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ORIGINAL ARTICLE

## Equilibrium existence in infinite horizon economies

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**Abstract** In sequential economies with finite or infinite-lived real assets in positive net supply, we introduce constraints on the amount of borrowing in terms of the market value of physical endowments. We show that, when utility functions are either unbounded and separable in states of nature or separable in commodities, these borrowing constraints not only preclude Ponzi schemes but also induce endogenous Radner bounds on short-sales. Therefore, we obtain existence of equilibrium. Moreover, equilibrium also exists when both assets are numéraire and utility functions are quasilinear in the commodity used as numéraire.

**Keywords** Equilibrium • Infinite horizon incomplete markets • Infinite-lived real assets

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