Advanced Corporate Finance
Exercises Session 2
« *From Accounting to FCF* »

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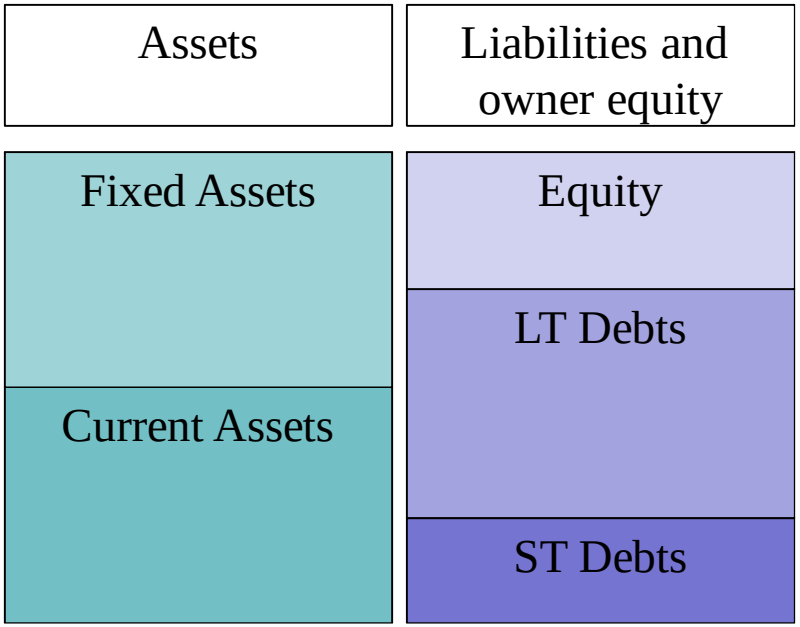
From accounting to FCF



Working Capital Requirement (WCR):

$$WCR = Account\ Receivable + Inventories + Prepaid\ Expenses - Account\ payable - Accrued\ Payroll$$

WCR represents the investment needed to operate an activity

Net Working Capital (NWC) 2 views:

A source of financing

$$NWC = Shareholder\ Equity + Long\ Term\ Debt - Fixed\ Asset$$

An investment to be made

$$NWC = Current\ Asset - Current\ Liability$$

NWC = difference between assets to be received and liabilities to be paid in the short term

From Accounting to FCF
Q1 BHHC

- $Year_{t-1}$ EPS: 1.50€
- $Depreciation_{t-1}$: 0.30€ (per share)
- $CAPEX_{t-1}$: 0.80€ (per share)
- WCR: 0.20 € (per share)
- Expected yearly growth for the next 5 Y: 15%
- δ=30% : Debt ratio
- Tax rate=0%

<u>After 5Y</u>

- LT earnings growth: 5%
- WCR stable @5%
- CAPEX = depreciation

From Accounting to FCF
Q1-a FCFE from t to t+6

$$FCFE = NI - (AQ - Dep) - \Delta WCR + \Delta D$$
$$\Delta D = (AQ - Dep. + \Delta WCR) * \delta$$

	t	t+1	t+2	t+3	t+4	t+5	t+6
NI	1,50 €	1,73 €	1,98 €	2,28 €	2,62 €	3,02 €	3,17 €
AQ	0,80 €	0,92 €	1,06 €	1,22 €	1,40 €	1,61 €	1,69 €
Dep	0,30 €	0,35 €	0,40 €	0,46 €	0,52 €	0,60 €	1,69 €
ΔWCR	0,00 €	0,03 €	0,03 €	0,04 €	0,05 €	0,05 €	0,02 €
WCR	0,20 €	0,23 €	0,26 €	0,30 €	0,35 €	0,40 €	0,42 €
ΔD	0,15 €	0,18 €	0,21 €	0,24 €	0,28 €	0,32 €	0,01 €
FCFE	**1,15 €**	**1,30 €**	**1,50 €**	**1,72 €**	**1,98 €**	**2,28 €**	**3,15 €**

From Accounting to FCF
Q1-b

The current targeted δ is 30% what would be the impact on the FCFE if the company decides to enjoy a flattening yield curve ride and increase its leverage?

- $FCFE = NI - (AQ - Dep) - \Delta WCR + \Delta D$

- The FCFE increases as the financing needs will be funded by extra debt.

From Accounting to FCF
Q2

- Revenues: 10.000
- Net earnings: 1.750
- CAPEX: 3.000
- DEPR: 2.000
- Interest charge: 500
- WCR: 15% of sales
- Revenues growth next 3Y: 10%
- Long term growth 5%
- Targeted debt ratio δ: 15%
- Tax rate, Tc: 50%
- EBIT, Capex and depreciation follow the revenues growth.

From Accounting to FCF
Q2-a

$$FCF = CFoperation + CFinvestments$$

$$FCF = EBIT * (1 - Tc) + Dep. - \Delta WCR - AQ$$

$$FCF = \Delta CASH - \Delta D + Div - \Delta K$$

	2010	2011	2012	2013	2014
Sales	€ 10.000	€ 11.000	€ 12.100	€ 13.310	€ 13.976
EBIT	€ 4.000	€ 4.400	€ 4.840	€ 5.324	€ 5.590
EBIT x (1-Tax)	€ 2.000	€ 2.200	€ 2.420	€ 2.662	€ 2.795
Capex	€ 3.000	€ 3.300	€ 3.630	€ 3.993	€ 4.193
Depreciation	€ 2.000	€ 2.200	€ 2.420	€ 2.662	€ 2.795
ΔWCR	€ 0	€ 150	€ 165	€ 182	€ 100
WCR	€ 1.500	€ 1.650	€ 1.815	€ 1.997	€ 2.096
FCF		**€ 950**	**€ 1.045**	**€ 1.150**	**€ 1.298**

From Accounting to FCF

- 1) Charge already paid for a lawsuit (100.000€)

Cash disbursement (sunk cost)
→ does not impact the cash flow
→ no adjustment needed.

- 2)1.000.000 amortization charge for loss in goodwill

→ Should be added back in 2010
→ Depreciation (& amortization) should be 3.000 (instead of 2.000)
→ In 2011, Dep=2.000*1,1=2.200€

From Accounting to FCF
Q3-a & b

a)

	2010	2011
Assets	€ 2.175	€ 3.326
FA	€ 900	€ 900
WCR	€ 850	€ 2.091
Cash	€ 425	€ 335

	2010	2011
Liabilities	€ 2.175	€ 3.326
SE	€ 1.300	€ 2.031
D	€ 875	€ 1.295

b)

	2010	2011
NWC	€ 1.050	€ 1.756
Current assets	€ 1.525	€ 2.576
Current liabilities	€ 475	€ 820

=> Increase of the NWC, mainly due to the increase in inventories and the decrease in account payable.

From Accounting to FCF
Q3-c

CF statement: Direct Method

$$\Delta CASH = CF_{operations} + CF_{investments} + CF_{financing}$$
$$CF_{operations} = (Rev. - Acc.rec.) - (CGS + \Delta Inv + SGA - \Delta Acc.Pay.) - Int. - Taxes$$
$$CF_{investments} = Sales\ of\ Fixed\ Assets\ - CAPEX = -AQ$$
$$CF_{financing} = \Delta Capital + \Delta Debt - Paid\ Dividends$$

CF statement: Indirect Method

$$\Delta CASH = CF_{operations} + CF_{investments} + CF_{financing}$$
$$CF_{operations} = Net\ Income + Depreciation - \Delta WCR$$
$$CF_{investments} = Sales\ of\ Fixed\ Assets\ - CAPEX = -AQ$$
$$CF_{financing} = \Delta Capital + \Delta Debt - Paid\ Dividends$$

=> $\Delta CASH$ =-90€

From Accounting to FCF
d) e) f) g

d) FCFe=93€

e) No

f) $EBIT\ Margin = \frac{EBIT}{Sales}$=6,50% $EBITDA\ Margin = \frac{EBITDA}{Sales}$=6,94%

g) Careful! the EBITDA measure does not take into account the WCR nor the need to invest and maintain the productive capacity!