$$\rho_{-}(\mathbf{x}_1, ..., \mathbf{x}_n) = p(\mathbf{x}_1 | \mathbf{x}_2) p(\mathbf{x}_2 | \mathbf{x}_3) ... p(\mathbf{x}_{n-1} | \mathbf{x}_n) \rho(\mathbf{x}_n),$$