**Abstract**  We study portfolio choice between risky and riskless assets by decision makers located in a network of financial obligations. These obligations may reflect norms of risk sharing in village economies, cross-ownership across corporations or international financial flows. The goal of this paper is to develop a framework to understand the network determinants of risk, returns and welfare: How does network architecture shape individual portfolio choice and volatility? Do individuals invest too much or too little in risky assets and how does this affect systemic risk and welfare? What is the network design that maximizes aggregate welfare? An important result of the paper is to characterize the consequences for aggregate outcomes of deeper integration and higher diversification of cross-ownership networks. We show that whether deeper integration and/or higher diversification increase aggregate welfare depend very much on the network topology. When cross-ownership networks are relatively symmetric deeper integration and/or higher diversification improve aggregate welfare, but the reverse holds if cross-ownerships are concentrated on few agents.