tainty or an infinite time horizon. The space L_2 of square-integrable functions on a measure space is useful in modeling the trading of long-lived securities over time.

In this paper, we study core–Walras equivalence results for perfectly competitive economies with an infinite dimensional commodity space which is general enough to include all of the spaces that have been found most useful in equilibrium analysis.[1] The results that we obtain in this context are three-fold:

Firstly, we prove core–Walras equivalence results for perfectly competitive economies with an infinite dimensional commodity space whose positive cone has a non-empty (norm) interior. Parts of this problem have been addressed by other researchers [i.e., Gabszewicz (1968), Mertens (1970) and Bewley (1973) for the space L_∞]. However, since our assumptions are less restrictive than those adopted in these previous papers, we obtain as corollaries of our results the finite dimensional theorems of Aumann (1964) and Hildenbrand (1974, Theorem 1, p. 133). The proof of this result is similar in spirit to that of Hildenbrand (who attributes the idea of the proof to Schmeidler), except that owing to the infinite dimensional setting, we appeal to results on the integration of correspondences having values in a Banach space. The work of Khan (1985) is especially helpful in this regard.

Secondly, in infinite dimensional commodity spaces whose positive cone has an empty (norm) interior, we show that even under quite strong assumptions on preferences and endowments, core–Walras equivalence fails. In particular, we show that even when preferences are strictly convex, monotone, and weakly continuous and initial endowments are strictly positive, core–Walras equivalence fails to hold. It is interesting to note that this failure results despite the fact that these assumptions are much stronger than the standard assumptions which guarantee equivalence in either Aumann and Hildenbrand or our first theorem.

Thirdly, we obtain core–Walras equivalence for infinite dimensional commodity spaces (in particular, Banach lattices) whose positive cone may have an empty (norm) interior and are general enough to cover the spaces L_p ($1 \le p < \infty$). In view of the above counterexample to core–Walras equivalence in spaces whose positive cone has an empty interior, we use the assumption of an extremely desirable commodity introduced in Yannelis and Zame

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[1]Recently, substantial progress has been made in establishing existence results for the competitive equilibrium in exchange economies with finitely many agents and with a commodity space which is general enough to encompass all the spaces mentioned above [see for instance Mas-Colell (1986) or Yannelis and Zame (1986) among others]. Moreover, some progress has been made in obtaining equilibrium existence results for perfectly competitive economies, i.e., economies with an atomless measure space of agents à la Aumann (1966) and with an infinite dimensional commodity space [see for instance Khan and Yannelis (1986), Yannelis (1987), and Zame (1987)]. However, the core has received significantly less attention in infinite dimensional settings.