**OPTION – ASSIGNMENT**

1. A private equity fund is seeking to buy 100% of shares of OpCo, a listed company:

OpCo

|  |  |
| --- | --- |
| Assets | Liabilities |
| € 200 mln | €150 mln – Equity (Market) |
| €50 mln – Debt |

1. The structure of transactions is the following.
2. The investment vehicle TopCo is set up:

TopCo

|  |  |
| --- | --- |
| Assets | Liabilities |
| € 100 mln | €99 mln – Fund (Shares A) |
| €1 mln – OpCo Managers (Shares B) |

1. The bidding vehicle BidCo is set up:

BidCo

|  |  |
| --- | --- |
| Assets | Liabilities |
| € 200 mln | €100 mln – TopCo |
| €100 mln – Debt |

1. BidCo launches a public tender offer for all shares of OpCo. BidCo uses €150 mln to buy OpCo shares on the market (assuming 100% of OpCo shares) and €50 mln to reimburse OpCo debt. BidCo and OpCo are then merged:

BidCo + OpCo (New OpCo)

|  |  |
| --- | --- |
| Assets | Liabilities |
| € 200 mln | €100 mln – TopCo |
| €100 mln – Debt |

1. The Fund plans to sell New OpCo shares in 4 four years (“exit event”). At the exit event, Shares B holders will benefit from a non-proportional distribution of the proceeds. In particular, Shares B holders will get a given percentage of the Net Capital Gain depending on the Cash-on-Cash (“CoC”) of the investment (henceforth the “Incentive”).
2. The CoC is defined as the ratio of the Exit Price (i.e., the price at which New OpCo equity will be sold at the Exit Event) and €100 mln (i.e., the amount invested by the Fund and Managers). The Net Capital Gain is defined as the difference between the Exit Price and €100 mln, less transaction costs (assumed 2% of the Exit Price).
3. The percentage of the Net Capital Gain to be distributed to Shares B holders are defined as follows:

|  |  |
| --- | --- |
| **Cash-on-Cash** | **% Capital gain** |
| CoC < 1,50x | 0,00% |
| 1,50x ≤ CoC ≤ 1,75x | 2,00% |
| CoC = 2,00x | 5,50% |
| CoC = 2,50x | 7,00% |
| CoC = 3,00x | 8,00% |
| CoC = 3,50x | 9,50% |
| CoC ≥ 4,00x | 11,00% |

1. If the CoC is in between the thresholds indicated above, the percentage of the Net Capital Gain will be computed through linear interpolation.
2. The Incentive paid to Shares B holders cannot exceed €50 mln.
3. The proceeds remaining after the Incentive is paid will be distributed among all shareholders on a proportional basis (i.e. 99% to Shares A e 1% to Shares B).
4. The volatility of OpCo stocks is 2%[[1]](#footnote-1). The risk-free rate is 0%.
5. ***Estimate the value of the Incentive and the overall value of Shares B.***

1. The volatility of stock returns depends, among other things, on the leverage ratio (i.e., greater leverage will correspond, ceteris paribus, to greater volatility). In order to estimate the volatility corresponding to a different leverage ratio, one could proceed as follows. The asset volatility is the volatility of a portfolio composed of debt and equity. So, given the volatility and correlation of debt and equity, one can compute the asset volatility; from the asset volatility, one can derive the equity volatility corresponding to a different leverage ratio. Debt volatility is usually 30%-50% of equity volatility, and debt-equity correlation can be set in the 30%-50% range. To the purpose of this assignment, debt volatility is 40% of equity volatility and debt-equity correlation is 40%. [↑](#footnote-ref-1)