



ASSOCIATION FOR CONSUMER RESEARCH

Labovitz School of Business & Economics, University of Minnesota Duluth, 11 E. Superior Street, Suite 210, Duluth, MN 55802

The Freedom Bias: Empirical Evidence For a Neglected Tariff-Choice Anomaly

Sören Köcher, TU Dortmund University, Germany

Till Dannewald, University of Goettingen, Germany

This research introduces a previously disregarded tariff-choice anomaly, namely the freedom bias. This bias refers to the decision makers' preference for short-term tariffs although a long-term tariff would minimize total costs over time. Results of two studies systematically evidence this biased tariff choice in favor of contracts with short durations.

[to cite]:

Sören Köcher and Till Dannewald (2013) , "The Freedom Bias: Empirical Evidence For a Neglected Tariff-Choice Anomaly ", in NA - Advances in Consumer Research Volume 41, eds. Simona Botti and Aparna Labroo, Duluth, MN : Association for Consumer Research.

[url]:

<http://www.acrwebsite.org/volumes/1015612/volumes/v41/NA-41>

[copyright notice]:

This work is copyrighted by The Association for Consumer Research. For permission to copy or use this work in whole or in part, please contact the Copyright Clearance Center at <http://www.copyright.com/>.

The Freedom Bias: Empirical Evidence for a Neglected Tariff-Choice Anomaly

Sören Köcher, TU Dortmund University, Germany
Till Dannewald, University of Goettingen, Germany

EXTENDED ABSTRACT

Due to an increasing convergence in quality, providers of electronic services (e.g., telecommunication and internet services) are relatively limited in their possibilities to differentiate from each other. Therefore, competition in these branches is mainly influenced by the providers' pricing policy in terms of tariff structures. Traditionally, the offered tariffs differ with regard to the specifications of monthly fixed fee, variable usage price per unit, and included monthly volume. However, during the last years, providers have increasingly offered menus of tariff options with varying contract durations. As these tariffs usually provide discounts depending on the length of commitment, individuals – when tempting to maximize consumer surplus – have not only to account for their monthly usage but also for the expected usage period to minimize their total costs and make a rational tariff choice. Nevertheless, research on tariff-choice anomalies indicates that people often fail to correctly estimate their usage patterns with the result of a less than optimal choice (e.g., Kling and Van der Ploeg 1990; Lambrecht and Skiera 2006; Train, McFadden, and Ben-Akiva 1987). Despite the wide range of findings regarding existence, causes, and consequences of biased choices in favor of flat-rate or pay-per-use tariffs, research on possible additional tariff-choice biases lacks. Thus, the purpose of this research is to introduce a novel bias in the tariff choice context, namely the freedom bias, which is observable if people prefer a short-term contract although they would be better off choosing a long-term agreement.

Several theoretical explanations exist for why individuals might choose short-term contracts over long-term commitments. First, the prospect theory's value function (Kahneman and Tversky 1979) implies that segregation of multiple gains results in a higher perceived value than integration, whereas multiple losses loom larger in case of segregation than in case of integration (Thaler 1985). Transferring these principles to the tariff structure context, we assume that the losses of a short-term contract in terms of monthly costs are characterized by a higher amount per month over a shorter period, and consequently follow the idea of integration, whereas the costs of a long-term contract that are characterized by a lower amount per month over a longer period approach the segregation concept. As segregation of multiple losses result in higher perceived costs than integration, the choice of a short-term tariff over a long-term tariff should become more likely. Second, regret theory (Bell 1982; Loomes and Sugden 1982) assumes not only that decision makers regret a bad choice in hindsight, but also that the possibility of regret can be anticipated in the decision making process (e.g., Zeelenberg 1999). As regret is determined by reversibility of decisions (Zeelenberg et al. 1996), it should be less likely to occur with a short-term agreement as compared to long-term contracts, as customers can alter or end contracts sooner. Third, contract length represents switching costs in terms of legal barriers (Burnham, Frels, and Mahajan 2003). Previous research highlights that it is often difficult to anticipate future consequences (e.g., satisfaction) of present decisions (Kahneman and Snell 1992; March 1978). The choice of a short-term contract curtails these switching costs, as individuals can switch sooner with a short-term contract than with a long-term contract. This might be an additional reason for a preferable short commitment.

Two experimental studies systematically verify the existence of the proposed freedom bias. Specifically, experiment 1 (N = 163) examines the necessary condition for the proposed bias that differ-

ent contract durations provide different levels of utility by means of a choice-based conjoint analysis analyzing respondents' preferences for mobile phone tariffs. Participants were asked to imagine that their current contract with their service provider had expired and, thus, they had to choose a new mobile phone tariff. Participants then were confronted with ten random choice sets. We varied the three typical attributes of monthly fixed fee (five levels), variable usage price per minute/text message (four levels), and contract duration (five levels) for stimuli construction. We used the multinomial logit model for the estimation of respondents' tariff preferences (McFadden 1974) and estimated part-worth utilities of tariff characteristics at the individual level using a Hierarchical Bayes procedure (Moore 2004; Lenk et al. 1996). The results of the coefficient estimation appear in table 1. This study's findings indicate that the part-worth utilities of all contract durations significantly differ providing a first evidence of the possible existence of the freedom bias.

Table 1: Estimated Part-Worth Utilities

	Mean part-worth utilities	Differences in part-worth utilities	Significance of differences
Attributes and attribute levels	β_i	$\beta_i - \beta_{i+1}$	t-value
Monthly fixed fee			
1. €5.00	4.65		
2. €7.50	2.00	2.66	18.45***
3. €10.00	.31	1.68	14.78***
4. €12.50	- 2.59	2.90	25.98***
5. €15.00	- 4.37	1.79	22.37***
Variable usage price per unit			
1. 5 cents	2.66		
2. 10 cents	1.03	1.64	13.52***
3. 15 cents	- 1.06	2.08	16.95***
4. 20 cents	- 2.63	1.58	15.79***
Contract duration			
1. Monthly callable	2.48		
2. After 6 months callable	1.30	1.18	9.25***
3. After 12 months callable	-0.08	1.38	18.40***
4. After 18 months callable	-1.30	1.23	11.93***
5. After 24 months callable	-2.40	1.09	16.81***

Note: *** $p < .01$

Building on this result, experiment 2 (N = 106) provides additional support for the existence of the proposed bias. This survey was designed as a 2 (total costs of the short-term tariff) × 4 (contract duration of the short-term tariff) study. The study scenarios asked participants to imagine that they planned to spend a semester abroad in 18 months. Participants then were told that their current mobile phone contract had expired and they had to choose a new tariff. Here-

upon, they were confronted with the choice between a short-term tariff (with varying contract durations ranging from monthly callable to after 18 months callable) and a long-term tariff (with a constant duration of 24 months). To keep the choice tasks as simple as possible, we used flat-rate tariffs including calling and text messaging which only differed regarding contract duration and monthly fixed fee. This study's findings confirm that when contract durations of offered tariff options diverge greatly, people significantly preferred short-term tariffs over long-term tariffs although total costs were equal or even higher. However, this biased tariff choice disappears and even reverts if contract durations of tariff options converge.

These findings supply important implications for a more efficient tariff pricing in business practices. Due to the customers' preference for short provider commitments offering higher priced tariff options with short contract durations entails the promising benefit that profits can be realized earlier. Moreover, although these tariffs might reduce switching costs, the risk of customer churn is still limited. Customers often prefer reversibility of choices without exercising this option in the future (Gilbert and Ebert 2002). Hence, this enables providers to skim the customers' higher willingness-to-pay for short-term contracts.

REFERENCES

- Bell, David E. (1982), "Regret in Decision Making under Uncertainty," *Operations Research*, 30 (5), 961–81.
- Burnham, Thomas A., Judy K. Frels, and Vijay Mahajan (2003), "Consumer Switching Costs: A Typology, Antecedents and Consequences," *Journal of the Academy of Marketing Science*, 31 (2), 109–26.
- Gilbert, Daniel T. and Jane E. J. Ebert (2002), "Decisions and Revisions: The Affective Forecasting of Changeable Outcomes," *Journal of Personality and Social Psychology*, 82 (4), 503–14.
- Kahneman, Daniel and Jackie Snell (1992), "Predicting a Changing Taste: Do People Know What They Will Like?" *Journal of Behavioral Decision Making*, 5 (3), 187–200.
- Kahneman, Daniel and Amos Tversky (1979), "Prospect Theory: An Analysis of Decision Under Risk," *Econometrica*, 47 (2), 263–91.
- Kling, John P. and Stephen S. van der Ploeg (1990), "Estimating Local Elasticities with a Model of Stochastic Class of Service and Usage Choice," in *Telecommunications Demand Modelling: An Integrated View*, A. de Fontenay, M.H. Shugard, and D.S. Sibley, eds. Amsterdam: North Holland, 119–36.
- Lambrecht, Anja and Bernd Skiera (2006), "Paying Too Much and Being Happy About It: Existence, Causes, and Consequences of Tariff-Choice Biases," *Journal of Marketing Research*, 43 (2), 212–23.
- Lenk, Peter J., Wayne S. DeSarbo, Paul E. Green, and Martin R. Young (1996), "Hierarchical Bayes Conjoint Analysis: Recovery of Part-Worth Heterogeneity from Reduced Experimental Designs," *Marketing Science*, 15(1), 173–91.
- Loomes, Graham and Robert Sugden (1982), "Regret Theory: An Alternative Theory of Rational Choice Under Uncertainty," *The Economic Journal*, 92 (368), S. 805–24.
- James G. March (1978), "Bounded Rationality, Ambiguity, and the Engineering of Choice," *Bell Journal of Economics*, 9 (2), 587–608.
- McFadden, Daniel (1974), "Conditional Logit Analysis of Qualitative Choice Behavior," in *Frontiers of Econometrics*, ed. P. Zarembka, New York, NY: Academic Press, 105–42.
- Moore, William L. (2004), "A Cross-Validity Comparison of Rating-Based and Choice-Based Conjoint Analysis Models," *International Journal of Research in Marketing*, 21(3), 299–312.
- Thaler, Richard (1985), "Mental Accounting and Consumer Choice," *Marketing Science*, 4 (3), 199–214.
- Train, Kenneth E., Daniel L. McFadden, and Moshe Ben-Akiva (1987), "The Demand for Local Telephone Service: A Fully Discrete Model of Residential Calling Patterns and Service Choices," *Rand Journal of Economics*, 18 (1), 109–23.
- Zeelenberg, Marcel (1999), "Anticipated Regret, Expected Feedback and Behavioral Decision Making," *Journal of Behavioral Decision Making*, 12 (2), 93–106.
- Zeelenberg, Marcel, Jane Beattie, Joop van der Pligt, and Nanne K. de Vries (1996), "Consequences of Regret Aversion: Effects of Expected Feedback on Risky Decision Making," *Organizational Behavior and Human Decision Processes*, 65 (2), 148–58.