Chapter 27
How to Tax a Monopoly Platform in a Product Differentiation Set-Up?
A Primer Based on Salop's Circular City Model

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ABSTRACT

The chapter models a monopoly platform with buyers on one side and sellers on the other. The platform charges some combination of a fixed membership fee and a variable usage fee from both the sides and the buyers are heterogeneous in terms of the per unit benefit they derive on the transaction of the product. In this digital era of IT-based business ecosystems, the big names in the digital business market have been accused of serious tax avoidance in countries where they operate. In this backdrop, the author introduces a baseline monopoly platform model for policy making purposes, incorporating both ad valorem and specific taxes on the buyers' side of the platform alone. But the results can be similarly interpreted for the seller side as well, without any loss of generality. The chapter gives us insights as to whether there is any cross-side externality working in the presence of product differentiation in standard monopoly platform models.

INTRODUCTION

The Internet is a nearly perfect market because information is instantaneous, and buyers can compare the offerings of sellers worldwide. The result is fierce price competition, dwindling product differentiation, and vanishing brand loyalty. — (Robert Kuttner in Business Week, May 1998)

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In view of the preceding quote, the author raises a simple question that is the internet really a nearly perfect market with "dwindling product differentiation"? This is hard to answer, because such estimation requires data which is not readily available. But, at least, one can theoretically model it in the context of a platform. In this context, platforms or networks operate in a framework where market structures are grossly different. Say, for example, one can think of Google and Facebook as near monopolists who provide their services for free; however, smartphones and video game consoles are generally priced well above zero (Jeitschko & Tremblay, 2013). But, when it comes to experience goods like clothes and shoes, these can be differentiated by feature and quality while for meat, fish, fruits, vegetables and other perishable goods product differentiation does not really exist as these are typically homogeneous. Given their relevance and the variety of pricing strategies used, it is important for these markets to be thoroughly understood. This motivates the issue of the extent of price variation that happens through product differentiation across the platform medium.

E-commerce sector has been the most sought after two sided platform at present. Names like — Flipkart, eBay, Snapdeal, Amazon, etc. now a days are familiar with every household. The giant leaps that these online platforms are taking, have made them the backbone of the service sector in most developing economies. The latest advances in information technology and its related applications in the strategic design of online business models have broader impacts on policy making than before. Here comes an important issue which warrants immediate attention — how to tax these platforms. Within the service sector, these platforms stand out as glaring example of segments which are inadequately taxed: globally very little tax revenue is collected from the online marketplace. More so, this has come to the limelight after the financial crisis of 2008 and the global recession in 2010 as the governments across the globe are facing a severe constraint in financing their expenditure. Countries' across the globe have had different experiences when it comes to taxation of platforms. Say, in countries, like France, Italy, UK, some kind of a "Google Tax" on online transactions was proposed but eventually was rolled back. Developing countries like China and India have similar experiences. China had an import tax (of an ad valorem nature) on cross-border e-commerce retail imports which has now been scrapped. In India, after the introduction of Goods and Services Tax (GST) and effective since June 2016, for the sellers to advertise in these online platforms, there is an "Equalization Levy" charged at the rate of 6 per cent if the cost of advertisement exceeds rupees one lakhs.

The firms which are on the sellers' side sell horizontally differentiated products and compete for buyers who are on the buyers' side, mapped in the form of a circle on the platform as in Salop (1979). In this paper, the platform charges a combination of fixed membership fees and per unit usage fee contrary to many recent works like Belleflamme and Peitz (2019). This structure can be generalized where the platform suppose does not charge either the fixed fee or the variable fee. To develop the model on the spirit of theory of optimum commodity taxation, the author introduces both ad valorem and specific tax on the buyer's side of the platform alone. However, the results are identically similar had the tax been imposed on the seller side like the case of India. The results in the presence of product differentiation, however, follows the standard results for monopoly with the imposition of tax, in contrast to the counterintuitive propositions by Belleflamme and Toulemonde (2016), Tremblay (2016) among others, based on the existence of network effects.

To motivate the example of monopoly platforms with differentiated products, one can think of a yellow pages directory of an incumbent telephone company. As Smet and Cayseele (2010) puts it,