THEOREM 1.7.22 : Let $\succeq_i$ be monotonic and proper on $X_i = R^\ell_+$ for every i. Suppose that there are allocations x and x' such that $\sum_i x_i - \sum_i x'_i \in \Gamma$ and $Y = \{e\} - R^\ell_+$, then a weakly Pareto optimal allocation is a proper quasi-equilibrium for some p.

1.7.5 Reviews

THEOREM $W(\mathcal{E}) \subset WP(\mathcal{E})$.

THEOREM $[W(\mathcal{E}) \cap Q(\mathcal{E})] \subset P(\mathcal{E})$.

THEOREM $W(\mathcal{E}) \subset Q(\mathcal{E})$ if one of the following is satisfied :

(1) $\succeq_i$ is strictly convex for every i.

(2) $\succeq_i$ is transitive, semi-strictly convex, and nonsatiated for every i.

(3) $\succeq_i$ is transitive and strictly monotonic for every i.

(4) $\succeq_i$ is transitive and semi-strictly monotonic for every i.

(5) $\succeq_i$ is transitive and locally nonsatiated for every i.

(6) $\succeq_i$ is transitive and has a extremely desirable bundle for every i.

COROLLARY If one of the conditions satisfied, $W(\mathcal{E}) \subset P(\mathcal{E})$.

THEOREM If $\succeq_i$ is reflexive and strictly convex for every i, $W(\mathcal{E}) \subset P(\mathcal{E})$.

THEOREM If $\succeq_i$ is continuous for every i, then an allocation x with $x_i \in intX_i$ is supported by some $p \in R^\ell \setminus \{0\}$.

THEOREM If $\succeq_i$ is reflexive and continuous, and $e_i \in intX_i$ for every i, then $Q(\mathcal{E}) \subset W(\mathcal{E})$.

COROLLARY If $\succeq_i$ is reflexive and continuous, and $e_i \in intX_i$ for every i, then $Q(\mathcal{E}) \subset P(\mathcal{E})$.

THEOREM If $\succeq_i$ is continuous and $e_i \in intX_i$ for some i, then $Q(\mathcal{E}) \subset P(\mathcal{E}) \subset WP(\mathcal{E})$.