



# Why the Multi-Sided Platform Literature Kills the $P \geq MC$ Result and What It Means for Antitrust

Davis S. Evans  
*GlobalEcon/UChicago*

This is the second in a series of columns in which I am going to develop the argument that the economics profession now knows that many standard results do not in fact apply—at least not without modification—to businesses that are multisided platforms. These columns are based in part on a presentation and a related [paper](#) that I gave at the ABA Spring Antitrust Meetings on April 10, 2013 and my recent [survey](#) of multisided platforms with Dick Schmalensee.

Last month I [showed](#) that there is now a well-developed, non-controversial, peer-reviewed economics literature on multisided platforms. This month I am going to show that this literature finds that a key foundational principle of modern antitrust economics—that price is greater than or equal to marginal cost—does not apply to multisided platforms.

Everyone who has learned some economics knows that one of the key findings is that, at least in the long run, firms charge prices that are greater than or equal to marginal cost. A firm could charge a price that is lower than marginal cost for the short term in order to persuade people to try their product or of course to engage in predatory pricing. But it can't do that for long because it loses money on every unit it sells and will go out of business.

The main exception to this result concerns “loss-leaders” that entice consumers to come into a store, for example, where they then buy other products that have margins that more than make up for the losses. This isn't really much of an exception since stores are selling bundles of services and engage in this practice because the overall price of the bundle of things consumers buy is usually greater than the marginal cost of the bundle. A related exception concerns the sale of complementary products where one product might be sold for less than marginal cost and the other for more. There aren't many real world examples of this case and Randy Picker has even argued that the famous [razors and blades](#) example, which gave the strategy its name, wasn't either.

Traditional economics also shows that competition will tend to drive prices down to marginal cost. We all learn that, in perfectly competitive industries, price equals marginal cost. Of course in the long run firms have to cover fixed costs so that price must equal average total cost which is greater than marginal cost when firms have fixed costs.

These findings concerning price and marginal cost have been enormously influential in the development of modern antitrust thought. The finding that competition results in marginal cost pricing while monopoly results in prices greater than marginal cost is often cited as the *raison d'être* for antitrust—a monopoly raises prices, reduces output, and results in lower consumer surplus or deadweight loss for those who care only about social welfare. Of course, market power is often assessed by examining whether the price a firm charges for its product is significantly greater than its marginal cost of producing that product. Although some of us question how reliable this approach is in practice, it is nevertheless widely used. Prices less than marginal cost, and especially those below average total cost, are suspect under predatory pricing theories in many jurisdictions around the world.

The economic literature now shows that none of these findings hold necessarily for multi-sided platforms. In particular, economic theory shows that the profit-maximizing price to the customers on side 1 of a multi-sided platform can be less than marginal cost including zero or even less than zero. The price to customers on side 2 of a multi-sided platform must be greater than marginal cost to provide enough profit to cover the loss on side 1. In this case the platform may not be making significant profit overall since the positive margin on one side offsets the negative margin on the other side. As a result, as a matter of theory, a price greater than marginal cost does not necessarily show that the platform has market power and price less than marginal cost does not necessarily suggest that the platform may be engaging in predatory pricing. The reverse statements are true as well. A price less than marginal cost on one side of a platform does not necessarily mean that the platform does not have market power and a price greater than marginal cost on the other side does not necessarily mean that the platform is not engaging in predatory pricing. Of course, with proper analysis, that analyzes both sides together, we can still assess these issues—just not with the standard tools used in elementary economic analysis.

The finding that the profit-maximizing price for customers of a multi-sided platform may be less than zero could just be a freak that one only sees in theory and seldom in fact: a blackboard result that is for student teasers, graduate school exams, and a way to show how clever we economists are. The problem for traditional theory, however, is that the “ $p < MC$  finding in long run equilibrium” for multisided platforms isn't a black swan. It isn't the rule necessarily, but nor is it the exception. Pricing less than marginal cost, providing products for free, and even rewarding people for consuming products is common for multi-sided platforms in long run equilibrium *in fact*. Shoppers get into malls for free, websites don't pay

to be listed by search engines, people don't pay to belong to social networking sites, many newspaper are sold at marginal cost or less, software platform providers often don't charge developers, liquidity providers often get subsidies, consumers pay little for many payment methods, and the list goes on. Indeed, a large fraction of the economy, including much of the rapidly growing Internet economy, consists of platforms that are charging prices that are less than marginal cost to at least one side of their platforms.

Next column, hopefully having gotten your attention, I'll explain what makes multi-sided platforms tick in more detail. I will also explain why the profit-maximizing problem differs from traditional firms, and what that means for conducting economic analysis of multi-sided platforms.