

Means-Tested Subsidies and Market Power: Evidence from a French Heat Pump Program

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Abstract

We study the distributional effects of an environmental subsidy under imperfect competition using a theoretical framework, a regression discontinuity design, and a discrete choice model. Our empirical application focuses on France’s largest heat pump subsidy program, Ma Prime Rénov’, which allocates about €3 billion annually and sets declining subsidy levels across income groups. Exploiting discontinuities at income thresholds, we show that heat pump prices differ across groups by 1.3 times the subsidy gap. Our theoretical model highlights two opposing mechanisms for this result. First, means-testing enables price discrimination across income groups, enhancing progressivity among low-income households with more elastic demand. Second, incomplete pass-through within sub-markets can dampen the pass-through of subsidy differentials. Estimating a structural model of heat pump supply and demand, and simulating counterfactual policies, we find limited price discrimination but high pass-through, leading overall to greater progressivity when discrimination is allowed, at near-zero efficiency cost.

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