

Compute $\mu^* = \max \left(\max_{\substack{j \in N \\ \bar{z}_j > 0}} -\frac{z_j^*}{\bar{z}_j}, \max_{\substack{i \in B \\ \bar{x}_i > 0}} -\frac{x_i^*}{\bar{x}_i} \right)$

While $(\mu^* > 0)$ {

If max is achieved by

$j \in N:$	$i \in B:$
$\Delta x_B = A_B^{-1} A_N e_j$	$\Delta z_N = -(A_B^{-1} A_N)^T e_i$
pick $i \in \operatorname{argmax}_{i \in B} \frac{\Delta x_i}{x_i^* + \mu^* \bar{x}_i}$	pick $j \in \operatorname{argmax}_{j \in N} \frac{\Delta \tilde{c}_N}{z_j^* + \mu^* \bar{z}_j}$
$\Delta \tilde{c}_N = -(A_B^{-1} A_N)^T e_i$	$\Delta x_B = A_B^{-1} N e_j$

$t = \frac{x_i^*}{\Delta x_i}$	$\bar{t} = \frac{\bar{x}_i}{\Delta x_i}$
$s = \frac{z_j^*}{\Delta \tilde{c}_N}$	$\bar{s} = \frac{\bar{z}_j}{\Delta \tilde{c}_N}$

$x_i^* \leftarrow t$	$\bar{x}_i \leftarrow \bar{t}$
$z_j^* \leftarrow s$	$\bar{z}_j \leftarrow \bar{s}$

$x_B^* \leftarrow x_B^* - t \Delta x_B$	$\bar{x}_B \leftarrow \bar{x}_B - \bar{t} \Delta x_B$	\forall Basisindizes außer i
$z_N^* \leftarrow z_N^* - s \Delta \tilde{c}_N$	$\bar{z}_N \leftarrow \bar{z}_N - \bar{s} \Delta \tilde{c}_N$	\forall Nicht-Basisindizes außer j

$B \leftarrow B \setminus \{i\} \cup \{j\}$

Recompute μ^* as above

}

FIGURE 7.1. The parametric self-dual simplex method.

wobei $z_j^* := \tilde{c}_N^*$ $z_N^* := \tilde{c}_N^*$

$\bar{z}_j := \bar{c}_N$ $\bar{z}_N := \bar{c}_N$

(In der Vorlesung wurde die Notation \tilde{c}_N^* , \bar{c}_N , \tilde{c}_N , \bar{c}_N verwendet!)