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Demand estimation and market definition in quality-differentiated products: The case of beer in Argentina

This paper analyzes the issue of demand estimation and market definition in industries where products differ according to their quality levels. An econometric methodology based on substitution elasticities is explained, and then applied to the Argentine beer industry, using data from the period 2011–2017. The results are compared to equivalent ones obtained using an alternative methodology, concluding that in Argentina we can identify two relevant markets inside the beer industry (corresponding to high/medium quality beers, and low quality beers).

Keywords: demand estimation; market definition; elasticity of substitution; beer; Argentina.
JEL classification: C33; L40; L66.

1. Introduction

Market definition implies the use of different procedures to infer if two or more products belonging to a certain industry are actually part of the same market. Those procedures can be of different nature, but in all cases they imply some kind of test about the degree of substitutability between the products under analysis. One of the main avenues to implement market definition has to do with econometric demand estimation. This is the approach that we use in this paper, and we will apply it to a case in which the analyzed products are vertically differentiated.

Vertical differentiation has the property that products can be ordered according to their qualities, and we can safely make the assumption that substitution is direct between products that are relatively similar in their qualities but that it is indirect between products whose qualities differ considerably. This allows assuming that the elasticity of substitution between two products will be positive if both products are "adjacent" in their position in the quality space, while it will be equal to zero if they are not adjacent.

Using that idea in the context of demand estimation, we will present a variation of the so-called "substitution elasticity demand system" (SEDS), applied to an industry in which products differ according to quality. That method will generate a set of coefficients that can be interpreted in terms of own-price demand elasticities and in terms of elasticities of substitution, and those coefficients will have values that relate to its possible inclusion in a certain "relevant market". The way to know if two products belong to the same market is to compare their respective own-price demand

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