In this paper, I study the impact of sparse and dense estimation strategies on network properties defined by the error variance decomposition in the high-dimensional vector autoregression (VAR) model. I consider DGPs characterized by sparse and dense structures and assess how accurately sparse and dense estimation procedures applied to both autoregressive and contemporaneous matrices allow to back out the true network properties. I show that proper use of sparse and dense techniques for estimating VAR and further network estimation requires some a-priori knowledge about the DGP. In particular, I find that an emergence of a sparsity pattern in DGP gives a path to carry out more refined systemic risk assessment via the network connectedness properties as though the sparsity pattern did not emerge in the model.