Exemple : TWO Firms X & Y

- 2 firms X & Y have the following profile :
  - Revenues 100 ME
  - Capital employed 50 ME
  - ROCE pretax 20%
  - Corporate tax rate 40%
- Firm X
  - Capital structure : 50% Net financial debt (interest rate 12%)
  - Variable costs : 35% of revenues
- Firm Y
  - Capital structure : 100% equity
  - Variable costs : 55% of revenues

1/ Build up an I/S and an economic B/S for X & Y

2/ Redo the exercise if sales drop down to 90 Millions €

3/ In both cases and for both firms compute the following ratios

- **Ebit/sales,**
- **NFD/Equity, EBIT/interest,**
- **ROCEpretax (EBIT/CE) and ROE (Net income/Equity) for X & Y**

What is your conclusion ?

Firm X	ME
Revenues	100
Var costs	- 35
Contrib margin / Var costs	**65**
Fixed costs	- 55
EBIT	**10**
Cost of debt (12%)	- 3
PBT	**7**
Corp tax (40%)	- 3
NI	**4**

Assets	ME	Liab+SE	ME
NC Assets in NBV	50	Equity	25
WCR		Net financial debt	25
Total	**50**	**Total**	**50**

Firm X	ME
Revenues	90
Var costs	- 31,5
Contrib margin / Var costs	**58,5**
Fixed costs	- 55
EBIT	**3,5**
Cost of debt (12%)	- 3
PBT	**0,5**
Corp tax (40%)	- 0,2
NI	**0,3**

Assets	ME	Liab+SE	ME
NC Assets in NBV	50	Equity	25
WCR		Net financial debt	25
Total	**50**	**Total**	**50**

Firm Y	ME
Revenues	100
Var costs	- 55
Contrib margin / Var costs	**45**
Fixed costs	- 35
EBIT	**10**
Cost of debt (12%)	- 0
PBT	**10**
Corp tax (40%)	- 4
NI	**6**

Assets	ME	Liab+SE	ME
NC Assets in NBV	50	Equity	50
WCR		Net financial debt	0
Total	**50**	**Total**	**50**

Firm Y	ME
Revenues	90
Var costs	- 49,5
Contrib margin / Var costs	**40,5**
Fixed costs	- 35
EBIT	**5,5**
Cost of debt (12%)	- 0
PBT	**5,5**
Corp tax (40%)	- 2,2
NI	**3,3**

Assets	ME	Liab+SE	ME
NC Assets in NBV	50	Equity	50
WCR		Net financial debt	0
Total	**50**	**Total**	**50**

Scenario 1		Scenario 2	
Firm X			
EBIT/Sales	10%	EBIT/sales	3,8%
NFD/E	100%	NFD/E	100%

Scenario 1		Scenario 2	
Firm Y			
EBIT/Sales	10%	EBIT/Sales	5,5%
NFD/E	0	NFD/E	0

What is your conclusion about the operating risk and financial risk ?

Scenario 1		Scenario 2	
Firm X			
Marg on Var cost	65	Marg on Var cost	58,5
EBIT	10	EBIT	3,5

Scenario 1		Scenario 2	
Firm Y			
Marg on Var cost	45	Marg on Var cost	40,5
EBIT	10	EBIT	5,5

Operating risk : Contribution margin / EBIT

	S.1	S.2	Fixed costs
Entreprise X	6,5	16,5	**55%**
Entreprise Y	4,5	7,3	35%

Scenario 1		Scenario 2	
Firm X			
EBIT	10	EBIT	3,5
Interests	3	Interests	3
DNF/E	100%	DNF/E	100%

Scenario 1		Scenario 2	
Firm Y			
EBIT	10	EBIT	5,5
Interests	0	Interests	0
DNF/E	0	DNF/E	0

Financial risk

	EBIT / interest **> 3**		**NFD/E**
Entreprise X	**3.3**	**1,1**	1
Entreprise Y	0	0	0

Firm X	ME
Revenues	100
Var costs	- 35
Contrib margin / Var costs	**65**
Fixed costs	- 55
EBIT	**10**
Cost of debt (12%)	- 3
PBT	**7**
Corp tax (40%)	- 3
NI	**4**

Assets	ME	Liab+SE	ME
Capital employed (NC Assets+WCR)	50	Equity	25
		Net financial debt	25
Total	**50**	**Total**	**50**

ROCE pretax X

ROCE = EBIT / CE = 10/50 = 20%

ROE X

ROE = NI / E = 4/25 = 16,8%

Firm X	ME
Revenues	90
Var costs	- 31,5
Contrib margin / Var costs	**58,5**
Fixed costs	- 55
EBIT	**3,5**
Cost of debt (12%)	- 3
PBT	**0,5**
Corp tax (40%)	- 0,2
NI	**0,3**

Operating risk is high
Financial risk is high
Globally the risk is TOO high.
For any drop in sales, margins are severely affected => NO MORE RETURN when risk is TOO high !

Assets	ME	Liab+SE	ME
Capital employed (NC Assets+WCR)	50	Equity	25
		Net financial debt	25
Total	**50**	**Total**	**50**

ROCE pretax X

ROCE = EBIT / CE = 3.5/50 = 7%

ROE X

ROE = NI / E = 0.3/25 = 1.2%

Firm Y	ME
Revenues	100
Var costs	- 55
Contrib margin / Var costs	**45**
Fixed costs	- 35
EBIT	**10**
Cost of debt (12%)	- 0
PBT	**10**
Corp tax (40%)	- 4
NI	**6**

Assets	ME	Liab+SE	ME
Capital employed (NC Assets+WCR)	50	Equity	50
		Net financial debt	0
Total	**50**	**Total**	**50**

ROCE pretax Y

ROCE = EBIT / CE = 10/50 = 20%

ROE Y

ROE = NI / Equity = 6/50 = 12%

Firm Y	ME
Revenues	90
Var costs	- 49,5
Contrib margin / Var costs	**40,5**
Fixed costs	- 35
EBIT	**5,5**
Cost of debt (12%)	- 0
PBT	**5,5**
Corp tax (40%)	- 2,2
NI	**3,3**

Assets	ME	Liab+SE	ME
Capital employed (NC Assets+WCR)	50	Equity	50
		Net financial debt	0
Total	**50**	**Total**	**50**

Operating risk is medium to low
Financial risk is nil
Globally risk is low….
When sales drop down margins remain => sustainability is much higher and resilience much better in Cy Y

ROCE pretax Y

ROCE = EBIT / CE = 5,5/50 = 11%

ROE Y

ROE = NI / Equity = 3,3/50 = 6,6%

Scenario 1		Scenario 2	
Firm X			
EBIT/Sales	10%	EBIT/Sales	3,8%
NI/sales	4%	NI/Sales	0.3%
ROCE	20%	ROCE	7%
ROE	16,8%	ROE	1,2%
NFD/E	100%	NFD/E	100%

Scenario 1		Scenario 2	
Firm Y			
EBIT/Sales	10%	EBIT/Sales	5,5%
NI/sales	6%	NI/sales	3.6%
ROCE	20%	ROCE	11%
ROE	12%	ROE	6,6%
NFD/E	0	NFD/E	0