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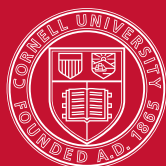


The Impact of *Prix Fixe* Menu Price Formats on Guests' Deal Perception

Cornell Hospitality Report

Vol. 10, No. 15, November 2010

by Shuo Wang and Michael Lynn, Ph.D.



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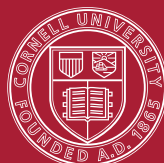
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EXECUTIVE SUMMARY

A web study of nearly 500 U.S.-based respondents compared three possible formats for presenting the service charges for a *prix fixe* meal, namely, as a percentage added to the meal price, as a dollar amount added to the meal price, and as an unknown amount obscured by inclusion in the full meal price. For those who received a single price only (with an unstated service charge), the respondents estimated a mean service charge just over 13 percent, which is reasonably close to inferring the commonly applied 15-percent service charge. The respondents thought that a 12-percent added charge was good value, but when the stated service charge was higher than the conventional 15 percent they viewed the meal as a bad deal compared to the meal with the unknown service charge included. Survey participants regarded the dollar-amount service charges similarly, but this format also may serve to obscure the service-charge calculation. The chief implication for restaurants is that even with a *prix fixe* menu, guests are making value calculations at all times, and the service charge is one of those value issues—one that seems to stick out in customers' minds.

ABOUT THE AUTHOR

Shuo Wang is a Ph.D. candidate in marketing at the Cornell University School of Hotel Administration (sw324@cornell.edu). Prior to attending Cornell, he held several managerial positions in sales and marketing and revenue management at Swissôtel, Kempinski, and Shangri-La, as well as InterContinental Hotels in China. The holder of a master's degree in economics from University of Bristol, UK, Shuo is focusing on consumer psychology, particularly behavioral pricing, in his doctoral study. His research has been presented at behavioral pricing conferences and at the Harrah hospitality research summit, where he won the best paper award. He is co-author with Michael Lynn of an earlier *Cornell Hospitality Report*, "The Effects on Perceived Restaurant Expensiveness of Tipping and Its Alternatives."



Michael Lynn, Ph.D., is Burton M. Sack '61 Professor in Food and Beverage Management and a professor of consumer behavior and marketing at the Cornell University School of Hotel Administration. He received his Ph.D. in social psychology from the Ohio State University, and has taught in the marketing departments of business and hospitality schools since 1988. He paid his way through school by waiting tables and bartending. This experience sparked his interest in service gratuities (tipping), a topic on which he has over 35 published academic papers. His other research focuses on consumer status and uniqueness seeking. He is a past editor of the *Cornell Hospitality Quarterly*, and is currently on the editorial board of the *Journal of Academy Marketing Science*, which gave him an outstanding reviewer award in 2006.

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Although *prix fixe* restaurants are not as common in the U.S. as they are in Europe, the *prix fixe* approach seems to have gained increasing popularity over recent years. For example, many high-end dining establishments now feature chef's tasting menus where customers can savor a large assortment of small-portion dishes at a fixed price (often with wine pairings). Other restaurants often use *prix fixe* menus to cater functions, particular crowds, or special days (e.g., theatre or sports dates). Some restaurants discard their regular *à la carte* menus on special occasions, such as Valentine's Day or Mothers Day, and instead try to upsell extravagant, multi-course *prix fixe* meals.

One issue for restaurateurs who offer a *prix fixe* meal is how to handle service charges. For an *à la carte* menu, U.S. customers typically leave a gratuity that averages about 15 percent of the check.¹ In a *prix fixe* restaurant, however, many operators impose compulsory service gratuities—often at a percentage that is higher than 15 percent of the bill.²

There are several considerations in connection with this pricing practice. First, *prix fixe* meals are frequently used for functions or large dining parties, and waiting tables with big crowds requires substantial labor. Even in *à la carte* restaurants, it is common for restaurants to impose an 18-percent service gratuity for parties of six or more to ensure that waiters and other staff are appropriately compensated. Second, regardless of party size, serving *prix fixe* meals tends to consume considerable time and effort, particularly if the meal has more than three courses or wine pairings. The service charge is also critical when a restaurant is offering a *prix fixe* menu as a special deal. To maintain a decent profit in that case, the

¹ CNN/Money, *How Much to Tip*. [cited 6 April, 2010]. available from <http://www.money.cnn.com/pf/features/lists/tipping>

² European restaurant operators, on the other hand, have little flexibility in altering *prix fixe* gratuity arrangements as compared to their American counterparts because service gratuities are regulated in Europe. The authors thank an anonymous reviewer for this comment.

restaurant may require mandatory, higher-than-average service gratuities to offset the relatively modest meal price.

This report examines the way customers view the value related to a *prix fixe* restaurant's meal pricing, especially as it relates to the service charge. Some restaurateurs build the surcharge into the menu price and present an all-inclusive price to customers. Others, however, partition the meal price and the service charge. Indeed, as we explain below, research on price partitioning suggests that operators may be better off if they separate the surcharge from the base price, due to pricing psychology. We conducted an earlier study, for instance, which showed that participants rated restaurants with customary tipping or 15-percent automatic gratuity policies (partitioned prices) as less expensive than restaurants that build the 15-percent gratuity into the menu prices. In addition, participants ordered more expensive meals when automatic gratuities were separately listed in the bill than when the cost of service was consolidated into the menu prices.³

When the service charge is separate from the meal price, restaurateurs may also present that charge either in

³ S. Wang and M. Lynn, "The Effects of Perceived Restaurant Expensiveness of Tipping and Its Alternatives," *Cornell Hospitality Report*, Vol. 7, No. 3 (2007).

Participants responded differently to *prix fixe* menu prices when the prices showed a separate service gratuity than they did to equivalent menu prices where the gratuity was built into the price. More important, these findings suggested that surcharge levels moderated the relationship between price format and deal perception.

percentage or in dollar terms. Again, there are research findings that support either approach. Consequently, our study here addresses the following two questions: (1) Do customers respond differently to various price presentations on *prix fixe* menus?, and (2) Is there an optimal price format for *prix fixe* menus? In answering those questions, we first review relevant literature to provide theoretical explanations of the impact of price partitioning on consumers' deal perception. We then present an experiment to examine our specific hypotheses. Finally, we discuss our results and provide managerial implications for presenting *prix fixe* menu prices based on our study findings.

Theoretical Framework

As we mentioned, research on behavioral pricing has substantiated the principle that presenting the price of an offer in separate parts (i.e., a base price plus mandatory surcharges) induces different responses from customers than does presenting a single consolidated price.⁴ The presentation influences consumers' recollection of total cost, value perceptions, preference, demand, purchase intentions, and price satisfaction, as well as their attitudes toward the brand and retailer. What we have not seen in previous studies is agreement regarding why customers respond differently to partitioned prices than they do to an all-inclusive presentation.

Some researchers suggest that the presence of multiple tags in a partitioned price forces consumers to mentally work out the total cost as they assess an offer.⁵ Since precise mental calculation requires substantial time and effort, most consumers instead tend to focus on the base price and make a rough adjustment for surcharges or ignore the surcharges completely. As a result, on average, partitioned prices often lead to a better deal perception than equivalent all-inclusive prices. For example, Morwitz *et al.* found that charging a typical shipping and handling fee separately from the catalogue price of a telephone lowered recalled total price and hence increased demand.⁶

⁴ See, for example: Vicki G. Morwitz, Eric A. Greenleaf, and Eric J. Johnson, "Divide and Prosper: Consumers' Reactions to Partitioned Prices," *Journal of Marketing Research*, Vol. 35, No. 4 (1998); Hooman Estelami, "The Effect of Price Presentation Tactics on Consumer Evaluation Effort of Multi-Dimensional Prices," *Journal of Marketing Theory & Practice*, Vol. 11, No. 2 (2003); Y. Hwai Lee and C. Yuen Han, "Partitioned Pricing in Advertising: Effects on Brand and Retailer Attitudes," *Marketing Letters*, Vol. 13 (2002); Richard Thaler, "Mental Accounting Matters," *Journal of Behavioral Decision Making*, Vol. 12, No. 3 (1999); Lan Xia and Kent B. Monroe, "Price Partitioning on the Internet," *Journal of Interactive Marketing*, Vol. 18, no. 4 (2004); Marco Bertini and Luc Wathieu, "Research Note—Attention Arousal through Price Partitioning," *Marketing Science*, Vol. 27, No. 2 (2008).

⁵ Morwitz, Greenleaf, and Johnson, *op.cit.*; Estelami, *op.cit.*

⁶ Morwitz, Greenleaf, and Johnson, *op.cit.*

On the other hand, Kim and Kachersky posited that perceptions of partitioned prices are contingent on the relative salience of each individual price component in the partitioned price. They argued that if one price component is more salient than others—or stands out more, then the overall perception of the partitioned price is likely to be determined by consumers' assessment of that salient price component.⁷ A number of findings from the consumer information-processing literature lend support to this assertion. For instance, it has been shown that salient stimuli are difficult to ignore and that they command more attention.⁸ In addition, people tend to place more weight on salient information, and the resulting decision making focuses more often on the salient information at the expense of other germane, but less salient information.⁹ Therefore, consumers who are exposed to multiple dimensions of a partitioned price may construct their value perceptions of the offer on the basis of the most salient individual price while discounting or disregarding other price information.

The consequence of this unbalanced salience is as follows. When the base price of an offer is more salient than the surcharges, perhaps due to its relatively large amount, consumers tend to focus on the base price and insufficiently process or ignore surcharges. In this situation, customers may recall a lower total cost—an outcome that would give partitioned prices an advantage over equivalent consolidated prices. On the other hand, when the surcharge is more salient than the base price, consumers' deal evaluation may be shaped more by their assessment of the surcharge than by the base price or the total price. In this case, consumers' perceptions of the surcharge play a critical role in overall price judgment.

Price salience is a complex construct that can be manipulated in various ways.¹⁰ Of particular interest here is magnitude salience, which has two chief dimensions with regard to partitioned prices. The first dimension, which actually applies to all pricing, is the relative magnitude of a price to a consumer's reference price or price range. Lambert claimed, for instance, that the larger the magnitude of a price relative

to a consumer's reference price, the more attention that price will attract.¹¹ In addition, Bertini and Wathieu suggested that when consumers have a narrow reference range for a price, it becomes more salient to consumers because it imputes more confidence to their price judgment.¹² The second dimension, which only applies to multi-dimensional prices, is the relative magnitude of one price component to the others within a partitioned price. We know of several studies that have examined the relationship between the relative magnitude of discounts or surcharges to the base price and perceptions of price. Consequently, our study focused on the first dimension of magnitude salience, namely, reference prices.¹³

The role that reference price plays in price perception is closely related to the concept of transaction utility, which was described by Richard Thaler.¹⁴ Transaction utility, or the attractiveness of a deal, depends on the extent to which the observed price compares favorably to some reference price.¹⁵ Both anecdotal evidence and research findings indicate that transaction utility (or disutility) of a single-price offer can greatly influence people's purchase decision. For example, people sometimes buy items on sale solely because of the greater transaction utility associated with sale prices, even though they don't really need the items. Alternatively, when an observed price is considered to be above its reference range, consumers more often than not abandon or postpone the transaction. It could be argued that this effect also extends to individual price components of a partitioned price. In fact, one limitation for the numerical-processing-bias explanation of price partitioning is that the surcharges examined in those studies "were chosen to be well within the typical range for these surcharges," as the researchers put it.¹⁶ Yet, as we discussed earlier, companies may be motivated to impose higher than standard surcharges to cover additional costs or to make the base price attractive.

To examine whether the magnitude of the surcharge relative to its reference range could moderate consumers' perception and evaluation of partitioned prices as against

⁷ Hyeong Min Kim and Luke Kachersky, "Dimensions of Price Salience: A Conceptual Framework for Perceptions of Multi-Dimensional Prices," *Journal of Product and Brand Management*, Vol. 15 (2006).

⁸ Richard E. Nisbett and Lee Ross, *Human Inference: Strategies and Shortcomings of Social Judgment* (Englewood Cliffs, N.J.: Prentice-Hall, 1980); and Anthony G. Greenwald and Clark Leavitt, *Audience Involvement in Advertising: Four Levels* (The University of Chicago Press, 1984).

⁹ Shelly E Taylor and Susan T. Fiske, "Salience, Attention, and Attribution: Top of the Head Phenomena," in *Advances in Experimental Social Psychology*, ed. Leonard Berkowitz (New York: Academic Press, 1978); and Timothy D. Wilson *et al.*, "Focalism: A Source of Durability Bias in Affective Forecasting," *Journal of Personality and Social Psychology*, Vol. 78, No. 5 (2000).

¹⁰ Kim and Kachersky, *op.cit.*

¹¹ Zarrel V. Lambert, "Differential Thresholds in Consumer Perception of Retail Prices," *Journal of Psychology: Interdisciplinary and Applied*, Vol. 100, No. 1 (1978).

¹² Bertini and Wathieu, *op.cit.*

¹³ See, for example: Timothy B. Heath, Subimal Chatterjee, and Karen Russo France, "Mental Accounting and Changes in Price: The Frame Dependence of Reference Dependence," *Journal of Consumer Research*, Vol. 22, No. 1 (1995); David M. Hardesty and William O. Bearden, "Consumer Evaluations of Different Promotion Types and Price Presentations: The Moderating Role of Promotional Benefit Level," *Journal of Retailing*, Vol. 79, No. 1 (2003); and Xia and Monroe, *op. cit.*

¹⁴ Richard Thaler, "Mental Accounting and Consumer Choice," *Marketing Science*, Vol. 4, No. 3 (1985).

¹⁵ *Ibid.*

¹⁶ Morwitz, Greenleaf, and Johnson, *op.cit.*

their all-inclusive counterparts, we conducted an online experiment that focused on *prix fixe* menus. Two characteristics of service gratuities at restaurants are worth noting. First, unlike some types of surcharge, the levels of voluntary restaurant gratuities are usually established by social norms, which are fairly standard across a country or culture. The average gratuity in the U.S. is about 15 percent of the bill (for satisfactory service). Because of this cultural norm, consumers' reference range for restaurant gratuities is relatively constricted and homogenous. Second, the fact that restaurant gratuities are usually thought of or presented in a percentage format also facilitates price comparison and judgment because the tip is stated in relative units and is not influenced by dish prices and check sizes. On the other hand, it is more difficult for consumers to compare the prices of menu items since factors such as portion size, special ingredients, reputation of the chef, and restaurant ambiance could all contribute to a wide reference range of dish prices. Hence we argue that in general restaurant gratuities have more magnitude salience than dish prices. As a result, for *prix fixe* menus with all-inclusive prices, given that the surcharge level is masked by the price format and obscured by the relatively large reference range of dish prices, deviations from the standard 15 percent should have little impact on consumers' deal perception. However, a shift from a built-in gratuity to a separately listed percentage gratuity would augment the salience of any surcharge level different from 15 percent. Consequently, consumers' deal evaluations would be shaped more by the derived transaction utility or disutility of that surcharge. Specifically, we proposed that:

H1: Prix fixe menu prices with a percentage gratuity below the conventional 15% will be evaluated more favorably than equivalent all-inclusive prix fixe menu prices. Prix fixe menu prices with a percentage gratuity above the conventional 15% will be evaluated less favorably than equivalent all-inclusive prix fixe menu prices.

In dollar terms. The effect of a dollar-denominated gratuity might be different. If evaluating a percentage gratuity is straightforward for customers because of its small reference range and invariance to the base price, then changing a percentage gratuity to its equivalent dollar amount is likely to reduce the magnitude salience of service gratuities. Then again, stating a gratuity as a dollar amount is less common, and that may act as novel stimulus that draws consumers' attention. Moreover, they might well make an effort to convert the dollar-denominated gratuity to the more familiar and informative percentage frame. Since directly figuring out the equivalent percentage level of a dollar gratuity involves a certain amount of calculation, we propose that consumers are more likely to work backwards. We think they will first estimate the approximate dollar amount

that would correspond to a 15-percent tip. Then they can compare that calculated dollar figure with the actual dollar gratuity. If the actual dollar gratuity is higher, they would then determine how far it is above 15 percent, and if it's lower they would see how far it is below 15 percent. Either way, research has found that the adjustments that people make are inadequate, resulting in a calculated percentage level closer to the standard 15 percent than it actually is.¹⁷ We anticipate that this conversion process would make consumers more accommodating to a deviation from the standard 15-percent gratuity when that tip is specified in dollar terms. If so, they might well consider that to be a better deal than they would a comparable percentage gratuity. Hence we hypothesize that:

H2: A percentage gratuity below the 15-percent norm will be evaluated more favorably than an equivalent dollar gratuity, while a percentage gratuity above the 15-percent norm will be evaluated less favorably than an equivalent dollar gratuity.

Method

We conducted an online experiment to test our hypotheses. Six hundred and six consumer panelists from a national marketing research company participated in our study to earn incentive points upon completion of the online experiment. One hundred and six of them did not go through the entire experiment process and were excluded from our analyses.¹⁸ Of the participants, 42 percent were men, and 84 percent were Caucasian. Their ages ranged from 16 to 82, with the average being 40.39. Two percent of the participants had some education, 21 percent were high school graduates, 41 percent had some college, 24 percent were college graduates, and 11 percent had done post-graduate work. Eighteen percent of the participants reported a household income less than \$25,000 a year, 40 percent reported between \$25,001 and \$50,000, 31 percent reported between \$50,001 and \$100,000, and 11 percent reported more than \$100,000 a year. Their average dining-out frequency at full-service restaurants was four times per month, with a range of zero to 99 times per month. Thus, our sample represented a diverse set of restaurant patrons.

Design and Procedures

The experiment is a 3 x 3 between-subject design (3 surcharge levels: 12% vs. 18% vs. 23%, by 3 price formats: percentage gratuity vs. dollar gratuity vs. all-inclusive price). We chose 12 percent and 18 percent to represent relatively

¹⁷ Amos Tversky and Daniel Kahneman, "Judgment under Uncertainty: Heuristics and Biases," *Science*, Vol. 185, No. 4157 (1974).

¹⁸ Of the 500 completed surveys, we first manually corrected problematic data that can be ascribed to formatting errors. We then trimmed extreme outliers that were three standard deviations away from the mean for each variable.

common gratuity levels that are the same modest deviation below and above 15 percent. We expected that consumers would regard an 18-percent gratuity as a bad deal and a 12-percent gratuity as a good deal in terms of transaction utility. We included the 23-percent gratuity to examine participants' reaction to an aggressively priced service gratuity.

Participants first read a scenario where they were asked to imagine that they are dining with a friend before seeing a Broadway show at a table-service restaurant with a good online review of its service. Next, participants saw a screen with a contrived three-course *prix fixe* dinner menu that included price information. We then told participants that the restaurant had adopted a compulsory surcharge policy rather than customary tips to streamline the service operation and cut down serving time, given the time constraints that theatre goers often face.

We manipulated the price formats as follows. In the all-inclusive price condition, participants were presented with one single menu price inclusive of gratuities. Participants in the percentage condition read a menu price with one of the three fixed percentage levels of automatic gratuity, and those in the dollar condition were shown a menu price with a fixed automatic gratuity in dollar terms.

After making one selection from each course and placing a hypothetical order, participants responded to several questions on the next screen based on their knowledge about the menu. First, using a Likert-type scale ranging from 1 (very much disagree) to 7 (very much agree), participants were asked to indicate their agreement on the statement, "The pre-theatre dinner provides good value for money." Then they assessed the perceived value of the pre-theatre dinner on a seven-point scale anchored by "bad deal / good deal." Answers to these two questions were used to measure deal perception.¹⁹ To control for any confounding effect of expected service quality on value judgment, we also asked participants to rate their expected level of service quality on a nine-point scale anchored by "very poor / very high." After recalling and writing down the total cost for their "pre-theatre dinner," participants in the various pricing conditions responded to different questions for additional analyses. In the end of the experiment, data about participants' tipping habits and attitudes as well as their demographic information were collected.

Results

Expected service quality. The means for participants' expected service quality ratings were between 7.15 and 7.69 on the nine-point scale, depending on which of the nine

When service gratuities were above 15 percent, participants' deal perception was diminished, despite the partitioned menu prices, and that deal evaluation was shaped more by the surcharges than by recollection of a low total expense.

¹⁹ Participants were also asked to rate the pre-theatre dinner on a 7-point scale from 1 (very cheap) and 7 (very expensive). However, we dropped this question as a measure for deal perception since it is related more to expensiveness.

EXHIBIT 1

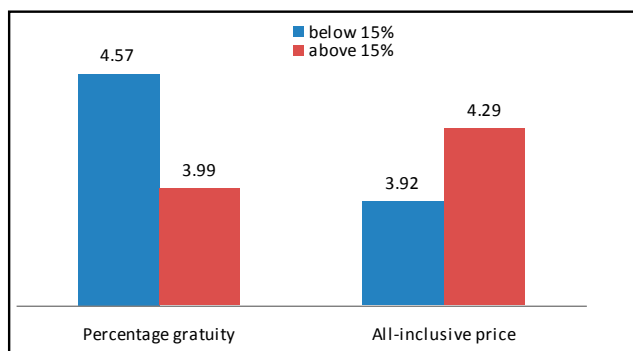
Value index as a function of price format and level of gratuity (full model)

Gratuity amount	Percentage gratuity format	Dollar gratuity format	All-inclusive price format
12%	4.57 (n=44)	4.24 (n=61)	3.92 (n=44)
18%	4.05 (n=52)	4.18 (n=56)	4.47 (n=62)
23%	3.92 (n=59)	4.10 (n=56)	4.14 (n=66)

Note: The value indices were analyzed using a full factorial design of the general linear model (GLM) with price format and surcharge level as between-subject factors and the expected level of service quality as a covariate. Mean value indices with the corresponding number of observations for each condition (in parentheses) are indicated in each cell. The ANCOVA analysis produced a marginally significant two-way interaction between price format and level of gratuity ($F(4, 490) = 2.151, p = .073$). Our predictions were evaluated in a series of comparisons and interaction contrasts using error term from the full ANCOVA model.

EXHIBIT 2

Deal evaluations: Percentage gratuities vs. all-inclusive prices (pooled model)



Note: The deal indices on the pooled model with percentage gratuity and all-inclusive price conditions alone were analyzed using ANCOVA with the expected level of service quality as a covariate. The results yielded a significant two-way interaction between price format and level of gratuity ($F(1, 490) = 7.941, p = .005$).

menu conditions they were presented. We conducted a 3 x 3 ANOVA on expected service quality ratings that indicated that regardless of gratuity manipulation all of our participants expected that they would receive reasonably similar levels of service.²⁰ Nevertheless, in the following analyses, we used the expected service quality rating as a covariate of each menu condition to further tease out its impact on deal evaluations.

Deal evaluations: full model. A value index was constructed by averaging responses to the two value perception questions.²¹ Mean value indices for each condition are summarized in Exhibit 1. The value index was analyzed using a

²⁰ A 3 (surcharge level) x 3 (price format) ANOVA on expected service quality ratings showed that neither the main effects ($F(2, 491) = .079, p = .924$ for surcharge level; $F(2, 491) = .315, p = .73$ for price format) nor the interactions ($F(4, 491) = .8856, p = .473$) were significant.

²¹ Coefficient α for the value index was 0.86.

full factorial design of the general linear model (GLM) with price format and surcharge level as between-subject factors and the expected level of service quality as a covariate. The ANCOVA analysis produced a marginally significant two-way interaction between price format and level of gratuity ($F(4, 490) = 2.151, p = .073$). We evaluated our predictions in a series of comparisons and interaction contrasts using the error term from the full ANCOVA model.²² Note that we combined the data for 18- and 23-percent gratuities (pooled model) since there was no significant difference between these two levels.²³ So, essentially we have two groups, one above 15 percent and the other below (at a 12-percent gratuity).

Deal evaluations: percentage gratuities vs. all-inclusive prices (pooled model). To test hypothesis 1, we considered percentage gratuity and all-inclusive price conditions alone and analyzed the value index as a function of price format (percentage gratuity vs. all-inclusive price) and level of gratuity (below 15% vs. above 15%). Again, the expected level of service quality was a covariate (see Exhibit 2). The results yielded a significant two-way interaction between price format and level of gratuity ($F(1, 490) = 7.941, p = .005$). As expected, menu prices with a percentage gratuity below the 15-percent level ($M = 4.57$) led to a better deal perception ($p = .025$)²⁴ than did equivalent all-inclusive prices ($M = 3.92$). By the same token, the relationship was reversed when the gratuity level was above the 15-percent level ($M = 3.99$ vs. $M = 4.29; p = .083$). Therefore, hypothesis 1 was supported.

²² G. Keppel and T.D. Wickens, *Design and Analysis: A Researcher's Handbook* (Upper Saddle River, N.J.: Pearson Prentice Hall, 2004).

²³ An ANCOVA with 18% and 23% gratuity conditions alone showed that neither the main effects ($F(2, 490) = 1.525, p = .217$ for price format; $F(1, 490) = 1.616, p = .204$ for level of gratuity) nor the interaction between price format and level of gratuity ($F(2, 490) = .273, p = .761$) were significant.

²⁴ A p value of .025 means that there was a 2.5% chance that the relationship we observed between menu prices with a percentage gratuity and equivalent all-inclusive prices was due to pure chance.

We wanted to test the following implied premise for hypothesis 1, namely that, for all-inclusive prices without explicit gratuity information, consumers will most likely assume that the hidden gratuity approximates 15 percent. We therefore asked participants in the all-inclusive price condition to indicate what percentage gratuity they imputed to the all-inclusive menu prices. For the 167 valid responses, the average “hidden” gratuity was 13.28 percent, with a standard deviation of 6.44 percent. Both the median and the mode (49 out of 167) equaled 15 percent. The interquartile range (IQR) was 8 percentage points (18%-10%). These descriptive statistics combined suggested that, without explicit information about gratuity level, most participants in the all-inclusive price condition indeed tended to assume a gratuity close to the standard 15 percent.

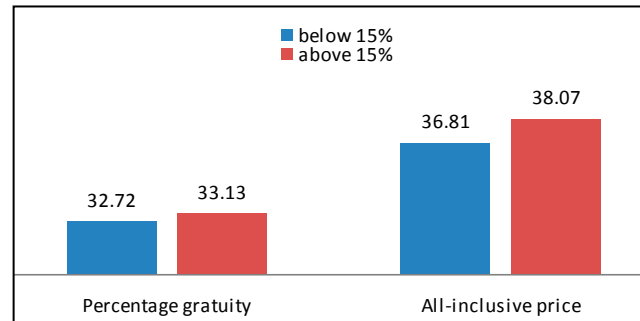
To rule out the possibility that the observed pattern of deal perception was led by evaluation of total expense rather than partitioned surcharges, an ANOVA was also performed on participants’ recalled total price on the pooled model with percentage gratuity and all-inclusive price conditions alone (see Exhibit 3). On average, participants in the all-inclusive price condition recalled a higher total price than those in a percentage-gratuity condition. This was true regardless of whether the gratuity level was below ($M = 36.81$ vs. $M = 32.72$; $p < .001$) or above the 15 percent ($M = 38.07$ vs. $M = 33.13$; $p < .001$). Since there was no significant interaction between price format and gratuity level on recalled total price,²⁵ it is unlikely that recalled total price was the driver for participants’ deal perception.

Deal evaluations: percentage vs. dollar gratuities (pooled model). Next we compared the effect of stating the gratuity as a percentage or as a dollar figure in the partitioned price conditions. Contrary to our expectation, an ANCOVA on deal index for the pooled model with the expected level of service quality as a covariate under percentage and dollar gratuity conditions alone only yielded a significant main effect of gratuity level ($F(1, 490) = 4.587$, $p = .032$). The interaction between price format and gratuity level ($F(1, 490) = 2.086$, $p = .149$) was not significant (see Exhibit 4). Although hypothesis 2 was rejected, the simple-effect comparison on each price format did provide some evidence that dollar gratuity may hinder participants’ deal evaluation by blurring the otherwise apparent evaluation basis of percentage gratuity. For percentage gratuity, participants rated menu prices below the standard gratuity ($M = 4.57$) as a better deal ($p = .017$) than those above 15 percent ($M = 3.99$). In contrast, for those who were shown a dollar gratuity, there was no significant difference between those below 15 percent and those above the standard gratuity on

²⁵ ($F(1, 484) = .433$, $p = .51$).

EXHIBIT 3

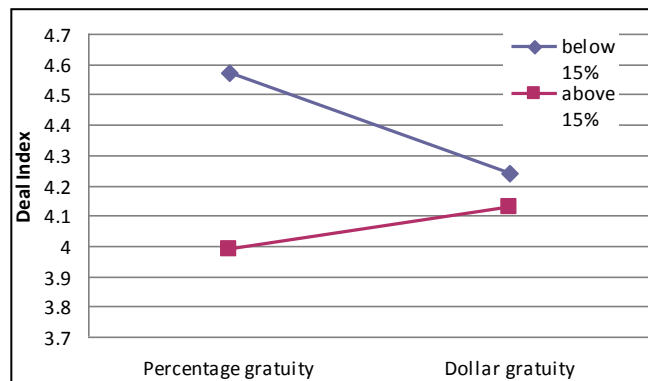
Recalled total cost: Percentage gratuities vs. all-inclusive prices (pooled model)



Note: An ANOVA was performed on participants’ recalled total cost on the pooled model with percentage gratuity and all-inclusive price conditions alone. The results revealed a significant main effect of pricing format only ($F(1, 484) = 48.89$, $p < .001$).

EXHIBIT 4

Value evaluations: Percentage vs. dollar gratuities (pooled model)



Note: An ANCOVA on value indices for the pooled model with the expected level of service quality as a covariate under percentage and dollar gratuity conditions alone yielded a significant main effect of gratuity level ($F(1, 490) = 4.587$, $p = .032$) only. The interaction between price format and gratuity level ($F(1, 490) = 2.086$, $p = .149$) was not significant.

deal evaluation ($M = 4.24$ vs. $M = 4.13$; $p = .604$). We will consider this finding further in the discussion.

Discussion and Implication

First, let’s review our findings. Consistent with previous research, results from this online experiment demonstrated that participants responded differently to *prix fixe* menu prices when the prices showed a separate service gratuity than they did to the equivalent all-inclusive menu prices (where the gratuity was built into the price). More important, our findings suggested that surcharge levels moderated the relationship between price format and deal perception.

One implication of this study is that *prix fixe* restaurant operators who are concerned about customers' deal perceptions should consider disguising service gratuities that exceed 15 percent by offering a single, all-inclusive price.

When the stated service gratuity was above the standard 15 percent, participants perceived that to be a lesser deal than did those who saw equivalent all-inclusive prices. In contrast, when the stated service gratuity was below 15 percent, participants regarded that as a better deal than did their all-inclusive counterparts.

We found an interesting interaction between the partitioned price and the stated gratuity level. To begin with, price partitioning led to lower recalled total costs regardless of tip level than occurred for equivalent all-inclusive prices. However, it was also clear that the stated service gratuity (at least when given in percentage terms) has a greater magnitude salience than do the actual dish prices. We say this because even though respondents recalled lower total expenses they didn't necessarily translate that into a better deal perception, probably because they were paying more attention to the tip level. In particular, when service gratuities were above 15 percent, participants' deal perception was diminished, despite the partitioned menu prices, and that deal evaluation was shaped more by the surcharges than by the low recalled total expense.

We also explored the potential framing effect of surcharge format on deal perception, comparing a percentage gratuity to one stated in dollars. We proposed that participants exposed to dollar gratuities will have a better deal perception when the equivalent percentage gratuities are higher than 15 percent (and vice versa), but we didn't see a statistically significant interaction between gratuity format and gratuity level on deal perceptions. We wondered whether some participants simply chose to ignore the dollar-denominated gratuities or just took them for granted. If this is the case, then the conversion process and calculation against percentages did not happen at all. That means their deal perceptions were driven by other price information, such as the food price or total expense. Second, even if participants did make the conversion calculation, we don't know if they were comparing the result to a 15-percent gratuity level (as we expected), or to some other level—perhaps 10 or 20 percent, which would make for an easier calculation. Although participants may follow the same anchoring-and-adjustment process as we hypothesized, different anchoring values will give rise to offsetting effects because the final values are always biased toward the anchors.²⁶ Finally, some researchers argued that presenting price with a \$ sign may increase the semantic salience of the price and bring about negative reac-

²⁶ We investigated this possibility with the following analysis suggested by a reviewer. For participants in the dollar gratuity condition, the correlation between their reported typical tip level and their own converted percentage gratuity is 0.5. The correlation between their expected percentage gratuity level for restaurants with automatic service charges and their own converted percentage gratuity is 0.3. If all participants had adopted a common anchor the correlation between the anchor value and their own converted percentage gratuity would have been higher.

tions.²⁷ It follows that a dollar gratuity, with its affixed dollar sign, may dampen deal perception relative to the equivalent percentage gratuity in this regard. This possibility may also contribute to our non-significant result.

Perhaps the most important implication of our study is that *prix fixe* restaurant operators should avoid imposing separate service gratuities that exceed 15 percent. We found that respondents considered a higher service charge to diminish their perception of the deal.

Second, our research suggests that if an operator needs (or wants) to impose a service charge above 15 percent, it would be wise to present an all-inclusive price. On balance, restaurants would be better off in terms of guests' deal perception to cover up the true level of service gratuities and present all-inclusive prices to their customers. In fact, this point has been taken by a growing number of restaurants, including Per Se, which made the headlines in 2005 by initiating automatic service gratuities of 20 percent in lieu of tipping.²⁸ Now the restaurant instead prices its two nine-course tasting menus at \$275 each with service included.

²⁷ Kim and Kachersky, *op.cit.*; Sybil S. Yang, Sheryl E. Kimes, and Mauro M. Sessarego, "\$ or Dollars: Effects of Menu-price Formats on Restaurant Checks," *Cornell Hospitality Reports*, Vol. 9, No. 8 (2009).

²⁸ Laura Bly, "The Tipping Point: Will Service Charges Replace Voluntary Gratuities?," *USA Today* [updated 26, August 2005; cited 6 April, 2010]. Available from http://www.usatoday.com/travel/news/2005-08-25-tipping_x.htm.

On the other hand, although our findings indicated that restaurants may benefit in terms of consumers' deal perceptions by listing a service gratuity below 15 percent for their *prix fixe* menus, several caveats are in order. First, we only tested a gratuity level modestly below the standard 15 percent (i.e., 12%). Therefore our results may not hold up for more extreme values. Second, in our experiment, we explicitly told the participants that the service quality of the restaurant is satisfactory and used their expected service quality as a covariate in our analyses. Consequently we controlled our participants' service quality perception. In reality, however, stating service gratuities below 15 percent may bring about negative expectations or perceptions of the service quality, and eventually spoil the overall deal perception.

We can offer no specific direction regarding whether to present the service gratuity as a percentage level or in a dollar amount, since our results suggested that there was no significant difference between the two formats. There is little doubt that a dollar-denominated gratuity tends to hinder participants' judgment on the gratuity level. However, consumers may take different approaches to deal with this ambiguity other than anchor on the standard 15 percent and compare its converted dollar amount with the actual dollar gratuity as we supposed. Further research is needed to address this complex issue. ■

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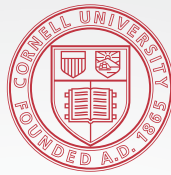
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