

Abstract

The Displacement Effect of Regulating Land Development: Evidence from Municipal Stormwater Permits

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When environmental regulations are incomplete, agents can reallocate their activity to lower their compliance costs. Such leakages may undermine a policy goal of balancing economic activity and environmental quality. To gauge these tradeoffs, I study how land developers respond to Municipal Separate Storm Sewer System (MS4) Permits. MS4 permits are issued to some local governments, that must then regulate development in the urbanized parts of their jurisdiction. The increased costs for developers may induce them to relocate to unregulated areas. Using 30m-resolution land use data and exploiting variation in policy exposure over time, I separately identify the direct effect of regulation and the spillover effect to nearby areas. I estimate relative decreases in impervious surfaces in regulated areas, consistent with the goals of the program to reduce pollution from stormwater runoff. However, I estimate increases in impervious surfaces immediately outside of regulated areas, suggesting leakage. Back-of-the-envelope calculations suggest leakage of impervious surfaces of 55%, occurring in less-developed areas where environmental damages may be high.