Error in MIRR Estimate in the BAII Plus Professional Calculator

1. The authors are correct that when a user of the calculator does Modified IRR as their first calculation they get the wrong answer. The reason is because the function uses whatever is last stored in the discount rate memory. If nothing was in there, then 0% appears to be assumed. If you did the NPV calculation (for this problem) first, then the correct discount rate is stored.

2. The authors are correct that when NPV is done first using the appropriate discount rate (11% in this example) then the calculator provides the answer that they suggest is correct (through other methods). I verified this point and their calculations using Excel. I note however that there is a typo in the thrid paragraph where they say "We proved that 15.75726065% . . ." instead of "We proved that 13.75726065% . . . "

3. There are two problems with the calculator. One is method and the other is logic.

a. The method problem is that the calculator does not prompt (or allow) the entry of a discount rate in the steps used to find the Modified IRR, hence the NPV seems to be assumed to have been performed first.

b. The logic problem is that the calculator uses the discount rate entered in the discount rate register for NPV. If the register is empty (I = 0) then the calculator gives the answer (13.44%) the authors label as inconsistent. However, there is a bigger problem because the calculator will use whatever is in the discount rate register and gives a different answer as the value in the register changes. I saw nothing in the owner’s manual that discussed this.

This latter issue is of significance to students taking tests who may NOT perform the functions in the order on the test but jump from problem to problem or if the initial NPV calculation is not required. Hence, the last entry in the discount rate register memory storage has the ability to really mess up the calculation.

I feel that the paper understates this aspect of the problem but the author(s) should be invited to make this minor editorial change. This is most certainly a matter of importance and urgency to the financial education community. I am surprised that TI has been unresponsive. This may be an opportunity for the author(s) to contact the CFA Institute and get them to take a swing at TI - I'm sure the company would listen then. I would recommend talking to either Thomas Robinson, the Managing Director of the Education Division or John Rogers, the President and CEO. The issue is important enough.