Example 6.2. *Let Y be a Banach space. Denote by $\|\cdot\|$ the norm on Y. Let X be equal to the set $\{x \in Y^* : \|x\| \leq 1\}$. Notice that by the Alaoglou theorem [see Aliprantis and Burkinshaw (1985, Theorem 9.20)] X is weak* compact, and it is obviously convex and nonempty. Let $f : X \to X$ be a norm continuous mapping which does not have the fixed point property, i.e., $x \neq f(x)$ for any $x \in X$. Let $S((f(x), \frac{\|x-f(x)\|}{2})$ be an open ball in Y centered at $f(x)$ with radius $\frac{\|x-f(x)\|}{2}$. Define the preference correspondence $P : X \to 2^X$ by $P(x) = S(f(x), \frac{\|x-f(x)\|}{2}) \cap X$. It can be easily checked that P has norm open lower sections, is convex valued and irreflexive, i.e., P is of class $\mathfrak{L}$ and consequently $\mathfrak{L}$-majorized. Notice, that for all $x \in X$, $f(x) \in P(x)$, i.e., P has no maximal element in X.*

7. Remarks

Remark 7.1. A careful examination of Theorem 4.1 shows that its proof remains unaffected if the set of agents I is any countable set, provided that we assume that the aggregate initial endowment is finite.

Remark 7.2. Theorem 4.2 can be extended in a straightforward manner to coalition production economies as in the Border (1984) framework. One needs to impose in addition to balanced technology [see for instance Border (1984)], the standard assumptions on the production side of the economy, which guarantee that the set of all feasible allocations is compact in the compatible topology. The proof of Theorem 4.2 remains essentially unchanged.

Remark 7.3. Ichiichi and Schaffer (1983) have obtained core existence results, for games in characteristic function form, with a measure space of agents, and with a strategy space which is L_∞. Although our framework is entirely different than theirs, it is still of interest to know whether Theorems 4.1 and 4.2 can be extended to a measure space of agents. It seems to us that there are serious technical difficulties.

Remark 7.4. Recently the work of Kim and Richter (1986) in consumer and equilibrium theory showed that the strict preference relations