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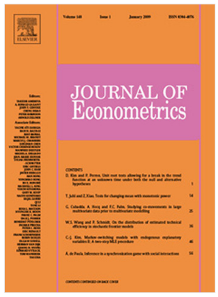

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The ZD-GARCH model: A new way to study heteroscedasticity

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ABSTRACT

This paper proposes a first-order zero-drift GARCH (ZD-GARCH$(1,1)$) model to study conditional heteroscedasticity and heteroscedasticity together. Unlike the classical GARCH model, the ZD-GARCH$(1,1)$ model is always non-stationary regardless of the sign of the Lyapunov exponent γ_0, but interestingly it is *stable* with its sample path oscillating randomly between zero and infinity over time when $\gamma_0 = 0$. Furthermore, this paper studies the generalized quasi-maximum likelihood estimator (GQMLE) of the ZD-GARCH$(1,1)$ model, and establishes its strong consis-