[Neural Network Learning for Nonlinear Economies](#)

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Neural networks offer a promising tool for the analysis of nonlinear economies. In this paper, we derive conditions for the global stability of nonlinear rational expectations equilibria under neural network learning. We demonstrate the applicability of the conditions in analytical and numerical examples where the nonlinearity is caused by monetary policy targeting a range, rather than a specific value, of inflation. If shock persistence is high or there is inertia in the structure of the economy, then the only rational expectations equilibria that are learnable may involve inflation spending long periods outside its target range. Neural network learning is also useful for solving and selecting between multiple equilibria and steady states in other settings, such as when there is a zero lower bound on the nominal interest rate.