

Pipiras, Vlas; Taqqu, Murad S.

The limit of a renewal reward process with heavy-tailed rewards is not a linear fractional stable motion. (English) [Zbl 0963.60032](#)

Bernoulli 6, No. 4, 607-614 (2000).

There are considered a renewal reward process with both inter-renewal times and rewards that have heavy tails of exponents α and β , respectively, where $1 < \alpha < 2$, $0 < \beta < 2$. It was proved by *J. B. Levy* and *M. S. Taqqu* [*ibid.* 6, No. 1, 23-44 (2000; [Zbl 0954.60071](#))] that the suitably normalized renewal reward process converges to Lévy stable motion with index β , possesses stationary increments and is self-similar in the case $\beta > \alpha$. The limit process was identified through its finite-dimensional characteristic functions. The authors provide an integral representation for the process and show that it does not belong to the family of linear fractional stable motions.

Reviewer: [Valentin Topchii \(Omsk\)](#)

MSC:

[60G18](#) Self-similar stochastic processes

[60K05](#) Renewal theory

Cited in **10** Documents

Keywords:

stable distributions; self-similar processes; renewal reward processes; stationary increments

Full Text: [DOI](#)