



# Non-reservation price equilibria and consumer search <sup>☆</sup>

Maarten C.W. Janssen <sup>a,b,\*</sup>, Alexei Parakhonyak <sup>c</sup>,  
Anastasia Parakhonyak <sup>d</sup>

<sup>a</sup> Department of Economics, University of Vienna, Austria

<sup>b</sup> National Research University Higher School of Economics, Moscow, Russia

<sup>c</sup> Department of Economics, University of Oxford, United Kingdom

<sup>d</sup> Toulouse School of Economics, France

Received 19 October 2015; final version received 7 June 2017; accepted 7 August 2017

Available online 18 August 2017

---

## Abstract

Reservation price equilibria (RPE) do not accurately assess market power in consumer search markets. In most search markets, consumers do not know important elements of the environment in which they search (such as, for example, firms' cost). We argue that when consumers learn when searching, RPE suffer from theoretical issues, such as non-existence and critical dependence on specific out-of-equilibrium beliefs. We characterize equilibria where consumers rationally choose search strategies that are not characterized by a reservation price. Non-RPE always exist and do not depend on specific out-of-equilibrium beliefs. Non-RPE have active consumer search and are consistent with recent empirical findings.

© 2017 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

*JEL classification:* D40; D83; L13

---

<sup>☆</sup> This paper has benefited from presentations at the III and IV Workshops on consumer search and switching cost (HSE, Moscow 2012 and 2013), ESEM 2013, EARIE 2014, ESWC 2015, RES 2016, and the Theoretische Ausschuss (Basel, 2016) and research seminars in Vienna, Toulouse, Berlin, Mannheim, Belfast, Copenhagen, Leuven, Lancaster, Monash University, Nottingham, Oxford, Southern Methodist University and University of Technology Sydney, and from discussions with H. Bester, A. Fishman, S. Lauerhmann, E. Moen, J.-L. Moraga, M. Rauh, A. Rhodes, S. Shelegia, A. Suvorov and M. Wildenbeest. We also would like to thank an associate editor and two anonymous reviewers for their constructive and insightful comments. Janssen acknowledges financial support from the Austrian Science Foundation FWF, under project number P 27995-G27.

\* Corresponding author.

*E-mail addresses:* [maarten.janssen@univie.ac.at](mailto:maarten.janssen@univie.ac.at) (M.C.W. Janssen), [aleksei.parakhonyak@economics.ox.ac.uk](mailto:aleksei.parakhonyak@economics.ox.ac.uk) (A. Parakhonyak), [aparakhonyak@gmail.com](mailto:aparakhonyak@gmail.com) (A. Parakhonyak).

<http://dx.doi.org/10.1016/j.jet.2017.08.003>

0022-0531/© 2017 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

*Keywords:* Sequential search; Non-reservation price equilibria; Asymmetric information; Consumer learning

---

## 1. Introduction

In consumer search markets, firms have market power due to the fact that some consumers do not make price comparisons. Firms take this market power into account when deciding on price. This paper addresses the question of whether, by focusing on consumers following reservation price strategies, the existing consumer search literature accurately evaluates this market power due to search frictions. A reservation price strategy is a cut-off strategy: after observing a price at or below some critical value, consumers decide to buy, otherwise they continue to search.

In markets where there is uncertainty about the underlying factors determining firms' pricing behavior, there are important theoretical reasons to consider other search strategies than reservation price strategies. Rothschild (1974) drew attention to the fact that when consumers do not know from which distribution of offers they obtain their information, the optimal consumer search rule may well be different from the typical reservation price rule.<sup>1</sup> The main reason is that on the basis of past search observations, consumers learn about the environment in which they search. Depending on the environment, it may well be that, after observing a relatively good outcome, consumers infer that even better outcomes are likely to be observed in the next search round and rationally conclude to continue to search, whereas, after observing a relatively bad outcome, consumers infer that better outcomes are unlikely and thus stop searching.

The consumer search literature has, by and large, neglected this observation. The celebrated models by Stahl (1989) and Wolinsky (1986), and much of the literature that takes these models as a starting point, study environments without underlying uncertainty and in such theoretical environments the optimal search rule is indeed a reservation price rule. In consumer search markets where consumers are uninformed about firms' underlying costs (and this probably comprises most markets where consumer search is important), learning is an important part of the search process. There are some papers on learning and consumer search that take consumer uncertainty about firms' costs into consideration (see, Benabou and Gertner, 1993; Dana, 1994; Fishman, 1996 and more recently, Yang and Ye, 2008; Tappata, 2009; Janssen et al., 2011 and Chandra and Tappata, 2011). The observations by Rothschild (1974) are of immediate concern to these environments, but the relevant economics literature has continued to focus on equilibria where the consumer search rule is characterized by a reservation price.

Some of this literature is inspired by retail gasoline markets where the common wholesale price of crude oil is the most important determinant of the (variation in) costs of retailers, and consumers are uncertain about these costs due to the large fluctuations of this wholesale price on the world market. Although our focus in this paper is on consumer search in retail markets, the issues we address are also relevant for other markets. For example, Benabou and Gertner (1993) is motivated by macroeconomic concerns about inflationary uncertainty and the consequences for firms' mark-ups, while a recent paper by Duffie et al. (2017) considers over-the-counter (OTC) financial markets and the role of benchmarks in these markets. The current paper is also relevant for the labor search literature where workers search for a better wage. In labor markets, it is natural that the wage distribution depends on the business cycle and that firms are better informed about the business cycle than workers. In that case, workers learn about the wage distribution while searching for another job and their search behavior does not need to follow a reservation

---

<sup>1</sup> Dubra (2004) studies how optimism and over confidence affect search.

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