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Merchant Steering of Consumer Payment Choice: Lessons Learned From Consumer Surveys

Oz Shy and Joanna Stavins

Abstract:

Recent policy changes allow merchants to influence consumers' choice of payment instruments by offering price discounts and other incentives. This report describes lessons learned from using consumer survey responses to assess whether merchants tried to influence buyers' choice of payment method. To measure the effects of these recent policy changes, we included questions about merchant steering in pilot versions of a new diary survey of U.S. consumers. Our findings are inconclusive because some respondents interpreted the questions differently from the way we intended. This report aims to explain why the diary survey failed to deliver the desired results, and to suggest better ways to use surveys to evaluate the effects of policy changes in the future.

Oz Shy is a senior economist and Joanna Stavins is a senior economist and policy adviser; both are members of the Consumer Payments Research Center in the research department of the Federal Reserve Bank of Boston. Their e-mail addresses are oz.shy@bos.frb.org and joanna.stavins@bos.frb.org, respectively. This paper, which may be revised, is available on the web site of the Federal Reserve Bank of Boston at http://www.bostonfed.org/economic/rdr/index.htm.

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CONSUMER PAYMENTS Research Center

1. Motivation

Until recently, credit card networks prohibited merchants in the United States from giving price discounts on debit card purchases or surcharging consumers on any card transactions. Recent U.S. legislation and court settlements allow merchants to offer price discounts intended to steer customers toward means of payment that are preferred by the merchants—typically payment instruments that are less costly for them to accept. Steering may also involve disclosing merchant fees, for example by posting signs at the store or online. Although the new policies could change the way merchants interact with their customers, either by differentiating their prices based on payment method or by introducing other incentives, we are not aware of any data on the extent to which merchants have implemented steering practices in the wake of the regulatory changes.

Anticipating these legislative and regulatory changes, we included three questions in the 2010 and 2011 pilots of the Diary of Consumer Payment Choice (DCPC)[1]. The questions were intended to learn whether buyers were being steered by merchants toward using payment methods that are less costly to merchants but may not be preferred by the buyers. The diary is representative of U.S. consumers, but the sample is small.

Our initial attempts to use the diary survey to extract information from consumers about whether merchants were influencing their payment choices were not very successful. As we show below, some respondents were confused by some of the questions and provided inconsistent answers. In other cases, respondents interpreted the questions in ways that differed from what we had intended. In the hope that economists and survey methodologists will be able to learn from our experience, we analyze some preliminary findings on the frequency and direction of merchants' attempts to influence consumer payment choices as reported by the respondents who participated in our pilot diary surveys. We then discuss other potential ways

[1] The DCPC is a collaborative effort of the Federal Reserve Banks of Boston, Richmond, and San Francisco that complements and extends the Federal Reserve Bank of Boston's Survey of Consumer Payment Choice. Geoff Gerdes and May Liu (Federal Reserve Board) provided technical assistance with the Diary of Consumer Payment Choice. The DCPC is administered by RAND Corporation.

of measuring the extent and effect of merchant steering and price discounting on the use of a particular payment instrument, and we propose some alternative survey questions that might generate more consistent responses than the three questions that appeared in the 2010 and 2011 DCPC pilots. The 2012 DCPC includes revised questions about price discounts and surcharges based on the payment method used.

2. Regulatory changes: an overview

Until recently, credit card networks prohibited merchants from giving price discounts on debit card purchases, from surcharging consumers on any card transaction, and from openly disclosing the fees they pay on card transactions. Following the 2011 settlement between the U.S. Department of Justice and Visa and MasterCard (DOJ Settlement),[2] card acquirers were required to eliminate clauses from their contracts with merchants that restricted merchants from giving any form of discount on debit card transactions. Because American Express did not take part in this settlement, merchants who accept American Express cannot give price discounts on debit card transactions, even though such discounts are allowed by Visa and MasterCard. Note that prohibitions on card surcharges were not part of the DOJ settlement and therefore U.S. merchants are still not allowed to surcharge. In addition, 10 states continue to outlaw surcharging.[3]

Part of the Durbin Amendment to the Dodd–Frank Wall Street Reform and Consumer Protection Act[4] also relaxes restrictions on merchants' ability to provide discounts to buyers who use the merchants' preferred payment method. However, the Durbin Amendment and the DOJ Settlement differ in their approach—while the DOJ Settlement allows a variety of price discounts, promotions, and other incentives (for example, it allows merchants to distinguish less expensive cards from more expensive ones), the Durbin Amendment groups payment methods into broader categories, such as all credit cards and all debit cards. The Durbin

[2] http://www.justice.gov/atr/cases/f262800/262875.pdf

[3] The 10 states that prohibit surcharges are California, Colorado, Connecticut, Florida, Kansas, Maine, Massachusetts, New York, Oklahoma, and Texas. In a July 2012 proposed settlement, Visa and MasterCard agreed to allow merchants to surcharge credit card transactions, but at the time of this writing, this settlement has not been approved by the class of merchants or by the court.

[4] H.R. 4173, 111th Cong. § 1075 (2009) ("Reasonable Fees and Rules for Payment Card Transactions").

Amendment forbids networks from prohibiting merchants from offering a discount for an entire payment method category, such as a debit card price discount that applies to all debit cards.

On July 13, 2012, the Eastern District of New York Court was asked to approve a class settlement between Visa and MasterCard and a large group of merchants that would allow merchants in the United States for the first time to impose surcharges on card transactions.[5] The proposed settlement places some restrictions on merchants regarding the magnitudes of card surcharges as well as the procedures that merchants must follow, but—if the settlement is approved—merchants may be allowed to surcharge card transactions in the future. Because our diary pilots were administered prior to this proposed settlement, respondents were not asked to report whether merchants had imposed surcharges on payment card transactions.

3. Effect of policy changes

Although the new pieces of legislation introduced substantial changes to the way merchants are allowed to differentiate prices, very little is known about how these new policies have been or will be implemented. In particular, we do not know whether or how they will affect actual merchant steering attempts and whether merchants will actually differentiate their prices according to different payment methods. For this reason, we decided to include three questions about merchant steering in the DCPC pilots.

Credit cards have traditionally been considered the payment instrument that is most costly to merchants, with the largest component of that cost attributable to the high interchange fees merchants pay to card issuers. Garcia-Swartz, Hahn, and Layne-Farrar (2006, Table 2-1) report that the average per-transaction merchant processing cost was $0.27 for cash, $1.14 for credit card, $0.75 for signature debit, and $0.57 for PIN debit.

Merchants may therefore have an incentive to steer their customers away from credit cards and toward less costly payment instruments, such as cash or debit. However, even though the recent court settlement allows merchants to offer price discounts to steer consumers toward

[5] Case No. 05-MD-1720-JD-JO, Document 1588-1. This is a class settlement for a number of consolidated lawsuits brought against Visa and MasterCard since 2005.

less costly means of payment, merchants are unlikely to be able to take full advantage of these new freedoms because they currently lack complete information on the exact merchant discount fees for their customers' credit cards (see Schuh, Shy, Stavins, and Triest 2012 for a comprehensive analysis of the information problems faced by merchants).

In addition to merchants' lack of full fee information, there are other obstacles that may prevent merchants from offering buyers price discounts based on payment method. Customers may become confused and even suspicious because they may not be aware that credit card transactions are more costly to merchants than transactions made with debit cards or cash. In addition, Briglevics and Shy (2012) show that offering buyers price discounts on cash and debit transactions may not be profitable to merchants because cash and debit price discounts reduce revenues from consumers who would use these lower-cost payment methods even in the absence of price discounts. Note that offering price discounts is not the only option merchants have—they may be able to steer buyers away from a costly payment method by displaying signs explaining their high costs associated with accepting certain payment instruments. The appendix provides examples of such signs.[6]

Very few papers in the academic literature investigate whether and to what degree merchants can increase their profits by providing price discounts on the use of particular payment instruments. Ingene and Levy (1982) examine marketing and financial implications of offering a discount to encourage payment via cash rather than credit card. They use a telephone survey sample of 248 respondents to study responses to offers of hypothetical cash discounts in the range of 0 to 6.5 percent. Grant (1985) extends Ingene and Levy (1982) by analyzing how payment instrument choice affects profits if merchants offer a discount.

4. Diary data

To examine whether merchants attempt to influence consumers' choice of payment method by giving buyers price discounts or other incentives, we use preliminary results of the

[6] Several papers have empirically investigated buyers' characteristics associated with their choices of payment instrument. White (1975), Bounie and Francois (2006), Klee (2008), Foster et al. (2011), Schuh and Stavins (2010), Ching and Hayashi (2010), Simon, Smith, and West (2010), Arango, Huynh, and Sabetti (2011), and Koulayev, et al. (2012) have investigated the effects of monetary incentives on payment choice.

new Diary of Consumer Payment Choice (DCPC). Pilot versions of the diary, administered in 2010 and again in 2011, were designed to obtain detailed information on all transactions made by consumers within a designated three-day period. Respondents were assigned different three-day periods to record their transactions, but all the assigned periods were for three consecutive days at some point during the month of October. For each transaction, whether a purchase or a bill payment, respondents recorded date and time, dollar value, type of merchant, and payment method used, for both transactions made in person and those made online. The diary provides more detailed, transaction-specific information than the broader Survey of Consumer Payment Choice (SCPC; see Foster, Meijer, Schuh, and Zabek 2011). Because the diary respondents also fill out the SCPC, we have access to a wide array of information about them. The diary is representative of U.S. consumers, but the sample size is small: 353 respondents over three days in 2010 and 389 in 2011, and the standard errors are relatively large. Having tested the results of the two pilot diaries, we are in the process of conducting the 2012 DCPC on a full sample of over 3,000 respondents.[7]

4.1 Measuring the effects of policy change

In addition to asking respondents to provide detailed information about each transaction, we also included questions designed to measure whether merchants took advantage of recent policy changes by trying to influence their customers' payment choice. It is important to emphasize that the DCPC is a consumer survey, in which the aim was to solicit the information from consumers about actions taken by merchants, and not a merchant survey, in which the perspective of respondents might be different. We did not expect consumers to understand or even to be aware of the recent policy changes—we simply asked them to record their experiences while conducting transactions.

Respondents were asked to answer the following questions about each transaction:

[7] Official results from the 2012 DCPC will be published after the data are analyzed and evaluated.

Question 1: Did the merchant accept the payment method you most preferred to use for this purchase? (If yes, please leave blank. Otherwise, please indicate the payment method you most preferred to use.)

Objective: This question was designed to assess potential steering of consumer payment choices by merchant acceptance decisions. If the merchant accepts the buyer's most preferred payment instrument, but the buyer pays with a different instrument, we may be able to infer that the merchant was able to influence the buyer's payment choice.

Question 2: Did the merchant try to influence your choice of payment method by offering discounts or incentive programs, posting signs, or refusing to accept certain payment methods? (Please circle Y for yes or N for no.)

Objective: This question was intended to get consumers' perspectives on whether merchants actively influenced buyers by steering them toward less costly payment methods. Note that a "Yes" answer does not imply that the merchant successfully steered the customer to another payment method, only that he *tried to* influence the customer's choice of payment. This question was intended to measure directly which merchants try to steer their customers and how often.

Question 3: Did the merchant give you a discount on your purchase for the payment method you used? (Please circle Y for yes or N for no.)

Objective: This question asked about a very specific method of steering, namely about providing price discounts for using less-costly payment instruments. Discounting for payment choice was not widespread.

4.2 Cognitive interviews: How did the respondents interpret the questions?

In order to understand how the respondents had assessed the diary questions, the Federal Reserve Bank of San Francisco and the RAND Corporation commissioned cognitive interviews conducted with a subsample of the diary respondents. Cognitive interviews are sometimes used to improve survey instruments.[8] In this case, the cognitive interviews were conducted by a Carnegie Mellon University professor who specializes in behavioral decisionmaking and survey methodology.[9] The main goal of the cognitive interviews was to identify potential confusion about the payment diary and misinterpretation of the questions, and to solicit respondents' feedback about the clarity of instructions, questions, and categories of payment methods and merchants. Interviewees were also asked whether the diary booklet had provided a good memory aid to assist in accurately recording transactions. Because the 2010 and 2011 diaries were pilot surveys, we used the feedback we received from these interviews to improve future designs of the diary.

The interviews revealed that respondents had interpreted the three questions in a variety of ways. For example, some respondents had answered "Yes" to Question 1 if a merchant did not accept Discover cards or "Yes" to Question 2 if a merchant offered a discount for using a store-branded credit card. These examples indicate that at least some respondents had interpreted the questions as referring to specific types of payment cards, rather than to the entire category of credit cards, as the question had intended.

5. Analysis of the results

This section presents and interprets the responses to the three questions described above. The diary questions served as a first attempt to analyze whether and, if so, how merchants steer buyers' payment choice. Table 1 summarizes diary respondents' answers to Questions 1–3, for both 2010 and 2011.[10] For Question 1, the diary instructions asked respondents whose preferred payment method had been accepted to leave the question blank. In 2010, for about 80 percent of transactions the question was left blank and for 20 percent of transactions the question was not left blank. In 2011, the numbers were 76 percent and 24 percent, respectively. However, as Table 1 shows, the majority of transactions where the

[8] See, http://cpr.iub.edu/uploads/AIR2012%20Cognitive%20Interviews.pdf.

[9] http://www.cmu.edu/qolt/People/alumni-researchers-staff/bruine-wandi.html

[10] Note that the data displayed in the tables are weighted to represent all U.S. adults (ages 18+). The sampling weights were created by a raking procedure to match the sample in the diary to the U.S. population, based on gender, race, age, education, household income, and household size from the Current Population Survey (CPS). Weighted aggregate results were constructed by standardizing the weights by the number of days respondents were observed.

question was not left blank were conducted using the respondent's preferred payment method: 62 percent of transactions in 2010 and 76 percent in 2011. These respondents stated that the payment method they used was in fact their preferred method. In cases where respondents stated that a merchant did not accept their payment method but also stated that they used their preferred payment method, we corrected those responses and included them together with the responses of those who left the question blank. Thus, for over 96 percent of transactions the preferred payment method was accepted by the merchant, according to the corrected results of this question.

In Question 2, steering was defined as including discounts, while Question 3 asked specifically about discounts. Some respondents answered "No" to the steering question (Question 2), but "Yes" to the discount question (Question 3). We corrected those responses and assumed that if a merchant *did not* try to steer a consumer, no discount was offered. As Table 1 shows, by excluding the transactions for which no steering took place, the number of transactions for which a discount was given dropped from the reported 3–4 percent to about 2 percent. In other words, a "No" response to Question 2 means that there should also be a "No" response to Question 3. After these adjustments, the pilot DCPC indicates the following:

(a) In over 96 percent of transactions, merchants accepted the payment method preferred by the buyer.

(b) Merchants attempted to steer buyers in about 6–7 percent of the recorded transactions.

(c) Merchants gave discounts on the payment instrument used in approximately 3–4 percent of the transactions, but we believe that only 2 percent of the transactions were offered discounts based on the choice of payment method.

Steering was not widely reported by the respondents, and price discounts were even less common. Both are costly to merchants (Briglevics and Shy 2012) and may be confusing to consumers, as discussed above.

Table 2 displays responses to Question 2 (steering) and Question 3 (price discounting), broken down by respondents' demographic and income attributes. Although buyers with the lowest level of education (less than high school) were most likely to report steering by merchants in 2010, this was not the case in 2011, and the 2010 number was based on only 12 transactions reported by three respondents. Respondents in the lowest-income cohort and the second-highest income cohort reported a higher frequency of steering than those in any other income group in 2010, but this pattern was not observed in 2011. Black and Asian consumers were more likely to report steering than white consumers in 2010, but in 2011 Latino and Other respondents exhibited the highest frequency of being steered. Thus, there is no evidence of systematic differences across demographic or income groups.[11]

Table 3 displays steering and price discounts by merchant type and shows that in 2010 steering was most commonly reported in health, medical care, and personal care establishments. However, in 2011, transportation and tolls was the category with the highest reported number of steered or discounted transactions. Although this finding indicates that steering practices may have changed over time, it may simply reflect that respondents' interpretation of steering is inherently subjective.

Table 4 shows the average dollar values of transactions for which the preferred payment method was accepted or not (top row), for which merchant steering was reported or not (middle row), and for which price discounting was reported or not (bottom row), in 2010 and 2011. Merchants may have an incentive to offer discounts for larger-value transactions, because the credit card interchange fee increases with transaction value.

The average value of the transactions for which the preferred payment option was not accepted was higher than the value of those for which the preferred method was accepted, but the difference was not statistically significant in either 2010 or 2011. In 2010, the average dollar value of steered transactions was $73, compared with $33 for nonsteered transactions. In 2011, the values were $26 and $34, respectively. The average values of steered and nonsteered

[11] Regression results confirmed this finding: few demographic variables were statistically significant in explaining steering or discounting, controlling for merchant-specific and transaction-specific variables. The regression results are not reported here, but are available from the authors. Future analysis will test for geographic differences in steering based on whether the respondent resides in an urban, rural, or suburban location.

transactions were statistically different from each other in both years, but it is difficult to draw any conclusions from this finding, because the direction of the difference changed from 2010 to 2011. Note that the dollar values are based on a small number of observations, and so the change of direction from 2010 to 2011 may not be economically meaningful.

The average dollar value of transactions for which respondents reported being offered discounts was higher than the value of transactions for which no discounts were offered in both years: the average transaction value for which a discount was offered equaled $65 in 2010 and $108 in 2011, and the average transaction value with no discount equaled $35 and $31, respectively, although the difference was significant only in 2010.

Table 5 displays the percentage of transactions, broken down by payment instrument used, as reported by the respondents in 2010 and 2011, respectively. Column (1) shows the distribution by payment instrument in percentage terms of transactions for which consumers reported neither discounting nor an attempt at steering, column (2) displays the distribution by payment instrument of transactions for which consumers reported steering attempts by merchants, and column (3) shows the distribution by payment instrument of transactions for which consumers reported receiving a price discount on the payment method they used.

Because credit cards are typically considered the most expensive payment method for merchants (Garcia-Swartz, Hahn, and Layne-Farrar 2006), we expected to find evidence of merchants' attempting to steer consumers to pay using cash or debit instead of credit. If merchants successfully persuaded consumers not to use credit cards, the percentage of transactions where credit cards were used in the steered column (2) would be lower than the percentage of transactions in the non-steered column (1).

However, the pilot diary results are mixed. The 2010 results did not confirm our hypothesis: The percentage of steered transactions for which consumers used a credit card in 2010 (21.4 percent, column 2) is *higher* than the percentage of nonsteered transactions for which consumers used a credit card (16.9 percent, column 1). Note that the numbers indicate the payment instrument that was actually used for the transaction, regardless of whether the consumer initially wanted to use something else. There are several possible explanations for this finding: (a) merchants tried to steer consumers away from credit cards, but the steering attempts did not work; (b) merchants successfully steered consumers away from general-purpose credit cards toward private-label credit cards; (c) the transactions that were steered were conducted at different locations, with different merchants, and/or for different dollar values than the transactions that were not steered, and the share of transactions using credit cards would have been even higher had it not been for steering. Hypothesis (c) was not confirmed by regression results: even when controlling for dollar amount, consumers were more likely to use a credit card than to use a debit card or cash in transactions that were steered in 2010.[12]

In 2011, the share of steered transactions that was conducted using credit cards is lower than the share of nonsteered transactions conducted using credit cards (11.4 percent vs. 15.5 percent), as we would expect. This could indicate that merchants were more successful in 2011 than in 2010 in persuading consumers not to use a credit card, but again the table does not control for the differences among merchants or transaction values. When we control for transaction values in regressions, there is no significant difference between the likelihood of using a credit card versus another payment method, for either steered or discounted transactions.

The discount results are counterintuitive in both years. If merchants offered discounts for not using credit cards—as we would expect—then the share of transactions that were discounted and in which credit cards were used would be lower than the share of transactions that were not discounted and in which credit cards were used. Instead, the opposite was reported: in 2010, 24.7 percent of transactions that were discounted were conducted using credit cards, compared with 16.9 percent of transactions that were neither steered nor discounted. In 2011, 17.4 percent of transactions that were discounted were conducted using credit cards, compared with 15.5 percent of transactions that were neither steered nor discounted. One possible explanation for this finding is that some merchants offer discounts for using their own private-label credit card, but not for general-purpose credit cards, while the diary does not track the exact type of credit card the consumer used. In fact, one of the cognitive interview participants specifically mentioned having been offered a discount for using a store credit card.

[12] Regression results are available on request.

A respondent who used such a credit card and received a discount might therefore state that he had received a discount for using a credit card, even though the discount would not have been offered for using a general-purpose credit card. This example shows that while the questions were intended to refer to the entire payment method category—all credit cards or all debit cards—respondents may have interpreted them differently. Because it is impossible to understand how each respondent interpreted the questions, we view these results as very preliminary and regard them as the first step in analyzing this important policy issue.

6. Were the questions successful in soliciting the desired information?

The three questions were designed to assess whether merchants steered and/or provided discounts based on the payment instrument used by consumers. However, the diary was constrained by the amount of time we wanted respondents to spend on each answer and by the amount of space allocated in the diary booklet that respondents were asked to carry with them each day. Consequently, as we learned, the diary documentation did not provide sufficient explanation and several respondents misunderstood the intent of the questions.

In response to Question 1, several subjects reported that the merchant did not accept their preferred payment method, but also reported that the payment method they used was the same as the method they selected as preferred (Table 1). Because they were apparently able to use their preferred method, it seems that their first choice of payment *was* accepted, even though they reported otherwise. This inconsistency suggests that respondents interpreted "preferred" payment instruments in different ways, a problem we failed to foresee when the diary was designed.

One possible explanation for the discrepancy in the survey responses is that we viewed the entire payment category—in this case credit cards—as a single payment method, whereas consumers may have experienced different merchant reactions, depending on whether they used a general-purpose credit card or a specific-merchant card, and whether they used Visa, MasterCard, American Express, or Discover.

Question 2 asks respondents whether the merchant tried to influence their choice of payment method, listing price discounts first. We intended to measure how often merchants take advantage of their freedom to post signs or otherwise influence their customers' decisions as to which payment method to use. The share of transactions for which respondents answered "Yes" to this question decreased from 2010 to 2011, even though merchant discounts other than cash discounts were not allowed in 2010. The term "discounts or incentives" may have been interpreted by some respondents as card rewards or merchant points, for example, and not specifically tied to customers' choice of payment method at checkout (the cognitive interviews discussed above confirmed this suspicion). As with Question 1, respondents may have referred to a subset of a payment category rather than to the entire category.

Question 3 asks more specifically about price discounts, but does not emphasize that we are interested only in discounts *resulting from the choice of payment method*. For example, respondents may have referred to a price discount that was not related to their choice of payment method, such as a 10 percent discount on merchandise, instead of a discount offered only for using a specific payment method. The share of respondents who answered "Yes" to Question 3 dropped from 2010 to 2011, again contrary to what we expected to find based on the regulatory changes that occurred.[13]

Even though Question 2 included price discounts as one possible form of steering, some respondents reported not being steered ("No" to Question 2) but receiving a discount ("Yes" to Question 3), clearly misinterpreting the questions. It is possible that respondents replied "Yes" to discounts when they received a discount, regardless of the payment method they used, but lack of precision in both questions makes it impossible for us to draw any valid conclusions.

7. Proposed revisions for the 2012 DCPC

Because we found evidence that the diary questions about steering and discounting were ambiguous, we revised the questions that were included in the 2012 DCPC. We decided

[13] It is also possible that consumers thought a discount referred to a sale on the product (rather than on a payment method), in which case the economic recovery from 2010 to 2011 could have brought fewer sales because the economy was doing better and consumption was stronger.

not to ask about merchant steering, as steering is not a well-defined concept. In addition, following the July 2012 proposed settlement in which Visa and MasterCard agreed to allow merchants to surcharge credit card transactions, we included a question about surcharging. Consequently, the new questions focus exclusively on discounts and surcharges. In addition, we added the word "specifically" to each question to guide respondents to report only the discounts or surcharges that were tied to the choice of payment method, rather than those offered for any other reason.

The new questions are as follows:

- If you used cash: Did you receive a discount from the merchant specifically for using cash? (Yes/No)

- If you used a debit card: Did you receive a discount from the merchant specifically for using this debit card? (Yes/No)

- If you used a credit card:
    - Did you receive a discount from the merchant specifically for using this credit card? (Yes/No)
    - Did you pay an extra charge, surcharge, or convenience fee to the merchant specifically for using this credit card? (Yes/No)

Even though the credit card question does not ask separately about store card versus general-purpose card, the diary does ask whether the respondent used Visa, MasterCard, American Express, or a Discover card, in the hope that the resulting responses will enable us to sort out the answers.

8. Conclusions: How to ask survey questions

Policymakers need tools to be able to evaluate whether a given policy has had an effect in practice, and how that change has affected consumers. In the case discussed here, it is important to assess both: (1) whether *merchants* took advantage of the more flexible policies and provided price discounts for using or avoiding particular payment methods and, perhaps, some other steering incentives, and (2) whether and how *consumers* changed their actions in response to merchants' new practices. In order to measure the effect using consumer survey responses, researchers must establish that consumers understand how the policy changes affect them.

We found problems with the way the diary survey questions were formulated and evidence that the questions were interpreted differently by different people. While there are possible explanations for the responses we received, it is impossible to confirm or reject the validity of these responses based on the available data. In order to assess the extent of merchant steering or price discounting based on payment method—and therefore to assess whether the policies that relaxed restrictions on merchants were effective in practice—a better survey method must be applied. Survey methodology literature provides some help in how to ask survey questions (for example, Groves et al. 2009, Fowler 1995).

In addition to consumer surveys, other options for measuring the effects of policy changes should be evaluated. One option under consideration is conducting consumer focus groups or cognitive interviews, although the high cost of developing and administering such tools would likely result in small sample sizes. Because the DCPC was designed to be a representative survey of U.S. consumers but not necessarily a representative survey of U.S. merchants, developing surveys of merchants should also be considered. However, merchant surveys present challenges that must be carefully evaluated. For example, small merchants might be afraid to disclose their steering methods. In particular, small merchants who already impose surcharges on credit card transactions (see the appendix for examples) may be afraid to admit to that practice in a survey.

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Table 1: Reported merchant behavior regarding influencing consumer payment choices: 2010 and 2011 (transactions, by response to questions)

	2010		2011	
	Number	Percent	Number	Percent
The merchant...				
Q1: Accepted preferred method (left blank)	1698	79.5	1994	76.2
		(3.4)		(3.3)
Q1: Did not accept preferred method (non-blank)	328	20.5	586	23.8
		(3.4)		(3.3)
Among non-blank responses, actually used preferred method	278	61.5	517	76.0
		(2.1)		(1.6)
Q1: accepted preferred method (adjusted for inconsistency)	1976	96.7	2551	96.6
		(1.5)		(0.7)
Q2: tried to steer	132	6.8	145	5.9
		(1.5)		(1.3)
Q3: gave discount	80	4.0	75	3.3
		(1.1)		(0.9)
Q3: gave discount (excluding non-steered)	49	2.1	50	2.2
		(0.7)		(0.9)

Notes: This table shows the number and weighted percent at the transaction level. Robust standard errors reported in parentheses.

In Question 1, respondents whose preferred payment method was accepted were instructed to leave the question blank. If respondents stated that a merchant did not accept their payment method, but also stated that they used their preferred payment method, we corrected those responses and included them with those from respondents who left the question blank.

In Question 2, steering was defined as including discounts, while Question 3 asked specifically about discounts. Some respondents answered "No" to the steering question (Question 2), but "Yes" to the discount question (Question 3). If respondents said "No" to Question 2 (no steering), we assumed the answer should also be "No" to Question 3 (no discounts).

Source: 2010 and 2011 Diary of Consumer Payment Choice (DCPC)

Table 2: Percentage of transactions characterized by attempted steering and discounting, by consumer demographics: 2010 and 2011

	2010		2011	
	Tried to steer	Discounted*	Tried to steer	Discounted*
Age				
Under 25	7.7	2.5	2.1	1.1
25 to 34	7.6	1.5	9.0	1.6
35 to 44	3.7	1.4	4.9	3.1
45 to 54	4.7	8.6	4.3	3.2
55 to 64	10.2	5.5	4.5	2.1
Over 64	7.6	3.8	4.9	3.1
Education				
Less than high school	60.5	7.0	2.4	2.4
High school diploma	2.6	5.0	4.9	2.0
Some college	8.1	3.9	4.9	2.8
College degree	5.0	1.3	7.0	3.7
Graduate degree	11.9	5.0	6.6	1.2
Gender				
Male	5.0	4.4	4.7	2.1
Female	8.5	3.4	5.9	2.9
Marital status				
Married	5.8	4.5	5.5	2.9
Separated	6.3	5.2	6.8	1.9
Widowed	4.6	0.0	1.3	0.8
Single	9.2	2.3	3.5	1.4
Income				
Less than $25,000	12.2	8.8	5.1	2.3
$25,000 to $49,999	4.9	1.6	6.0	3.2
$50,000 to $74,999	5.1	3.3	7.6	1.1
$75,000 to $99,999	1.7	4.4	2.6	2.6
$100,000 to $124,999	7.1	1.0	2.3	1.2
$125,000 to $199,999	15.3	3.3	6.2	4.5
Greater than $200,000	8.5	5.7	4.1	3.3
Race				
White	5.3	4.8	5.4	2.5
Black	14.0	2.3	2.7	2.0
Asian	12.9	0.0	8.8	2.2
Other	6.2	0.0	5.3	2.6
Latino				
Latino	11.2	0.4	5.7	2.1
Non-latino	6.2	4.3	5.2	2.5

Notes: *Includes all transactions for which the respondents answered "Yes" to Question 3, which asked whether the merchant gave a discount for the payment method used. Values reported are weighted to represent the population of U.S. consumers.
Source: 2010 and 2011 Diary of Consumer Payment Choice (DCPC)

Table 3: Percentage of transactions characterized by attempted steering, discounting, and average amount, by merchant type: 2010 and 2011

	2010			2011		
	Tried to steer	Discounted*	Amount ($)	Tried to steer	Discounted*	Amount ($)
All merchants	6.8	4.0	37	5.9	3.3	34
Goods						
Grocery, pharmacy	7.9	9.1	31	2.1	2.7	27
Gas station, convenience store	7.1	2.7	23	6.8	4.8	25
General merchandise stores/websites	8.2	2.6	54	6.7	2.5	48
All other retail	6.9	6.6	50	9.0	5.1	33
Other						
Payments to people	2.7	1.0	77	4.6	0.0	49
Services						
Restaurants, bar	2.3	2.0	17	2.7	1.1	21
Fast food and beverage	3.9	1.2	7	5.8	0.0	9
Transportation, tolls	5.6	0.0	11	37.4	33.8	13
Recreation, entertainment, travel	2.3	0.6	42	7.2	0.8	26
Health, medical care, personal care	30.4	2.4	88	1.7	0.0	55
Maintenance and repairs	1.4	25.0	73	26.9	22.1	342
Education day care	2.7	2.7	75	0.0	0.0	80
Nonprofit, charity, religious	7.2	1.8	69	0.0	0.0	86
Other services	11.4	1.5	67	2.6	0.0	72

Notes: *Includes all transactions for which the respondents answered "Yes" to Question 3, which asked whether the merchant gave a discount for the payment method used.
Source: 2010 and 2011 Diary of Consumer Payment Choice (DCPC)

Table 4: Average transaction amount ($), by response to questions: 2010 and 2011

	2010			2011		
	Yes	No	p-value	Yes	No	p-value
The merchant...						
accepted preferred method	36	56	0.764	34	43	0.156
tried to steer	73	33	0.002	26	34	0.000
gave discount*	65	35	0.085	108	31	0.197

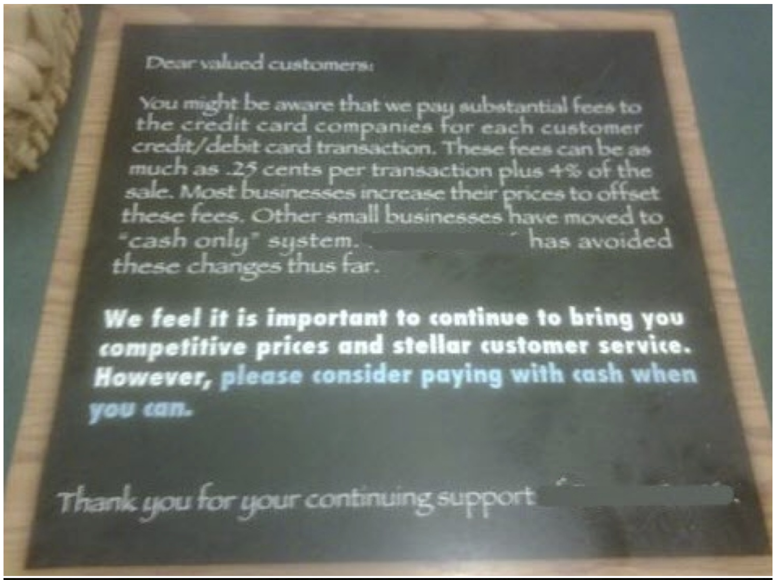
Notes: *Includes all transactions for which the respondents answered "Yes" to Question 3, which asked whether the merchant gave a discount for the payment method used. The p-values were calculated by testing the difference between the natural log of the amounts in the "Yes" and "No" columns within each year.
Source: 2010 and 2011 Diary of Consumer Payment Choice (DCPC)

Table 5: Distribution of payment instruments characterized by no attempt to steer, attempted steering, and discounting: 2010 and 2011 (percentages)

	2010			2011		
	Neither (1)	Steered (2)	Discounted* (3)	Neither (1)	Steered (2)	Discounted* (3)
Cash	36.0	34.0	45.0	61.3	50.5	39.6
Check	7.4	7.7	2.3	1.0	3.5	1.2
Credit	16.9	21.4	24.7	15.5	11.4	17.4
Debit (PIN)	25.8	26.2	18.6	11.5	8.2	0.9
Debit (No PIN)	10.0	3.7	5.7	9.0	5.5	1.9
Prepaid	1.2	2.0	2.7	0.6	16.9	34.6
Bank account number payment	0.1	0.3	1.0	0.1	0.1	0.0
Online banking bill payment	2.4	0.2	0.0	0.0	2.2	0.8
Money order	0.0	4.1	0.0	0.5	0.0	0.0
Other	0.2	0.5	0.0	0.6	1.8	3.6
Total	100.0	100.0	100.0	100.0	100.0	100.0

Notes: *Includes all transactions for which the respondents answered "Yes" to Question 3, which asked whether the merchant gave a discount for the payment method used.
Source: 2010 and 2011 Diary of Consumer Payment Choice (DCPC)

Appendix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You might be aware that we pay substantial fees to the credit card companies for each customer credit/debit card transaction. These fees can be as much as .25 cents per transaction plus 4% of the sale. Most businesses increase their prices to offset these fees. Other small businesses have moved to "cash only" system. [redacted] has avoided these changes thus far.
We feel it is important to continue to bring you competitive prices and stellar customer service. However, please consider paying with cash when you can.
Thank you for your continuing support [redacted]


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on all charge cards.
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SHARP
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Please...


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CASH & DEBIT
PREFERRED
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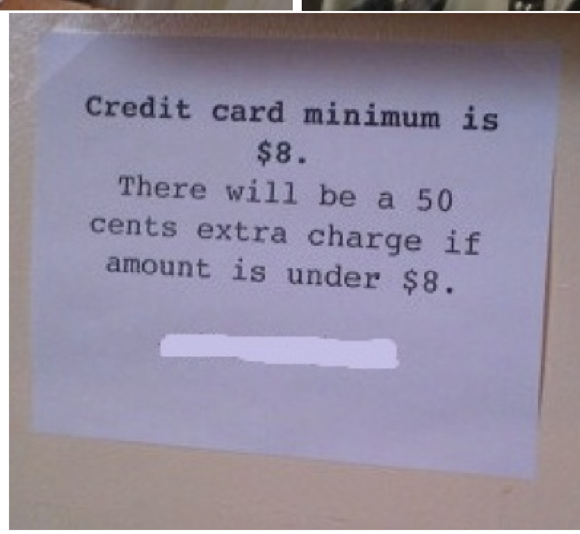
CHECKS


Credit card minimum is
$8.
There will be a 50
cents extra charge if
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