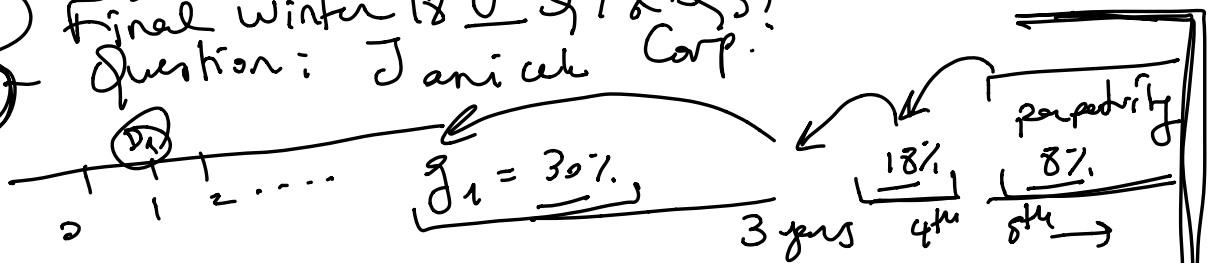Questions Asked During Office Hour

① Relation b/w growth & RoE?

② Questions to be asked in the final

③ How does final extension work?

④ Break Even included? — Yes

⑤ The final exam duration is 3 hours but the questions will be asked will be relatively straightforward → like 1-hour exam

⑥ Final Winter 18 — Q7 & Q5?

⑧ Question: Janick Corp.

$R = 13\%$ $P_0 = \$65$ $D_1 = ?$

⑨ Beta — Yes

⑩ Expected yield, actual yield, promised yield

Answers:

① Earnings Next Year = Earnings This Year + Return of Ret. Earn. Ret. Earn.

Earn this

Earn f'ws.

$$1 + g = 1 + \underbrace{\frac{\text{Ret. on}}{\text{Ret. Earn}}}_{\text{ROE}} \times \underbrace{\frac{\text{Ret. Earn}}{}}_{\substack{\text{b. Earning this} \\ \text{year}}}$$

$$g = b \cdot ROE$$

- - - - - - -

Approximation
Best guess.

② Three questions — straightforward

→ ① Bonds — chapter 8

→ ② Stocks & Portfolio — chapter 9 & 6
$$\overset{\text{& same}}{\underset{11}{g \atop \text{Beta}}}$$

→ ③ Capital Budgeting & Project
Evaluation
Profitability Index is not

included.

$t=0$	t_1	2	3	4	5
	R_1	R_2	R_3	R_4	R_5
	$Costs_1$	$Costs_2$			
	Dep 490k				
	~~Interest~~				
	~~EBT~~				
	Tax				
	NI				
	+ Dep.				

$-5k$

$t \cdot (-5k \cdot t)$

$\boxed{2mii}$

$t=0$

① ②

$\rightarrow OCF_1 \quad OCF_2 \quad --- \quad OCF_5$
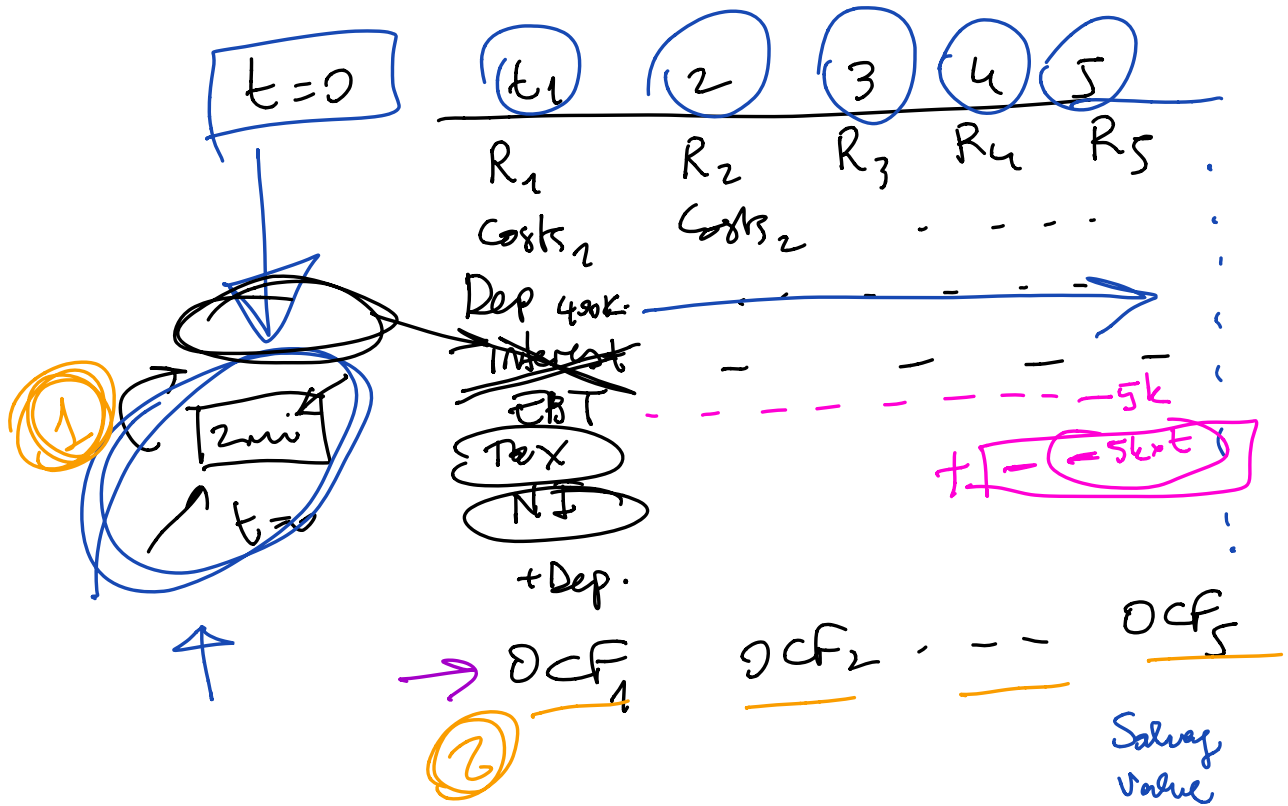
Salvage Value

③

Salvage Value = Market Value

$= -t \, (market - Book\,value)$

$+ \qquad 0$

market < book value

④

Δ in NWC $\rightarrow$ given $\leftarrow$

Calculate the incremental Cash Flow

t=0	t=1	t=2	3	4	5
− Init Cost	OCF_1	OCF_2	−	··	$-OCF_5$
− ΔNWC_0	− ΔNWC_1	− ΔNW_2	·	· ··	$+\Delta NWC_5$

Break-Even | Acc. Firam | $NPV = \dfrac{O}{1+r} \dfrac{O}{(1+\frac{r}{2})^2} \dfrac{OO}{(1+r)(1+r)} + Sal. V.$
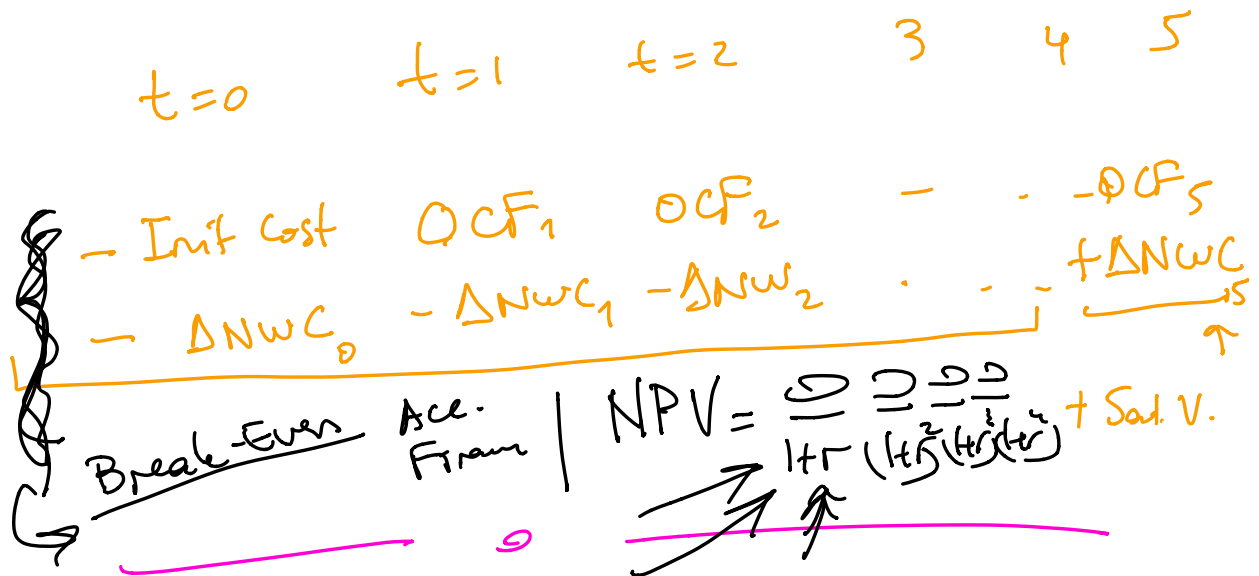
③ └─── missed final ───┘ └─── google sheet
multiple
days hours

× × ✓ ✓ ✓
✓ ✓ × ×

⑩ Actual Yield, Promised Yield
Expected Yield.

Price $x = \dfrac{\underline{c} \quad \underline{c} \quad \underline{c} \, \underline{c} \, \_ \, \underline{\$1000}}{\text{market rate } r\%}$

No default risk

$$\$990 = \frac{C}{1+r} + \frac{C}{(1+r)^2} + \frac{C}{(1+r)^3} + \frac{C+1000}{(1+r)^4}$$

→ actual yield.

expected yield.

Default risk

$$\$900 = \frac{\boxed{C}}{(1+r)} + \frac{\boxed{C}}{(1+r)^2} + \frac{\boxed{C}}{(1+r)^3} + \frac{C+1000}{(1+r)^4}$$

↗ promised yield

promised yield > market rate

$$900 = \frac{P \cdot C + (1-p)\begin{array}{c}0\\c\end{array}}{(1+r)} + \quad + \quad +$$

expected return → match the yes

Default , W18 587, Janice

Additional notes:

Difference b/w expected yield, promised yield:

If a bond has no default rate, then the yield it provides is calculated by

$$\text{Price of Bond} = \frac{C}{1+r} + \frac{C}{(1+1)^2} + \cdots + \frac{C}{(1+r)^n} + \frac{1000}{(1+r)^n}$$

solving for r.

For example, if a bond is selling for $900 today and has 4 coupon payments each $100 left beginning a year from today with a $1,000 face value

$$900 = \frac{100}{1+r} + \frac{100}{(1+r)^2} + \frac{100}{(1+r)^3} + \frac{1100}{(1+r)^4}$$

r is the yield.

This should match the market. Otherwise the bond is under or over priced. Traders will buy/sell the bond and ultimately r will be matching the market.

Now, if this bond has a default rate then the coupon & face value payments may not happen.

p: probability of default

The price of the bond is $900.

If you invested in the market you would get a certain yield of the market rate. Then, the expected yield from the bond should match the market. The promised yield will be higher than the expected yield.

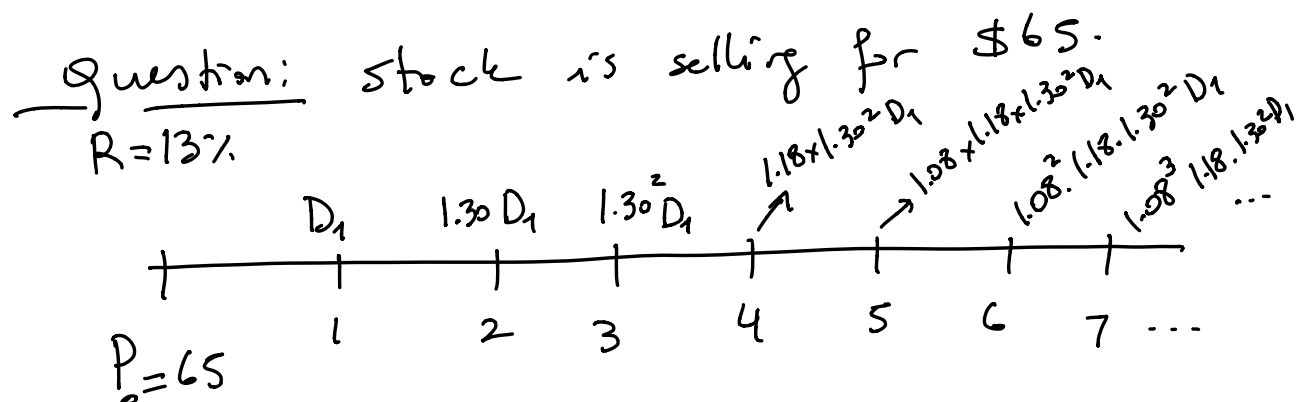Let's assume if default happens you do not

get anything.

$$900 = \frac{P \cdot 100}{1+r} + \frac{P \cdot 100}{(1+r)^2} + \cdots + \frac{P \cdot 1100}{(1+r)^4}$$

$\longleftarrow$ expected yield

$\underbrace{}$ same as before

$\underbrace{}$ numerator is smaller, then denominator should be also smaller

As claimed above expected yield is less than promised yield.

Question: stock is selling for $65.

R = 13%

$P_0 = 65$

On the timeline: D_1 (at 1), $1.30\, D_1$ (at 2), $1.30^2 D_1$ (at 3), $1.18 \times 1.30^2 D_1$ (at 4), $1.08 \times 1.18 \times 1.30^2 D_1$ (at 5), $1.08^2 (1.18 \cdot 1.30^2 D_1)$ (at 6), $1.08^3 \cdot 1.18 \cdot 1.30^2 D_1$ (at 7) $\cdots$

$$65 = \frac{D_1}{1.13} + \frac{1.30\, D_1}{1.13^2} + \frac{1.30^2 D_1}{1+13^3} + \frac{1.18 \times 1.30^2 \cdot D_1}{1.13^4}\left[1 + \frac{1.08}{1.13} + \frac{1.07^2}{1.13^2} + \cdots\right]$$

Solve for D_1.

Winter 18 Question 5 & 7 are answered on the forum.