



# More than thirty years of ultimatum bargaining experiments: Motives, variations, and a survey of the recent literature<sup>☆</sup>



Werner Güth<sup>a,1</sup>, Martin G. Kocher<sup>b,\*</sup>

<sup>a</sup> Max-Planck-Institute of Economics, Jena, Germany

<sup>b</sup> University of Munich, Queensland University of Technology, and University of Gothenburg, Germany

## ARTICLE INFO

### Article history:

Received 21 August 2013

Received in revised form 28 May 2014

Accepted 10 June 2014

Available online 17 June 2014

### JEL classification:

C91

### Keywords:

Ultimatum bargaining

Ultimatum game

Experiment

Social preferences

## ABSTRACT

Take-it or leave-it offers are probably as old as mankind. Our objective here is, first, to provide a, probably subjectively colored, recollection of the initial ultimatum game experiment, its motivation and the immediate responses. Second, we discuss extensions of the standard ultimatum bargaining game in a unified framework, and, third, we offer a survey of the experimental ultimatum bargaining literature containing papers published since the turn of the century. The paper argues that the ultimatum game is a versatile tool for research in bargaining and on social preferences. Finally, we provide examples for open research questions and directions for future studies.

© 2014 Elsevier B.V. All rights reserved.

## 1. Introduction

If one searches for “ultimatum bargaining” on <http://scholar.google.com/>, there are more than 26,500 results. The first result is the original article by Güth et al. (1982) that is cited around 3000 times. The ISI Web of Knowledge counts more than 1000 citations for this paper.<sup>2</sup> An entire generation of behavioral and experimental economists as well as psychologists has been influenced by the result that people systematically deviate from the prediction of ultimatum bargaining based on payoff maximization. Thousands of ultimatum game experiments and extensions have been published in the meantime. More than thirty years after the publication of the first ultimatum bargaining experiment it is time to take stock.<sup>3</sup>

<sup>☆</sup> In the context of a presentation, Uri Gneezy suggested writing a survey of more than 30 years of ultimatum bargaining research. We thank him for the nudge, Martin Dufwenberg, Sabine Kröger, Axel Ockenfels, and two anonymous referees for very helpful suggestions to improve this survey, and David Bauder as well as Niklas Garnadt for excellent research assistance. We are extremely grateful to the magnificent members of the Economic Science Association Discussion List; many of them – too many to mention all of them here – pointed us to scholarly papers that use the ultimatum game. All remaining errors and omissions are of course ours.

\* Corresponding author. Present address: Department of Economics, University of Munich, Geschwister-Scholl-Platz 1, 80539 Munich, Germany.

Tel.: +49 8921809726, fax: +49 89 2180 99 9726.

E-mail addresses: [gueth@econ.mpg.de](mailto:gueth@econ.mpg.de) (W. Güth), [martin.kocher@lrz.uni-muenchen.de](mailto:martin.kocher@lrz.uni-muenchen.de) (M.G. Kocher).

<sup>1</sup> Present address: Kahlaische Straße 10, 07745 Jena, Germany.

<sup>2</sup> The number of citations is only an imprecise measure of a paper's influence on a profession, especially once a concept has become as widely used as the ultimatum game. Many references to the game do not cite the original paper anymore.

<sup>3</sup> Earlier surveys are Güth and Tietz (1990), Güth (1995), Roth (1995), Camerer (2003), and chapters 46, 47 as well as 50 in Plott and Smith (2008); all with a different focus than this one.

It seems impossible to survey in one paper the entire literature on ultimatum bargaining and on experiments using the ultimatum game. The sheer size of the literature forces us to pursue a more moderate approach. In contrast to a more traditional survey paper, the objective of this paper is threefold. First, it is intended to provide a, probably subjectively colored, recollection of the initial ultimatum game experiment, its motivation and immediate responses to its publication. Second, we discuss some influential extensions of the standard ultimatum bargaining game, and, third, we offer a survey of the experimental ultimatum bargaining literature containing papers published since the turn of the century; and only the last one is already a task that forces us to be eclectic in what we can cover.

We remember a discussion in which it was claimed that the ultimatum game is one of the behaviorally most complex games in experimental economics, much more complicated than games with many players, potentially incomplete information, and/or mixed strategy equilibria.<sup>4</sup> It is a statement that requires second thought: while the game structure is obviously one of the easiest that can be imagined (two players, two stages, complete information), the motivations behind decisions in the ultimatum game are diverse, and it took researchers some time to understand them.

At the outset of the experimental research on ultimatum bargaining, toward the end of the 1970s and the beginning of the 1980s, the source for the interest in the ultimatum game was to study bargaining and to document limits of the traditional assumptions regarding rationality and material selfishness or opportunism. Whereas social dilemma games such as the prisoners' dilemma and the public goods game explore the efficiency of strategic interaction outcomes, the findings of ultimatum experiments more fundamentally challenge the narrow concept of material opportunism, namely that decision makers maximize their own payoff in each and every situation. Behaving non-optimally in this sense in social dilemma games can be explained by efficiency concerns. However, in ultimatum games where responders reject positive offers, i.e., they essentially “burn money”, potential efficiency concerns are also violated. Thus, the results from ultimatum experiments reject the narrow orthodox assumption of material opportunism, but they do not necessarily reject rationality in a broader sense, allowing for all sorts of aversion concepts, intrinsic motivations, other-regarding preferences, and emotions. As a consequence, there was much room for research from different perspectives.

There are still open questions in the context of the ultimatum game after more than thirty years of research. Especially, it seems difficult to predict individual behavior in the game, based on observables. Thus, a “ban on ultimatum experiments”, as [Camerer \(2003\)](#) not entirely seriously asks for, seems premature. As will become clear below, beyond its immediate function as a test of specific aspects of bargaining theory, the ultimatum game has become a valuable tool or workhorse for studying a host of different research questions in economics and in other disciplines.

The remainder of the paper is organized according to what we see as the three phases<sup>5</sup> the ultimatum game underwent since its implementation. The first phase is related to the game as being able to show that some assumptions in the theory at that time were not adequate to capture observed behavior. In this spirit, [Section 2](#) traces the first theoretical discussion of ultimatum bargaining ([Güth, 1976](#)), before discussing in more detail how this has inspired the first ultimatum experiments, especially by confronting them with earlier experiments of bargaining and negotiations. [Section 3](#) recollects the main findings of [Güth et al. \(1982\)](#) and discusses why they have received attention and inspired many subsequent studies. The second phase was concerned with “explaining” behavior in the ultimatum game. [Section 4](#) tries to provide some of these explanations; it is mainly devoted to relevant earlier modifications of take-it or leave-it offer bargaining. Since the surveys mentioned in footnote 3 do a great job in giving an overview of explanation attempts, we can be brief here. In [Section 5](#), we mainly focus on scholarly contributions using the ultimatum game after the turn of the century – a time span that has not been surveyed well so far. [Section 5](#) provides both examples for the second phase and a third phase, in which the ultimatum game became a general “workhorse” for studying social and psychological phenomena. In [Section 6](#), we discuss some possible directions of future research, and [Section 7](#) concludes the paper.

## 2. How it began

Having studied economics intensified Werner Güth's interest in fairness which he wanted to analyze game theoretically. In spite of the – at that time – still predominant cooperative game theory, he was interested in strategic games generating fair and efficient outcomes (see [Güth, 1976](#), for early attempts). As most game theorists of that time, he was aware of alternating concession models ([Zeuthen, 1930](#)) and how they are related to [Nash's \(1950\)](#) bargaining solution ([Harsanyi, 1959](#)) and of alternating offer bargaining models ([Ståhl, 1972](#)).

One problem of the latter paradigm is that it appeals to often observed alternating concessions or agreement offers, although its solutions predict an immediate agreement due to the efficiency loss by delayed conflict resolution. Allowing for just one round of take-it or leave-it offers avoids the problem, but this was no essential reason for being interested in ultimatum bargaining at that time. Undoubtedly, there was an awareness of the active research in characteristic function experiments (see, for example, [Sauermann, 1972](#)), which were usually run “face-to-face” and with free-from communication. Such protocols obviously allow for all sorts of confounding effects from physical attraction, signaling, beliefs on trustworthiness, to prior acquaintance, which Werner Güth aimed to avoid or at least reduce as much as possible in his setup. But,

<sup>4</sup> Amnon Rapoport made this claim in a conversation.

<sup>5</sup> We are grateful to an anonymous referee who made explicit reference to the three phases.

Download English Version:

<https://daneshyari.com/en/article/7243365>

Download Persian Version:

<https://daneshyari.com/article/7243365>

[Daneshyari.com](https://daneshyari.com)