

# Insuring uninsurable income<sup>\*</sup>

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## Abstract

In an exchange economy composed of risk-averse individuals subject to facing fluctuations in income and preferences, it is often argued that if these fluctuations are private information, then insurance is theoretically impossible. To efficiently smooth out these fluctuations across the economy, self-reporting becomes necessary. Existing allocation mechanisms that incentivize self-reporting are efficient but tend to increase inequality and impoverish society as a whole. Solutions to this issue remain elusive. This paper extends an alternative mechanism proposed by Marcet and Marimon (1992, JET), which redistributes risk across periods for the same individual. This approach has the potential to reduce the inequality observed in previous studies, which allocate risk among individuals within each period. Originally designed as an efficient growth mechanism combining state-contingent investment and transfers, Marcet and Marimon's mechanism is used here to facilitate transfers in an exchange economy subject to income shocks.

The first key finding of this paper is that the proposed mechanism can achieve both efficiency and avoidance of immiseration under certain conditions — specifically, when individuals' degree of risk aversion is not excessively high relative to the disparity between their highest and lowest possible incomes. Furthermore, the mechanism preserves equality of opportunity within the same age group by shifting risks to future periods. Even if the sufficient condition is not met, the mechanism ensures a second best allocation under the given constraints and continues to prevent immiseration.

The second key finding concerns to the potential sustainability of this mechanism in a society with a continuum of individuals, where the population, composed of different age group, remains constant over time. This mechanism can maintain a non-negative balance of payments over an infinite period of time while providing higher expected lifetime utility for all generations compared to autarky. Therefore, the realization of a society that achieves both efficiency and equality of opportunity is not ruled out in this study.

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