The example which followed then applied an earnings multiplier of 8× (initial yield 12.5 per cent). Next a DCF analysis over a ten-year period with a 14.5 per cent discount rate for an up and running hotel was undertaken; this produced a very similar figure to the earnings' approach. The difference produced between the initial yield and the discount rate implied a growth rate of 2.54 per cent. This implied growth rate coincided with the estimated inflation rate, which is accepted to conform to annual hotel income rise expectations. This DCF exercise was then undertaken for a

new business but not presently trading. Due to the higher risks in forecasting the earnings over the projected ten-year period, the discount rate was now taken at 16 per cent. The difference between the two market values as obtained by the DCF was assigned as the value of the goodwill. Interestingly this compared with the goodwill multiplier of 1.25, which may be considered as an YP in perpetuity at an 80 per cent rate of interest. This exercise gives an insight into the goodwill multiplier mentioned earlier on which was noted to vary within a range of 1-1.75.

Saunders (2010) noted that for a provincial city hotel the multiplier is taken at 8×, whilst for a major city IV-star hotel this is taken at 12.5×.

Out of the 20 valuation scenarios outlined in Harper (2011), only three in number of these valuations were undertaken via the DCF method. The remaining valuations were undertaken by applying the earnings' multiplier varying from 10× up to 16.67×. The use of this multiplier is explained via the term of "softer" or "sharper" cap rates (initial yield) depending on the various risks involved. In the scenario of a hotel still being developed or undergoing a major refurbishment job, the valuation is undertaken in an identical manner by applying an earnings' multiplier. The estimated income shortfall and capital expenditure over the appropriate three-year period is then deducted.

Harper (2011) then considers a hotel development to attract an additional 3 per cent on its initial yield as compared to a retail development. This premium consists of a 1.5 per cent adjustment to compensate for the uncertainty of the income stream, 1.0 per cent to reflect additional liabilities of a management contract and 0.5 per cent to reflect the different property class. Further to this no insight is given on the methodology to be undertaken to calculate the earnings' multiplier from the investment parameters prevailing at the time of valuation.

Rushmore (1997) applied an earnings' multiplier of 9.32 (10.73 per cent) in the hotel valuation example then undertaken. This capitalization rate of 10.73 per cent is obtained via the WACC method. This example noted a loan-to-value ratio of 75 per cent, a mortgage interest rate of 10.5 per cent and an equity dividend at 10 per cent.

By ignoring the mortgage's length of term, this approximates to:

$$75\% \text{ of } 10.5 + 25\% \text{ of } 10 = 10.375\%$$

Fraser (2004) noted the required return for both institutional and corporate investors, calculating the opportunity cost of money as applying to both scenarios. The opportunity cost of money is the return expected from an alternative investment of similar risk and other characteristics to the subject of the appraisal. For institutional investors, the required return is normally assessed by adding a premium to the redemption yield of gilts, noted as a risk free investment. In the case of companies, it is based on the after-tax WACC. However, if the investment being appraised is deemed to have a risk premium greater than the risk of the company as a whole, a risk premium should be added to the WACC.

Market-based earnings' multiplier

The above literature has established a band of earnings' multipliers as lying between 5 and 16.67. Again it is to be noted that the earnings' multipliers quoted could be only illustrative rather than indicative of the most recent market trends. The American literature refers to cap rates which are the equivalent to the initial yield. According to the Appraisal Institute, the capitalization rate or cap rate (initial yield) is a method used

to convert an estimate of a single year's income expectancy into an indication of value in one direct step, by dividing the income estimate by an appropriate rate. What we are doing when calculating a cap rate (initial yield) is dividing the annual income generated by the property being appraised by the price paid. Looking at it this way, the cap rate (initial yield) tells us how much that property is yielding.

The most commonly used income is EBITDA. The calculation of EBITDA is not always done on the same basis. This discrepancy involves mostly fixed charges. It has been found that cap rates (initial yield) resulting from transactions are based on an EBITDA figure that sometimes includes aspects like management fees, whilst sometimes it does not. The same applies to other measures, like the replacement reserve (although these fixed charges tend to be, generally, deducted before capitalization). This means that investors comparing the different cap rates (initial yield) achieved in various hotel transactions are not always comparing figures calculated on the same basis, which can clearly be misleading.

Sometimes the EBITDA value taken is based on past performance, whilst for others it may be based on current figures or on future estimates. Clearly, what period of time we consider will affect the resulting cap rate (initial yield). As profits had tended to increase year over year, cap rates (initial yield) based on historic data tend to be lower than those calculated using estimated future profits. The period 2008-2010 following the global financial meltdown with a hefty drop in profit earnings is also to be considered. The different stages in the cycle of a hotel (initial growth, maturity and decline) should also be considered.

The following chart shows the trend in cap rates (initial yield) for a select set of full service hotels in the USA from 1988 to 2006 as noted in Badanes (2007). A set of data had been calculated using the historic net operating income, whilst the other has been calculated taking the first year projected income. On average, the differential between these two sets of data for the whole period was 1.70 per cent, although this differential narrowed over the last few years of this period. This differential is to be compared with the differential undertaken by Dunse *et al.* (2004) of 1.5 per cent in their DCF calculation.

Badanes (2007) notes that Luxury hotels are usually valued at lower cap rates (initial yield) than budget hotels. This has also been noted in the literature review (Saunders, 2010). Table I notes the cap rates (initial yield) estimated by HVS International and Badanes (2007) for the different segments within the US hotel market .This differential between the lower end of the range for luxury hotels in 2006 (5 per cent) as compared with the higher end of the range for budget hotels (11 per cent), is a very a significant 6 per cent.

Cap rates (initial yield) derived from all of the sales data in the HVS sales database (Mellen, 2012, 2013, 2014), based on historical net income at the time of sale divided by the sales price, support these trends, as evidenced in Table II. Cap rates (initial yield) for full service, select service and extended-stay and limited service products have trended up since 2010. These have been relatively stable over the past three years,

Luxury segment	5.0-6.5%
Mid-rate segment	7.0-9.0%
Budget segment	8.0-11.0%
Sources: HVS International and Badanes (2007)	

reflecting a healthy market in terms of hotel operating performance and transaction activity.

Cap rates (initial yield) derived from investor surveys generally support these trends, though we note that a disconnect remains between cap rates (initial yield) for the full service and luxury product category based on what investors say they want to yield (survey data) and the rates of return derived from actual sales transactions. Sales transaction data provides ample evidence of quality full service and luxury hotels continuing to sell in the 6-7 per cent cap rates (initial yield) range (Mellen, 2013).

Note is further to be taken in the wide dispersion of the cap rates (initial yield) in Table II for the various hotel sectors. This is due to the effect of the impact of any necessary capital expenditure CAPEX on hotel capitalization rates. Around 70 per cent of hotel purchases undertaken in 2013 require CAPEX to be undertaken. As capital improvement costs rise so should capitalization rates based on current net income divided by the sales price, because the CAPEX is in essence built into the cap rate (initial yield). The range of capital improvements as a ratio to price is fairly wide, from a 2.1 per cent for a newer select hotel to over 30 per cent for a luxury hotel. The data in Table III is based on a capitalization rate derived on the actual purchase price. Factoring in the CAPEX together with the purchase price reflects the total investment

Property type	2013 Average (%)	2013 Range (%)	2012 Average (%)	2012 Range (%)	2011 Average (%)	2011 Range (%)	2010 Average (%)	2010 Range (%)
Full service incl. luxury	6.2	2.9-7.9	5.8	1.5-11.7	6.1	0.05-10.9	5.3	1.7-8.0
Select service and extended-stay	7.4	2.5-14.2	7.4	4.0-11.7	7.7	3.2-12.6	7.8	3.1-12.4
Limited service	9.2	5.4-12.9	9.3	3.7-12.2	9.5	0.03-30	8.5	1.3-16.3
Source: HVS San Francisco (Mellen, 2012, 2013, 2014)								

Table II.
Cap rates derived from sales transactions – historical NOI

	Cap rate based on historical NOI (%)	Cap rate based on 1st year projected NOI (%)	Unlevered discount rate (%)	Equity yield (%)
2012	6.2	7.5	10.8	17.7
2011	6.1	7.1	11.7	16.8
2010	4.6	5.4	11.8	15.9
2009	8.0	6.4	13.7	16.9
2008	6.7	5.8	11.6	19.3
2007	6.0	6.8	11.6	21.3
2006	5.5	5.7	10.8	18.9
2005	5.2	6.9	11.4	19.7
2004	5.8	7.4	12.2	19.7
2003	7.9	8.2	14.0	21.4
2002	8.9	9.8	13.6	21.0
2001	8.2	9.8	14.6	22.2
2000	9.2	10.4	14.0	21.0
Source: HVS San Francisco (Mellen, 2013)				

Table III.
Derived and projected cap and discount rates – select set of full service hotels

as anticipated to be undertaken by the buyer. The cap rate (initial yield) taken on the purchase price is consistently higher than the cap rate (initial yield) to be undertaken when CAPEX is factored in. The average differential is noted at 0.8 per cent higher, which impacts the value by 10 per cent (Mellen, 2014).

The cap rates (initial yield) noted in Tables I and II are to be compared to those in the institutional property investment market of prime offices and retail premises which vary from 4.25 up to 8.25 per cent. The higher hotel cap rates(initial yield) demonstrate their greater risk. On the other hand hotel cap rates (initial yield) in Europe have traditionally been lower than in other markets. Hotel assets in Europe have generally achieved higher prices per room than in other places (even when compared with the USA). This is because traditionally it has been more difficult to acquire quality assets in Europe given the higher restrictions on the land and the higher number of protected buildings.

Cap rates are inevitably affected by the cost of debt and equity, with hotel cap rates coming down as interest rates fell. The fall in the advanced economies central banks' marginal lending rates, as known in the Eurozone is to be noted. This as a fixed rate for institutions to borrow money from the central bank, averaged out at 4.25 per cent in 2006 prior to the global economic meltdown in 2008, narrowing down to a base rate of 0.75 per cent in 2012 and even further to 0.25 per cent in 2014.

Table III then notes that:

(1) the hotel discount rate had slid from a high of 14 per cent at the turn of the century to a low of 10.8 per cent in 2012;

(2) a drop in the investment yields occurred, whereby the equity market slid from 21 per cent in 2000 down to 17.7 per cent in 2012;

(3) the mortgage rate has also slid down to presently average 3.25 per cent from 7 per cent; and

(4) safe gilt investments, which today yield 4.25 per cent and even lower, also slid down from just under 7 per cent.

The 14 per cent discount rate in 2000 conforms to the information yielded from the literature review; whereby the earnings' multiplier hovered around 8-10×, with very limited multipliers exceeding 10×.

At a cap rate (initial yield) of 6.2 per cent noted for 2012 from Table III, the earnings' multiplier on historical earnings works out at 16× as obtained from Table IV, whilst on one-year projected earnings at a cap rate of 7.5 per cent for 2012, the earnings multiplier works out at 13.33×. Table III again notes a premium of around 1.07 per cent between historical and projected earnings. This as compared to the noted 1.7 per cent premium quoted over the 18-year period as per Figure 1.

Mellen (2013) then notes that hotel cap rates (initial yield) derived from actual sales transactions have risen since their nadir in 2010 noted in Table III, when investors were buying assets based on net income that was severely depressed due to the impact of the great recession. With the recovery in hotel performance, much of the expected improvement in net operating income has been realized; thus, the potential for future upside has moderated, resulting in a rise in capitalization rates from 2010 to the present. Many hotels have or soon will be reaching prior peak occupancy levels. Future gains in revenue and net income are still anticipated as average rates rise faster than inflation. However, in many markets just how much and how fast revenue will continue to climb is uncertain. Some markets have already witnessed two years of strong, above inflationary

Cap rate (%)	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	12	12.5
5 years	4.2	4.15	4.10	4.05	3.99	3.94	3.89	3.84	3.79	3.74	3.70	3.65	3.60	3.56
10 years	7.36	7.19	7.02	6.86	6.71	6.56	6.42	6.28	6.14	6.01	5.89	5.77	5.65	5.53
15 years	9.71	9.42	9.11	8.83	8.56	8.3	8.06	7.83	7.61	7.39	7.19	7	6.81	6.63
25 years	12.78	12.2	11.65	11.15	10.67	10.23	9.82	9.44	9.08	8.74	8.42	8.12	7.84	7.58
30 years	13.76	13.06	12.41	11.81	11.26	10.75	10.27	9.83	9.43	9.05	8.69	8.36	8.06	7.77
40 years	15.05	14.15	13.33	12.59	11.92	11.31	10.76	10.25	9.78	9.35	8.95	8.58	8.24	7.93
50 years	15.76	14.72	13.8	12.97	12.23	11.57	10.96	10.41	9.91	9.46	9.04	8.66	8.3	7.98
65 years	16.29	15.13	14.11	13.21	12.42	11.71	11.07	10.5	9.98	9.51	9.08	8.69	8.33	8
Perpetual	16.67	15.38	14.29	13.33	12.5	11.76	11.11	10.53	10	9.52	9.09	8.7	8.33	8

Table IV.
Earnings' multipliers
in perpetuity or for
limited expected
hotel life
expectancies for
various cap rates
(years' purchase)

Figure 1.
Derived and
projected derived
cap rates for select
set of full service
hotels (in per cent)
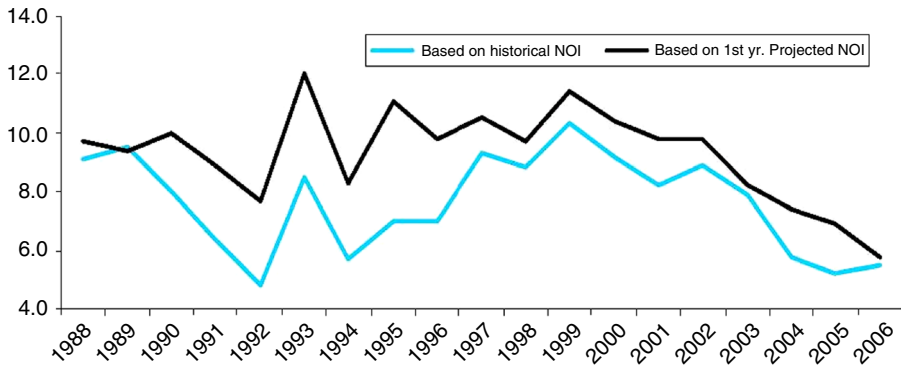
Source: HVS International and Badanes (2007)

average rate growth, and just how much more consumers are willing to pay before being priced out of the market is unclear. Those markets that are lagging in their recovery may have a difficult time raising average rates as aggressively as they did in the past due to uncertain economic conditions. At the same time, we are beginning to see increases in the supply pipeline, particularly for extended-stay and select service product, which may impact existing hotels. While most hotel investors remain very bullish about future net income gains, due to what is perceived as a supply/demand imbalance in favour of demand, investors are becoming less aggressive in their forecasts of future operating performance, wary of overpaying in a market laden with uncertainty. These factors have translated into a stabilization of cap rates (initial yield), as evidenced by the data derived from hotel transactions that HVS appraised at the time of sale. Table III sets forth the historical trend in full service hotel rates of return.

Mellen (2013) continues that, while cap rates (initial yield) based on historical and projected first year net income trended up slightly from 2011 to 2012, unlevered discount rates have declined by 90 basis points, reflecting a moderation of projected future gains in NOI; and extremely low interest rates and the increasing availability of debt financing. Low interest rates have helped to keep hotel discount rates low with this low interest regime seeing us into 2014. Hotel mortgage rates hovering around 5 per cent presently are now uncommon. At the same time equity return requirements remained fairly stable from 2011 to 2012 and well below their rates prior to 2009.

However, as noted, hotel developments have a finite lifespan with a maximum of 40 years quoted. The earnings' multipliers as quoted are in perpetuity, with Table IV listing the earnings multipliers taking note of a hotel's remaining useful life for various cap rates (years purchase).

Table IV notes the earnings' multipliers as varying from the lowest value at 5.53× up to the highest at 16.67×, with expected life expectancy being not less than ten years. The "Literature review" gave a band of values between 5× and 16.67×. Thus for the caps rate (years purchase) range outlined in Tables I and II, for the various hotel classifications, Table IV gives the earnings' multiplier presently lying within a range of:

- for a luxury hotel multiplier varies within the range of: 16.67× down to 9.00×;

- for an economy hotel multiplier varies within the range of: 11.50× down to 7.00×; and

- for a budget hotel multiplier: varies within the range of: 9.00× down to 6.63×.

The insignificant difference in the earnings' multipliers taken in perpetuity, as compared with those with a life span limited to 65 years, may be noted from Table IV. This confirms the notion that any leasehold with 65 years still unexpired may be considered as a freehold.

Thus in a hotel appraisal its life expectancy is to be initially estimated. The earnings' multiplier as taken from Table IV, on multiplying this multiplier with the EBITDA amount will equate to the existing use of the hotel. The open market value of the hotel development is then calculated by adding onto the existing use value its terminal value on the expiry of it useful life, discounted back to the present day.

Menorca (1993), referred to previously had applied a discount rate of 12.5 per cent to the DCF analysis. This discount rate appears on the low side for 1993, considering the high yields in place on gilt investments. This discount rate was however obtained by the WACC method, as the hotel was subjected to 60 per cent mortgage at 10 per cent rate of interest, with the 40 per cent share of equity yielded 15 per cent.

By ignoring the mortgage's term length, this approximates to:

$$60\% \text{ of } 10.0 + 40\% \text{ of } 15 = 12\%.$$

Earnings' multiplier as affected by the investment and corporate fields

Isaac and O'Leary (2012) note that property investors consider as acceptable earnings on their institutional property of 9 per cent pa, as confirmed over a lengthy period by the IPD index. Here we note a property risk premium added on of 2 per cent, if the present cost of capital to investors is taken at 5 per cent, together with another 2 per cent to cater for the effects of inflation. This is to be compared to the hotel discount rate for ongoing business quoted as varying from 14.6 per cent down to 10.8 per cent in Table III. On the other hand, in property development, with the developer creating the property assets, the developer who undertakes a higher risk than the property investor, does expect a higher rate of return. The rate of return for property development lies within the range of 12.5-20 per cent of the development value, depending on the particular project.

Fraser (2004) quotes a rule of thumb, whereby property developers in assessing their required return on a project is obtained by doubling their cost of capital. A distinction is then made between institutional and corporate investors. Institutional investors will look to add a premium to the redemption yield of gilts. Corporate investors normally base their rate of return on the after-tax WACC, as referred to above. Assessment of a risk-adjusted WACC depends on evaluating the Company's cost of equity, optimal gearing and the proposed investments risk to the company making this a subjective assessment. This subjectivity may be reduced by applying a CAPM approach, not too practical in property appraisals and is not to be pursued further here. Sayce *et al.* (2006) further suggest that the property investment market is uncomfortable with the use of WACC for establishing the discount rate for assessing the NPV of property investments. This doubt is further raised where the market is not efficient with price anomalies occurring.

Baum and Turner (2004) dwelt and expanded on the simplified Gordon equation. This states that for equities, the required rate of return is simply the dividend yield, plus the expected growth rate in dividends:

$$r = k + g \qquad (1)$$

where k is the dividend yield or the initial yield; g the constant growth rate for dividends; and r the shareholders' rate of return (discount rate).

The shareholder's rate of return comprises the sum of a risk free rate (RFR) added onto the relevant risk premium R, as noted in the following equation:

$$r = RFR + R \tag{2}$$

Equation (1) is thus rewritten as:

$$(RFR + R) = k + g \tag{3}$$

A standard risk premium R for institutional property is taken at 2-2.75 per cent, which is effectively the reward investors get paid for taking the risk of investing in property. This is outlined in more detail further on, as outlined in Sayce *et al.* (2006). The standard risk premium for leisure properties is quoted by Fraser (2004) at 4 per cent, as opposed to 3 per cent given by Harper (2011).

The expansion of the Gordon equation dwelt on the equity growth potential. This was noted to be based on a direct relationship between earnings and dividend growth. The growth in profits was noted as further being related to the retention rate, which is the expenditure that has been taken out of the dividend earnings to reinvest into the company. Well-managed companies tend to increase their retention rates, thus increasing their return on equity, which thus then has a positive effect on the dividend growth.

Buildings unlike equities suffer from deterioration and obsolescence, becoming less valuable with age than equivalent new buildings, which in turn decreases its rental growth. Property investment thus differs from equities due to its lease structures and depreciation. It is thus reasonable to apply retention rates for buildings in order to reduce the depreciation effect. A survey had shown that in property markets, whereby a full distribution policy is dictated by full and repairing lease structures, this demonstrated higher depreciation rates than in those markets whereby leasing practice allows owners to actively manage their property.

Over Europe, the highest depreciation rate was noted for single-let offices, which for a retention rate of 0.22 per cent, the depreciation worked out at 2.45 per cent annually. On the other hand, the lowest depreciation rate was noted in Stockholm with a retention rate of 1.37 per cent, the annual depreciation measured solely 0.15 per cent (Baum and Turner, 2004).

The standard Gordon Equation (2) as applied to property investment is now adjusted by reducing the growth potential g by including for the depreciation effect d to now read:

$$(RFR + R) = k + g - d \tag{4}$$

where the initial yield (cap rate):

$$k = (RFR + R) - g + d \tag{5}$$

and the discount rate $(k + g)$ is given by:

$$k = (RFR + R) + d \tag{6}$$

where k is the dividend yield or the initial yield; g the constant growth rate for dividends/property; r the shareholders' rate of return (discount rate); RFR the risk free

rate; R the relevant risk premium for the property class; and d the depreciation rate for the property class.

Depreciation rates d for leisure properties have been quoted at 4 per cent pa by Fraser (2004) and by Rushmore (1997) as varying within 3-5 per cent with a lower 1-2 per cent during the initial years of operation.

Table V is derived from data in Table III. The hotel discount rate ($k+g$) and equity yield r, respectively, for 2000 and 2012 are quoted. The above two periods equate to an approximate 7 per cent differential between the hotel discount rate and the equity yield (a-b in Table V).It is further noted that the cap rate (initial yield) k for historical and projected workings is again given for 2000 and for 2012. This differential around 1.25 per cent (c-d in Table V) is to be compared to Badanes (2007), as quoted at 1.70 per cent.

Dunse *et al.* (2004) noted that the growth rate g, for the hotel business, averages out around the inflation rate. Between the period 2000 and 2012 this has hovered around 2.5 per cent pa. However, as noted in the European hotel index Table VI, this gives annual hotel rates increases at a meager 1.33 per cent pa for the average European hotel, over the past 20-year period and with a 1.22 per cent pa over the past ten-year period. Then over the immediate past five-year period which follows the 2008 global financial meltdown, a loss of 2 per cent pa was registered, totaling an overall 12.5 per cent loss over this period.

On the other hand prime hotels in Paris or London had appreciated by 2.75 per cent pa over the past ten-year period.

RFR is taken from riskless long-term investments such as government bonds or treasury bills, with an expiry date of 15 years or higher, to satisfy risk adverse criteria. Noting this, RFR has since fallen from 6.5 per cent in 2000 down to 3.5 per cent in 2012,

	a – Equity yield (%)	b – Unlevered discount rate(%)	% differential a-b	c – Project (%) – cap rate	d – Historical (%) – cap rate	% Differential c-d	Gearing rate (%)	Mortgage rate – (%)
2000	21.0	14.0	7.0	10.4	9.2	1.3	50.00	7.0
2012	17.7	10.8	6.9	7.5	6.2	1.2	47.50	5.5
Source: HVS San Francisco (Mellen, 2013)								

Table V.
Data for compiling hotel cap and discount rate from institutional and corporate investors point of view

Year	1992	2002	2007	2008	2009	2010	2011	2012	% growth pa over 20 years (%)	% growth 2007-2012 (%)
Value/ room	171,500	254,434	274,427	244,837	212,026	215,467	240,407	240,307	1.33	−1.99
Room index	1.000	1.484	1.600	1.428	1.236	1.256	1.402	1.401	1.331	−1.99
Source: HVS 2013 European Hotel Index										

Table VI.
Database for European hotel property

with the hotel mortgage rate in 2000 standing at 7 per cent, sliding down to 5.5 per cent in 2012.

Thus from Equations (5) and (6) the cap rates or initial yields k and the discount rates $(k+g)$ for a hotel institutional investor are calculated for 2012 and 2000 as follows: where:

$$k = (RFR+R)-g+d \qquad (5)$$

2000 cap rate: $k = (6.5+6\%)-2.5+2\% = 12\%$ (compared to 9.2 per cent in Table III).
2012 cap rate: $k = (3.5+6\%)-2.5+2\% = 9\%$ (compared to 6.2 per cent in Table III).

$$\text{Cap rate (initial yield) } k+g = (RFR+R)+d \qquad (6)$$

2000 discount rate $r = k+g = (6.5+6\%)+2\% = 14.5\%$ (compared to 14 per cent in Table III).
2012 discount rate $r = k+g = (3.5+6\%)+2\% = 11.5\%$ (compared to 10.8 per cent in Table III).

Where k is the dividend yield or the initial yield; g the constant growth rate for dividends; r the shareholders' rate of return (discount rate); RFR the risk free rate; R the relevant risk premium for the property class; and d the depreciation rate for the property class.

In the above analysis, R is taken at 6 per cent which equates as noted earlier on in Harper (2011), to an additional 3 per cent risk premium over an institutional property rate. This as given by the traditional sum of 2 per cent, as attracted by the lumpiness characteristic of a property investment, added on by 1 per cent for tenant risk.

Sayce *et al.* (2006) had elaborated on the property lumpiness characteristic building it up from the following components. Property management costs (0.105 per cent), illiquidity premium (0.44 per cent) and transaction costs (1.40 per cent). It is then quoted that the traditional 2 per cent property risk premium has varied broadly between 1 and 4 per cent, depending on prevailing tax and market conditions. The tenant risk is then built up depending on the tenant renewing lease risk premium (0.515 per cent) and tenant default risk premium (0.181 per cent).

For a corporate investor the WACC method is applied. The company's cost of capital discount rate is represented by a combination of debt and equity at its optimal level of gearing. Table V includes for the necessary data to input into the WACC method.

For 2012 this works out at a 50.00 per cent gearing ratio: $r = 17.7\% \times 0.500+5.5\% \times 0.500 = 11.55\%$.

For 2000 this works out at a 47.50 per cent gearing ratio: $r = 21.0\% \times 0.525+7.0\% \times 0.475 = 14.35\%$.

For the corporate investor the cap rate or initial yield k is obtained from Equation (1) by deducting the growth potential g:

$$r = k+g$$

where k is the dividend yield or the initial yield; g the constant growth rate for dividends; and r the shareholders' rate of return (discount rate).

$2012 k = 11.55-2.5\% = 9.05\%$.
$2000 k = 14.35-2.5\% = 11.85\%$.

The above findings are now tabulated in Table VII.

Table VII notes that the market discount rates as calculated for the institutional investor and the corporate investor do not differ significantly from the market rates

(Mellen, 2013). On the other hand a significant variance exists between the investor cap rates (initial yield) and the market rates (Mellen, 2013).

For investors to achieve the market cap rate (initial yield) quoted, the growth potential g is to average out at 5.25 per cent, with this as obtained again from Equation (1).

Where Equation (1) notes:

$$g = r - k \tag{7}$$

$2012 g = 11.5 - 6.2 = 5.35\%. 2000 g = 14.35 - 9.2\% = 5.15\%.$

where k is the dividend yield or the initial yield; g the constant growth rate for dividends; and r the shareholders' rate of return (discount rate).

This is more than double the 2.5 per cent inflation-based growth stipulated for hotel developments. The expectations are that the inflation rate is to reduce further from the present 2.5 per cent for the coming years. If this 5.25 per cent growth rate is envisaged by the present market's growth expectations, as it is presently picking up on the 2008 global financial meltdown, Table VI does not indicate any such growth levels as occurring up to 2012. The present good feel factor outlined previously may have a bearing on these hotel growth rates. However, a present 3.5 per cent annual growth rate is presently conceived as being more conscious (Table IV refers: Bertschi and Perret, 2013).

Table VIII now notes the earnings' multipliers for the various scenarios as derived from the cap cates (initial yield) in Table VII, with these multipliers calculated on a perpetual basis.

These earnings' multipliers as varying from 8.33 years up to 16.13 years over the period 2000-2012, are to be compared with the quoted literature review multipliers.

It is noted that the investors' multipliers are similar due to having been adjusted above to a particular gearing ratio to obtain similar results. It is to be noted that sustainable gearing ratios vary within a 40-60 per cent range, with an optimal combination of gearing to equity obtained within this range (Fraser, 2004).

The market multiplier for 2012 demonstrates a five-year earning multiplier surplus. This is noted from Table VIII: $16.1 - 11.1$ years $= 5$ years.

Is this an indication of the bullish hotel market presently?

		Discount rate Corporate investor-			Cap rate(initial yield) Corporate investor-		
Year	Institutional investor (%)	gearing ratioas specified (%)	Market rate (%)	Institutional investor (%)	gearing ratioas specified (%)	Market rate (%)	
2012	11.5	11.55	10.8	9.0	9.05	6.2	
2000	14.5	14.35	14.0	12.0	11.85	9.2	

Table VII.
Discount rates and cap rates (initial yield) compared to market conditions

Year	Institutional investor	Corporate investor	Market rate	
2012	11.11 years	11.05 years	16.13 years	
2000	8.33 years	8.44 years	10.87 years	

Table VIII.
Earning multipliers compared to market conditions

On the other hand the market multiplier for 2000 demonstrates a two-and-a-half-year earning multiplier surplus.

This is noted from Table VIII: 10.85 −8.35 years = 2.5 years.

Again a slightly bullish market was also present since 2000, taking us up to 2008 when a decline in the hotel industry amongst other markets occurred, as noted in Table VI. Hence the two-and-a-half-year premium on the earning multiplier at the turn of the century is justified. Presently the European hotel industry hotel industry has signaled positive trends for 2013, with the room rate, occupancy rate and transactions all up. Unlike two years ago with scarce bank financing, financing has now become more readily available, which has changed the hotel industry landscape. This is further reinforced by noting that most of the sales are being taken up by hotel operators and real estate investors who in general have a lower risk profile than the average (Waldhausen and Fury, 2013). This could then explain the five-year premium noted in 2012 on the earning multiplier.

Land values in densely populated areas
Establishing the earnings' multiplier as outlined above, the trading potential of the hotel can then be valued. However, in the case of freehold land there exists a terminal value on the expiry of the hotel business, which as noted above averages out at 40 years (Rushmore 1997). On the expiry of the economic life of the building hotel, this may either be re-established by undertaking a new hotel upgraded development, to present day specifications, or else the land potential may be taken advantage of, in the form of asset stripping.

This will be most probable in densely populated are as such as New York or Hong Kong, where the land may be put to more profitable use if developed as a hotel/apartment condominium. As also stated in the Introduction, for a hotel development to be feasible its land value is not to exceed 20 per cent of the hotel development investment value (Rushmore, 1997).

Malta like Hong Kong and Singapore is a densely populated island in the middle of the Mediterranean, with high land values, such that the portion of the freehold land may exceed 50 per cent of the hotel value. An analysis is undertaken to arrive at the terminal value of a hotel's market value by considering the Maltese scenario.

The Maltese archipelago consists of Malta, Gozo & Comino. This archipelago situated in the centre of the Mediterranean is a small island of $316 \, km^2$. Of its 417,617 population (NSO 2011), 20,395 are registered as foreigners and with 943 persons having obtained citizenship through naturalization and regulation in 2010 together with 1,475 boat people arriving in 2009. At an average annual growth rate of 0.7 per cent, it is the most densely populated country in the EU at 1,306 persons per km^2.

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 market, Malta's is largely privately owned unlike Singapore's and Hong Kong's. Unlike Malta, both exercise the public leasehold systems to manage their limited land resources. The public leasehold system not only captures the surplus land value, but also enables the government to reserve land for public purposes and manage urban growth. The Singapore Government is the significant landowner who owns around 85 per cent of the total land area. In the case of Hong Kong all land and other natural resources are state property, the government is responsible for the use and management of land on behalf of the state. Malta on the other hand has gone for land speculation via planning measures, considered as having boosted the economy (Camilleri 2011).

Table IX notes various housing and economic statistics for similar Island States.

Landed property Malta's database
Land is a very scarce diminishing quantity for the Maltese Islands and thus is sold at
a premium. Considering bare agricultural land, farmers in Malta are prepared to pay
€120,000/ha as compared to the UK at €15,000/ha and at €5,000/ha in the USA. This fact
is dependent not solely on the scarcity factor but is also influenced by the restrictive
Land Agricultural Leases Ordinance Act. Further, fields are also purchased for their
recreational value where prices attracting a price tag of €700,000/ha have also been
undertaken making it impossible for farmers to enter into new lease contracts.

Malta's land rates for fairly good residential areas for four storey allowable
development heights vary between €850/m^2 up to €1,250/m^2, whilst this rate for
a six-storey internal land zone residential development equates to a land rate of €2,000/m^2.
These land rates are to be compared to prime residential sea front land for eight floors
at €8,500/m^2, whilst prime internal residential land at five floors works out at €3,500/m^2.
These residential land rates are to be compared to similar residential land
in UK which vary between €140/m^2 (Nottingham) up to €540/m^2 (Croydon) (Isaac
and O'Leary, 2012).

Table X is the database for building plots over the past 30-year period, with residential
property values also included over the same period. It is noted that over this 30-year
period land values have increased by four-and-a-half times more than property values.
This steep differential between rises in land values as compared to residential property
values commenced in 1987 but shot up in 1992, as clearly indicated in Figure 2.

Figure 2 further notes that building land between 1982 and 1992 experienced slight
changes in value, with building land increasing drastically in value from 1992 up to
2007, with a decrease in value experienced since. Over the past 30-year period land
values have increased at 14 per cent pa (signifying doubling in value every five years).
This as compared to affordable housing increases, which were subjected to average
increases of 7.25 per cent pa, over this same period (signifying a doubling in value
every ten years).

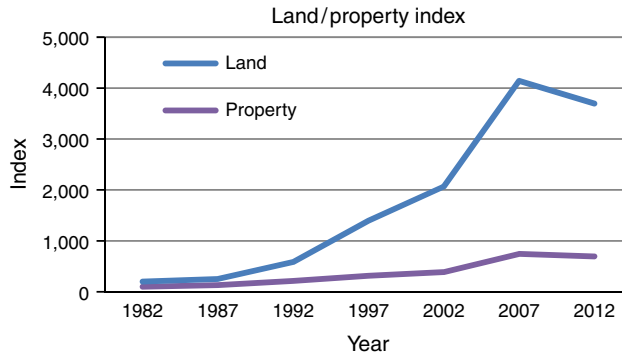|	Market rate euro/m^2	Gross national income (GNI) per capita (constant 2005PPP $)	Mortgage rate (%)	Price: earnings ratio	HDI 2011
Malta	1,847	21,460	3.25	6.79	36
Cyprus	2,140	24,841	6.80	8.55	31
Hong Kong	5,140	44,805	2.78	17.34	13
Singapore	6,660	52,569	2.42	22.6	26
Source: www.numbeo.com					

Table IX.
Housing data 2012
for similar island
states

Year Type	1982	1987	1992	1997	2002	2007	2012	% over 30 years pa (%)	% 2007-2012 pa (%)
Residential	100	130	216	314	386	743	696	7.32	−1.31
Land	100	120	369	1,080	1,680	3,400	3,000	14.05	−2.47
Source: DHI Periti in-house valuations (2012)									

Table X.
Land/property index
1982-2012

Figure 2.
Land/property index
1982-2012

Source: DHI Periti in-house valuations (2012)

Land values are shown in Table XII to have increased by 16.25 per cent pa from 1992 to 2002, by 6 per cent pa from 2002 up to 2012 and at 11.25 per cent pa from 1992 up to 2012. These land annual growth characteristics, whilst also noting the performance of the affordable residential market over the past 30-year period is to give further insight as to when land values shall resume their annual growth. Over the past five years, this growth however, was reduced to a decrease in land value of 2.5 per cent pa as compared to half the loss in value of the housing market at 1.25 per cent pa over the same period. Over the past five-year period, the housing market has lost 7 per cent loss in value, due to the large supply of affordable property existing and also following the average global prime house trend which witnessed a large drop in values in some areas by as much as 30 per cent even up to 70 per cent over the same period.

Noting the above, affordable Malta residential premises over the past 31-year period as noted in Table XI have increased in value on an average annual basis at 6.95 per cent pa, declining to 4.91 per cent pa over the immediate past 11 year. Over the immediate past five-year period residential property has declined in value at an overall 6.5 per cent. However, over the past year a 3 per cent increase in value has been registered. Does this indicate that decreases in value have been halted, with reasonable increases anticipated in the coming years?

The above analysis of land values in Malta, together with Table XII, notes that increases in land values have tended to be double the increases experienced in the housing market. On the other hand when the housing market experienced a decrease in value, landed property also experienced decreases double the amount of the housing market. It is thus expected that landed property will take off in its increases again once the residential market will again experience annual increases following an anticipated nine-year trough period, as commenced in 2007.

The above analysis further notes the varying growth rates existing between land values and the residential property market as really diverging from 1992 onwards. It is

Table XI.
Affordable
residential
rates €/m² for the
Maltese Islands

Locality	1982	1987	1992	1997	2002	2007	2008	2009	2010	2011	2012	2013
Malta	163	212	349	512	629	1,211	1,183	1,202	1,130	1,146	1,134	1,168

Source: DHI Periti in-house valuations (2013)

thus not surprising that hotel complexes in secondary tourist localities, mostly noted in the III-star grade, were being sold out for their land values to be redeveloped this time round into apartment blocks. Around the turn of the century, land values were surpassing the trading potential of the hotel business. Once land value has become an important asset of the hotel complex, this now draws us to acknowledge the terminal value in the valuation of hotels.

Terminal hotel values – the Maltese scenario

Table XIII notes valuation of hotels as undertaken in 2012 by the practice of DHI Periti, of complexes varying from the III to V-Star category. Hotels A-D are constructed on freehold land which have development potential and may be adopted for alternative use such as apartment residences, even mixed developments which may also include for part hotel business, once it does not remain feasible to continue with the hotel trading business. Hotel E, on the other hand is located on leashold land, with its term expiring in 55 years time. Further no alternative uses on planning grounds will be acceptable for this hotel complex.

It is noted that for hotel types A-D, the average land value to market value of these hotels, works out at 32.75 per cent, whilst when computed on the trading value of the hotel, which excludes the terminal value, increases to 60.50 per cent. These percentages exceed the guidelines quoted by Rushmore (1997) in the Introduction, in that normally when these exceed 20 per cent, the hotel development may be rendered unfeasible.

So how feasible are these hotel operations? The feasibility is to be based on Rushmore's (1997) previously quoted observations that for a hotel development to be feasible its land value is not to exceed 15-20 per cent of its market value, with this percentage being even higher in countries with low labour costs. Rushmore (1997) then continued that the hotel business may have a life span as short as 20 years, or as long as 60 years.

The following analysis for hotel types A-E in Table XIII listed as items 1-5 below makes reference to Tables X and XI to ascertain the database values of hotel rooms and land values in their respective years:

(1) For hotel A, its land was purchased in 1995. By interpolation from the land database (Table X), its land value in 1995 (with an interpolated land ratio over the period 1995-2012 of 795:3,000), the value in 1995 just exceeded €1 million. At this land price, this made the hotel development in 1995 viable, noting that its trading value then was 82 per cent of today's trading value, as obtained from the Hotel Room Database (Table VI) calculated from the interpolated ratio of 1.145{1995}:1.401{2012}. In 1995 land value only comprised 8 per cent (given by 1 million/(0.82 of 15 million) of existing use value, thus making hotel development then a feasible option.

Land value growth %		Residential value %	
Period	%	Period	%
1992-2002	16.37	1992-2002	6.00
2002-2012	5.97	2002-2012	6.07
1992-2012	11.27	1992-2012	6.62
2007-2012	−2.47	2007-2012	−1.31
Source: DHI Periti in-house valuations (2012)			

Table XII.
Land vs residential
annual increases

| Hotel star rating | IV | IV | III | V | IV | V |
Hotel and site classification	A – Good	B – Mid market	C – Mid market	D – Prime	E – Seaside	F – Seaside
A Existing use value	€15,000,000.00	€22,000,000.00	€6,500,000.00	€28,250,000.00	€12,500,000.00	
B Present land value	€4,112,500.00	€6,750,000.00	€6,500,000.00	€19,500,000.00	€1,250,000.00	
C Years to terminal value	25	30	15	35	55	100
D Terminal land value	€8,750,000.00	€10,000,000.00	€8,000,000.00	€23,000,000.00	€0.00	
E Present market value: A+D	€23,750,000.00	€32,000,000.00	€14,500,000.00	€51,250,000.00	€13,750,000.00	
F (%) present land value to market value: B/E ×100	17.32	21.09	44.83	38.05	9.09	
G (%) present land value to existing use: B/A ×100	27.42	30.68	100	69.03	10.00	
Earnings' multiplier	13×	11×	10×	10×	9×	12×
Value per room	€55,000.00	€75,000.00	€80,000.00	€125,000.00	€65,000.00	€175,000.00

Source: DHI Periti in-house valuations (2009-2012)

Table XIII.
Land values
as a percentage
of hotel values

(2) Hotel B was purchased early 2000 and was totally redeveloped. Towards 2002, for an upgraded feasible hotel development to be undertaken, selling out of the previous development at 25 per cent of its existing use value at €22 million, coincided with the land value as in early 2000. An interpolation calculation as per Table X (providing a ratio of 1,680:3,000) which calculates the land value in 2002 at €5.5 million, as opposed to the 2012 value estimated at €10 million.

(3) On the same criteria hotel C purchased in the mid-1980s and with deterioration setting in, appears to be ripe for redevelopment in 15 years time. This further noting that presently land value equates to its present trading (existing use) value, with both estimates quoted in Table XIII at €6,500,000. Considering the high annual land growth rates scenarios noted in Table XI, as compared to the low hotel room annual growth rates noted in Table VI, on expiry of its terminal value in 15 years time, the land value will then be far superior to its trading value, as calculated below. Land value in 15 years time considering a 7 per cent pa growth rate:

$$€6,500,000 \times 1.07^{15} = €18,000,000$$

Trading value in 15 years time considering a 2 per cent pa growth rate:

$$€6,500,000 \times 1.02^{15} = €8,750,000.$$

(4) Hotel D again developed towards 2005 and as located in a prime residential area, would possibly have been more successful, if developed as a mixed residential development on this prime site, noting land value as standing at approximately 70 per cent of its present trading (existing use) value.

(5) On the other hand hotel E is not located on private developable land and is subjected to an expiring ground rent, thus giving a terminal land value at 0. This hotel developmentt for its term of remaining lease for the next 55 years is noted as being sustainable at a land percentage not exceeding 10 per cent of its trading (existing use) value.

The Appendix contains an example on how to incorporate the terminal land value, if existing, together with the hotel's trading value, thus obtaining the present market value of the exisiting hotel, where:

present market value = existing use value + terminal land value.

This present market value is further dependant on the ongoing maintenance, to sustain this value. The cyclic annual maintenance to keep the hotel in a good state of repair averages out at 0.85 per cent of the market value of the hotel premises. This cyclic maintenance is normally catered for in the annual audited accounts and is thus deducted from the EBITDA value.

Capital expenditure (CAPEX) is the funds by an organization to acquire or upgrade physical assets, being property and equipment. Harper (2011) notes that in hotel terms CAPEX is split up into two sections, defensive and offensive CAPEX. Defensive CAPEX is money that is needed to be spent to maintain the current trading performance of a property, and does not result in the hotel's ability to generate more revenue or reduce costs. It is viewed as a component of the purchase price that must generate a return on the hotel's current income stream Mellen (2014). Offensive CAPEX is money that is being spent to improve the trading potential of a property, which normally will include for the addition of bedrooms. Thus if the existing hotel has the potential of adding bedrooms,

then the present market value has an additional component of air-space value for the additional proposed bedrooms that has to be added on.

The defensive CAPEX averages out at 5 per cent of annual turnover (Rushmore 1997). To be noted that useful life in years is taken at: furnishings ten years; and equipment 20 years.

Recommendations

The above analysis notes in the Literature review, various authors applying varying earning multipliers over the years under review. These as varying from 5× up to 16.67×, further corroborated by workings in Table VIII. It is further noted that an upward shift in the value of the earnings' multipliers occurred over the period 2000-2012. The multipliers vary according to the grade of the hotel business offered, together with whether the business is established and ongoing, or is still in its initial setup stage or else approaching a major refurbishment job. For the second scenario, this is applied during the initial appraisal of a new hotel development. A differential between these two values is noted, which then can be utilized to calculate the goodwill value of an established hotel business. Dunse *et al.* (2004) give an insight into the workings of the goodwill multiplier, as varying from within 1 to 1.75.

However, although the Literature review refers to these earning multipliers, a structured approach on how to arrive at this value has not been realized. This present work outlines a methodology whereby, by relating to the institutional and corporate investment property yield rates, these earning multipliers are analysed. These multipliers also take note of the life expectancy of the particular hotel business as referred to in Table IV. The above findings go further than as provided by RICS (2011), which infers capitalization rates applied, as dependent on the experience and judgement of the valuer. Here guidance is provided on how an inexperienced hotel valuer can arrive at the capitalization rate.

These calculated earning multipliers are then compared to what the market presently relates to, with a comparative analysis noted in Table VII. This analysis possibly suggests that further research is required to explain the difference between what the markets are supplying and what investors expect. Table VIII then delves into the workings of the hotel real estate market prior and post to the 2008 global economic meltdown. The bullishness of the pre- and post-periods of the hotel market is noted, by comparison to the expectations from a risk averse investor. For established hotels, an earning multiplier should provide for a more robust analysis than undertaking a DCF over a ten-year period. This is due to the varying uncertainties that can occur over this period. If predicting the hotel's revenue over the initial four-year period, is considered feasible, this may be not so correct in predicting the hotel's revenue over its final six years. Further, what about the added uncertainty of the capitalization rate to be estimated at the end of the period.

A DCF analysis is paramount only, if refurbishment works are due to be undertaken to an ongoing hotel business, within the coming immediate years that will affect its operating business. On the other hand, Harper (2011) does away with the DCF in this scenario by applying a reduction for income shortfall and the capital expenditure incurred to the earnings multiplier figure undertaken. The expert knowledge of the valuer is indispensable in applying the correct procedure whether based on the single multiplier or DCF analysis. Experts in this field should embrace knowledge on the workings of the hotel business.

As the trading business of a hotel does not give the full story to the market value of a hotel development, the extent of the terminal value is gauged. This terminal value is then added onto the trading business value to compute the full market value.

To arrive at the working of the terminal value, the scenario of the densely populated Island of Malta is delved into. Table XIII notes the land value as hovering around 30.25 per cent of the total hotel market value and 56.75 per cent of the existing use value. This land value exceeds the recommended value of 15-25 per cent for a hotel development to be considered feasible, hence the importance of the terminal value to be accounted for in these scenarios. The Malta scenario further noted that what was considered as feasible to undertake a hotel development in 1995, nowadays this is no longer considered feasible if this hotel development is to be undertaken on land as purchased on the free open market. This 1995 Malta scenario reinforces the 1993 rationale of the BAHA (1993) noted in the above introduction that the terminal (residual) value was not a very important component of the estimated market value. Table XIII then implies that this statement should not hold weight in today's scenario.

The Appendix now outlines a valuation calculation which takes note of the methodology discussed. The valuation exercise includes for the estimation of the earnings multiplier together with the terminal value of a mid-market IV-star type B hotel as noted from Table XIII. Indications are also referred to on how the maintenance schedules in place may affect the market value.

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Appendix. Property valuation example – as opposed to business appraisal

A modern mid-market hotel noted as type B in Table XII, after analysing audited accounts for a number of years is estimated that it could sustain an EBITDA value of €2,000,000 pa. This amount is corroborated by the fact that the EBITDA value has been edging towards the previous 2007 value, following the fall as witnessed from 2008 onwards, due to the global financial meltdown (refer Table VI). As occupancy levels for this hotel have peaked, it is not expected to achieve higher occupancy levels, hence over the coming years increase in EBITDA amounts are to be related solely to inflation effects.

With this ongoing hotel business as having been refurbished ten years ago, its terminal life is estimated to occur in 30 years' time. A reasonably efficient operator, as defined in RICS (2011) is noted to undertake this mid-market hotel operation. For a reasonably efficient operator, the EBITDA amount lies within a percentage range of 23.5-27.5 per cent of its accrued income. The future accrued revenue is thus estimated to stand around €8,000,000 pa, mainly 25 per cent of its EBITDA value.

Trading value
Table XII notes the existing use (trading) value for hotel B at €22,000,000. At a €2,000,000 pa EBITDA value, this implies an earning multiplier over the remaining 30-year period of:

$$€22,000,000/€2,000,000 = 11\times.$$

Referring to Table IV for a land terminal value of 30 years and an earnings' multiplier of 11× a cap rate (initial yield) is interpolated at 8.25 per cent.

The cap rate (initial yield) on a global level has fallen from 9.2 per cent in 2000 to 6.2 per cent in 2012 (Table III). Over the various hotel sectors in 2012 this is noted to vary from 6.3 per cent for the luxury hotels, to 8.4 per cent for the select service hotel and up to 9.7 per cent for the limited service hotel (Table II).

The calculated cap rate (initial yield) at 8.25 per cent is to be compared with initial yield rates required for investment properties (offices, retail outlets, industrials), which hover around 5.50 per cent, as computed below.

The discount rate $(k+g)$ for investment institutional properties is based on the addition of a risk free rate, RFR presently standing at 4.50 per cent, plus a premium rate, R of 2 per cent, due to the perceived lumpiness of property investment compared to others such as bonds and equities, added to a tenant risk taken at 1 per cent and finally a depreciation rate, d taken at 1.00 per cent.

This as given by Equation (6), where the discount rate $(k+g)$ is given by:

$$(k+g) = (RFR+R)+d$$

Investment institutional property discount rate: $4.50\% + (2+1\%) + 1.00\% = 8.50\%$.

As institutional property leases increase annually at: 3 per cent pa noted at 10 per cent on three-yearly basis.

Initial yield k for institutional property is given by rearranging Equation (1):

$$k = r{-}g = (RFR+R){-}g$$

at: $8.50{-}3\% = 5.50\%$.

Where k is the dividend yield or the initial yield; g the constant growth rate for dividends; r the shareholders' rate of return (discount rate); RFR the risk free rate; R the relevant risk premium for the property class; and d the depreciation rate for the property class.

The hospitality leisure industry is known to attract a higher risk premium than institutional property. This is computed as the difference between the hotel's cap rate and the institutional property's initial yield.

Taking this differential at 2.75 per cent (Harper 2011; Fraser, 2004), the hotel cap rate(initial yield) k works out at:

$$5.50 + 2.75\% = 8.25\%$$

As analysed above and further considering the good state of repair to this hospitality premises, together with risks as inherent in the operation of existing premises, an earning multiplier of 11× is implied.

The hotel's discount rate r is now computed from Equation (1) given by $r = k+g$, where g is a combination on (1) and (2) noted below to the hotel initial yield k computed above at 8.25 per cent:

(1) An additional hotel risk scenario of 0.75 per cent, to reflect additional liabilities of a management contract (Harper 2011).

(2) Further, hotels' annual income increases are more related to inflation increases. These average out at 2.5 per cent pa, instead of the 3 per cent rental increase taken for investment properties:

$$r = 8.25 + 0.75 + 2.50\% = 11.50\%.$$

This computed hotel unlevered discount rate at 11.50 per cent is now being compared with the global averages which were noted to drop from 14 per cent in 2000 to 10.8 per cent in 2012 (Table III).

Terminal value

Table XIII notes the present value of the freehold land that this mid-market hotel complex is situate on, presently has a market value of €6,750,000. As the hotel has already been trading for ten years, its terminal life is taken at 30 years. At the end of this period the existing hotel will be demolished and its residual value is taken at its land value 30 years from now.

The land value in 30 years' time is estimated with reference to Tables X and XII. For the initial five years, land value is considered to decline further in value by 2.5 per cent pa. For the final 25 years, it is then considered to increase in value at 10.20 per cent pa.

Land value in 30 years time is estimated at:

$$€6,750,000 \times 0.975^5 \times 1.102^{25} = €67,432,105.$$

The market value in 30 years' time is then discounted at 6.5 per cent, to obtain its present market value:

$$€67,432,105/1.065^{30} = €10,194,795.$$

Market value

The present market value of hotel complex is given namely by its:

Trading business + Terminal value = €22,000,000 + €10,000,000 = €32,000,000.

RICS (2011) notes that the property market value may differ from its business appraisal value. A particular purchaser may be willing to include a slice of his personal goodwill in his purchase bid, as this will partake to the property once purchased.

It is then noted that for a present land value to existing use value this percentage works out at:

$$6.75M/22M = 31\%$$

The market value is actually 45 per cent higher than the existing use value, as noted by:

$$32M/22M = 1.45$$

This drives the point home on the importance, especially in today's market to include for the terminal value in the valuation methodology for hotels.

Maintenance considerations

The above market value takes into account that cyclic annual maintenance as provided for in the annual audited accounts is undertaken for a value of:

$$0.85\% \times (trading value) = €187,000 pa.$$

The timing of the next defensive capex expenditure will also have a bearing on the above market value.

The defensive capex averages out at 5 per cent of annual turnover (Rushmore 1997): 5 per cent of €8,000,000 = €400,000, this as undertaken within periods averaging out at ten years for furnishings and 20 years for equipment.

In the scenario of this hotel with CAPEX not required its present market value is not to be effected. On the other hand for another hotel to still being developed or undergoing a major refurbishment job, the valuation is undertaken in an identical manner by applying an earnings' multiplier. The estimated income shortfall and capital expenditure over the appropriate three-year period is then deducted. Good management also comes into play here, as CAPEX may be undertaken during a lean period of the year, which will thence not impinge too much on the hotel's income shortfall.

Mellen (2014) further notes that as the hotel stock has aged massive CAPEX is being undertaken on the purchase of hotels. This varies from 2 per cent for newer hotels up to 30 per cent for luxury hotels of the purchase price. On the other hand the earnings multipliers as quoted still stand as relate to the actual purchase price.

In the above example a CAPEX of 10 per cent of its existing use value is assumed necessary to be undertaken, namely:

$$10\% \text{ of } €22,000,000 = €2,200,000$$

The hotel investment to be undertaken by the purchaser now totals:

$$€22,000,000 + €2,200,000 + €10,000,000 = €34,200,000$$

For this all-in investment the cap rate (initial yield) is taken at 0.8 per cent lower, mainly:

$$8.25 - 0.8\% = 7.45\%$$

From Table IV updated earnings multiplier over a remaining 30-year works out at 11.87
Thus the trading value of this hotel as subjected to CAPEX works out at:

$$€2,000,000 \times 11.87 = €23,740,000$$

This is slightly below the trading value noted above at €24,200,000.

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