

# Envy-free pricing for impure public good\*

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## Abstract

In this paper, we study optimal public good provision with congestion and user fee in order to exclude some agents under lump-sum transfer, constrained by reduction of envy. We adopt  $\lambda$  envy-free constraint proposed by Diamantaras and Thomson (1990), and employ the exclusion technique used in Hellwig (2005), *i.e.*, the policymaker decides the level of provision and user fee paid by those making access to it, as well as uniform transfer. We characterize the optimal public sector pricing rule that depends on utilitarian distributive concerns and envy reduction concerns, which are in conflict with each other. We show that if the social welfare function is strictly increasing and strictly concave and the government are not concerned with reducing envy, the level of user fee is greater than the marginal congestion cost. In addition, we show that if the government reflects the notion of equality of opportunity under the reduction of envy, the level of user fee is lower than the marginal congestion cost.

**JEL Classification:** D61, D63, H21, H41

**Keywords:** Public sector pricing,  $\lambda$  envy-free, Excludability, Congestion

## References

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