

REVIEW OF BASIC CONCEPTS PART 1

WHAT WILL YOU LEARN?

- ▶ What is time value of money?
- ▶ What is the future value of a cash flow today?
- ▶ What is compounding?
- ▶ What is the present value of a cash flow in the future?
- ▶ What is discounting?

ALL TIME WORLDWIDE BOX-OFFICE

Movie	Year	Box office revenue*
1. Avatar	2009	\$2,787,965,087
2. Titanic	1997	\$2,186,772,032
3. Star Wars: The Force Awakens	2015	\$2,040,854,468
9. Frozen	2013	\$1,276,480,335
13. Lord of the Rings: Return of the King	2003	\$1,119,929,521
20. Jurassic Park	1993	\$1,029,153,882
58. Star Wars	1977	\$775,400,000
216. Gone with the wind	1939	\$400,200,000

*All amounts are in USA dollars. Figures are not adjusted for inflation.

WHY DO WE CARE ABOUT TIME VALUE OF MONEY?

- ▶ Suppose I asked you to lend me \$100 today and promised to pay back \$100 a year from now.
- ▶ Is that a good deal?
- ▶ What would make it a good deal?

WHY TIME VALUE OF MONEY?

- ▶ A dollar today is worth more than a dollar tomorrow.
- ▶ Why does money have time value?

FUTURE VALUE

- ▶ Future value of a cash flow today is the value of the funds invested at your opportunity cost... call it r ...
- ▶ Say $r = 5\%$
- ▶ If you invest \$100 at an interest rate of 5%, how much will you have at the end of the year?

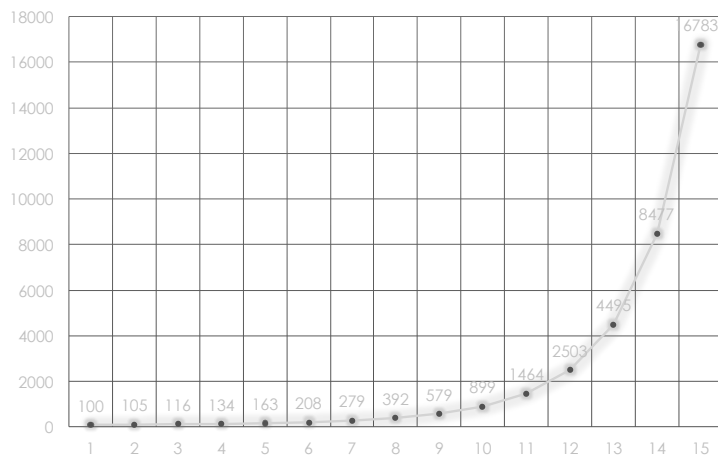
FUTURE VALUE

- If you invest \$100 at an interest rate of 5%, how much will you have at the end of three years?

FUTURE VALUE

In general, the future value of a cash flow today

COMPOUNDING



PRESENT VALUE

- Present value of a future cash flow is the amount of cash you would take today instead of the promised future cash flow.

PRESENT VALUE

- ▶ You will be paid \$50,000 in two years. How much would you accept today if your opportunity cost is 5%?

PRESENT VALUE

- ▶ Discount rate
- ▶ Interest rate
- ▶ Opportunity cost of capital

SUMMARY

- ▶ Explain the concept of time value of money
- ▶ Compute the future value of a cash flow today
- ▶ Compute the present value of a future cash flow