1 Calcolo dei piani

$$B = \begin{pmatrix} 1 \\ 2 \\ 4 \end{pmatrix} \qquad N = \begin{pmatrix} 3 \\ 5 \end{pmatrix}$$

$$A = \begin{pmatrix} \frac{3}{2} & \frac{3}{2} & 1 & 0 & 0 \\ \frac{4}{5} & 1 & 0 & 1 & 0 \\ 1 & \frac{11}{5} & 0 & 0 & 1 \end{pmatrix} \qquad A_B = \begin{pmatrix} \frac{3}{2} & \frac{3}{2} & 0 \\ \frac{4}{5} & 1 & 1 \\ 1 & \frac{11}{5} & 0 \end{pmatrix} \qquad A_N = \begin{pmatrix} 1 & 0 \\ 0 & 0 \\ 0 & 1 \end{pmatrix}$$

$$A_B^{-1} = \begin{pmatrix} \frac{11}{9} & 0 & -\frac{5}{6} \\ -\frac{5}{9} & 0 & \frac{5}{6} \\ -\frac{19}{45} & 1 & -\frac{1}{6} \end{pmatrix} \qquad \tilde{A} = \begin{pmatrix} \frac{11}{9} & -\frac{5}{6} \\ -\frac{5}{9} & \frac{5}{6} \\ -\frac{19}{45} & -\frac{1}{6} \end{pmatrix} \qquad \tilde{b} = \begin{pmatrix} \frac{1000}{3} \\ \frac{2000}{3} \\ \frac{3200}{3} \end{pmatrix}$$

2 Piani di taglio

$r = 1 \quad + \frac{11}{9}x_3 - \frac{5}{6}x_5 \geq \frac{1000}{3}$
$r = 2 \quad - \frac{5}{9}x_3 + \frac{5}{6}x_5 \geq \frac{2000}{3}$
$r = 3 \quad - \frac{19}{45}x_3 - \frac{1}{6}x_5 \geq \frac{3200}{3}$

3 Vincoli di taglio

$r = 1 \quad + 14x_1 + 15x_2 + 5x_4 \leq 19990$
$r = 2 \quad + 8x_1 + 9x_2 + 5x_4 \leq 13996$
$r = 3 \quad + 46x_1 + 51x_2 + 25x_4 \leq 75980$

4 Valutazioni

$$x_i = \begin{pmatrix} 333 \\ 666 \end{pmatrix} \quad x_s = \begin{pmatrix} \frac{1000}{3} \\ \frac{2000}{3} \end{pmatrix} \qquad 1398600 \leq v \leq 1400000$$

5 Riprove

$$\text{Soluzione intlinprog: } x_{int} = \begin{pmatrix} 334 \\ 666 \end{pmatrix} \qquad v_{int} = 1399800$$

$$\text{Soluzione con gomory: } x_g = \begin{pmatrix} \frac{663}{2} \\ \frac{1335}{2} \\ \frac{844424930132033}{562949953421312} \\ \frac{10673}{10} \\ 0 \end{pmatrix} \qquad v_g = 1399050$$