

## 1 Calculations Guide

Table 1 summarizes the values of the different variables that describe the company in the example. Notice that the cells represent, for each variable, an interval whose limits are the pessimistic and the optimistic forecasts respectively provided by an expert in charge. Remember that the proposed methodology will find a new value between the given interval. Let us note again that those variables involved in the cash-flows computation that do not admit pessimistic and optimistic forecasts are not exposed in the aforementioned table because they are treated as in the classic case. Nevertheless, their values can be consulted in the Excel source.

**Table 1.** Variables summary.

	Year 1	Year 2	Year 3	Year 4	Year 5
Pax/room	[2.800, 3.100]	[2.795, 3.110]	[2.790, 3.120]	[2.780, 3.130]	[2.770, 3.150]
Occupancy rate	[0.780, 0.810]	[0.770, 0.820]	[0.765, 0.825]	[0.760, 0.830]	[0.750, 0.835]
Average income per stay	[35.500, 37.000]	[36.000, 38.000]	[36.250, 38.500]	[36.500, 39.000]	[36.750, 39.500]
GOP/Sales	[0.225, 0.270]	[0.220, 0.280]	[0.215, 0.285]	[0.213, 0.290]	[0.210, 0.300]
Fees, Insurances, other Taxes / Sales	[0.040, 0.020]	[0.040, 0.020]	[0.040, 0.020]	[0.040, 0.020]	[0.040, 0.020]
Investment growth	[0.040, 0.010]	[0.040, 0.010]	[0.040, 0.010]	[0.040, 0.010]	[0.040, 0.010]

Recall that the estimation of the NPV is obtained as in the classical case but using the new mid-point calculated cash-flows. Once we have obtained a mid-point value for each variable exposed in Table 1 and it is involved in the cash-flows computation, it is the time to calculate the profit-and-loss account for each year:

- Firstly, from the mid-points values given by the arithmetic mean in the classical case and by the Hurwicz Operator in the new methodology, of the variables of Table 1 and taking into account the values of those variables that do not admit pessimistic and optimistic forecasts detailed in our Excel source code, we get the total expenses and revenue.
- Next, we get the EBITDA (Earnings Before Interest Taxes Depreciation and Amortization), the GOP (Gross Operating Profit) and the EBIT (Earnings before Interest and Taxes).
- Finally, we calculate the EAT (Earnings After Taxes).

Last step before obtaining the NPV is to calculate the cash-flow for each year. This one is obtained from the EAT as follows:

$$\text{Cash-Flow} = \text{EAT} + \text{Depreciation} - \text{Investments}$$

The following data is considered for all methodologies:

- We obtain the terminal value of the investment using a defined cash-flow growth (2%).

- As we face a company assessment and not a project investment, the initial disbursement is considered to be the assets book value (14 921 222.00 €).
- At last, from a given cost of capital (we will consider it to be 7%), and the cash-flow from each year we obtain the desired NPV.

All the calculations which are necessary to apply the different methodologies can be consulted step by step in the aforementioned Excel source code (see the GitHub repository).