Ramsey pricing revisited*

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Abstract

We study optimal price regulation of a monopoly firm in the Ramsey-Boiteux tradition but without the restriction to market-clearing prices. The firm faces a continuum of consumers with single-unit demand and private information about their values. It knows the empirical distribution of consumers' values and is restricted to using incentive compatible and individually rational mechanisms. We call regulation *perfect* if through that regulation the regulator achieves the same value of its objective than it would if it operated the firm directly, facing the same constraints as the firm does but pursuing a different objective. With and without regulation, the firm uses the optimal selling mechanism. Under laissez-faire, price discrimination is optimal if revenue under market-clearing pricing is not concave at the quantity sold. Non-concave revenue arises naturally as markets become integrated, e.g., through the internet.

When the firm sells a fixed quantity, we show that price ceilings and price floors are sufficient for perfect regulation. By restricting price discrimination, the regulator redistributes surplus from the firm to consumers and increases social surplus. With costly production, price floors, price ceilings and average price ceilings are sufficient for perfect regulation. If the regulator wants the firm to do some price discrimination at the regulator's optimal quantity, the average price ceiling prevents it from producing too little. If the firm only faces a price ceiling, it may best respond by engaging in price discrimination in situations where the regulator wants it to set a uniform price. If this is the case, the regulator optimally uses both a price ceiling and a price floor, the latter to prevent the firm from price discrimination and additional production that, at the margin, is socially wasteful because it entails random allocation. With or without productions, no subset of the instruments mentioned is always sufficient for perfect regulation.

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