

Who enjoys going to the bargaining table? - An empirical analysis of bargaining costs in automotive transactions

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Abstract

Traditionally, major car brands have been selling new cars via dealers, and the typical purchase process involved price negotiations. In contrast, new entrants (e.g., Tesla) have been selling their cars in direct sales models with non-negotiable prices. Recently, incumbent brands have started considering to also switch to direct sales models without price negotiations. It is, however, unclear how consumers would react to such a major shift and which pricing model they prefer. We shed light on this question by conceptualizing it as a consumer's choice between a safe non-negotiable price and a "risky" alternative with a negotiated price. We use this conceptualization to measure individual bargaining costs and their determinants. In a sample of 565 recent car buyers, we find average bargaining costs of 0.33% on the offer price, and that higher opportunity cost of time, lower willingness to search, and stronger post-purchase price confirmation are associated with higher bargaining costs.

Keywords: Pricing, negotiations, bargaining costs

Track: Pricing & Promotions

1. Introduction

Over the past decades, the purchase process for new cars typically involved a price negotiation, i.e., a potential buyer would visit one or multiple car dealers, and often, would enter into price negotiations with the goal of reducing the final purchase price below the official list price or the initial offer price (Schmidt, Trenka, Demmelmair, Krainer, 2020). This traditional retailing model has been challenged by the arrival of new entrants (e.g., Tesla) in the automobile market. From the very beginning, these new entrants have started selling their new cars through direct sales models, where manufacturers sell their cars directly to end consumers rather than via traditional wholesale models with dealers (Hoeft, 2021). Importantly, this direct sales model implies that potential buyers cannot negotiate prices with retailers but can only accept a given price. Otherwise the transaction would not take place.

On the one hand, this direct sales model that sells cars to potential customers via the online channel or through agents without price negotiations has several important advantages for manufacturers. (1) Manufacturers directly benefit from ever more valuable customer data and can better understand their clients. (2) Manufacturers have full price control that can help to reduce price competition between dealers of the same brand, to enforce price consistency across channels and to thereby strengthen their online channels by reducing cross-channel cannibalization (Schmidt et al., 2020). These upsides are driving incumbents such as BMW or Mercedes in Europe and around the world to consider switching to direct sales models.

On the other hand, this deviation from an established retailing model may be perceived as a disruption by customers, and it is not clear how favorably customers would view this change. Conceptually, a retail setting with buyers negotiating prices can be viewed as a risky choice setting, in which the negotiation outcome is uncertain. The worst outcome for consumers (i.e., the upper price bound) is the offer price, and the outcome depends on personal traits as well as the effort those potential buyers invest in negotiations. In contrast, in the direct sales model without price negotiations, the outcome is certain. It is not clear, whether consumers prefer the direct sales model without negotiations or the traditional retail model. In addition, it is unclear whether the fixed price in a direct sales model will be accepted by consumers if it is equal to the (status quo) offer price, or only if it is equal to the (uncertain) expected price after a potential negotiation. To address this lack of knowledge, it is also necessary to understand to which extent consumers perceive the effort that they invest into a negotiation as costs that they seek to avoid. Interestingly, while there is substantial research in consumer behavior and economics with respect to risky choice and personality characteristics determining propensity

to negotiate, only limited academic attention has been paid on estimating consumer costs associated with bargaining, and we are not aware of any research that provides an estimation of bargaining costs as well as their consumer-related determinants.

To fill this void in academic literature, and to address this timely management problem, we develop a new measure to estimate consumers' individual costs of entering price negotiations. We use an online survey of 565 recent new car customers to obtain estimates of bargaining costs. We find evidence for strong variation in those costs and show that higher bargaining costs are related to higher opportunity cost of time, lower willingness to search, and stronger post-purchase price confirmation. Surprisingly, stronger risk propensity appears to have a positive and significant impact on bargaining costs. This suggests that consumer reluctance to negotiate might primarily be driven by time constraints rather than risk considerations.

2. Literature review

This study contributes to the literature on negotiation research in economics, psychology, and consumer behavior. Although these disciplines have intensively studied negotiations, not much is known about the magnitude and determinants of bargaining costs, and we address this gap in the literature with this study. In addition to the more specific research on negotiations, this study adds to the more general literature on risk preferences, such as Tversky & Kahneman's (1985) *risky-choice framing*, in which the authors study the choice between a risky and a safe decision alternative (in their case with equal expected values).

Choice of pricing schemes. Some theoretical research has focused on firms' choices of optimal pricing schemes, and particularly on the decision between fixed pricing schemes and individual price negotiations. Among others, this includes the choice of pricing schemes depending on competition (e.g., Huang, 2020), bargaining power (e.g., Shelegia & Sherman, 2018), search cost and information (e.g., Wernerfelt, 1994), as well as bargaining costs (e.g., Zeng, Dasgupta, & Weinberg, 2014). However, to our knowledge, there is no empirical study to investigate the impact of bargaining costs on the choice of the optimal pricing scheme.

Bargaining costs. There is some literature related to buyers' costs and disutility associated with bargaining as well as the corresponding impact on negotiation processes and outcomes. On a ZIP-code-level, Jindal & Newberry (2018) investigate bargaining costs under pricing schemes with posted prices and the option for consumers to negotiate based on transaction data of the U.S. refrigerator sector. They find that consumers encounter average nonpecuniary cost of USD 28 to enter negotiations, and yet, that bargaining is still the dominant option for most consumers. Zhang, Manchanda, & Chu (2021) use phone transaction data from the

Chinese online platform *Alibaba* to study the benefits and costs of negotiating for buyers, sellers, and platforms on a Chinese province-level. They provide evidence for strong variation in bargaining costs across provinces and show that eliminating negotiations would be beneficial for the platform and consumers. Zettelmeyer, Scott Morton, & Silva-Risso (2006) analyze transaction data from the U.S. new car market and point out that buyers with higher disutility of bargaining on average pay higher prices. Overall, none of these studies examines either the magnitude or specific determinants of bargaining costs on a consumer-level.

Determinants of bargaining initiation. A second body of research focuses on psychological aspects of negotiations. This study particularly adds to psychological research investigating the impact of personality characteristic on negotiation initiation behavior. For example, Volkema & Fleck (2012), through a survey research approach, show that propensity to initiate negotiations is linked to risk propensity, Machiavellianism, and self-efficacy. Shalvi et al. (2013) analyze propensity to enter as well as to leave negotiations and show that prevention-oriented subjects have a significant tendency to avoid bargaining situations. While previous psychological research on negotiations does not try to estimate costs associated with negotiation initiation, it motivates the fact that initiation preferences and behavior are likely to be influenced by individual personality characteristics.

Overall, to the best of our knowledge, there is no empirical study that both estimates the magnitude of consumer-level bargaining costs and investigates specific consumer traits impacting these costs.

3. Theory and framework

In this research, we estimate consumer-level bargaining costs associated with entering price negotiations and explore individual factors explaining variation in bargaining costs. Our measurement of bargaining costs is inspired by previous research that studies individuals' choices between risky and safe outcomes (Hertwig & Erev, 2009). In our empirical application, we will let subjects choose between different scenarios in which they have to decide between entering risky price negotiations or paying a fixed price. We expect that if a subject is willing to pay a fixed price that is higher than the expected price she would pay after negotiations, this individual has positive (bargaining) cost associated with entering risky price negotiations and is therefore willing to pay a markup for not entering into a negotiation. The magnitude of bargaining costs is determined by the difference between the chosen fix price and the expected negotiation price, and we expect that this difference is influenced by consumer-specific factors.

Based on previous psychological research, we expect that subjects with high risk propensity and subjects with a high internal locus of control (i.e., the extent to which a subject believes that the occurrence of an event is dependent on its own behavior; Rotter, 1966) will be associated with lower bargaining costs (Volkema & Fleck, 2012). Furthermore, we anticipate that prevention-oriented subjects tend to have higher bargaining costs than promotion-oriented individuals since they prefer to avoid negotiations (Shalvi et al., 2013). Based on Zettelmeyer et al. (2006), we assume that consumer characteristics that are related to individual (information) search behavior also affect bargaining costs. Specifically, we expect that subjects with lower willingness to search, higher opportunity cost of time, and less patience will exhibit higher bargaining costs because participating in time consuming negotiations would be more costly to those individuals. Building on the findings by Pizzutti, Gonçalves, & Ferreira (2022) who show that consumer search does not end with the purchase itself but rather that many customers continue to compare and confirm prices post-purchase, we also incorporate post-purchase search behavior and expect subjects who strongly compare prices post-purchase will have lower bargaining costs. This is based on the assumption that those individuals anticipate stronger regret if they find out about lower prices post-purchase, and they are therefore willing to invest more effort into price negotiations.

4. Data and methodology

4.1 Measurement of bargaining costs

The focal variable in this research is the subjects' individual cost of entering price negotiations. We calculate these *bargaining costs* based on respondents' individual decisions between a bargaining situation and a setting in which prices are fixed. Specifically, we repeatedly confront respondents with hypothetical situations in which they must decide whether to acquire their desired car model from *dealer I*, that offers the model (with an indicated manufacturer's suggested retail price, *MSRP*) for a dealer-specific, negotiable offer price (that is lower than the *MSRP*), or from another, identical dealer (*dealer II*), that is equally far away and offers the car at a price that is lower than *dealer I*'s offer price, but is non-negotiable and therefore fixed. All referenced prices are indicated to the subjects either as purchase prices or as monthly leasing rates, depending on the customer type, with the scale being based on the last purchase price or leasing rate paid by the subject. The fixed price of *dealer II* is gradually reduced from each iteration of the question to the next until the respondent ultimately chooses the fixed price and therefore decides against negotiating the price. We then calculate the individual *bargaining costs* as follows:

$$B_i = (\text{fix price chosen}_i - \text{expected negotiation price}_i) + (\text{last fix price declined}_i - \text{expected negotiation price}_i) / 2 \quad (1)$$

This means that we derive the *bargaining costs* B_i from the difference between the selected fixed price of *dealer II* and the expected price after negotiations with *dealer I*. To smoothen the effect that might be attributable to the size of the fixed price steps, we take the mean value of the accepted price difference and the last difference that was declined by a subject.

We base the size of the price steps at which we lower the fix price until the consumer chooses the fix price on individually specified discount expectations by the subjects. We do this by asking them about the best possible final price that would be feasible after negotiating, and about how likely they consider themselves of being able to negotiate this price. We then derive the expected negotiation outcome by applying the specified probability to the best possible price and the counter-probability to the offer price.

We measure an individual's *bargaining costs* in two different versions. In the *adaptive version* (B_i^a), we use the subjects' own negotiation expectations to measure *bargaining costs*. In contrast, in the *non-adaptive version* (B_i^n), we provide the respondents with (fictitious) information on the negotiation outcomes of previous customers. We then compute the equal-weighted mean value (\bar{B}_i) of the *adaptive* and *non-adaptive* versions to measure *bargaining costs*. We furthermore use *mean relative bargaining cost* (\bar{b}_i), i.e., *mean absolute bargaining cost* relative to the initial offer price of *dealer I* to ensure comparability despite differences in scale (especially between leasing and purchase or financing subjects).

4.2 Data description

We collect the data for this study via an online customer survey in Germany between October and November 2022. After sorting out a total of 148 respondents according to a pre-determined logic (e.g., “speeders”), the final sample includes 556 subjects that purchased, leased, or financed a new car for private use during the 24 months prior to the survey. We further restrict the sample to the sole or main decision-makers involved in the last transactions to make sure we measure preferences of respondents who actually have some experience in purchasing a car. The sample contains 63% males and 37% females. Overall, 62% of subjects have been sole decision-makers and 38% main decision-makers that received some support. 52% of the subjects purchased their new car, 27% are lease customers, and 21% financed their car at least partially. The median transaction price was approximately € 37,000 for purchase and financing customers and the monthly median leasing rate € 280. Subjects were asked to fill out a 10–15-minute questionnaire, based on which we derive our measures.

4.3 Drivers of bargaining costs

To test our theoretical expectations, we regress *mean relative bargaining costs* (b_i) on independent variables consisting of *search behavior-specific factors* (S_i), and more general, *psychological factors* (P_i) of the subjects. The different factors are measured through Likert-type scales with one to three items each. *Search behavior-specific factors* include willingness to search (Zettelmeyer et al. 2006), opportunity cost of time (Lichtenstein, Ridgway, & Netemeyer, 1993), patience (Schnitker, 2012), and post-purchase price confirmation (i.e., the extent to which a subject compares prices post-purchase; new scale). *Psychological factors* comprise of risk propensity (Meertens & Lion, 2008), promotion and prevention focus (Ouschan, Boldero, Kashima, Wakimoto, & Kashima, 2007), as well as (internal) locus of control (Rotter, 1966). Based on an initial exploratory factor analysis, items are excluded that have low factor loadings or that load on other factors more strongly, or both. For constructing the factors, we use two different weighting approaches: one with equal-weighted items and one with items weighted by the factor loadings from confirmatory factor analysis (CFA).

Control variables include *demographic controls* (DC_i) (e.g., age, gender, household income), *previous car transaction controls* (TC_i) (e.g., contract type, car type, price segment, powertrain), and additional *search and purchase behavior controls* (SC_i) related to the last transaction (e.g., research intensity, information sources and sales channels used).

5. Results

5.1 Description of bargaining cost

Table 1 shows descriptive statistics for the *relative bargaining costs*. In the *adaptive version*, where we ask subjects to form expectations regarding price negotiations, they on average indicated that they consider a discount of 7.70% on the offer price to be feasible at best (median: 6.67%) and assigned an average likelihood of 64.52% to this discount (median: 70.00%). This results in an implied mean expected discount of 4.95% (median: 4.08%). Based on those expectations, we derive *adaptive bargaining costs* as described. Overall, *adaptive bargaining cost* are on average slightly positive (0.90%; median: 0.28%), which means that subjects are, on average, willing to pay markups to avoid bargaining. *Non-adaptive bargaining costs* are on average slightly negative (-0.24%; median: -0.25%), resulting in an average value of *mean relative bargaining costs* of 0.33% (median: 0.22%) with 55% of the subjects exhibiting positive *mean relative bargaining costs*. We illustrate the distribution of *mean relative bargaining costs* in Figure 1. Overall, by exogenously anchoring expectations in the *non-adaptive version*, *bargaining costs* are more centered with fewer outliers.

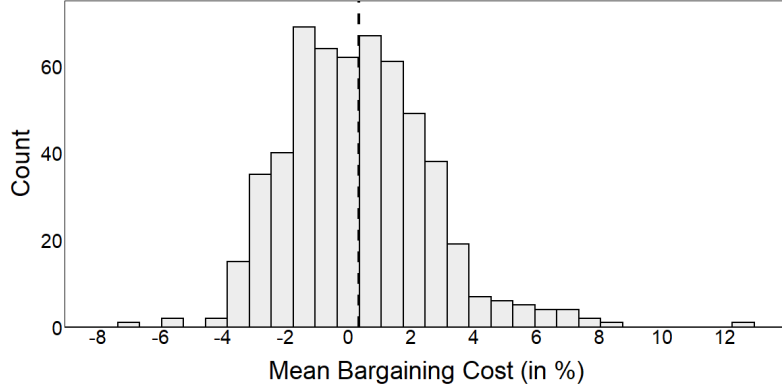


Figure 1. Distribution of *mean relative bargaining cost* (mean as dashed vertical line)

In addition, the negative sign of the average, *non-adaptive bargaining costs* suggests that subjects in the *non-adaptive* version are more strongly oriented towards previous customers who performed well in the negotiations.

<i>in %</i>	Min.	Q _{0.25}	Median	Mean	Q _{0.75}	Max.	SD	n
Indicated max. feasible relative discount	0.00	4.00	6.67	7.70	10.00	33.33	5.29	556
Indicated likelihood of max. feasible discount	0.00	50.00	70.00	64.52	81.00	100.00	23.28	556
Implied expected relative discount	0.00	2.40	4.08	4.95	6.40	32.67	3.96	556
Adaptive relative bargaining cost (b^a)	-13.49	-0.92	0.28	0.90	2.20	23.59	3.33	556
Non-adaptive relative bargaining cost (b^n)	-3.35	-2.62	-0.25	-0.24	1.75	2.75	2.12	556
Mean relative bargaining cost (\bar{b})	-8.30	-1.34	0.22	0.33	1.73	12.36	2.33	556

Table 1. Descriptive statistics *relative bargaining cost*

5.2 Regression results

We present the results of our analyses in *Table 2*. We estimate different specifications of our model to assess robustness of results with respect to potential multicollinearity and item-weighting approaches for our scales. The first striking result is that risk propensity appears to have a positive and significant impact across most specifications, which is against our expectations. While the estimates for locus of control point in the expected direction that subjects with a stronger internal locus of control are associated with lower *bargaining costs*, the coefficients are not significant. The estimates for the *search behavior-specific factors* willingness to search, opportunity cost of time, and patience are in line with our expectations with most of them being highly significant. Lastly, our results indicate a positive relation between post-purchase price confirmation and *bargaining costs* which is against our expectations. This might suggest that those subjects place more importance on the price itself and that they might prefer safe fixed price alternatives over negotiating the prices with the risk of subsequently finding out about other buyers who managed to negotiate lower prices.

	Dependent variable: mean relative bargaining costs			
	(1)	(2)	(3)	(4)
Risk propensity (RIS)	0.225* (0.072)	0.194 (0.148)	0.210* (0.096)	0.237** (0.048)
Prevention focus (PRE)		-0.008 (0.961)		0.043 (0.809)
Promotion focus (PRO)	0.042 (0.686)	0.011 (0.915)	0.030 (0.766)	0.039 (0.698)
(Internal) locus of control (LOC)	-0.098 (0.496)		-0.149 (0.293)	-0.163 (0.296)
Willingness to search (SEA)	-0.424*** (0.001)			-0.351** (0.030)
Opportunity cost of time (OPP)		0.481*** (0.000)	0.469*** (0.000)	0.291*** (0.003)
Patience (PAT)		-0.174 (0.235)	-0.131 (0.345)	-0.166 (0.235)
Post-purchase price confirmation (PRI)	0.477*** (0.000)	0.366*** (0.004)	0.354*** (0.003)	0.399*** (0.000)
Demographic controls	yes	yes	yes	yes
Transaction controls	yes	yes	yes	yes
Search & purchase behavior controls	yes	yes	yes	yes
Factor loading-weighted items (CFA)	yes	yes	yes	no
Equal-weighted items	no	no	no	yes
N	548	548	548	548
R ²	0.194	0.201	0.203	0.208
Adjusted R ²	0.118	0.125	0.127	0.128
Note	*p < 0.10; **p < 0.05; ***p < 0.01			

Table 2. Regression results for different model specifications (*Note:* n = 548 instead of n = 556 due to missing values in control variable for information sources used)

6. Conclusion

We develop a new measure for quantifying individual *bargaining costs* associated with entering price negotiations. To a substantial extent, the variation in *bargaining costs* can be explained by *psychological factors* and *search behavior-specific factors*. Even though our approach resembles methods to estimating individual risk appetite, in that subjects face choices between safe and risky outcomes, higher *bargaining costs* cannot be explained by increased risk aversion but rather are positively associated with stronger risk propensity. Instead, *bargaining costs* seem to be mainly driven by factors related to search behavior and willingness to invest time and effort, i.e., consumers may prefer to avoid negotiations to save time instead of due to risk aversion. The fact that subjects with stronger post-purchase price confirmation are associated with higher *bargaining costs* also suggests that price sensitivity could be another driver. This will be subject to further analyses that we plan to undertake. Furthermore, in additional analyses, we intend to explore heterogeneity in the focal effects.

8. Bibliography

- Hertwig, R., & Erev, I. (2009). The description–experience gap in risky choice. *Trends in cognitive sciences*, 13(12), 517-523.
- Hoefl, F. (2021). The case of sales in the automotive industry during the COVID-19 pandemic. *Strategic Change*, 30(2), 117-125.
- Huang, G. (2020). When to haggle, when to hold firm? Lessons from the used-car retail market. *Journal of Economics & Management Strategy*, 29(3), 579-604.
- Jindal, P., & Newberry, P. (2018). To bargain or not to bargain: The role of fixed costs in price negotiations. *Journal of Marketing Research*, 55(6), 832-851.
- Knotz, C., Sölkner, T., Wernig, J., Klink, J., Haas, M., Vögl, R., & Hauptmann, T. (2021). Challenges of passenger cars. In H. Hick, K. Küpper, & H. Sorger, *Systems Engineering for Automotive Powertrain Development* (S. 31-54). Graz: Springer.
- Lichtenstein, D. R., Ridgway, N. M., & Netemeyer, R. G. (1993). Price perceptions and consumer shopping behavior: a field study. *Journal of marketing research*, 30(2), 234-245.
- Meertens, R. M., & Lion, R. (2008). Measuring an individual's tendency to take risks: the risk propensity scale. *Journal of Applied Social Psychology*, 38(6), 1506-1520.
- Ouschan, L., Boldero, J. M., Kashima, Y., Wakimoto, R., & Kashima, E. S. (2007). Regulatory focus strategies scale: A measure of individual differences in the endorsement of regulatory strategies. *Asian Journal of Social Psychology*, 10(4), 243-257.
- Pizzutti, C., Gonçalves, R., & Ferreira, M. (2022). Information search behavior at the post-purchase stage of the customer journey. *Journal of the Academy of Marketing Science*, 1-30.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological monographs: General and applied*, 80(1), 1.
- Schmidt, A., Trenka, J., Demmelmair, M., & Krainer, G. (2020). *Vehicle pricing in the new automotive reality*. Munich: Accenture.
- Schnitker, S. A. (2012). An examination of patience and well-being. *The Journal of Positive Psychology*, 7(4), 263-280.
- Shalvi, S., Reijseger, G., Handgraaf, M. J., Appelt, K. C., Femke, S., Giacomantonio, M., & De Dreu, C. K. (2013). Pay to walk away: Prevention buyers prefer to avoid negotiation. *Journal of Economic Psychology*, 38, 40-49.
- Shelegia, S., & Sherman, J. (2022). Bargaining at retail stores: Evidence from Vienna. *Management Science*, 68(1), 27-36.
- Tversky, A., & Kahneman, D. (1985). The framing of decisions and the psychology of choice. In *Behavioral decision making* (pp. 25-41). Boston, MA: Springer.
- Volkema, R. J., & Fleck, D. (2012). Understanding propensity to initiate negotiations: An examination of the effects of culture and personality. *International Journal of Conflict Management*, 266-289.
- Wernerfelt, B. (1994). Selling formats for search goods. *Marketing Science*, 13(3), 298-309.
- Zeng, X., Dasgupta, S., & Weinberg, C. B. (2014). The effects of a “no-haggle” channel on marketing strategies. *International journal of research in marketing*, 31(4), 434-443.
- Zettelmeyer, F., Scott Morton, F., & Silva-Risso, J. (2006). How the Internet lowers prices: Evidence from matched survey and automobile transaction data. *Journal of marketing research*, 43(2), 168-181.
- Zhang, X., Manchanda, P., & Chu, J. (2021). “Meet me halfway”: The costs and benefits of bargaining. *Marketing Science*, 40(6), 1081-1105.