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Title: Transboundary Spillovers and Decentralization of Environmental Policies

Authors: Hilary Sigman

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**Abstract:**

This paper estimates the costs of pollution that crosses state borders in rivers around the U.S. by examining water quality. This is a drawback of decentralized environmental policy that gives states control ("authorizes" them) so upstream states can "free ride" on downstream states under the Clean Water Act. The water quality is measured using an index based on levels of five common pollutants to catch various types of free riding.

The results show that states do free ride when given authorization. The water quality index is 4% lower at stations downstream from an authorized state than at other stations. When a river forms a border between states, the authorization of at least one of the states lowers the water quality index by 6%. Using estimates of willingness to pay obtained from other studies, the environmental cost of free riding at downstream stations was \$17 million in 1983.