**Activity 8.2**

**NPV unequal lives.**

Billionaire investor Mr. Liam V. has some extra cash to deploy (invest). Currently there are two entrepreneurs who have proposed projects to him.

The first project is a single commercial jet for $ 290,000,000. Entrepreneur Milli states that once operational the project will produce cash flows that grow for 5 years and then decline for 1 year as described in table 8.2-1 below.

|  |  |
| --- | --- |
| Year | Cash Flows |
| 0 | -290,000,000 |
| 1 | 50,000,000 |
| 2 | 62,500,000 |
| 3 | 75,000,000 |
| 4 | 87,500,000 |
| 5 | 100,000,000 |
| 6 | 65,000,000 |

Table 8.2-1

The second project is proposed by Mr. Matias M. for purchase of 7 CRJ-900s for a total investment of $ 240,000,000. Project cash flows are as in table 8.2-2 below.

|  |  |
| --- | --- |
| Year | Cash Flows |
| 0 | -240,000,000 |
| 1 | 65,000,000 |
| 2 | 74,050,000 |
| 3 | 95,000,000 |
| 4 | 95,000,000 |

Table 8.2-1

If the appropriate discount rate for both the projects is 11%, using NPV, determine which project Mr. Liam should choose. Adjust the NPV for unequal lives with the equivalent annual annuity. Does the decision change?

STEP 0: Please enter the discount rate in appropriate cells

STEP 1: Please copy and paste special values in table above in Excel

STEP 2: Please find the Present Values using formula in column C

STEP 3: Please find the net present value by taking sum (method 1)

STEP 4: Please find NPV using the NPV function (method 2)

STEP 5: Please repeat these steps for Project 2 (regional jet)

STEP 6: Please find equivalent annual NPV by adjusting for unequal lives using the PMT function in appropriate cells

STEP 7: Please recommend whether to accept the commercial jet or regional jet project using

* + NPV method
  + NPV adjusted for unequal lives