The notion of biexactness for groups was introduced by Ozawa in 2004 and has since become a major tool used for studying solidity of von Neumann algebras. We introduce the notion of biexactness for von Neumann algebras, which allows us to place many previous solidity results in a more systematic context, and naturally leads to extensions of these results. We will also discuss examples of solid factors that are not biexact. This is a joint work with Jesse Peterson.