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Environmental externalities and free-riding in the  
household\*

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**Abstract**

Besides generating negative environmental externalities, a household's water consumption entails another "market failure": household members free-ride off each other and overconsume. This problem stems from the difficulty of attributing usage to specific individuals. We document the importance of this phenomenon in urban Zambia by combining utility billing records and randomized person-specific price variation. We derive and empirically confirm the following prediction: Individuals with weaker incentives to conserve under the household's financial arrangements reduce water use more when their person-specific price rises. Our results offer a novel explanation for the low price sensitivity of residential water (and electricity) consumption.

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## Environmental Externalities and Free-Riding in the Household

Besides generating negative environmental externalities, a household's water consumption entails another "market failure": household members free-ride off each other and overconsume. This problem stems from the difficulty of attributing usage to specific individuals. We document the importance of this phenomenon in urban Zambia by combining utility billing records and randomized person-specific price variation. We derive and empirically confirm the following prediction: Individuals with weaker incentives to conserve under the household's financial arrangements reduce water use more when their person-

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