# The excessive choice effect meets the market: A field experiment on craft beer choice 

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## A R T I C L E INFO

## Article history:

Received 7 April 2016
Revised 22 January 2017
Accepted 26 January 2017
Available online 2 February 2017

## JEL classifications:

C93
D03
Q13
Keywords:
Excessive choice
Behavioral economics
Informal institutions
Field experiment
Craft beer


#### Abstract

Research in psychology suggests that, somewhat paradoxically, providing consumers more choices can reduce the likelihood of making a purchase, producing the so-called excessive choice effect (ECE). To the extent an ECE exists, firms have an incentive to alleviate the effect through a variety of institutional nudges that promote consumers to make a choice. This study empirically tests the effectiveness of two institutional nudges on the ECE in a field experiment at a bar. Focusing on craft beer sales, we manipulate the number of options on the menu and use institutional nudges (a control menu, a menu with a special prominently displayed, and a menu with Beer Advocate scores). In the field experiment, the ECE was alive and well using the control menu, but the effect reversed itself when the menu included Beer Advocate scores. Our results suggest the ECE might be turned on and off by manipulating search costs.


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## 1. Introduction

Whether people have too many choices has long been a topic of debate. Even in the first century, Seneca, the Roman philosopher, famously proclaimed in his Letters from a Stoic (Seneca, 1969), "Distringit librorum multitudo!" His charge that "the abundance of books is distraction" predates the modern psychological theory of an excessive choice effect (ECE). Popular books such as The Paradox of Choice (Schwartz, 2004a) posit that increasing the number of choice options in the marketplace increases levels of regret and decreases levels of satisfaction. "Information overload" can reduce the probability of making a choice, which challenges the standard economic conjecture that more choice options cannot decrease consumer utility. Confronted with a large number of choices, consumers might elect to walk away from the transaction altogether. Excessive choice can also overwhelm consumers, causing them to make decisions via sub-optimal heuristics. For example, if confronted with many unfamiliar options, a consumer may simply choose the first option listed or select the status quo.

Some authors suggest that exogenous constraints on the number of options might actually be desirable. For example, Schwartz advises readers to "learn to love constraints." He argues: "We

[^0]would be better off if we embraced certain voluntary constraints on our freedom of choice, instead of rebelling against them" (Schwartz, 2004a; p. 5). Alternatively, some researchers have suggested interventions as a way to help consumers make better choices through behavioral "nudges" (Johnson et al., 2012). These nudges recommend reframing the choice architecture to increase the likelihood of selecting a particular option without imposing actual constraints on the available number of options. Altering the choice architecture has been shown to influence consumer choice (Thaler and Sunstein, 2003; Thaler and Benartzi, 2004). Yet, a deeper question permeates much of the discussion on the topicwho should be the one to redesign choice architecture? Should governments and experts reframe choices, or do private nudges emerge from market outcomes?

In a competitive market, the choice architecture is endogenous, and sellers compete to provide environments that consumers find appealing, thereby increasing profits. In such cases, the market, at least partially, provides incentives to ameliorate the ECE by, for example, reducing search costs for consumers (e.g., see Kamenica, 2008; Kuksov and Villas-Boas, 2010; Norwood, 2006). This raises the possibility that ECE may arise in laboratory contexts or oneshot field experiments while at the same time having limited relevance in day-to-day business decisions. Whereas prior research mainly focuses on the identification of an ECE, we show that sellers have access to market-specific mechanisms (or informational
nudges) that narrow its influence. We demonstrate that if the ECE exists, sellers can mitigate or exasperate its negative effects through targeted interventions.

That search costs affect consumers' decisions and market outcomes has been confirmed in many empirical studies (Besedeš et al., 2012; Besedeš et al., 2015; Gabaix et al., 2006; Reutskaja et al., 2011). For example, Caplin et al. (2011) show that laboratory participants search through choices in a sequential manner before they choose an option they perceive "good enough" rather than utility maximizing. Caplin et al. (2011) show that choice and search behavior depend on decision contexts such as, for example, time constraints. These experimental insights suggest sellers might be able to alleviate the ECE by lowering search costs. If consumers suffer from an ECE, they (or the businesses selling to them) might solve the issue through adopting various mechanisms that help consumers navigate through large choice sets. The evolution of these "informational nudges" might explain some of the diversity within the experimental results on choice overload. Many choices might be desirable in some settings or in the right context but not in others. Additionally, empirical research by Schwartz et al. (2002) and conceptual models like that of Irons and Hepburn (2007) indicate that the ECE is likely to vary across people according to preferences for variety and propensity to experience regret. This suggests the presence or absence of an ECE may depend on a firm's clientele and target market.

Conceptual models introduced by Kamenica (2008), Kuksov and Villas-Boas (2010), and Norwood (2006) suggest that the ECE may not, in fact, be at odds with economic theory if consumers face search costs and are uncertain about the value of the good. Selecting which option is most desirable takes time and cognitive resources. If consumers are presented with a large assortment of unfamiliar items, it can be perfectly rational for a consumer to forego the opportunity to buy rather than trying to figure out where each product fits in one's preference ordering. Such findings suggest differences in search costs and inability to understand contextual clues may be factors responsible for the heterogeneity in the ECE.

We test two different informational nudges that sellers might use to potentially influence search costs and thereby alter the size of the ECE in the context of consumers' choices in a market where the number of new options is burgeoning: craft beer. These nudges are: 1) the listing of a "special" on the menu and 2) the provision of Beer Advocate scores on the menu. We hypothesize that listing a weekly special will increase the chances a consumer will select a beer in small choice sets, but that it will have negligible effects on the ECE. "Specials" might imply to consumers that they are not only receiving the utility of the item, but are also earning a level of utility associated with the transaction (Thaler, 1985). At first glance, that transaction utility, along with making one of the options more cognitively available, should decrease the ECE. However, without any context given as to why the product is "special," this treatment may not actually convey information on relative quality rankings of options.

This article uses these insights as a springboard for studying the ECE in a market where there is a proliferation of new options, many of which are likely unfamiliar to some consumers: craft beer. The craft beer market was chosen because it is one in which an ECE is likely to exist. The number of these "small, independent and traditional" breweries has increased from two in 1977 to over 2000 in 2012 (Elzinga et al., 2015). This increase in the number of new brands with limited advertising budgets suggests that most consumers are likely to be unfamiliar with the new options, resulting in no clearly dominant option (Dhar, 1997; Dhar and Nowlis, 1999). Moreover, beer is an experience good in that its quality is difficult to observe before consumption, increasing the cost of search. Craft beer has evolved as a novelty-driven market (Watson, 2016). It is not uncommon for a small brewery to offer a
dozen different beer styles over the course of a year, and many have gained global notoriety in their aggressive desire for novelty. As an example, Delaware's Dogfish Head Brewing Company flaunts the mantra, "Off-centered ales for off-centered people." By extension, some restaurants and bars advertise the plethora of craft beers they offer on tap. It follows that a bar selling a high volume of craft beer will likely market to a specific demographic of people who are interested in novelty.

We hypothesize that quality scores from a third party scorer will have varying effects on the presence of an ECE. In many markets, professional and crowd-sourced ratings appear to assist individuals in the aggregation of information to make a more informed decision (Chen et al., 2012). Specific to this market, multiple ratings websites such as Beer Advocate make information freely available to the consumer. This company publishes scores on a 100 -point scale for millions of beers based on ratings posted by both users and experts. A seller might list these scores to provide context clues and relevant information to a buyer so he can better identify which product might be the utility-maximizing choice (Kamenica, 2008). These scores might be helpful for a person who generally knows beer varieties and, for example, self-selects into drinking at a bar with many options. However, a person unfamiliar with beer varieties might find that scores will simply add more confusion to an already cognitively taxing menu.

The overall objective of this article is to empirically explore how the ECE varies with informational nudges, relying on economic models suggesting that search costs are a likely culprit explaining the phenomenon. The specific objectives of the current study are (1) to determine, in our particular context, whether the ECE exists and (2) whether the marketplace mitigates this problem through certain informational nudges. The next section provides more background on the ECE and outlines our particular contribution to that literature. We then introduce and discuss the results of a field experiment conducted at a wine bar whose patrons are likely to experience the ECE. Using this experimental data, we estimate the likelihood of selecting a beer while varying the number of options present from six choices to 12 in the presence of informational nudges likely to lower search costs. The final section concludes.

## 2. Background

The ECE has been documented as an increase in consumers' unwillingness to participate in a market transaction and as a decrease in well-being as the number of options grows (Schwartz, 2002, 2004b). The phenomenon tends to exist in markets with an unusually large number of options when consumers do not have clearly defined preferences and no clearly dominant choice exists (Scheibehenne et al., 2010). Iyengar and Lepper (2000), for example, offered varying types of jams for purchase. Over the course of the study, the experimenters changed the number of options available from six to 24 or 30 choices. They found consumers were less likely to purchase jam from larger choice sets. Schwartz et al. (2002) and others have taken these findings as suggesting that policies which restrict choice might improve welfare. However, to the extent that more choice lowers the likelihood of purchase, it seems that businesses have a profit incentive to refrain from offering so many options or to alter the choice environment (Sela et al., 2009).

The results from studies that have tried to replicate the ECE in other contexts have proven inconclusive. Scheibehenne (2008) attempted to replicate the results found by Iyengar and Lepper (2000), but could find no ECE. Arunachalam et al. (2009) sought to determine whether participants would voluntarily reduce their choice set size, and found that only a small proportion of respondents would in fact prefer to choose from a smaller number of options. They found that while an ECE can exist for certain types of

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    http://dx.doi.org/10.1016/j.socec.2017.01.008
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