

13 X 2010

TIME: 15⁰⁰ (3 p.m.) 205E

F.M for Non-F.M.

NCF \leftrightarrow OCF \leftrightarrow FCF

CR

$$CR = \text{CASH REVENUES} = \sum \text{Price} \times \text{Quantity}$$

- CE

$$CE = \text{Cash Expenditures} = VC + FC = \text{Variable costs} + \text{Fixed Costs}$$

- NCE

$$NCE = \text{Non Cash Expenses} = \text{Depreciation} + \text{Book Value of Assets in the form of its liquidation} + \text{Sunk Value of Uncollected Accounts Receivables}$$

= EBIT

$$EBIT = \text{Earnings before interests and taxes}$$

- TAX

$$TAX = T \cdot EBIT; T \rightarrow \text{effective TAX rate}$$

= NOPAT

$$NOPAT = \text{NET OPERATING PROFIT AFTER TAX}$$

+ NCE

$$CAPEX = \text{Capital Expenditures}$$

- CAPEX

$$\Delta NWC \rightarrow \text{NET WORKING CAPITAL GROWTH}$$

- ΔNWC

$$FCF = \text{FREE CASH FLOWS}$$

FCF

Tc	+		
COF	-		class
ACOM	+	stanzel die wiss budget mis plaet	zucht
Bank wiss- wienegch	-		
Ultra bank mis it need	+		
Tech. Dyn.	0		
As imp	-	index van mis misde bv	

100 000

00
20
?



P. mites / P. chutes

Amiel
Ebit

0

4

TA WAD
pod.

4

0

oostrom
pityu

0

4

strake bok
Sampun

4

0

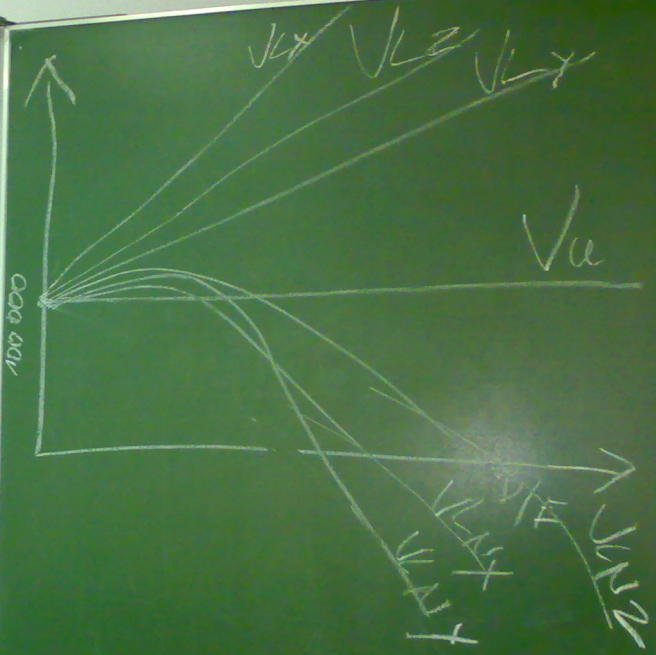
strake mays

Rosman
firmy

4

0

VLX	VLN X	VLY	VLN Z
18750	118250	100700	112100
21875	121175	100700	114000
25000	123800	100900	115600
	126125	99800	116900
	127250	98000	117000
	125375	93200	114100
	120500	85400	108200
	105625	67600	92300
	108750	67800	99400
	-3125	-97000	-18500
	-150000	-196800	-166400
93750	-496875	-496600	-969300
	-109375	-1096400	-1062200
	-2240625	-2260100	-2260100



Zad 5

ITS=? $V_u = 100000$ $K_D = 10\% = 0.1$

X-lambda	Y-lambda	Z-lambda
$T_c = 40\%$	$T_c = 40\%$	$T_c = 40\%$
$T_D = 20\%$	$T_D = 50\%$	$T_D = 39\%$
$T_E = 50\%$	$T_E = 20\%$	$T_E = 41\%$

$$ITS = D \cdot K_D \left[1 - (1 - T_c) \cdot \frac{1 - T_E}{1 - T_D} \right]$$

PVDF	W/D	D	ITSX	PVITSX	VLX	VLN X	VKNY	VLN Z
500	30%	30000	1875	18750	148750	118250	100700	112100
700	35%	35000	21875	218750	121875	121175	100700	114000
1200	40%	40000	25000	250000	125000	123800	100900	115500
2000	45%	45000	28125	281250	128125	126125	99800	116900
4000	50%	50000	34250	342500	134250	127250	98000	117000
9000	55%	55000	37375	373750	137375	127250	98000	117100
17000	60%	60000	37500	375000	137500	125375	93200	108200
35000	65%	65000	40625	406250	140625	120500	85400	92300
72000	70%	70000	43750	437500	143750	105625	67600	94400
150000	75%	75000	46875	468750	146875	108750	67800	94500
300000	80%	80000	50000	500000	150000	10125	47000	96400
600000	85%	85000	53125	531250	153125	150000	19500	96300
1200000	90%	90000	56250	562500	156250	416875	49600	106200
2400000	95%	95000	59375	593750	159375	1013750	1036400	126000
						2240625	2260100	

Task 5

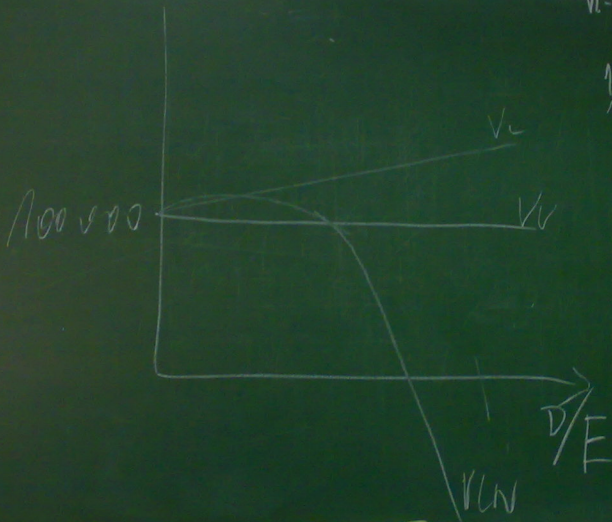
ITS = ? $V_u = 100000$ $K_D = 10\% = 0.1$

X-lambda \quad Y-lambda \quad Z-lambda

$T_C = 40\%$ \quad $T_C = 40\%$ \quad $T_C = 40\%$
 $T_D = 20\%$ \quad $T_D = 50\%$ \quad $T_D = 39\%$
 $T_E = 50\%$ \quad $T_E = 20\%$ \quad $T_E = 41\%$

$$ITS = D \cdot K_D \cdot \left[1 - (1 - T_C) \cdot \frac{1 - T_E}{1 - T_D} \right]$$

PKDF	WD	D	ITSX	PVITSX	VLX	V
500	30%	50000	1875	18750	118750	11
700	35%	35000	21875	218750	121875	12
1200	40%	40000	25000		125000	12.5
2000	45%	45000	28125			12.6
4000	50%	50000	34250			12.7
9000	55%	55000	37375			12.8
17000	60%	60000	40500			12.9
35000	65%	65000	43750			13
72000	70%	70000	46875			13.1
150000	75%	75000	50000			13.2
300000	80%	80000	53125			13.3
600000	85%	85000	56250			13.4
1200000	90%	90000	59375	593750	153750	13.5
2400000	95%	95000				13.6



VL - Type B performance

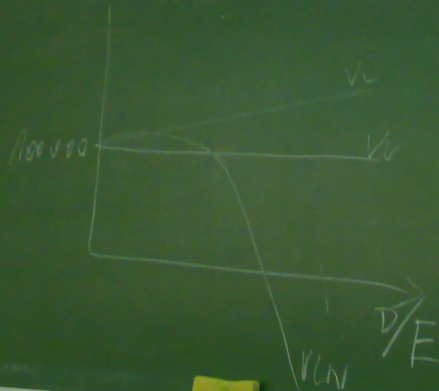
VLN

- 105200
- 106350
- 106300
- 107250
- 104600
- 100450
- 92100
- 92350
- 86400
- 39450
- 192100
- 435350
- 1119800
- 2332650

Madame (4)

Kd = 91

PV/DF	WD	PvITS	VL	VLN
400	30%	5700	109700	
700	35%	6650	106650	
1300	40%	7600	107600	
2500	45%	8550	108500	
4900	50%	9500	109500	
6700	55%	10450	110450	
18300	60%	11400	111400	
38500	65%	12350	112350	
46900	70%	13300	113300	
301300	80%	15200	115200	
614500	85%	16150	116150	
1228900	90%	17100	117100	
2457700	95%	18050	118050	



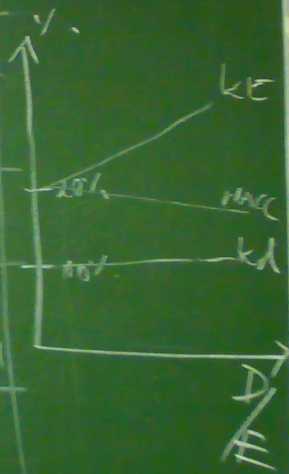
VL - PVCD

VLN
 105300
 106950
 106300
 107250
 104600
 100450
 92100
 73850
 36400
 -33450
 -73200
 -435350
 -1111800
 -2330650

Stadomie (4) Ka = 01

PVCD	WD	PVTS	VL	VLN
400	30%	5700	105700	
705	35%	6650	106650	
1300	40%	7600	107600	
2500	45%	8550	108550	
4900	50%	9500	109500	
5700	55%	10450	110450	
11300	60%	11400	111400	
38500	65%	12350	112350	
76900	70%	13300	113300	
501300	80%	15200	115200	
614500	85%	16150	116150	
1228900	90%	17100	117100	
2457100	95%	18050	118050	

	D	E	D/E	D/(D+E)	k_D	WACC
0%	0	100000	0	0	20%	20%
30%	50000	70000	0.428	0.3	23.5%	18.81%
50%	50000	50000	1	0.5	26.1%	18.1%
70%	70000	30000	2.33	0.7	33%	17.4%



③ zadanie

$$ROA \cdot r_A = 20\% = 0,2$$

$$E = 100 \text{ €}$$

$$D = 0$$

$$k_d = 10\% = 0,1$$

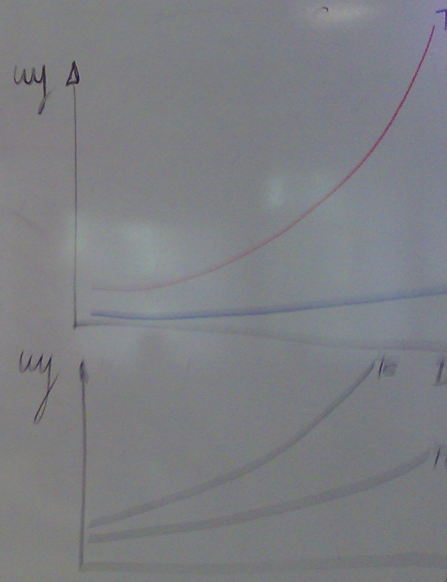
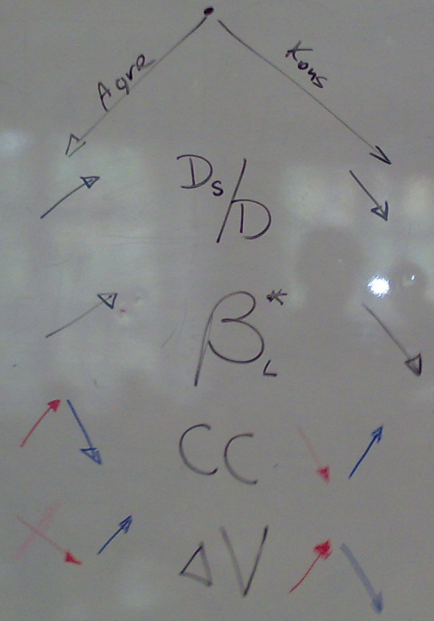
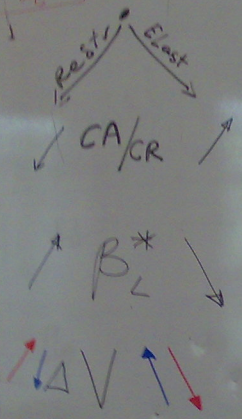
$$a) k_e = ? \quad k_e = r_A + (r_A - k_d) \cdot \frac{D}{E} = 0,2$$

$$k_e = 0,2 + 0,1 \cdot 0,01 \cdot 0 = 0,2 = 20\%$$

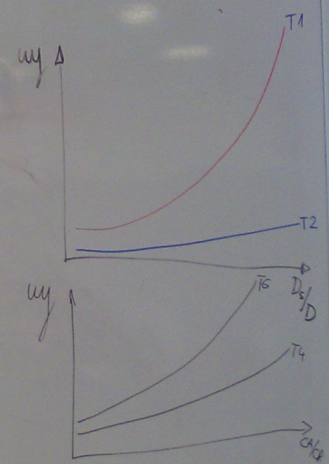
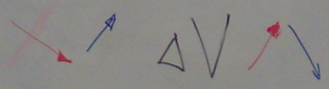
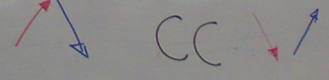
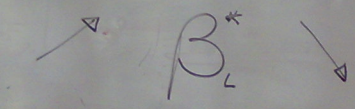
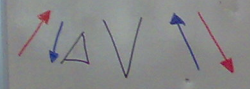
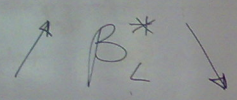
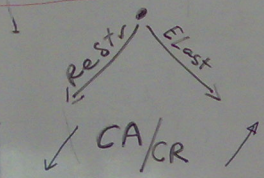
dk_D = 0

$$WACC = 0,2 \cdot 1 + 0,1 \cdot 0,01 \cdot 0 = 0,2 = 20\%$$

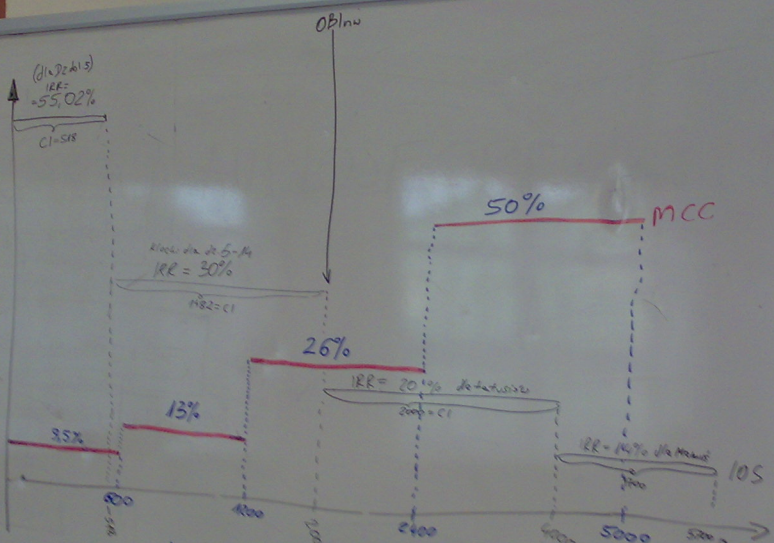
$w_1 = 5.8\%$
 $w_2 = 6.7\%$



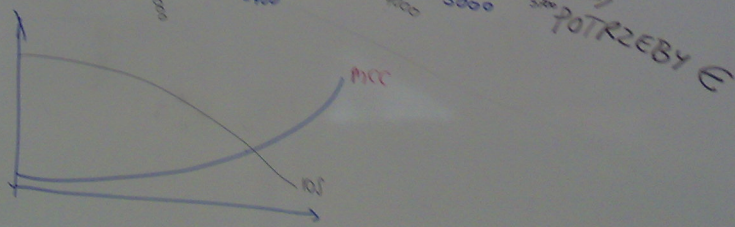
$w_j = 58\%$
 $w_c = 62\%$



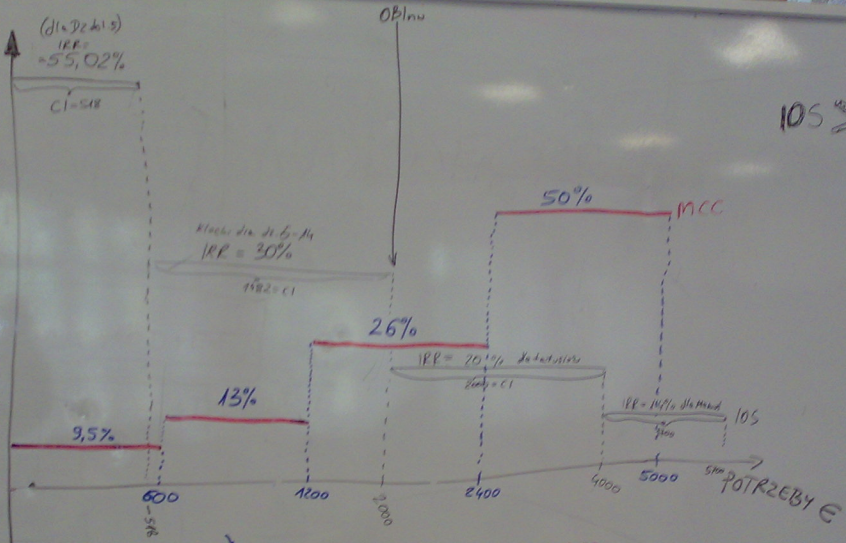
$w_j = 58\%$
 $w_c = 62\%$



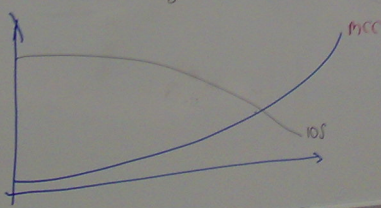
$IOS \Rightarrow CC$



$w_j = 38\%$
 $w_c = 62\%$



IOS \rightarrow CC



$5 \overline{XI} - 22 \overline{XI}$

do 12 XI do 15 zad

do 24 XI reszta

P.J.

dst $\overbrace{BAZ+A+B+C+D+E+F}$

dst $\overbrace{BAZ+A+B+C+D+E} + \overbrace{BDB}$

$\frac{do 30 X}{31 X}$ pred

5/p

$5 \overline{XI} - 22 \overline{XI}$

do 12 XI do 15 zad

do 24 XI reszta

P.J.

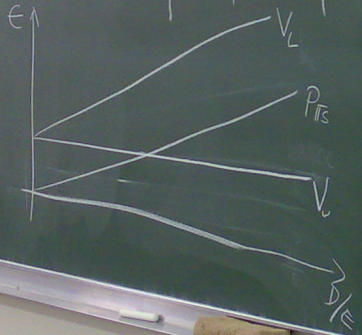
dst $\underbrace{BAZ+A+B+C+D+E+F}$

dst $BAZ + A + B + C + D + E + F + BDB$

$\overline{do 30 X} \quad \begin{array}{|l} \text{pred} \\ 31 X \end{array}$

5/p

$1 - T_E$	Struktura odsetków	Długość	Wartość udziałów	Wartość wkładu inwestora	PV_{15}	V_L	Wartość $e = a - f$	Cost udziału	f/b
950	0%	0	100	100 000	0	100 000	100 000	1000	0
	30%	30 000	70	100 000	5700	105700	75 700	108	1,43
	50%	50 000	50	100 000	9 500	109 500	59 500	1 19	0
	70%	70 000	30	100 000	13 300	113 300	43 300	144	3,33



Promocja jesienią

$1 \leftrightarrow 10P.$
 A \rightarrow $30 \times$ $\frac{1}{10}$

5X1-22X1

do 12X1

do: 15zad

do 24X1

do końca

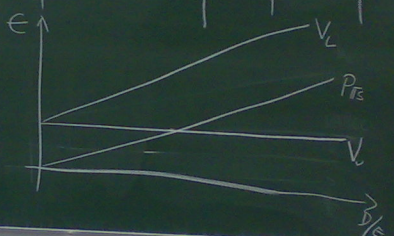
a) $ITS = D \times K_D \cdot (1 - (1 - T_C) \times (1 - T_E))$
 $ITS = 50000 \cdot 10\% \cdot 0,19 = 950$

b) $V_L = V_U + PV_{ITS}$

$V_L = 100000 + \frac{950}{0,11}$

$V_L = 109500$

$1 - T_E$	Struktura- exklusivens	Aug lucra uberal	Wartori altipusio microdies	PV ITS	V_L idre	Wartori idre	Genq uberal	F/b
$1 - T_D$	0%	100	100 000	0	100 000	100 000	1000	0
950	30%	70	100 000	5700	105700	75700	1080	1,43
	50%	50	100 000	9500	109500	59500	1130	0
	70%	30	100 000	13300	113300	43300	1440	3,33



907
b

Pro
1 ↔
A →
5X
do 12
do 24

a)

$$k_E = r_A + (r_A - k_D) \frac{D}{E}$$

$$k_E = 20\% + 10\% \cdot 0 = 20\%$$

b)

$$k_E = r_A + (r_A - k_D) \frac{D}{E}$$

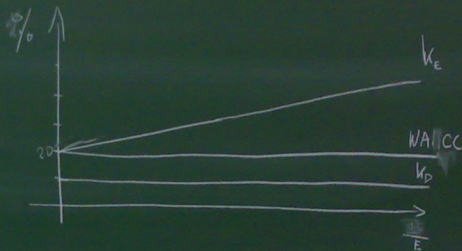
$$k_E = 20\% + (20\% - 10\%)$$

$$k_E = 20\% + 10\% \cdot (0,25) = 22,5\%$$

SZ	R. F	WRA	K.O	WKW	LU	CJU
0%	brak	100 000	0	100 000	100	1 000
30%	średnie	100 000	30 000	70 000	70	1 000
50%	duże	100 000	50 000	50 000	50	1 000
70%	bardzo	100 000	70 000	30 000	30	1 000

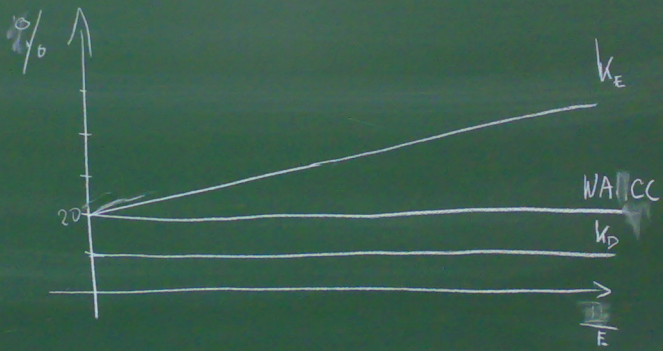
d

$$\frac{20.000}{80.000}$$



SZ	R. F	WRA	K.O	WKW	L.V	C.J.V
0%	brak	100.000	0	100.000	100	1.000
30%	inredwe	100.000	30.000	70.000	70	1.000
50%	duze	100.000	50.000	50.000	50	1.000
70%	boluze	100.000	70.000	30.000	30	1.000

d



$$\frac{20.000}{80.000}$$

25%

%

$$a) \quad k_E = r_A + (r_A - k_D) \frac{D}{E}$$

$$k_E = 20\% + 10\% \cdot 0 = 20\%$$

$$b) \quad k_E = r_A + (r_A - k_D) \frac{D}{E}$$

$$k_E = 20\% + (20\% - 10\%)$$

$$k_E = 20\% + 10\% (0,25) = 22,5\%$$

S.Z

0%

30%

50%

70%

d

20.000

80.000

%

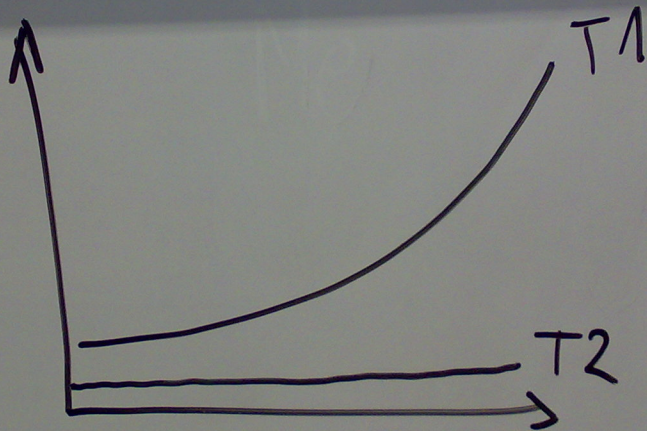
	A	CM	CV
EBIT	4000	4000	4000
NO PAT	$4000 \cdot (1 - 0.19)$ = 3240	3240	
FCF	3240	3240	
CC	$0.26 \cdot \frac{3000}{5000}$ + $0.09 \cdot \frac{800}{5000} \cdot 0.81$ + $0.07 \cdot \frac{1200}{5000} \cdot 0.81$ = 12.13%	$0.25 \cdot \frac{5000}{5000} +$ $0.09 \cdot \frac{1400}{5000} \cdot 0.81$ + $0.07 \cdot \frac{600}{5000} \cdot 0.81$ = 17.72%	17.32
AV	$\frac{3240}{0.1813} = 17870.93$	$\frac{3240}{0.1772} =$ 18288	18707

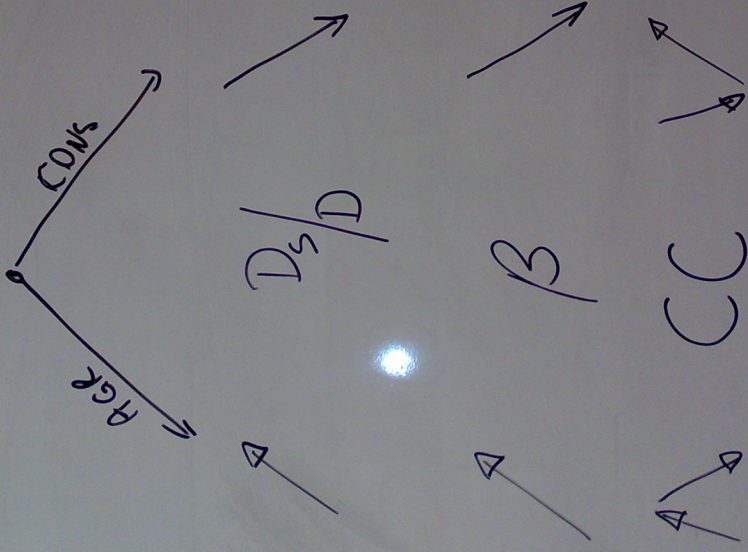
	A	CM	CV
EBIT	4000	4000	4000
NO PAT	$4000 \cdot (1 - 0.19)$ = 3240	3240	
FCF	3240	3240	
CC	$0.26 \cdot \frac{3000}{5000} +$ $+ 0.09 \cdot \frac{2000}{5000} \cdot 0.81$ $+ 0.07 \cdot \frac{1200}{5000} \cdot 0.81$ $= 13.15\%$	$0.25 \cdot \frac{3000}{5000} +$ $0.09 \cdot \frac{1400}{5000} \cdot 0.81$ $+ 0.07 \cdot \frac{600}{5000} \cdot 0.81$ $= 17.72\%$	17.32
ΔV	$\frac{3240 \cdot 17870.93}{0.1815}$	$\frac{3240}{0.1772}$	18288
			18707

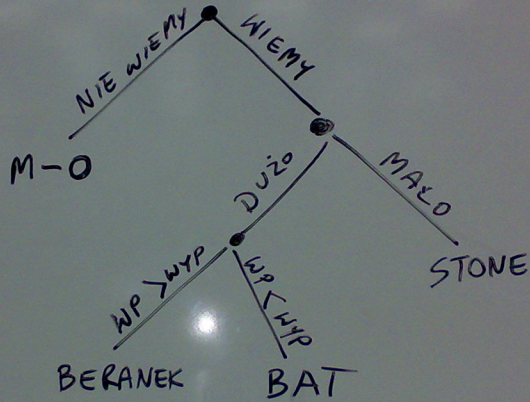
	(AG)	CM	Cons.
EBIT	4000	4000	4000
NPAT	$4000 \cdot 0,19$ $- 3240$	3240	3240
FCF	3240	3240	3240
CC	$\frac{3000}{0,24} \cdot \frac{5000}{5000}$ $+ 0,09 \cdot \frac{800}{5000}$ $\cdot 0,81$ $+ 0,07 \cdot \frac{1200}{5000}$ $\cdot 0,81$	$\frac{3000}{0,24} \cdot \frac{5000}{5000}$ $+ 0,09 \cdot \frac{1400}{5000}$ $\cdot 0,81$ $+ 0,07 \cdot \frac{1600}{5000}$ $\cdot 0,81$	$0,24 \cdot \frac{3000}{5000}$ $+ 0,09 \cdot \frac{2000}{6000} \cdot 0,81$
ΔV	$\frac{3240}{0,1693}$ $= 19137,6$	$\frac{3240}{0,1712}$ $= 18925,23$	$\frac{3240}{0,1732}$ $= 18706,70$
	$= 16,93\%$	$= 17,12\%$	$= 17,32\%$

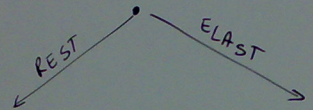
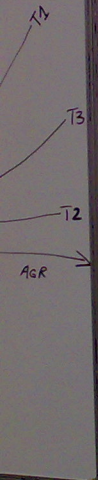
	(AG)	CM	Cons.
EBIT	4000	4000	4000
NPAT	$4000 \cdot 0,19$ - 3240	3240	3240
FCF	3240	3240	3240
CC	$0,24 \cdot \frac{3000}{5000}$ + $0,09 \cdot \frac{800}{5000}$ · 0,81	$0,24 \cdot \frac{3000}{5000}$ + $0,09 \cdot \frac{1400}{5000}$ · 0,81	$0,24 \cdot \frac{3000}{5000}$ + $0,09 \cdot \frac{2000}{5000} \cdot 0,81$
	+ $0,07 \cdot \frac{1200}{5000}$ · 0,81	+ $0,07 \cdot \frac{1600}{5000}$ · 0,81	
	= 16,93 %	= 17,12 %	= 17,32 %
ΔV	$\frac{3240}{0,1693}$ = 19137,62	$\frac{3240}{0,1712}$ = 18925,23	$\frac{3240}{0,1732}$ = 18706,70

making capital decisions









MINIM KOSZT
BIEŻĄCYCH UTRZ.
A.B.

MINIMALIZACJA RYZYKA
BRAKU A.B

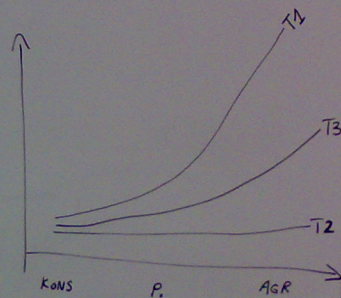
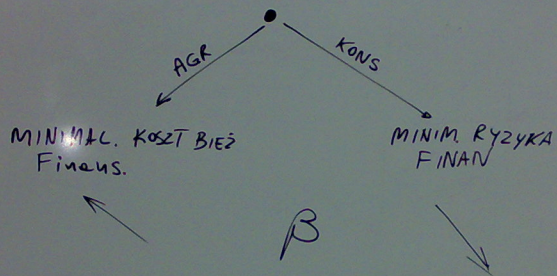


B



ZAP + NAL + SP

- ZWD



SP.5
a)

skaryficyjność inwestycji w zakładach	4	3	2	1	0
agregacyjność finansowania	4	3	2	1	0
	Ś. MARKA	MARKA	ŚREDNIA	JOZA	Ś. ŻURK
zmienność zysku operacyjnego	4	3	2	1	0
wielkość aktywów całkowitych	0	1	2	3	4
oryginalność rynku produktów firmy	4	3	2	1	0
struktura lokalnego systemu for. ing. państwa →	0	1	2	3	4
wzrost firmy	0	1	2	3	4
skrajność w punkcie ryzyko prawne	4	3	2	1	0
konkurencja	-	-	-	-	-

b) Z.
30,
50,
70,
↑
100 500
100 000

SP.5
04

	4	3	2	1	0
skrytyczność i obawa w sprawach finansowa	4	3	2	1	0
skrytyczność finansowa	4	3	2	1	0
	S. NAPEW	NABA	DEETNIA	ZDA	WUWEN
konieczność zysku powyżej	4	3	2	1	0
wielkość udziału w kapitale	0	1	2	3	4
owocowność akcji produkcji firmy	4	3	2	1	0
struktura lokalnego gospod. (np. PAKTUM →)	0	1	2	3	4
opracowanie firmy	0	1	2	3	4
udział w opiece	—	—	—	—	—
ryzyko opuszczenia	4	3	2	1	0
wersjonowania	—	—	—	—	—

6) Zda
30%
50%
20%

SP.5
2)

reaktywność inwestowania w
nową technologię

4 3 2 1 0

agresywność finansowania

4 3 2 1 0

zmienność zysku operacyjnego

0. NAJW.	MAŁA	ŚREDNIA	DUŻA	WIELKA
4	3	2	1	0
0	1	2	3	4
4	3	2	1	0
0	1	2	3	4
0	1	2	3	4
—	—	—	—	—
4	3	2	1	0
—	—	—	—	—

wielkość aktywów całkowitych

0 1 2 3 4

omijalność rynku produktów firmy

4 3 2 1 0

struktura lokalnego systemu fin.
ing. PAŃSTWA →

4 3 2 1 0

rozmiar firmy

0 1 2 3 4

wzrost w rynku

— — — — —

ryzyko prawne

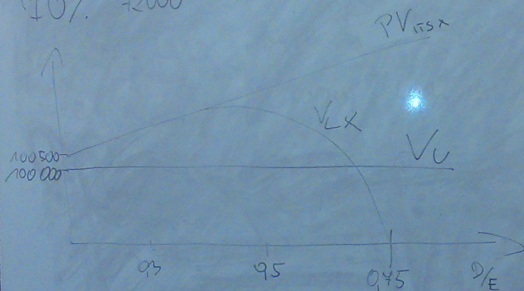
4 3 2 1 0

konkurencja

— — — — —

6)

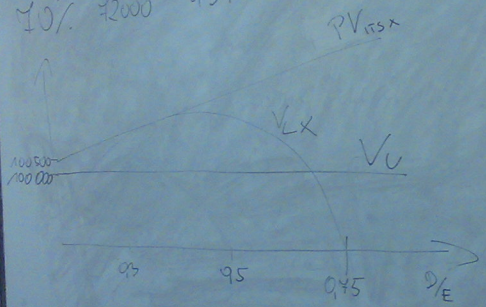
ZadT	PV _{CDF}	PV _{ITS} X	PV _{ITS} Y	PV _{ITS} Z	V _L X	V _L Y	V _L Z	V _L
30%	500	1845	120	1260	101345	99620	100760	100 000
50%	6000	3125	200	2089	99125	96200	98039	100 000
70%	72000	4375	280	2938	92375	8280	30938	100 000



Im wyższy T_D/T_E tym docelowe zadłużenie jest wyższe

50 000

	PV_{CDF}	$PV_{TIS X}$	$PV_{TIS Y}$	$PV_{TIS Z}$	$V_L X$	$V_L Y$	$V_L Z$	V_U
6) Zadt	500	1845	120	1260	101345	99620	100460	100 000
30%	500	1845	120	1260	99125	96200	98099	100 000
50%	1000	3125	280	2938	92375	82280	90938	100 000
10%	12000	4375						



Im wyzszy T_D/T_E tym docelowe zaduzenie jest wyzsze



5P.5

a)

Odsetkowa
taxowa
podatkowa

X-landia

$$\left(1 - (1 - 0.4) \cdot \frac{1 - 0.3}{1 - 0.1}\right) \cdot D$$
 1845

Y-landia

$$\left(1 - (1 - 0.4) \cdot \frac{1 - 0.4}{1 - 0.1}\right) \cdot D$$
 120

Z-landia

$$\left(1 - (1 - 0.4) \cdot \frac{1 - 0.41}{1 - 0.38}\right) \cdot D$$
 1260

$i_d = 0.1$
 $D = 30000$

Odsetkowa
taxowa
podatkowa

$$= i_d \cdot D \cdot \left(1 - (1 - i_c) \cdot \frac{1 - T_s}{1 - T_d}\right)$$

b) Z_{adT} PV_{CDF} PV_{TS}
 30% 500 18

5P.5

Odsetkowa
tawara
matrikawa

X-landia.

$$(1 - (1 - 0.4) \cdot \frac{1 - 0.35}{1 - 0.12}) \cdot 120$$

1875

Y-landia

$$(1 - (1 - 0.4) \cdot \frac{1 - 0.2}{1 - 0.05}) \cdot 120$$

120

Z-landia

$$(1 - (1 - 0.4) \cdot \frac{1 - 0.41}{1 - 0.33}) \cdot 1260$$

1260

$k = d = 0.1$
 $D = 30\,000$

Odsetkowa
tawara
matrikawa

$$= k \cdot D \cdot \left(1 - (1 - T_c) \frac{1 - T_d}{1 - T_d} \right)$$

6) ZadT PKoc
 30% 500

EXPLOATATION

- $CR_1 = 200000$
- $CR_2 = 300000$
- $CR_3 = 400000$
- $CR_4 = 350000$
- $CR_5 = 250000$

- $C_{1..5} = 50000$
- $C_{1..5} = 40\% \cdot CR$
- $FCR = 15\% \cdot FA_I$
- $WC = 25\% \cdot CR$
- $AX = 19\%$

	1	2	3	4	5
CR	200000	300000	400000	350000	250000
-CE	130000	170000	210000	190000	150000
-NCE	307500	307500	307500	307500	307500
EBIT	-237500	-175000	-112500	-147500	-207500
NOPAT	-192375	-143375	-95175	-119475	-168075
+NCE	307500	307500	307500	307500	307500
-ANWC	80000	25000	25000	12500	-25000
-CAPEX	0	0	0	0	0
FCF					

580

INITIAL FCF

GROUND = 500000
 BUILDINGS = 800000
 EQUIPMENT = 750000
 TRAINING = 150000
 ADS = 200000
 INV = 50000
 AR = 0
 AP = 80000
 T = 19%

2050000

FC

CR	0
-CE	350000
-NCE	0
= EBIT	-350000
= NOPAT = (1-T) * EBIT	-283500
+NCE	0
-ΔNWC	-30000
-CAPEX	2050000
FCF	-2303500

EXPLOATATION

CR₁ = 200000
 CR₂ = 300000
 CR₃ = 400000
 CR₄ = 350000
 CR₅ = 250000

FC₁₋₅ = 50000
 VC₁₋₅ = 40% * CR
 DEPR = 15% * FA_I
 NWC = 25% * CR
 TAX = 19%

CR
 +CE
 -NCE
 EBIT
 NOPAT
 +NCE
 -ΔNWC
 -CAPEX
 FCF

NWC = INV + AR + CASH - AP

	-1	0	1	2	3	4	5
NWC	0	-30000	50000	25000	100000	87500	62500
ΔNWC		-30000	80000	25000	25000	-12500	-25000

580

INITIAL FCF

GROUND = 500,000
 BUILDINGS = 800,000
 EQUIPMENT = 750,000
 TRAINING = 150,000
 ADS = 200,000
 INV = 50,000
 AR = 0
 AP = 800,000
 T = 19%

FCF

NWC = INV + AR + CAPEX - AP

	0
CR	0
-CE	350,000
-NCE	0
= EBIT	-350,000
= NOPAT = (1-T) * EBIT	-283,500
+NCE	0
-ΔNWC	-30,000
-CAPEX	205,000
FCF	-230,350

EXPLOATATION

CR₁ = 200,000
 CR₂ = 300,000
 CR₃ = 400,000
 CR₄ = 350,000
 CR₅ = 250,000

FC₄₋₅ = 50,000
 VC₄₋₅ = 40% * CR
 DEPR = 15% * FA_T
 NWC = 25% * CR
 TAX = 19%

	1	2	3	4	5
CR	200,000	300,000	400,000	350,000	250,000
+CE	130,000	170,000	210,000	190,000	150,000
-NCE	307,500	307,500	307,500	307,500	307,500
EBIT	-237,500	-175,000	-112,500	-147,500	-207,500
NOPAT	-192,375	-143,375	-95,475	-119,475	-168,075
+NCE	307,500	307,500	307,500	307,500	307,500
-ΔNWC	80,000	25,000	25,000	12,500	-25,000
-CAPEX	0	0	0	0	0
FCF					

	-1	0	1	2	3	4	5
NWC	0	-30,000	50,000	75,000	100,000	87,500	62,500
ΔNWC		-30,000	80,000	25,000	25,000	-12,500	-25,000

733 + 14
580

+05260

INITIAL FCF

GROUND = 500,000
 BUILDINGS = 800,000
 EQUIPMENT = 750,000
 TRAINING = 150,000
 ADS = 200,000
 INV = 50,000
 AR = 0
 AP = 80,000
 T = 19%

CR = 0
 -CE = 350,000
 -NCE = 0
 = EBIT = -350,000
 = NOPAT = (1-T) * EBIT = -283,500
 +NCE = 0
 -ΔNWC = -30,000
 -CAPEX = 2,050,000
 FCF = -2,303,500

EXPLOITATION

CR₁ = 200,000
 CR₂ = 300,000
 CR₃ = 400,000
 CR₄ = 350,000
 CR₅ = 250,000

FC₁₋₅ = 50,000
 VC₁₋₅ = 40% * CR
 DEPR = 15% * FA₁₋₅
 NWC = 25% * CR
 TAX = 19%

	1	2	3	4	5
CR	200,000	300,000	400,000	350,000	250,000
+CE	130,000	170,000	210,000	190,000	150,000
-NCE	307,500	307,500	307,500	307,500	307,500
EBIT	-237,500	-197,500	-157,500	-117,500	-77,500
NOPAT	-192,325	-153,525	-113,525	-73,525	-33,525
+NCE	307,500	307,500	307,500	307,500	307,500
-ΔNWC	80,000	25,000	25,000	12,500	-25,000
-CAPEX	0	0	0	0	0
FCF					

NWC = INV + AR + CASH - AP

	-1	0	1	2	3	4	5
NWC	0	-30,000	50,000	25,000	100,000	87,500	62,500
ΔNWC		-30,000	80,000	25,000	25,000	-12,500	-25,000

(10)

CC =

$$CC = 11,85\% ; FCF_0 = -562.233 ; FCF_{1-21} = 14.580 ; FCF_{22} = \frac{536.313}{580} = 521.733 + 14.580$$

$$NPV = -562.233 + \frac{14.580}{1,1185^1} + \dots + \frac{14.580}{1,1185^{21}} + \frac{536.313}{1,1185^{22}} =$$

$$NPV = -562.233 + \frac{14.580}{0,1185} \cdot \left(1 - \frac{1}{1,1185^{21}}\right) + \frac{536.313}{1,1185^{22}} = -405.260$$

$$NWC = INV + AF$$

	-1	
NWC	0	-3
ΔNWC		-3

(10)

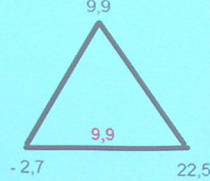
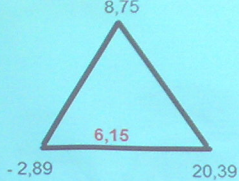
CC =

$$CC = 11,85\% ; FCF_0 = -562233 ; FCF_{1-21} = 14580 ; FCF_{22} = \overbrace{(521733 + 14580)}^{536313}$$

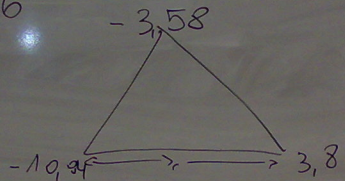
$$NPV = -562233 + \underbrace{\frac{14580}{1,1185^1} + \dots + \frac{14580}{1,1185^{21}}}_{\text{Annuity}} + \frac{536313}{1,1185^{22}} =$$

$$NPV = -562233 + \frac{14580}{0,1185} \cdot \left(1 - \frac{1}{1,1185^{22}}\right) + \frac{536313}{1,1185^{22}} = -405260$$

NWC = 1N
 -1
 NWC 0
 ΔNWC

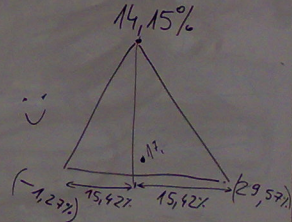


$$ROA_{T(x-1)} = \frac{7840 + 857}{47106} = 18,5\% > 5\%$$

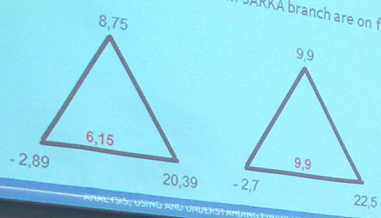


$\times 18,5\%$

$$ROA_{G-200x-1} = \frac{59867 + 1279}{353359} = 17,3\% > 4,5\%$$



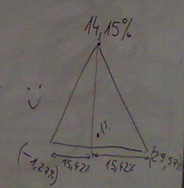
Typical results for firms from SARKA branch are on fig.:



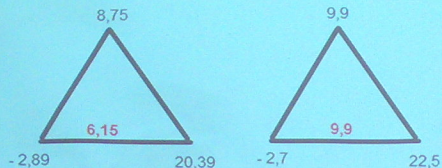
$$ROA_{200(X-1)} = \frac{1317 + 5053}{103528} = 6.15 = 6.15\% < 7\%$$

$$ROA_{200X} = \frac{5556 + 6225}{119057} = 9.9\% > 8\%$$

$$ROA_{(200X-1)} = \frac{59867 + 1279}{353359} = 17.3\% > 4.5\%$$



- Typical results for firms from SARKA branch are on fig.:

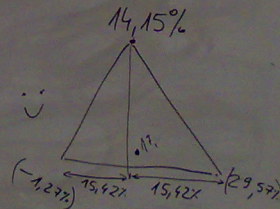


$$ROA = \frac{1317 + 5053}{103528} =$$

$$615 = 6.15\% < 7\% \text{ (target)}$$

$$ROA_{200x} = \frac{3556 + 6225}{119057} = 9,9\% > 8\% \text{ ;}$$

$$ROA_{C-200x-7} = \frac{59867 + 1279}{353359} = 17,3\% > 4,5\% \text{ ;}$$



Interest Expense

Total Assets

- This number tells you what the firm can do with what it has, i.e. how many dollars of earnings they derive from each dollar of assets they control. Its a useful number for comparing competing companies in the same industry. The number will vary widely across different industries.
- It is better when $ROA > k_d$

$$26000 \times 100\% + 80000 \times 70\% + 20000 \times 70\% + 5000 \times 70\% + 150000 \times 50\% + \\ - 100000 = 74500 > 0 \quad \text{!}$$

$$LV_{C(x-1)} = 19170 \cdot 100\% + 70\% \cdot 62632 + 101770 \cdot 70\% + 72770\% \\ + 169060 \cdot 50\% - 83485 - 1407 = 134398 > 0 \quad \text{!}$$

$$LV_{T(x-1)} = 2851 \cdot 100\% + 8499 \cdot 70\% + 7533 \cdot 70\% + 277 \cdot 70\% \\ + 27945 \cdot 50\% - 5931 - 15155 = 7155 > 0$$

The return

- The return on assets (ROA) percentage shows how profitable a company's assets are
- ROA can be computed as:

$$ROA = \frac{\text{Net Income} + \text{Interest Expense}}{\text{Total Assets}}$$

- This number tells you what the firm can do with what it has, i.e. how many dollars of earnings they derive from each dollar of assets they control. Its a useful number for comparing competing companies in the same industry. The number will vary widely across different industries.
- It is better when $ROA > k_d$

ANALYSIS, USE AND UNDERSTANDING FINANCIAL STATEMENTS OF THE FIRM (2015/2016)

$$26000 \times 100\% + 80000 \times 70\% + 20000 \times 70\% + 5000 \times 70\% + 150000 \times 50\% +$$

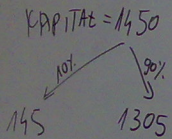
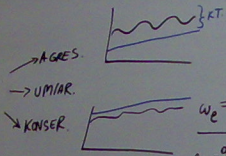
$$-100000 = 74500 > 0 \quad \text{😊}$$

$$LV_{CH_{(k-1)}} = 19170 \cdot 100\% + 70\% \cdot 62632 + 101770 \cdot 70\% + 727 \cdot 70\%$$

$$+ 169060 \cdot 50\% - 83485 - 1407 = 134398 > 0 \quad \text{😊}$$

$$LV_{T_{(x-1)}} = 2851 \cdot 100\% + 8499 \cdot 70\% + 7533 \cdot 70\% + 277 \cdot 70\%$$

$$+ 27945 \cdot 50\% - 5931 - 15155 = 7155 > 0$$

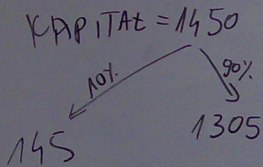
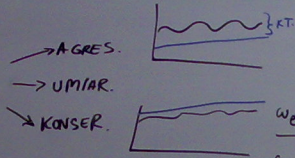


$$k_e \cdot w_e (1-T) + k_e \cdot w_d + (1-T) \cdot k_d \cdot w_d = CC$$

ΔV

	A	J	K
$w_e = 90\%$ $D = 145$	E 1305	1305	1305
	D 0	72,5	145
	D 145	72,5	0
k_e	22,2%	20%	17,8%
k_{dL}	10,5%	10%	9,5%
k_{dS}	8,5%	8%	7,5%
	20,7%	18,8%	17,4%
	$(1450) + \frac{450}{0,207} = 723,9$	$-1450 + \frac{450}{0,188} = 943,62$	$-1450 + \frac{450}{0,174} = 1136,21$





	A	J	K
$w_e = 90\%$ $E = 1305$	E 1305	1305	1305
$w_d = 90\%$ $D = 145$	D _L 0	72,5	145
	D _S 145	72,5	0
k_e	22,2%	20%	17,8%
k_{dL}	10,5%	10%	9,5%
k_{dS}	8,5%	8%	7,5%
	20,7%	18,8%	17,4%
ΔV	$(1450) + \frac{450}{0,207} = 723,9$	$-1450 + \frac{450}{0,188} = 943,62$	$-1450 + \frac{450}{0,174} = 1136,21$

$$k_{dL} \cdot w_{dL} (1-T) + k_e \cdot w_e + (1-T) \cdot k_{dS} \cdot w_{dS} = CC$$

$$k_e = k_{RF} + \beta_L \cdot (k_M - k_{RF})$$

13 X 2010

TIME: 15⁰⁰ (3 p.m.) 205E

F.M for Non-F.M.

NCF \leftrightarrow OCF \leftrightarrow FCF

CR	CR = CASH REVENUES = $\sum \text{Price} \times \text{Quantity}$
- CE	CE = Cash Expenditures = $= VC + FC = \text{Variable costs} + \text{Fixed Costs}$
- NCE	NCE = Non Cash Expenses = \Rightarrow Depreciation, Book Value of Assets in the time of its liquidation, Book Value of Uncollected Accounts Receivables
= EBIT	EBIT = Earnings before interests and taxes
- TAX	TAX = T · EBIT ; T \Rightarrow effective TAX rate
= NOPAT	NOPAT = NET OPERATING PROFIT AFTER TAX
+ NCE	
- CAPEX	CAPEX = Capital Expenditures
- ANWC	ANWC \rightarrow NET WORKING CAPITAL GROWTH
FCF	FCF = FREE CASH FLOWS