

Status Goods: Experimental Evidence from Platinum Credit Cards*

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January 2017

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Abstract

This paper provides the first field-experimental evidence on status goods. We work with an Indonesian bank that markets widely-recognized platinum credit cards to high-income customers. In the first experiment, we show that demand for the platinum card is substantially higher than demand for its tangible benefits and services. Transaction data reveal that platinum cardholders are more likely to use the card in social contexts where others may notice it, implying social image concerns. We next provide experimental evidence of positional externalities from the consumption of these status goods. Finally, we show that higher self-esteem causally reduces demand for status goods, suggesting that self and social image are substitutes.

*We would like to thank Nava Ashraf, Abhijit Banerjee, Roland Bénabou, Stefano DellaVigna, Benjamin Enke, Robert Frank, Matthew Gentzkow, Ori Heffetz, David Laibson, Markus Mobius, Sendhil Mullainathan, Ricardo Perez-Truglia, Christopher Roth, Andrei Shleifer, Lise Vesterlund, David Yanagizawa-Drott, and numerous seminar participants for helpful comments and suggestions. We are grateful to the World Bank Strategic Research Program for financial support. The opinions expressed do not necessarily represent the views of the World Bank, its Executive Directors, or the countries they represent.

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1 Introduction

Social image concerns affect many important behaviors, from voting to charitable donations to student effort (Perez-Truglia and Cruces, Forthcoming; DellaVigna et al., Forthcoming; Bursztyrn and Jensen, 2015). 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), and large expenditures on festivals (Rao, 2001) and weddings (Bloch et al., 2004) 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 entirely open question whether self and social image are substitutes or complements.

In this paper, we provide the first field experimental evidence of the existence of status goods and the associated positional externalities, and shed light on the psychological determinants of the demand for status. We work with a large bank in Indonesia to design three related experiments that market the bank’s popular platinum credit cards.⁴ The credit cards in our experiment are widely-recognized throughout Indonesia.⁵ 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.

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

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

²See Frank 1985 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).

⁴As an emerging market with a rapidly growing middle class, Indonesia is perhaps a particularly useful setting for studying status goods. Recent estimates suggest that approximately 130 million of 330 million global luxury good consumers are located in emerging markets (see “Luxury Goods Worldwide Market Study” Bain & Company, 2014).

⁵We confirm that the cards are viewed as prestigious, using survey evidence presented below.

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.⁶ 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 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. Alternatively, it could be that richer individuals simply care less about social status altogether.⁷

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 survey reveals that actual restaurant visits do not differ between platinum and standard card holders. The use of the platinum card for social signaling is costly:

⁶In 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.

⁷Our 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 latter explanation.

while the card we study does not offer cash back, at least 48% of platinum customers report owning other credit cards which *do* offer cash back at restaurants.⁸ These customers forgo some money each time they use the platinum card instead of their other cards at a restaurant or bar. In contrast to the increased use of the platinum card in social situations, there are no increases in more private uses of the card, such as online purchases. These findings are consistent with the hypothesis that platinum cards are used to build social image, and point to the potential effect of social image concerns on consumption patterns more broadly.⁹

Having established that status considerations play a substantial role in the demand and use of platinum credit cards, we turn to better understanding the factors that influence demand for status goods.

Our second field experiment studies how demand is affected by the exclusivity of the card. 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 reduced, so that some relatively lower-income customers now also qualify for it.¹⁰ We find that providing this additional information nearly doubles take-up of the new diamond card. This result provides evidence of positional externalities in the consumption of these status goods: lower-income consumers weaken the status signal and 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

In the final set of experiments, we estimate the causal effect of self-esteem – an important aspect of self-image – on customers’ demand for status goods. We thus seek to shed light on whether a more positive self image increases or decreases demand for high social image. 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; Hall et al., 2013).¹² A control group instead performs a placebo task, describing their media consumption habits. Both groups are then offered either the platinum credit card for purchase in the main condition, or a benefits upgrade in a placebo condition. While the experiment

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.

¹⁰This information is again truthful, as the income requirement for the bank’s 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 to 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.

has limited statistical power, we find that the self-affirmation treatment has no effect on 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 high-end clothing (Armani) – a classic status good – versus low-end clothing (Old Navy), 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 causally lower demand for a conspicuous status good. At the margin, thus, self and social image appear to be substitutes, rather than complements.

Considered 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. By directly testing –and confirming– the key predictions 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, suggesting that self and social image are substitutes. This novel evidence of potential 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

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

present the final set of experiments, on the relationship between self and social image. 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 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\$2592) to qualify for a classic card, an annual income above Rp 60 million (US\$ 4,320) to qualify for a gold card, and an income above Rp 500 million (US\$ 36,000) 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\$ 11,088 (Rp 60 million or US\$ 4,320). 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

¹⁴In November 2014, the eligibility threshold for the platinum card was reduced to Rp 300 million (US\$ 21,600).

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.

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 other potentially valuable benefits. For example, the gold card has a credit limit between Rp 10 million (US\$ 720) and Rp 30 million (US\$ 2,160), while the platinum card has a credit limit starting at Rp 40 million (US\$ 2,880), and extending up to Rp 125 million (US\$ 9,000) 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 the first experiment, we engineer a control product which has exactly the same instrumental benefits as the platinum card, but strips away the status aspect by appearing identical to the less-exclusive gold card. We offer this card as a paid upgrade to existing bank customers in a control group, and compare take-up to a treatment group which is instead offered the platinum card itself. We utilize price variation to interpret the magnitude of any demand for the status aspect of the card, and examine heterogeneity in 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 others make about her type, which **FIX** depend on her observable behavior.

Formally, consider an individual i , undertaking an observable action $a_i \in \{0, 1\}$. which **FIX** In our case, individual i is offered a status good and $a_i = 1$ indicates purchasing the status good, while $a_i = 0$ indicates not purchasing 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 rich by others, so that an individual's utility function includes the social image term S_i , which we define as:

$$S(a_i) = \lambda \Pr_{-i}(y_i = h \mid a_i). \quad (1)$$

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 . The parameter λ measures how much individuals care about being perceived as being of type h , and we assume that $\lambda > 0$.

In the following sections, we will return to and extend this simple framework, in order to elucidate the experimental design and generate testable predictions.

3.2 Experimental Design

3.2.1 Sample Population

The sample for this experiment comprises 1,260 existing credit card customers, randomly drawn from a list of customers after applying the following filters. First, customers had to own a gold card with a credit limit of at least Rp 20 million (US\$1,440). Second, they had to be current on their credit card payments. Third, they could not be employees of the bank. Essentially, these were customers whom – for the purpose of our relatively small experiment – the bank was willing to offer the platinum card to, 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, 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).

3.2.2 Experimental Treatments

The experiment consisted in making marketing phone calls to customers in the sample. In the calls, all customers were offered a paid benefits upgrade to all of the benefits, services and credit limit available to the bank's platinum card holders. Customers were told that they had been drawn at random to receive this offer and were informed that this upgrade was available for a price of Rp 360,000 (US\$ 26) annually, in addition to the customer's current annual fee.¹⁷

While all customers were offered the same benefits package, the experimental treatments varied the status component of the product by randomizing the type of card customers would receive if they accepted the offer. Credit card customers assigned to a treatment group –the *platinum upgrade* treatment– 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:

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.¹⁸ All customers who accept the offer are sent a new card in the mail, to hold hassle costs equal across the two arms.

¹⁷Customers 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.

¹⁸This is done to hold equal beliefs about the exclusivity of the benefits they are being offered.

The only difference is the 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 that they were randomly chosen to receive the offer seems unnatural. To address this, we also implemented a mild variation of the platinum script – the *platinum upgrade merit* condition – which informed customers that they were selected due to being among the bank’s top customers. Both statements are true, since customers were randomly selected within a relatively high-income sub-population of bank customers. Customers in the *platinum upgrade merit* condition hear the same script as described above, but with one twist: instead of being told they were randomly chosen, they are told:

As one of our top customers, you have been chosen to receive an upgrade to our platinum [name of card] card.

The rest of the script proceeded as described above. This treatment might be perceived as more natural, but has the cost of potentially providing the customer information about their own relative standing, thus potentially boosting self-image. Note, however, that the script is an *extremely* light touch relative to the usual bombastic marketing language used by the bank. As it turns out, this variant seems not to make any difference to the results, with take-up nearly identical to the

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 heterogeneous utility b_i .

In the benefits upgrade condition, regardless of the customer’s choice, she is not able to purchase the status component of the good, so that $a_i = 0$ always. Hence, a customer will accept the offer if $b_i - p > 0$. That is, if the purely instrumental utility of the benefits upgrade is greater than its cost. In the platinum upgrade condition, on the other hand, customers are given the option of purchasing the status component of the product, and $a_i = 1$ if and only if the customer accepts the offer. The customer will accept the offer if $b_i - p + S(1) - S(0) > 0$. That is, if the utility from the instrumental and status benefits of the upgrade are greater than its cost.

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

Income and the demand for status.— We next consider the effect of income on 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. Moreover, higher-income individuals might generally have more opportunities to signal their wealth. It therefore seems reasonable to assume that the marginal gain in social image from the status good is smaller for higher-income individuals.¹⁹ 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.*

3.2.4 Experimental Protocol

To implement the experiment, the bank made marketing calls to customers in this sample, strictly following our experimental scripts. The marketing calls varied the details of the script, as well as the characteristics of the product that was being offered to implement the treatment arms described in Section 3.2.2 above. The experiment was conducted over the course of one week.²⁰ Each day, four callers made phone calls to a randomly assigned list of credit card customers from the sample.²¹ The order of client names on each caller’s list was randomized, and callers were instructed to make 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 were busy at the time of a previous attempt. However, no additional calls were made once any details of the offer had been revealed to a respondent.

3.3 Main Results: The Demand for Status

3.3.1 Treatment Effects

Table 2 presents treatment effect estimates measuring the effect of the platinum upgrade offer on take-up rates. In Table 2, column (1), we begin by regressing an indicator for the decision to take-up the offer on the *platinum upgrade* treatment dummy. The omitted category in all regressions is the *benefits upgrade* condition, in which customers were offered an upgrade to all of the benefits of the platinum card, but not the platinum card itself. These results are equivalent to comparing means in the raw data for the *platinum upgrade* and *benefits upgrade* treatment conditions, as presented in Figure 2. The take-up rate for the benefits upgrade offer is 13.7%, compared to 21% when the benefits offer comes with an actual platinum card. The 7.3 percentage point difference between the

¹⁹ Specifically, we assume that $\Pr_{-i}(y_i = h | a_i = 1, y_i = h) - \Pr_{-i}(y_i = h | a_i = 0, y_i = h) < \Pr_{-i}(y_i = h | a_i = 1, y_i = l) - \Pr_{-i}(y_i = h | a_i = 0, y_i = l)$.

²⁰This part of the experiment was conducted in September 2015.

²¹In total nine phone callers worked on this marketing experiment, rotating over different days.

two treatment effects is statistically significant at the 5% level (p-value=0.022). This estimate is virtually the same once we control for caller fixed effects and baseline covariates (Table 2, column (2)), consistent with successful randomization across treatment conditions.

Customers in the two treatments that are being compared were offered exactly the same instrumental benefits, and we additionally attempt to avoid information relevant to respondents' self-image by informing them that they were randomly drawn to receive the offer. The higher demand for the platinum card offer in comparison to the benefits upgrade offer indicates that an important component of a widely marketed product (platinum credit cards) is motivated by social status considerations.

We compare take-up rates in the *platinum upgrade* and *platinum upgrade merit* treatment conditions in Figure 2. The take-up rate increases marginally from 21% to 23% in the *platinum merit* relative to the *platinum luck* condition (p-value=0.573). One interpretation is that customers did not consider the script informing them that they had been randomly chosen to be particularly unnatural. In addition, if the *platinum upgrade merit* provided a boost in customers' self-image (their beliefs about their relative status), the effect was either too weak to generate effects on demand, or else self-image is in fact not important for the demand for status goods. The final section provides evidence against the latter interpretation. For now, however, we combine these two groups in the following analysis to more precisely estimate the treatment effect of the platinum offer. When we combine the two variations of the platinum offer in Table 2, column (3), take-up in the *platinum pooled* condition is 22% as compared to 13.7% in the *benefits upgrade* condition, and the difference between the two treatment effects is again statistically significant at the 1% level (p-value=0.002).

To evaluate whether the demand for the status aspect of the platinum card is economically meaningful, we compare the take-up rate of the platinum upgrade treatment with the take-up rate when the same offer is made with a 25% price discount. While we do not have a randomly assigned group of customers offered the benefits upgrade with a discount, the bank made a second call to customers who had declined the first offer after hearing the price details, and offered them the benefits upgrade at a lower price. With this information, we estimate that a 25% discount increases demand for the benefits upgrade by only 3.7 percentage points, which is less than half of the effect of the signaling value of the platinum card, as presented in Figure 3.²²

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.

We next estimate the heterogeneity of treatment effects by income.²³ In Figure 4, we present raw take-up rates for the *benefits upgrade* and *platinum pooled* conditions, separately for customers with incomes below Rp 300 million and customers with incomes greater or equal than Rp 300 million.²⁴ We find evidence that demand for status is higher for lower-income customers. The difference in take-up rates between platinum and benefits upgrade conditions is 10.5 percentage points for lower-income customers (statistically significant at 1%), while the same difference for higher-income customers is only 3.1 percentage points (p-value=).²⁵ We find similar heterogeneity results when we control for caller fixed effects and baseline covariates (Table 2, column (4)) and when we consider Rp 500 million as a threshold to define higher- and lower-income individuals (Table 2, column (5)). This is consistent with the hypothesis that the marginal gain in social image from owning the status good is decreasing in income.

3.3.2 Ruling out alternative channels

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

We first address possible mechanisms that could lower demand for the benefits upgrade relative to the platinum upgrade, but are unrelated to status signaling. First, it is possible that customers might have not believed that the instrumental benefits in the *benefits upgrade* condition were in fact identical to those available with the platinum card, despite the fact that the caller explicitly stated that the benefit upgrades were identical. Second, customers might have been offended that they were offered the instrumental benefits of the platinum card, but not the actual platinum card.

To address these potential concerns, we conducted a follow-up survey with customers in the *benefits upgrade* condition who had turned down the offer. The interviewer first directly asked customers in an open-ended question 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, and none of the respondents reported being offended by not being offered the platinum card. Among the reasons for not accepting the offer, 67% of the respondents answered that the annual fee was too high, and 68% said they do not use the card much in any case, so that the upgrade was not useful for them. Taken together, these results indicate that the benefits upgrade offer was found to be believable, and the striking difference in takeup between the instrumental

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

²⁴Note that customers with income lower than 300 million in our sample received a platinum card offer as part of our experiment, although they would usually be ineligible for this offer.

²⁵The p-value of a test that the effect of platinum offer is the same for lower and higher-income groups is 0.204.

benefits and the platinum card is not explained by customer suspicion, confusion or any offense from not being offered the platinum card.

Second, we turn to potential confounds that could explain the heterogeneity of treatment effects by income, but are unrelated to the marginal benefit of owning the status symbol decreasing in income. We first address the possibility of selection by income in our experimental sample. Since our sample was drawn from the population of existing gold card customers, one might worry that the higher-income customers in our sample are individuals who have previously declined the platinum card, even though they may have qualified for it. That is, the higher-income individuals may be selected to be those who do not value status goods. In practice, we attempted to avoid this issue by only selecting customers into our sample 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, who became eligible for the platinum card only after November 2015, and therefore could not have turned down a platinum offer previously. When we exclude customers with income above Rp 500 million in Table 2, 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.

4 Status Signaling in Credit Card Transaction Data

The results of our first experiment show that customers exhibit demand for the pure status component of the credit card, independent of any instrumental benefits that the card may additionally provide. This suggests 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 an everyday setting is consistent with social signaling motivations. To do so, we proceed in two steps. We first divide transactions into ‘*social expenditures*’, such as spending in restaurants and bars, which the credit card is likely to be visible to one’s peers and ‘*private expenditures*’, such as on-line shopping, in which the means of payment are less likely to be observable to others. We then compare whether platinum cardholders are more likely than customers owning a gold card to use their card in social contexts.

4.1 Data and empirical strategy

We use credit card transaction data on a sample of 2,492 customers with active credit cards who opened their accounts between January 2014 and August 2015. We focus on customers who had credit limits of Rp 20 million, Rp 30 million, Rp 40 million, and Rp 50 million. The credit limit depends on customers’ income and credit history, and it is also related to the type of card they have. With few exceptions, the credit limit of gold card holders is Rp 20 million or Rp 30 million, while the credit limit of platinum card holders is Rp 40 million or Rp 50 million. For these customers, we

have detailed information on all their transactions between January 2014 and August 2015. With this information, we categorize transactions as visible, online, and retail. Visible transactions are defined as those 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 ones peers, such as friends, family or business associates, to whom one might wish to signal high income. The opposite extreme would be online transaction, where nobody other than the owner themselves will observe the card used. We identify the latter by looking for internet related terms (like "www", ".com", "e-store") in the transaction descriptions.²⁶ The third category we consider groups retail transactions made in supermarkets, grocery, and convenience stores (30%), department stores (10%), service stations (7%), clothing stores (6%), and other merchants like jewelry stores, pharmacies, etc (47%).

Note that we do not have experimental variation in platinum card ownership in this sample.²⁷ So we must deal with the likely omitted variable bias introduced by simply comparing gold and platinum card holders. Our approach is to compare the share of different types of transactions for customers with Rp 40 million credit limit (the poorest customers who hold a platinum card) with customers with a Rp 30 million credit limit (the richest gold card owners). We then contrast this difference with a comparison between customers with Rp 30 and Rp 20 million credit limit (both with a gold card) and with a comparison between customers with Rp 50 and Rp 40 million credit limits (both with a platinum card). Therefore, we can analyze whether there are changes in transaction patterns when customers switch from gold to platinum cards (while also earning a credit limit increase, and being richer in general) which are different from the effects of credit limit increases (and corresponding income increases) which do not involve switching card type.

4.2 Results

NOTE: THIS SECTION IS A MESS

We present in column 1 of Table 3 raw differences in the share of visible transactions for customers with different credit limits. There is a significant difference in the share of visible transactions between customers with Rp 40 million (who hold a platinum card) and Rp 30 million credit limit (who hold a gold card). For customers with Rp 30 million credit limit, the share of visible transactions is 12%. This share increases by 6.1 percentage points for customers with Rp

²⁶We exclude all the purchases from airline companies, since the bank often offers special travel promotion to platinum cardholders.

²⁷Our experiment 1 was not designed to estimate the effect of platinum card ownership on consumption decisions. Even if we assume that accepting the benefits upgrade offer has no effect on consumption (so we could use the platinum offer as an instrument for platinum card ownership), the minimum detectable effect, given our platinum card take-up rate, would be as large as one standard deviation of the outcome variable. An experimental design that would allow us to have experimental variation to estimate this effect under weaker assumptions would require a control group that received no offer. However, given the sample size available for the experiment, we would not be able to attain a reasonable minimum detectable effect for the effect of holding a platinum card on consumption decisions, so we decided not to have a control group that received no offer.

40 million credit limit. There is no significant change in the share of online transactions (Table 3, column 3) and a significant decrease in the proportion of retail transactions (Table 3, column 5). These results are consistent with platinum card holders prioritizing the use of their credit card in situations in which the card is more likely to be visible to others.

In contrast, there is no significant difference in the shares of visible, online and retail transactions between customers with Rp 30 million and Rp 20 million credit limit and between customers with Rp 50 million and Rp 40 million credit limit. 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, as there are no significant effects on consumption patterns when we consider credit limit increases of the same magnitude that are not accompanied by a change in the type of credit card.²⁸ Figure 5 summarizes this pattern of a large increase in the proportion of visible transactions for the increase in credit limit that is associated with a change in credit card type and small changes for other credit limit increases when the credit card type remains the same. The same pattern remains once we control for customers' observable characteristics (Table 3, columns 2, 4, and 6). Therefore, this change in consumption patterns when customers hold a platinum card cannot be explained by other confounders such as income, age, gender, and religion.²⁹

The platinum card we use in this study offers discounts on some luxury brands like Armani and Gucci, but it does not offer cash back deals or promotions in restaurants. Therefore, if anything, this should bias our results towards finding a positive effect in the share of retail transactions and a negative effect in the share of visible transactions. Also, based on our survey with these customers, 48% of the customers with Rp 40 million credit limit have other credit cards that offer cash back, while this proportion is only 39% for customers with Rp 30 million credit limit (the p-value of the difference is 0.0676). This suggests that platinum card holders are willing to forgo benefits from other cards in order to use the platinum card in situations in which the card is more likely to be visible to others.

Finally, in Appendix Table A.6 we show comparisons of total number of transactions and total credit card spending across different credit limit groups. There is no particular change in the total number of transactions and credit card spending when we consider the difference between customers with Rp 40 million and Rp 30 million, which makes it even more striking that we find significant

²⁸The p-value of a test that the difference in share of visible transactions between customers with Rp 40 million and 30 million credit limit is the same as the difference 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 share of visible transactions between customers with Rp 40 million and 30 million credit limit is the same as the difference between customers with Rp 50 million and Rp 40 million is 0.09.

²⁹We 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, and it takes 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.

changes in visible/non-visible consumption patters for these groups.

These results suggest that consumption patters of platinum card customers are tilted towards visible transactions, and that this difference is not simply explained by different income levels and other observable variables. However, given that we do not have exogenous variation in platinum card ownership, it is not possible to ascertain that these differences reflect a causal effect of platinum card ownership on consumption patterns. In particular, it is not possible to disentangle a causal effect of owning a platinum card from a self selection of customers with a higher demand for visible transactions into the platinum card. In either case, however, these results are consistent with customers using the platinum card to signal status.

5 Experiment 2: *Positional Externality*

Theories of social signaling motives in consumption highlight that the existence of status goods implies the presence of a positional externality. In all standard models, 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 be able to buy goods that are known to be accessible only to ‘high types’, and inaccessible to ‘low types’, so that ownership of the status good perfectly reveals one’s type.³⁰ This, of course, implies that as more individuals –particularly individuals with comparatively lower social status– gain access to the status good, this diminishes its signaling value, and imposes a negative externality on earlier adopters of the status good. This, in turn, should induce the earliest adopters to seek access to a more exclusive status good.

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 inform a random set of customers about the reduction in the income threshold for the platinum card from Y_1 to $Y_2 < Y_1$, which reduces the perceived income signaling value of the platinum card. Second, we estimate the impact that such reduction has on the demand for a new status good that has the same instrumental benefits but 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. Less than a year prior to our experiment, the bank had reduced the income threshold necessary to qualify for a platinum credit card from Rp 500 million (US\$ 36,000) to Rp 300 million (US\$ 23,000). While the new cutoff was the bank’s official policy, this had not been publicized widely, and existing credit card customers were generally unaware of the new cutoff at the time of the intervention. At the same time, the bank was considering the introduction of a new top credit card tier above platinum –the ‘diamond card’– reserved for its highest-income customers.

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

Using this setting, we designed an experiment in which current platinum card customers were offered an upgrade to the new diamond card. The experimental treatments varied whether customers were additionally informed that the income threshold for their current credit card tier had been recently relaxed. We show that demand for the more exclusive status good, the diamond card, is causally higher when customers are informed that the income requirements for the platinum card have been recently relaxed, thus expanding the population of customers who can access the status good currently owned by the respondents.

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.³¹ All 180 clients in this sample were customers who, at the time of the experiment, had a platinum card, an annual income of at least Rp 500 million (US\$ 36,000), had made at least one transaction with their card in the past year, were current on their monthly payments, and were not employees of the bank.

To implement the experiment, we worked with our partner bank to make marketing calls to eligible customers. In the calls, all customers were informed that the bank was thinking about launching a new credit card tier, 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, were asked if they would be interested in the diamond card once it becomes available, and were given the opportunity to sign up to be among the first customers to be offered the diamond card. The calls thus held the characteristics of the product offer constant, but experimentally varied whether customers were given additional information about the fact that the pool of customers eligible for their current credit card had been recently expanded, using the scripts presented in the next subsection.

The calls were conducted following a procedure similar to that of our main experiment. In this case, a single caller made phone calls to all customers on a list assigned to her. The order of clients on the list was randomized, and the caller was instructed to make phone calls following the order of names provided on the list. Call attempts were distributed across different days of the week, and timed to maximize the probability of reaching the client. 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 if a respondent had been reached and any part of the offer had been disclosed.

³¹The bank was not offering the diamond card at the time of the experiment, but was considering introducing such a card as their new top card in the future.

5.2 Experimental Treatments

There are two treatment arms. In both treatment conditions, customers were first informed that the bank is considering the introduction of a new credit card tier above platinum, which will be available for a higher annual fee. 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 introducing a new credit card. The new card we consider introducing 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 design and color that differs 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, so that now many customers with a lower income than yours will be eligible for the platinum card. However, these lower income customers can not apply for a diamond card.

All customers were then asked whether they would be interested in upgrading to the new diamond card once it becomes available at an annual fee of Rs 650,000 (US\$ 47), which is Rs 50,000 more than the annual fee of the platinum card. To add real-stakes to the sign-up decision, customers who expressed interest in the upgrade were then additionally asked whether they would like to be included on the invite list of the first customers to be offered the new card at a cost of Rp 10,000 (US\$ 1), to be charged at the time when the diamond card in fact becomes available.³²

5.3 Testable Predictions

Intuitively, telling customers that people with lower incomes now have access to the platinum card should affect their utility by diluting the status signaling power of the card. More specifically, lowering the income eligibility threshold for the card reduces the probability that others will infer that a customer is high income, based on observing ownership of the platinum card.

³²The scripts for all treatments are available in the Supplementary Appendix.

In terms of the theoretical framework laid out in Section 3.1, this can be expressed as follows. Let $\Pr_{-i}(y_i = h | a_i)$ denote the probability that others infer customer i to be of type h , based on observing ownership of either the platinum or the diamond card. The probability of being perceived as high income is then $\Pr_{-i}(y_i = h | a_{i,platinum,info} = 1) \equiv P_1$ for a customer in the *positional externality treatment* condition who retains the platinum card after receiving the diamond card upgrade offer with information about changes in the income criteria of the platinum card. The probability that others infer the card holder as a high income type is $\Pr_{-i}(y_i = h | a_{i,platinum,no\ info} = 1) \equiv P_2$ for a customer in the *positional externality control* condition, who retains the platinum card after being told that the income eligibility criteria for the platinum card have been reduced, and $\Pr_{-i}(y_i = h | a_{i,diamond} = 1) \equiv P_3$ for a customer who takes up the diamond card in response to the offer under either of the two treatments. If the diamond card is associated with a higher income requirement than the platinum card, these probabilities can be ranked $P_1 \leq P_2 \leq P_3$.

We can therefore express the utility of staying with the platinum card in the *positional externality treatment* condition, where customers are informed about the change in the platinum card income requirements, as

$$U_i(\text{platinum}, \text{info}) = b_i + \lambda_i P_1$$

While the utility of keeping the platinum card in the *positional externality control* condition where customers are not informed about the change in the income eligibility criteria is

$$U_i(\text{platinum}, \text{no info}) = b_i + \lambda_i P_2$$

and the utility of upgrading to the diamond card at cost c is

$$U_i(\text{diamond}) = b_i + c + \lambda_i P_3$$

If positional externalities are indeed present in this setting, then $P_1 < P_2$, which implies that $U_i(\text{platinum}, \text{info}) < U_i(\text{platinum}, \text{no info})$. Therefore, the share of customers demanding an upgrade to the diamond card should be higher in the *positional externalities treatment* group than in the *positional externalities control*.

Prediction 3. *If positional externalities are present, 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 criteria for the platinum card have been lowered than in the control group where no such information is provided.*

5.4 Results

We present in Table 2, column (1), results from an OLS regression of the decision to be included in the paid invite list for the diamond card on a dummy equal to one for customers that received

the extra information about the lower income eligibility criteria for the platinum card. These results are equivalent to comparing means in the raw data for the two treatment conditions, which are presented in Figure 6. The extra information increases demand for the diamond card by almost 19 percentage points (from 21.5% to 40%). This difference is statistically significant at 5%. We next present regression results including caller fixed effects and baseline covariates (Table 2, column (2)). The effect of the information treatment is similar (an increase in take-up rates of 20 percentage points), which is consistent with successful randomization across treatment conditions. These results reinforce the idea that consumers care about the signaling value of products. More specifically, we show that reducing the income eligibility criteria for a product can generate a negative positional externality, reducing the social value of this product.

Note that, in this design, we were even more explicit that the only difference between the diamond card and the platinum card they currently owned would be the design and color of the card. Also, both treatment and control groups received exactly the same offer, as the only difference was the extra information. Therefore, there should be no concern that the results we find in experiment 2 were driven by customers in the control group believing that the instrumental benefits of the new card is of lower quality or being offended by the offer. The fact that we find similar effects with this design also provides additional evidence that these should not be major concerns for the results from experiment 1.

A final aspect of the experiment worth noting is that status goods are not just expensive or exclusive, but also come bundled with valuable instrumental benefits. As [Bagwell and Bernheim \(1996\)](#) note, these benefits might provide an important ‘functional alibi’ for purchasing a status good. The owner of an expensive sports car may, for example, cite a passion for acceleration, rather than a desire to flaunt his wealth as a reason for purchasing the status good. In our experiment, in contrast, the diamond card is presented as having no instrumental benefits relative to the platinum card, and yet a large share of consumers are willing to purchase it. This suggests that having such a functional alibi may not always be necessary, at least when it comes to justifying the purchase to the marketer and to oneself.

6 Experiment 3: *Self and Social Image*

The results of our previous experiments establish that individuals exhibit demand for the pure status component of a good. The most straightforward interpretation of this finding is that customers value the ability to convey their income and economic status to others, and our results from the analysis of credit card transaction data are consistent with the presence of such signaling motivations. However, consumers may also value the status aspect of the card as a self-signaling device. It is, for example, possible that individuals experience a boost to their self-image from owning a prestigious status good, even if that status good is not visible to others ([Rucker and Galinsky](#)

(2008), Sivanathan and Pettit (2010)), or that high-income individuals wish to make consumption choices that are consistent with their self-image and social identity (Akerlof and Kranton (2000) and Benjamin et al. (2010)).³³

Although an important theoretical literature has studied the economic importance of image utility (Andreoni and Bernheim 2009; Bénabou and Tirole 2006), there are no clear predictions on the importance of self versus social utility in consumption decisions, and it is an entirely open question whether self and social image are complements or substitutes when it comes to explaining the demand for status goods. Intuitively, both possibilities seem plausible. On the one hand, it could be that self and social image are complements, such that individuals with high self-esteem particularly wish others to know of their excellence. This would imply that high self-esteem would increase demand for status goods, as would models of identity in which individuals wish to consume goods consistent with their high self-perceived status. Alternatively, it could be that self and social image are substitutes, so that high self-esteem would reduce the demand for status, for example, because individuals with high self-esteem do not feel the need to impress others.

In this section, we explore whether self and social-image considerations are substitutes or complements in explaining the ‘demand for status’. To do so, we design two experiments, conducted in separate settings and with separate populations. In both experiments, 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. We provide evidence that higher self-esteem causally reduces the demand for the status good, suggesting that self and social-image motives are *substitutes*, rather than mutually reinforcing determinants of the demand for status goods.

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, and a 2x2 cross-randomized design. The first randomization varied whether customers completed a self-affirmation exercise designed to boost one’s self-esteem or a placebo exercise. They were then randomly offered either an upgrade to the benefits of the platinum card (while keeping their current gold card) or the actual platinum card, just as in the *benefits upgrade* and *platinum upgrade* treatments in the first experiment. The benefits upgrade offer is included to rule out the possibility that the self-esteem boost similarly affects the demand for a product that does not have a status component.

³³More generally, we are motivated by a literature in social psychology and consumer choice, going back to James (1890), which argues that consumption choices shape one’s sense of self.

6.1.2 Experimental Treatments

The self-affirmation exercise used in the experiment is taken from the psychology literature (Steele 1988), which has shown that prompting someone to reflect on a recent experience or personal achievement that made them proud acts as a powerful boost to self-image and leads to consistently higher reported self-esteem. Following this literature, customers assigned to the treatment group were asked to complete the following self-affirmation task before being made 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 control group were asked to complete a placebo exercise, which asked participants to describe their media preferences and did not contain any questions or statements affecting the respondents' 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 answering these questions, customers in both groups were offered an upgrade to either the bank's platinum credit card or to its benefits while keeping their current gold card, using the same scripts from the first experiment.

6.2 Self-Esteem Intervention: *mTurk Experiment*

6.2.1 Set-up and Experimental Protocol

Building on the evidence from the two experiments with credit card clients, we conduct an additional self-esteem intervention, using the online platform *mTurk*. This allows for tighter experimental control and allows us to test the substitutability of self image and social image in an alternative setting using a parallel experimental design.

The sample for the online experiment consists of 405 individuals who signed up to complete an incentivized task on the online platform *mTurk*. Participants were randomly assigned to one of two tasks, which mirrored the treatments of the previous self-esteem experiments.

6.2.2 Experimental Treatments

Participants assigned to the treatment group were asked to write a paragraph about a recent experience or achievement that made them proud, based on 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 assigned to the control group were requested to complete a placebo task analogous to those in the previous self-affirmation experiments:

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, participants were asked to fill out a short questionnaire that allows us to measure self-esteem, using the standard Rosenberg (1965) scale. The survey presents 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 disagree with the statement.

Finally, all participants are 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 amounts. Our choice elicitation is a version of the Becker-DeGroot-Marschak (BDM) elicitation procedure, which incentivizes truthful reporting of the differential willingness to pay for the luxury versus non-luxury gift cards and to test whether the self-affirmation intervention changes the demand for the luxury brand gift card. Under the hypothesis that self image and social image are substitutes, one would expect that the self-affirmation intervention reduces the demand for the luxury brand gift card.

6.3 Testable Predictions

To derive testable predictions, we extend our standard framework to allow a role for self-image motivations. Specifically, we extend the agent’s utility function to include the self-image term ω_i :

$$I_i(a_i, \omega_i) = \lambda_i(\omega_i) \Pr_{-i}(y_i = h \mid a_i) + k\omega_i \quad (2)$$

This approach makes the simplifying assumption that self-image is unidimensional, while in reality, people might of course have higher self-image with respect to some aspects of their lives than in

respect to others. In our experiments we additionally assume that a boost to one’s self-esteem is synonymous with an improvement in self-image.

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). We test these competing hypotheses, using two separate interventions that share a similar design. In both interventions, we first implement either a placebo or a treatment designed to generate a positive shock to the respondent’s self-esteem and then elicit the demand for a status good (or a placebo product that does not provide status) in the treatment and control groups. The intervention uses a sample of credit card customers and the same setting as the main experiment. To provide additional evidence on the link between self-image and the demand for status, we conduct a separate intervention with a parallel design, using the online platform *mTurk*. This allows for tighter experimental control and provides additional evidence on the substitutability of self and social image.

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

6.4 Results

6.4.1 Treatment Effects: *Credit Card Customers*

Table 5 column (1), reports the impact of the self-esteem treatment on demand for the platinum card. The estimates indicate that the self-esteem treatment reduces demand for the platinum card by approximately 15 percentage points (from 32.6% in the neutral group to 17.6% in the self-esteem treatment group). Although this difference is economically large, it is not statistically significant at standard significance levels (p-value=0.1302). The estimate remains very similar once we include caller fixed effects and baseline covariates, as shown in Table 5, column (2). The effect of the self-esteem treatment on the demand for the benefits upgrade is much lower in absolute value, and not statistically significant (Table 5, columns (3) and (4)). These results are summarized in Figure 7, where we present average take-up rates for the control and self-esteem treatment groups, separately for the platinum and for the benefits upgrade offers.

Overall, these results provide suggestive evidence that self and social image are substitutes, rather than complements. However, due to the limited sample size, these results are not fully conclusive.³⁴ To provide additional evidence on the relationship between self and social image motivations, we therefore turn to the results of the complementary experiment we implemented, using a separate population and the online platform *mTurk*.

³⁴Note that the sample size for this experiment was naturally limited by the fact that we were only able to call customers who had been identified by the bank as being eligible for the offer.

6.4.2 Treatment Effects: *mTurk* Experiment

We present the results of the *mTurk* experiment in Table 6. In Table 6, 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 higher on the self-esteem measure than participants in the control group (statistically significant at 10%). This represents a 0.17 standard deviation increase in measured self-esteem, relative to the control.

In Table 6, 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 (WTP) 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 WTP for the Armani gift card. Including baseline covariates as controls yields very similar results, which again is consistent with successful randomization across treatment conditions (Table 6, panel ii). These results suggest that self and social image are substitutes, rather than complements, at the margin, which is consistent with the suggestive evidence we find in our credit card experiment.

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 fruitfully be extended in several directions. First, it would be interesting to separate whether demand for status and social image is purely hedonic, or if it is ultimately driven by instrumental motives. 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 – at least in the short run – in our context, 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.

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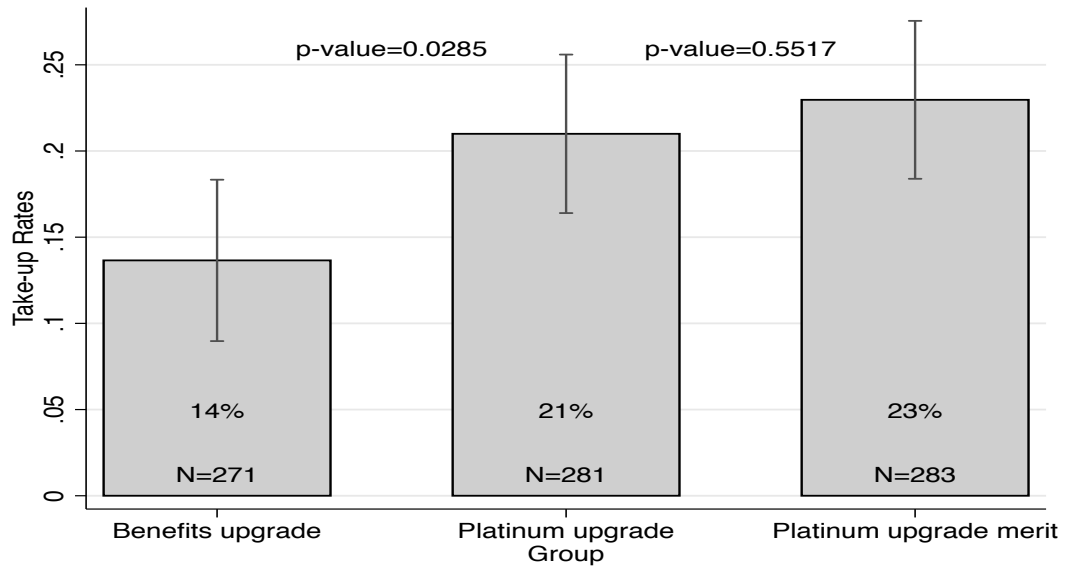
Figures and Tables

Figure 1: The Credit Card



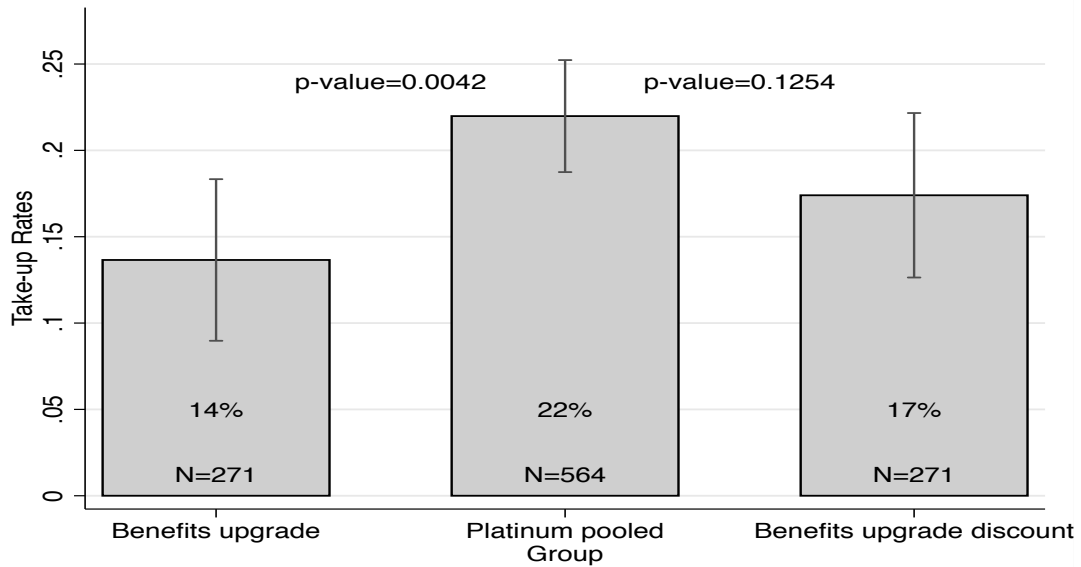
Notes: The figure shows the design of the *platinum*, *gold* and *basic* credit cards (from left to right).

Figure 2: Experiment 1: Demand for Status



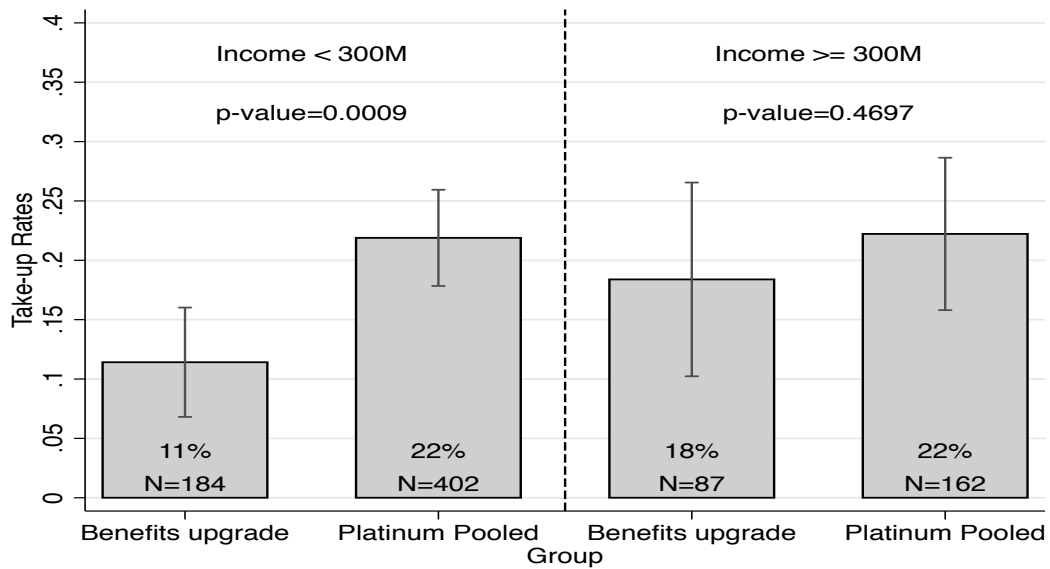
Notes: This figure presents the mean (and 95% confidence interval) of take-up rates for the *benefits upgrade*, *platinum upgrade*, and *platinum upgrade merit* groups.

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.

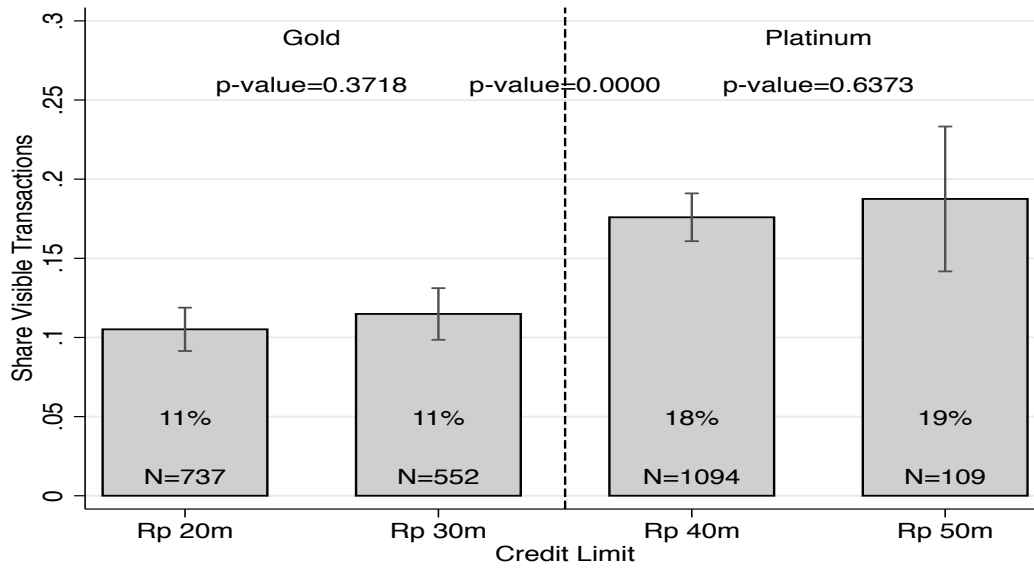
Figure 4: Experiment 1: Demand for Status - Income Heterogeneity



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.

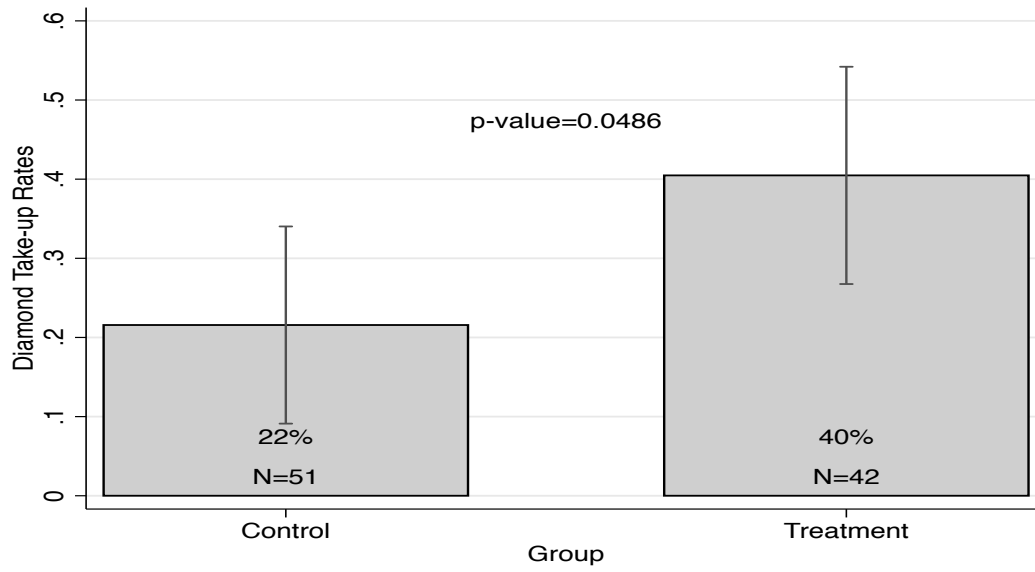
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Figure 5: Transaction data: Share of Visible Transactions



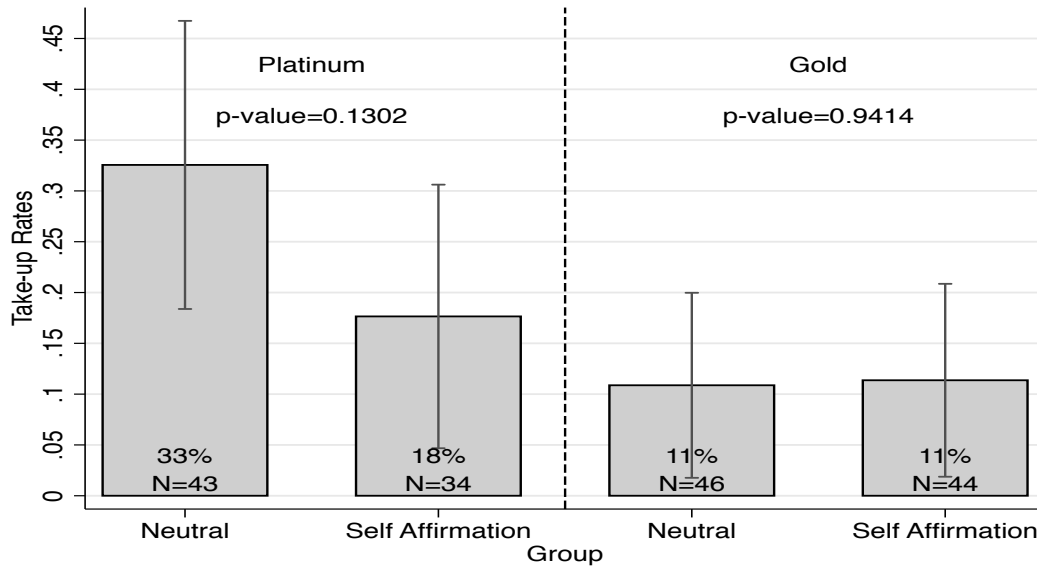
Notes: This figure presents the share of visible transactions (and 95% confidence intervals) for customers with different credit card limits.

Figure 6: Experiment 2: Fashion Cycle



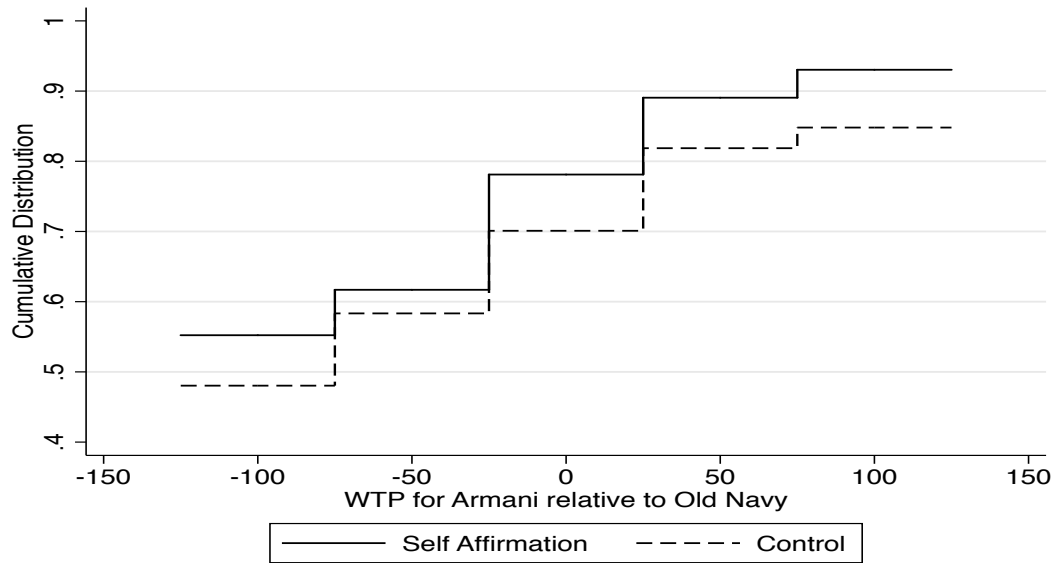
Notes: This figure presents the mean (and 95% confidence interval) of take-up rates for the control and treatment groups.

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 and for the benefits upgrade offers.

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: **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 value instead of the mean due to large outliers. Standard errors in brackets.

Check: is there any reason why income is higher in experiment 3 relative to experiment 1?

Table 2: Demand for Status (Experiment 1)

	(1)	(2)	(3)	(4)	(5)	(6)
Platinum	0.073** [0.032]	0.072** [0.032]	0.082*** [0.027]			
Platinum $\times 1\{y_i < \text{cutoff}\}$ (a)				0.105*** [0.032]	0.094*** [0.028]	0.105*** [0.032]
Platinum $\times 1\{y_i \geq \text{cutoff}\}$ (b)				0.031 [0.049]	0.013 [0.084]	0.035 [0.048]
p-value ((a) = (b))				0.204	0.352	0.229
Mean (Gold)	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 Groups</i>	<i>Platinum upgrade and Benefits upgrade Groups</i>	All	All	All	Exclude income \geq 500M
Include 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 300M 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. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 3: **Effects of Platinum Card on Credit Card Usage (Transaction Data)**

	Share of visible transactions		Share of online transactions		Share of retail transactions	
	(1)	(2)	(3)	(4)	(5)	(6)
Gold (30M CL) - Gold (20M CL)	0.010 [0.011]	0.008 [0.011]	-0.008 [0.034]	-0.005 [0.035]	0.011 [0.018]	0.012 [0.018]
Platinum (40M CL) - Gold (30M CL)	0.061*** [0.011]	0.053*** [0.012]	-0.039 [0.031]	-0.034 [0.033]	-0.089*** [0.017]	-0.095*** [0.018]
Platinum (50M CL) - Platinum (40M CL)	0.012 [0.025]	0.016 [0.025]	0.012 [0.015]	0.016 [0.016]	-0.024 [0.033]	-0.018 [0.032]
Mean (Gold (CL 20M))	0.105 [0.007]		0.093 [0.015]		0.673 [0.012]	
Include 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)	0.009	0.022	0.630	0.655	0.002	0.001
p-value (a)=(c)	0.944	0.780	0.585	0.564	0.357	0.432
p-value (b)=(c)	0.090	0.202	0.146	0.230	0.099	0.052

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 4: **Positional Externalities (Experiment 2)**

	(1)	(2)
Information treatment	0.189** [0.096]	0.206** [0.097]
Mean (no information)	0.216 [0.058]	0.216 [0.058]
Include 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. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 5: **Self and Social Image - Credit Card (Experiment 3)**

	Platinum		Gold with Benefits	
	(1)	(2)	(3)	(4)
Self Affirmation	-0.1491 [0.0981]	-0.1548 [0.1060]	0.0049 [0.0670]	-0.0350 [0.0615]
Mean (neutral)	0.326 [0.072]		0.109 [0.046]	
Include 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 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 gold upgrade offer. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 6: **Self and Social Image - Armani Gift Cards (MTurk Experiment)**

	Rosenberg Self-Esteem Score	Prefer \$---- Armani to \$500 Old Navy				
		\$400	\$450	\$500	\$550	\$600
	(1)	(2)	(3)	(4)	(5)	(6)
Panel i: without controls						
Self Affirmation	1.2214* [0.7023]	-0.0823*** [0.0310]	-0.0719** [0.0349]	-0.0801* [0.0434]	-0.0336 [0.0488]	-0.0718 [0.0497]
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]	-0.0829*** [0.0309]	-0.0728** [0.0349]	-0.0805* [0.0430]	-0.0319 [0.0469]	-0.0680 [0.0489]
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. * significant at 10%; ** significant at 5%; *** significant at 1%.

Supplementary Appendix

Appendix Tables

Table A.1: **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.

We used income and no fee just like any other variable, even though we stratified on those variables. Should we treat these variables differently? Maybe just include something in the footnote?

Table A.2: **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	42	51	

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: **Self and Social Image - Credit Card - Covariates Balance (Experiment 3)**

	Platinum		Gold with Benefits		p-value (1)=(2)=(3)=(4) (5)
	Neutral	Self affirmation	Neutral	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.

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	0.051*** [0.020]	0.044** [0.020]	-0.037 [0.054]	-0.037 [0.059]	-0.090*** [0.030]	-0.099*** [0.030]
Credit Limit (in million Rp)	0.001 [0.001]	0.001 [0.001]	-0.001 [0.002]	0.000 [0.002]	0.000 [0.001]	0.000 [0.001]
Include 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: Effects of Platinum Card on Credit Card Usage - Business vs. Personal transactions (Transaction Data)

	Share of visible transactions in:				Share of visible transactions in:			
	Weekdays		Weekends		Working time		Non-working time	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gold (30M CL) - Gold (20M CL)	0.015*	0.015*	-0.005	-0.007	0.007	0.007	0.003	0.001
	[0.008]	[0.008]	[0.006]	[0.006]	[0.006]	[0.006]	[0.009]	[0.009]
Platinum (40M CL) - Gold (30M CL)	0.027***	0.024***	0.034***	0.029***	0.018***	0.017***	0.043***	0.037***
	[0.009]	[0.009]	[0.006]	[0.006]	[0.006]	[0.006]	[0.009]	[0.009]
Platinum (50M CL) - Platinum (40M CL)	0.019	0.022	-0.007	-0.006	0.025	0.026	-0.013	-0.010
	[0.021]	[0.021]	[0.013]	[0.013]	[0.017]	[0.017]	[0.016]	[0.017]
Mean (Gold (CL 20M))	0.058		0.047		0.032		0.073	
	[0.005]		[0.004]		[0.004]		[0.006]	
Include controls?	No	Yes	No	Yes	No	Yes	No	Yes
Number of clients:								
Gold (20M CL)	737	737	737	737	737	737	737	737
Gold (30M CL)	552	552	552	552	552	552	552	552
Platinum (40M CL)	1094	1094	1094	1094	1094	1094	1094	1094
Platinum (50M CL)	109	109	109	109	109	109	109	109
p-value (a)=(b)	0.419	0.561	0.000	0.001	0.277	0.366	0.010	0.023
p-value (a)=(c)	0.858	0.777	0.882	0.926	0.319	0.294	0.375	0.527
p-value (b)=(c)	0.727	0.912	0.009	0.027	0.720	0.617	0.007	0.024

Notes: This table replicates results from Table 3 separately for visible transactions in weekdays versus weekends (columns 1 to 4) and in working time versus non-working time (columns 5 to 8). Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.6: **Effects of Platinum Card on Credit Card Usage (Transaction Data)**

	Total number of transactions		Total amount (in million Rp)	
	(1)	(2)	(3)	(4)
Gold (30M CL) - Gold (20M CL)	-0.591 [1.404]	-0.647 [1.398]	7.956*** [2.071]	9.165*** [2.070]
Platinum (40M CL) - Gold (30M CL)	4.349** [1.791]	4.362*** [1.625]	3.771 [2.477]	5.988** [2.485]
Platinum (50M CL) - Platinum (40M CL)	10.057** [4.775]	9.676** [4.693]	26.123*** [8.544]	26.335*** [8.552]
Mean (Gold (CL 20M))	19.360 [0.940]		19.744 [1.010]	
Include controls?	No	Yes	No	Yes
Number of clients:				
Gold (20M CL)	737	737	737	737
Gold (30M CL)	552	552	552	552
Platinum (40M CL)	1094	1094	1094	1094
Platinum (50M CL)	109	109	109	109
p-value (a)=(b)	0.069	0.054	0.310	0.436
p-value (a)=(c)	0.032	0.035	0.039	0.051
p-value (b)=(c)	0.299	0.316	0.015	0.027

Notes: Column 1 reports raw comparisons of total number of 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 total amount of credit card purchases. Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

A Experiment Scripts

A.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 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. 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 360,000 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!

A.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 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 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 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!

A.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 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! ou 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 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!

A.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 180,000 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 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. 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 180,000 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!

A.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 180,000 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 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 180,000 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!

A.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 different design and color with respect to 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 than the platinum card?

Would you like to be on the invite list of customers for 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. We like to hear the opinion of our customers before considering whether to launch new credit products. As I said, we are considering various new products such as this, but we have no immediate plans to introduce it. So the question was hypothetical, but we greatly appreciate your feedback. Thank you for your time.

Wassalamu'alaikum warahmatullahi wabarakatuh!

A.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 different design and color with respect to 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, 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 invite list of customers for 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. We like to hear the opinion of our customers before considering whether to launch new credit products. As I said, we are considering various new products such as this, but we have no immediate plans to introduce it. So the question was hypothetical, but we greatly appreciate your feedback. Thank you for your time.
Wassalamu'alaikum warahmatullahi wabarakatuh!

A.8 Experiment 3: Control 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 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. 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 360,000 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!

A.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. 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 360,000 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!

A.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! You have been randomly chosen 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 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!

A.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! You have been randomly chosen 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 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 mTurk Survey Experiment

B.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

B.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).

B.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).

B.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.

B.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)?

B.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 less important.

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