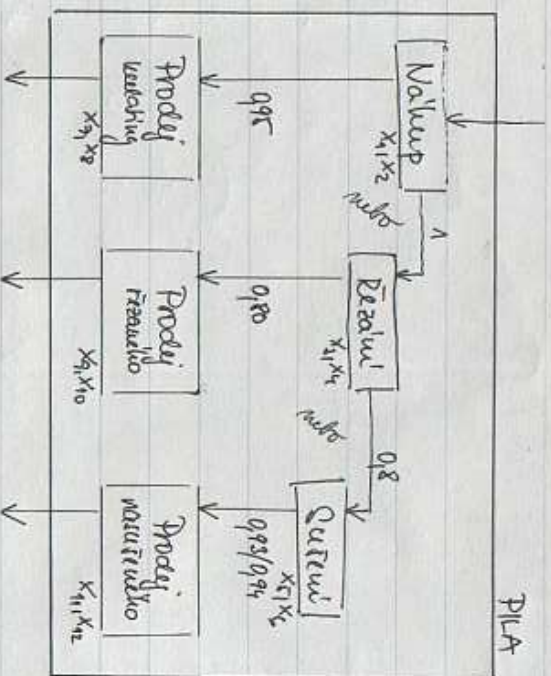


SYSTÉMOVÁ ANALÝZA A MODELOVÁNÍ

C4

2006-10-25



$x_1 + x_2 < 50$	
SMR	DUB
$-x_1 + x_3 < 0$	$-x_2 + x_1 < 0$
$-x_3 + \frac{10}{8}x_5 < 0$	$-x_4 + \frac{10}{8}x_6 < 0$
$-x_1 + \frac{100}{95}x_2 < 0$	$-x_2 + \frac{100}{95}x_8 < 0$
$-x_3 + \frac{10}{8}x_9 < 0$	$-x_4 + \frac{10}{8}x_{10} < 0$
$-x_5 + \frac{100}{95}x_{11} < 0$	$-x_6 + \frac{100}{97}x_{12} < 0$

Výstřední funkce: křivky - náklady

1. Celkové tržby - hodnoty výstřední funkce: 25,910

2. Náklady smrkového dřeva řezání a prodej řezavého: 0

3. Při jaké hodnotě smrkového kůstku se vyplácí prodej: 11,84

4. Výrobní vertikály: náklady 50
řezání 50
řezavý 40

masivní 40

kusů 37,...

Problém: modelujeme to, až jsme nakoupili. Právě nové úrovně, když maximálně lze prodat. Musely by se diferenciální ceny natočily do modelu podniku.

Nulové množství produktů:

$$\begin{aligned} * -x_3 + \frac{10}{8}x_5 + \frac{10}{8}x_9 &< 0 \\ -x_1 + x_3 + \frac{100}{95}x_{11} &< 0 \end{aligned}$$

Výstřední funkce: 40,080





$+1x_1 + 1x_2 < 50$	$-1x_1 + (20/19)x_7 < 0$	$-1x_4 + (5/4)x_6 < 0$	$-1x_5 + (234057/217673)x_{11} < 0$
$-1x_1 + 1x_3 < 0$	$-1x_2 + (20/19)x_8 < 0$	$-1x_3 + (5/4)x_9 < 0$	0
$-1x_2 + 1x_4 < 0$	$-1x_3 + (5/4)x_5 < 0$	$-1x_4 + (5/4)x_{10} < 0$	$-1x_6 + (50/47)x_{12} < 0$
$-1000x_1 - 1500x_2 - 500x_3 - 550x_4 + 1700x_7 + 2300x_8 - 750x_5 - 800x_6 + 2300x_9 + 3200x_{10} + 3900x_{11} + 4100x_{12} \text{ ----} > \text{maximum}$			

The simplex method finds a optimal solution

[illegible]

0th step of compute



		-1000	-1500	-500	-550	1700	2300	-750	-800	2300	3200	3900	4100	0	0	0	0	0	0	0	0	0	0	0		
Base		x1	x2	x3	x4	x7	x8	x5	x6	x9	x10	x11	x12	Slack1	Slack2	Slack3	Slack4	Slack5	Slack6	Slack7	Slack8	Slack9	Slack10	Slack11	b	omega
-1500	x2	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	
-500	x3	-1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
-550	x4	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	50	
1700	x7	(-19/20)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	(19/20)	0	0	0	0	0	0	0	0	
2300	x8	(19/20)	0	0	0	0	1	0	0	0	0	0	0	(19/20)	0	0	0	(19/20)	0	0	0	0	0	0	(95/2)	
-750	x5	(-4/5)	0	0	0	0	0	1	0	0	0	0	0	0	(4/5)	0	0	0	(4/5)	0	0	0	0	0	0	
-800	x6	(4/5)	0	0	0	0	0	0	1	0	0	0	0	(4/5)	0	(4/5)	0	0	0	(4/5)	0	0	0	0	40	
2300	x9	(-4/5)	0	0	0	0	0	0	0	1	0	0	0	0	(4/5)	0	0	0	0	0	(4/5)	0	0	0	0	
3200	x10	(4/5)	0	0	0	0	0	0	0	0	1	0	0	(4/5)	0	(4/5)	0	0	0	0	0	(4/5)	0	0	40	
3900	x11	-0.744	0	0	0	0	0	0	0	0	0	1	0	0	0.744	0	0	0	0.744	0	0	0	0.93	0	0	
4100	x12	(94/125)	0	0	0	0	0	0	0	0	0	0	1	(94/125)	0	(94/125)	0	0	0	(94/125)	0	0	0	(47/50)	(188/5)	
Zj - Cj		881.6	0	0	0	0	0	0	0	0	0	0	0	5138.2	3641.6	4453.2	1615	2185	2301.6	2443.2	1840	2560	3627.0	3854	256910	

22nd step of compute

Right-Hand Side Ranges

- b1 ... < 0 ; ...+)
- b2 ... < 0 ; ...+)
- b3 ... < -50 ; ...+)
- b4 ... < 0 ; ...+)
- b5 ... < -50 ; ...+)
- b6 ... < 0 ; ...+)
- b7 ... < -50 ; ...+)
- b8 ... < 0 ; ...+)
- b9 ... < -50 ; ...+)
- b10 ... < 0 ; ...+)
- b11 ... < -40 ; ...+)

Price Ranges

- x1 ... (-... ; -118.4 >
- x2 ... < -2381.6 ; ...+)
- x3 ... < -4141.6 ; 381.6 >
- x4 ... < -1431.6 ; ...+)
- x7 ... < 0 ; 2628.0 >
- x8 ... < 1372.0 ; ...+)
- x5 ... < -3627.0 ; 352.0 >
- x6 ... < -1902.0 ; ...+)
- x9 ... < 0 ; 3402.0 >
- x10 ... < 2098.0 ; ...+)
- x11 ... < 806.452 ; 5084.95 >
- x12 ... < 2927.66 ; ...+)

$$+ 1 x1 + 1 x2 < 50$$

$$-1 x1 + 1 x3 < 0$$

$$-1 x2 + 1 x4 < 0$$

$$-1000 x1 -1500 x2 -500 x3 -550 x4 +1700 x7 +2300 x8 -750 x5 -800 x6 +2300 x9 +3200 x10 +3900 x11 +4100 x12 \text{ ----- } > \text{maximum}$$

$$-1 x1 + (20/19) x7 < 0$$

$$-1 x2 + (20/19) x8 < 0$$

$$-1 x3 + (5/4) x5 < 0$$

$$-1 x4 + (5/4) x6 < 0$$

$$-1 x3 + (5/4) x9 < 0$$

$$-1 x4 + (5/4) x10 < 0$$

$$-1 x5 + (234057/217673) x11 < 0$$

$$-1 x6 + (50/47) x12 < 0$$



	-1000	-1500	-500	-550	1700	2300	-750	-800	2300	3200	3900	4100	0	0	0	0	0	0	0	0	0	0	0	0	
Base	x1	x2	x3	x4	x7	x8	x5	x6	x9	x10	x11	x12	Slack1	Slack2	Slack3	Slack4	Slack5	Slack6	Slack7	Slack8	Slack9	Slack10	Slack11	b	omega
0	Slack1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	
0	Slack2	-1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
0	Slack3	0	-1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
0	Slack4	-1	0	0	0	(20/19)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
0	Slack5	0	-1	0	0	(20/19)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
0	Slack6	0	0	-1	0	0	(5/4)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
0	Slack7	0	0	0	-1	0	0	(5/4)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
0	Slack8	0	0	-1	0	0	0	0	(5/4)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
0	Slack9	0	0	0	-1	0	0	0	0	(5/4)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
0	Slack10	0	0	0	0	0	-1	0	0	0	1.07527	0	0	0	0	0	0	0	0	0	0	1	0	0	
0	Slack11	0	0	0	0	0	0	-1	0	0	0	(50/47)	0	0	0	0	0	0	0	0	0	0	1	0	
Zj - Cj																								0	

		-1000	-1500	-500	-550	1700	2300	-750	-800	2300	3200	3900	4100	0	0	0	0	0	0	0	0	0	0	0		
Base		x1	x2	x3	x4	x7	x8	x5	x6	x9	x10	x11	x12	Slack1	Slack2	Slack3	Slack4	Slack5	Slack6	Slack7	Slack8	Slack9	Slack10	Slack11	b	omega
-1500	x2	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	
-500	x3	-1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
-550	x4	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	50	
1700	x7	(-19/20)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	(19/20)	0	0	0	0	0	0	0	0	
2300	x8	(19/20)	0	0	0	0	1	0	0	0	0	0	0	(19/20)	0	0	0	(19/20)	0	0	0	0	0	0	(95/2)	
-750	x5	(-4/5)	0	0	0	0	0	1	0	0	0	0	0	0	(4/5)	0	0	0	(4/5)	0	0	0	0	0	0	
-800	x6	(4/5)	0	0	0	0	0	0	1	0	0	0	0	(4/5)	0	(4/5)	0	0	0	(4/5)	0	0	0	0	40	
2300	x9	(-4/5)	0	0	0	0	0	0	0	1	0	0	0	0	(4/5)	0	0	0	0	0	(4/5)	0	0	0	0	
3200	x10	(4/5)	0	0	0	0	0	0	0	0	1	0	0	(4/5)	0	(4/5)	0	0	0	0	0	(4/5)	0	0	40	
3900	x11	-0.744	0	0	0	0	0	0	0	0	0	1	0	0	0.744	0	0	0	0.744	0	0	0	0.93	0	0	
4100	x12	(94/125)	0	0	0	0	0	0	0	0	0	0	1	(94/125)	0	(94/125)	0	0	0	(94/125)	0	0	0	(47/50)	(188/5)	
Zj - Cj		881.6	0	0	0	0	0	0	0	0	0	0	0	5138.2	3641.6	4453.2	1615	2185	2301.6	2443.2	1840	2560	3627.0	3854	256910	



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