Optimal Pricing and Informal Sharing: Evidence from Piped Water in Manila

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Abstract

Households often share connections to public utilities with their neighbors in order to split set-up and maintenance costs. With microdata from 1.5 million water connections in Manila, this paper estimates water demand when connections are shared and solves the regulator's problem: setting prices that maximize consumer surplus while covering production costs. In practice, cities often set low fixed prices so that more households connect and high marginal prices to cover production costs. Instead, the optimal policy covers production costs with high fixed prices, which are split between sharing households, and sets low marginal prices to encourage consumption. Counterfactual exercises find increases in shared connections, total piped water consumption, and social welfare from the optimal policy compared to current prices in Manila.

JEL-Classification: H23, L95, L98, O13, O17, O18

Keywords: Water demand, non-linear pricing, informal sector, developing countries.

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1 Introduction

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