



**HOW  
MUCH  
DOES IT COST  
TO BUY PRODUCTS  
IN ONE OR SEVERAL  
SUPERMARKETS?**



Jorge Flórez, professor at the Faculty of Economics of the Universidad del Rosario, has proposed a model which allows one to quantify how much the decision to acquire products in one or another supermarket chain costs consumers. This proposal may also serve to determine the effects of eliminating a product in some store and if it facilitates the resale of articles below cost.

By: Alejandro Ramírez Peña  
 Photos: 123 RF, Alberto Sierra

**H**ave you ever thought about what it means for you to decide to go to one or another store to make the monthly purchases for your home? Or if, instead of doing that, you ask for home delivery or prefer to acquire products in several supermarkets when you have the time?

The economists Jorge Flórez Acosta and Daniel Herrera not only did that but they also spent several years studying such conducts of the clients, which is a great challenge since there was no previous academic article which made this kind of quantification.

“What we are doing is to develop a model of demand which describes the conduct of consumers when they buy one or more products in supermarket chains which compete against each other with similar product lines and brand names. In our model, the consumer must pay a cost in each place they visit, in addition to that of transport and the articles they buy. These costs capture non-monetary factors which reflect the willingness of a consumer to devote time and effort to what he or she buys,” says Jorge Flórez, professor at the Faculty of Economics of the Universidad del Rosario.

He adds that they also implemented a model of supply to describe the process of setting prices and the way in which supermarkets compete for the demand, but they focused more on the latter, because the aim is to quantify the additional costs which purchasers pay.

With that mind, the objective of these researchers is to have a model that will explain how consumers choose when they have to buy a shopping basket of goods, and also characterize their conduct when they acquire those products and face many choices, that is, different stores, different prices and different qualities of the same products, until they finally decide what to buy.

“For example, if a person today needs to buy some groceries and knows that near his or her house (at a given distance) there are three options of supermarket chains (*Éxito*, *Olímpica* and *Jumbo*) where he or she can go and that he or she will certainly find the same products which are needed, with the exception of some own brands which each may have, you can ask yourself how that consumer chose the one where he or she bought the goods,” explains the professor.

This is something which economists study in terms of the prices which that client paid (which is found in a data base) and the kinds of goods the person acquired, and they assume that the decision was associated with a rule, which is known in economics as the utility maximization rule.

This analysis enabled these economists to create that model, which took into account all of the abovementioned factors in order to describe the conduct of consumers when they face the choice of buying a given number of products at a given number of places where they are sold, but it also had to assume a number of transaction costs which may cause the buying patterns of one consumer, when compared to those of another, to be heterogeneous.

“If I compare myself with my brother, for example, we are very alike, we come from the same family with the same customs, but when I see that I buy things more frequently than he does, the explanation we give, with the use of this model, is that my brother is a less frequent consumer, because he has some higher transactions costs than those I may have when I go to a supermarket to purchase the goods. Then we manage to find a monetary result for those cases,” he adds.

According to the authors of the study, this has to do with a set of personal characteristics, like people's level of education, whether or not they have children or live far from a supermarket, since traveling to those establishments will cost the person more in time and effort (mobility or a real liking for those kinds of activities), which is reflected in those costs.



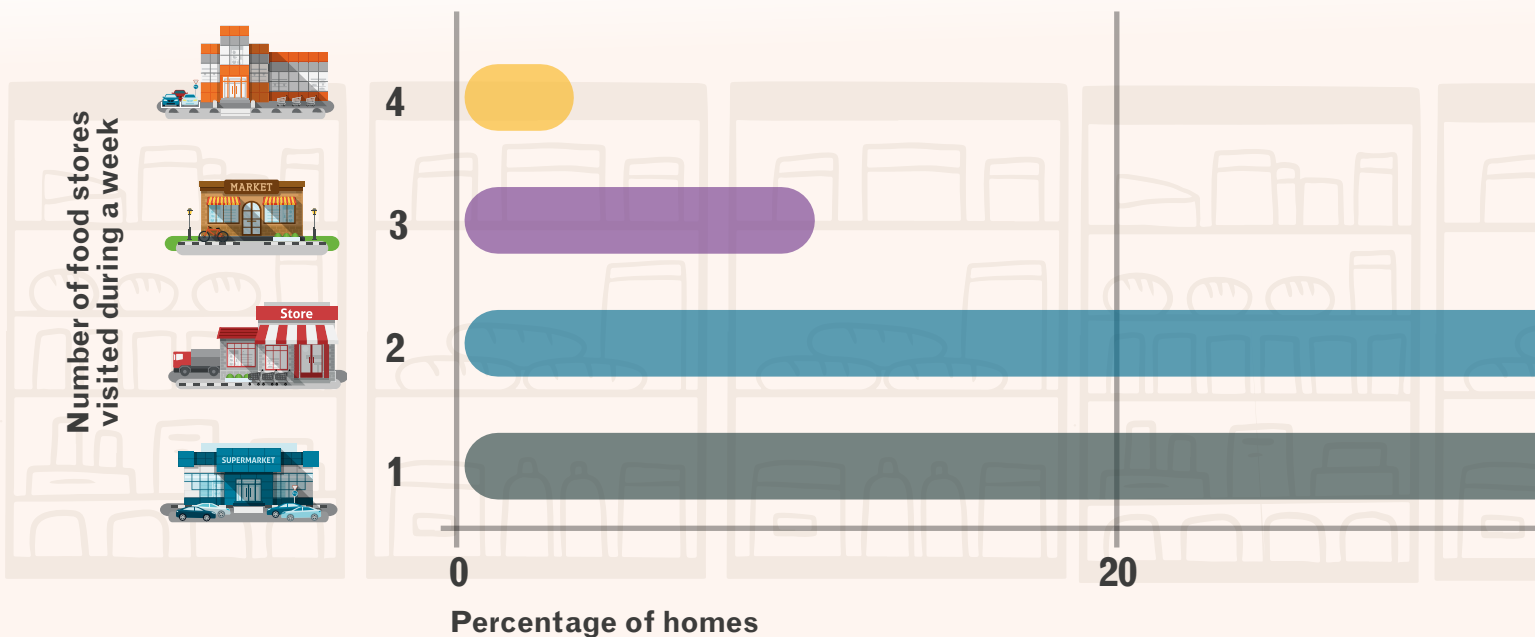
When they see that the product they want is not available, many consumers prefer to buy everything they intended to purchase at their favorite supermarket somewhere else, due to the difficulty of visiting two different stores, notes Jorge Flórez, professor at the Faculty of Economics.



### Other applications

Another interesting aspect of this methodological approach is that it allows for many applications. Among them (this is a project the professors are currently working on), is one which seeks to answer a question of political economy: What are the effects of removing a product from the menu of goods which a supermarket offers for sale? This situation may arise, among other reasons, because of disputes in the negotiations between the suppliers and the large chains.

If that happens a client must face two options: Replace the product with another of a different brand or look for it in another store. “In a model which does not have this concept of purchase costs, the replacements of the supermarkets are automatic because there is no idea that it costs the consumer



time and effort to go from one place to another. Thus, if the client already left his or her home, but does not find the article he or she meant to buy, he or she already paid a transaction cost. Then, the client must decide to replace it with another in the same store (which might entail a sacrifice of quality or going against the client's liking for that article), or, if the client remains loyal to that brand, he or she must assume the double cost of going somewhere else to get the product which he or she wants," Flórez explains.

In those kinds of situations, the purchase costs play a very important role in the consumer's decisions and that is the novel feature of the study of these economists, since otherwise the predictions about the conduct of the clients facing these kinds of decisions will overestimate, for example, the consumers' sensitivity to bargains and discounts, since if the prediction does not take the transaction costs into account, it will assume that the clients will certainly go to as many stores as possible to buy the article the clients want at the lowest possible price.

Undertaking this analysis enabled the authors to conclude that when a supermarket makes that decision, it "shoots itself in the foot", because when they see that the product they want is not available, many consumers (above all, those who have very high purchase costs, who are the majority nowadays) prefer to buy everything they intended to purchase at their favorite supermarket somewhere else, due to the difficulty of visiting two different stores.

In addition, one of the responses this may set off is that the producers also look for new marketing strategies with their other partners, so that the consumers go to those stores, with the aim of not losing them.

However, Flórez explains that the effects of this situation have not been quantified, so it is still not known if some authority should intervene to prevent those things from happening or find a way to deal with such problems.

And there is another scenario: That to do with the below cost resale of products, which is a strategy which supermarkets

have always employed, but the consumers are not aware of it, because they don't know how much it costs a store to have a product on its shelves.

"The supermarkets identify some articles which are very important for the consumers and make sure that those articles have a variety of qualities, including some goods which are sold at low prices they do not expect to make a profit on, but the 'hook' which they create is to attract consumers who are not very willing to pay for those basic goods, but knowing that they are already in the store, they are surely going to buy other things which they may not need and so people fall for the strategies of those stores," he explains.

From the point of view of policies, the problem here is that these kinds of strategies may amount to anti-competitive practices, because not everyone is able to sell goods at a loss, which has a strong impact on the small producers, sellers and neighborhood stores, to the point where they may go bankrupt.

To prevent that, countries like the United States and those of the European Union prohibit strategies with that approach. The offenders pay large fines and the managers of the supermarkets who employ such practices may even go to jail.

Nevertheless, according to Jorge Flórez, it is rumored that such practices still go on and that was the reason why he has sought to measure whether controlling the transaction costs of the consumer may make it easier to implement those kinds of strategies. In those cases, it would therefore be the task of economics to inform the State whether it should intervene and to what point, because the purpose of such intervention is to ensure that private markets work well.

## Antecedents of the study

The idea of writing this article arose when Flórez Acosta was doing his doctorate at the School of Economics of Toulouse (France). After a lecture by one of his professors who was working on those subjects, it occurred to him to focus on this concept of the purchasing conduct of consumers, which struck his attention. There thus arose his wish to quantify the costs and deduce a monetary amount from what was observed, but he knew it wouldn't be possible to make a survey of people at a supermarket because they simply wouldn't know how to answer his questions.

So, he started to work on the project in 2011, along with one of his fellow doctoral students, Daniel Herrera, and they have become the first professional Colombian economists to make these models. ■

