Abstract. The *Yamabe invariant* $\mathcal{Y}(M)$ of a smooth compact manifold is roughly the supremum of the scalar curvatures of unit-volume constant-scalar-curvature Riemannian metrics g on M. (To be precise, one only considers those constant-scalar-curvature metrics which are *Yamabe minimizers*, but this technicality does not, e.g., affect the *sign* of the answer.) In this article, it is shown that many 4-manifolds M with $\mathcal{Y}(M) < 0$ have have finite covering spaces $\widetilde{M}$ with $\mathcal{Y}(\widetilde{M}) > 0$.