

# Mixed Duopoly with Vertically Differentiated Services under the Finiteness Property

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## Abstract

This paper rigorously analyzes equilibria of mixed duopoly with vertically differentiated services under the finiteness property that marginal cost of quality "gradually" increases. It is shown that there are three types of equilibrium quality: (1) the highest quality for a public firm and a lower quality for a private firm, (2) the highest quality for both firms, and (3) the highest quality for a private firm and a lower quality for a public firm. In the first (third) type, the public (private) firm serves the whole market, whereas only either firm serves the entire market in the second type. In all these equilibria, all consumers are provided for the highest quality service and total surplus is maximized. These results suggest another justification for the public firm in some industries such as education apart from natural monopoly or positive externality.

Key Words: Mixed Duopoly, Vertical Differentiation, the Finiteness Property

JEL Classification Codes: H42, L12, L13

## References

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