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# The Art & Science of Hotel Valuation in an Economic Downturn

## An Improved Methodology for a Constrained Market

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Following the significant and continuing impact of the global financial and economic crisis on the hotel industry, HVS's valuation assumptions and methodology have evolved to more accurately reflect the actions of typical buyers and sellers in the market place who have modified their valuation procedures based on the current financing environment.

European hotel values have come under significant pressure in the past two and a half years owing to the credit and operating constraints of the current market. In this context, we have adapted our valuation assumptions and methodology to ensure that we consider current and medium-term operating and lending conditions to provide a fair estimate of Market Value rather than a value which overemphasises the effects of financial and/or operational distress.

In this article we demonstrate how distressed values are at least 15-20% lower than Market Values. Hence, the importance of making sure that the value doesn't penalise the medium and longer-term performance of the asset by assuming currently depressed investment parameters and operating conditions throughout the entire holding period. Having observed some of the strategies put in place by currently active buyers, we propose a more flexible, realistic and transparent route to Market Values in uncertain times. The proposed methodology considers current credit market conditions in the short term and a refinancing event in the medium term, based on improved business cash flows and the subsequent return of investors' and lenders' confidence.

The main purpose of this methodology is to represent more closely both debt and equity investors' sentiment and behaviour in the current market making sure that the true earning potential of the asset is reflected in our conclusion of Market Value, whilst at all times complying with the strict requirements of the Royal Institution of Chartered Surveyors' (RICS) Red Book.

**Current Challenges**

The main challenges to hotel valuation during the current crisis have been the lack of transactions, the limited availability of finance, the depressed operating returns and the unknown recovery timetable. More than ever, it is important that the valuer has a specialist understanding of the industry and the specific hotel markets to be able to accurately assess the hotel's earning potential. Moreover, the professional valuer should be conscious of the benefits and limitations of the different property valuation methods available and systematically adopt two or three valuation methods as cross checks.

A ten-year leveraged discounted cash flow is the most accurate method of valuation, providing that there is transparency for the valuer to prove the source of all market assumptions and investment parameters. This valuation method consists of forecasting the hotel's future earnings and discounting them to the present value based on the 'typical' investment parameters and return requirements that drive equity and debt market participants.

Investors' and lenders' appetite for prime hotels and risk-free deals with fixed lease income and/or guarantees has continued and even increased throughout the crisis. In contrast, most other type of hotel deals have been very difficult to finance owing to the volatility of hotel earnings at this stage of the economic cycle and lenders' more conservative and risk-averse approach. However, as the general economy and hotel earnings recover and there is less default risk, it is likely that better financing terms will become available.

Therefore, if we were to simply adopt the assumptions and investment parameters of the current market and roll them forward throughout the ten years projected, we would be purely reporting a distressed value, not allowing for an improvement in the hotel's operating cash flows, debt coverage and credit markets in the medium term. Historically, this potential upside has been reflected by merging the investment parameters available today with those from a stable market. However, in essence all that does is to use investment parameters that are either overly aggressive for the current market or too conservative for a stable market.

To represent marketwide investment parameters at all stages, we have adapted our normal ten-year leveraged cash flow method of valuation and built-in a refinancing scenario which considers both the current and the improved market conditions and reflects the likelihood of refinancing in a few years time under more favourable lending conditions. This scenario assumes that the loan-to-value ratio will improve, and investors will look to release some of their equity when additional finance and/or better terms are available. We have reviewed this assumption with many experienced hotel lenders and investors, most of whom have confirmed the validity of our approach as it reflects their investment and lending rationale.

## The Science in Practice

The following example will help to illustrate the impact of the refinancing assumptions on the Market Value of a specific hotel property.

### THE HOTEL

We present the valuation of a hypothetical 250-room full service hotel affiliated with an international brand. This hotel enjoys a very good location, in a main European business and leisure destination, and was refurbished in 2007/08.

The market has high barriers to entry, and therefore supply has been relatively stable over the past decade; supply is expected to increase by approximately 5% from 2010 to 2012.

The hotel has historically generated an annual net operating income of nearly €4,000,000 per year. However, the hotel's operating income shrank by nearly 40% in 2009.

From our forecast of occupancy, average rate, food and beverage revenue, banqueting revenue, other income and operating, undistributed and fixed expenses for the hotel, we have projected the resulting ten-year net operating income cash flows, which are presented in Table 1.

The debt service coverage ratio (DSCR) decreased below 1.00 in 2009 due to the reduced level of earnings. We observe that this is below the 1.3-1.5 minimum DSCR typically required by lenders and is not expected to exceed that level until 2012. The existing loan was negotiated based on pre-crisis NOI levels.

**Table 1 Ten-Year Net Operating Income Cash Flow History and Projections (€ 000s)**

	Year	Net Income	Existing Debt Service	DSCR
Historical	2007	4,000	2,700	1.48
	2008	3,700	2,700	1.37
	2009	2,200	2,700	<b>0.81</b>
	2010	2,400	2,700	<b>0.89</b>
	2011	2,800	2,700	<b>1.04</b>
	2012	3,700	2,700	1.37
Projected	2013	3,900	2,700	1.44
	2014	3,960	2,700	1.47
	2015	4,020	2,700	1.49
	2016	4,080	2,700	1.51
	2017	4,140	2,700	1.53
	2018	4,200	2,700	1.56
	2019	4,260	2,700	1.58

Our projections consider the gradual recovery of the trading performance from 2010 onwards, a similar revenue and cost structure to the historical, a 4.0% reserve for replacement to fund reinvestment in the hotel throughout the holding period and inflationary growth from the stabilised year (2013) onwards.

## THE VALUATION

The Market Value of the hotel is estimated via the capitalisation of the projected net operating income cash flows through a ten-year leveraged discounted cash flow analysis.

We consider two valuation scenarios. Scenario One considers a theoretical purchase of the hotel assuming investment parameters in line with those available in the market as of today, and no refinancing. Scenario Two assumes current investment parameters but with a refinancing at the end of year three, under more favourable lending terms, as presented in Table 2.

**Table 2 Valuation Parameters – Scenarios One and Two**

Valuation Parameters	Scenario 1	Scenario 2
Stabilised Inflation:	1.5%	1.5%
Initial Loan/Value:	50%	50%
Refinancing LTV (2013):	none	70%
Amortisation (years):	20	20
Interest Rate:	6.0%	6.0%
Terminal Cap Rate:	8.0%	7.0%
Transaction/Refinancing Costs*:	1.5%	1.5%
Equity Yield:	18.5%	17.5%
Overall Discount Rate:	13.71%	12.18%

\* Transaction Costs include Agency and Legal, but exclude Local Transfer Taxes

### Scenario One

We have used our forecast of net operating income for the hotel, deducted the corresponding debt service and added the net sale proceeds from disposing of the hotel at the end of an assumed ten year holding period to obtain the net cash flows to equity and debt coverage ratio based on current operating and available lending conditions, as shown in Table 3.

**Table 3 Net Cash Flows to Equity (€)**

Year	Net Income		Plus:		Total Cash Flow to Equity	DSCR
	Available for Debt Service	Total Annual Debt Service	Net Sale Proceeds			
2010	2,400,000	- 1,441,000	+	0	= 959,000	1.67
2011	2,800,000	- 1,441,000	+	0	= 1,359,000	1.94
2012	3,700,000	- 1,441,000	+	0	= 2,259,000	2.57
2013	3,900,000	- 1,441,000	+	0	= 2,459,000	2.71
2014	3,960,000	- 1,441,000	+	0	= 2,519,000	2.75
2015	4,020,000	- 1,441,000	+	0	= 2,579,000	2.79
2016	4,080,000	- 1,441,000	+	0	= 2,639,000	2.83
2017	4,140,000	- 1,441,000	+	0	= 2,699,000	2.87
2018	4,200,000	- 1,441,000	+	0	= 2,759,000	2.91
2019	4,260,000	- 1,441,000	+	42,370,000	= 45,189,000	2.96

Note: Figures have been rounded for presentation purposes

The annual debt service payment has been calculated based on the loan-to-value ratio assumed and the mortgage constant, which reflects the periodic cost of

financing as a percentage of the total loan amount. We note that the projected earnings allow for a healthy coverage of debt service.

The net sales proceeds result from capitalising the 11<sup>th</sup> year net operating income into perpetuity at the terminal capitalisation rate and deducting the typical transaction costs borne by the seller and the remaining mortgage balance at the end of the holding period.

We have then discounted the annual cash flows to equity at the assumed equity yield which reflects the return requirements of equity participants in the current market. This results in the value of the equity component (€16,765,000), as shown in Table 4.

**Table 4 Discounted Cash Flow Analysis Scenario One – Base Value (€)**

Year	Net Income To Equity	Equity Discount	Discount Factor	Discounted Cash Flow
2010	959,000	18.5%	x 0.84388 =	809,000
2011	1,359,000	18.5%	x 0.71214 =	968,000
2012	2,259,000	18.5%	x 0.60096 =	1,358,000
2013	2,459,000	18.5%	x 0.50714 =	1,247,000
2014	2,519,000	18.5%	x 0.42796 =	1,078,000
2015	2,579,000	18.5%	x 0.36115 =	931,000
2016	2,639,000	18.5%	x 0.30477 =	804,000
2017	2,699,000	18.5%	x 0.25719 =	694,000
2018	2,759,000	18.5%	x 0.21704 =	599,000
2019	45,189,000	18.5%	x 0.18315 =	8,277,000
Value of Equity Component:				16,765,000
Plus: Value of the Mortgage:				<u>16,765,000</u>
Less: Capital Deduction:				<u>0</u>
Total Property Value:				33,530,000
Rounded To:				<b>33,500,000</b>
Value				
per Room:				<b>134,000</b>
Property Yield:				13.66%

Note: Figures have been rounded for presentation purposes

The value of the mortgage is based on the value of the equity component and the equity-to-value (ETV) and loan-to-value ratios (LTV).

$$\text{Total Value} = \text{ETV} + \text{LTV}$$

$$100\% = \text{ETV} + 50\%$$

$$\text{ETV} = 100\% - 50\% = 50\%$$

$$\text{Thus, LTV} = \text{€}16,765,000$$

We have assumed no additional capital deduction in our analysis, beyond the already forecast reserve for replacement.

As illustrated in Table 4, our ten-year leveraged discounted cash flow analysis indicates a Market Value for the hotel of approximately €33,500,000 (€134,000 per room).

## Scenario Two

However, we consider that present lending conditions are not representative of a 'normal' investment environment. Therefore, the risk is that by only considering these conditions, as shown in Table 4, the hotel is effectively being undervalued.

So if we were to take into consideration the very likely event that an investor would expect to refinance this investment when operating and lending conditions improve, and we adopt the Scenario Two valuation parameters, the picture changes substantially.

To derive the total cash flow to equity under Scenario Two we have used the same forecast of income and expense, deducted the corresponding debt service and added the net proceeds of refinancing the hotel at the end of year three.

Upon refinancing, the hotel has been valued using a ten-year discounted cash flow analysis based on post-refinancing cash flows from 2014 onwards and improved investment parameters in order to derive the quantity of the loan and the revised annual debt service. The inputs and outputs of this analysis are summarised in Table 5.

**Table 5 Value Based on Post-Refinancing-Year Cash Flows and New Mortgage Size (€)**

Valuation Input		Valuation Output	
Year of Value:	2013	Value:*	47,900,000
Inflation:	1.5%	Value Per Room:	191,600
Loan/Value:	70%	Overall Discount Rate:	10.2%
Amortisation (years):	20		
Term:	10		
Interest Rate:	6.0%	Mortgage @ 70.0% LTV:	33,549,000
Terminal Cap Rate:	7.0%	Mortgage Per Room:	134,196
Transaction Costs:	1.5%	Annual Debt Service:	2,884,000
Equity Yield:	17.5%	DSCR – Refi. Year:	1.37

\*Before capital deduction, if any

The net proceeds of refinancing have been calculated based on the size of the new mortgage less the outstanding mortgage balance of the initial mortgage and an assumed 1.5% cost of refinancing as a fee to the lender, as shown in Table 6.

**Table 6 Calculation of Net Refinancing Proceeds to Equity (€)**

Refinancing Year Value:	47,900,000
New Loan/Value Ratio:	70%
New Mortgage:	<u>33,549,000</u>
Less:	
Outstanding Balance of Initial Mortgage:	14,801,000
Refinancing Costs @ 1.50%:	<u>503,000</u>
Net Refinancing Proceeds	<b>18,200,000</b>

Table 7 shows the calculation of net cash flows to equity according to the assumptions of Scenario Two. We assume a sale of the property at the end of the holding period.

**Table 7 Scenario Two - Net Cash Flows to Equity (€)**

Year	Net Income Available for Debt Service	Total Annual Debt Service	Plus: Refi./Sale Proceeds	Total Cash Flow to Equity	DSCR Ratio
2010	2,400,000	- 1,441,000	+ 0	= 959,000	1.67
2011	2,800,000	- 1,441,000	+ 0	= 1,359,000	1.94
2012	3,700,000	- 1,441,000	+ 0	= 2,259,000	2.57
2013	3,900,000	- 1,441,000	+ 18,200,000	= 20,659,000	2.71
2014	3,960,000	- 2,884,000	+ 0	= 1,076,000	1.37
2015	4,020,000	- 2,884,000	+ 0	= 1,136,000	1.39
2016	4,080,000	- 2,884,000	+ 0	= 1,196,000	1.41
2017	4,140,000	- 2,884,000	+ 0	= 1,256,000	1.44
2018	4,200,000	- 2,884,000	+ 0	= 1,316,000	1.46
2019	4,260,000	- 2,884,000	+ 33,569,000	= 34,945,000	1.48

Note: Figures have been rounded for presentation purposes

Following the refinancing event, the 'buyer' takes advantage of additional finance based on improved level of earnings and general financing conditions and this results in larger annual debt service payments. We note that the DSCR upon refinancing is still within the 1.3-1.5 minimum range typically required by lenders in the stabilised year.

The resulting cash flows to equity are then discounted at the equity yield (initially 18.5% and then 17.5% after refinancing, given the reduction in equity needed to fund the project, less operating risk and the higher returns on the existing investment from the refinancing proceeds). This results in the value of the equity component (€22,531,000).

This valuation methodology considers the upside potential of refinancing the current loan when the property is stabilised and more favourable lending conditions are available on the return to the equity participant and the current lending conditions on the return to the debt participant. Thus, to obtain the hotel's Market Value, we add the value of the original mortgage to the value of the equity component under the refinancing assumption.

We have assumed no capital deduction in our analysis, beyond the already forecast reserve for replacement.



**Table 8** Discounted Cash Flow Analysis Scenario Two – Market Value (€)

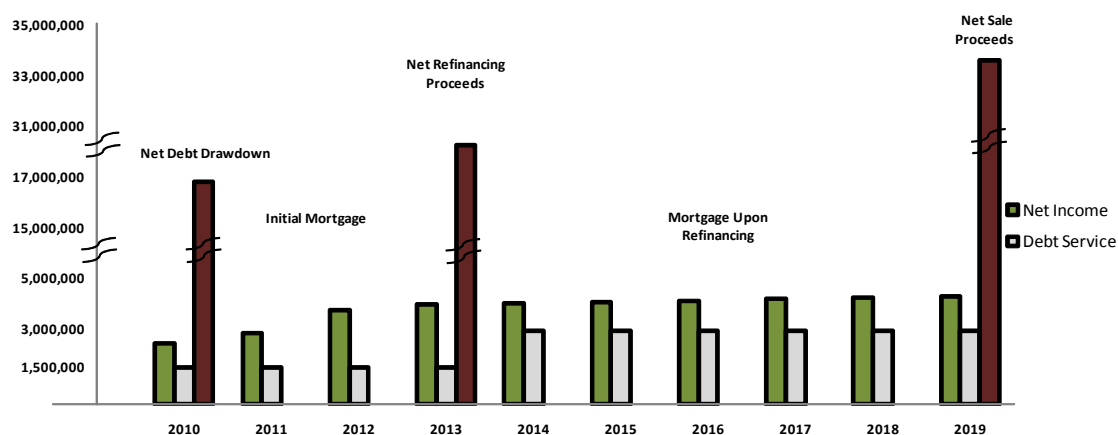
Year	Net Income To Equity	Equity Discount	Discount Factor	Discounted Cash Flow
2010	959,000	18.5%	x 0.84388	= 809,000
2011	1,359,000	18.5%	x 0.71214	= 968,000
2012	2,259,000	18.5%	x 0.60096	= 1,358,000
2013	20,659,000	18.5%	x 0.50714	= 10,477,000
2014	1,076,000	17.5%	x 0.44649	= 480,000
2015	1,136,000	17.5%	x 0.37999	= 432,000
2016	1,196,000	17.5%	x 0.32340	= 387,000
2017	1,256,000	17.5%	x 0.27523	= 346,000
2018	1,316,000	17.5%	x 0.23424	= 308,000
2019	34,945,000	17.5%	x 0.19935	= 6,966,000

Value of Equity Component:	22,531,000
Plus: Value of Initial Mortgage:	16,765,000
Less: Capital Deduction:	0
Total Property Value:	39,296,000
Rounded To:	<b>39,300,000</b>
Value	
per Room:	<b>157,000</b>
Property Yield:	12.2%

Note: Figures have been rounded for presentation purposes

This results in a Market Value of the hotel of €39,300,000 (€157,000 per room) which in our view more appropriately reflects the requirements of an experienced and knowledgeable hotel investor acting in the current economic environment.

A graphic illustration of the process would be as follows.

**Table 9** Illustration of the Current and Changing Circumstances and Refinancing Scenario

We highlight the following.

- The hotel's operating performance is currently depressed, achieving lower than historical earnings;

- However, improvements to the hotel's trading and profitability can be reasonably expected over the coming years as the economic environment recovers;
- The illustration shows that the loan always remains affordable to the business, with above threshold DSCR throughout the holding period;
- The value of the hotel under current operating and lending conditions is based on a depressed level of earnings and does not factor in the possibility of obtaining higher leverage on the investment and releasing equity when the credit markets and the hotel's trading have recovered. Thus, this method undervalues the hotel;
- The value of the hotel upon refinancing is based on a normalised net operating income and lending conditions (including debt coverage ratio) and therefore represents a fairer reflection of the hotel's future earning potential.

### Impact on Market Values

The following is an illustration of the impact of using different equity/debt assumptions on the Market Value of the hotel.

**Table 10** Impact on Market Value of Different Equity/Debt Assumptions

2010 Initial Equity	2013 LTV Refinancing	Value Per Room
50%	75%	€160,000
50%	70%	€157,000
50%	65%	€155,000
100%	70%	€136,000
100%	None	€112,000

As shown in Table 10, the impact and importance of the adoption of sensible parameters is crucial. Although restricted debt availability is not part of the official definition of 'distressed value', perhaps it should be.

### Main Advantages

In conclusion, we note that this approach to hotel valuation, considering a refinancing when the hotel has reached a stabilised performance and the credit markets are back in business, has the following advantages.

- It provides more flexibility adapting to more conventional or uncertain times, considering current and medium-term operating and lending conditions;
- It reflects more accurately the investors' sentiment and investment strategies – notably, it considers the very likely scenario that the investor will refinance after a period of time to take advantage of better available lending terms;
- It reports Market Value as opposed to a value which is more reflective of distress, producing a more realistic estimate of the hotel's true potential earnings and complies with the RICS' Red Book.

### About the Authors



**Ana Campos-Blanco** is an Associate with HVS's London office, specialising in hotel valuation and consultancy. She joined HVS in 2007 after completing a diploma in Tourism Management at the CEU University, Spain and an MBA at IMHI (ESSEC Business School, Paris, France). Since joining HVS, she has provided investment advice and worked on hotel feasibility studies and valuations across Europe and Northern Africa. She is currently pursuing a MSc in Property Investment from the CEM (College of Estate Management, Reading) and is expecting to graduate in 2012.



**Sophie Perret** is an Associate Director with HVS's London office. She joined HVS in 2003 and has ten years' operational experience in the hospitality industry in South America and Europe. Originally from Buenos Aires, Sophie speaks English, Spanish and French. She holds a Bachelors degree in Hotel Management from Ateneo de Estudios Terciarios, and an MBA from IMHI (Essec Business School, France, and Cornell University, USA). Since joining HVS, she has advised on a wide range of hotel investment projects and related assignments. Sophie is responsible for developing HVS's work in France, Italy, and Africa.



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Over the past three decades, HVS has expanded both its range of services and its geographical boundaries. The company's global reach, through a network of 30 offices staffed by 400 seasoned industry professionals, gives you access to an unparalleled range of complementary services for the hospitality industry:

Consulting & Valuation	Convention, Sports & Entertainment Facilities
Investment Banking	Interior Design
Asset Management & Advisory	Sales & Marketing Services
Shared Ownership Services	Hotel Management (US only)
Golf Services	Eco Services
Executive Search	Food & Beverage Services
Risk Management	Gaming Services
Property Tax Services	Hotel Parking Consulting

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