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A Pricing Proposal: Regulation, nonlinear pricing and self-selecting tariffs

Blog Editor

In this post, James Alleman focuses on the negative welfare effects of the typical pricing structures found in the ICT sector. To enhance welfare, the author suggests, regulators should require ICT firms to bill their consumers the "best" price structure for their usage ex post, instead of making consumers to select a package ex ante. It is suggested that this pricing policy would allow society to reap the savings and welfare benefits of nonlinear pricing.

A series of articles on nonlinear/multi-part prices found that they could improve consumers' surplus or welfare. In particular, nonlinear prices can benefit each and every individual consumer as well as consumers in the aggregate (Willig 1978). Akerlof (1970) developed the classical model when this perfect information assumption does not hold, and also shown by Stiglitz (1989).

One critical assumption of neoclassical economics is that consumers have perfect information regarding prices and usage of products. Observation of consumers' behavior with self-selecting tariffs belies that assumption.

In the Information and Communications Technology (ICT) sector, we have a variety of self-selecting packages of plans from which to choose. One must select among the various plans of cellular phone packages, broadband services, and mobile wireless devices – "hot spots." What broadband plans for DSL service, how many minutes for cellular service, what level of use for wireless data, etc. However, with the push for "competition" and deregulation, the ICT oligopolies have not been subject to price controls – pricing regulation has been neglected (Alleman and Rappoport 2005).

This posts suggests that regulators should insert their influence over pricing policy. Specifically, regulators should require ICT firms to give the consumer the "best" pricing plan *ex post* rather than letting them guess what is the best plan for them.

The Three Legs of Efficient Pricing

- ***Nonlinear/ Multipart pricing***

Nonlinear, multi-part tariff, is one in which different prices are charged for different elements. An example of a multi-part price from a Verizon Wireless "Hot Spot" tariff (2012). The consumer pays $50 per month and is given an allowance of four gigabytes of usage at zero dollars ($0.00) per gigabyte. If the usage exceeds this amount, the customer is charge $15 per one gigabyte beyond the allowance and another $15 for the next gigabyte, and so on.

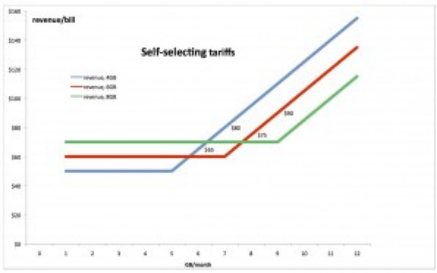
Little research has addressed the behavior aspects of the (self-) selection process. Indeed, since the late seventies, nonlinear pricing has been addressed in the theory of the firm (Wilson 1999), but the behavior aspects, i.e. the consumers' selection of these tariff options, have not.

Research in the area was addressed in the ICT industry when it was noted that consumers, generally, picked a tariff which was more expensive than they needed. But this behavior has not been incorporated into the theory of the firm nor the practice of regulators.

- ***Asymmetrical information***

One of the pillars of the foundation of neoclassical economics theory has been the assumption of perfect information on the part of both producers and consumers. This assumption, *inter alia*, drives the welfare results of competition and, in turn, the rationale for liberalization and deregulation in the ICT sector in the eighties. But it does not obtain here.

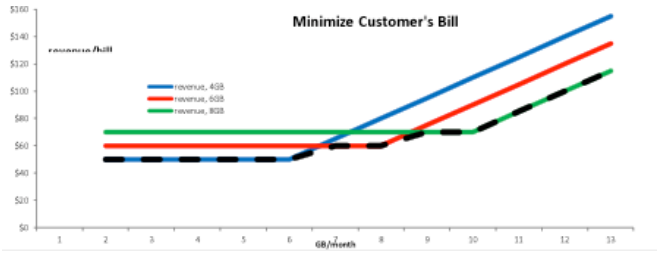
Regulatory Implications



One of the rationales for nonlinear prices is that they are welfare improving. But this is only true if the consumers have perfect information. They do not. Self-selecting tariffs are inefficient without perfect information. The evidence indicates that the firm is extracting the consumers' surplus by taking advantage of the subscribers purchasing more than they need under self-selecting pricing packages.

The implication for the policymaker is to require the service provider to bill the consumer at the "best" – that is least cost to the subscriber – rate schedule. It would replace self-selecting tariffs with mandatory bill minimization. This mandate could be implemented with the existing tariff structure, although the ICT firms would, no likely, protest this prescription.

Continuing with Verizon's Hot Spot tariff as an example, the consumers would pay a rate depending on usage following the dashed lines, rather than paying the high rates because they over or underestimated their usage as shown in the figure below.



Moreover, the subscribers do not have the concern of whether they picked the "correct" package. They also do not unnecessarily have to throttle their usage i.e. not getting the full value for their money nor be worried about over usage being severely penalized. Economists have not yet valued peace of mind!

Nevertheless, this policy would unequivocally increase consumers' welfare and save them money.

Note: This is a summary of Alleman and Rappoport (forthcoming), "Nonlinear pricing, self-selecting tariffs and regulation". *A briefing of this research was prepared for the 3rd* Network Economy Forum, held on 11 January 2013, at the London School of Economics.

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About the author

James Alleman is Professor Emeritus at the University of Colorado. He is currently Senior Fellow and Director of Research at Columbia Institute of Tele-Information (CITI), Columbia Business School, Columbia University. He has been a visiting scholar at IDATE (Montpellier, France); visiting professor at Columbia University and University of Toronto; and an economist for the International Telecommunication Union. His research interests are communications in the infrastructure and communications policy with emphasis on pricing, costing, regulation, financial, valuations and related areas in the communications sector. He is an expert on real options methodology and provides litigation support in these areas.

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