SMU COX
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Lecture 6: Time Value of Money – Appendix A

Financial Calculators

Presentation to Cox Business Students

FINA 3320: Financial Management

Purpose of This Appendix

- **Understanding of the basics of financial calculators pertaining to time value of money**
  - (1) Don't let your calculator replace your understanding and intuition (i.e., don't let your calculator replace your brain!)
  - (2) Basics of financial calculators

Introductory Notes

- Understanding the underlying formulas is essential
  - Formulas capture the intuition that you need to do finance; calculators do not!
- View your calculator as a practical tool that is to be used only after you have mastered the intuition behind valuation concepts

Important Keys

- Five (5) basic keys (may look a little different on different models):
  - n = number of periods
  - i = periodic interest rate (typically 1% = 1, not .01)
  - PV = time zero cash flow
  - PMT = annuity payment
  - FV = time n cash flow

- Functionality:
  - You input four (4) variables and the calculator computes the fifth (5^{th}), such that the present value of inflows equals (minus) the present value of outflows
  - Depending on your model, the computation may require you to push a "Compute" or "CPT" key

Ruscher's Recommendations

- Set the number of periods per year equal to 1
  - This allows you to view n as the number of periods and i as the periodic interest rate
  - Otherwise, n is the number of years and i is the annual interest rate…If your calculator is set up this way, you'll have to make changes every time the compounding period changes

- Set the annuity payment indicator to "END"
  - This means all payments are made at the end of the period (i.e., ordinary annuities)
  - This is the default for most calculators

Inflows and Outflows

- Always differentiate inflows from outflows
  - Example: "Invest money in an account" is an outflow and "Received money from the account" is an inflow
  - All inflows need the same sign (usually positive)
  - All outflows need the opposite sign as inflows (usually negative)
- Inflows and outflows are determined by the problem that you are working

Calculator Handbooks

- I use an HP-12C (i.e., a Hewlett Packard 12-C), which is the finance industry standard for financial calculators
  - If you have questions about the HP-12C, I can generally answer them without use of the handbook
- Your calculator should have come with a handbook. If you have something other than a HP-12C, please bring your handbook with you with your questions!
- The textbook we are using also has a web site that provides information on financial calculators

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Thank You!

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