

Supplement to Chapter 14, Proof of Theorem 14.1

The argument in Case 2 of Theorem 14.1 proceeds through equation (14.12). There are then two subcases, $\lambda \leq 1$ and $\lambda > 1$. For $\lambda \leq 1$ equation (14.13) holds and the proof is complete.

For the case $\lambda > 1$, equation (14.8) implies

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

Since $\lambda > 1$, this results in $\tilde{Z}_k(p^*) \leq 0$ for all $k \in \text{Case 2}$. But there can be no $k' \in \text{Case 2}$ 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 $k \in \text{Case 1 or Case 2}$, a contradiction. Hence in this subcase, we have $\tilde{Z}_k(p^*) = 0$ for all $k \in \text{Case 2}$. This concludes the proof.