# Supplement to Chapter 18, Lemma 18.1

The argument in Case 2 of Lemma 18.1 proceeds through equation (18.12). There are then two subcases, $\lambda \leq 1$ and $\lambda > 1$. For $\lambda \leq 1$ equation (18.13) holds and the proof is complete.

For the case $\lambda > 1$, equation (18.8) states

$$(1 - \lambda) p_k^* \tilde{Z}_k(p^*) \geq 0 \text{ for all } k \in \text{Case 2.}$$

Since $\lambda > 1$, this results in $\tilde{Z}_k(p^*) \leq 0$ for all $k \in$ Case 2. But there can be no $k' \in$ Case 2 so that $\tilde{Z}_{k'}(p^*) < 0$. If that were to occur, then $p^* \cdot \tilde{Z}(p^*) < 0$ and by the Weak Walras Law $\tilde{Z}_k(p^*) > 0$ for some $k \in$ Case 1 or Case 2, a contradiction. Hence in this subcase, we have $\tilde{Z}_k(p^*) = 0$ for all $k \in$ Case 2. This concludes the proof.