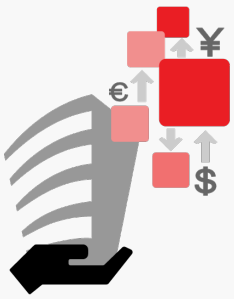


SHA564: Valuing Hotel Intellectual Property and Structuring the Capital Stack

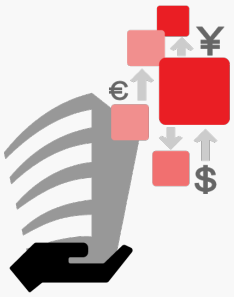
This course includes

- Four self-check quizzes
- Two discussions
- Three tools to download and use on the job
- One final action plan assignment
- One video transcript file

Completing all of the coursework should take about five to seven hours.

What you'll learn

- Estimate the value of new management contracts and their impact on shareholder value
- Estimate the value of franchise agreements and their impact on shareholder value
- Use the tools of modern finance to create value for equity via the specific use of debt instruments
- Explain the role of public equity and private equity in capital markets



Course Description

Accurately assessing the value of hotel intellectual property is a critical component of structuring the most advantageous deal. This course, produced in partnership with the Cornell School of Hotel Administration, is designed to develop a high level of financial sophistication in valuing hotel management contracts and valuing franchise agreements in addition to

valuing the real assets.

You will value the intellectual property rights created in management contracts and franchise agreements and learn how debt and equity capital markets are used to financially engineer enhancements in the value of the real estate. You will also learn how to determine the cost of mortgage loans, be introduced to the secondary mortgage market and lodging REIT structures, and learn how to calculate the returns to private real estate fund investors and sponsors.

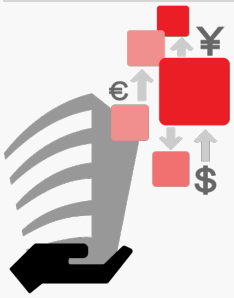
This course emphasizes the role of debt capital in creating value for equity and the role of public and private equity in modern real estate capital markets. Throughout the course, you will use sophisticated spreadsheet tools to support and quantify the analyses, all of which can be used to analyze real-life opportunities.

Jan deRoos
Associate Professor and HVS Professor of Hotel Finance and Real Estate, School of Hotel Administration, Cornell University

Professor Jan A. deRoos, on the faculty of the Hotel School since 1988, has devoted his career to hospitality real estate, with a focus on the valuation, financing, development, and operation of lodging, timeshare, and restaurant assets. He holds B.S., M.S., and Ph.D. degrees from Cornell University, all with majors in Hotel Administration. Areas of teaching expertise span the entire range of hospitality real estate topics: real estate finance; real estate principles; hotel asset management; real estate portfolio management; hotel and restaurant valuation; lodging market and feasibility analysis; hotel/resort planning and design; hotel/resort development and construction, and the analysis of timeshare/vacation ownership projects. He teaches courses in the Hotel School's undergraduate and graduate degree programs, teaches extensively in the Hotel School's executive education programs, and has developed an on-line professional Certificate in Hotel Real Estate Investments and Asset Management.

Start Your Course

Module Introduction: Modeling and Valuing Management Contracts and Franchise Agreements



This module considers how you can determine the specific value of a management contract or franchise agreement. Both management contracts and franchise agreements are intellectual property with intellectual property rights. To appropriately allocate a firm's resources and to benchmark opportunities presented to the manager, you must be able to accurately value these rights.

After completing this module, you will be able to:

- Determine base and incentive management fee flows using revenue and expense forecasts
- Determine system-reimbursable charges using revenue and expense forecasts
- Quantify the impact of the project on the firm's other hotels
- Assess the effects of changes in overhead costs due to the project
- Value net flows using the appropriate discount rates to determine their net present value and impact on the firm's earnings
- Estimate the value of individual franchise agreements and their impact on shareholder value

Read: What Are the Implications of a New Property in the Market?

TarHeel Development, a North Carolina-based development firm, has decided to invest in the hotel and to become owners of the new facility. Now, five years later, the Hungerford Hotel is producing financial results that exceed the owner's expectations.

Due to the success of the first Hungerford, the owners are considering a second Hungerford Hotel in the market on the other side of town. Let's call the original hotel Hungerford I and the prospective new hotel Hungerford II. TarHeel contacts the management company, Hungerford Management Co., about the prospects of operating a second hotel in the market. To be clear, Hungerford II would not be operated by TarHeel under a franchise, using the Hungerford brand; rather, it would be run by the brand's operating arm.

TarHeel has done its homework. It is clear that the market can absorb another hotel and that demand growth in the market is a very good match for the Hungerford brand. The operator's preliminary analysis indicates that an additional Hungerford Hotel in the market is a good fit for the brand and will increase market presence in a positive way. The operators also know that if they fail to move quickly they may lose this opportunity to a competing brand and operator.

In this course, we consider the decision from the perspective of the operators rather than the owners. The operator's decisions follow a three-step evaluation process:

1. What are the values of the management and other fee flows, net of cost? In considering the costs, the operators must consider the reduction in fee flows from the other Hungerford Hotel in the market.
2. How does the value of fee flows compare to the value of other opportunities of similar size and nature? Remember that doing this deal means you may not pursue another opportunity, given the constraints on firm growth.
3. How does this opportunity affect relationships in this market or elsewhere?

We examine these questions systematically. First, we look at the range of the industry practices for the various management fee arrangements and their analysis. Then we return to the case of Hungerford II and provide an integrated example of one way it could play out in the market.

Read: Pre-Opening Management Fees

Key Points

- Technical assistance fees cover facility design and facility planning.
- Pre-opening management fees cover budget planning and other preparations.

We divide management fees -- the fees the owner pays the operator to run the property -- into base and incentive fees. In addition, all management contracts have provisions to reimburse some of the manager's expenses; these are called system-reimbursable charges.

Before we value the management contract itself, we need to consider the fees for technical assistance and for pre-opening management fees.

Technical-assistance fees are charged by operators who take an active consultation role in the design and planning of lodging facilities. The major areas in which operators offer consultation services include architecture, interior design and lighting, mechanical installations, food-facilities layout and equipment, and such other areas as energy, entertainment, security, and financing. Some operators are considerably more demanding than others in their insistence that specific operating specifications be met in the design and planning of facilities. All of the major brand operators offer technical assistance services (consultation) in architecture, interior design and lighting, and food-facilities layout and equipment. Participation in technical assistance ranges widely. Several operators require that they participate in all phases of technical development.

The amount of the technical-assistance fee is based upon the specific services required by the operator or chosen by the owner, the amount of time spent by operator personnel on the project, the project stage at which operator involvement begins, and the complexity of the project. Brand-operator technical-assistance fees range from $100,000 to $500,000 depending upon their degree of involvement and on the scale of the development. Independent operator fees range from $50,000 to $250,000.

The owner pays pre-opening management fees to the operator to cover the operator's contributions before the hotel opens for business. These contributions include (1) developing the pre-opening plan and budget, and (2) supervising pre-opening activities, including:

- Staffing the operation

- Training personnel
- Installing operating systems
- Marketing the property
- Procuring all supplies and inventories
- Negotiating leases and service contracts in the name of the owner

Since the hotel's performance during the first several years of operation is extremely important, the operator's ability to provide highly professional pre-opening services is critical. Owners with no previous hotel experience usually grossly underestimate the amount of effort and cost involved in planning and carrying through the pre-opening phase.

Pre-opening budget amounts, which include the pre-opening management fees, range from $1,500 to $5,500 per room, or 1.5%-2.5% of total project cost, depending on the size of the project and type of service and facilities offered. Pre-opening management fees range from $100,000 to $200,000, depending on the size of the project, the type of service and facilities offered, and the length of the pre-opening phase. Most operators require the owner to pay 10% of the pre-opening fee when the contract is signed and then make equal payments of the remainder of the fee over the pre-opening period. If the opening is delayed, additional fee payments may be required during the delay period.

All major chain operators offer pre-opening management services, including development and supervision of the pre-opening plan and system-wide marketing services. Most independent operators offer pre-opening management services that include all the services offered by the chain operators except system-wide marketing. The quality of these services varies widely among independent operators. Some offer extensive and effective services, and others offer few services. But even in the absence of the nationally recognized chain operator, a number of independent operators offer very effective local and regional pre-opening marketing programs.

The owner should focus on the following critical operator responsibilities during the pre-opening phase:

- The development of a detailed market plan tailored to the specific local, regional, national, and international target markets
- The installation of an adequate internal control and management information system that is fully operational before the property opens
- The placement of a property management team early enough to train employees sufficiently
- The deployment of a corporate pre-opening team to assist the property's management staff during the opening

Read: Base Management Fees

Key Points

- Management fees usually include both base and incentive fees.
- Base fees are derived from gross revenues.
- Incentive fees are derived from profits.

Management fees comprise two basic elements. First, there is the base fee. A base fee is a management fee based on a hotel's gross revenues. There may be minor adjustments, as appropriate; for example, we may deduct sales tax and occupancy taxes from gross revenues. The economic rationale for a base fee is to reward operators for generating high levels of revenues.

Second, there is the incentive fee. An incentive fee is a management fee based on hotel profits or cash flows, broadly defined. And as we will see, there are many ways to structure incentive fees. The economic rationale is to reward the operators for generating high profits or cash flows.

Operators use a variety of structures for their fees. Here we look at the range of industry practices:

- Base fee only

  The operators' fee is a certain percentage of the gross revenues of the hotel or a fixed dollar amount per year. If the fee is a fixed dollar amount, the operators have no financial incentive to increase profits, and if the fee is based on a percentage of revenue, the incentive is minimal. This arrangement is uncommon and is found in situations where the operators own the hotel or where the owners have minimal bargaining power.

- Base fee plus an incentive fee

  This arrangement gives the operators a greater incentive to produce profits, because they earn the incentive fee in addition to the base fee. The vast majority of arms-length contracts between operators and owners are of this type. Historically, operators earn roughly half the fee from the base fee and the other half from the incentive fee. Recently, the trend has been for a greater portion of the fee to come from the incentive fee. When the operators agree to this arrangement, they generally earn greater fees overall.

- Base fee or incentive fee, whichever is greater

  This arrangement can increase the operators' incentive to generate profits only if there is a real possibility that the proceeds from the incentive fee will be greater than the proceeds from the base fee. Operators usually negotiate for this fee when the hotel's future is very uncertain or records do not accurately portray historical operating results from the property. In some contracts where the future is uncertain, this structure is used for the first few years of the contract; it transitions into a base plus an incentive fee once a track record has been established.

- Incentive fee only

  Providing an incentive fee only is an uncommon structure when you count the number of contracts. It is extremely common in certain parts of the world, however-notably hotels in the Middle East and northern Africa. It provides a huge incentive for the operator to produce cash flows, but the operator risks receiving no fee if the property doesn't perform well.

Now let's step back for a minute and look at the big picture of fee structure. In the owners' perfect world, the management fee would be 100% incentive fee; the incentives of the owners and operators align and the owners have shifted business risk to the operators. In the operators' perfect world, the management fee would be based on base fee only, and the operators essentially get paid for creating revenues. In other words, the operators are paid for their management talent and do not take business risk. The real world is somewhere in the middle. Both owners and operators realize that operators need to be paid to generate revenues and to generate cash flows. Hence the dominant fee structure of a base fee plus an incentive fee.

As we can see, the actual financial results from an operating hotel, the revenues and cash flows, determine all management fee structures. Thus, to estimate the fees from any given opportunity, we need to have an accurate forecast of revenues and expenses. In general, a market study and the cash flow forecast must precede any work on valuing a management contract. For this course, we assume that the market study and cash flow forecast have been completed.

Now let's turn to the task of defining how we calculate or value base fees in a contract. The most common way to determine base fees is as a percentage of gross revenues. So let's look at industry practices throughout the world. Two fundamental items influence the level of base fees: location and level of service. Base fees for select-service hotels are fairly independent of location. These properties require much less management than full-service hotels, and their fees are generally 4% to 5% of gross revenues, with a fairly low incentive fee because management actually has limited influence on cash flows. Location does matter for full-service hotels. In general, base fees are slightly lower in Asia than in the

Americas and in Europe, the Middle East, and Africa (EMEA). Base fees cluster around 2%-2.5% in Asia and around 3%-3.5% in the Americas and in EMEA.

The second way to determine a base fee is as a flat fee on an annual basis. Consider a hotel that is distressed, and the operators want assurance that they will achieve some certain minimum level of base fee to manage the hotel. We would generally base that base fee on some percentage of revenues for a stable hotel, and then express it as a fixed dollar amount. Distressed hotels often have this type of fee arrangement, in which case the fixed base fee is coupled with an incentive fee once the operator earns a significant portion of any cash flows above a threshold. This assures that the manager will earn a minimum fee from the distressed hotel and provides an incentive to increase the cash flows quickly and significantly.

Read: Incentive Management Fees

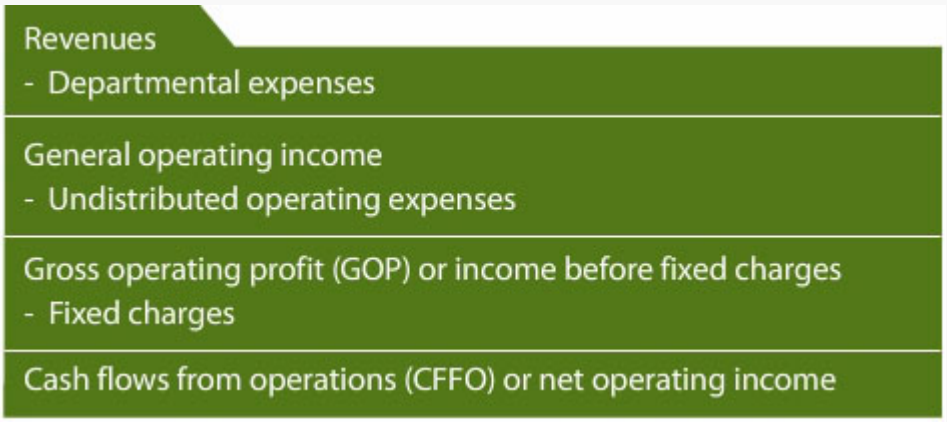
Key Points

Incentive fees are usually based on either:

- a percentage of gross operating profit
- a percentage of cash flows after payment to the owner

The most common form of management fee structure is a combination of a base fee plus an incentive fee. Here we explore various incentive fee arrangements, which are the heart of all management contract negotiations.

In all cases, the incentive fee is tied to the operator's ability to deliver profits or cash flows to the owner. Hence, incentive fees are inexorably linked to the results from operations. Recall our generic revenue and expense forecast, as shown below.



For a hotel that is not considered distressed, there are two basic structures in use today. (There are many variants, but we focus on the two basic structures).

1. Incentive fees based on a percentage of GOP or adjusted GOP. We generally define adjusted GOP as the GOP less the base management fee.
   Fees based on a percentage of GOP reward the operators for managing their span of control well. Recall that the manager is responsible for all revenues and for all expenses above the "GOP line." The owner is responsible for managing the fixed charges in almost all cases. The fee in this arrangement ranges from 6% to 10% of GOP. This type of incentive fee often includes a step-up mechanism based on the GOP margin, which is the GOP as a percentage of total revenue. For example, consider a hotel with an expected GOP margin of 32%. If the GOP is less than 30%, then the incentive fee may be negotiated at 7% of GOP. If the GOP increases to between 30% and 34%, the incentive fee increases to 8% of GOP. And if the GOP goes above 34%, the incentive fee rises to 9%. Basically, the step-up rewards the operator for achieving superior results.
2. Incentive fees based on a percentage of cash flows after an owner's priority return. Incentive fees based on a percentage of cash flows after an owner's priority return (CFAOP) are a fairly recent innovation. To calculate the fee, start with CFFO. Deduct the owner's priority, which is a negotiated percentage of the total investment. The result is the cash flow after the owner's priority. The incentive fee then comes out of the CFAOP, and

ranges from 15% to as much as 50% of CFAOP, depending on how the fee is structured. In this structure, the incentive fee negotiation involves the fee percentage *and* the owner's priority. The owner's priority is usually between 6% and 12% of the purchase price of the hotel. In addition, owners obtain the owner's priority return on additional investments to the hotel (capital expenditures are excluded from this). This also influences the incentive fee. The net effect for the operator is to defer, or subordinate, the incentive fee until the owner has earned a minimum return on the asset (the owner's priority). The owner's priority percentage is structured to provide the funds to pay the debt service and a minimum return to equity. If the owner's priority is low (for example, 8%), the operator generally earns a relatively small percentage of the CFAOP. If the owner's priority is high (for example, 12%), the operator generally earns a relatively large percentage of the CFAOP. The idea is that the operator should be rewarded for increasing the subordination of the management fee. In otherwise equivalent situations, incentive fees based on CFAOP are always larger than incentive fees based on GOP, due to the subordination. If the owner asks the operator to get paid after the owner earns a minimum return, it is only fair that the operator be paid to wait.

There used to be a third form of incentive fees, based on cash flows after debt service (CFADS). We calculate this by taking CFFO, subtracting the debt service, then paying the operator an incentive fee of between 12% and 18% on the result. Arrangements such as this became very problematic when the property was refinanced or recapitalized. When this happens, the debt service increases and the operator's fee declines, in effect punishing the operator for good performance. For this reason, CFADS is now a very rare basis for incentive fees.

For distressed hotels, we often calculate incentive fees differently. They are generally based on an expected improvement in GOP. Often the operator obtains 15% to 25% of the change in GOP for a set number of years until the hotel stabilizes or is sold. Here the incentive fee is tied directly to the improvement of the hotel.

Finally, we can consider incentive fees based on a "waterfall" structure. Consider a situation in which the owners want the incentive fee to be based on CFAOP and the operators want the incentive fee to be based on GOP. A waterfall structure can provide a compromise in which the incentive fee is based on GOP but earned in two stages. For instance, the first half of the incentive fee could be based on GOP, and the second half could be based on achieving a specified CFAOP.

Read: System-Reimbursable Charges

The owner pays system-reimbursable expenses to the operator for centralized services the operator provides as part of system-wide efforts in support of the owner's property.

Chain-operator system-reimbursable charges include:

- Expenditures for system-wide advertising and national and regional sales offices
- Centralized reservations systems
- Centralized accounting and management information systems
- Centralized purchasing and procurement services
- Centralized educational and training programs
- Additional services such as life safety, energy management, insurance and risk management, preventative maintenance, auditing, preparation of owner tax returns, and special ongoing project consultation

Independent operators offer system services, but usually on a less comprehensive basis than chain operators. The table below summarizes system services offered by domestic and international chain operators and for independent operators.

Percentage of Operators Offering System Reimbursable Charges

System Service	Chain Operator		Independent Operator
	Domestic	International	with Developer-Owner
System-wide advertising and sales offices	All	All	Minority
Centralized reservation system	All	All	Minority
Centralized accounting and management information systems	All	Most	Majority
Purchasing and procurement (for fixed assets)	All	Most	Large majority
Training and educational programs	All	All	Most
Percentage of operators offering the following additional programs:			
Life safety	Most	Most	Most
Energy management	Most	Most	Majority
Insurance and risk management	Most	Most	Sizable majority
Preventative maintenance	Most	Most	Majority
Auditing	Few	Most	Minority
Preparation of owner tax returns	Few	Few	Few
Special project consultation: (layout and design, remodeling, laundry)	All	All	Most

Two areas of contention concerning system-reimbursable expenses often arise during the term of the contract. First, disagreements occur over which of the operators' corporate expenses can legitimately be billed to a property-that is, what

services the base and incentive fees include and what services can be billed as system-reimbursable charges. Second, there may be disagreements about the mechanism for verifying legitimate expense totals and the accurate apportionment of these to the properties in the system. A contract should state clearly which specific operator corporate expenses are and are not reimbursable and should make disagreements subject to arbitration. The contract should also provide for an annual verification of the operator's total reimbursable expenses and the pro-rata calculation by independent means (usually by the owners' or operators' audit firm).

Since chain and independent operators use a variety of formats and formulas in calculating their management fees and system-reimbursable charges, the owner must make side-by-side comparisons of these packages to assess them systematically.

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[1]Adapted from J. Eyster and J. deRoos. *The Negotiation and Administration of Hotel Management Contracts*. Ithaca, NY: School of Hotel Administration, Cornell University, 2009.

Watch: Management Fees: Putting It All Together

An illustrated presentation appears below. Use this resource to enhance your understanding of methods of incentive fee calculations. Click here to download the spreadsheet that is used in the presentation.

Read: Defining Base and Incremental Impact of a New Hotel in the Market

Here we consider a significant cost to any hotel company's expansion strategy. As the firm grows and builds new hotels, there comes a point where its growth influences its existing stock of hotels. This is especially true when it adds hotels in a local market area. Multibrand firms are especially exposed to this phenomenon, which is known in the industry as "impact" or "encroachment." As a firm adds brands across price points and across segments, additional hotels within the market can have a measurable impact on the existing stock.

The industry separates impact into two distinct types: base impact and incremental impact. Base impact occurs when any new competitor comes into the market. This new competitor adds to the supply of hotels and "dilutes" the market. This causes every competitor's fair share to fall, reducing occupancy for every hotel in the market in the short term.

Consider a 200-room property in a 1000-room market. This property has a 20% fair share. If a new 100-room competitor opens in the market, adding 10% to the supply, the existing hotel's fair share falls to 18.2% (200 rooms out of the 1100-room total) from 20% (200 rooms out of the 1000-room total). If the relative competitiveness of the existing hotel remains fixed, its occupancy will fall by approximately 9% due to the impact, unless demand is growing to offset the dilution.

Incremental impact, on the other hand, is impact that occurs when an existing hotel faces a new competitor in the same brand or brand family. Generally, it can be thought of as follows: There is a finite number of brand X customers coming to the market, and they are now spread among n + 1 hotels.

The concept of incremental impact remains controversial within the industry, especially in relationships between franchisors and franchisees. Most franchisors have a policy of compensating franchisees in a variety of ways for growth that produces incremental impact within the market area. The franchisee's perspective is that any new competitor has impact, whether it is the same brand or a different brand. The franchisor's perspective is that if new competition is coming into the market, it might as well be the franchisor's brand. These perspectives can produce some very serious differences of opinion about how to manage impact.

It is difficult to quantify incremental impact unless you have data on the central reservation system contribution (CRS contribution) and the booking rates at the competitive hotels. To quantify impact, you are fundamentally trying to estimate how much of the CRS contribution will be spread among the new hotels within the market. A few consulting firms make this their specialty. They have dense databases spanning many assignments. Much of the expertise in this niche comes from consultants who now serve the industry but were formerly analysts within the franchisor community.

In the big picture, to estimate the benefits and costs of the new management contract in any market, the operators must consider the cost of impact. That is, they must consider the effect of the new hotel on the operators' existing hotels in the market. Operators who ignore impact will overestimate the value of their new opportunities.

For more detail on this matter see Rachael J. Roginsky, "Impact," Chapter 6 in L. E. Raleigh and R. J. Roginsky, eds. *Hotel Investments: Issues and Perspectives*, 4th edition. Orlando. FL, and Lansing, MI: American Hotel and Lodging Educational Institute, 2006.

Read: The Impact Cash Flow Model

The new Hungerford Hotel entering the market will have an impact on the existing Hungerford. This impact consists of base impact, the impact attributable to any new hotel entering the market and diluting the fair share, and incremental impact, the impact attributable to the new Hungerford Hotel attracting some of the existing Hungerford Hotel's customer base. Let's look at how we take these impacts into account.

B	C	E	F	G	H	I	J	K
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Analysis of Base and Incremental Impact on Fees - Existing Hungerford Hotel (all figures $'000)								
License Fee - No New Hotel		$ 414	$ 430	$ 443	$ 456	$ 470	$ 484	$ 498
Management Fee - No New Hotel		$ 319	$ 331	$ 341	$ 351	$ 362	$ 373	$ 384
Total Fees - No New Hotel		$ 733	$ 761	$ 784	$ 807	$ 832	$ 857	$ 882
License Fee - New Hotel in Market		$ 414	$ 412	$ 425	$ 438	$ 451	$ 464	$ 478
Management Fee - New Hotel in Market		$ 319	$ 319	$ 328	$ 338	$ 348	$ 359	$ 370
Total Fees - New Hotel in Market		$ 733	$ 731	$ 753	$ 776	$ 799	$ 823	$ 848
Base Impact of New Hotel		$ -	$ 30	$ 31	$ 31	$ 33	$ 34	$ 34
License Fee - New Hungerford in Market		$ 414	$ 398	$ 410	$ 422	$ 435	$ 448	$ 461
Management Fee - New Hungerford in Market		$ 319	$ 309	$ 318	$ 327	$ 337	$ 347	$ 358
Total Fees - New Hungerford in Market		$ 733	$ 707	$ 728	$ 749	$ 772	$ 795	$ 819
Incremental Impact of New Hungerford		$ -	$ 24	$ 25	$ 27	$ 27	$ 28	$ 29
Total Impact of New Hungerford Hotel		$ -	$ 54	$ 56	$ 58	$ 60	$ 62	$ 63

We begin by looking at it from the perspective of the operator.

First, we estimate the total fees (including the license fee and the management fee) without any new hotel in the market. We do this using the existing Hungerford's stabilized occupancy. We typically use a market analysis to perform the analysis and provide a projection of the stabilized occupancy. For the purposes of this exercise, assume that the market analysis produces a stabilized occupancy of 74% in year base +4. We then measure the total fees with any new hotel of similar size entering in the market. To derive these fees, we re-estimate the market study with the new hotel added to the lodging supply; this time the market study shows the Hungerford's occupancy reduced by 3%, moving the stabilized occupancy from 74% to 71%. This 3% reduction is the classic dilution or base impact adjustment. The reduced occupancy gives us the information needed to estimate the base impact (a reduction in fees of $30,000, or 3.9%, in year 2, for example).

Next, we adjust the analysis to account for the fact that the new hotel will be a Hungerford. This requires the same 3% occupancy adjustment for base impact, plus an additional 2.5% reduction in occupancy to account for the Hungerford customers drawn to the new property. The stabilized occupancy is now 68.5%. Subtracting our total fees with the new Hungerford from our total fees with any new hotel gives us the incremental impact (an additional reduction of $24,000, or 3.2%, in year 2, for example). Adding that to the base impact gives us the total impact (a reduction in fees of $54,000, or 7.1%, in year 2, for example) on the operator of opening the new hotel.

What about the impact on the owner, TarHeel Development? Let's look.

B	C	E	F	G	H	I	J	K
		Year	Year	Year	Year	Year	Year	Year
		1	2	3	4	5	6	7
Analysis of Base and Incremental Impact on Owner - Existing Hungerford Hotel (all figures $'000)								
Cash Flow - No New Hotel		$ 3,496	$ 3,646	$ 3,755	$ 3,869	$ 3,984	$ 4,101	$ 4,228
Cash Flow - New Hotel in Market		$ 3,496	$ 3,363	$ 3,462	$ 3,567	$ 3,675	$ 3,785	$ 3,899
Base Impact on Hungerford Owner		$ -	$ 283	$ 293	$ 302	$ 309	$ 316	$ 329
Cash Flow - New Hungerford in Market		$ 3,496	$ 3,128	$ 3,222	$ 3,316	$ 3,416	$ 3,519	$ 3,625
Incremantal Impact on Hungerford Owner		$ -	$ 235	$ 240	$ 251	$ 259	$ 266	$ 274
Total Impact on Hungerford Owner		$ -	$ 518	$ 533	$ 553	$ 568	$ 582	$ 603

Here we look at the cash flows in the same way: without any new hotel competition, then with any new hotel. This gives us the base impact, which is a cash flow reduction of $283,000, or 7.8%. Then with a new Hungerford, we estimate the incremental impact, and the figures show a further cash flow reduction of $235,000, or 6.4%. Together we have the total impact of $518,000 or 14.2%.

What conclusions can we draw? Both the operator of the hotel and the owner of the existing hotel feel the impact. The opening of a new Hungerford has reduced both the fees and the cash flows to the existing hotel. The relative sizes of the effects are different, however. The operator's reduction in fees is roughly half the size of the owner's reduction in cash flows (7.1% reduction in fees vs. 14.2% reduction in cash flows). In addition, the dollar amounts of the reductions are very different. Thus, although both parties feel the effects, it is the owner of the hotel who bears the brunt of the impact. Nevertheless, the operator still feels some effects. In our example, there is only one other Hungerford Hotel in the market. In many instances, the operator must consider impact for a number of hotels, and the effect can be relatively larger. The operator must consider impact in the analysis. Ignoring it overstates the benefits of a new hotel entering the market.

Read: Modeling Overhead Costs

Key Points

- Management companies typically estimate overhead associated with a new contract.
- Overhead costs can be calculated using several different approaches.

So far we have only considered the incremental revenues and costs of the management contract. We have not yet dealt with any of the costs of running the management company, the management company's overhead. The analysis of individual management contracts typically includes some allocation of the overhead costs attributable to a new contract. Let's take a look at how we might accomplish this.

We can begin with something quite basic. For example, we have to add a new hotel in the system to the company's Web site. The costs here are clear and relatively easy to estimate or determine. On the other hand, a new hotel in the system would also require some management time. This is much harder to allocate. Think of the difficulty in identifying the specific costs in terms of hours or salary for different members of the management team.

We can generally take three different approaches to modeling the overhead costs. Let's consider them one at a time.

1. In the first approach, we ignore the specific overhead costs for modeling purposes. Instead, we compare the gross fees across deals, assuming that the costs for this hotel will be comparable to those of other hotels. We do this knowing that this is not the true incremental value to the firm. However, since we assume that the costs are comparable across properties, we can still make good decisions. If you take this approach, the firm's leadership must recognize that the estimates for each "deal" are biased; the estimates are high. The decision process must take this into account.

2. Second, we can allocate the overhead on a per-project basis using an average cost allocation. In this arrangement, the management firm produces a set of metrics that express the costs as averages for the firm, based on historical results. For example, imagine a firm with:

    1. 200 hotels
    2. $15 million of base fee revenues
    3. $30 million in total (base plus incentive) fee revenues
    4. $10 million of annual overhead expenses

This firm could allocate the overhead in one of three ways:

1. $50,000 per hotel per year ($10 million ÷ 200)
2. 66.6% of base fee revenues ($10 million ÷ $15 million)
3. 40% of total fee revenues ($10 million ÷ $25 million)

We then compare the net fees less the average overhead across other deals. Again, we do this knowing that this is also not the true incremental value to the firm. To arrive at a better estimate, we can also take the average of our first two approaches, averaging the net fees across deals with the net fees less overhead costs.

3. Third, we can try to determine the marginal overhead costs of adding the project to the firm. We can then compare the net fees less the marginal overhead across deals. If done properly, this approach allows firms to determine the impact of a given "deal" on the value of the firm, but it is very difficult to implement.

For this course we take the approach of averaging the results from our first two approaches. Since the overhead allocations are so firm-specific, it is difficult to provide "exact science" here. But let's take a quick look at how this might work in an example.

Consider a firm trying to determine the costs of the regional management team. The regional team typically includes a regional VP for operations, a regional controller, a regional VP for marketing and sales, and a regional VP for food and beverage. In addition, there would be a support staff, the largest of which would be in accounting. A regional team can handle from 12 to 18 properties, say 15 properties on average.

The firm could simply say that the existing regional team has capacity to absorb another hotel in the region and that no marginal costs are associated with a new hotel.

Another approach would be to determine the marginal impact of a new hotel on each of the team members, estimate the costs, and sum them. This is a tedious task. Here we're only considering the marginal cost of the regional team, but the task is even more daunting if we do it for the entire firm.

A third approach is to simply add the costs of operating the regional office and divide by 15, the average number of hotels in a region. This is an estimate of the average costs per hotel, a reasonable estimate of the impact of the costs to the firm. In the long run, the use of average costs is likely to overstate the true costs, due to decreasing marginal costs (increasing returns to scale) as the firm grows.

Read: The Valuation Problem

In this section of the course, we are putting things together to estimate the value of the management contract. As different firms have approached this task in the past, it has become clear that the valuation of management contract flows is fraught with challenges. In this section, we outline the challenges, and the solutions that are in practice.

The overriding objectives are to:

1. Estimate the value of the management contract as a present value or a present value per room (often referred to as present value per key)

2. Estimate the annual impact of the management contract on earnings per share for firms that are publicly listed

To perform these tasks, you first aggregate all of the benefits and costs into a set of annual flows. Second, you establish appropriate end-of-analysis-period terminal values for those flows. And third, you discount those flows at an appropriate discount rate.

Let's look at three challenges this poses.

Analysis period

First, what is the appropriate analysis period? Is it the initial term of the contract, the initial term plus the renewals, or a basic 10-year projection? The longer the analysis period, the more difficult it becomes to reliably estimate flows. There is a tension, therefore, between reliable estimates and estimates that span the actual term of the contract. Standard practice is to estimate the flows for at least 10 years, but no more than 20. And the industry is moving toward a much more standard 20-year analysis period. However, if the term of the contract is longer than the analysis period, we require end-of-period terminal values, to convert the expected flows into a single number at the end of the analysis period. It is very common for many of the branded operators to have initial terms that are more than 20 years and initial terms plus one-way renewals that are sometimes as long as 60 years. So the requirement for end-of-analysis-period terminal values is not trivial.

Multiple or Capitalization Rate

A second challenge concerns the appropriate multiple or capitalization rate for the end-of-period flows. Most firms have developed a heuristic using a multiple of the last period's flows to estimate the value, based on the remaining term. It is quite common to use a multiple of 4 to 5 if there are 10 years remaining, and a multiple of 7 to 10 if there are more than 20 years remaining.

Discount Rate

The last challenge concerns determining the appropriate discount rate. Many firms use a set of discount rates to reflect the risk units of the various flows. Base fees are considered a very predictable flow and hence have very low discount rates. For publicly listed firms, this would probably be the weighted average cost of the capital, plus a small amount if the risk of the contract being considered is greater than average.

Incentive fees, on the other hand, are considered very risky. Thus, we use a higher risk-adjusted rate to discount these flows. We generally discount the end-of-period terminal flows at the same rate as the annual flows. Thus, we discount terminal base fees with our weighted average cost of capital; we discount terminal incentive fees at the risk-adjusted rate. Some firms add a risk adjustment to the terminal values if the renewals are subject to a bilateral agreement.

Firms generally discount costs at the same rate as base fees, because costs are quite predictable. Some firms discount the incremental impact costs at a higher risk-adjusted rate due to the unpredictability of these flows. So the analysis is challenging, but good spreadsheet design and a systematic approach can bring order and help both analysts and decision makers interpret the information effectively.

Watch: Arriving at a Valuation

An illustrated presentation appears below. Use this resource to enhance your understanding of the process for completing management fee flow valuations. Click here to download the spreadsheet that is used in the presentation.

Listen: Contemporary Practices

A number of contemporary practices are changing traditions in management contracts. Here Professor deRoos discusses three separate practices. The first relates to the use of licenses, the second involves the use of "manchises" (a combination of franchise and management contract), and the third has to do with relationship management. Click the three pictures below to hear Prof. deRoos describe each practice.

License: "Manchise": Relationship Management:

Read: Facing a New Franchise in the Market

Valuing franchise agreements involves a process quite similar to valuing management contracts. In this case, you value the franchise fees. Although the valuation processes are very similar, franchise fees are much more uniform due to federal legislation regulating the franchise industry. In this page, we value a franchise agreement for a Hillwood Inn.

Let's begin the same way as before, with a scenario built around the Hungerford Hotel. The Hungerford Hotel has been a very successful addition to the hotel market in the Research Triangle region of North Carolina. For the management contract section, we envisioned opening a second Hungerford in another part of town. For the franchise agreement, we will take the scenario in another direction.

Instead of a second Hungerford, imagine a different brand, Hillwood Inn, with a presence in the region. Hillwood is now planning a new hotel in the Hungerford's backyard. The new location is a good match for Hillwood, a full-service hotel that will compete well with the Hungerford. It also promises a welcome increase in Hillwood's presence in the Research Triangle. Obviously the new Hillwood could have an impact on the other Hillwood properties in the market, but since this is the first Hillwood to open in the Research Triangle, the analysis will ignore any study of impact. How does the brand go about evaluating this opportunity?

The process is very similar to the process we used for the management contract. The fee flows, however, are very different. The brand's first tasks in evaluating the opportunity are:

- Estimate the flows to the brand, primarily royalty but others as well, from this opportunity
- Estimate the impact of the franchise fee flows on the value of the opportunity
- Estimate the value of this opportunity relative to other deals of a similar size or nature that might be available
- Consider the impact this hotel might have on the brand's relationship with others among the brand's hotel owners

We will examine these tasks systematically. First, we will look at the range of the industry practices for the various franchise fee arrangements and their analysis. Then we will return to the case of Hillwood and provide an integrated example of one way this could play out in the market.

Read: Franchise Agreement

Here we consider fee flows from the perspective of the brand seeking to evaluate the benefits of a new franchise. These benefits flow to the brand through the franchise agreement. The franchise agreement is the device that hospitality firms or brands use to turn their intellectual property into cash flows and value.

The franchise fees we consider here are different from the costs of franchise affiliation we considered in "The Control of Hotel Real Estate" course. Those costs included many charges, such as the reservation fees and the product improvement plan, that are designed to cover the costs of the franchise affiliation and do not bring profit to the brand. When we speak of franchise fees, we consider two broad categories:

- Royalties
- Other charges

Let's take a brief look at each:

Royalty Fee

This is the fee for the use of the intellectual property contained in the brand's trade name. No additional services flow from this fee. The royalty fee in general is anywhere from 1% to 7% of room revenues. For many of the highly regarded brands, the range is 5% to 7% of revenue. The royalty fee contains a significant profit for the brand and is the most important part of the fees for the valuation of the franchise agreement.

Other Charges

This category includes a range of other charges, such as:

1. Marketing fees
   Including Internet, print, and other media, these fees cover the actual cost of creating brand identity. The brand can leverage franchisee contributions to establish and maintain a regional and international identity. Marketing fees are usually around 2% of room revenues. In general, they are not a source of significant profit for the brand.
2. Reservation fees
   These include the cost of purchasing the reservation system, training staff to use it, and operating the system. Reservation fees are also typically around 2% of room revenues. In general, they are not a source of significant profit for the brand.
3. Frequent Traveler Fees
   The brand receives a fee for every guest who checks in using the brand's royalty card. Generally, the charge for

running the frequent traveler royalty program is about 2% to 3% of room revenues.

4. Other fees

   These may include charges for sales representation, technology such as computer or satellite communication equipment, training programs, consulting, purchasing assistance, and fees for changing brand standards (for instance, a change in bedding, or Internet access). Charges for these services cover the costs of providing the service and the brand manager's overhead.

These charges vary quite remarkably from brand to brand. Obviously, the brand knows what it charges for various services, so it can predict its terms quite accurately. Almost all charges, however, are a function of the hotel's room revenues or a function of the number of guests. Predicting franchise fees accurately, then, is partially an exercise in accurately forecasting room revenues and occupancy for a prospective franchise.

Watch: Making the Valuation

An animated presentation appears below. Use this resource to enhance your understanding of valuing franchise fees.

Tool: Franchise Fee Analysis

Download the Tool

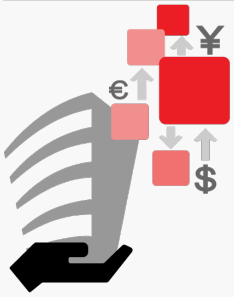
Hotel Franchise Fees Analysis Guide Part 1

Hotel Franchise Fees Analysis Guide Part 2

In this course, we necessarily present a simplified view of the many different forms that franchise fees can take. The best way to familiarize yourself with the wide variety of franchise fee practices is to take a closer look at how different brands approach the franchise fees. The Hotel Franchise Fees Analysis Guide, produced by HVS International, provides an excellent look at the franchise fee practices of the major brands.

Use the links above to download the two-part report. Part 1 looks at what goes into franchise fees. Pay particular attention to pages 1-4 of Part 1; this provides a concise overview of franchise fees. The importance of the Uniform Franchise Offering Circular in industry practice cannot be overemphasized; these disclosure documents are a very important part of franchise practice. Part 2 provides detailed summaries of specific brand practices, grouped into First Class, Mid-Rate, and Economy brands. You should spend some time browsing through these plans to gain a sense of the range of practices in the industry.

Module Introduction: Debt Financing



Depending on their specific requirements and goals, investors can make use of a broad array of debt and equity financing structures in hotel investments. This module examines the role of debt financing in creating value for equity. After considering the different financing options that make up the capital stack for a project, you calculate the true cost of a mortgage, including all of the fees. Finally, you consider the impact of the commercial mortgage-backed securities (CMBS) market on the loans you negotiate.

After completing this module, you will be able to:

- Describe the range of debt and equity financing options available in the capital stack
- Explain how the participants in the capital stack use their property rights to secure their interests
- Calculate the true costs of loans, taking into account a wide range of possible fees and features
- Explain how the CMBS market influences the loan you are able to negotiate with your local lender

Listen: Introduction to Debt Financing

How do organizations use debt financing in contemporary capital markets? Debt financing has many forms and purposes. How much you need, and what type of financing you need, depend on the requirements of the business and the goals of the investors.

Click the photo to listen to Professor deRoos explain the array of financing options available and discuss factors that can influence the optimal mix for a particular organization. You can follow this bulleted list as you listen.

Uses for Debt Capital:

- Promote growth
- Acquire new property
- Recapitalize the firm
- Change the capital structure to facilitate sale

There is another crucial consideration in the use of the capital markets: the debt market can change very quickly. Debt markets go from being very hot, when the debt window is wide open, to being very cold, when the debt window is effectively closed. During 2007 and 2008, the debt markets essentially shut down for over six months, and it was extraordinarily difficult to obtain debt capital for either transactions or new development projects.

During the preceding period, from roughly 2003 to early 2007, the debt market was extremely robust. Debt capital was plentiful and fairly inexpensive, and standards were lax compared to historical norms. Borrowers got very large loans with terms that were not very onerous compared to terms in a market where debt capital is difficult to obtain.

Overall, when using debt capital, you must choose from a complex array of options, in an environment that itself can be volatile. You can only make wise debt financing decisions by considering your organization's situation and the state of the external marketplace, which can change quickly.

Read: The Capital Stack

The capital stack is the mix of financing put together to fund an investment. When examined in simple terms, the capital stack typically consists of equity and debt, with mezzanine financing sometimes making up the difference. Here, we add some real-world complexity to defining this important concept.

Source of $	Comments		
Senior mortgage	Fixed or floating "long" term	Lowest returns & lowest risks	Gets paid first
Junior mortgage	Fixed, short term		
Mezzanine senior	May be tranched (or issued in layers) e.g., 60–70%		
Mezzanine junior	May be tranched (or issued in layers) e.g., 70–80%		
Preferred equity	Minimum return requirements	Highest returns & highest risks	Gets paid last
Sponsor equity	Minimum may be required by other capital sources		

Let's begin with debt financing. The first layer of the capital stack includes two forms of mortgages, senior and junior. These mortgages are fixed or floating long-term debt. They produce the lowest returns to the debt holder, because they are paid first, and so they have the lowest risks. What distinguishes a senior from a junior mortgage is priority of payment: on any property, the mortgage that is paid first is called the senior mortgage. It's the mortgage that is paid before all other payments to capital. Any other mortgage on the property is considered a junior mortgage because it is paid only after the senior mortgage has been paid.

Typically, you use junior mortgages when the senior mortgage has a long, advantageous term and you don't want to pay it off with a new, larger mortgage to harvest equity. You commonly use junior mortgages, for instance, to finance very large city buildings. Consider Rockefeller Center. Assume it was formerly worth $1 billion and has increased in value by $100 million to $1.1 billion. To harvest some of that increase in value, you can put on a junior mortgage of 50%, 60%, or 70% of the $100 million increase in value without taking out the existing senior mortgages. A key to junior mortgage financing is that the senior mortgage holders generally agree to the junior mortgage.

At the other end of the capital stack we have equity, which is also divided into two types. Here the divisions are called preferred and sponsored. Equity has the highest returns because they get paid last, and therefore they have the highest risks.

The fundamental difference between preferred equity and sponsored equity is that the preferred equity generally has a minimum return requirement-they get paid a minimum return first, and then the sponsored, or common, equity gets whatever is left over. The sponsored equity, on the other hand, is entitled to the highest returns. Because they are paid absolutely last, after all the other capital stack participants are paid, they get the highest return.

Between mortgages and equity are two forms of "mezzanine" lending, senior mezzanine and junior mezzanine. As with mortgages, senior mezzanine loans are paid before juniors.

Mezzanine loans may be issued in tranches (from the French "tranche," a slice or layer). For example, a senior mezzanine may bring the capital stack from 60% of total capital to 65% and then to 70%, and then a junior mezzanine would take it from 70% to 80% of the capital structure.

Mezzanine funds generally constitute no more than 20% to 30% of the total capital stack, and the owner of the property generally sees mezzanine funds as a substitute for equity. Mezzanine may be a desirable substitute for equity because it is paid slightly less than equity, and you don't have to take the mezzanine lender on as a partner. Mezzanine loans generate significantly higher returns than mortgages. They are paid second, in the middle, after the senior and junior mortgage holders. Their risk is also in the middle. They have moderate returns and moderate risks in exchange for being paid after the debt capital but before the equity capital.

Read: Property Rights in the Capital Stack

Now that you've seen the capital stack, consider the property rights embedded in the capital stack. To begin, click the image on the right to read a description of a real estate transaction. Click a red dot within the article to learn more.

With this example in mind, let's consider the property rights of each of the major members of the capital stack in general terms.

First, consider the debt holders. The property rights of debt holders are known as the mortgage, which gives the property rights in the event of a default by the borrower. Debt holders generally have the right to be paid under the note. The mortgage itself is actually a security interest that gives the lender the right to take ownership away from the equity owners of the property if certain specific default events occur. The most serious default event, obviously, is failure to pay the note, but there can also be technical defaults resulting from bankruptcy or some other proceeding.

Now consider the equity property rights. As long as the equity providers meet their obligations to all the other capital providers, they have all of the property rights embedded in the property. These rights are generally called "fee simple absolute" in the legal profession, or more commonly, "fee simple" property rights. As the equity holder, you have title to the property, which gives you exclusive possession and control. Because your title is registered, you have the right to "quiet enjoyment," which means you don't have to defend claims of title. And you have the right of disposition, which is the right to sell the property when and to whom you wish (subject, of course, to laws against discrimination in housing markets). The only abridgments of the title holder's rights are for occasional minor matters. The lender, for example, may have a lockout clause for prepayment, which prohibits the borrower from selling the property for a certain period, generally the first year or two of a loan.

Finally, consider the mezzanine investors. The mezzanine holders have the right to be paid under their contract or under the note. The mezzanine holders have what is called a "springing interest" in the property, generally granted through equity warrants when the mezzanine funding agreement is drafted: If the property owner doesn't pay, the warrants automatically perfect (or "spring") and the mezzanine holder assumes control of the equity holder's position. Thus, there is generally not a foreclosure process for mezzanine holders to obtain title. Their ability to obtain the property rights comes from the equity warrants. Note, however, that unless their contract has been breached, the mezzanine lender has no property rights. Because the mezzanine lenders' contract and equity interest are with all the owners, not any particular partner, they have the right of notification and approval before the any of equity partners transfer or sell their interest in the property.

Throughout this course, consider the links among members of the capital stack regarding valuation. The lenders' note or mortgage has value because of the nature of their property rights, which have value from two mechanisms: They have the right to be paid under a note and the right to assume ownership of the property if they are not paid. The mezzanine holders similarly have the right to be paid under the mezzanine contract and the right to equity if they are not paid.

The equity also has value. They have title to the building. Accordingly, they have the clear right to all of the cash flow after everyone else has been paid. So equity has value not only from the cash flows over time, but from the fact that the land

registry very clearly identifies who those right holders are and are not. All of the equity rights flow to the person listed on the title in the land registry.

Download a print-friendly version of the article.

Read: Why the Fees Stay Up Front

Key Points

The effective cost of borrowing may differ depending on whether lenders:

- impose a prepayment penalty, or
- charge percentage "points" in lieu of a penalty

A number of elements influence the actual costs of various mortgage arrangements. When we evaluate debt financing there is a net present value rule and there is a return-based rule. When we look at the initial investment decision, we consider the net present value rule. We compare the net present value with and without debt financing.

Here we consider not the initial investment decision, but the financing decision. We compare different loans and determine which is the most costly. To do so, we use a return-based rule called the "effective cost of borrowing." In fact, the effective cost of borrowing is the same as a loan's internal rate of return, or IRR.

We perform the calculations shown below using a standard financial calculator or Excel tools. In future sections we show how to make these calculations, but right now, let's just use the numbers to show the effect of different loans. So let's consider a base case loan of half a million dollars-$500,000-for 30 years, with 360 monthly payments of $3,800 per month. The interest rate on this loan is 8.374%, which is also this loan's effective cost of borrowing, or ECB.

Now, let's take a look at how various features that can be embedded in this loan affect the cost of the loan.

Let's consider the effective cost of borrowing with prepayment penalty and points. We have our half-million-dollar loan for 30 years at $3,800 a month. What if we prepay this loan in full at the end of 10 years, without any other penalties? We can call this our base case loan prepaid in full. The effective cost of borrowing is again 8.374%. The borrower's ECB is simply the stated interest rate-there is really no effect of prepayment on the cost of the loan.

Why, then, is this a concern? The reason is that lenders have many devices to discourage or prevent borrowers from prepaying their loans. A very common device is a prepayment penalty. Let's take a look at a prepayment penalty of, say, $20,000. The lenders say you can prepay this loan whenever you want to, but you will need to give them an additional $20,000 payment if you prepay the loan before the end of the 30th year. So we now have $500,000 we borrowed in year 0. We make 120 payments of $3800 (10 years' worth of payments) and at the end of the 10 years, we make an additional payment of the remaining mortgage balance plus the prepayment penalty. When you solve for the interest rate on that set of payments, you obtain exactly 8.63%, or 26 basis points higher than the base case. The prepayment penalty boosts the effective cost of borrowing and adds costs to the loan.

Borrowers hate prepayment penalties because they have to pay them at the end of the loan when they may not have the money. So lenders do something very clever-they say, what if we charge points on this loan? And so now we have the same loan of half a million dollars, but the lender now says we're going to charge three points up front, and we'll have no prepayment penalty. Recall that one loan point is 1% of the loan amount. In this example, 3 points is $15,000, payable up front. When we borrow $500,000 in year 0, we immediately turn around and pay the lender $15,000. Our net proceeds are $485,000 at the beginning of the loan term. We then hold it for the full term, making 360 monthly payments of $3,800.

When you calculate the effective cost of borrowing, it is exactly 8.70%, which is 33 basis points or 0.33% higher than the base case. The addition of the points boosted the effective cost of borrowing of the loan.

But here's where the interesting part comes in. Let's say we simply prepay this loan (with three points at origination) at the end of 10 years. So here's the story: you borrow $500,000 and immediately pay the lender $15,000 in points, so your net proceeds in year 0 are $485,000. You make 120 payments of $3800 per month, and at the end of the tenth year or 120 payments, you pay the remaining mortgage balance. Now solve for the effective cost of borrowing of this loan. You obtain exactly 8.84%. This is 14 basis points higher than the full payment and 47 basis points higher than the base case.

If you prepay, the effective cost of borrowing on the loan goes up, because you are holding the loan for a shorter period and have less time over which to spread the cost of the points. The conventional argument for points, then, is that they deter prepayment. Points act as a "hidden" yield booster for lenders when borrowers prepay. Borrowers generally know this and the lenders get a windfall boost in their yield when borrowers prepay.

Type of Loan	Effective Cost of Borrowing
Base Case—held full term	8.37%
Base Case—prepaid at year 10	8.37%
Prepayment Penalty (prepaid at year 10)	8.63%
Points—held full term	8.70%
Points—prepaid at year 10	8.84%

In the next section, we look at a mortgage calculation workshop in which we rigorously examine points and other features of loans and take a very rich look at the effective cost of borrowing for a wide variety of commonly used loans. There we'll show the specific calculations involved.

Tool: Mortgage Calculation Workshop

Download the Tool

Mortgage Calculation Spreadsheet

When you are putting together the financing for a hotel investment, lenders offer many different types of primary and mezzanine mortgages. We have put together a spreadsheet that allows you to assess the impact of some of these loan features, including points, prepayment penalties, a participating loan, a floating interest rate loan, and a lookback.

Download the spreadsheet above. Then begin the presentation below, which illustrates the material in the spreadsheet. After completing that presentation, you can use the spreadsheet to analyze each scenario in greater depth, changing the parameters to see how they influence the effective cost of borrowing.

Listen: Why Securitization?

Let's look back in time a bit. In the olden days, you went to the bank and dealt with a loan officer. The bank would lend you money to buy your house; the bank would hold the loan on the balance sheet in their portfolio; you would write a check every month to the bank. The bank made money on the difference between the interest rate on your loan and the passbook savings rate that they were paying to the savers in the economy.

Those days ended in about the 1950s in the United States. Today, the vast majority of residential mortgages in the U.S., a sizable portion-not a majority-of the commercial mortgages in the U.S., and an increasing number of mortgages throughout the world are securitized. So today you borrow from a loan originator, make payments to a loan servicer you've never met, and your payments go to an investor who purchased bonds backed by your loan. Why securitization? What are the benefits? Click to hear Prof. deRoos illustrate three benefits through different securitization stories.

Tool: Overview of the Process

Download the Tool

The Securitization Process

Let's take a look at the securitization process in some detail. Click the image to the right to examine the key steps of the process.

You see, then, that we have a long and somewhat tortuous path between the people who borrowed the money in the first place and the people who invest in the securities. They are completely removed from each other.

Download a print-friendly version of the Securitization Process from the link above.

Watch: Constructing a CMBS Deal

An illustrated presentation appears below. Use this resource to enhance your understanding of commercial mortgage-backed securities.

Read: Trends in CMBS

Mortgages available to borrowers are now based on what investors desire in the CMBS market. It is the investors and their preferences that drive the loans and the loan features available today.

Let's look at several ways the CMBS (or secondary) market influences the primary market.

First, consider the effect on loan sizing. To create AAA-rated bonds for the CMBS market, you shouldn't have anything less than a B-rated loan in the pool. This generally limits lodging loans to a loan-to-value ratio (LTV) of less than 65%-70% and a debt coverage ratio (DCR) of greater than 1.4. Thus, we see that the secondary market influences the LTV and DCR available to borrowers.

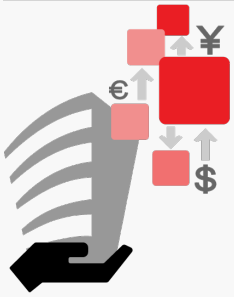
Second, consider the effect on the interest rate. The interest rates are based on investor demand for risk-adjusted spreads relative to treasuries or LIBOR (the London Interbank Offer Rate). If investors demand higher spreads, the loan interest rates will increase, even though the property underlying a given loan has the same risk profile. In other words, increased spreads in the secondary market can drive up interest rates for hotel loans.

Third, consider two effects on the structure of the industry.

1. The secondary market discourages participating loans or loans with contingent interest. Bonds can't be priced based on uncertain financial outcomes at the property level. Loan payments need to be predictable and consistent or based on very quantifiable risks in the interest-rate futures markets.
2. The secondary market is the driving force behind prepayment management devices. Gone are prepayment penalties based on a percentage of remaining mortgage balance. Instead, we have defeasance and yield maintenance, both of which are designed to deliver the stated yields on the bonds to investors. Lockout is designed to prevent prepayments early in the life of the pool to protect the yield to the senior (AAA) rated tranches. Again, the demands of the secondary market drive the features of loans in the primary market.

Borrowers need to understand that market forces far removed from their property and their lender drive the debt capital markets. Understanding these forces removes some of the mystery from the lending environment.

Module Introduction: Equity Financing



This module considers public equity (REIT) and private equity structures in real estate. We focus on the practical aspects of equity structure design. We consider how REITs can be analyzed and compared, providing an analyst's report as an example. Then we consider how private equity sponsors design cash flow distribution mechanisms to align incentives and to achieve high returns.

After completing this module, you will be able to:

- Describe how REITs are constructed, the tax benefits of REITs, and the limitations of the REIT structure
- Describe how investors and analysts view and evaluate public equity
- Explain how a private equity sponsor uses the promote structure to enhance the sponsor's returns
- Calculate the cash flow "waterfall" that is part of the promote structure in a private equity fund
- Model duration to clarify the timing of cash returns and determine modified IRRs

Read: The Equity Component of the Capital Stack

Where is the capital coming from for hotel investments? Let's look at the debt and equity components, divided by whether the source of the capital is private or public. Consider this two-by-two table:

	Publicly Traded Firms and Claims	Private (nonlisted) Firms
Debt	Residential and commercial mortgage-backed securities	Whole loans—generally from banks and life insurance companies
Equity	Real estate investment trusts	Private equity funds, individuals, and families

Here we see the major sources of debt and equity financing. On the left we have capital from publicly traded sources; on the right we have capital from privately owned sources. In the previous module, we examined debt capital. We considered both publicly traded commercial securities and privately offered "whole loans." In this module, we consider both public and private equity. Here we focus on public equity, specifically real estate investment trusts (REITs). In the following pages, we consider private equity. Specifically, we focus on various promote structures, including payment waterfalls.

Creating a REIT has been a common "exit strategy" for owners of hotel portfolios. The portfolio owner sells a set of assets to the public through a REIT initial public offering. REIT shareholders achieve a very liquid form of real estate, providing returns without the day-to-day burden of managing the asset or assets. Their payout structure (REITs are required to distribute at least 90% of their taxable income in the form of dividends) and lower risk profile make them attractive to many investors, especially pension funds.

REITs are typically put together by a sponsor, much like a mutual funds sponsor. The sponsor may retain some control of the property, by managing the hotels with an affiliated operating company, by retaining significant ownership and board presence in the REIT, or by taking the role of the chief executive of the REIT. REITs in the United States are exempt from corporate income taxes provided they conform to the following rules:

- 75% of the assets in the REIT must be real estate (whole assets, shares of other REITS, or mortgages)
- 75% of the revenues of the REIT must come from real estate (rents from whole assets, dividends on shares of other REITS, or mortgage payments)
- 90% of the REIT's taxable income must be paid out in the form of dividends-they can retain only 10% of the taxable income for growth

The effective evaluation of REITs requires common metrics of analysis. Different REITs have different methods of compiling data and reporting on their performance. Given these differences, how do we compare REITs and evaluate their performance?

A number of analysts have developed methods to convert different reporting methods into comparable measures of REIT performance. In this module, we look at one such analyst, Green Street Advisors, and the report they use.

Read: REIT Net Asset Values

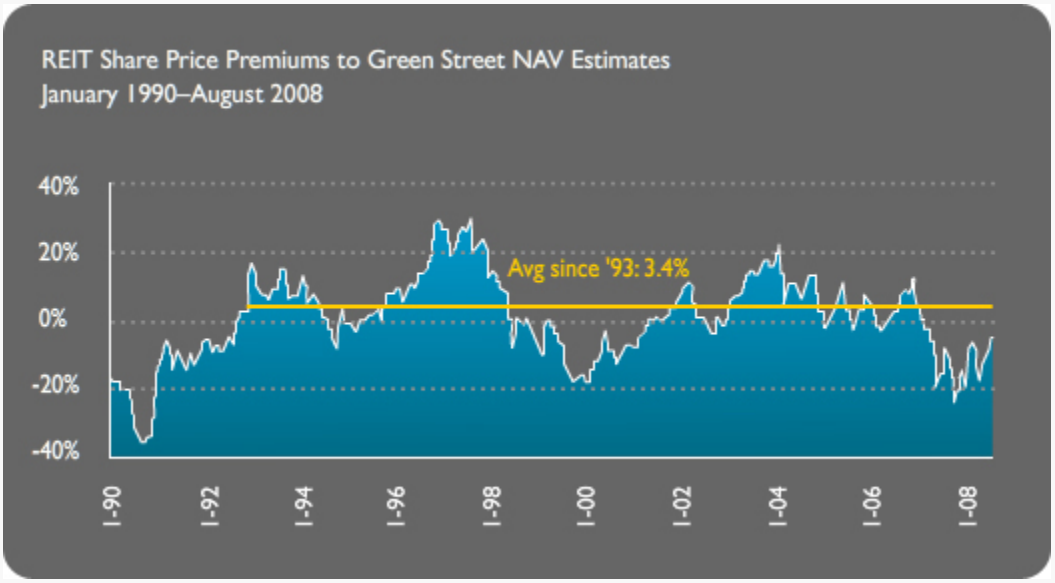
REITs are amalgamations of many different real estate properties. They are a form of real estate ownership. Through the registration and IPO process, REIT shares are traded on the public market just as stocks are traded. One can purchase or sell shares of REITs, just like any publicly listed firm. One of the big questions when analyzing REITs is, "Are REITs best understood as stocks or as real estate?"

A key metric in evaluating REITs is the ratio of the enterprise value to the net asset value (NAV). Enterprise value is the total value of the company's shares plus the value of the company's debt. NAV is an estimate of the market value of the firm, defined as the sum of the values of the individual properties in the firm. NAV can be calculated because a large and relatively liquid market for real estate exists independently of the REIT market. As generally calculated by analysts, NAV is compared to the firm's enterprise value. If the enterprise value is greater than the NAV, the firm trades at a premium to its market value. If the enterprise value is less than NAV, the firm trades at a discount to its market value.

In one sense, a REIT is nothing but a collection of properties. It can be argued that the "equilibrium" value of a REIT should be the sum of the individual property values. It should equal the NAV. The argument rests on the assertion that the private market for real estate in which whole assets trade must be linked to the public market for real estate, in which securities backed by whole assets trade.

If this is the case, why would some REITs command share prices in excess of their NAV? Many reasons are offered for valuing REIT premiums over NAVs. Green Street Advisors summarizes the reasons as:

- REITs make real estate a liquid investment. Since non-liquid whole properties have been converted into a tradable security, investors should be willing to pay a premium for the added liquidity.
- REITs are capable of adding value. REITs are fully integrated, self-administered companies, staffed by people with strong acquisition, development, redevelopment, and property management skills. "Good" REITs should command a "franchise value".
- REITs are efficient operators. With asset bases commonly in excess of $1 billion, these are large companies by real estate standards, which provides economies of scale and market power.
- REITs offer diversification. If modern portfolio theory is correct, a portfolio of real estate should be worth more than the sum of the single asset values because the portfolio variance decreases even if the mean return is held constant. In fact, any investment portfolio should trade at a premium for this reason.
- Good REITs have corporate governance that creates value for shareholders via a disciplined approach to acquisition, asset management, and transparency.



A graphic from the Green Street Web site shows that REITs have averaged a NAV premium of 3.4% since 1993. This provides some evidence for both the size and the volatility of the premium. The long-term average premium is positive, but small. It has been quite volatile over time, ranging from average premiums in excess of 20% in the late 1990s to discounts in excess of 20% in mid-2007 and 2008.

Read: An Analyst's View

Download the Tool

Green Street Advisors Report

The challenge in evaluating REITs is to find financial parameters that can serve as a basis of comparison in benchmarking REIT performance. Here we have a sample report from Green Street Advisors (GSA). Green Street is a highly respected firm, with a strong track record of providing useful analysis. It is a "buy side" analyst, meaning that it provides advice to prospective buyers of REIT stocks and holders of REIT portfolios. Such analysts are considered more independent than "sell side" analysts, the Wall Street firms that provide research as part of their investment banking services. Click the link above to download the report.

You are welcome to skim or read the report. Note that this is a sample report. The specific evaluations and recommendations, therefore, are necessarily dated. For our purposes, that does not matter. What does matter is how GSA constructs its comparable measures. Let's focus on a couple of points.

Flip to Appendix G on page 21. Here you have a description of GSAs' hotel pricing model. The italicized paragraph describes how GSA arrives at a comparable metric for comparing REITs. You can see this process described in Appendix F at the top of page 19.

There you see that GSA begins with revenues, and subtracts operating expenses, depreciation and amortization, nonrecurring expenses, and operating lease payments to arrive at operating income. This is very close to what we have called cash flow from operations (CFFO) in the courses you are taking from eCornell.

Next, GSA adds depreciation and amortization as well as nonrecurring expenses back in to create earnings before interest, taxes, and depreciation and amortization, known in the industry as EBITDA.

From EBITDA, GSA adds the operating lease payments and subtracts economic depreciation, cash income taxes, and option expenses to arrive at net operating profit after tax, or NOPAT. This is the cash flow to the REIT.

From NOPAT, GSA subtracts the total interest net of the tax benefit. This goes to the holder of the mortgage. And GSA subtracts the preferred dividends. They go to the preferred equity holders, not the common shareholders. The remainder is the adjusted net income (ANI), or the leveraged earnings available for the common shareholders. It is this figure that has meaning to the common shareholders; it indicates how much cash is available for the buyers of the common shares and how this figure has fared over time.

With these metrics in place, GSA can then analyze and compare specific REITS. As described back on page 21, they do so by analyzing each REIT's:

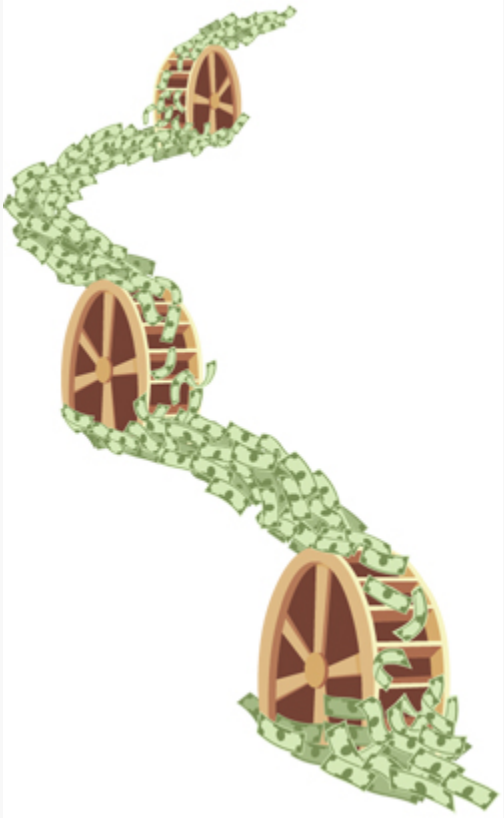
- Asset growth and risk
- Franchise value
- Corporate structure
- Liquidity and size
- Capital structure

- Corporate governance

Read: Private Equity Promote Structures

We now turn from public equity to private equity.

The typical capital stack in hotel investments consists of debt and equity capital. This is true in almost all cases, but this fact frequently obscures much of the complexity. Private equity often involves a number of different partners, with significant differences in how each partner gets paid. Consider one example: a promote structure that results in a payment "waterfall."



This example is typical of a small private equity fund. The general partner (often called the "sponsor") is a successful real estate investor who specializes in finding superior acquisition or development opportunities. The general partner then presents these opportunities to a set of investors, who are jointly grouped into a limited partner entity (often called the "money partner"). The money partner supplies most of the equity capital in exchange for access to superior investment opportunities. To keep the incentives properly aligned, the money partner wants to know that the sponsor has some equity at risk by investing in the projects, even if the investment is relatively small. In addition, the money partner insists on obtaining a preferred return. That is, the money partner obtains equity cash flows from investments before the sponsor. In exchange, the sponsor receives handsome rewards if returns are greater than the stated preferred return. Let's look at how this might work.

In this example, a partnership consists of a general partner and a limited partner. The general partner has contributed 5% of the invested capital and the limited partner has contributed 95%.

The general partner can earn a promoted interest ("promote") through the distribution waterfall.

The net proceeds and distributable net cash flow from the hotel are distributed as follows:

- First, the limited partner and the general partner receive 100% of net proceeds and distributable net cash flow until they receive their total invested capital. The partners split the net proceeds and distributable net cash flow according to their respective contributions of invested capital.
- Second, the limited partner receives 100% of the net proceeds and distributable net cash flow until the limited partner has received an internal rate of return of 10% on the limited partner's invested capital.
- Third, the general partner receives 100% of the net proceeds and distributable net cash flow until the general partners have received an internal rate of return of 10% on their invested capital.
- Fourth, the limited partner receives 75% and the general partner receives 25% of net proceeds and distributable net cash flow until the limited partner has received an internal rate of return of 15%.
- Fifth, the limited partner gets 70% and the general partner 30% of any remaining net proceeds and distributable net cash flow from the final disposition of the hotel.

What does this all mean? The arrangement clearly lays out payments to both the general partner and the limited partner from net proceeds and from the distributable net cash flow. The basic story is that the general partner contributes a small amount of the capital and the limited partner contributes the majority.

Both partners receive their initial investment first, in proportion to their investment. From that point on, at each level, the limited partner receives the priority return. The limited partner receives a guaranteed 10% return before the general partner receives a 10% return. In exchange for getting paid first, and thus limiting risk, the limited partner accepts a smaller percentage of returns in the later rounds. The limited partner contributed 95% of the capital, but receives 75% of proceeds until the IRR reaches 15%, and 70% of any proceeds thereafter. The general partner is willing to be paid later in exchange for higher returns. We will return to this example and examine the cash flows later.

Read: The Financial Management Rate of Return

In the valuation of hotel properties, we have often used the IRR as a metric. The IRR's implicit assumption of a reinvestment rate that equals an investment's IRR, however, can be difficult to support. Recall that typical overall discount rates are in the 8%-15% range, and that the typical (before-tax) equity discount rate ranges from 15% to 25%. The use of NPV with these discount rates implies that the investor can also reinvest all "intermediate" cash flows at these rates. But what happens if our reinvestment rate differs from the IRR?

When there is a substantial difference, the IRR may be a misleading indicator of return and overestimate a property's true returns. We can use an alternative measure, called the financial management rate of return (FMRR), to deal with the "reinvestment rate problem." (Note that the FMRR is also called the modified IRR or MIRR.)

Consider the following example:

Year	Hotel A's Cash Flow	Hotel B's Cash Flow	Hotel C's Cash Flow
0	($200, 000)	($200, 000)	($200, 000)
1	$180, 000	$73, 478	$0
2	$57, 500	$180, 000	$264,485
IRR	15%	15%	15%

Dramatically different cash flows, but the same overall IRR of 15%. The hotels look like equivalent investments if the IRR is the sole decision criterion. However, note that Hotel A has a very different cash flow profile than Hotel B and Hotel C.

What happens if we calculate the FMRR, assuming a reinvestment rate of 10%? Here are the calculations for Hotel A:

Year	Hotel A's Cash Flow	Amount from Reinvestment	Amount Reinvested	Final Cash Flow
0	($200, 000)	$0	$0	-$200, 000
1	$180, 000	$0	$180,000	$0
2	$57, 500	$198, 000*	$0	$255,500
FMRR (calculated as the IRR of the Final Cash Flows)				13.03%

*$180,000 reinvested at the 10% reinvestment rate = $198,000.

If we calculate the FMRR for each hotel (again assuming a reinvestment rate of 10%), we can compare them with the IRR:

	Hotel A	Hotel B	Hotel C
IRR	15%	15%	15%
FMRR	13.03%	14.20%	15%

Thus the FMRR is lower that the IRR (except for Hotel C, obviously, where there are no cash flows to reinvest before year 2). This suggests that the IRR overstates the actual return available if investors cannot reinvest funds at the IRR rate. Does this reinvestment rate criticism have merit in the "real world"? Ask yourself: How plausible is it that intermediate cash flows can be invested at the IRR? Our example shows an IRR of 15%, but it is not uncommon for investors to earn before-tax IRRs in excess of 20%. These IRRs are available for large investments, but investors often have to keep annual cash flow in the bank or stock market, earning lower returns until they have enough funds for another large investment.

It is important to note that all measures we have considered so far vary with respect to the cash flow profile or when the cash flow is actually received. In the example above, even though all three hotels have identical IRRs, their cash flow profiles differ substantially. The year 2 cash flow represents the last period cash flow as well as revenue from reversion. The hotels become increasingly dependent on the reversion as we move from Hotel A to Hotel C. We see that the IRR as a measure of performance does not distinguish between the cash flow profiles. Why should we care?

Consider the case when our reinvestment rate is quite low, say 5%. This suggests that any cash flow produced by our hotels will have a much lower rate of return than the investment in the hotels themselves will yield. Thus, having the bulk of the cash flows returned to the investor in the earlier years is less desirable. We need a measure that can distinguish between the three cash flow profiles. This measure is duration, and we illustrate a duration calculation next.

Watch: Duration: Augmenting Your Real Estate Tool Kit

An illustrated presentation appears below. Use this resource to enhance your understanding of the complexities of calculating overall returns.

Read: Waterfall: A Second Look

Let's return to the promote structure and use it to illustrate how duration matters. Recall the details of the promote structure and resulting cash flow waterfall: The general partner contributed 5% of the equity for an investment; the limited partner contributed 95% of the equity. Here is the distribution order of the payments:

1. Both partners would first be "made whole" on the investment, receiving back their invested capital in proportion to their investment.
2. The limited partners then receive a 10% return on their invested capital.
3. After the limited partner's return, the general partner receives a 10% return on invested capital.
4. Next, the partners receive proceeds on a "three for you, one for me" basis (75% to the limited partner, 25% to the general partner), until the limited partner's return reaches 15%.
5. Finally, the partners divide any remaining returns, with 70% going to the limited partner and 30% going to the general partner.

Let's look at an example. Click here to download a spreadsheet example.

At the top of the spreadsheet, we have the equity investment. The total equity invested is $15,500,000 (note that all figures are in thousands). Here we have the cash flows to equity for each year, including the sale proceeds in year 10. We also have the NPV of $604.27 using a discount rate of 16% and the IRR of 16.57%. So overall, this investment promises an equity IRR of 16.57%.

Total Cash Flows to Equity										
Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
($15,500)	$1,440	$1,481	$1,243	$1,041	$668	$1,145	$1,617	$1,919	$2,235	$43,486
IRR = 16.57%										

How do we divide that return? Looking at the cash flows to the limited partner and the general partner, we see that they follow the waterfall structure. Each first receives their initial investment back as the property generates cash flows. Note that they don't get their entire equity investment until the sale in year 10. The rest of the waterfall involves portioning out the sale proceeds (pay attention to the year 10 column). The limited partner receives a 10% return, then the general partner receives a 10% return. The limited partner receives a 75% share and the general partner receives a 25% share until the limited partner's IRR reaches 15%. Finally, the limited partner receives 70% of the remaining cash flows from the reversion, while the general partner receives 30%.

Limited Partner Cash Flows										
Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
($14,725)	$1,368	$1,407	$1,180	$989	$634	$1,088	$1,536	$1,823	$2,123	$36,424
IRR = 15.44%										

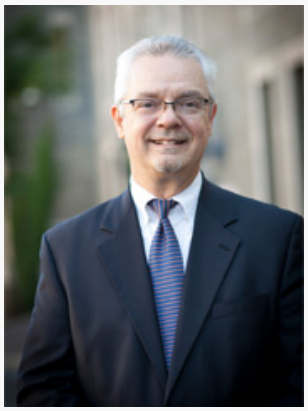
General Partner Cash Flows										
Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
($775)	$72	$74	$62	$52	$33	$57	$81	$96	$112	$7062
IRR = 28.71%										

Altogether, the limited partner's IRR is 15.44% (E35), and the general partner's IRR is 28.71% (E50). The limited partner's

return is lower than the overall IRR of 16.57%. This is the cost the limited partner absorbed to be paid first (it is also probably part of the cost of being brought into the deal by the general partner in the first place). The general partner bore greater risk, but received a much higher return. A $7 million year 10 payment on a $775,000 investment is a very good result.

But what about the duration? Look at the bottom of the spreadsheet, where we calculate the FMRR for the general partner. What would the return be if the general partner invested the cash flows at 10% (rather than the IRR)? In year 1, the general partner received a cash flow of $72,000. It is not easy to find a good hotel investment for $72,000. If that $72,000 received a 10% reinvestment return for 10 years, it turns into the $170,000 entered in year 1. When we make similar calculations for each year and sum them, we have a year 10 sum of $1,026,000. Adding that to the cash flows to the general partner ($7,062,000) yields a total return of $8,088,000. This brings the general partner's IRR down to 26.43%. A similar analysis shows that the limited partner's FMRR is 14.28% using the reinvestment rate of 10%.

Here we see a dramatic example of why the general partner may want to be paid last. The more that partner's money comes from the end of the deal, the greater the overall return. If the waterfall had been structured to provide the general partner with more money in each year, the overall FMRR would have decreased. Being paid last brought greater risk, but substantially boosted returns.



Click Play to Listen

Jan deRoos
HVS Professor of Hotel Finance and Real Estate
School of Hotel Administration, Cornell University

Listen: Thank You and Farewell

Hi, this is Jan deRoos again. We now have the tools necessary to value management contracts and franchise agreements. With these tools in hand, you should now have a clear sense of how hotel operators and brands turn their intellectual property into cash flows. We have also explored some of the ways that debt and equity arrangements can be used to financially engineer higher returns and to better meet the investment goals of owners. I hope that you can put your new skills to use in your future endeavors. I encourage you to consider the remaining courses in the series: *Developing an Asset Management Strategy* and *Achieving Hotel Asset Management Objectives* . Best wishes with all of your hotel investments.

Stay Connected

Supplemental Reading List

The Center for Hospitality Research provides focused whitepapers and reports based on cutting-edge research.

"Hotel Asset Management: Principles and Practice." (2004) - Beals, Paul & Denton, Gregory

Educational Institute of the American Hotel and Lodging Association, eds.

A "how-to" book, containing solid, practical advice. New edition in 2008.

"The Negotiation and Administration of Hotel and Restaurant Management Contracts." (1988) - Eyster, James J.

3rd Edition. The classic reference, with a new edition by deRoos & Eyster in 2008.

http://www.hamagroup.org - Hospitality Asset Managers Association.

The association for professionals dedicated to the enhancement of hotel and hospitality assets.

"Modern Real Estate Portfolio Management." (2000) - Hudson-Wilson, Susan

Frank J. Fabozzi Associates, ed.

A technical treatment of real estate portfolio strategies and tactics, well grounded in modern finance theory.

" Hotel Investment Handbook." - Rushmore, Tarras, & Ciraldo

(See especially Appendix 3.) Freely available for download.

This is the classic hotel investment treatment. Thanks to the authors for placing this in the public domain.

