Australian National University

FINM 6046 Tutorial Week 2

By Isaac Pan

The Australian National University

About myself

- **Name: Isaac Pan**
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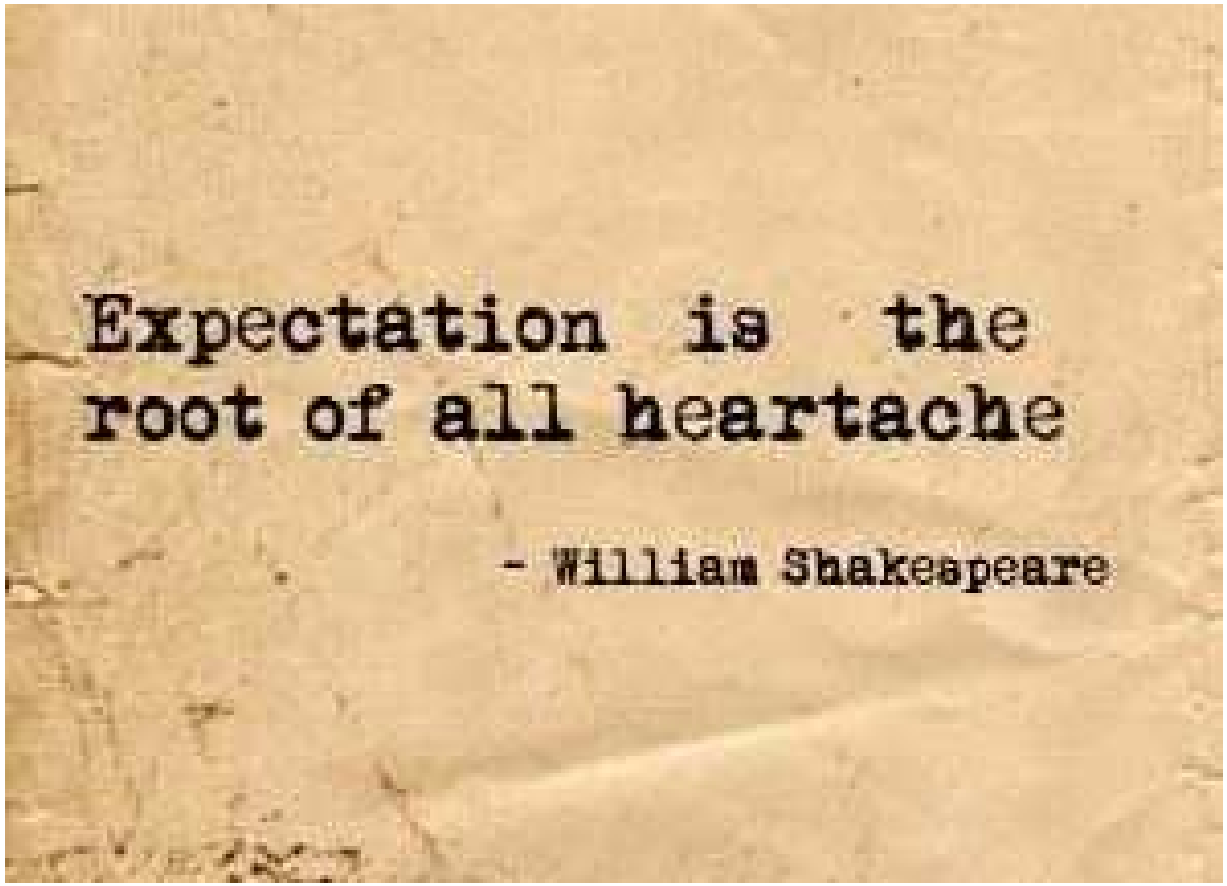
- **No in-tutorial Assessment**

About yourself

About the Course



Today's plan

- Brief review of course material
- Go through selective tutorial questions

Interest

- $S(t)$ represent the value of an investment at time t .
- **Effective rate of interest**:
- This is equal to the amount of interest an investment will earn at the end of the time period as a proportion of the initial investment.

$$i_{u+1} = \frac{S(u+1) - S(u)}{S(u)}$$

Interest

- **SIMPLE INTEREST:** Interest payments don't earn interest themselves.

$$S(t) = S(0) + iS(0) + iS(0) + \ldots + iS(0) = S(0) \cdot (1 + ti)$$

- **COMPOUND INTEREST:** interest payments earn further interest themselves (i.e. the interest earned is reinvested)

$$S(t) = S(0) \cdot (1 + i)^t$$

Accumulation factor

- Accumulation factor: $A(t_1, t_2)$
- Accumulation of 1 from time t_1 to time t_2, where $t_2 \geq t_1$
- Principle of consistency:

$$A(0,t_n) = A(0,t_1)A(t_1,t_2)...A(t_{n-1},t_n)$$

- Different interest rates:

$$X(1+i_1)(1+i_2)(1+i_3)...(1+i_t)$$

Converting between Effective rates

$$(1+i)^{t_i} = (1+j)^{t_j}$$

$$j = (1+i)^{\frac{t_i}{t_j}} - 1$$

	Compounding periods per year
Annual	1
Semiannual (or half-yearly)	2
Quarterly	4
Monthly	12
Weekly	52
Daily	365