



Price setting behaviour in Spain: Evidence from consumer price micro-data[☆]

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Abstract

This paper analyses the price setting behaviour of Spanish firms, using a large dataset that contains over 1.1 million price records. It identifies differences in the frequency and size of price adjustments across types of products and explores how these general features are affected by specific factors: seasonality, the level of inflation, changes in indirect taxation and the use of attractive pricing. We find that prices do not change often, but do so by a large amount, and there is a marked heterogeneity across products. Moreover, the high frequency of price reductions suggests that there is no strong downward rigidity.

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1. Introduction

Individual firms do not continuously adjust their prices to all the relevant shocks in the economy. This fact is not controversial and is a standard assumption in macroeconomics that

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allows real variables to be affected by nominal shocks. However, the precise way to incorporate micro-founded price adjustment policies in macroeconomic models is less clear-cut. A large strand of literature has been devoted to analysing the implications of alternative forms of nominal rigidities on the dynamic behaviour of aggregate inflation and output. This theoretical literature has shown that the nature of these rigidities determines the response of the economy to potential disturbances and has clear implications for the conduct of monetary policy.

In spite of the relevance of the issue of price setting behaviour, empirical work in this area has been scarce and partial, probably due to the lack of appropriate information at the individual level. Earlier studies on price setting referred mostly to a limited number of products. Relevant studies on this literature are [Cecchetti \(1986\)](#) on newsstand prices of magazines, [Kashyap \(1995\)](#) on catalogue prices, [Lach and Tsiddon \(1992\)](#) and [Eden \(2001\)](#) on foodstuff prices and [Levy et al. \(1997\)](#) on products from US supermarket chains. Moreover, the scant available research has mainly focused on the US economy.

More recent research has taken advantage of the micro data underlying the Consumer Price Index (CPI) for different countries ([Bils and Klenow \(2004\)](#) for the US, [Baharad and Eden \(2004\)](#) for Israel and [Dhyne et al. \(2006\)](#) for most euro area countries) providing more comprehensive evidence on price setting behaviour. The aim of this paper is to characterise the basic features of the price setting mechanism in the Spanish economy, drawing on a large dataset, containing around 1.1 million price records, that covers the period from January 1993 to December 2001. The dataset includes products corresponding to expenditure categories that cover around 70% of the CPI and, therefore, is well suited for the analysis of the key features of price setting behaviour. In particular, the relatively large time dimension of the dataset allows us to explore the dependence of price setting behaviour on macroeconomic conditions, especially the level of inflation.

The scope of the paper is basically descriptive. We provide evidence on the frequency and size of price adjustments, distinguishing between price increases and price reductions, and report direct estimates of the duration of price spells. We document differences in the general features of price setting behaviour across types of products and explore how they are affected by some specific factors: seasonal patterns, the level of inflation, indirect taxation and the practice of using psychological and round prices.

The remainder of this paper is organised as follows. Section 2 describes the dataset. Section 3 discusses the statistical concepts used throughout the analysis. Section 4 presents some stylised facts on the frequency and size of price changes and reports direct estimates of price durations. Section 5 analyses the determinants of the frequency of price changes. Section 6 presents our conclusions.

2. The dataset

The available dataset is a longitudinal subsample of the micro data collected by the Instituto Nacional de Estadística (INE) in order to compute the 1992-based Spanish Consumer Price Index (CPI). The data-collection methodology is described in [INE \(1994\)](#).

The sample is made up of 1,112,076 price quotes and contains monthly records for 9 years (January 1993 to December 2001). Each individual price record corresponds to a precisely defined product sold in a particular outlet in a given city at a given point in time. Therefore, individual products can be followed over time within the same outlet. Thus, our database is a collection of price trajectories, a price trajectory being defined as the complete price history of a specific product in a particular outlet. In turn, a price trajectory consists of one or several successive price spells (episodes where the price remains constant). Along with each individual

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