# Introduction

Enrique López E.

This section of the book contains four papers focusing on the study of price formation in the microeconomic environment. A better understanding of how prices are set has important implications for structural economic policy and monetary policy. In the structural area, if price rigidities originate from imperfect competition, an appropriate policy could include a structural reform component to improve competition in goods and services markets at the producer and consumer levels. This would reduce price rigidity and facilitate the adjustment of prices to economic conditions.

As for monetary policy, a better understanding of monetary policy should lead to greater insight into the optimum inflation target. In this regard several possibilities can be mentioned: *i)* if downward rigidities prevail over upward rigidities it will justify a higher inflation target in order to facilitate an adjustment in relative prices; *ii)* knowledge of a possible sectorial heterogeneity in price persistence may mean it is necessary to redefine the price index employed by the monetary authority; and *iii)* the enhancement of central bank analysis and forecasting models as a consequence of the improved specifications that would be obtained for the price and wage equations they include.

The papers use two analysis instruments that can complement each other: direct surveys of producers and frequency and duration estimates employing so-called microdata taken from consumer price indexes (CPI) or retail points of sale.

In the first type of work, Misas, López and Parra employ information from a survey in which they asked Colombian business owners directly about how they set the prices of their main products. The answers and their tabulation allow calculation of the frequency of price changes and the implicit measures of their duration. Information can also be extracted from the survey regarding the frequency of price changes and their duration. Nevertheless, the main advantage of this type of survey is that it provides the opportunity to explore the reasons behind business owners pricing decisions. Thus, if there are also results on pricing patterns obtained from price index microdata, potential synergies can be exploited by examining the same phenomenon from different angles.

The most important results of the Misas *et al.* paper are:

*i)* Most sales by Colombian companies are made in the domestic market with long-term customers.

*ii)* The majority of Colombian companies employ time-dependent rules when the economy is stable. This is true for companies experiencing low levels of competition in their market. Meanwhile, during periods of economic turmoil, companies follow state-dependent rules.

*iii)* Colombian companies consider the current and expected behavior of inflation as well as other variables related to the production process as equally important when reviewing prices.

*iv)* The inflation target of Banco de la República and the minimum wage it sets each year are considered important factors when reviewing prices.

*v)* Companies that review their prices at fixed time intervals mostly do so on a monthly or quarterly basis.

*vi)* Companies experiencing low levels of competition review their prices every three months, while companies facing high levels of competition do so monthly.

*vii)* Colombian companies follow price setting strategies based on costs plus a profit margin as well as on competitor prices.

*viii)* With respect to the second stage of price setting, the results suggest that 38% percent of Colombian companies change prices once a year, while 75% of companies do so up to two times per year.

*ix)* Cost shocks are more important for explaining price increases than decreases, while demand shocks are more important in explaining price decreases.

*x)* Pricing practices changed throughout the five years before the survey was carried out. The main explanation for such changes is the greater variability recorded in input prices.

*xi)* Price changes are less frequent than price reviews. Furthermore, under normal economic conditions, the most flexible companies are those following state-dependent rules, while the least flexible follow time dependent rules.

*xii)* A cost based pricing hypothesis is the main explanation for why companies do not change their prices more frequently.

The work of Fernández Bujanda is aimed at studying the frequency of consumer price changes in Venezuela using data from the CPI of the Metropolitan Area of Caracas. The paper estimates the duration of prices using direct and indirect methods. According to the author, the former calculates how long a price takes to change using the distribution of durations, which can be calculated with information contained in the group of panel data. The second method calculates the duration with the frequency that prices change each month. The main finding of Fernández's research refers to the speed of price changes in Venezuela. It finds that the average time of price variations in such country is 2.6 months with a median of 1.9 months. It also shows that there is heterogeneity in price durations among sectors: prices of services such as education and health tend to be more rigid than those of other sectors.

The work of Ysusi calculates the degree of nominal consumer price rigidities for different sectors of the Mexican economy. To achieve this it presents a breakdown of data on the frequencies, implicit durations and sizes of each sector calculated for a CPI microdata set. The study covers the period from July 2002 to December 2009 when Banco de México adopted an inflation targeting regime. It is important to mentioning that inflation was at historically low levels and was relatively stable during this time period. The study's most important results show that in Mexico there exists a considerable heterogeneity in the price setting behavior across different sectors and over time. It also finds that the percentage of firms changing prices varies when there are inflation shocks.

One feature that characterizes the work of Borraz and Zipitría is the database employed. The latter contains daily prices of 117 articles captured at grocery stores in Uruguay's main cities during the period April 2007 to December 2010. This rich database allows the authors to carry out some specific exercises. They begin by studying price rigidities, calculating the average probability of daily fluctuations in prices and their average duration measured in months. They find that retail prices in Uruguay change frequently. Prices are less rigid than in the USA and Brazil, but more rigid than in the UK and Chile. The median duration of prices in Uruguay is two and a half months. Meanwhile, an examination of the existence of seasonality finds no evidence of a seasonal pattern in price adjustments. With only a few exceptions, they do not find that the likelihood of price adjustment correlates positively with expected inflation either. The availability of daily data allows the authors to analyze companies' price adjustment decisions by day of the month. It is shown that the probability of price fluctuations on the first day of the month is nine times higher than on any other day. Finally, when estimating the hazard rate in order to study if the likelihood of price fluctuations depends on time, they find that the synchronization of price changes is very high. This evidence seems to indicate use of a state-dependent model for price changes.