



ELSEVIER

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

SCIENCE @ DIRECT®

Journal of Monetary Economics 52 (2005) 829–852

Journal of  
MONETARY  
ECONOMICS

[www.elsevier.com/locate/jme](http://www.elsevier.com/locate/jme)

# Customer anger at price increases, changes in the frequency of price adjustment and monetary policy<sup>☆</sup>

Julio J. Rotemberg\*

*Harvard Business School, Boston, MA 02163, USA*

Received 1 October 2002; received in revised form 3 March 2005; accepted 4 March 2005

Available online 26 May 2005

---

## Abstract

While firms claim to be concerned with consumer reactions to price increases, these often do not cause large reductions in purchases. The model developed here fits this by letting consumers react negatively only when they become convinced that prices are unfair. This can explain price rigidity, though its implications are not identical to those of existing models of costly price adjustment. In particular, the frequency of price adjustment can depend on economy-wide variables observed by consumers. This has implications for the effects of monetary policy and can explain why inflation does not fall immediately after a monetary tightening.

© 2005 Elsevier B.V. All rights reserved.

*JEL classification:* E3; D11; E44.

*Keywords:* Customer anger; Price stickiness; Monetary policy; Price adjustment

---

---

<sup>☆</sup>I wish to thank Laura Alfaro, Rafael Di Tella, Huw Pill and Michael Woodford for helpful conversations, Monica Büttler, V.V. Chari and Robert King for comments and the Harvard Business School Division of Research for research support.

\*Corresponding author. Tel.: +1 617 495 1015; fax: +1 617 496 5994.

*E-mail address:* [jrotemberg@hbs.edu](mailto:jrotemberg@hbs.edu).

## 1. Introduction

Price setters have been asked on repeated occasions to explain why their prices stay constant in nominal terms for periods of time that are vastly longer than the period over which the opportunity cost of production stays constant. The two most common answers received by [Hall and Hitch \(1939\)](#) involved the psychology of customers. They were, in particular, that “conventional price [is] in [the] minds of buyers” and that “Price changes [are] disliked by buyers.” [Blinder et al. \(1998\)](#) asked price setters about the validity of various theories of sticky prices developed by economists, so they did not ask directly whether price changes were disliked by customers. Nonetheless, a majority of their respondents volunteered that changing prices would “antagonize” or “cause difficulties” with their customers (p. 308).

The simplest model of such negative reactions would posit that the quantity demanded falls dramatically every time a price is increased, perhaps because price increases trigger search as suggested by [Stiglitz \(1984\)](#). However, many price increases are associated with only trivial instantaneous reductions in the quantity demanded. A second, and more standard explanation for the existence of periods where prices are fixed, involves the assumption that there are non-convex costs of changing prices. These costs are usually motivated by the observation that posting prices involves physical resources so that resources must be spent to change prices by, for example, printing new catalogues ([Sheshinski and Weiss, 1977](#)). While [Levy et al. \(1997\)](#) show that the resource costs of changing prices in supermarkets are nontrivial, these administrative costs simply cannot be the whole story.

To see this, [Fig. 1](#) shows the prices charged by a supermarket chain for a particular product. A striking feature of this series is the recurrence of downwards spikes, short periods where this particular item is “on special”. In addition to new price labels, this often involves changes in the item’s physical display. The price changes again when the promotion is over though the supermarket often chooses exactly the same price as prevailed before the special. Thus, firms appear to have a preference for prices they have charged before even when the resource costs needed to post such prices are the same as those that would be needed to display any other price.

Another common approach to modelling price rigidity is to suppose that price setters have imperfect information (see [Lucas, 1972](#)). However, the prices of many raw materials are well publicized and move minute by minute while, at the same time, finished goods prices accounting for a large fraction of sales are set by a small number of individuals. It seems hard to believe that these individuals, who are presumably selected for their ability, fail to update their beliefs regarding optimal prices for months at a time. On the other hand, it seems quite plausible for customers to have poor information about the costs of producers, and this plays a key role in the model.

One attraction of focusing on how consumers perceive prices is that firms routinely say they want their prices to be “fair.” As discussed by [Hall and Hitch \(1939\)](#), many firms set prices using the “cost-plus” method which involves starting with variable unit cost, adding the average overhead cost per unit under that assumption that firms produce at “capacity” and, lastly, adding a margin of profit.

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات