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ABSTRACT

This paper provides novel field-experimental evidence on status goods. We work with an Indonesian bank that markets platinum credit cards to high-income customers. In a first experiment, we show that demand for the platinum card greatly exceeds demand for a nondescript control product with identical benefits, suggesting demand for the pure status aspect of the card. Transaction data reveal that platinum cards are more likely to be used in social contexts, implying social image motivations. Combining price variation with information on the use of the card sheds light on the magnitude of the demand for social status. In a second experiment, we provide evidence of positional externalities from the consumption of these status goods. The final experiment shows that increasing self-esteem causally reduces demand for status goods. We infer that part of the demand for status is psychological in nature, and that social image is a substitute for self-image.

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1 Introduction

Social image concerns affect many important behaviors, from donations to political behaviors to student effort (Perez-Truglia and Cruces, Forthcoming; DellaVigna et al., 2012, 2017; Bursztyn and Jensen, 2015; Enikolopov et al., 2017). A fundamental economic behavior – consumption – may also be shaped by social image concerns. Specifically, a desire to signal high income or wealth may cause consumers to purchase *status goods*.¹ In theory, such conspicuous consumption can impose negative positional externalities, and lead to wasteful spending in a consumption rat race.² Empirical research has highlighted the potential role of conspicuous consumption in important economic phenomena such as the wealth gap between Blacks and Whites in the United States (Charles et al., 2009), bankruptcy decisions (Agarwal et al., 2016, 2017), and large expenditures on weddings (Bloch et al., 2004) and festivals (Rao, 2001) among the poor in developing countries.³

However, directly testing for status concerns in consumption is challenging. With observational consumption data, it is difficult to fully separate unobserved consumption utility from a desire to signal high income. For example, a person who buys a Ferrari and an Armani suit could simply have a particularly strong taste for nice cars or fashionable clothes. Moreover, such consumption decisions could be driven by self-image and identity, rather than social image. That is, consuming the types of goods associated with wealth might provide an individual with psychic utility, even if that consumption was invisible to others (Akerlof and Kranton, 2000). More generally, self-image or identity and the demand for status could be deeply connected, and it remains an open question whether self and social image are substitutes or complements. Nor do we understand whether the demand for social image is purely instrumental, or instead is also valued for hedonic reasons.

In this paper, we (i) provide the first field-experimental evidence of the existence of status goods, and shed light on the magnitude of the demand for status; (ii) test for the associated positional externalities; and (iii) show that the demand for status is in part psychological (as opposed to purely instrumental), with social image acting as a substitute for self-image. We work with a large bank in Indonesia to design three related experiments that market the bank’s popular platinum credit cards. The credit cards in our experiment are widely-recognized throughout Indonesia.⁴ They are typically restricted to high-income customers, and come with a number of instrumental benefits, such as a higher credit limit and discounts on the purchase of luxury goods. Our sample consists largely of urban, (upper) middle-class bank customers. We consider this an important context in which to study conspicuous consumption. The developing world is experiencing rapid economic growth

¹See Veblen 1899; Duesenberry 1949, and Bagwell and Bernheim 1996.

²See, for example, Frank 1985, Banerjee 1990 and Hopkins and Kornienko 2004.

³In fact, the role of income-signaling in consumption was already pointed out by Adam Smith in the *Wealth of Nations*: “A linen shirt, for example, is strictly speaking, not a necessary of life. [...] But in the present times, through the greater part of Europe, a creditable day-labourer would be ashamed to appear in public without a linen shirt, the want of which would be supposed to denote that disgraceful degree of poverty which, it is presumed, nobody can well fall into without extreme bad conduct” (Smith, 1776).

⁴We confirm that the cards are viewed as prestigious, using survey evidence presented below.

and urbanization – precisely the conditions under which Veblen originally theorized conspicuous consumption would be most important. Recent estimates suggest that approximately 130 million of 330 million global luxury good consumers are located in emerging markets.⁵ In Indonesia, for instance, there are an estimated 74 million middle-class consumers, and this number is expected to double by 2020.⁶ Such individuals are obtaining access to credit cards and a broader set of visible consumption and luxury goods.

Isolating the demand for status. The first experiment shows that a substantial part of the demand for the platinum card is explained by the desire to own the prestigious card itself, beyond the tangible benefits and services it comes with. The innovation of this experiment is to engineer a control product which holds constant all the instrumental benefits of the platinum credit card, while stripping away the associated status component. Specifically, we offer paid credit card upgrades to a population of bank customers. In a control group, customers are offered all the financial services and instrumental benefits of the platinum card, made available as a benefits upgrade on a nondescript credit card. In a treatment group, customers are instead offered an upgrade to an actual platinum card. In both groups, customers are truthfully told that they were randomly selected to receive the offer, to avoid providing information about their relative income and status.

We find that demand for the platinum card (21% take-up at market price) is substantially higher than demand for the instrumental benefits it comes with (14% at the same price), providing prima facie evidence of demand for the status aspect of the card.⁷ The difference in demand for the two offers (7 percentage points) is economically meaningful: offering a 25% price discount on the instrumental benefits package in the control group increases take-up by only 3.7 percentage points. Surveys and interviews of customers assigned to the control group suggest that the benefits package was fully credible. Despite believing that they would receive the exact same benefits and services as platinum card-holders, control group customers were less likely to accept the offer.

Demand for the status aspect of the card *decreases* with income. It is the relatively lower-income individuals in the sample who show the highest demand for the status aspect of the platinum card. By contrast, the richest customers show no differential demand for the actual platinum card compared to the instrumental benefits upgrade. Our interpretation is that richer individuals already have ways to signal their income, while the platinum credit cards are a more powerful (marginal) signaling tool for those with comparatively lower incomes.

⁵See “Luxury Goods Worldwide Market Study” *Bain & Company*, 2014. See Banerjee and Duflo (2008) for evidence on the consumption patterns of middle-class households around the world.

⁶See “Indonesia’s Rising Middle-Class and Affluent Consumers”. *Boston Consulting Group*, 2013.

⁷In a slightly modified variation of the platinum card script we instead truthfully informed customers that they were selected as a result of being among the bank’s top customers. In principle, this might boost customers’ self-image, yet it has little additional impact on take-up (23% compared to 21% for those informed they were selected at random). Note also that both scripts are truthful. The sample for this first experiment consisted of existing customers who are both selected to be higher income than the typical bank customer, *and* drawn randomly from the list of such customers, as well as randomly assigned to treatments. Thus, the customers are truly randomly selected and also truly chosen based on their income.

Status-signaling in credit card transactions. Next, we analyze individual credit card transactions among a larger observational sample of customers to understand how the platinum card is used in practice, and whether this is consistent with social image motives. Exploiting the bank’s assignment rules for credit limits and card types, we show that platinum card holders are more likely to use the card in social situations, such as spending in restaurants, bars and clubs, where the card is likely to be visible to others. This likely reflects platinum card holders substituting away from using other cards or cash for such expenditures, since a consumption recall survey reveals that actual restaurant visits do not differ between platinum and standard card holders. Moreover, the use of the platinum card for social signaling is in fact costly: while the card used in our study does not offer cash back rewards, at least 48% of platinum customers report owning other credit cards which *do* offer cash back at restaurants and similar transactions.⁸ Hence, the customers in our data forgo money in the form of cash back rewards each time they use the platinum card instead of other cards they may own to pay at a restaurant or bar. Taken together, these findings are consistent with the hypothesis that platinum cards are used to build social image.⁹

Valuation of social status. We can combine the results of the first experiment with the transaction data to shed light on how much consumers value social status in their social interactions. First, a simple calibration exercise utilizing the price variation from the first experiment suggests that consumers *value* the status aspect of the card by 218,000 Rupiah (\$15.5) per year on average. Next, we note that the average user uses the card 4.8 times per year in social or visible situations. Suppose that the ‘audience’ infers that the card owner has the average annual income associated with the card: Rp. 522 million for platinum cards, and Rp. 215 million for gold cards, a difference of approximately Rp. 300 million. This implies that consumers, on average, value being seen as having Rp. 300 million higher income by Rp. 218,000/4.8 – approximately \$3.2 – per interaction. While this back-of-the-envelope calculation depends on a number of assumptions, if consumers do value income signaling similarly in their other social interactions, the total value of status could be much higher. Products that could convey status to a larger audience (unlike a credit card) might thus command a substantial premium.

Positional externalities. Having established that status considerations play a substantial role in the demand and use of platinum credit cards, we turn to testing for ‘positional externalities’ imposed by ownership of the cards (Frank, 2005). In a control group, current platinum card holders are offered an upgrade to a new, more-expensive but functionally identical, ‘diamond card’. In the treatment group, customers receive the same offer, but are additionally informed that the income criterion for their existing platinum card – but not the new diamond card – has been recently

⁸Only 39% of non-platinum cardholders have other cards with such deals.

⁹Note that we cannot separate whether the greater use of the platinum card in social settings is a causal effect of the card, or whether those who care more about social image select differentially into the platinum card. We discuss this point in more detail in Section 4.

reduced, so that some relatively lower-income customers now also qualify for the platinum card.¹⁰ We find that providing this additional information nearly doubles take-up of the new diamond card. This result shows that the exclusivity of the platinum card matters for its demand, providing additional evidence in favor of a status-good model. Moreover, lower-income consumers weaken the status signal and thus impose a positional externality on higher-income consumers, even with instrumental benefits held fixed. Our finding supports the assumption underlying models of fashion cycles in status goods (Pesendorfer, 1995).¹¹

Self-image and demand for status. In the final set of experiments, we provide indirect evidence that the demand for status is partly for hedonic reasons, rather than purely instrumental motives. In particular, we find that self-esteem – an important aspect of self-image – has a causal effect on customers’ demand for status goods. To boost self-esteem, customers in a treatment group are asked to complete a self-affirmation task, in which they describe an event or achievement from their life which made them feel proud of themselves (Steele, 1988; Cohen et al., 2009; Hall et al., 2013).¹² A control group instead performs a placebo task, describing their media consumption habits. Both groups are then offered either an upgrade to the platinum card in the main condition, or the benefits upgrade in a placebo condition. While the experiment has limited statistical power, we find that the self-affirmation treatment does not affect take-up of the nondescript benefits upgrade, but reduces take-up of the platinum card by an economically meaningful but not statistically significant extent.

To build on this suggestive evidence, we conduct a higher-powered experiment with a parallel design on the online crowdsourcing platform *mTurk*. Instead of offering participants a platinum credit card or a placebo good, we elicit preferences between gift certificates for luxury brand clothing – a classic status good – versus low-end clothing, using an incentivized multiple price list procedure. We find a strong first-stage relationship between the self-affirmation treatment and a standard measure of self-esteem, and estimate a substantial and statistically significant *reduction* in willingness-to-pay for the status good as a result of receiving the self-affirmation treatment. That is, we find that having higher self-esteem results in lower demand for a conspicuous status good. More generally, our results suggest that having a more positive self-image reduces demand for social image; self and social image thus appear to be substitutes, rather than complements. The impact of a likely short-lived boost in self-esteem on the demand for status goods also suggests that at least part of the demand for status is driven by psychological rather than purely instrumental or economic reasons.

¹⁰This information is again truthful, as the income cutoff for the platinum card had in fact been recently reduced.

¹¹It is worth emphasizing that the additional demand for the diamond card relative to the platinum card cannot be explained by customers using additional instrumental benefits as a cover to justify to others – or to themselves – why they are paying more for a good that provides more status. By holding fixed the instrumental benefits of the card, we also ensure that the results cannot be explained by differential inferences about the quality of the product, or about the suitability of specific benefits to different customer types.

¹²We show in an online experiment that this task temporarily increases self-esteem, but has no effect on the values that individuals cite as being most important to them.

Taken together, our findings provide the first field experimental evidence on status goods. We show that a desire to signal high social status, in isolation from instrumental utility or self-image considerations, can have a meaningful impact on consumption decisions. Moreover, the results from our second field experiment confirm an important prediction of these models, namely that the consumption of status goods creates a positional externality. Positional externalities can have important welfare effects by leading to wasteful consumption and inefficient innovation in the creation of status goods (Frank, 2005). By directly testing –and confirming– the key assumptions of status goods theories, our analysis suggests that the welfare and policy implications of these theories should be taken seriously. We view this causal evidence as supporting and complementary to the existing evidence from observational studies and natural experiments (Charles et al., 2009; Heffetz, 2011; Kuhn et al., 2011; Agarwal et al., 2016; Roth, 2014).

Using two entirely separate samples and products, we also show that higher self-esteem causally reduces demand for status goods. This evidence of substitution between self and social image may have implications beyond our setting. Factors lowering self-esteem –such as poverty, unemployment, or facing negative stereotypes– may magnify the effects of status-seeking behavior and increase susceptibility to social pressure more generally. Our finding might therefore shed light on related social phenomena, such as large wedding and festival expenditures by the poor in developing countries, and low-income, minority students conforming to harmful social norms at school.¹³

The remainder of the paper proceeds as follows. In Section 2, we describe our setting. In Section 3, we present the first field experiment, which isolates the demand for the social status component of platinum credit cards. Section 4 presents the analysis of credit card transactions. In Section 5, we describe our second field experiment, establishing positional externalities. In Section 6, we present the final set of experiments, which examines the relationship between self-image and the demand for status goods. Section 7 concludes.

2 Setting: The Credit Card

The market for credit cards in Indonesia has several features that make it an especially attractive setting to study status goods. First, Indonesia is an important emerging market economy with a large and rapidly growing middle class. Credit cards are widely used, and premium credit cards have a comparatively high income threshold relative to median income, making them a credible and well-recognized signal of status and economic success. Second, working with a bank, we are able to vary the instrumental benefits and services offered with a given credit card. This allows us to construct control products that vary specific features of the credit card in order to distinguish demand for the instrumental benefits of the card from demand due to signaling motivations. Third, we can link each card to its full transaction history, to understand whether the use of the cards in

¹³See, for example, the “acting white” hypothesis, Austen-Smith and Fryer, 2005.

an everyday setting is consistent with status-signaling motives.

We work with one of Indonesia’s leading banks to conduct a series of field experiments. The bank has approximately 200,000 credit card customers across Indonesia and offers its credit card product in three tiers: classic, gold and platinum. The three tiers of the credit card are clearly vertically differentiated based on income. The platinum card has the highest income-eligibility criterion, followed by the gold card with the second highest income requirement and the classic card with the lowest income requirement. At the time of our experiment, a new customer was required to document an annual income of Rp 36 million (US\$2,556) to qualify for a classic card, an annual income above Rp 60 million (US\$ 4,260) to qualify for a gold card, and an income above Rp 500 million (US\$ 35,500) to be eligible for a platinum card.^{14,15} Customers are charged a fixed annual fee of Rp 120,000 (US\$ 9) for a basic card, Rp 240,000 (US\$ 17) for a gold card, and Rp 600,000 (US\$ 43) for a platinum card, plus a monthly membership fee equal to 2.75% of the customer’s credit limit.¹⁶

Consistent with the eligibility requirements, only 10% of active credit card customers qualify for a platinum card, 72% of card customers have a gold card, and the remaining 18% qualify only for the classic card. The average (median) customer in the sample of active credit card clients has a reported annual income of Rp 154 million or US\$ 10,934 (Rp 60 million or US\$ 4,260). The bottom quartile of the credit card customer population is close to the median income of urban Indonesia, while the median credit card customer is in the top 15% of urban incomes in Indonesia. Even the lowest-income platinum card customers rank in the top percentiles of the Indonesian income distribution, so that qualifying for a platinum card plausibly serves as a strong signal of high (relative) income.

Importantly, the three tiers of the credit card also differ in their design, as shown in Figure 1. Most notably, the platinum card is differentiated from the two lower tier cards in both color and design. It is dark purple and has the word ‘*Platinum*’ printed in large cursive letters across the front of the card. All three tiers of the card are well-recognized and marketed throughout Indonesia using print, billboard, and online advertising that includes images of the cards.

To test for public recognition of the platinum card – a necessary condition for status signaling – we interviewed 113 randomly selected respondents at shopping malls in greater Jakarta, and presented them with pictures of the gold and platinum cards. The overwhelming majority of respondents (93 out of 113) ranked the cards correctly in terms of their income requirements. This provides prima facie evidence that the platinum card indeed signals high income and economic success relative to the gold card. Of course, this need not imply that status concerns are an important component of consumer demand for the platinum card, since the cards also differ in credit limit, price and

¹⁴In November 2014, the eligibility threshold for the platinum card was reduced to Rp 300 million (US\$ 21,300).

¹⁵The eligibility criteria for customers who are already clients of the bank can alternatively depend upon the client’s deposit account balance, and on their credit history with the bank, say from consumer or housing loans.

¹⁶The annual fees are often waived for new customers as a result of various promotions and marketing initiatives.

other potentially valuable benefits. For example, the gold card has a credit limit between Rp 10 million (US\$ 710) and Rp 30 million (US\$ 2,130), while the platinum card has a credit limit starting at Rp 40 million (US\$ 2,840), and extending up to Rp 125 million (US\$ 8,875) for the very highest-income clients. Platinum card customers also enjoy additional instrumental benefits: they can access premium airport lounges, receive cash-back discounts on international fashion brands, and are eligible for additional special offers and promotions available only to the bank’s premium credit card customers.

While several features of the platinum credit card – the high income eligibility criteria, and the bold ‘*Platinum*’ labeling – suggest the potential importance of status or income signaling in demand for the card, this is clearly confounded with the differences in credit limit, instrumental benefits and price. In the following section, we report a field experiment designed specifically to remove these confounds and test for a demand for status in the context the platinum credit cards.

3 Experiment 1: *The Demand for Status*

In our first experiment, we test whether part of the demand for the platinum card is purely due to status motives. In order to isolate the status component of the card from its instrumental benefits, we engineer a control product which has exactly the same instrumental features as the platinum card, but lacks the visible appearance of the platinum card, thus stripping away the status signaling aspect. We offer this card as a paid upgrade to existing bank customers in a randomly-assigned control group, and compare take-up to a treatment group in which customers are instead offered the actual platinum card itself. We utilize price variation to interpret the magnitude of demand for the status aspect of the card, and examine heterogeneity in the demand for status.

3.1 Theoretical Framework

To motivate our experiments and to interpret results, we adapt the framework of [Bénabou and Tirole \(2006\)](#) to our setting. In this framework, an individual exhibits social image concerns if her utility depends on the inferences that others make about her type, based on observable behavior.

Formally, consider an individual i , undertaking an observable action $a_i \in \{0, 1\}$, which may reveal information about her type. In our case, individual i is offered a status good and decides whether or not to take up the offer, and we let $a_i = 1$ denote the case in which individual i purchases the status good, and $a_i = 0$ the case in which she does not purchase the status good. Since status goods are assumed to be visible to others, they may reveal information about i ’s type. More specifically, it might allow others to make inferences about individual i ’s income $y_i \in \{l, h\}$, where $y_i = h$ indicates that i is high-income.

We assume that, in our setting, it is socially desirable to be viewed as wealthy by others, so that an individual’s utility function includes the social image term S_i , which we define as:

$$S(a_i) = \lambda \Pr_{-i}(y_i = h \mid a_i). \quad (3.1)$$

In this equation, $\Pr_{-i}(y_i = h \mid a_i)$ represents the posterior probability that the members of individual i 's reference group think that her income is h , conditional on observing individual i undertaking action $a_i \in \{0, 1\}$. The parameter λ measures how much individuals care about being perceived as being of type h . In the context of our first experiment, the null hypothesis that individuals care only about the material benefits of a product and derive no separate utility from its status component implies that $\lambda = 0$. The alternative hypothesis that individuals care about the pure status signaling component of a product, on the other hand, would imply that $\lambda > 0$.

Our first experiment is designed to test these competing hypotheses. In the following sections, we will return to and extend this simple theoretical framework in order to generate testable predictions and elucidate the experimental design.

3.2 Experimental Design

3.2.1 Set-up and Experimental Protocol

The sample for this experiment consisted of 1,260 customers identified by the bank.¹⁷ The customers on this list were randomly drawn from the set of current gold card holders with a credit limit of at least Rp 20 million (US\$1,420), who were current on their credit card payments, and were not bank employees. Essentially, these were customers whom – for the purpose of our relatively small experiment – the bank was willing to offer an upgrade to the platinum card, even though they may not have normally qualified for it. Customers in this sample were then assigned to one of the treatment conditions described below. Treatment status was assigned randomly at the individual level, stratifying on income (below Rp 300 million per year, between Rp 300 million and Rp 500 million, or above Rp 500 million) and on customers' current annual card fee (equal to Rp 240,000 or waived). Appendix Table A.1 displays sample characteristics for all experiments. In the sample for our first experiment, 24% of participants are female, and the average age is 47 years.

To implement the experiment, the bank made marketing calls to customers in this sample. In the calls, all customers were offered a paid upgrade to the benefits, services and credit limit available to the bank's platinum card holders. However, customers were randomly and individually assigned to one of two treatment arms, described in greater detail in Section 3.2.2 below, which varied the details of the script, as well as the characteristics of the product that was being offered. Customers in a treatment group were offered an upgrade to an actual platinum card, while customers in a control group were informed that they were offered an upgrade to all the benefits and services usually reserved to the platinum card, but as an add-on to their current gold card.

¹⁷This experiment was registered in the American Economic Association Registry for randomized control trials under trial number AEARCTR-0000828.

In order to minimize any effects that might arise from the offer’s impact on participants’ beliefs about themselves (i.e., their self-image), customers were told that they had been randomly selected to receive this offer. In both treatment conditions, customers were informed that the upgrade was available for a price of Rp 360,000 (US\$ 26), in addition to the customer’s current annual fee.¹⁸

The experiment was conducted over the course of one week. Each day, four callers made phone calls to a randomly assigned list of credit card customers from the sample.¹⁹ The order of client names on each caller’s list was randomized, and callers made phone calls in the order provided on the list. Each client received the offer only once, but up to three call attempts were made if a client could not be reached or was busy at the time of a previous attempt. However, no additional calls were made once any part of the offer had been revealed to a respondent. All calls were recorded and checked to ensure adherence to the script. The full scripts for all experiments are available in the Supplementary Appendix.

3.2.2 Experimental Treatments

The treatments in this experiment were designed to hold the instrumental benefits of the offer constant, while varying the status component of the product by randomizing the appearance of the card (gold or platinum) customers would receive upon accepting the offer.

Credit card customers assigned to a treatment group –the *platinum upgrade* treatment condition– were offered an upgrade to an actual platinum card, while customers assigned to a control group –the *benefits upgrade* treatment– were offered these services as an add-on to their current gold card. Hence, customers assigned to the *platinum upgrade* treatment were offered the benefits upgrade along with the bank’s regular platinum card, using the following script:

You have been randomly chosen to receive an upgrade to our platinum [name of card] card. With this upgrade, you will get the same services, benefits, credit limit, terms and conditions offered to other platinum [name of card] card cardholders. [...] To make all the extra benefits available, we will have to send you a new [name of card] card. The card you will receive is our elegantly designed dark platinum [name of card] card. This is different from the one you own: I’m sure everybody will notice the difference when they see it!

while customers in the *benefits upgrade* treatment were offered the same upgrade as an add-on to a card that looks identical to the credit card they currently hold, using the script:

¹⁸Customers who already pay an annual fee of Rp 240,000 thus will have to pay a total of Rp 600,000 to obtain these services (the same annual fee as that of a platinum card), while customers who have their annual fee waived will start to pay Rp 360,000 a year if they want the benefits upgrade.

¹⁹In total nine phone callers worked on this marketing experiment, rotating over different days.

You have been randomly chosen to receive an upgrade on your gold [name of card] card. With this upgrade, you will get the same services, benefits, credit limit, terms and conditions offered to platinum [name of card] card cardholders. [...] To make all the extra benefits available, we will have to send you a new gold [name of card] card. It looks just like the one you already own, but includes all the benefits and services of our platinum [name of card] card.

Hence, all customers are offered an upgrade to the same instrumental benefits. They are also informed that only 10% of customers normally qualify for these benefits, in order to hold equal beliefs about the exclusivity of the benefits. All customers who accept the offer are sent a new card in the mail, to hold hassle costs equal across the two arms. The only difference is the physical appearance of the new card they receive. One group receives the conspicuously labeled platinum card, while the other does not.

One might be concerned that telling customers they were randomly chosen to receive the upgrade offer is unnatural. This is certainly not how the bank usually markets platinum credit cards. We thus also implemented a mild variation of the platinum script, the *platinum upgrade merit* condition, in which customers were informed that they had been selected as a result of being among the bank's top customers. Both statements are true, since customers were randomly selected from a relatively high-income sub-population of the bank's gold card customers. Customers in the *platinum upgrade merit* were read the same script as described above, but with one twist: instead of being told they were randomly chosen, they were told that “*As one of our top customers, you have been chosen to receive an upgrade to our platinum [name of card] card.*” This treatment might be perceived as more natural, but potentially boosts customers' self-image by providing them positive information about their own relative standing. As it turns out, the luck versus merit variations of the treatment have no differential effect on take-up, so we pool them in future results.

3.2.3 Testable Predictions

We use the simple theoretical framework described above to derive two testable predictions regarding the existence and demand for status goods.

Demand for status. We assume that the good is available at price p , which enters linearly into the buyer's utility function, and has some inherent instrumental value, from which individuals derive utility b_i . In the benefits upgrade condition, customers are not given the option to purchase the status component of the good, so that $a_i^{\text{platinum}} = 0$, always. Hence, a customer will accept the offer if $b_i - p > 0$. That is, if the purely instrumental value of the benefits upgrade is greater than its cost. In the platinum condition, on the other hand, customers have the option of purchasing the status component of the product, and $a_i^{\text{platinum}} = 1$ if and only if the customer accepts the offer. The customer will accept the offer if $b_i - p + S^{\text{platinum}}(1) - S^{\text{platinum}}(0) > 0$. That is, if the utility

from the instrumental and status benefits of the upgrade is greater than its cost.

Prediction 1. *If customers care about social image and the platinum card is a status good (that is, $S^{platinum}(1) > S^{platinum}(0)$), then take-up of the upgrade offer in the platinum upgrade condition will be higher than in the benefits upgrade condition.*

Hence, if the share of customers demanding the platinum upgrade is higher than the share of customers demanding the benefits upgrade when it comes with a gold card, we will have established that customers derive utility from the status associated with the appearance of the platinum card.

Income and the demand for status. Since our experiment considers a marginal income-signaling decision, it is worth noting that individuals might have other chances to signal their income, independent of their decision in the experiment. It therefore seems reasonable to assume that the marginal gain in social image from the status good is smaller for higher-income individuals.²⁰ This will be true, for example, in a model in which wealthy individuals have access to a larger set of status goods, individual i owns multiple status goods, and is perceived as wealthy if at least one of these status goods is observed by others.

Prediction 2. *The difference in take-up rates between the platinum upgrade and benefits upgrade conditions is smaller among individuals with higher incomes than among those with lower incomes.*

3.3 Main Results: The Demand for Status

3.3.1 Treatment Effects

Main result. We begin by comparing take-up of the control and treatment offers in Figure 2. At the same price, the take-up rate for the benefits upgrade offer is 13.7%, compared to 21% for the actual platinum card. The 7.3 percentage point difference between the two treatment effects is statistically significant at the 5% level (p-value=0.029).²¹ Table 1 presents OLS regressions. Column (1) replicates the findings from Figure 2. In column (2), we add caller fixed effects and baseline covariates. The results are unchanged, consistent with successful randomization across treatment conditions. Since both groups were offered exactly the same financial benefits and customer service, we interpret the difference in demand for the two products as evidence for a demand for status.

We next compare take-up rates in the *platinum upgrade* and *platinum upgrade merit* treatment conditions in Figure 2. The take-up increases only marginally from 21% to 23% in the *platinum upgrade merit* relative to the *platinum upgrade* condition (p-value=0.539). On the one hand, this

²⁰In the terms of our theoretical framework, this implies that the perceived probability of being perceived as the high income type is $\Pr_{-i}(y_i = h \mid a_i = 1, y_i = h) - \Pr_{-i}(y_i = h \mid a_i = 0, y_i = h) < \Pr_{-i}(y_i = h \mid a_i = 1, y_i = l) - \Pr_{-i}(y_i = h \mid a_i = 0, y_i = l)$.

²¹The p-values for all experimental results are based on permutation tests. This ensures that our inferences are valid in finite samples.

provides reassuring evidence that being informed that they were “randomly chosen” to receive the platinum offer was not off-putting or perceived as particularly unnatural by customers. We hesitate to conclude, however, that self-image or identity play no role in the demand for status goods. Instead, we consider it likely that the merit script simply failed to move self-image or identity substantially. Since there is no significant difference in take-up rates between these two conditions, we pool these two groups in the following analysis to increase precision. When we pool the two platinum card treatments in Table 1, column (3), take-up in the *platinum pooled* condition is 22% as compared to 13.7% in the *benefits upgrade* condition, and the difference is statistically significant at the 1% level (p-value=0.005).

Price variation. In order to price the status value of the platinum card, we compare the increase in take-up from offering the platinum card (relative to the benefits upgrade) with the effect of price discount on the benefits upgrade offer. While we did not employ randomized price variation due to limited sample size, we obtained *within person* price variation in the benefits upgrade group. Specifically, the bank made a second call to customers who had declined the first offer, and offered them a discount of Rp 90,000 per year (approximately \$6). This 25% discount increased demand for the benefits upgrade by only 3.7 percentage points, less than half the effect of offering the platinum card itself, as presented in Figure 3. If anything, we suspect this overstates the effect of the price discount, since being asked a second time might induce some consumers to accept the offer even in the absence of a price cut.²² A simple calibration exercise (see Appendix A) matching take-up of the platinum, benefits upgrade and discount treatments suggests that the average consumer values the status aspect of the card by Rp. 218,000 (\$15.5) per year. While interpreting this magnitude, it is important to note that the platinum card provides limited natural opportunities to signal status: one must be making a purchase in a social context, at an establishment which accepts credit cards, with others present for the card to be noticed. In the next section, we combine this estimate with details on the usage of the card, to infer how much status value the card provides per use.

Heterogeneity. We next estimate the heterogeneity of treatment effects by income.²³ In Figure 4, we present take-up rates for the *benefits upgrade* and *platinum pooled* conditions, separately for customers with incomes below and above Rp 300 million. We find evidence that demand for status is higher for lower-income customers. The difference in take-up rates between platinum and benefits

²²The bank was able to reach 70% of the customers who had declined the first offer after hearing the price details, and 9.6% of them accepted the second offer. We assume that (i) customers’ decisions in the second call would have been the same as in the first call if they were offered the benefits upgrade with a 25% price discount, (ii) customers that we did not reach again would behave similarly to those that were reached, (iii) the 13.7% of customers who accepted the offer at full price would have also accepted the offer at a lower price, and (iv) the 48% of customers who were reached and refused the offer after hearing about the product but before hearing about the price would have also refused the offer at a discount. This yields a take-up rate for the benefit upgrade with discount of 17%. The p-value of two-sided test that the effect of platinum is the same as the effect of a 25% discount is 0.12. The p-value of a one-sided test against the alternative hypothesis that the effect of platinum is higher is 0.06. These p-values are calculated using a bootstrap procedure.

²³Recall that we stratified the randomization by income, using the income groups $y_i < \text{Rp } 300 \text{ million}$, $\text{Rp } 300 \text{ million} \leq y_i < \text{Rp } 500 \text{ million}$, and $y_i \geq \text{Rp } 500 \text{ million}$.

upgrade conditions is 10.5 percentage points for lower-income customers (p-value=0.003), while the same difference for higher-income customers is only 3.1 percentage points (p-value=0.392).²⁴ We find similar heterogeneity results when we control for caller fixed effects and baseline covariates (Table 1, column (4)) and when we consider Rp 500 million as a threshold to define higher- and lower-income individuals (Table 1, column (5)). This is consistent with the hypothesis that the marginal gain in social image from owning the status good is decreasing in income. In Table A.3, we also provide suggestive evidence that the demand for status is higher in cities and larger metros, consistent with Veblen’s hypothesis that conspicuous consumption will be higher in areas with greater anonymity and income mobility.

3.3.2 Alternative Channels and Interpretations

In this subsection, we consider a number of confounding factors that could explain our results and discuss which of these alternative channels can be ruled out.

We first consider reasons unrelated to status signaling which might make the benefits upgrade treatment unattractive relative to the platinum card offers. First, customers might not have believed that the terms and conditions – such as the credit limits and customer service – in the *benefits upgrade* condition would in fact be identical to the platinum card, despite the fact that the bank explicitly stated in the offer that they would. Second, customers might have been offended that they were offered the instrumental benefits of the platinum card, but not the actual platinum card.

To test for these concerns, we conducted a follow-up survey with customers in the *benefits upgrade* condition who had turned down the offer. The interviewer first asked customers an open-ended question about why they rejected the offer. Next, respondents were prompted with a list of potential reasons, including (1) beliefs about the benefits and services relative to the platinum card, (2) the usefulness of the benefits, (3) the annual fee, and (4) reactions to being offered a benefits upgrade instead of being offered the platinum card itself. Only 1% of the respondents stated that they had doubts that the quality of the benefits and services would be identical to the platinum card. None of the respondents reported being offended by not being offered the platinum card. Among the stated reasons for not accepting the offer, 67% of respondents answered that the annual fee was too high, and 68% said they did not use their existing card enough to justify paying for an upgrade. None of the respondents reported being concerned that the benefits package would come to differ from the platinum card benefits in the future. Taken together, these results suggest that the benefits upgrade offer was found to be believable, and the striking difference in take-up between the instrumental benefits and the platinum card is not explained by customer suspicion, confusion or any offense from not being offered the platinum card.

We next turn to alternative interpretations of the heterogeneity of treatment effects by income. One clear concern is differential selection into the experimental sample itself. Our sample was

²⁴The p-value of a test that the effect of the platinum offer is the same for lower and higher-income groups is 0.284.

drawn from existing gold card customers. Could it be that the higher-income customers in our sample were individuals with a particularly low demand for status goods, who had previously declined the platinum card? In fact, our sample consists only of customers who had previously never received an offer of a platinum offer. In addition, we can focus on customers with income between Rp 300 million and Rp 500 million. These customers were not eligible for the platinum card when they opened their account (and therefore could not have turned down a platinum offer). When we exclude customers with income above Rp 500 million in Table 1, column (6), we find a very similar result, suggesting that our income-heterogeneity results are unlikely to be driven by selection. Instead, consistent with our prior, lower-income customers appear to value the status signal more at the margin.

Finally, while we focus on the interpretation that higher-income individuals may have alternative ways to signal that they are high income than lower-income individuals, there could be alternative reasons why the treatment effect is higher for lower-income customers. It could be that higher-income individuals simply care less about social status. However, our second experiment, in which we offer the highest-income customers an opportunity to further differentiate themselves from the premium cardholder population, helps rule out this alternative explanation (Section 5).

4 Status Signaling in Credit Card Transaction Data

The results of our first experiment show that customers exhibit substantial demand for the pure status component of the credit card, beyond any instrumental benefits that the card provides. We suspect that individuals use the card to signal their income in order to build social status. In this section, we use detailed historical transaction data for a large sample of credit card customers to examine whether the usage of platinum cards in everyday life is consistent with social signaling motivations. To do so, we proceed in two steps. We first identify certain transactions, such as spending in restaurants and bars, as *‘social expenditures’*, in which the credit card is likely to be visible to one’s peers. We then examine whether platinum cardholders are more likely than gold cardholders to use their card in such social contexts.

4.1 Data and Empirical Strategy

We use credit card transaction data for a sample of 2,492 customers with active credit cards who opened their accounts between January 2014 and August 2015. Within this sample, we focus on customers with credit limits of Rp 20 million, Rp 30 million, Rp 40 million, and Rp 50 million, respectively. The credit limit for each customer is assigned based on a combination of the customer’s income and credit history, and there are multiple credit limits within each tier of the card. With few exceptions, gold card holders have a credit limit of Rp 20 million or Rp 30 million, while the vast majority of platinum card holders have a credit limit of Rp 40 million or Rp 50 million.

For the customers in our sample, we observe all transactions between January 2014 and August 2015, along with detailed information on the transaction amount, type and location. Using this information, we categorize transactions as either visible, online, or retail. We define visible transactions as transactions made in restaurants, cafes, and bars (89%), in membership clubs (2%), movie theaters (2%), and other amusement and recreational services (7%). The idea is to identify uses of the credit card which are likely to be observed by one’s peers, such as friends, family or business associates, to whom one might wish to signal high income. The opposite type of transaction would be an online purchase, where no one other than the cardholder observes the card being used. We identify online transactions by looking for internet-related terms, such as “www”, “.com”, “e-store”, in the text description that comes with each transaction.²⁵ The third category we consider consists of retail transactions where the card may be visible to a salesperson, but that do not occur in an explicitly social setting. These transactions comprise purchases in supermarkets, grocery and convenience stores (30%), department stores (10%), service stations (7%), clothing stores (6%), and other merchants, such as pharmacies, etc. (47%).

Note that in there is no experimental variation in platinum card ownership in this sample, so that we must address the likely omitted variable bias introduced by simply comparing gold and platinum card holders.²⁶ Our approach is to compare the share of different types of transactions for customers with Rp 40 million credit limit (the lowest-income platinum card holders) with customers with a Rp 30 million credit limit (the highest-income gold card holders). We then exploit the existence of different credit limits within each tier of the card. Specifically, we contrast differences in card usage at the Rp 30 versus Rp 40 million credit limit (where the credit card tier *and* the credit limit change) with differences in card usage around the Rp 30 and Rp 20 million credit limit (where the card tier is held constant at gold, but the credit limit changes) and the Rp 40 and Rp 50 million credit limits (where the card tier is held constant at platinum, but the credit limit changes). We can therefore identify differences in transaction patterns due to a different tier of the card from changes in transaction patterns due to a different credit limit.

4.2 Results

4.2.1 Main Result: Visible Transactions

Figure 5 displays the raw shares of visible transactions for customers with different credit limits. Column 1 of Table 2 presents these results in regression format. The highest credit gold card customers (Rp 30 million credit limit) have 12% of their transactions in the visible category. This share increases by 6.1 percentage points considering the lowest credit platinum customers (Rp 40

²⁵We exclude all the purchases from airlines, since the bank offers special travel promotions to platinum cardholders.

²⁶We were not able to separately acquire the transactions data for the experimental sample from the partner bank. In addition, given the moderate take-up of the cards, it is unlikely that this sample would provide sufficient statistical power to allow us to detect changes in transaction patterns.

million credit limit). There is no significant change in the share of online transactions (Table 2, column 3), and a significant decrease in the proportion of retail transactions (Table 2, column 5).

In contrast, there is no significant difference in the shares of visible, online and retail transactions between customers with Rp 30 versus Rp 20 million credit limits (both gold card holders) and between customers with Rp 50 versus Rp 40 million credit limit (both platinum card holders). These results suggest that the difference in consumption patterns between customers with Rp 40 million and Rp 30 million credit limit is not simply related to a credit limit increase.²⁷ The same pattern remains once we control for customers' observable characteristics, such as income, age, gender, and religion (Table 2, columns 2, 4, and 6).²⁸

4.2.2 Interpretation: A Costly Signal

Changes in consumption versus changes in modes of payment. Do these changes reflect actual differences in consumption, or customers switching to using the platinum card instead of using cash or other credit cards? Note that both possibilities are consistent with the use of the card for status-seeking behavior. To shed light on this question, we conduct a retrospective consumption survey with 362 customers randomly drawn from this sample, and find only a small (and statistically insignificant) increase in the number of restaurant meals in the last month. Owning a platinum card thus does not actually make customers go to restaurants more. Nor do platinum card owners appear to be differentially selected for their interest in restaurant visits. Yet, they pay quite differently for these restaurant expenditures. Is this costly signaling behavior, or are there other reasons to use platinum cards in restaurants over other means of payment?

Opportunity cost of card usage. The platinum card we study offers discounts on some luxury brands like Armani and Gucci, but does not offer cash back or discounts in restaurants. The increase in the share of visible transactions is thus not driven by simple price effects. In fact, a survey with these customers reveals that 48% of platinum customers with the Rp 40 million credit limit own other credit cards that *do* offer cash back.²⁹ Platinum card holders therefore appear willing to pay a cost to show off their platinum cards, forgoing cash back from other cards.

Note that we cannot claim to have identified the *causal* effect of owning a platinum card on

²⁷The p-value of a test that the difference in the share of visible transactions for customers with credit limits of Rp 40 million and Rp 30 million is the same as that between customers with Rp 30 million and Rp 20 million is less than 0.01. The p-value of a test that the difference in the share of visible transactions between customers with Rp 40 million and 30 million credit limit is the same as that for customers with Rp 50 million and Rp 40 million is 0.09.

²⁸We also consider an alternative regression model in which we instrument platinum card with a dummy equals to one if credit limit is greater or equal to Rp 40 million and control for credit limit linearly. This model estimates the effect of holding a platinum card on consumption patterns controlling for the effect of credit limit, taking into account that a few customers with credit limit lower than Rp 40 million hold a platinum card. The coefficient for the dummy equal to one if credit limit is greater or equal to Rp 40 million in the first-stage regression is equal to 0.98. Results using this alternative model are also consistent with a change in consumption patterns for platinum card holders, as presented in Appendix Table A.4.

²⁹This share is only 39% for gold customers with Rp 30 million credit limit (the p-value of the difference is 0.0676).

transaction patterns. Our results are consistent with differential selection into the cards: those who have a higher demand for social status (although not, apparently, a higher demand for restaurants per se) might have been more likely to accept the platinum card offer. In either case, the results are consistent with customers using the platinum card to signal status.

4.2.3 The Value of Social Status

Based on our calibration exercise in Section 3.3, the average consumer values the status aspect of the card by Rp. 218,000 (\$15.5) per year. Assume that the utility customers derive from the social aspect of the card comes from the signal of higher income the card sends others when they use it in a social situation. The survey described in Section 2 confirms that people who observe the card correctly infer that platinum cardholders have higher income. Suppose their posterior upon observing a card is equal to the average annual income associated with the card type: Rp. 522 million for platinum cards, and Rp. 215 million for gold cards, a difference of approximately Rp. 300 million. The average platinum card customer uses the card 4.8 times per year in social or visible situations. Then, consumers on average must value being seen as having Rp. 300 million higher income by Rp. $218,000/4.8$ ($=\$3.2$) per interaction.

Of course, the above calculation relies on various assumptions. For example, the number of “views” of the card may be higher than we observe, if customers sometimes show the card to others without actually using it. This would cause us to overestimate the status value *per* transaction. On the other hand, we are likely underestimating how much consumers value being seen as higher income, per dollar of higher income. One’s peers likely have somewhat informed priors about one’s income, and thus the extent of updating of beliefs from noticing the card is likely smaller than Rp 300 million. Customers would thus be willing to pay \$3.2 for a much smaller boost in social image.

The platinum card provides limited opportunities to signal status, and is ultimately visible to a small if important set of peers. If consumers value income signaling similarly in other interactions, then products that convey status to a larger audience, such as expensive cars and clothing, might command a substantial premium. A car that signals a similar Rp. 300 million income difference to a thousand people might have a status value of \$3,200. The economic importance of status considerations in consumption could thus be quite large.

5 Experiment 2: *Positional Externality*

Intuitively, the signaling value of a status good depends on the type of customers who are expected to own it. To earn status, one wants to display goods that are known to be owned by ‘high types’, and inaccessible to ‘low types’.³⁰ This implies that when individuals with comparatively lower

³⁰In our setting, ‘type’ is synonymous with income. However, there are of course also status goods that are not allocated based on income, such as membership in prestigious clubs or professional organizations.

social status gain access to a status good, the signaling value of the good diminishes, imposing a negative ‘positional’ externality on high-status owners of the status good. This, in turn, should induce the earliest adopters to demand a more exclusive status good, a dynamic captured in models of fashion cycles (see [Pesendorfer 1995](#)).

In this section, we describe an experiment with credit card customers that tests for positional externalities in the consumption of a status good. Conceptually, our experiment relies on two steps: First, we truthfully inform a random subset of platinum cardholders about a reduction in the income eligibility threshold for the platinum card from Y_1 to $Y_2 < Y_1$, which should reduce the perceived income signaling value of the platinum card. Second, we estimate the impact that such a reduction has on the demand for a new status good – one with unchanged signaling value, that is, an income eligibility cutoff held constant at Y_1 .

The design of our experiment takes advantage of a recent change in the credit card’s income eligibility requirements. A few months prior to this experiment, the bank had reduced the income threshold necessary to qualify for a platinum credit card from Rp 500 million (US\$ 35,500) to Rp 300 million (US\$ 21,300). Our research design relies on *existing* platinum card customers, who joined under the old income criterion, being unaware of the recent change. At the same time, the bank was considering introducing a new credit card tier above platinum –the ‘diamond card’– reserved for its highest-income customers.

As part of the bank’s market research surrounding the new product, we conducted a take-up experiment offering the diamond card as a paid upgrade to a sample of existing platinum card customers. The experimental treatments varied whether these customers were additionally informed that the income threshold for their current credit card (the platinum card) had been recently reduced. We show that demand for the more exclusive status good, the diamond card, is causally higher when customers are informed about the new income requirements for the platinum card. We interpret this as evidence of a positional externality imposed by new lower-income customers, who are now able to acquire the platinum card, thus reducing the income signal the card provides.

5.1 Set-up and Experimental Protocol

The experiment was conducted with a sample of credit card customers who had been identified by the bank as being eligible for an upgrade to the diamond card, once the new card would become available. All 180 clients in this sample were customers who, at the time of the experiment, had a platinum card, and an annual income of at least Rp 500 million (US\$ 35,500).

The bank made calls to eligible customers, again following a set of standardized scripts. All customers were informed that the bank was considering launching a new credit card, reserved for its top customers. The caller explained that the diamond card would have *the exact same* services, benefits, credit limit, and additional services available on the platinum card, but would differ from the platinum card in color and design. Customers were then informed of the annual fee for the new

card, and were asked if they would be interested in the diamond card once it became available. To introduce a cost to answering ‘yes’, we added a fee for receiving the formal upgrade invitation upon launch. The calls thus held the instrumental characteristics of the two cards identical, while experimentally manipulating perceptions of the income signal associated with the platinum card.

The calls were conducted following a procedure similar to that of our main experiment. Callers were assigned a list of randomized phone numbers and were instructed to follow the order of clients on the list. Call attempts were made on different days of the week. Each client received the offer only once, but up to three call attempts were made if a client could not be reached at the phone number provided by the bank. However, no further call attempts were made in cases where a respondent had been reached and any part of the offer had been disclosed. Calls were recorded to evaluate adherence to the experimental scripts, and no substantive deviations were discovered.

5.2 Experimental Treatments

We implement two treatment conditions. In both arms, customers were first informed that the bank is considering introducing a new credit card. This was explained using the following script:

I am calling from [name of bank] and would like to ask you a question related to your [name of card] credit card. [...] We’d like to hear the opinion of our customers before deciding whether to launch a new credit card. The new card we are considering will be called the diamond [name of card] card. The diamond card will have exactly the same credit limit, benefits, services, and terms as the platinum [name of card] card, which you presently own. The only difference is that the diamond card will come in a new and different design and color from the platinum card you currently have.

Customers assigned to the *positional externality control* group received *only* this product description, while customers assigned to the *positional externality treatment* group were additionally informed that the bank had recently relaxed the eligibility criteria for the platinum card, so that more customers with lower average incomes are now eligible for the platinum card:

Everyone knows that nowadays banks have started giving platinum cards to nearly anyone. Even at [name of bank], we have recently reduced the income eligibility criteria for the Platinum card to 300 Million Rp, so now many customers with a lower income than yours will get the platinum card. However, these lower income customers can not apply for a diamond card.

All customers were then asked whether they would upgrade to the new diamond card at an annual fee of Rs 650,000 (US\$ 46) – Rs 50,000 more than the fee associated with the platinum card. To add real (albeit modest) stakes to the sign-up decision, customers were also asked whether they

were willing to be charged Rp 10,000 (approximately US\$ 1) to receive a formal offer once the card was launched. In practice, all customers who indicated that they would sign up for the card agreed to pay this fee, suggesting the stated preference was not simply cheap talk.

5.3 Testable Predictions

If demand for the status aspect of the cards arises from income signaling motives, informing customers that individuals with lower income can now access the platinum card will weaken the associated income signal, reducing demand for the platinum card relative to the diamond card (holding instrumental benefits fixed).

In terms of our theoretical framework, with social signaling utility S , this can be expressed as follows. Let the social image or income signal associated with ownership of the diamond card be denoted $S^{diamond}(1)$. The perceived social image associated with the platinum card will depend upon whether customers are informed about the reduced income threshold or not, denoted as $S_{info}^{platinum}(1)$ and $S_{no-info}^{platinum}(1)$, where we assume it to be public knowledge that the diamond card is associated with a higher income criterion than the platinum card.

Since the instrumental benefits b are explicitly held equal across the platinum and diamond card offers, the decision of an existing platinum cardholder to take up the diamond card will simply depend upon whether the perceived gain in social image exceeds the difference in price: customers who are informed about the changes in the eligibility criteria will take up if $S^{diamond}(1) - S_{info}^{platinum}(1) > p$ while customers who are not informed about these changes will take up if $S^{diamond}(1) - S_{no-info}^{platinum}(1) > p$. Positional externalities due to income signaling motivations imply that $S_{info}^{platinum}(1) < S_{no-info}^{platinum}(1)$. That is, in the presence of positional externalities, the social image associated with the card is reduced when lower-income individuals have access to the card, which leads to the following testable prediction.³¹

Prediction 3. *If positional externalities are present and the platinum credit card is a status good, the share of customers demanding an upgrade to the diamond card will be higher in the treatment group, where customers are informed that the income eligibility criterion for the platinum card has been reduced, than in the control group where no such information is provided.*

5.4 Results: Positional Externality

We begin by comparing raw take-up rates of the control and treatment groups from the positional externalities experiment in Figure 6. Demand for the diamond card increases by almost 19 percentage points, from 21.5% to 40% (p-value=0.069), when customers are informed that the platinum card is now available to a larger group of customers. Table 1, column (1) reports the corresponding

³¹For simplicity, we neglect the case where the customer would prefer to cancel the platinum card, due to its lower income signal, but would not consider it worthwhile to obtain the more expensive diamond card.

OLS regression results. Table 1, column (2) shows that the results are nearly unchanged when we include baseline covariates. Just as predicted by our stylized theoretical framework and models of fashion cycles in consumption, we show that the (relative) demand for a status good depends upon who else consumes it. If lower-status consumers gain access to the good, they dilute the associated status symbol, causing higher-status consumers to flee the product in favor of more exclusive and expensive products.

It is worth noting that we find demand for the upgrade to the new status good despite the fact that customers were explicitly informed that the instrumental benefits of the platinum and diamond cards are *identical*. Bagwell and Bernheim (1996) suggest that, in many settings, the instrumental benefits that are usually bundled with the social signaling component of a status good might provide an important ‘functional alibi’ for purchasing a status good. Our results suggest that such a functional alibi may not always be necessary, at least when it comes to justifying the purchase to the marketer and to oneself. Another surprising aspect of our results is the relatively high baseline take-up (21%) of the diamond card in the *no-info* condition. This could be explained by the higher price of the diamond card implying higher status, even with the same income criterion. In addition, some customers might have already been aware of the recently lowered criterion for the platinum card, implying that our information treatment was unnecessary for some customers.

Beyond providing evidence of positional externalities in the consumption of status goods, this exercise also serve as a robustness check that reinforces the conclusions of our first experiment. Note that customers in the positional externality treatment and control groups received the exact same offer, and calls differed only by whether customers were additionally informed about recent changes in the platinum card income requirements. Moreover, the scripts used in the positional externalities experiment explicitly state that the only difference between the platinum and diamond cards (aside from the income qualification criteria) is their design. Unlike in the first experiment, we thus avoid the possibility of offending participants in the control by denying them access to the status good, and still find significant demand for the status component of the card. The consistency of the results between the two experiments also makes it less likely that the results of the first experiment are explained by skepticism about the instrumental benefits in the control group.

6 Experiment 3: *Self and Social Image*

Thus far, we have provided evidence that social-image motives play an important role in the demand for a status good. But why do consumers value social image? One reason could be purely instrumental: having better social image might lead to greater professional opportunities or improved marriage-market prospects. Alternatively, social image could be valued for purely hedonic reasons: a person might care innately what others think of them. While we suspect that both aspects of social image are relevant in practice, in this section we attempt to better understand

the psychological – *and thus arguably hedonic* – determinants of the demand for status.

In particular, we test whether a person’s self-image –how they view themselves– affects their demand for status goods. To do so, we conduct two experiments in different settings. In both, we experimentally manipulate self-esteem –one important dimension of self-image– and estimate its effect on the demand for a status good relative to a control product. If self-esteem affects the demand for status goods, this suggests that at least part of the demand for status is due to hedonic or psychological motives. In addition, since status goods themselves are a means to earn social image, the *direction* of the effect sheds light on whether social and self-image are substitutes or complements. This is an entirely open question in the literature on self and social signaling in economic behavior (Andreoni and Bernheim 2009; Bénabou and Tirole 2006), with implications for policy tools aimed at strengthening or weakening the power of social norms.³²

6.1 Self-Esteem Intervention: *Credit Card Customers*

6.1.1 Set-up and Experimental Protocol

The first self-esteem experiment uses a sample of 203 current gold card customers who had been identified by the bank as being eligible for an upgrade to the platinum card. These are customers who, at the time of the experiment, had a credit limit of at least Rp 20 million (US\$ 1,420), were current on their credit card payments, and were not employees of the bank.

These customers are assigned to one of four treatment conditions in a 2x2 cross-randomized design. The first randomization in this design determined whether customers were assigned to complete a self-affirmation intervention, taken from the psychology literature, designed to boost one’s self-esteem, or a placebo exercise. The second randomization determined whether customers in the sample would then receive an offer to upgrade to the benefits of the platinum card as an add-on to their current gold card, or an offer to upgrade to the actual platinum card (the same offers as in the *benefits upgrade* and *platinum upgrade* treatment conditions in the first experiment). We include the benefits upgrade offer as one of the treatment arms in our design to rule out that the self-esteem intervention also increases demand for a good that does not confer social status.

The main outcome of interest in this experiment is whether receiving the self-esteem intervention affects take-up of the visible status good. If self and social image are complements, demand for the platinum upgrade should be higher among customers who receive the self-esteem intervention. If, on the other hand, self and social image are substitutes, demand for the platinum upgrade should be lower among customers who receive the self-esteem intervention.

³²On the one hand, it could be that having higher self-image increases one’s demand for social admiration. Picture Muhammad Ali knocking out Sonny Liston, and then asking journalists to answer the question, “Who’s the greatest?” (Hauser (1992), Pg. 79). Alternatively, it could be that individuals with high self-image feel little need to impress others, making self and social image substitutes.

6.1.2 Experimental Treatments

The self-affirmation exercise used in this experiment is adapted from the psychology literature (Steele 1988, Cohen et al. 2009, Hall et al. 2013). The exercise involves asking the respondent to reflect on a recent experience or achievement that made them feel proud. We show that this treatment delivers a boost to one’s self-esteem, as measured using standard tests such as the Rosenberg (1965) scale. Following this literature, customers assigned to the *self-image treatment* group were asked to complete the following task before receiving an upgrade offer:

At [name of bank], we think it’s important to understand our customers really well. So before making you a new offer relating to your [name of credit card], we would like to ask you a quick question. Can you please describe a specific incident in your life, something you did or achieved, that made you feel successful or proud of yourself? It could be from any aspect of your life, whether family related, education, or professional.

Customers assigned to the *self-image control* group completed a placebo exercise, which asked participants to describe their media preferences and did not contain any statements or questions that might affect the respondent’s self-image:

At [name of bank], we think it’s important to understand our customers really well. So before making you a new offer relating to your [name of credit card], we would like to ask you a quick question. Can you please tell me which are your favorite TV channels and why? This would be a great help to us in understanding our clients media preferences.

After completing one of these tasks, all customers received either an offer to upgrade to the platinum card, or an offer to upgrade to the platinum benefits package as an add-on to their current credit card. These offers were made using the same protocol and experimental scripts as in the first experiment, described in Section 3.2.2.

6.2 Self-Esteem Intervention: *mTurk Experiment*

6.2.1 Set-up and Experimental Protocol

The above experiment has a number of limitations. First, the bank permitted only a small sample of customers for this final experiment, thus limiting statistical power. Second, a phone call from one’s bank is likely not the ideal format for the self-affirmation treatment, and some customers understandably prefer to skip the question (although they are still included in the results). Thus, we designed an additional experiment using the online crowdsourcing platform *mTurk*. This allows us to test for the substitutability of self and social image motivations in an alternative setting and population, where we can implement a parallel experimental design, but have tighter experimental control, and more statistical power (due to larger sample sizes and likely a stronger first stage).

The sample for the online experiment consists of 405 individuals who signed up to complete an incentivized task on the online platform *mTurk*. In the first part of the experiment, participants were randomly and individually assigned to one of two tasks, which mirrored the self-esteem intervention in the previous experiment. All participants received the same briefing and instructions which, in this case, were communicated using the online platform’s interface, rather than a phone call.

In the second part of the experiment, all participants were then asked to make incentivized binary choices between the two types of gift certificates of different amounts, one for a standard brand and one for a luxury brand. This version of the standard *Becker-DeGroot-Marschak* multiple price list procedure allows us to elicit a truthful measure of the differential willingness to pay for a luxury brand gift card, compared to a non-luxury brand gift card.

The willingness to pay for the luxury gift card is our main outcome of interest in this experiment: If self and social image are complements, the self-esteem intervention should increase the willingness to pay for the luxury brand gift card. If, however, self and social image motives are substitutes, one would expect that the self-affirmation intervention reduces the demand for the luxury gift card.

6.2.2 Experimental Treatments

The experimental treatments are designed to mirror those in the credit card self-esteem experiment. Participants assigned to the *online self-esteem treatment* group were asked to write a paragraph about a recent experience or achievement that made them proud, using the following instructions:

Can you please describe an event that made you feel successful or proud of yourself? It could be from any aspect of your life, whether personal, social or family related, educational, or professional. Please be as specific as possible, and include as many details as possible. You should use all of the blank space below.

Participants in the *online self-esteem control* group were asked to complete a placebo task analogous to that in the previous self-affirmation experiment:

Can you please tell the title and summarize the story of the last movie you have seen? Please be as specific as possible, and include as many details as possible. You should use all of the blank space below.

After completing one of these tasks, we measured participants’ self-esteem, using the standard [Rosenberg \(1965\)](#) scale.³³ This allows us to verify that the treatment increases self-esteem as intended. The questionnaire consisted of a series of statements, such as “*On the whole, I am satisfied with myself*”, and asks respondents whether they strongly agree, agree, disagree, or strongly

³³The survey instrument used is available in the Supplementary Appendix

disagree with the statement. As reported below, we detect a meaningful and statistically significant increase in self-esteem as a result of the treatment.

Next, all participants were informed that they qualify to participate in a lottery in which they can win either a \$500 gift certificate for a standard brand (*Old Navy*) or a \$400 (\$450, \$500, \$550 \$600) gift certificate for a luxury brand (*Armani*). Participants were asked to make incentivized binary choices between the two types of gift certificates at different monetary values. The elicited willingness to pay for the different types of gift cards is the main outcome of interest which we use to test the complementarity of self and social image motivations in the demand for status goods.

Finally, participants were asked to rank the values they consider important in life (Steele and Liu, 1983), to test whether the self-affirmation treatment causes participants to reevaluate the importance of different aspects of their life, such as family, religion, work or financial success. We detected no such effects, suggesting that any impacts of self-affirmation on consumption were not driven by changes in values.³⁴

6.3 Testable Predictions

To derive testable predictions, we extend our standard framework to allow for an interaction between self and social image. Specifically, we extend the agent’s utility to include the self-image term ω_i :

$$I_i(a_i, \omega_i) = \lambda_i(\omega_i) \Pr_{-i}(y_i = h \mid a_i) \quad (6.1)$$

This approach allows the agent’s valuation of social image to depend upon their self-image through the weight $\lambda_i(\omega_i)$. We make the simplifying assumption that self-image is unidimensional, while in reality, people might have higher self-image with respect to some aspects of their lives than others. In our experiments, we additionally assume that a boost to one’s self-esteem is synonymous with an improvement in self-image.

In both self-affirmation experiments, we are interested in testing the sign of $\lambda'_i(\omega_i)$. A positive (negative) derivative would be evidence that self and social image are complements (substitutes). A priori, we do not expect the self-affirmation intervention to have any systematic effect on the purchase of non-status goods such as the benefits upgrade, since they do not involve social image.

Prediction 4. *The self-affirmation intervention will reduce the demand for the platinum card if self-image and social image are substitutes ($\lambda'_i(\omega_i) < 0$). The self-affirmation intervention will increase demand for the platinum card if self-image and social image are complements ($\lambda'_i(\omega_i) > 0$).*

³⁴We asked subjects to rank eight aspects (family, friends, leisure time, financial success, health, politics, work, and religion) from most important to less important. We test for the null hypothesis of no effect of the self-affirmation treatment for each of these aspects. Since the outcome variable is ordinal (a rank from 1 to 8), we use a permutation test based on Volfovsky et al. (2015). The p-value of a joint test of no effect of the self-affirmation treatment for all aspects is 0.62. Neither does any individual aspect show significant effects.

The self-affirmation intervention will have no systematic effect on demand for non-status goods such as the benefits upgrade.

6.4 Results: Self and Social Image

6.4.1 Treatment Effects: *Credit Card Customers*

Figure 7 presents the raw take-up rates by treatment, separately for the status good (platinum card) and placebo good (benefits upgrade) offers. The take-up rate for the benefits upgrade does not respond to the self-affirmation treatment, although limited precision means we cannot rule out moderate effects. In contrast, the self-affirmation treatment reduces take-up of the platinum card by approximately 15 percentage points (from 33% to 18%). Although this difference is economically large, it is not statistically significant (permutation test p-value=0.192). Table 4 reports these results in regression format, including caller fixed effects and baseline covariates.

Overall, these results provide suggestive evidence that self and social image are substitutes, rather than complements. However, due to the limited sample size available for this experiment, these results are not conclusive. To provide additional evidence on the relationship between self and social image motivations, we therefore turn to the results of the complementary experiment, which we implemented using a separate population on the online platform *mTurk*.

6.4.2 Treatment Effects: *mTurk Experiment*

We present the results of the *mTurk* experiment in Table 5. In Table 5, column (1), we first report the effect of the self-esteem treatment on subjects' self-esteem, as measured using the [Rosenberg \(1965\)](#) scale. The results confirm that the self-esteem treatment was indeed successful at delivering a boost to participants' self-esteem. On average, participants in the self-image treatment group scored 1.22 points, or 0.17 standard deviations, higher on the self-esteem measure than participants in the control group (statistically significant at 10%).

In Table 5, columns (2) to (6), we report the effects of the self-esteem treatment on demand for the luxury brand gift certificate. We find that the self-esteem treatment has a negative impact on the proportion of subjects who prefer the luxury brand for all values (the difference is statistically significant for 3 out of 5 prices). Figure 8 presents the cumulative distribution for the willingness to pay for the *Armani* gift card relative to the *Old Navy* gift card for both groups, which confirms our result that the self-affirmation treatment has a negative effect on the willingness to pay for the *Armani* gift card. Adding baseline covariates again yields very similar results (Table 5, panel ii).

6.4.3 Discussion and Interpretation

This section has provided evidence that higher self-esteem causally reduces the demand for status goods. Our interpretation of this result is that a higher *self* image reduces individuals' demand

for *social* image. That is, self and social image are substitutes. To our knowledge, this is the first evidence on the relationship between self and social image. It predicts that social signaling behavior will be particularly strong among those with low self-esteem, and that such individuals may thus be more likely to conform to social norms. When these norms are judged by policy makers to be ‘negative’, such as social stigma from studying hard in low-income minority schools (Bursztyn and Jensen, 2015), policy tools to build self-esteem or a sense of self-worth might be effective in weakening the power of the social norm, as in Cohen et al. (2009). Conversely, higher self-esteem might reduce compliance with ‘positive’ social norms, such as those encouraging charitable donations (DellaVigna et al., 2012) or voting (DellaVigna et al., 2017).

An additional mechanism may be at play in these experiments. In particular, models of identity imply that individuals prefer to take actions consistent with their self-image or identity (see, for example, Akerlof and Kranton 2000). Under such theories, high-income individuals might purchase status goods simply because it is consistent with their high self-image. Boosting their self-esteem might further increase their demand for such status goods. Yet, we observe a reduction in demand for status goods from boosting self-esteem, suggesting that any such effect in our experiment is overpowered by the strong substitutability of self and social image.

7 Conclusion

This paper provides the first field experimental evidence of the existence of status goods. In particular, we show that the status aspect of premium credit cards – due to their potential to signal income – is an important driver of the demand for the product, over and above its instrumental benefits. Our experiments also identify a positional externality associated with the consumption of these status goods, thus confirming a key prediction of theories of status goods. We also show that higher self-esteem causally reduces demand for status goods, suggesting that self and social image are substitutes in the context we study, at least at the margin.

We believe this work can be usefully extended in several directions. First, more work on the overall economic importance and welfare consequences of status goods would be valuable. Second, understanding reference groups is a promising avenue: whom do individuals want to impress, and whom do they compare themselves to? Third, while we provide evidence that self and social image are substitutes in our context, at least in the short run, it will be important to understand whether this is true in other contexts and along other dimensions of image. Finally, we believe that understanding the effect of self-esteem on economic choices is a promising avenue for future work, especially in settings where self-esteem may be particularly low, such as in populations facing poverty, low social status, and negative stereotypes.

References

- Agarwal, Sumit, Vyatcheslav Mikhed, and Barry Scholnick**, “Does Inequality Cause Financial Distress? Evidence from Lottery Winners and Neighboring Bankruptcies,” *Working Paper*, 2016.
- , **Wenlan Qian, and Xin Zou**, “Thy Neighbor’s Misfortune: Peer Effects on Consumption,” *Working Paper*, 2017.
- Akerlof, George A. and Rachel E. Kranton**, “Economics and Identity,” *Quarterly Journal of Economics*, 2000, 115, 715 – 753.
- Andreoni, James and B Douglas Bernheim**, “Social image and the 50–50 norm: A theoretical and experimental analysis of audience effects,” *Econometrica*, 2009, 77 (5), 1607–1636.
- Austen-Smith, David and Roland Fryer**, “An Economic Analysis of ”Acting White”,” *Quarterly Journal of Economics*, 2005, 120 (2), 551–583.
- Bagwell, Laurie Simon and B Douglas Bernheim**, “Veblen Effects in a Theory of Conspicuous Consumption,” *American Economic Review*, 1996, 86 (3), 359–373.
- Banerjee, Abhijit V.**, “Envy,” in “Essays in Honour of Dipak Banerjee,” Oxford University Press, 1990, pp. 91–111.
- and **Esther Duflo**, “What Is Middle Class about the Middle Classes around the World?,” *Journal of Economic Perspectives*, June 2008, 22 (2), 3–28.
- Bénabou, Roland and Jean Tirole**, “Incentives and prosocial behavior,” *American Economic Review*, 2006, 96 (5), 1652–1678.
- Bloch, Francis, Indrani Gupta, and Vijayendra Rao**, “Wedding Celebrations as Conspicuous Consumption: Signaling Social Status in Rural India,” *Journal of Human Resources*, 2004, 39, 675–695.
- Bursztyn, Leonardo and Robert Jensen**, “How Does Peer Pressure Affect Educational Investments?,” *The Quarterly Journal of Economics*, 2015, 130 (3), 1329–1367.
- Charles, Kerwin Kofi, Erik Hurst, and Nikolai Roussanov**, “Conspicuous Consumption and Race,” *Quarterly Journal of Economics*, 2009, 124, 425–467.
- Cohen, Geoffrey L, Julio Garcia, Valerie Purdie-Vaughns, Nancy Apfel, and Patricia Brzustoski**, “Recursive processes in self-affirmation: Intervening to close the minority achievement gap,” *science*, 2009, 324 (5925), 400–403.
- DellaVigna, Stefano, John A List, and Ulrike Malmendier**, “Testing for Altruism and Social Pressure in Charitable Giving,” *Quarterly Journal of Economics*, 2012, 127 (1), 1.
- , – , – , and **Gautam Rao**, “Voting to tell others,” *The Review of Economic Studies*, 2017, 84 (1), 143–181.

- Duesenberry, James S.**, *Income, Saving and the Theory of Consumer Behavior*, Cambridge, MA: Harvard University Press, 1949.
- Enikolopov, Ruben, Alexey Makarin, Maria Petrova, and Leonid Polishchuk**, “Social Image, Networks, and Protest Participation,” *Universitat Pompeu Fabra*, 2017.
- Frank, Robert H.**, *Choosing the Right Pond: Human Behavior and the Quest for Status*, Oxford University Press, 1985.
- Frank, Robert H.**, “Positional externalities cause large and preventable welfare losses,” *The American Economic Review*, 2005, *95* (2), 137–141.
- Hall, Crystal C, Jiaying Zhao, and Eldar Shafir**, “Self-Affirmation Among the Poor Cognitive and Behavioral Implications,” *Psychological Science*, 2013, pp. 619–625.
- Hauser, Thomas**, *Muhammad Ali: His Life and Times*, Simon and Schuster, 1992.
- Heffetz, Ori**, “A Test of Conspicuous Consumption: Visibility and Income Elasticities,” *Review of Economics and Statistics*, 2011, *93*, 1101 – 1117.
- Hopkins, Ed and Tanya Kornienko**, “Running to Keep in the Same Place: Consumer Choice as a Game of Status,” *American Economic Review*, 2004, *94*, 1085 – 1107.
- Kuhn, Peter, Peter Kooreman, Adriaan Soetevent, and Arie Kapteyn**, “The Effects of Lottery Prizes on Winners and their Neighbors: Evidence from the Dutch Postcode Lottery,” *American Economic Review*, 2011, *101*, 2226–2247.
- Perez-Truglia, Ricardo and Guillermo Cruces**, “Partisan Interactions: Evidence from a Field Experiment in the United States,” *Journal of Political Economy*, Forthcoming.
- Pesendorfer, Wolfgang**, “Design Innovation and Fashion Cycles,” *American Economic Review*, 1995, *85*, 771 – 792.
- Rao, Vijayendra**, “Celebrations as Social Investments: Festival Expenditures, Unit Price Variation, and Social Status in South India,” *Journal of Development Studies*, 2001, *38*, 71 – 97.
- Rosenberg, Morris**, *Society and the Adolescent Self-Image*, Princeton University Press, 1965.
- Roth, Christopher P.**, “Conspicuous Consumption and Peer Effects among the Poor: Evidence From a Field Experiment,” *Mimeo*, 2014.
- Smith, Adam**, *An Inquiry into the Nature and Causes of the Wealth of Nations* 1776.
- Steele, Claude M.**, “The Psychology of Self-Affirmation: Sustaining the Integrity of the Self,” *Advances in Experimental Social Psychology*, 1988, *21*, 261–302.
- Steele, Claude M and Thomas J Liu**, “Dissonance processes as self-affirmation.” *Journal of personality and social psychology*, 1983, *45* (1), 5.
- Veblen, Thorstein**, *The Theory of the Leisure Class* 1899.
- Volfovsky, Alexander, Edoardo M. Airoidi, and Donald B. Rubin**, “Causal Inference for Ordinal Outcomes,” *arXiv:1501.01234*, 2015.

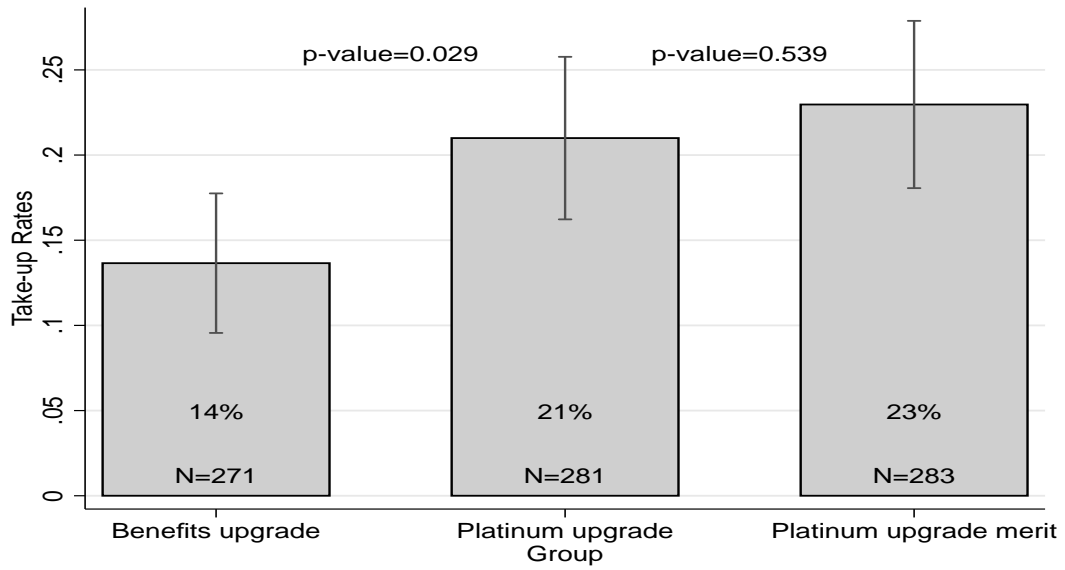
Figures and Tables

Figure 1: The Credit Cards



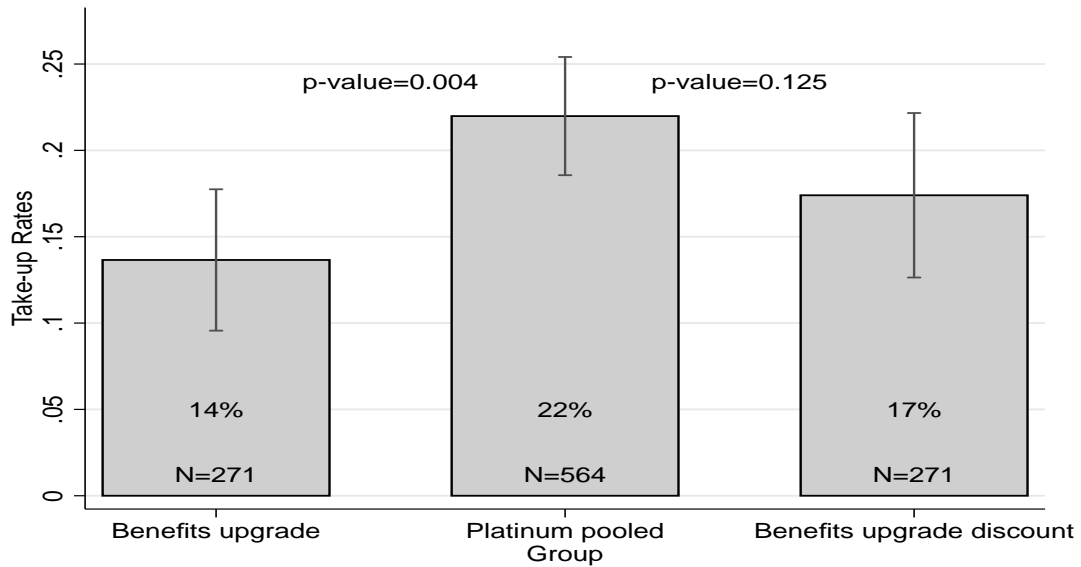
Notes: The figure shows the design of the *platinum*, *gold* and *basic* credit cards used in the experiments (from left to right).

Figure 2: Experiment 1: Demand for Status



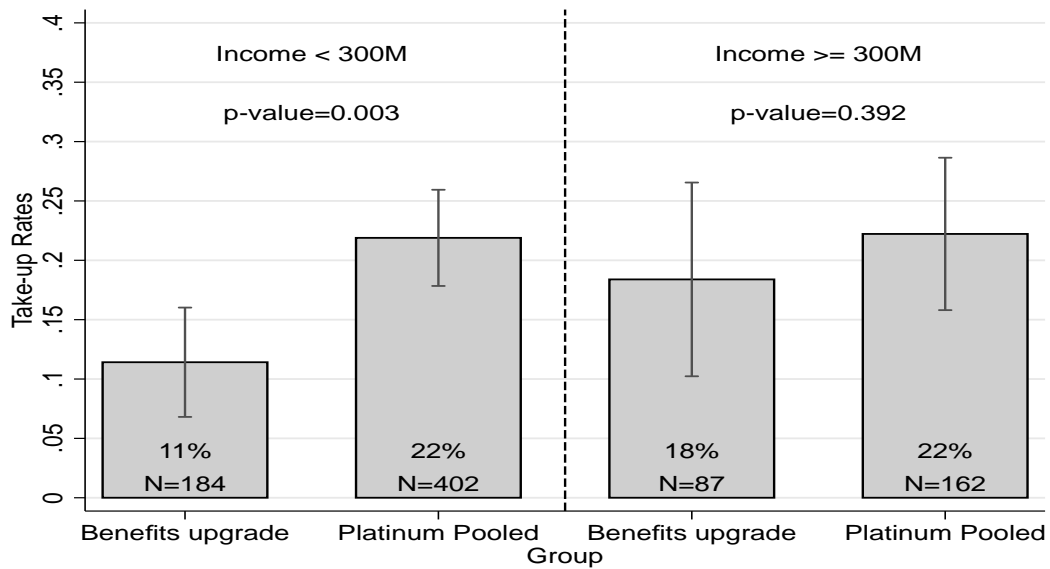
Notes: This figure presents the mean (and 95% confidence interval) of take-up rates for the *benefits upgrade*, *platinum upgrade*, and *platinum upgrade merit* groups. The p-values are based on permutation tests.

Figure 3: Benchmarking



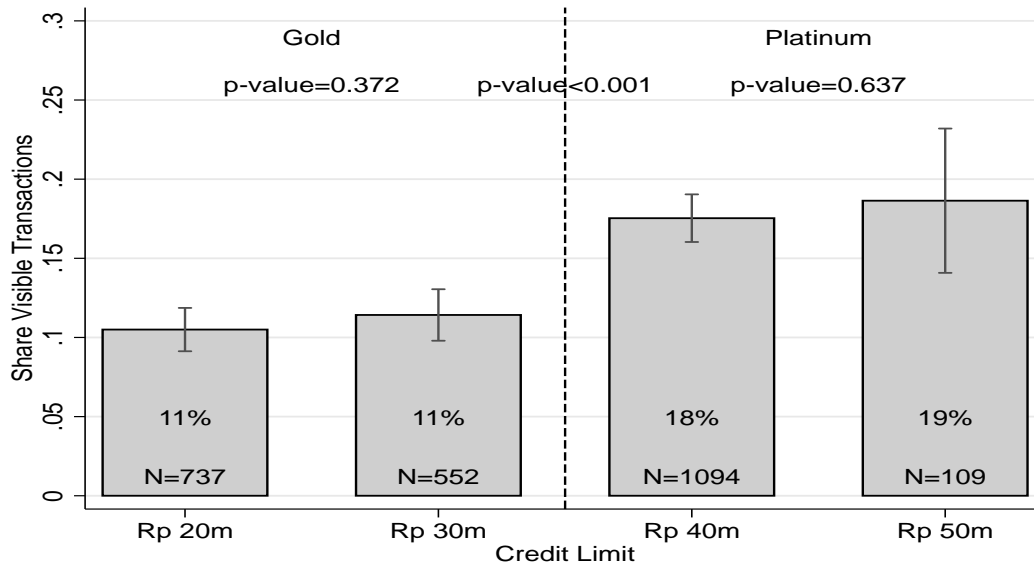
Notes: This figure presents the mean (and 95% confidence interval) of take-up rates for the *benefits upgrade* and *platinum pooled* groups. We also present the take-up rate for the benefits upgrade with a 25% discount in the annual fee. This take-up rate is based on the *benefits upgrade* sample. As explained in Section 3.3, we called again customers that declined the benefits upgrade offer in the first call after hearing the price details of the offer, and offered them the benefits upgrade at a 25% price discount. For this case, we calculate the standard error using bootstrap. For the *benefits upgrade* versus *platinum pooled* comparison, the p-value is based on a permutation test.

Figure 4: Experiment 1: Demand for Status - Income Heterogeneity



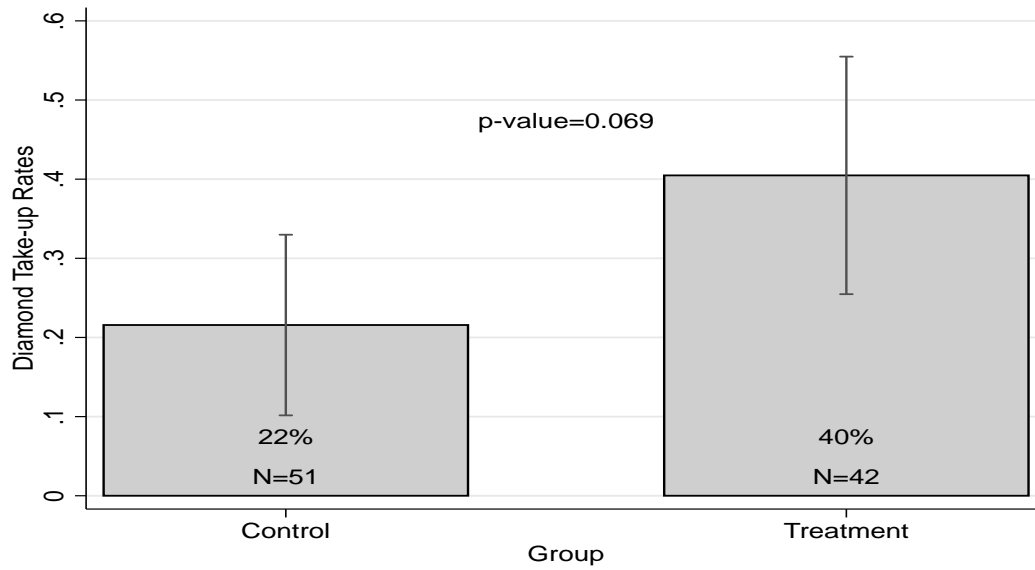
Notes: This figure presents the mean (and 95% confidence interval) of take-up rates for the *benefits upgrade* and *platinum pooled* groups separately for customers with income lower than Rp 300 million and customers with income greater or equal than Rp 300 million. The p-values are based on permutation tests.

Figure 5: Transaction data: Share of Visible Transactions



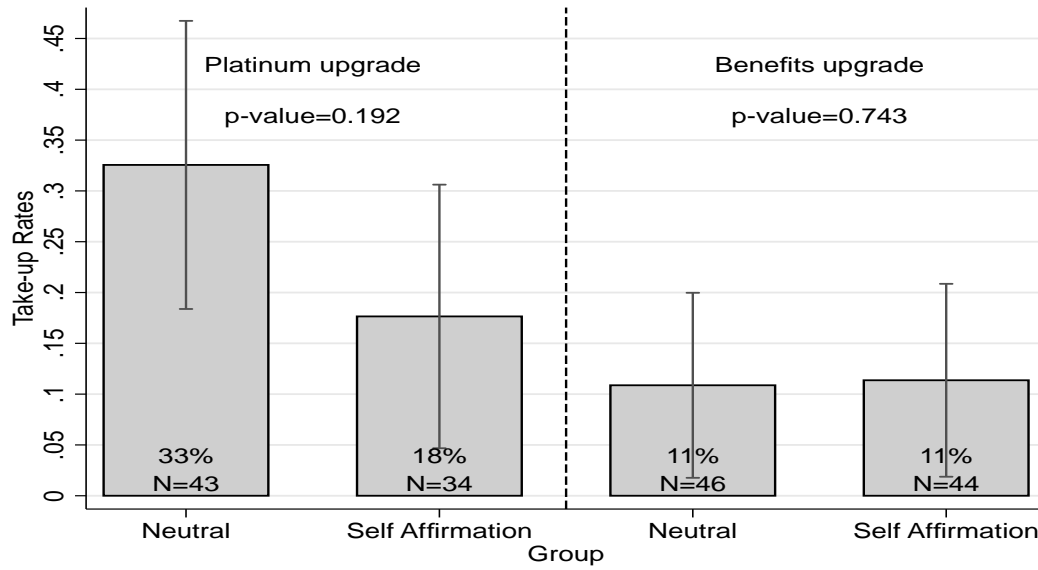
Notes: This figure presents the share of visible transactions (and 95% confidence intervals) for customers with different credit card limits.

Figure 6: Experiment 2: Positional Externalities



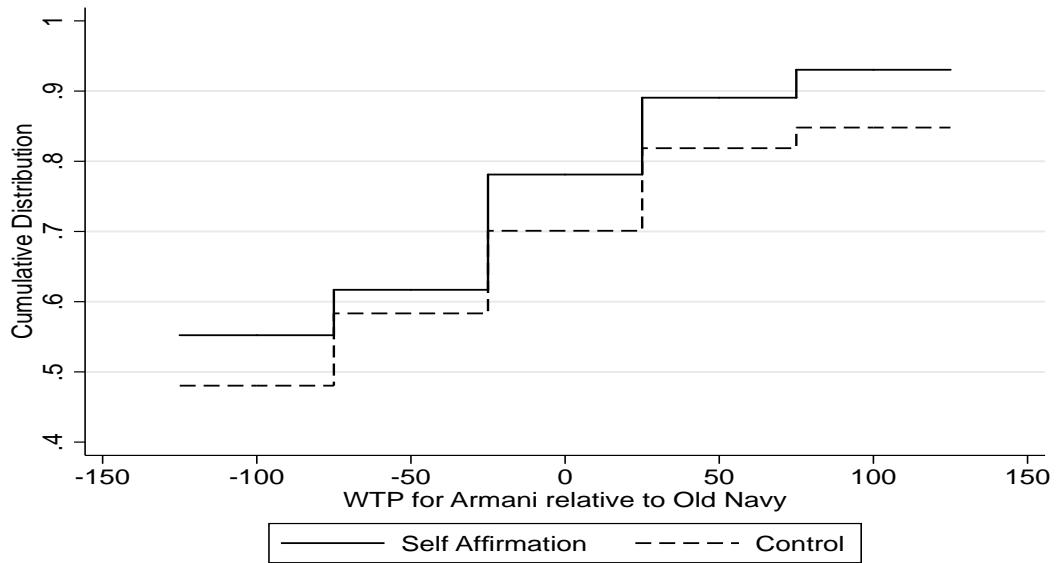
Notes: This figure presents the mean (and 95% confidence interval) of take-up rates for the control and treatment groups. The p-value is based on a permutation test.

Figure 7: Experiment 3: Self and Social Image



Notes: This figure presents the mean (and 95% confidence interval) of take-up rates for the control and self-affirmation groups, separately for the platinum upgrade and for the benefits upgrade offers. The p-values are based on permutation tests.

Figure 8: mTurk Experiment: Self and Social Image



Notes: cumulative distribution of the willingness to pay to receive a luxury brand (*Armani*) gift card instead of a standard brand (*Old Navy*) gift card for the control and the self-affirmation groups.

Table 1: Demand for Status (Experiment 1)

	(1)	(2)	(3)	(4)	(5)	(6)
Platinum	0.073** [0.032] (0.029)	0.072** [0.032] (0.033)	0.082*** [0.027] (0.005)			
Platinum $\times 1\{y_i < \text{cutoff}\}$ (a)				0.105*** [0.032] (0.004)	0.094*** [0.028] (0.001)	0.105*** [0.032] (0.003)
Platinum $\times 1\{y_i \geq \text{cutoff}\}$ (b)				0.031 [0.049] (0.543)	0.013 [0.084] (0.887)	0.035 [0.048] (0.534)
p-value ((a) = (b))				0.222	0.364	0.280
Mean (benefits upgrade)	0.137 [0.021]	0.137 [0.021]	0.137 [0.021]	0.137 [0.021]	0.137 [0.021]	0.105 [0.020]
Income Cutoff	-	-	-	300m	500m	300m
Sample	<i>Platinum upgrade and benefits upgrade conditions</i>	<i>Platinum upgrade and benefits upgrade conditions</i>	all	All	All	Exclude income $\geq 500m$
Controls	No	Yes	Yes	Yes	Yes	Yes
Sample size	552	552	835	835	835	704
R2	0.009	0.086	0.070	0.071	0.071	0.043

Notes: Column 1 presents the results of a regression of a dummy variable equal to one if the client accepted the offer on a dummy for platinum treatment using customers in the *platinum upgrade* and *benefits upgrade* conditions. The regression presented in column 2 includes strata dummies, credit limit, female, muslim, and Jakarta as covariates. The regression presented in column 3 pools customers in the *platinum upgrade* and *platinum upgrade merit* conditions as the platinum group. The regressions presented in columns 4 and 5 include interactions of the platinum treatment dummy with a dummy if income is lower than the cutoff and another dummy if income is higher or equal than the cutoff. In column 4 the cutoff is defined as 300M Rp while in column 5 it is defined as 500M Rp. The regression presented in column 6 replicates column 4 but excludes clients with income greater or equal than 500M. Robust standard errors in brackets. Permutation test p-values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 2: **Effects of Platinum Card on Credit Card Usage (Transaction Data)**

Gold (30M CL) - Gold (20M CL)	0.009 [0.011]	0.008 [0.011]	-0.010 [0.009]	-0.009 [0.009]	0.011 [0.018]	0.012 [0.018]
Platinum (40M CL) - Gold (30M CL)	0.061*** [0.011]	0.053*** [0.012]	-0.005 [0.007]	0.000 [0.008]	-0.090*** [0.017]	-0.095*** [0.018]
Platinum (50M CL) - Platinum (40M CL)	0.011 [0.024]	0.015 [0.025]	0.009 [0.013]	0.007 [0.013]	-0.023 [0.033]	-0.017 [0.032]
Mean (Gold (CL 20M))	0.105 [0.007]		0.054 [0.006]		0.673 [0.012]	
Controls	No	Yes	No	Yes	No	Yes
Number of clients:						
Gold (20M CL)	737	737	737	737	737	737
Gold (30M CL)	552	552	552	552	552	552
Platinum (40M CL)	1094	1094	1094	1094	1094	1094
Platinum (50M CL)	109	109	109	109	109	109
p-value (a)=(b)	0.008	0.020	0.708	0.549	0.002	0.001
p-value (a)=(c)	0.946	0.779	0.223	0.321	0.363	0.440
p-value (b)=(c)	0.085	0.195	0.391	0.665	0.094	0.049

Notes: Column 1 reports raw comparisons of share of visible transactions for clients with different credit limits/type of card. Column 2 reports comparisons controlling for income, female dummy, muslim dummy, Jakarta dummy, and age. Columns 3 and 4 report results for online transactions, while columns 5 and 6 report results for share of retail transactions. Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 3: **Positional Externalities (Experiment 2)**

	(1)	(2)
Information treatment	0.189** [0.096] (0.069)	0.206** [0.097] (0.039)
Mean (no information)	0.216 [0.058]	0.216 [0.058]
Controls	No	Yes
Sample size	93	93
R2	0.042	0.143

Notes: Column 1 presents the results of a regression of a dummy variable equal to one if the client accepted to get on the invite list for the diamond card on a dummy for information treatment. The regression presented in column 2 includes income, credit limit, female, muslim, and Jakarta as covariates. Robust standard errors in brackets. Permutation test p-values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4: **Self and Social Image - Credit Card (Experiment 3)**

	Platinum upgrade		Benefits upgrade	
	(1)	(2)	(3)	(4)
Self-Affirmation	-0.1491 [0.0981] (0.192)	-0.1548 [0.1060] (0.142)	0.0049 [0.0670] (0.743)	-0.0350 [0.0615] (0.604)
Mean (neutral)	0.326 [0.072]		0.109 [0.046]	
Controls	No	Yes	No	Yes
N	77	76	90	90
R2	0.0285	0.1811	0.0001	0.2380

Notes: Column 1 presents the results of a regression of a dummy variable equal to one if the client accepted the platinum upgrade offer on a dummy for self-affirmation treatment. The regression presented in column 2 includes income, credit limit, female, muslim, and Jakarta as covariates. The regressions presented in columns 3 and 4 present results using a dummy variable equal to one if the client accepted the benefits upgrade offer. Robust standard errors in brackets. Permutation test p-values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 5: **Self and Social Image - Armani Gift Cards (mTurk Experiment)**

	Roseberg Self-Esteem Score	Prefer \$____ <i>Armani</i> to \$500 <i>Old Navy</i>				
		400	450	500	550	600
	(1)	(2)	(3)	(4)	(5)	(6)
Panel i: without controls						
Self-Affirmation	1.2214* [0.7023] (0.080)	-0.0823*** [0.0310] (0.010)	-0.0719** [0.0349] (0.048)	-0.0801* [0.0434] (0.052)	-0.0336 [0.0488] (0.551)	-0.0718 [0.0497] (0.141)
Mean (neutral)	19.8333 [0.5076]	0.1520 [0.0252]	0.1814 [0.0270]	0.2990 [0.0321]	0.4167 [0.0346]	0.5196 [0.0351]
Sample size	405	405	405	405	405	405
Panel ii: with controls						
Self-Affirmation	1.2318* [0.6890] (0.090)	-0.0829*** [0.0309] (0.008)	-0.0728** [0.0349] (0.041)	-0.0805* [0.0430] (0.061)	-0.0319 [0.0469] (0.509)	-0.0680 [0.0489] (0.174)
Mean (neutral)	19.8333 [0.5076]	0.1520 [0.0252]	0.1814 [0.0270]	0.2990 [0.0321]	0.4167 [0.0346]	0.5196 [0.0351]
Sample size	405	405	405	405	405	405

Notes: Column 1 presents results of a regression of Rosenberg self-esteem Score on a dummy for self-affirmation treatment. Columns 2 to 6 present results of a regression of a dummy equal to one if the subject chose the *Armani* rather than the *Old Navy* gift card on a dummy for self-affirmation treatment for the corresponding offer. Panel i presents regressions without additional controls, while Panel ii presents results including race, gender, age, marital status, education and income as covariates. Robust standard errors in brackets. Permutation test p-values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Supplementary Appendix (For Online Publication)

Appendix Tables

Table A.1: **Sample Characteristics**

	Experiment 1: The demand for status	Transaction data	Experiment 2: Positional externalities	Experiment 3: Self and social image
	(1)	(2)	(3)	(4)
Income (in million Rp)	60.00 [6.21]	278.98 [9.82]	500.00 [18.60]	180.00 [25.47]
Credit limit (in million Rp)	28.49 [0.12]	32.31 [0.19]	40.59 [0.63]	28.61 [0.20]
Age	46.88 [0.30]	44.37 [0.18]	46.24 [0.95]	44.40 [0.66]
Female	0.24 [0.01]	0.26 [0.01]	0.22 [0.04]	0.26 [0.03]
Muslim	0.87 [0.01]	0.85 [0.01]	0.83 [0.04]	0.78 [0.03]
Jakarta	0.37 [0.02]	0.35 [0.01]	0.34 [0.05]	0.34 [0.03]
Platinum card	0.00 [0.00]	0.55 [0.01]	1.00 [0.00]	0.00 [0.00]
Sample Size	835	2492	93	203

Notes: Each line presents averages of the corresponding variable. For earnings, we present the median instead of the mean, due to large outliers. Standard errors in brackets.

Table A.2: **Demand for Status - Covariates Balance (Experiment 1)**

	Benefits upgrade	Platinum pooled	p-value (1)=(2)
	(1)	(2)	(3)
Income (in million Rp)	60.00 [15.17]	60.00 [7.16]	0.359
Credit limit (in million Rp)	28.23 [0.22]	28.61 [0.14]	0.148
Age	46.76 [0.52]	46.94 [0.37]	0.780
Female	0.26 [0.03]	0.23 [0.02]	0.300
Muslim	0.88 [0.02]	0.87 [0.01]	0.540
Jakarta	0.33 [0.03]	0.39 [0.02]	0.099
Sample size	271	564	

Notes: Each line presents averages of the corresponding variable. For each variable, the p-value of an F-test that the mean of the corresponding variable is the same for both treatment groups is presented in column 3. For earnings, we present the median and the p-value of a test that the median of this variable is the same for both treatment groups. Standard errors in brackets.

Table A.3: **Experiment 1: Heterogeneous Effects**

	Definition of metro area		
	Top 5	Top 10	Kota
	Metro Areas	Metro Areas	
	(1)	(2)	(3)
Platinum*Metro Area (a)	0.098** [0.037] (0.017)	0.104*** [0.033] (0.006)	0.092*** [0.027] (0.003)
Platinum*(1-Metro Area) (b)	0.045 [0.046] (0.377)	0.012 [0.050] (0.839)	-0.058 [0.084] (0.568)
Platinum*(avg. district HH expenditures)	-0.070** [0.025] (0.031)	-0.080** [0.023] (0.013)	-0.082*** [0.018] (0.004)
Platinum*(own income)	-0.118** [0.063] (0.033)	-0.115** [0.062] (0.037)	-0.121** [0.063] (0.030)
p-value ((a)=(b))	0.456	0.219	0.158
Proportion in Metro Area	0.570	0.674	0.879

Notes: this table presents results with the interactions of the *platinum pooled* dummy with a dummy for metro area, average district household expenditure, and own income. Average district household expenditure and own income are normalized to have mean equal to zero and variance equal to one. Therefore, the coefficient on *Platinum*(Metro Area)* (*Platinum*(1-Metro Area)*) reflects the treatment effect for individuals in metro areas (not in metro areas) with average income and in a district with average household expenditure. Permutation test p-values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.4: **Effects of Platinum Card on Credit Card Usage - Linear Model (Transaction Data)**

	Share of visible transactions		Share of online transactions		Share of retail transactions	
	(1)	(2)	(3)	(4)	(5)	(6)
Platinum	0.052*** [0.019]	0.044** [0.020]	0.000 [0.013]	0.004 [0.013]	-0.091*** [0.030]	-0.100*** [0.030]
Credit Limit (in million Rp)	0.001 [0.001]	0.001 [0.001]	-0.001 [0.001]	0.000 [0.001]	0.000 [0.001]	0.000 [0.001]
Controls	No	Yes	No	Yes	No	Yes
Sample size	2492	2492	2492	2492	2492	2492

Notes: Column 1 reports regression results of share of visible transactions on platinum card and credit limit. We use a dummy for credit limit greater or equal to 40M as an instrumental variable for platinum card. Column 2 includes income, female dummy, muslim dummy, Jakarta dummy, and age as covariates. Columns 3 and 4 present results for online transactions, while columns 5 and 6 report results for retail transactions. Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.5: **Positional Externalities - Covariates Balance (Experiment 2)**

	Control	Information treatment	p-value (1)=(2)
	(1)	(2)	(3)
Income (in million)	522.77 [37.41]	500.00 [27.60]	0.460
Credit limit (in million)	41.27 [0.75]	39.76 [1.05]	0.244
Age	45.87 [1.27]	46.70 [1.46]	0.667
Female	0.22 [0.06]	0.21 [0.06]	0.987
Muslim	0.82 [0.05]	0.83 [0.06]	0.902
Jakarta	0.25 [0.06]	0.45 [0.08]	0.049
Sample size	51	42	

Notes: Each line presents averages of the corresponding variable. For each variable, the p-value of an F-test that the mean of the corresponding variable is the same for both treatment groups is presented in column 3. For earnings, we present the median and the p-value of a test that the median of this variable is the same for both treatment groups. Standard errors in brackets.

Table A.6: **Self and Social Image - Credit Card - Covariates Balance (Experiment 3)**

	Platinum upgrade		Benefits Upgrade		p-value (1)=(2)=(3)=(4)
	Neutal	Self affirmation	Neutal	Self affirmation	
	(1)	(2)	(3)	(4)	(5)
Income (in million Rp)	180.00 [51.35]	180.00 [41.24]	180.00 [32.28]	250.00 [55.09]	0.477
Credit limit (in million Rp)	29.06 [0.30]	28.72 [0.50]	28.67 [0.38]	28.07 [0.43]	0.319
Age	44.20 [1.28]	44.84 [1.38]	43.29 [1.36]	45.21 [1.30]	0.758
Female	0.20 [0.06]	0.28 [0.07]	0.29 [0.07]	0.28 [0.06]	0.711
Muslim	0.78 [0.06]	0.67 [0.07]	0.84 [0.05]	0.81 [0.05]	0.327
Jakarta	0.30 [0.06]	0.35 [0.07]	0.31 [0.07]	0.40 [0.07]	0.640
Sample size	54	43	49	57	

Notes: Each line presents averages of the corresponding variable. For each variable, the p-value of an F-test that the mean of the corresponding variable is the same for all treatment groups is presented in column 3. For earnings, we present the median and the p-value of a test that the median of this variable is the same for all treatment groups. Standard errors in brackets.

A Calibration of Status Value of Platinum Card

We consider a simple model in which b_i is the value customer i derives from the instrumental benefits of the platinum card, while dS is the value he/she derives from the status aspect of the card. Customer i accepts a platinum upgrade offer if $b_i + dS > p$ while he/she accepts a *benefits upgrade* offer if $b_i > p$, where p is the additional annual fee to upgrade the card. We assume that dS is deterministic, while $b \sim N(\mu_b, \sigma_b^2)$. Using the take-up rates in the *benefits upgrade*, *platinum pooled*, and *benefits upgrade discount* conditions, we estimate $dS \approx \text{Rp. } 218,000$ per year.

B Experiment Scripts

B.1 Experiment 1: Benefits Upgrade

Assalamu'alaikum Sir/Madam,

May I please speak to Mr./Mrs. [cardholder name]? I'm calling from [name of bank] to make you a special offer regarding your [name of card] card. Do you have a couple of minutes to hear about it?

You have been randomly chosen to receive an upgrade on your gold [name of card] card. With this upgrade, you will get the same services, benefits, credit limit, terms and conditions offered to platinum [name of card] card cardholders. These include access to airport lounges, and discounts on luxury international brands like Gucci and Burberry. You will have the same customer service you already know, the same as platinum [name of card] card cardholders.

Do you have any questions about these services?

To make all the extra benefits available, we will have to send you a new gold [name of card] card. It looks just like the one you already own, but includes all the benefits and services of our platinum [name of card] card. You have been randomly chosen as a limited promotion to be offered these extra services and benefits, which are available to only 10% of our customers. This will cost an additional annual fee 360,000 Rp on top of what you already pay. This offer is valid only today.

Do you have any questions about this offer?

Would you like to proceed with this offer?

Thank you for your time.

Wassalamu'alaikum warahmatullahi wabarakatuh!

B.2 Experiment 1: Platinum Upgrade

Assalamu'alaikum Sir/Madam,

May I please speak to Mr./Mrs. [cardholder name]. I'm calling from [name of bank] to make you a special offer regarding your [name of card] card. Do you have a couple of minutes to hear about it?

You have been randomly chosen to receive an upgrade to our platinum [name of card] card. With this upgrade, you will get the same services, benefits, credit limit, terms and conditions offered to other platinum [name of card] card cardholders. These include access to airport lounges, and discounts on luxury international brands like Gucci and Burberry. You will have the same customer service you already know, the same as other platinum [name of card] card cardholders.

Do you have any questions about these services?

To make all the extra benefits available, we will have to send you a new [name of card] card. The card you will receive is our elegantly designed dark platinum [name of card] card. This is different from the one you own: I'm sure everybody will notice the difference when they see it! You have been randomly chosen as a limited promotion to be offered the platinum [name of card] card, which is held by only 10% of our customers. This will cost an additional annual fee of 360,000 Rp on top of what you already pay. This offer is valid only today.

Do you have any questions about this offer?

Would you like to proceed with this offer?

Thank you for your time.

Wassalamu'alaikum warahmatullahi wabarakatuh!

B.3 Experiment 1: Platinum Upgrade Merit

Assalamu'alaikum Sir/Madam,

May I please speak to Mr./Mrs. [cardholder name]. I'm calling from [name of bank] to make you a special offer regarding your [name of card] card. Do you have a couple of minutes to hear about it?

As one of our top customers, you have been chosen to receive an upgrade to our platinum [name of card] card. With this upgrade you will get the same services, benefits, credit limit, terms and conditions offered to other platinum [name of card] card cardholders. These include access to airport lounges, and discounts on luxury international brands like Gucci and Burberry. You will have the same customer service you already know, the same as other platinum [name of card] card cardholders.

Do you have any questions about these services?

To make all the extra benefits available, we will have to send you a new [name of card] card. The card you would receive is our elegantly designed dark platinum [name of card] card. This is different from the one you own: I'm sure everybody will notice the difference when they see it! You have been chosen based on your account information as qualifying for being offered the platinum [name of card] card, which is held by only 10% of our customers. This will cost an additional annual fee of 360,000 Rp on top of what you already pay. This offer is valid only today.

Do you have any questions about this offer?

Would you like to proceed with this offer?

Thank you for your time.

Wassalamu'alaikum warahmatullahi wabarakatuh!

B.4 Experiment 1 Follow-Up: Discounted Benefits Upgrade

Assalamu'alaikum Sir/Madam,

May I please speak to Mr./Mrs. [cardholder name]. I'm calling you back from [name of bank] to talk about the offer we made you in early September. We offered you upgraded benefits on your [name of card] card and you turned down the offer at the price of 360,000 Rp. We are now proposing the same offer at a price of 270,000 Rp. Would you be interested in accepting the offer at this price? I can remind you the details of the offer if you want.

You were originally randomly chosen to receive an upgrade on your gold [name of card] card. With this upgrade you will get the same services, benefits, credit limit, terms and conditions offered to platinum [name of card] card cardholders. These include access to airport lounges, and discounts on luxury international brands like Gucci and Burberry. You will have the same customer service you already know, the same as platinum [name of card] card cardholders.

Do you have any questions about these services?

To make all the extra benefits available, we will have to send you a new gold [name of card] card. It looks just like the one you already own, but includes all the benefits and services of our platinum [name of card] card. You have been randomly chosen to be offered these extra services and benefits, which are available to only 10% of our customers. This will cost an additional annual fee 270,000 Rp on top of what you already pay. This offer is valid only today.

Do you have any question about this offer?

Would you like to proceed with this offer?

Thank you for your time. We will soon contact you back to let you know if our analysts approved your request.

Wassalamu'alaikum warahmatullahi wabarakatuh!

B.5 Experiment 1 Follow-up: Discounted Platinum Upgrade

Assalamu'alaikum Sir/Madam,

May I please speak to Mr./Mrs. [cardholder name]. I'm calling you back from [name of bank] to talk about the offer we made you in early September. We offered you an upgrade to our platinum [name of card] card and you turned down the offer at the price of 360,000 Rp. We are now proposing the same offer at a price of 270,000 Rp. Would you be interested in accepting the offer at this price? I can remind you the details of the offer if you want.

You were originally randomly chosen to receive an upgrade to our platinum [name of card] card. With this upgrade you will get the same services, benefits, credit limit, terms and conditions offered to other platinum [name of card] card cardholders. These include access to airport lounges, and discounts on luxury international brands like Gucci and Burberry. You will have the same customer service you already know, the same as other platinum [name of card] card cardholders.

Do you have any question about these services?

To make all the extra benefits available, we will have to send you a new [name of card] card. The card you would receive is our elegantly designed dark platinum [name of card] card. This is different from the one you own: I'm sure everybody will notice the difference when they see it! You have been randomly chosen as a limited promotion to be offered the platinum [name of card] card, which is held by only 10% of our customers. This will cost an additional annual fee of 270,000 Rp on top of what you already pay. This offer is valid only today.

Do you have any question about this offer?

Would you like to proceed with this offer?

Thank you for your time.

Wassalamu'alaikum warahmatullahi wabarakatuh!

B.6 Experiment 2: Diamond Upgrade Control

Assalamu'alaikum Sir/Madam,

May I please speak to Mr./Mrs. [cardholder name]. I'm calling from [name of bank] and I would like to ask you a quick question relevant to your [name of card] card. Do you have a couple of minutes to answer?

We'd like to hear the opinion of our customers before deciding whether to launch a new credit card. The new card we are considering will be called the diamond [name of card] card. The diamond card will have exactly the same credit limit, benefits, services, and terms as the platinum [name of card] card, which you presently own. The only difference is that the diamond card will come in a new and different design and color from the platinum card you currently have. Everyone who currently has a platinum card can apply for a diamond card.

Would you upgrade to a diamond [name of card] card if it cost 50,000 Rp more per year than the platinum card?

Would you like to be on the formal invite list of customers we will call when the diamond card becomes available? This would cost you 10,000 Rp, which will be charged to your card only if the product becomes available.

Would you like to proceed with this offer?

Thank you for your time.

Wassalamu'alaikum warahmatullahi wabarakatuh!

B.7 Experiment 2: Diamond Upgrade Treatment

Assalamu'alaikum Sir/Madam,

May I please speak to Mr./Mrs. [cardholder name]. I'm calling from [name of bank] and I would like to ask you a quick question relevant to your [name of card] card. Do you have a couple of minutes to answer?

We'd like to hear the opinion of our customers before deciding whether to launch a new credit card. The new card we are considering will be called the diamond [name of card] card. The diamond card will have exactly the same credit limit, benefits, services, and terms as the platinum [name of card] card, which you presently own. The only difference is that the diamond card will come in a new and different design and color from the platinum card you currently have. Everyone who currently has a platinum card can apply for a diamond card.

Everyone knows that nowadays banks have started giving platinum cards to nearly anyone. Even at [name of bank], we have recently reduced the income eligibility criteria for the Platinum card to 300 Million Rp, so now many customers with a lower income than yours will get the platinum card. However, these lower income customers can not apply for a diamond card.

Would you upgrade to a diamond [name of card] card if it cost 50,000 Rp more than the platinum card?

Would you like to be on the formal invite list of customers we will call when the diamond card becomes available? This would cost you 10,000 Rp, which will be charged on your card only if the product becomes available.

Would you like to proceed with this offer?

Thank you for your time.

Wassalamu'alaikum warahmatullahi wabarakatuh!

B.8 Experiment 3: Control Treatment, Benefits Upgrade

Assalamu'alaikum Sir/Madam,

May I please speak to Mr./Mrs. [cardholder name]. I'm calling from [name of bank] to make you a special offer regarding your [name of card] card. Do you have a couple of minutes to hear about it?

At [name of bank], we think its important to understand our customers really well. So before making you a new offer relating to your [name of credit card], we would like to ask you a quick question. Can you please tell me which are your favorite TV channels and why? This would be a great help to us in understanding our clients media preferences.

Thanks for sharing that. Lets now talk about your [name of card] card. You have been randomly chosen to receive an upgrade on your gold [name of card] card. With this upgrade, you will get the same services, benefits, credit limit, terms and conditions offered to platinum [name of card] card cardholders. These include access to airport lounges, and discounts on luxury international brands like Gucci and Burberry. You will have the same customer service you already know, the same as platinum [name of card] card cardholders.

Do you have any questions about these services?

To make all the extra benefits available, we will have to send you a new gold [name of card] card. It looks just like the one you already own, but includes all the benefits and services of our platinum [name of card] card.

These extra services and benefits are available to only 10% of our most selected customers, all among the very top. However, as a special promotion, we have decided to also select a very small number of existing Gold customers by lucky draw. You have been selected randomly by this process to be offered these benefits.

This will cost an additional annual fee 360,000 Rp on top of what you already pay. This offer is valid only today.

Do you have any questions about this offer?

Would you like to proceed with this offer?

Thank you for your time.

Wassalamu'alaikum warahmatullahi wabarakatuh!

B.9 Experiment 3: Treatment Benefits Upgrade

Assalamu'alaikum Sir/Madam,

May I please speak to Mr./Mrs. [cardholder name]. I'm calling from [name of bank] to make you a special offer regarding your [name of card] card. Do you have a couple of minutes to hear about it?

At [name of bank], we think its important to understand our customers really well. So before making you a new offer relating to your [name of credit card], we would like to ask you a quick question. Can you please describe a specific incident in your life, something you did or achieved, that made you feel successful or proud of yourself? It could be from any aspect of your life, whether family related, education, or professional.

Thanks for sharing that. Lets now talk about your [name of card] card. You have been randomly chosen to receive an upgrade on your gold [name of card] card. With this upgrade you will get the same services, benefits, credit limit, terms and conditions offered to platinum [name of card] card cardholders. These include access to airport lounges, and discounts on luxury international brands like Gucci and Burberry. You will have the same customer service you already know, the same as platinum [name of card] card cardholders.

Do you have any question about these services?

To make all the extra benefits available, we will have to send you a new gold [name of card] card. It looks just like the one you already own, but includes all the benefits and services of our platinum [name of card] card.

These extra services and benefits are available to only 10% of our most selected customers, all among the very top. However, as a special promotion, we have decided to also select a very small number of existing Gold customers by lucky draw. You have been selected randomly by this process to be offered these benefits.

This will cost an additional annual fee 360,000 Rp on top of what you already pay. This offer is valid only today.

Do you have any questions about this offer?

Would you like to proceed with this offer?

Thank you for your time.

Wassalamu'alaikum warahmatullahi wabarakatuh!

B.10 Experiment 3: Control Platinum Upgrade

Assalamu'alaikum Sir/Madam,

May I please speak to Mr./Mrs. [cardholder name]. I'm calling from [name of bank] to make you a special offer regarding your [name of card] card. Do you have a couple of minutes to hear about it?

At [name of bank], we think its important to understand our customers really well. So before making you a new offer relating to your [name of credit card], we would like to ask you a quick question. Can you please tell me which are your favorite TV channels and why? This would be a great help to us in understanding our clients media preferences.

Thanks for sharing that. Lets now talk about your [name of card] card. You have been randomly chosen to receive an upgrade to our platinum [name of card] card. With this upgrade you will get the same services, benefits, credit limit, terms and conditions offered to other platinum [name of card] card cardholders. These include access to airport lounges, and discounts on luxury international brands like Gucci and Burberry. You will have the same customer service you already know, the same as other platinum [name of card] card cardholders.

Do you have any question about these services?

To make all the extra benefits available, we will have to send you a new [name of card] card. The card you would receive is our elegantly designed dark platinum [name of card] card. This is different from the one you own: I'm sure everybody will notice the difference when they see it!

The platinum card is held by only 10% of our most selected customers, all among the very top. However, as a special promotion, we have decided to also select a very small number of existing Gold customers by lucky draw. You have been selected randomly by this process to be offered the Platinum card.

This will cost an additional annual fee of 360,000 Rp on top of what you already pay. This offer is valid only today.

Do you have any questions about this offer?

Would you like to proceed with this offer?

Thank you for your time.

Wassalamu'alaikum warahmatullahi wabarakatuh!

B.11 Experiment 3: Treatment Platinum Upgrade

Assalamu'alaikum Sir/Madam,

May I please speak to Mr./Mrs. [cardholder name]. I'm calling from [name of bank] to make you a special offer regarding your [name of card] card. Do you have a couple of minutes to hear about it?

At [name of bank], we think its important to understand our customers really well. So before making you a new offer relating to your [name of credit card], we would like to ask you a quick question. Can you please describe a specific incident in your life, something you did or achieved, that made you feel successful or proud of yourself? It could be from any aspect of your life, whether family related, education, or professional.

Thanks for sharing that. Lets now talk about your [name of card] card. You have been randomly chosen to receive an upgrade to our platinum [name of card] card. With this upgrade you will get the same services, benefits, credit limit, terms and conditions offered to other platinum [name of card] card cardholders. These include access to airport lounges, and discounts on luxury international brands like Gucci and Burberry. You will have the same customer service you already know, the same as other platinum [name of card] card cardholders.

Do you have any question about these services?

To make all the extra benefits available, we will have to send you a new [name of card] card. The card you would receive is our elegantly designed dark platinum [name of card] card. This is different from the one you own: I'm sure everybody will notice the difference when they see it!

The platinum card is held by only 10% of our most selected customers, all among the very top. However, as a special promotion, we have decided to also select a very small number of existing Gold customers by lucky draw. You have been selected randomly by this process to be offered the Platinum card.

This will cost an additional annual fee of 360,000 Rp on top of what you already pay. This offer is valid only today.

Do you have any questions about this offer?

Would you like to proceed with this offer?

Thank you for your time.

Wassalamu'alaikum warahmatullahi wabarakatuh!

C mTurk Survey Experiment

C.1 Experiment 3 mTurk survey: Demographic questions

- What is your gender?
 - Male
 - Female
- What is your year of birth?
- What is your marital status?
 - Single
 - Married
- How would you describe your ethnicity/race? Please, check all that apply:
 - White or European American
 - Black or African American
 - Hispanic or Latino
 - Asian or Asian American
 - Other
- What is the highest level of school you have completed or the highest degree you have received? taxes:
 - Less than high school degree
 - High school graduate
 - Some college but no degree
 - Associate degree in college (2-year)
 - Bachelor’s degree in college (4-year)
 - Master’s degree
 - Doctoral degree
 - Professional degree (JD, MD)
- What is your household annual income? Please indicate the answer that includes your entire household income in 2015 before taxes:
 - Less than \$10,000
 - \$10,000 to \$19,999
 - \$20,000 to \$29,999
 - \$30,000 to \$39,999
 - \$40,000 to \$49,999
 - \$50,000 to \$59,999
 - \$60,000 to \$69,999
 - \$70,000 to \$79,999
 - \$80,000 to \$89,999
 - \$90,000 to \$99,999
 - \$100,000 to \$149,999
 - \$150,000 or more

C.2 Experiment 3 mTurk survey: Treatment question

Can you please describe an event that made you feel successful or proud of yourself? It could be from any aspect of your life, whether personal, social or family related, educational, or professional. Please be as specific as possible, and include as many details as possible. You should use all of the blank space below (minimum 1000 characters).

C.3 Experiment 3 mTurk survey: Control question

Can you please tell the name and summarize the story of the last movie you have seen? Please be as specific as possible, and include as many details as possible. You should use all of the blank space below (minimum 1000 characters).

C.4 Experiment 3 mTurk survey: Rosenberg self-esteem scale

Below is a list of statements dealing with your general feelings about yourself. For each statement, please circle either Strongly Agree, Agree, Disagree, or Strongly Disagree.

- On the whole, I am satisfied with myself.
- At times, I think I am no good at all.
- I feel that I have a number of good qualities.
- I am able to do things as well as most other people.
- I feel I do not have much to be proud of.
- I certainly feel useless at times.
- I feel that I am a person of worth, at least on an equal plane with others.
- I wish I could have more respect for myself.
- All in all, I am inclined to feel that I am a failure.
- I take a positive attitude toward myself.

C.5 Experiment 3 mTurk survey: Gift Card Offer

In addition to the \$3 payment, in this survey you will have the possibility to participate in a lottery and win a \$400-\$600 gift card for either *Old Navy* or *Armani*. Participation in this study is not required in order to participate in the lottery. Note that credit on the gift cards cannot be converted to cash. At *Old Navy* you will find affordable clothing and accessories at great prices. At *Armani* you will find high-end fashion clothing and accessories from a prestigious brand.

The gift card you will receive in case you win our lottery will be determined by your choices in this question. You are equally likely to win the lottery regardless of what you choose, but the prize for winning will be determined by your choices.

For each line in the table below, please choose Option A or Option B. Options A and B consist of two gift card from different stores and of different monetary values. Option A is always a \$500 gift card from *Old Navy*. Option B is a gift card from *Armani*, whose value varies from \$400 to \$600.

Once you make your choices, we will select a random number between 1 and 5, which will determine which of your choices is the important one in case you win the lottery. Each choice could be the one that counts, so you should treat each and every line as if that choice will determine your payment. For example, if the random number is 2 and you said you prefer Option B in that line, then you will participate in a lottery where you will have the possibility of winning a \$450 *Armani* gift card.

Note: if you win the lottery, you will be notified over email (at the email address associated with your mTurk account) by December 31, 2016.

- What would you prefer to win between a \$500 *Old Navy* gift card (Option A) and a \$400 *Armani* card (Option B)?
- What would you prefer to win between a \$500 *Old Navy* gift card (Option A) and a \$450 *Armani* card (Option B)?
- What would you prefer to win between a \$500 *Old Navy* gift card (Option A) and a \$500 *Armani* card (Option B)?
- What would you prefer to win between a \$500 *Old Navy* gift card (Option A) and a \$550 *Armani* card (Option B)?
- What would you prefer to win between a \$500 *Old Navy* gift card (Option A) and a \$600 *Armani* card (Option B)?

C.6 Experiment 3 mTurk survey: Values Ordering

Below is a list of things which you might consider more or less important in your life. Please rank them from the most important to the least important.

- Family
- Friends
- Leisure Time
- Financial Success
- Health
- Politics
- Work
- Religion