Costs of Capital – You Can Love More than Just One

In the world of licensing, the cost of capital is supposed to reflect the risk—as well as opportunity cost and erosion of value due to inflation—of receiving anticipated royalty revenues over time. If a licensing agreement encapsulates the collection of revenue from multiple sources—each of which represents a varying degree of risk—why should our models only include one number for the cost of capital?

To argue in the negative would require one to believe that there is no difference in (1) the degree of risk associated with collecting a minimum royalty payment from an established company in a country where it is relatively easy to enforce contracts; and, (2) collecting royalties from sublicensees of questionable reputation, who are unaccountable as far as the ability of licensors to conduct royalty audits, and who conduct business in countries where it is difficult for the licensor to enforce its rights.

The thesis of this article is very simple: a valuation professional can calculate a more precise valuation of a patent under license by assigning different costs of capital to different projected streams of royalty revenues in accordance with the provisions delineated in the license agreement. (Of course, the valuation analyst must always be careful not to double or triple count for risk by plugging a high cost of capital, reduced royalty expectations and low royalty rates into discounted cash flow models.)

Let's suppose that it is December 1, 2012 and the licensor has just closed an exclusive license agreement with a very large, highly profitable and eminently reputable American company. The licensor expects to receive an upfront payment in one month (January 1, 2013). The license agreement calls for the licensor to receive minimum royalty payments from three geographic markets, namely the USA, Germany and Brazil. The licensor also anticipates that the licensees' and sublicensees' performance will exceed the minimum payment triggers resulting in excess royalty payments.

The model below reflects some of the considerations to take into account when matching up projected royalty revenues with appropriate costs of capital. To wit:

Note 1 – The licensor just executed the license agreement. Both sides were represented by top law firms with many years of experience in drafting licenses. The large licensee is just going through its internal procedures to wire the licensor its $500,000 upfront payment. Because of the very low risk and opportunity costs associated with receiving this money, we are using 8% for the cost of capital. The compounding period that is part of the net present value calculation is one month.

Note 2 – While the risks of collecting the minimum royalty payments from the licensee in the US region are low, such risks are higher than receiving wire transfer for the upfront payment (see Note 1). In our example, the licensee is a reputable player and much of its business model is predicated on licensing in cutting-edge technologies. Therefore it is unlikely to tarnish its reputation by reneging on its minimum royalty obligations. However, there could be a change of management, the licensee could get acquired or declare bankruptcy over the next several years. While a binding contract is in place, when push comes to shove, everything can become contentious. As it is said, a contract does not guarantee anything. It just gives you a right to sue for nonperformance. We apply a 12% cost of capital to the minimum royalties that the licensor expects to receive from the licensee.

Note 3 – We applied a 15% cost of capital to the royalties that the licensor expects to receive above its minimum royalties since such revenues may not be collected by the licensee or reported to the licensor. Since in our hypothetical, the licensor negotiated audit rights in the licensing agreement, we do not have to use a cost of capital greater than 15%.

Notes 4 and 6 - The licensor assumes that its German sublicensee is reputable and values its reputation and business relationship with its American licensee. The licensor believes that it is relatively easy to trigger royalty audits in Germany and that such results would be revealing. It is the licensor's opinion that legal disputes can be equitably resolved through the German courts. The reasoning for different costs of capital placed on the minimum royalties (14%) and the royalties in excess of the minimums (22%) is similar to the reasoning discussed in notes 2 and 3 above.

Note 5 – In our example, the licensor has never conducted business in Brazil. The licensor has not received any reports regarding the financial stability of the Brazilian sublicensee and is therefore not highly confident that the sublicensee has the capacity to remit its minimum royalty obligations to the licensee. Therefore, we place a relatively high cost of capital of 18% on the expected minimum royalty streams the licensor hopes to collect from the Brazilian sublicensee.

Notes 7 –The licensor is concerned about the Brazilian sublicensee's ability to generate the sales that it has forecast. Even if such sales are generated in the local currency, the fluctuations in the exchange rates could erode much of that value when converted into dollars. The licensor's auditors do not have confidence in the Brazilian sublicensee's accounting controls which could mean that not all revenues would be adequately reported. While audit rights were included in the sublicensing agreement, it is the understanding of the licensor that in practice there are many limitations to conducting thorough royalty audits in Brazil. A high cost of capital of 28% is applied to the royalties above the minimums that the licensor expects to receive from the Brazilian sublicensee.

Note 8 – The aggregate of applying the individual costs of capital to the corresponding expected royalty streams reveals a combined net present value of entering into this licensing agreement of $6.5 million.

Notes 9-11 – In most modeling, the total licensor's revenues are added up and then applied to one cost of capital. In our example, this results in a net present value of $7.07 million. (For simplicity, we will assume that this is a five-year guillotine license and therefore no calculations of terminal value are necessary.) You will note that this calculation is 7.5% higher than when we disaggregate the various sources of royalty revenues and assign each of them different costs of capital.

In conclusion, I believe that it is appropriate—and not very arduous—to assign different costs of capital to the various expected royalty streams the licensor expects to receive based on the provisions of the contemplated licensing agreement.

Notes		Cost of Capital	Net Present Value	2013	2014	2015	2016	2017
	Projected Net Present Value							
	As of December 1, 2012							
1	Upfront Payment (January 1, 2013)			$500,000				
	Cost of Capital	8%						
	NPV of Upfront Payment		**$496,804**					
2	Minimum Royalties in USA			$250,000	$250,000	$250,000	$250,000	$250,000
	Cost of Capital	12%						
	NPV of Minimum Royalties in USA		**$901,194**					
3	Anticipated Royalty Revenues - USA			$1,000,000	$1,050,000	$1,102,500	$1,157,625	$1,215,506
	Royalty Revenues in Excess of Minimums			$750,000	$800,000	$852,500	$907,625	$965,506
	Cost of Capital	15%						
	NPV of Royalty Revenues (ex. Minimums) - USA		**$2,816,586**					
4	Licensor's Share of Minimum Royalties from Sublicensees							
	Germany			$100,000	$100,000	$100,000	$100,000	$100,000
	Cost of Capital	14%						
	NPV of German Sublicensee's Minimum Royalties		**$343,308**					
5	Licensor's Share of Minimum Royalties from Sublicensees							
	Brazil			$50,000	$50,000	$50,000	$50,000	$50,000
	Cost of Capital	18%						
	NPV of Brazil Sublicensee's Minimum Royalties		**$156,359**					
6	Anticipated Royalty Revenues - Germany			$500,000	$535,000	$572,450	$612,522	$655,398
	Royalty Revenues in Excess of Minimums			$400,000	$435,000	$472,450	$512,522	$555,398
	Cost of Capital	22%						
	NPV of Royalty Revenues (ex. Minimums) - Germany		**$1,317,159**					
7	Anticipated Royalty Revenues - Brazil			$200,000	$230,000	$264,500	$304,175	$349,801
	Royalty Revenues in Excess of Minimums			$150,000	$180,000	$214,500	$254,175	$299,801
	Cost of Capital	28%						
	NPV of Royalty Revenues (ex. Minimums) - Brazil		**$511,274**					
8	**Total NPV**		**$6,542,683**					
9	**Total Royalty Receipts by Licensor**			$1,700,000	$1,815,000	$1,939,450	$2,074,322	$2,220,706
10	**Amalgamated Cost of Capital**	14%						
11	**Net Present Value Calculated the Traditional Way**		**$7,075,218**					
	Variance in Calculations of Net Present Value	7.5%						

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