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How effective are rewards programs in promoting payment card usage? Empirical evidence

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ABSTRACT

Card issuers have mainly relied on rewards programs as their main strategy to increase usage. However, there is scarce evidence on the effectiveness of these programs. This paper is addressing two topics which could have important managerial and public policy implications: (i) it estimates the impact of rewards on the use of cards and (ii) it quantifies their economic effects in terms of the cash substitution. We find that rewards may significantly modify choice for card payments. Their economic impact also varies significantly across types of rewards and merchant activities. Additionally, rewards seem to be more effective for debit cards.

1. Introduction

In recent years, some studies have highlighted the cost and convenience benefits of using retail electronic payments and, in particular, card payment instruments.[1] However, in most developed countries consumers keep using cash and other paper-based payment instruments. Card issuers have incurred substantial costs to launch incentive programs (a price-related variable[2]) to stimulate payments with debit and credit cards, presumably assuming that these rewards would significantly increase the use of these cards based on standard comparisons.[3] However, card issuers are facing a great uncertainty on how to allocate the resources to make the incentive programs as effective as desired. On a microeconomic basis, little is known on how to encourage consumers to increase the use of debit and credit cards. Thus, analyzing how rewards programs affect consumers' choices[4] for payment instruments has become a key strategic question in the financial industry.[5] Understanding the impact of rewards in the payment card industry is a hotly debated topic right now. For example, the US Congress is investigating how this type of marketing incentives would affect not only payment choice, but also the interchange fee, which is basically charged to merchants. The proponents argue that this would be an effective tool in switching consumers from cash to electronic form of payments (and many people believe that this is a cheaper way for the economy to process payments). However, the opponents argue that the payment card industry is fairly mature now, and hence rewards are mainly being used for competing market shares between card issuers, instead of getting more people to use payment cards. This limited knowledge is, at least partially, due to the lack of comprehensive microeconomic data on consumers' choices towards

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[1] Humphrey et al. (2003) estimate that "if a country moves from a wholly paper-based payment system to close to an all electronic system, it may save 1% or more of its annual GDP once transaction costs are absorbed". Carbó-Valverde et al. (2003) find similar benefits for Spain.

[2] According to the Reserve Bank of Australia (http://www.rba.gov.au/payments-system/reforms/review-card-reforms/review-0708-pre-conclusions/index.html) the effective, or marginal, price of electronic payment cards takes into account the interest free period and the value of loyalty program rewards.

[3] For example, yearly average purchases with a standard Visa card (with no access to incentive programs) in the US are $5200, while yearly average purchases with VISA cards incorporating reward programs are $26,100 (Levitin, 2008). However, it is worth pointing out that these results could be due to an income effect and selection bias.

[4] Based on comparison of utilities (given underlying stable preferences) determine choices (that change).

[5] Levitin (2008) notes that cards incorporating any type of reward in the U.S have risen from less than 25% of total cards in 2001 to nearly 60% in 2005. Two-thirds of all US cardholders had a reward card in 2005 and 80% of credit card transactions in 2005 were made with rewards cards.

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payment instruments and on the related role of incentive-related mechanisms.[6]

Although the literature on consumer payment choice has evolved recently, studies that incorporate "price" or reward information are still scarce. There are three papers, including this one, examining the effects of payment card rewards on consumer choice of payment instruments. Since each paper analyzes a different market (the US in Ching and Hayashi, 2010; Australia in Simon et al. (2010); and Spain in this paper), the three papers complement each other[7] and have policy implications. In particular, the regulations that aim to reduce the fees that merchants' banks pay to issuers' bank (interchange fees) may have implications on the quantity and quality of rewards. Some argue that reducing interchange fees and rewards enhances efficiency in payment systems because rewards are used to entice consumers to use payment methods that are more costly to society (credit cards are more costly than debit cards). Others argue that reducing rewards deteriorates efficiency because it makes consumers use more costly payment instruments, such as cash, rather than less costly payment cards.

The main goal of this paper is to examine empirically both the effects of incentive programs on payment choice and the impact on the substitution of cash by cards. The contributions of this study are twofold: (i) this is the first empirical study considering different types of rewards to estimate the relative impact of these rewards on the choice for cards relative to cash; (ii) it offers an estimation of the aggregate economic impact of reward programs on the use of cards across merchant activities. In order to address these goals, this paper uses unique survey data to investigate how incentive programs change cardholder choice combining demand and comprehensive information on rewards programs across different merchant activities.

The structure of the paper is as follows. Section 2 explains the main theoretical and empirical contributions on the role of rewards programs and, in particular, the relevance of these programs in the payment cards market. Section 2 also addresses the main hypothesis of this study. Section 3 explores de model specification and data. In Section 4, we estimate binomial logit models in order to explain card (vs. cash) usage for eight different types of merchant activities. In Section 5, we offer simulations on the expected shifts from cash to cards by cardholders when incentive programs are applied, using the main estimates of logit models as an input. These simulations help us evaluate the economic impact of the rewards programs. The paper ends with a brief summary of the main conclusions in Section 6.

2. Background and hypotheses

As prior research and common wisdom suggest, consumers are tempted by suggested benefits and rewards. Most studies on the role of rewards programs for general purchases (not specifically for card purchases) have been undertaken from a behavioral perspective by using laboratory or survey evidence. The assumption that many consumers are sensitive[8] to the influence of promotions and rewards is dependent on the relationship between the persuasion quality of these incentives and the way consumers cope with these persuasion attempts as largely known contributions in this area suggest, such as, inter alia, Kahneman and Tversky (1979). These relationships, however, become more complex when incentives are related to the adoption of a technology itself and when consumers' knowledge on the product and the incentives are diverse (Friestad and Wright, 1994). This could likely be the case of card payment instruments.

Most of these behavioral studies show significantly large and positive effects of incentive programs for general purchases (Hsee et al., 2003). Other studies also show that rewards in certain products produce spillover effects in other related products, a result that also may pose important implications for the selection between paper-based and card-based payment instruments. Heilman et al. (2002) show that when consumers are provided with unexpected cents-off coupons for the purchase of one product in a store they do not only increase demand for that single item but also enhance spending overall.

Among these behavioral studies, there is only few dealing with choice towards cards, although none of them particularly examine the role of incentive programs in card payments. Some early research in the area of consumer behavior already offered intriguing findings for card payments. In particular, Feinberg (1986) and Soman (2001) are experimental studies with data on consumer transactions to compare the spending of consumers who paid with credit cards with those who used cash or checks, and they find that the former spend more. These studies also find that consumers are more likely to use credit cards to purchase durable products rather than short-lived products, suggesting that choice for payment instruments differs significantly across merchant activities. These studies also suggest that the choice of a payment mechanism is often driven by simpler considerations like convenience, acceptability, accessibility and habit.

In the banking literature, however, although some studies examine choice towards payment cards, most of them do not refer to rewards programs. Gross and Souleles (2002) show that consumers' choice towards cards is not linear and they may vary considerably when contractual conditions (such interest rates, repayment schemes or rewards programs) change. In the case of credit cards, these changes in contractual conditions may well explain the stickiness of the use of credit cards to interest rates (Ausubel, 1991). Carow and Staten (1999) estimate the probability of using debit cards, credit cards, and cash for gasoline purchases in relation to demographic and economic characteristics of the consumers. The results show that consumers are more likely to use cash when they are middle age and have lower levels of schooling, lower income and hold less credit cards. Chakravorti and Roson (2006) show from a theoretical standpoint some of the benefits provided in card networks for different consumers and merchants may be related to incentive programs provided by different issuer banks. Similarly, Arango and Taylor (2008) find that aggressive competition in the credit card industry in Canada has meant that consumers actually pay zero or even negative transaction fees through rewards, discounts and other programs. These authors suggest that the purpose of these incentives is to encourage consumer spending and increase card issuer revenue in the form of finance charges and interchange fees. Other recent empirical studies have also explored consumer choice towards payment instruments using surveys on household finances (Hayashi and Klee, 2003; Zinman, 2009). Borzekowski et al. (2008) estimates a series of probit models of debit card holding and use by employing a nationally representative consumer survey.[9] In general, these surveys generally have information on household income, assets and demographics, which are found to be good predictors of the choice for different

[6] Most of the previous studies on the choice of payment instruments have been based on aggregate household surveys offering limited information on attitudes towards cards and no information on the role of reward programs. See, for example, Carow and Staten (1999), Stavins (2001), Hayashi and Klee (2003), Borzekowski et al. (2008) and Zinman (2009).

[7] Unlike the other two papers, this paper examines how consumers respond to different reward types (i.e., discounts, points, gifts, and cash-back). The results can be utilized by card issuers and merchants to design effective rewards programs. In this sense, the paper has implications not only to policymakers but also to businesses.

[8] The monetary sensitivity of consumer choice has already been widely studied. Borzekowski et al. (2008), finds that a transaction fee of less than 2 per cent of the average transaction amount is associated with a 12 per cent reduction in the likelihood of using a debit card

[9] It used 2004 survey data of consumers from the University of Michigan.