

Explosive Behavior in the 1990s Nasdaq: When Did Exuberance Escalate Asset Values?

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Summary

This paper suggests a recursive test procedure that provides a mechanism for testing explosive behavior, date-stamping the origination and collapse of economic exuberance, and providing valid confidence intervals for explosive growth rates. The method involves the recursive implementation of a right-side unit root test and a sup test and some new limit theory for mildly explosive processes. Our test procedure has discriminatory power in detecting periodically collapsing bubbles, thereby overcoming a weakness in earlier applications of unit root tests for economic bubbles. The paper also explores alternative propagating mechanisms for explosive behavior based on economic fundamentals under time varying discount rates. An empirical application to the Nasdaq stock price index in the 1990s provides confirmation of explosiveness and date-stamps the origination of financial exuberance to June 1995, prior to the famous remark in December 1996 by the former Fed Chairman Alan Greenspan about irrational exuberance in financial markets, thereby giving the remark empirical content.