In this paper we study noise traders that communicate and trade with each other in a market. We begin by computing a statistic which identifies a boom, and use it on the NASDAQ-100 dot-com “bubble.” We next generalize the classical geometric Brownian motion stock model accordingly. We represent individual traders that observe each others’ past $n$ daily returns using a nonlinear vector autoregressive NLVAR($n$) process. We model traders endogenously creating a market price. We measure autocorrelation and herding as functions of traders’ communication level ($\alpha$) and number of past daily returns ($n$) that the traders rely on. We find that autocorrelation and herding increase with communication level $\alpha$, and they decrease with $n$. Under this model, we can specify $\alpha$ and $n$ leading to traders forming spontaneous herds without specific leaders and thus to price booms. Finally we see that our model replicates the statistical property we examined of the NASDAQ-100 boom. (Received January 25, 2010)