

On the Normality of Negative Interest Rates

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Early models for stochastic interest rates, such as the Vasicek (1977) model, used to be criticized for allowing rates to go negative. While some regarded this as a small price to pay for the analytic tractability afforded by the underlying Gaussian distribution, others attempted to axiomatize the theory of interest rates with positivity as a key property. Recent experiments by central banks with negative rates appear to vindicate the Vasicek and related models after all. For example, as we review in this paper, the pricing and hedging of interest rate derivatives done in practice by most financial market practitioners can cope with negative rates with remarkably little disruption. Monetary policy, on the other hand, seems to have had less success than was aimed by the adopters of negative rates. We argue that this lack of effectiveness is primarily due to limitations in institutional arrangements, rather than fundamental economic principles, and suggest that the adoption of digital currencies by central banks can circumvent these limitations.