

Arundel partners: the sequel project 1



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Case 1. Arundel Partners: The Sequel Project 1. Why do the principals of Arundel Partners think they can make money buying movie sequel rights? Why do the partners want to buy a portfolio of rights in advance rather than negotiating movie-by-movie to buy them? The principals at Arundel Partners believe that there is value that is not captured in a discounted cash flow when analyzing the launching of a film. They believe that by launching a new film, there is immediately an option to launch a sequel that can generate future cash flows not accounted in the discounted cash flow.

Since creating a sequel of an original film is not an obligation, the studio can wait and see if the original film had a positive net present value and decide whether or not to go ahead with the project. By valuing the rights of the movie sequels and offering them to investors like Arundel, the producers of the film can obtain financing for the early stages of the original film.

Conversely, Arundel believes that by valuing these rights using a Black-Scholes Option Pricing model, they can calculate a value for the rights to produce these sequels and take a position by investing in a portfolio conformed of these rights.

Arundel Partners plans to make money by negotiating an option price below its net present value calculation and obtaining its expected returns on the option. If indeed a movie becomes a sequel then the value of the option will increase and Arundel will either exercise the right to make the sequel or sell the right either to the original studio or a third party willing to take on the project. The principals at Arundel Partners are inclined to buy a portfolio of all these sequel rights rather than individual films given that Arundel wants to avoid buying the rights of movies that are not expected to perform well.

Arundel would need to know exactly the number of films as well as the name of the films that will make part of the individual selection. Also, buying a portfolio diversifies the risk of a movie not becoming a sequel considering that the majority of films do not have sequels that follow. Also, buying an individual option to a sequel could create incentives for the studios to invest more money on a movie with the same possible outcome where the studio owns the rights to a sequel rather than Arundel. 2. Estimate the per-movie value of a portfolio of sequel rights such as Arundel proposes to buy.

Use both a discounted cash flow (DCF) approach and Black-Scholes option valuation approach. Discounted Cash Flow Method Using the data for hypothetical sequels, we calculated the NPV of each of these sequels considering that the future net inflows would be received in 4 years and that the future negative cost would be incurred in 3 years. With it, we came with a per-sequel NPV as we can see in Exhibit 1. But Arundel partners will not make a sequel of each movie that they buy the rights to. They have the option to make or not make the sequel in the future, depending on what the NPV of each specific sequel is.

To account for this, we only considered those movies where a sequel has a Positive NPV (26 of them from the sample provided). Then, we calculated the per movie value to be \$4. 958 million, since we have to consider 99 movies for this calculation because we buy them as a package. We can see in Exhibit 2 the results from this method. Black-Scholes Option Valuation Again, we used the data for the hypothetical sequels and their expected inflows and costs. We know that for the Black-Scholes valuation we need certain

parameters, so we used for the current stock price (S_0) the average inflows from the 99 sequels, discounted to today.

For the strike price (K), we used the average negative costs of the sequels. The standard deviation is the standard deviation of the 1 year returns, but since T is 3 years, we need to account for this, so we divide the standard deviation of the returns obtained in the sample (121%) for the square root of 3, getting a sigma of 69.7%. Finally, the risk-free rate is assumed to be 5%. All these information, which can be checked in Exhibit 3, is used as inputs parameters for the Black-Scholes formula, giving us a value of \$4.19 million per movie.

3. What are the primary advantages and disadvantages of the prior approaches, DCF and Black-Scholes, that you took in valuing the rights? Please be specific about their assumptions. What further assistance or data would you require to refine your estimate of the right's value?

Advantages of the Discounted Cash Flows The discounted cash flows seems like a simpler approach, with a less complex method to compute the value of the sequels and easier to understand, both for Arundel Partners and for the studios.

It requires only a few variables (inflows and costs in this example) and gives the intrinsic value of the project that is being analyzed, not a comparison against similar projects.

Disadvantages of the Discounted Cash Flows The DCF does not consider right away the option to turn down a movie if it generates a negative NPV; we had to come up with a way to include that in our model. Also, changes in the future inflows or costs will generate volatility. Finally, we need to remember that the DCF method generates more volatility when the cash flows are uncertain in the future.

Since in this example we have inflows 4 years in the future and costs 3 years in the future, we have some variability there that can change the output of the valuation when time comes true. Advantages of Black-Scholes A project that generates a negative NPV may be considered because it can create value through other options in the future. That's the effect created by considering all the movies for the Black-Scholes calculation, which gives a positive value, while the DCF we had to exclude negative NPV sequels.

The binomial tree/Black-Scholes approach can be used by anyone, since the investor's risk aversion doesn't impact the valuation. This makes it valid for both Arundel Partners and for the studios that are selling the movie sequels. Using Black-Scholes doesn't depend on the expected return of the sequels, which is good because maybe a certain return is good for Arundel Partners but not for the studios. But different investors can agree on the call price, which makes it an unified investment decision between the studios and Arundel Partners. Disadvantages of Black-Scholes

The main disadvantage of the Black-Scholes approach is that it assumes that some inputs (volatility, for example) will keep on the future. Also, it is only applicable for valuing European Options where the option can be exercised on the exercise date only, giving Arundel Partners less chance to come up with a right valuation for a sequel made quickly if the prequel is a hit. The Black-Scholes model assumes that the 5% risk-free rate that we are using is constant for the next 3-4 years, when we know this might change in the future. Finally, we are valuing a future investment in a portfolio of equels using past information, which doesn't always give the best prediction for future outcomes. For further assistance to refine the right's value, it would

be useful to have a better understanding of the movie business in the future, specifically in terms of trends and popularity of sequels. Since we are relying on information about how sequels would perform for prequels from the past, it is important to take into account if there are new drivers that would make us think of a different performance of sequels compared to their past performance.

Also, it may be an advantage to make the calculations in a per-studio basis, as this should give us more accurate information of how to negotiate with each one of them. We would also like to get a better understanding of Arundel Partners capital structure and how risky is their overall operation, in order to be certain that the cost of capital that we are considering is the most appropriate one. 4. What problems or disagreements would you expect Arundel and a major studio to encounter in the course of a relationship like that described in the case?

What contractual terms and provisions should Arundel insist on? The agreement between Arundel and the studios could encounter several problems and disagreements. In order for Arundel to benefit from these negotiations, they should insist in the following terms: * Cost of the rights per sequel and the number of sequels that Arundel should be purchased. The case mentions that a studio would not be interested in selling for less than \$2 million. Arundel should not pay more than \$4.5 million, which is the average NPV of a sequel. * Marketing and merchandising rights. Even though the case states that the studio gets the benefit of all future revenues, Arundel should insist in having a percentage of those revenues. * The establishment of an escrow account to deposit the payments of the sequel,

before starting with the first movie. * Arundel should have the possibility of selling the option to other studio over making the sequel themselves, in the case it wants to do so. There should be a mechanism to retain an interest in the revenues or an interest in the net profits should the studio and Arundel choose in order to maintain the studio commitment to the success of possible sequels * The time that Arundel will have to execute the option of using the rights to do a sequel and if there should be a negotiation over the rights of the subsequent sequels and the terms under which this rights should be agreed. Appendix Exhibit 1 Exhibit 2 Exhibit 3