of the Separation Theorem weakly closed. Since S^1_X is weakly compact, we can conclude that A is weakly compact as well. Notice that for each $F \in \mathcal{F}$, $x_F \in A$, and $\mathcal{F}$ is net directed by inclusion. Hence, the net $\{x_F : F \in \mathcal{F}\}$ has a subset, still denoted by x_F which converges weakly to $\bar{x} \in A$. Moreover, for each $F \in \mathcal{F}$, p_F lies in $\Delta = \{q \in Y^*_+ : q \cdot u = 1\}$ and the latter set is weak* compact. Hence, from the equilibrium net $\{(p_F, x_F) : F \in \mathcal{F}\}$ we can always extract convergent subnets. It is clear that $\int_T \bar{x}(t)d\mu(t) \leq \int_T e(t)d\mu(t)$, i.e., $\bar{x}$ is a feasible allocation. We must now show that the limiting allocation $\bar{x}(t)$ is maximal in the budget set, for almost all t in T, in order to complete the proof. We know that for each $F \in \mathcal{F}$, $x_F(t) \in D(t, p_F)$ for almost all t in T, and x_F converges weakly to $\bar{x}$. Since the net $\{x_F : F \in \mathcal{F}\}$ lies in the weakly compact set A, by Lemma 5.2 we can extract a sequence x_n, $(n = 1, 2, \ldots)$ from the net $\{x_F : F \in \mathcal{F}\}$ which converges weakly to $\bar{x} \in A$. Corresponding to the sequence x_n, $(n = 1, 2, \ldots)$ we can also extract a sequence p_n, $(n = 1, 2, \ldots)$ from the net $\{p_F : F \in \mathcal{F}\}$. Obviously, p_n belongs to Δ, and p_n has a subsequence still denoted by p_n which converges weak* to $\bar{p}$.

Therefore, we have a sequence $\{(p_n, x_n) : n = 1, 2, \ldots\}$ such that p_n converges weak* to $\bar{p}$ and x_n converges weakly to $\bar{x}$. Since $x_n(t) \in D(t, p_n)$ for almost all $t \in T$ and $D(t, p_n)$ is contained in $X(t)$ we have that $x_n \in \phi(p_n) = \{y \in S^1_X : y(t) \in D(t, p_n)$ for almost all t in $T\}$. By Theorem 5.1 the correspondence $\phi : \Delta \to 2^{S^1_X}$ is weakly u.s.c. and closed valued and thus we can conclude that $\bar{x} \in \phi(\bar{p})$, i.e., $\bar{x}(t) \in D(t, \bar{p})$ for almost all t in T. Hence, $\bar{x}(t)$ is maximal in the budget set for almost all t in T and this completes the proof of the Theorem.

7. Concluding Remarks

Remark 7.1. As in Aumann (1965), we assumed that agents' preferences are complete. Schmeidler (1969) showed that the completeness assumption can be dropped from the Aumann model. However, this is not the case with infinitely many commodities. Specifically, without the completeness assumption on preferences, Mas-Colell (1974) showed that even if preferences are convex, the demand set may not be convex and