

1. TWO PROJECTS ALTERNATIVES INCLUDE:

Two alternative projects for the realization of the same public investment in the water infrastructure sector (time horizon 10 years) include:

Alternative A:

- total initial investment costs to be sustained immediately equal to 15mln euro in year 0,
- total investment costs equal to 5mln euro in year 1
- annual revenues equal to 3.7mm euro starting from year 2,
- annual operating costs equal to 1.2mm euro;
- a positive externality of 0.5mm;

Alternative B:

- total initial investment costs to be sustained immediately equal to 18mm euro,
- annual revenues equal to 3,5 mm euro starting from year 1,
- annual operating costs equal to 1.5mm euro.

The social rate of intertemporal preference is equal to 1.13% (Florio, 2014) and the values are provided assuming constant real prices.

Exercise 1: Calculate NPV, IRR, B/C. Which project would you choose?

2. TWO PROJECTS ALTERNATIVES INCLUDE:

Two alternative projects for the realization of the same public investment in the water infrastructure sector (time horizon 10 years) include:

Alternative A:

- total initial investment costs to be sustained immediately equal to 15mln euro in year 0,
- total investment costs equal to 5mln euro in year 1
- annual revenues equal to 3.7mm euro starting from year 2,
- annual operating costs equal to 1.2mm euro, **of which 1mm of Labor costs**
- **a negative externality of 0.5mm;**
- **a positive externality of 0.3mm;**

Alternative B:

- total initial investment costs to be sustained immediately equal to 18mm euro,
- annual revenues equal to 3.5mm euro starting from year 1,
- annual operating costs equal to 1.5mm euro, **of which 1.1mm of Labor costs**
- **a negative externality of 0.5mm;**
- **a positive externality of 0.3mm;**

The social rate of intertemporal preference is equal to 1.13% (Florio, 2014), the shadow salary factor is equal to 0,58 and the values are provided assuming constant real prices.

Exercise 2: Given these additional information, calculate NPV, IRR, B/C. Which project would you choose?