SIX FUNCTIONS OF A DOLLAR
USING EXCEL LIBRARY FUNCTIONS

Future Value or Future Value of Annuity: FV(rate, nper, pymt, Pv, type)

- For **Future Value** function, use the following: FV(rate, nper, 0, Pv, 0)
- By making "pymt" = 0, this excel function considers only the one current lump sum compounded for "nper" periods at the "rate" input. It compounds the present value to obtain its equivalent future value.

- For **Future Value of Annuity** function, use the following: FV(rate, nper, pymt, 0, 0)
- By making "Pv" = 0, this excel function considers only the annuity of "nper" payments, each of the amount input for "pymt". It compounds this series of equal payments to obtain its equivalent future value.

Present Value or Present Value of Annuity: PV(rate, nper, pymt, Fv, type)

- For **Present Value** function, use the following: PV(rate, nper, 0, Fv, 0)
- By making "pymt" = 0, this excel function considers only the one future lump sum discounted for "nper" periods at the "rate" input. It discounts the future value ("Fv") to obtain its equivalent present value.

- For **Present Value of Annuity** function, use the following: PV(rate, nper, pymt, 0, 0)
- By making "Fv"= 0, this excel function considers only the annuity of "nper" payments, each of the amount input for "pymt". It discounts this series of equal payments to obtain its equivalent present value.

Amortization of Future Value or Amortization of Present Value: PMT(rate, nper, Pv, Fv, type)

- For **Amortization of Present Value** function, use the following: PMT(rate, nper, 0, Pv, 0)
- By making "Fv"= 0, this excel function considers only the one current lump sum. It amortizes this amount at the "rate" input to obtain an equivalent "pymt" amount for an annuity of "nper" periods.

- For **Amortization of Future Value** function, use the following: PMT(rate, nper, 0, Fv, 0)
- By making "Pv"= 0, this excel function considers only the one future lump sum. It amortizes this amount at the "rate" input to obtain an equivalent "pymt" amount for an annuity of "nper" periods.

To match formulas presented in class, always use type = 0. Type = 0 assumes payments are received at the end of each period. Type = 1 assumes payments are received at the beginning of each period. Note that if you leave out the "type" input, excel assumes "type" = 0. "nper" is the same as "n" in the formulas presented in class.

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