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How Consumers use Gift Certificates

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Broad and narrow bracketing in gift certificate spending

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Abstract

We survey 1,050 consumers who have just redeemed one or more open loop gift certificates to learn whether they view gift certificate income, cash gifts and non-gift income as substitutes. We find that the majority (83%) of recipients spends the certificates in the same way as cash. The other respondents (17%) bought an item they would not have bought otherwise but adjustments in their shopping pattern do not seem to result from constraints in redeeming the certificates: 80% all respondents in this group says they have used the certificate to buy an item they really love to have. While inconsistent with standard microeconomic demand theory, this behavior can be explained by narrow bracketing: In spending gift certificates, these consumers consider a limited choice set of nice, personal items. Our data show that females are more likely to narrow bracket gift certificate income and that positive reciprocity towards the giver induces narrow bracketing in case the giver is a household member who suggests to buy a particular item using the ceritificate.

Previous studies have found that both giving in-kind gifts (Waldfogel, 1993) as giving gift cards (Offenberg, 2007) entail a welfare loss of 10-30 percent when compared to giving cash. We find that the welfare effects of open loop gift certificates among users are limited: The consumption of broad bracketing consumers is unaffected and narrow bracketing consumers seem to value the possibility to separate gift certificate income from other income sources.

JEL classification: D11, D12, D31, H31
Keywords: gift giving, narrow bracketing, labeling, in-kind gifts

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1 Introduction

People like to give others physical gifts despite the fact that these acts of gift-giving often induce a deadweight loss. Waldfogel (1993) estimates this deadweight loss to be in the order of 10 to 30 percent of total spending. So from an efficiency point of view, society would be better off if people would give each other cash instead of in-kind gifts. Survey evidence however indicates that cash gifts are often seen as inappropriate because they do not show that the giver has given thought and put in sufficient effort to find the right present.[1] Gift certificates and gift cards may therefore be a good intermediate option between the two alternatives of giving an in-kind gift and giving cash. They to some extent preserve the idea that the giver has put in effort while allowing the recipient at the same time to choose herself what to buy (Offenberg, 2007). In an analysis on resales of gift cards at eBay, Offenberg however concludes that, despite their popularity,[2] gift cards also entail a welfare loss of 15-20 percent.

Whereas previous studies have asked survey respondents to place a value on received in-kind gifts[3] or studied the resale value of unused gift cards,[4] we take a different approach by investigating how consumers actually *use* gift certificates by surveying them right after they have redeemed one or more certificates. In this way, we can answer the question whether consumers view gift certificate and other income as perfect substitutes. The fungibility of money assumption (individual units of money are perfect substitutes) central in the theory of consumer choice predicts that, absent any redemption constraints, consumers should treat gift certificate income and other income components alike. Behavioral theories of narrow bracketing and mental accounting on the other hand suggest that the composition of income may have an effect and thus that receiving a gift certificate does lead to adjusted consumption decisions.

We sent flyers to a stratified sample of about 800 retailers throughout the Netherlands. We asked these retailers to give a flyer to every client who paid (part of) their purchase with one of the best-known and highly used gift certificates in the Netherlands, the VVV Cadeaubon. A total of 1,050 respondents at 196 different shops completed the survey. Thus, whereas Offenberg's (2007) sample consists only of consumers willing to part with their gift cards (which may lead to upwardly biased estimates of the welfare loss), our sample is truncated in the sense that we only observe consumers

[1] Webley, Lea and Portalska (1983) and Camerer (1988).

[2] Surveys show that gift cards have been the top gift choice in the US holiday season since 2004, with 64 percent of respondents in 2009 expecting to buy at least one (Deloitte, 2009).

[3] Waldfogel (1993, 1996, 2005); Solnick and Hemenway, (1996); List and Shogren (1998).

[4] Offenberg (2007).

who have spent their certificates. Our setup does not allow us to provide an alternative direct estimate of the welfare loss.[5]

The survey asks two key questions: would you have bought this, or a comparable product without the gift certificate? And, suppose that you received an envelope with cash of an equal amount instead of the gift certificate, how would you have spent the cash? Our empirical strategy is to establish that recipients do not answer "no" to the first question because the certificate limits their choice set, but because they narrow bracket gift income. The answer to the second question subsequently distinguishes between narrow bracketers who narrow bracket all gift income (cash gifts and VVV certificates) and those that only narrow bracket VVV certificates.

The main results of our empirical analysis are as follows. First, the large majority of respondents (83%) answers "yes" to the first question. Receiving one or more gift certificates does not affect the consumption pattern of these broad bracketing consumers. This is an important qualification of Offenberg's (2007) findings that gift certificates distort consumption and imply a welfare loss. Second, among the smaller but still sizable group of consumers (17%) that states that they treat gift certificates differently from other sources of income, we do not find evidence that the observed changes in consumption result from a disruptive mismatch between their consumption preferences and the certificates' redemption possibilities. In contrast to what earlier findings suggest, we show that consumers in this group predominantly seize the opportunity of having received a certificate to buy nice and personal items they really like to have: 80% of all respondents in this group says they have used the certificate to buy an item they love to have. By comparison, this figure is only 8% for the group of respondents that treats certificates similar to cash. 7% of all respondents are narrow bracketing consumers who set apart all types of gift income (certificates and cash gifts), while the other 10% narrow bracket gift certificates but not gifts in cash.

Our data further show that males and females respond differently to receiving a gift certificate. Women are more likely to treat themselves by buying more personal items they really love to have. Men are more likely to spend the certificate on planned expenditures. Quite naturally, certificates do not induce changes in shopping when the face value is small. The occasion at which the certificates are received does not have a discernable impact on how they are spent.

Standard microeconomic demand theory prescribes that recipients should spend gift certificates in

[5]The average spread between the face value and the highest bid for the seven VVV certificates offered at March 5th 2013 on www.marktplaats.nl, the largest online auction site in The Netherlands, is 13 percent, below the range of 15-20 percent estimated by Offenberg (2007).

the same way as cash.[6] For a number of reasons however, perfect substitutability between cash and certificates may be violated. The first reason is of a practical nature. Gift certificates may distort consumption because they can only be redeemed at a selected number of shops, thereby limiting the recipient's choice set. This forces a recipient to change her shopping pattern or to leave the certificate unused in case the certificate can only be redeemed at shops she normally does not visit. In these instances, the perceived value of the certificate is likely to be lower than the face value. The potential deadweight loss caused by this mismatch is arguably larger for closed loop cards that are the object of study in Offenberg (2007) than for open loop certificates such as the VVV Cadeaubon because open loop cards can be redeemed at many different (chain)stores and restaurants. A major reason for the enduring popularity of the VVV Cadeaubon in particular is that this certificate can be redeemed at more than 18,000 retailers in different branches, including Books & Music, Fashion & Personal Care, Home & Gardening and DIY-stores. This makes VVV Cadeaubon a close substitute for cash. Consistent with the wide acceptance of VVV certificates, a Dutch website that sells all other major gift certificates at discounts of 10-20% does not offer VVV certificates, despite the fact that they offer consumers who wish to trade in their VVV certificates 72 percent of the face value, compared to 60 to 65 percent for all other gift certificates.[7] Offenberg (2007) finds as well that the discount on the face value is lower for stores with a wider product range and for cards charged with a smaller amount.

The second reason for the non-fungibility of gift certificates originates in behavioral models of decision-making, such as narrow bracketing and mental accounting (Tversky and Kahneman, 1981; Thaler, 1985; Kahneman and Lovallo, 1993; Barberis *et al.*, 2006). A narrow bracketing decision maker tends to evaluate decisions one at a time without taking into full account the other decisions she has to take. In our case a consumer would narrow bracket when, in deciding how to spend a gift certificate, she does not consider all possible choice combinations her total budget (gift certificate plus other sources of income) allows; she fails to make optimal trade-offs across choices (Heath and Soll, 1996; Read *et al.*, 1999). Mental accounting (Thaler, 1985, 1990) states that people attach labels to different income components and assign them to different mental accounts. They may for example assign received gift certificates to their "gift" account. The marginal propensity to buy gift items from the "gift" account is presumably much higher than from the, say, "food" account.

It is of some importance to note the difference between narrow bracketing and two-stage budgeting models that are common in consumer decision theory (e.g. Deaton and Muellbauer, 1980). In these models, consumers allocate their total expenditures in sequential stages as well. For example, in

[6] As a result, Waldfogel (1993) does not distinguish between cash and gift certificates.
[7] http://www.filasoft.nl/kadobonnenplaza/kadobonnen-inkoop.php, visited March 5th, 2013.

the first stage the consumer allocates his total expenditures to broad categories of products (such as durables and nondurables) and then in a second stage chooses the optimal consumption of various classes of, nondurable products (such as food, clothing and shoes) given the optimal expenditures on nondurables as determined in the first stage. Consumers in two-stage budgeting models are broad bracketing utility maximizers because the division of total expenditures on durables and nondurables results from a well-defined first stage of a utility maximization problem that considers the entire choice set. The allocation that results from a two-stage budgeting model is therefore equivalent to the allocation obtained in a one-step model with complete information. This does not hold for narrow bracketing decision-makers who by definition bracket individual choices into subsets and do not take into account the effect of choices within the set on choices outside of the set (Read *et al.* 1999).

The remaining question is what factors cause recipients to categorize and to narrow bracket gift certificate income. We identify the following three determinants. First, consumers may bracket gift income because of a socially acquired heuristic or decision rule that prescribes that payment instruments received on special occasions (e.g. birthdays) ought to be set apart from their other income sources by labeling it 'gift income'. A second factor that may induce people to bracket gift income is positive reciprocity: In case the giver has indicated a suggested use of the certificate, the recipient may wish to reciprocate the receipt of the certificate by complying with the suggestion. Finally, narrow bracketing of gift income may be the outcome of intra-household bargaining. As a form of motivated bracketing to overcome problems of self-control (Read *et al.*, 1999), household members may agree that labor income can only be spent on household goods but non-labor income may also be spent on personal items. Under such an agreement, household members will spend gift (certificate) income disproportionably on personal items.

There is limited evidence on whether narrow bracketing is correlated with particular household characteristics. Studies on the use of food stamps, alimony or child benefits find evidence of labeling for specific groups of households. For example, Kooreman (2000) reports empirical evidence that among households with children under eighteen, the marginal propensity to consume child clothing out of exogenous child benefits is much larger than the marginal propensity to consume the same product category out of other income sources. In a similar vein, Del Boca and Flinn (1994) find that mothers receiving child support (and alimony) spend more on child related goods than mothers not receiving child support, holding total income constant. These results suggest that parents somehow earmark child benefit on child related costs. For low income households, Moffitt (1989), Devaney and Moffitt (1991), Senauer and Young (1986), Hoynes and Schanzenbach (2009), Kaushal and Gao (2011)

and Beatty *et al.* (2011) study the effect of a particular type of in-kind transfers – food stamps – on food expenditures and find mixed evidence.[8]

Our contribution differs from these studies in two ways. First, whereas empirical studies on food stamps and child benefits necessarily target households defined by characteristics such as low income or having children under 18, our sample is not limited by design to households of a certain size or with income in a given range. Second, we examine whether the propensity to narrow bracket is related to certain characteristics of the recipient, giver and the occasion at which the gift was received. Our empirical evidence indicates that a considerable fraction of our respondents labels gift income, but we do not find evidence that narrow bracketing is induced by intra-household bargaining. Positive reciprocity causes narrow bracketing only when the giver is another household member.

The paper proceeds as follows. Section 2 presents a theoretical framework on how consumers spend gift certificates. We identify three different reasons for why consumers may spend gift certificates differently than cash income. We spell out the implications of each of these reasons for observed behavior. This naturally leads us to the formulation of the research hypotheses that will guide our empirical analysis. Section 3 introduces the VVV Cadeaubon and discusses our survey design. Section 4 presents our data. Section 5 contains the empirical analysis. Section 6 concludes.

2 Theoretical framework

We follow Rabin and Weizsäcker (2009), who define narrow bracketing for a given preference relation $\succeq$ and a given set of choice sets as the application of $\succeq$ separately to each choice set. A broad bracketer instead applies $\succeq$ to the set that comprises all possible choice combinations.

We will discuss the implications of broad and narrow bracketing by considering an economy with two normal goods X and Y. A unit of X (Y) is sold at price p_x (p_y). Let X denote an everyday good (e.g. food) and Y a personal good (e.g. perfume). Consumer utility can be described by the Cobb-Douglas utility function

$$u(x, y) = a \ln(x) + (1 - a) \ln(y), \tag{1}$$

with x and y denoting the units consumed of goods X and Y, respectively, and $a \in (0, 1)$. Consumers

[8] At the end of their article, Senauer and Young (1986, p. 41) discuss (but do not test) possible explanations for the greater impact of food stamps than cash on food spending. Their first two possible explanations that "recipients could feel that since society intends (...) food stamps to be used to expand their food consumption, they should in fact use their allotment for that purpose" and that "food stamps could give a household member(s) with a greater preference for food or nutrition more control over the household budget,...". This resembles our argument for positive reciprocity and intra-household bargaining as possible determinants of narrow bracketing.

are endowed with labor income m and face the budget constraint:

$$p_x x + p_y y \leq m. \tag{2}$$

In this economy, an increase of c in non-gift income will lead to an increase in the consumption of both goods because of the normality of both goods ((1) in Figure 1a).

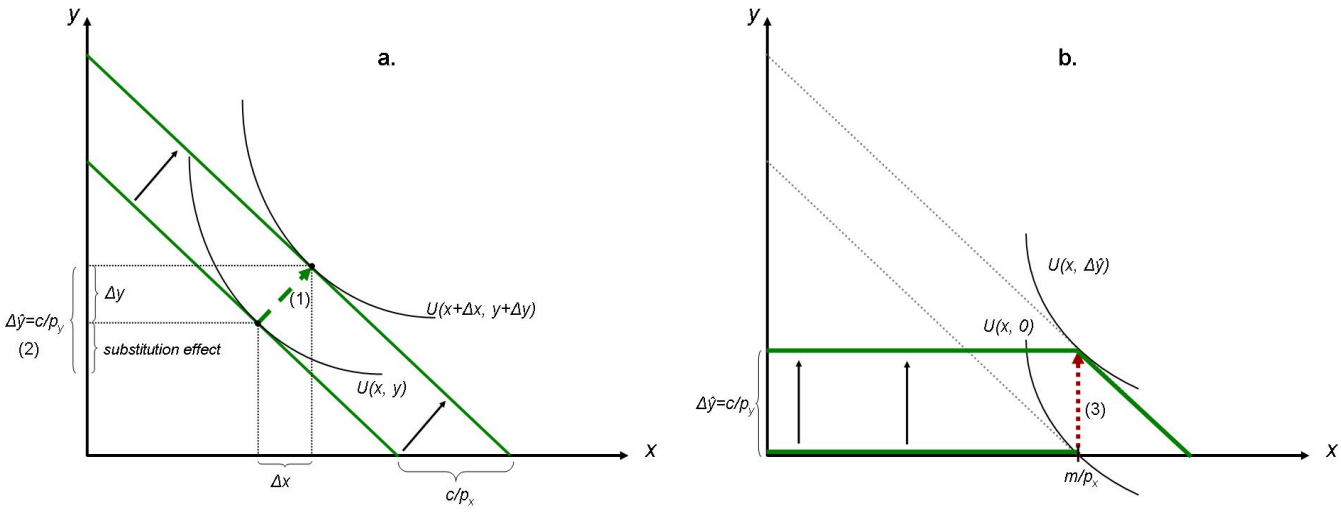

Figure 1: Observed changes in consumption of items X (the everyday item) and Y (the personal item) when gift income increases with c. **Panel a:** Broad bracketing consumers use the increase in gift income to increase consumption of both X and Y, identical to how they would spend a similar increase in non-gift income. **Panel b:** Narrow bracketing consumers have a high marginal propensity to buy personal items from their gift income.

Broad bracketing Broad bracketing consumers who receive a gift certificate with face value c should spend this gift in the same way as non-gift income whenever possible. That is, they should increase the consumption of X and Y with Δx and Δy, respectively. However, practical reasons unrelated to narrow bracketing may lead consumers to spend the gift certificates disproportionately on one item only.

First, under a no-refund policy, consumers are forced to spend the entire face value at once in one particular shop. If they decide to visit a shop that offers item Y but not X, they may spend the certificate to buy $\Delta\hat{y} \equiv c/p_y$ units of item Y. This does not imply that their total consumption of item Y increases with more than Δy because of the certificate, since expenditures on Y paid for by the certificate may partly substitute for expenditures on Y using non-gift income ((2) in Figure 1a). The non-gift income $p_y(\Delta\hat{y} - \Delta y)$ saved this way is available for increasing the consumption of X with Δx. In this case, the effect of receiving a gift certificate instead of cash is limited to some (intertemporal)

substitution and the effect on total utility is likely to be small.

Second, when the certificate can be redeemed at a limited number of shops only, the set of items consumers can buy with the certificate is limited as well. In this case, the certificate distorts consumption if consumers can only use the certificate to purchase items they normally would not buy or would buy in a smaller quantity.[9]

Narrow bracketing Narrow bracketing consumers set apart income received on special occasions (e.g. birthdays, jubilee). The special character of the occasion at which the gift was received, from whom or – in case of gift certificates – the distinct physical form, may induce recipients to attach to this income component the label 'gift income'. In a recent study, Abeler and Marklein (2010) conduct a series of lab and field experiments in which they attach labels to part of consumers' budgets. In the field setting, this is done by giving a randomly selected group of visitors of a restaurant a beverage voucher. In both lab and field settings, the authors find convincing evidence that consumers adjust their consumption in the direction of the label. That is, when given the beverage voucher, consumers spend significantly more on beverages than when given a general voucher of the same value.

Narrow bracketing of gift income may also be triggered or reinforced in case the giver has suggested possible uses of the certificate and the recipient wishes to honor these for reasons of reciprocity. Finally, narrow bracketing of gift income may arise as the outcome of intra-household bargaining (Ashraf, 2009) when household members have an implicit or explicit agreement that only gift-income (either in the form of cash or certificates) can be used for buying units of the personal item Y and that labor income (m) can only be spent on the household good X.

To illustrate narrow bracketing, consider the same decision problem as above except that the consumer's budget constraint (2) is replaced by the budget set

$$B = \{(x, y) \text{ in } (X, Y) : \quad p_x x \leq m + c \quad \wedge \quad p_y y \leq c\}, \tag{3}$$

with c the amount of gift income received by the consumer. Equation (3) describes a narrow bracketing situation. Labor income is exclusively used to buy household goods; only gift income can be spent on personal items.[10] The effect of receiving gift income c on the budget constraint of a narrow bracketing consumer is shown by arrow (3) in Figure 1b.

[9] More precisely: This only holds in combination with a no refund policy. If refunds are granted, consumers might visit the shop, buy a small item in order to get most of the face value refunded. Of course, consumers are not literally 'forced' to buy the item. We implicitly assume that consumers strictly prefer using the certificate to not using it. Our data is limited to consumers who have redeemed one or more certificates.

[10] Note that a more stringent form of narrow bracketing is the situation where the budget set is $\tilde{B} = \{(x, y) \text{ in } (X, Y) : p_x x \leq m \quad \wedge \quad p_y y \leq c\}$. In this case, gift income is exclusively spent on gift items.

As with broad bracketing consumers who experience restraints in spending gift certificates, the observed effect of receiving the certificate is an increase in spending on good Y by c. However, in the case of narrow bracketing consumers, this increase is not driven by the limited use of the certificate but by the decision to spend the certificate differently than cash. Importantly, receiving the certificate *in lieu* of cash does not imply a lower increase in total utility. In fact, it may increase the utility of the consumer who spends the certificate by more than a similar increase in non-gift income.

Research hypotheses In sum, we have identified the reasons why broad and narrow bracketing consumers, who would use an increase of c in non-gift income to increase consumption of both goods X and Y (with Δx and Δy, respectively), might use a gift certificate of the same face value to buy $\Delta\hat{y}$ units of good Y. Broad bracketing consumers do so forced by the no-refund policy or because the limited number of shops at which the certificate can be redeemed; narrow bracketing consumers because they receive utility from buying items they would not buy otherwise. Narrow bracketing of gift income may be induced by a social heuristic that prescribes that one ought to set apart/label income received on special occasions. Other determinants of narrow bracketing are reciprocity towards the giver and intra-household agreements. In addition, the labeling of gift certificate income may be made easy by their distinct physical appearance.[11]

Our empirical analysis aims to sort out how important narrow bracketing is in spending gift certificates and what determines whether consumers narrow bracket. We do so by asking a large sample of consumers who have just redeemed one or more certificates detailed questions about how they received and spent their certificate(s). In particular, we ask them to compare the situation of receiving a certificate to the alternative situations of: *a)* not having received a certificate; *b)* having received the same amount in cash. In a separate question, we ask them to indicate the reasons for why they used the certificate to buy the item they actually bought.

Based on the theory above, Table 1 summarizes our research hypotheses.

A broad bracketing consumer unconstrained by the restrictions in redeeming certificates (i.e. the no refund policy and the limited number of participating shops) will report that she would also buy the product without the certificate. When asked to compare receiving a gift certificate to receiving the same amount in cash, this unconstrained broad bracketing consumer will answer that she would spend the cash gift in exactly the same way. As a reason for why she buys a particular item with

[11] Cash gifts are more likely to be stored between the other cash in one's wallet. But even when one separates it from other cash by putting in the cupboard, one is likely to forget from whom and on what occasion the cash was received, especially for smaller amounts.

Table 1: Research hypotheses.

	Broad-bracketing consumers	Narrow-bracketing consumers		
Determinants		Labeling	Positive reciprocity	Intra-hh. bargaining
Bought similar product without certificate?	Yes			
Received cash gift instead of gift certificate				
How would you have spent the cash?				
Cash gift spent in exactly the same way	++	−	−	−−
Spent cash gift on different gift item				
Spent cash gift on everyday purchases		+		++
Spent cash gift in the same shop				
Spent the cash earlier				
Reasons to spend gift certificate(s) on this product:				
I had already planned to buy this product	++			
I would love to buy something that I would not buy that easily otherwise	−−	++	−−	++
The giver suggested I should use the gift certificate to buy this product	−−	−−	++	−−
The price of the product matched the value of the gift certificate				
Effect social proximity giver and recipient	No	No	Yes	No
Effect occasion	No	No	Maybe	No
Effect household size	No	No	No	Yes

Notes: ++ : the respondent agrees with this statement; + : the respondent is likely to agree with this statement; − : the respondent is likely not to agree with this statement; −−: the respondent does not agree with this statement.

the certificate, she will indicate that she had already planned to buy the product. (Situation (1) in Figure 1a.)

A broad bracketing consumer constrained by the no-refund policy may indicate that – because of the certificate – she buys larger quantities of the good or to buy the item sooner than she would do otherwise (anticipating future consumption, situation (2) in Figure 1a). Another possibility is that the absence of refunds leads her to buy a more expensive version of the product or to look for a product the price of which matches the face value of the certificate, these are however minor adjustments in consumption pattern. A consumer constrained by the fact that not all shops accept the certificate as a means of payment will report that because of the certificate, she visited a shop she normally does not visit and that she would have spent a cash gift differently.

However, just as the beverage voucher in Abeler and Marklein's study is deemed to be non-distortional because its value is less than the average amount spent on beverages by visitors of the restaurant, we expect that the VVV certificate is non-distortional because of its wide acceptance, low average value and unlimited validity. Half of all redeemed certificates in our sample has a face value of €10 or less.[12] Offenberg (2007) estimates that the welfare loss is lower for (closed loop) cards issued by stores with a wider product range and for cards charged with a smaller amount.

A consumer who narrow brackets gift income because of a socially acquired heuristic or decision rule is more likely to report that she used the certificate to buy a product she really loved to have but

[12] €10≈$14,50 at the time of the survey.

would not buy that easily without the certificate (Situation (3) in Figure 1b). We also hypothesize that, because of their distinct physical appearance, consumers are more likely to bracket gift certificates than cash gifts.

We further hypothesize that when narrow bracketing of gift income is induced or amplified by reciprocity of the recipient towards the giver, we should identify a correlation between the certificate's use and the relationship between giver and recipient: If the giver and recipient are in close social proximity (friends, family), recipients may feel more pressed to use the certificate to buy a specific item than when the relationship is more impersonal (for example, employee-employer relationships): Your mother might ask you to show her what you bought with the certificate, your employer is less likely to do so. The fact that the giver made an explicit suggestion what to buy with the certificate may reinforce this propensity to reciprocate. When the tendency to narrow bracket is related to intra-household bargaining, we expect to observe an effect of household size on gift certificate use.

Besides household size and variables that capture the social proximity between giver and recipient, we regress whether or not consumers narrow bracket on a number of other variables like characteristics of the giver and the recipient and the occasion at which the certificate was received in order to assess the relation between these variables and the propensity to narrow bracket.[13]

3 Survey design

In this section we describe and discuss the details of our survey design. As mentioned, we target consumers who have just redeemed one or more gift certificates at one of the shops in our sample. The VVV Cadeaubon has a number of features in common with the gift cards studied in previous papers (e.g. Offenberg, 2007). Like most Dutch gift cards, the VVV Cadeaubon is fully transferable, does not have an expiration date and both givers and recipients do not face any administrative fees.[14] The VVV Cadeaubon differs from gift cards in a number of other product dimensions. Unlike many gift cards, the VVV Cadeaubon is a paper certificate that cannot be reloaded and cannot be used multiple times: consumers have to spend the face value of the certificate in one purchase. As refunds are not allowed, consumers are induced to purchase goods with at least the value of the certificate.

The VVV, the Dutch Tourist Board, issues the certificates. The VVV Cadeaubon has been sold since the 1960s and is highly popular: In 2010, 8.1 million certificates with a total value of €125,9

[13] Abeler and Marklein (2010) find that their subjects' propensity to narrow bracket is negatively correlated with their cognitive abilities.

[14] Accepting retailers do pay a fee to VVV Netherlands. This fee consists of a variable 4.5% commission over the sales paid with certificates plus occasionally a fixed annual membership fee to the local branch of the Tourist Board. The level of this fixed fee differs across regions.

million were sold. The number of households is 7.4 million, which means that each household receives on average annually slightly more than one VVV Cadeaubon. After the book certificate (*Boekenbon*, about 34 million sold in 2008), it is the most used certificate in the Netherlands. Throughout the Netherlands about 18,000 retailers accept the certificate as a means of payment, among which most of the major retail chains. Due to its wide acceptance, the VVV Cadeaubon arguably is a closer substitute for cash than the closed loop gift cards and gift certificates that were the object of previous studies. The transferability of open loop gift certificates and their use not being tied to any particular retail chain makes it however difficult to find users and survey them just after they have redeemed one or more certificates.[15] In general, the greater the length of the period between the purchase and the survey, the greater the expected response bias due to respondent retrieval and reporting error (Bound *et al.*, 2001).

To overcome the two challenges of identifying certificate users and minimizing recall bias, we received from the VVV a list of all accepting retailers in the Netherlands. We requested a selected number of these retailers to hand out a flyer to consumers who paid (part of) their purchase with the VVV Cadeaubon.[16] These retailers received a package with flyers. The flyer invited consumers to fill out an online survey using a unique login name/password combination. The survey contains questions about when and from whom the certificate was received and how and where it was spent. In particular, respondents are asked to compare the actual situation of having received and spent the certificate with two counterfactual situations: They are asked how they would have spent an equal amount of cash if they had been given an envelope with cash instead of the gift certificate; and they are asked whether they would have bought this product (or a comparable product) without the gift certificate. Respondents were awarded a €5 VVV Cadeaubon when they completed the survey.[17]

We sent flyers to a total number of 796 shops selected from the list of shops that accept the VVV Cadeaubon as a means of payment. We oversampled shops in non-urban areas because we expected the response per shop to be lower in non-urban areas due to lower visitor numbers: Whereas about 40 percent of all accepting shops are located in non-urban areas, 75 percent of all shops that were approached are located in such an area. In total, we selected 201 out of all 11426 urban shops that accept the VVV Cadeaubon and 595 out of all 7341 non-urban shops. In our regression estimates,

[15] The information VVV Netherlands collects is limited to the number and value of certificates used (at the shop level), they do not have any information on the identity of users.

[16] As we are only interested in retailers, we exclude non-shops that accept the VVV Cadeaubon from our analysis. Examples of such non-shops are: hotels and restaurants, travel agencies, libraries, museums, amusement parks, rentals, charity and postorder shops.

[17] Only one survey could be filled out per address, preventing a loop the same respondent filling out the survey multiple times. The reward was paid for and sent by VVV Netherlands.

we therefore apply sampling weights equal to the inverse of the probability that the observation is included: 201/11426 for shops in urban areas and 595/7341 for non-urban shops. The questionnaire was online between August 27, 2010 and May 4, 2011. During this period, 1,426 consumers who had redeemed one or more gift certificates filled out the survey. A total of 376 observations were discarded for different reasons. The majority of the discarded observations (193) were dropped because respondents, when asked to name the shop where they redeemed the certificate, mentioned a different shop than the one from which they received the flyer,[18] 113 observations were dropped because the ip-address from where the questionnaire was filled in and/or the home address (postal code and house number) was non-unique or because the given home address of the respondent matched with the address of the retailer.[19] 62 observations were dropped because respondents did not complete the survey. Eight further observations were dropped because these certificates were redeemed in grocery stores or gasoline stations. This leaves us with a final sample of 1,050 observations, which is considerably more than in previous studies.

196 of the 796 selected shops (= 25%) were responsible for all completed surveys. The other selected shops did not generate positive response because some of them no longer existed or did no longer accept the VVV Cadeaubon (most frequently due to change of ownership or change of shop profile) or because they were not visited by consumers redeeming one or more certificates during the period of data collection.[20] A potential worry is that the non-response of some shops causes the sample to be non-representative. Figure 2 compares the geographical distribution of the shops approached (left panel) with the distribution of shops from which we received one or more completed surveys (right panel). This comparison does not reveal that a particular region is under- or over-represented.[21]

Another possible bias is that the €5 reward for completing the survey creates selection related to income and/or the face value of the coupons received. To address this concern, Figure 3 compares the

[18]The unique login names allows us to relate respondents to the shop where they received the flyer. In theory, it is possible that respondents received more than one flyer if they redeemed certificates in multiple shops. However, this is unlikely given that in a given village, only a very selected number of shops participates in the survey. From personal communications with shop representatives, we know that in a number of cases mismatches have occurred because shops did not adhere to the instructions and gave flyers to all customers instead of only to those who redeemed a certificate. These respondents answered the questions for visits to other shops or hypothetical visits. We consider these observations as less reliable because the answers might be fake or be biased by inaccurate recollection.

[19]The majority of these observations probably concerns a shop owner or an employee tempted to fill out the questionnaire and to collect the reward, and to a lesser extent respondents trying to fill out the questionnaire multiple times.

[20]Other reasons given for non-participation are busy cash registers (grocery stores), too much promotion material at the cash register (cosmetics) or permission needed from franchiser (among which a number of shops in household appliances, a chain in drugstores, a book store, a gardening shop and a music store). Three shops refused to hand out flyers because they did not want to promote the VVV Cadeaubon: They preferred their clients not to use the VVV Cadeaubon as method of payment to avoid the commission fee of 4.5% participating shops have to pay to VVV Netherlands.

[21]More details on the sample design are presented in Section A of the online Appendix.

distribution of face values we observe in our sample[22] with the face value distribution of all 8,132,700 certificates that VVV Netherlands issued in 2010. We test for equality of these distributions using a χ^2-test. The H_0 that the frequencies of all face values are equal is rejected ($p < 0.01$). A comparison of individual frequencies shows that face values of €5 are not overrepresented in our sample (€7.5 and €10 are). Face values of €15 and €25 (but not €20 and €50) seem slightly underrepresented. Although the difference in distribution is clearly statistically significant (partly due to the large total number of certificates), it does not strike us as particularly alarming because there seems no specific bias towards low or high face values. Therefore, the effect on the estimates of interest may be small. The data in Section 4 show that our sample is not biased towards either low or high income households.

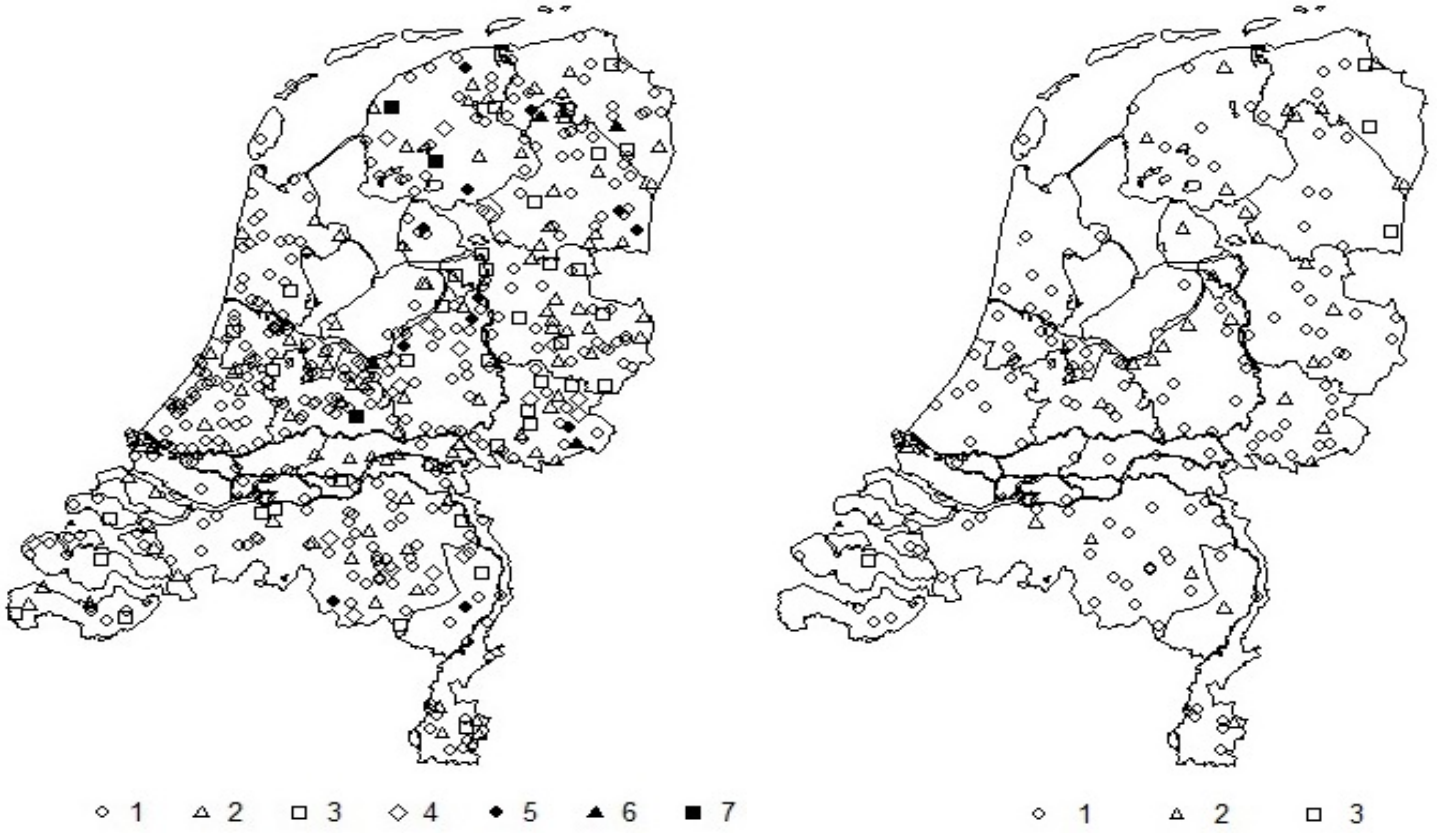

Figure 2: Geographical distribution of selected shops (left panel) and shops with positive response (right panel)

4 Data description

Our sample is a response-based sample with one stratum: only the subpopulation of individuals who redeem one or more gift certificates and complete the survey is observed. In other words, whereas

[22] We apply the discussed sampling weights.

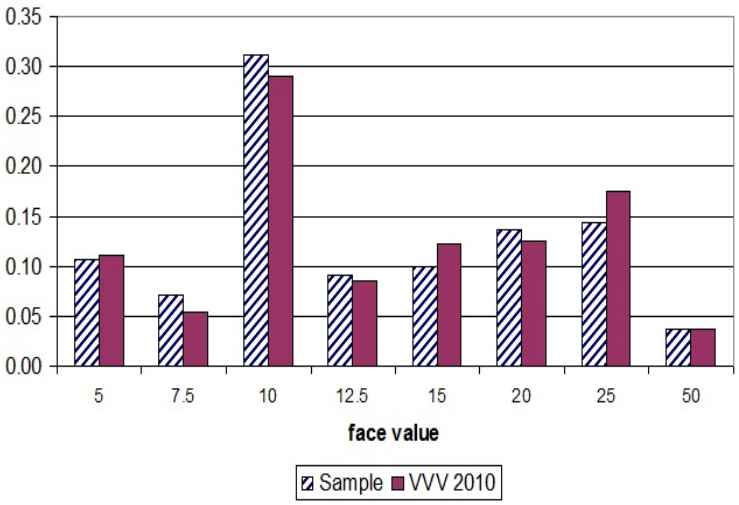

Figure 3: Distribution of face values: our sample vs. the collection of all certificates issued by VVV Netherlands in 2010.

our interest is in $P(z|x)$ (with z the outcome of interest and x the covariates), we only observe $P(z|x, y = 1)$. Inferences are made under the assumption that the sample of individuals that completes the survey is a random selection of the set of individuals who redeem a gift certificate.[23]

Table 2 offers summary statistics on the respondents. About 75% of all respondents is female. The percentage of females in the Dutch population is 50.5%. This difference however does not raise an immediate concern that our sample suffers from non-response bias, since other sources using different sampling methods report that the majority of gift certificates is bought and redeemed by females. GfK (2006) finds that 68% (65%) of all VVV certificates is bought (redeemed) by females. So although the fraction of females in our sample is well above the national average, it may be close to the fraction of females among the recipients of gift certificates. Respondents are on average 44 years old and member of a household of size three. For the entire Dutch population these numbers are 40.3 years and 2.21, respectively.[24] Of course, individuals from larger households are more likely to be sampled, since our design selects at the individual level instead of at the household level.[25]

Of all respondents, 30% lives in urban areas, reflecting our oversampling of shops in rural areas

[23]The nature of our sampling data does not allow us to test this assumption because it reveals nothing about the magnitude of the response probability, see Manski (2007, Ch. 6). Because our data is uninformative about the mechanism behind non-response, weighting observations to correct for non-response is highly problematic and for this reason omitted.

[24]Numbers (as of January 1st, 2011) reported by Statistics Netherlands (CBS), see http://statline.cbs.nl/StatWeb/publication/?DM=SLNL&PA=37296ned&D1=0-2,22-24,55&D2=0,10,20,30,40,50,59-61&HDR=G1&STB&VW=T

[25]The fraction of 1/2/3/4/5-or-more person households in the Netherlands, is 0.17/0.33/0.15/0.22/0.12. A back-of-the-envelope calculation shows that because of our design, the expected reported household size in our sample would be $0.17 \times 1 + 0.33 \times 2 + 0.15 \times 3 + 0.22 \times 4 + 0.12 \times 5 = 2.77$ if all individuals have the same probability to be included.

(see Section 3). The average income of the households in our sample willing to report their income (approximately half of the respondents) corresponds well with the average net income of €32,900 of Dutch households in 2010. A comparison (not reported) with the distribution of net household income as calculated by Statistics Netherlands shows no bias of our sample towards low or high income households. Respondents redeemed on average two certificates with a total value of about €30. The average time between receiving and spending the certificate is 2.7 months.[26] The average respondent traveled approximately 7 km to the shop. Most certificates were given at birthdays (39%), Christmas (25%) or at (voluntarily) work related occasions (17%). Respondents frequently received the gift certificate from their employer (32%), from friends (27%) or from distant family (21%). Similar to Waldfogel (1993), we find that it is less common for partners and close family members to give each other gift certificates. The giver is on average four years older than the recipient.[27]

Table 2 provides a first indication that the limited set of shops at which the VVV Cadeaubon can be redeemed does not impose restrictions on the shopping behavior of the majority of consumers: 91.9% of respondents visited the shop where they redeemed the certificate before in the past twelve months; 98.7% of respondents visited at least one of the ten major accepting chain stores in the past 12 months. In total, 98.8% plans to return, among the respondents who did not visit the shop in the last twelve months this number is 67.6%. Considering the changes in consumption due to receiving the certificate, Table 2 reveals that 80% of respondents reported that they would have bought the main product also without the gift certificate. Among these respondents, we do however observe some shifts in the timing and place of purchase: 19% bought the product sooner, 14% bought a more expensive version, 12% a higher quantity. These changes may be caused by the circumstance that no refund is given in case the total value of the transaction is lower than the face value of the certificate. 12% buys in a different shop than they would normally buy that particular item. About half of the respondents indicate that they would have spent a cash gift in an identical way.

Table 3 gives the characteristics of the average respondent at the branch level.[28] While in every

[26]This is considerably less than the 9 months documented by VVV Netherlands. We can think of four possible reasons for this: 1. In their calculation, VVV Netherlands takes the issuance of the certificate as the starting date; this date is earlier than the date that the recipient receives the certificate; 2. some respondents could not recall the date of receiving the certificate and the probability that one recalls this date is likely to be negatively correlated with the time since receiving the certificate; 3. our period of data collection includes the four months after Christmas and the VVV certificate is a popular Christmas gift; 4. the VVV certificate may be transferred to another consumer, who subsequently mentions the time since she received the certificate. Transfers seem rare however, judging from the fact that no one in our sample reports to have bought the certificate on internet.

[27]The number of observations on this variable is much less than the sample size because it is impossible to give an estimate of giver's age in cases where respondents received the gift certificate from a firm or an institution (e.g. Christmas gifts to employees, certificates used as lottery prizes etc.) or from multiple givers of varying age.

[28]Classification according to VVV Netherlands. Table C.13 in the online appendix gives similar information at the more detailed shop level.

Table 2: Summary statistics (at the respondent level)

Variable	Obs	Mean	Std. Dev.	Min	Max
		Respondent characteristics[1]			
Female	1050	0.747	0.435	0	1
Age (recipient)	1050	43.998	14.477	13	80
Age (giver)	649	47.072	14.205	0	90
Household size	1050	3.020	1.384	1	10
Income [cat. 1-8]	513	4.446	1.803	1	8
Urban (recipient)	1050	0.305	0.461	0	1
		Certificates spent			
Urban (shop)	1050	0.279	0.449	0	1
Total face value	1050	30.493	37.991	5	742.5
Number of certificates	1050	2.079	2.766	1	67
Time lag receiving and spending (months)	1006	2.666	3.323	0	32
Distance recipient to shop	1043	6.918	18.842	0	192.6
		Relation recipient and giver			
Difference age (giver-recipient)	643	4.157	16.284	-41	60
Partner/household member	1050	0.053	0.225	0	1
Family	1050	0.210	0.408	0	1
Friends	1050	0.265	0.441	0	1
Colleagues	1050	0.101	0.301	0	1
Employer	1050	0.317	0.466	0	1
		Occasion			
Birthday	1050	0.390	0.488	0	1
Christmas/St. Nicholas Day	1050	0.251	0.434	0	1
Volunteering	1050	0.170	0.375	0	1
Farewell	1050	0.065	0.246	0	1
Jubilee	1050	0.051	0.221	0	1
		Changes in consumption			
Cash gift spent identical	1050	0.510	0.500	0	1
Bought similar product without certificate	1050	0.794	0.404	0	1
if "YES": bought...					
more expensive version	834	0.140	0.347	0	1
more in terms of quantity	834	0.120	0.325	0	1
in shop normally not frequented	834	0.115	0.319	0	1
product sooner	834	0.187	0.390	0	1
Visited shop in past 12 months	1050	0.919	0.273	0	1
Revisit shop in next 12 months	897	0.975	0.155	0	1
Visited in past 12 months and revisit	860	0.988	0.107	0	1
Not visited in past 12 months but revisit	37	0.676	0.475	0	1
Visited at least one chain in past 12 months	1050	0.987	0.115	0	1

[1]: The corresponding average values for the entire Dutch population in 2011 are: female 0.505; age 40.3; # persons household 2.21; income category 4.39; fraction living in urban environment 0.67.

branch considered the majority of respondents is female, their share is – perhaps not surprisingly – significantly lower in the branches "DIY" and "Electronics". The latter branch is also the one with the highest average value of redeemed certificates (€58.80). The highest average transaction values are observed in the branches "Bicycles, sport & leisure" and "Electronics" (€175.88 and €140.48, respectively). Respondents in the branch "Toys & games" have the lowest average age (35.99 years). Together with "HEMA"[29], this branch has the lowest average transaction values (€38.21 and €35.04, respectively). The fraction of respondents who report that they would also have bought the item without the certificate is largest in the branches "DIY" (0.889) "Bicycles, sport & leisure" (0.882) and "Garden, flowers and animals" (0.870) and by far lowest in the branch "Jewelery" (0.500). "Jewelery" is also the branch in which respondents have the lowest average reported income.

[29]HEMA is a popular chain selling a wide variety of goods, including household appliances, clothing, food, bicycle equipment and office supplies.

Table 3: Summary statistics (at the branch level)

			age		total value		month	bought	cash	Received from					income	shop
Branch		female	reci.	giver	cert.	spent	ago	without	same	partner	family	friends	coll.	empl.	(cat. 1-8)	urban
HEMA	mean	0.83	39.56	45.12	24.44	35.04	2.12	0.85	0.50	0.07	0.16	0.22	0.09	0.38	4.24	0.26
	s.e.	(0.03)	(1.15)	(1.47)	(1.48)	(2.68)	(0.25)	(0.03)	(0.04)	(0.02)	(0.03)	(0.04)	(0.02)	(0.04)	(0.24)	(0.04)
	obs.	134	134	76	134	134	129	134	134	134	134	134	134	134	63	134
Household	mean	0.77	46.24	45.56	27.02	43.54	3.01	0.79	0.51	0.07	0.20	0.26	0.07	0.35	4.21	0.09
appliances	s.e.	(0.04)	(1.24)	(1.50)	(1.68)	(3.03)	(0.28)	(0.03)	(0.04)	(0.02)	(0.03)	(0.04)	(0.02)	(0.04)	(0.20)	(0.02)
	obs.	141	141	85	141	141	133	141	141	141	141	141	141	141	75	141
Electronics	mean	0.61	46.13	45.79	58.80	140.48	2.69	0.80	0.57	0.02	0.09	0.24	0.13	0.50	4.52	0.89
	s.e.	(0.07)	(2.01)	(2.63)	(11.57)	(33.26)	(0.41)	(0.06)	(0.07)	(0.02)	(0.04)	(0.06)	(0.05)	(0.07)	(0.33)	(0.05)
	obs.	46	46	19	46	46	45	46	46	46	46	46	46	46	27	46
Garden,	mean	0.76	46.75	48.53	31.90	49.56	3.13	0.87	0.46	0.04	0.28	0.30	0.09	0.25	4.46	0.04
flowers &	s.e.	(0.03)	(1.11)	(1.34)	(4.84)	(5.45)	(0.29)	(0.03)	(0.04)	(0.01)	(0.04)	(0.04)	(0.02)	(0.03)	(0.19)	(0.02)
animals	obs.	162	162	111	162	162	157	162	162	162	162	162	162	162	81	162
Books &	mean	0.68	48.33	49.96	25.56	40.79	2.90	0.74	0.51	0.03	0.19	0.27	0.10	0.26	4.75	0.21
music	s.e.	(0.04)	(1.15)	(1.72)	(2.14)	(5.25)	(0.35)	(0.04)	(0.04)	(0.01)	(0.03)	(0.04)	(0.03)	(0.04)	(0.24)	(0.03)
	obs.	144	144	80	144	144	134	144	144	144	144	144	144	144	69	144
Cosmetics &	mean	0.83	42.90	49.50	26.81	47.50	2.59	0.71	0.41	0.14	0.24	0.28	0.19	0.19	4.30	0.66
drugstores	s.e.	(0.05)	(1.97)	(2.40)	(4.07)	(5.85)	(0.44)	(0.06)	(0.07)	(0.05)	(0.06)	(0.06)	(0.05)	(0.05)	(0.35)	(0.06)
	obs.	58	58	42	58	58	56	58	58	58	58	58	58	58	20	58
DIY	mean	0.58	45.96	48.32	32.12	53.93	2.28	0.89	0.63	0.07	0.18	0.26	0.14	0.31	4.89	0.32
	s.e.	(0.06)	(1.49)	(2.16)	(4.14)	(6.06)	(0.29)	(0.04)	(0.06)	(0.03)	(0.05)	(0.05)	(0.04)	(0.05)	(0.27)	(0.06)
	obs.	72	72	47	72	72	69	72	72	72	72	72	72	72	37	72
Clothing &	mean	0.78	44.25	47.65	35.04	94.72	2.58	0.83	0.51	0.08	0.25	0.28	0.11	0.31	4.23	0.43
shoes	s.e.	(0.05)	(2.03)	(2.44)	(3.75)	(8.83)	(0.44)	(0.05)	(0.06)	(0.03)	(0.05)	(0.06)	(0.04)	(0.06)	(0.32)	(0.06)
	obs.	65	65	37	65	65	62	65	65	65	65	65	65	65	30	65
Toys &	mean	0.80	35.99	41.35	25.76	38.22	2.48	0.75	0.51	0.01	0.16	0.28	0.10	0.36	4.64	0.57
games	s.e.	(0.05)	(1.42)	(2.06)	(3.01)	(3.44)	(0.46)	(0.05)	(0.06)	(0.01)	(0.04)	(0.05)	(0.04)	(0.06)	(0.32)	(0.06)
	obs.	69	69	43	69	69	64	69	69	69	69	69	69	69	33	69
Cycling,	mean	0.63	40.37	45.44	36.54	175.88	2.44	0.88	0.49	0.06	0.28	0.24	0.09	0.32	4.97	0.43
sport	s.e.	(0.06)	(1.52)	(2.03)	(4.05)	(68.59)	(0.41)	(0.04)	(0.06)	(0.03)	(0.05)	(0.05)	(0.03)	(0.06)	(0.35)	(0.06)
& leisure	obs.	68	68	45	68	68	68	68	68	68	68	68	68	68	35	68
Interior	mean	0.82	41.93	50.44	24.89	52.34	2.57	0.67	0.56	0.04	0.31	0.29	0.11	0.38	4.14	0.20
furniture &	s.e.	(0.06)	(2.44)	(2.26)	(2.24)	(5.57)	(0.42)	(0.07)	(0.07)	(0.03)	(0.07)	(0.07)	(0.05)	(0.07)	(0.35)	(0.06)
ornaments	obs.	45	45	34	45	45	44	45	45	45	45	45	45	45	22	45
Jewelery	mean	0.87	42.07	44.77	40.27	73.38	2.36	0.50	0.59	0.02	0.15	0.26	0.07	0.35	3.57	0.02
	s.e.	(0.05)	(2.35)	(2.59)	(4.89)	(9.28)	(0.45)	(0.07)	(0.07)	(0.02)	(0.05)	(0.07)	(0.04)	(0.07)	(0.36)	(0.02)
	obs.	46	46	30	46	46	45	46	46	46	46	46	46	46	21	46
Total	mean	0.70	44.00	47.07	30.49	61.26	2.67	0.79	0.51	0.05	0.21	0.26	0.10	0.32	4.45	0.28
	s.e.	(0.01)	(0.45)	(0.56)	(1.17)	(5.03)	(0.10)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.08)	(0.01)
	obs.	1050	1050	649	1050	1050	1006	1050	1050	1050	1050	1050	1050	1050	513	1050

5 Analysis

In Section 2, we have distinguished between broad and narrow bracketing consumers. There we argued that receiving a gift certificate instead of a similar amount in non-gift income does not change the consumption pattern of broad bracketing consumers, unless they are restrained by the no-refund policy or limited number of accepting shops. The information in Table 2 shows that to most consumers, the circumstance that the certificate can only be redeemed at a limited number of shops does not pose a real impediment: Almost all of them have visited one or more of the accepting major chains and 91.9% redeem the certificate at a shop they visited before in the preceding 12-month period. So, we are confident that the coverage of the VVV Cadeaubon allows broad bracketing consumers to spend these certificates just as cash. In order to identify broad and narrow bracketers in our survey, and to separate between narrow bracketers who narrow bracket all gift income (cash and certificates) and those who only narrow bracket certificates due to its different physical appearance, we asked respondents to evaluate two hypothetical situations:

A: Would you have bought this product (or a comparable product) without the gift certificate?

B: Suppose that you received an envelope with cash of an equal amount instead of the gift certificate. How would you have spent the cash?

Question A needed to be answered with either yes or no. In answering question B, respondents could either select one or more pre-printed options or add their own answer by selecting "other". One of the pre-printed answers was *I would have spent cash in exactly the same way* and the others: *I would have spent the cash on a different gift item/I would have spent the cash on everyday purchases/I would have spent the cash in the same shop/I would have spent the cash earlier/Other, namely ....* Only a small minority of respondents (10%) selects more than one answer.[30] We also asked all respondents for their reason(s) to spend the certificate on the product they just bought where they could select one or more of the following pre-printed answers: *I already planned to buy this product/I would love to buy something that I would not buy that easily otherwise/The giver suggested I should use the gift certificate to buy this product/The price of the product matched the value of the gift certificate/Other, namely ....* Given that 96% of all respondents who check the box *I already planned to buy this product* answer

[30] Of the respondents who checked the box *I would have spent cash in exactly the same way* and another box, in more than half of the cases (34 out of 57), the other answer is *I would have spent the cash in the same shop* which is consistent with the answer *I would have spent the cash in exactly the same way.* The 13 respondents who also selected the answer *I would have spent the cash on everyday purchases* used the certificate to buy items like 'a belt', 'computer accessories', 'cooking pot', which is also consistent with the answer *I would have spent the cash in exactly the same way.*

"yes" to question A, we aggregate the consumers who either gave an affirmative answer to question A and/or indicated that they already planned to buy this product to one category defined as the group of consumers who would have also bought the item without the certificate.

Similarly, the group of consumers who spend gift certificates and cash gifts identically is defined to include not only the 535 respondents who check the box *I would have spent cash in exactly the same way* in response to question B, but as well the 97 respondents who indicate that they *would have spent the cash earlier* without specifying that they *would have spent the cash on everyday purchases.*[31] The reason to include the latter group is that the main focus of the paper is on whether receiving a certificate makes people to buy different items and not so much on whether they change the timing of the purchase.

Table 4: How consumers spend gift certificates, comparison with two alternative situations. Per subgroup: Number and percentage of respondents within subgroup that indicates given reason to have spent certificate on particular item bought.

			Bought similar product without certificate				
			Yes		**No**		
			I		**II**		
			563	**54%**	**69**	**7%**	**632**
Spent cash in exactly the same way	**Yes**	Already planned to buy this product	463	*82%*	-[1]		
		Love to buy something not easily bought otherwise	43	*8%*	57	*83%****	
		Giver suggested to buy this item	14	*2%*	7	*10%****	
		Price matched value certificate	64	*11%*	4	*6%*	
		Cash spent to buy everyday purchases	12	*2%*	1	*1%*	
			III		**IV**		
			308	**29%**	**110**	**10%**	**418**
	No	Already planned to buy this product	223	*72%****	-[1]		
		Love to buy something not easily bought otherwise	30	*10%*	88	*80%*‡‡‡	
		Giver suggested to buy this item	12	*4%*	7	*6%*	
		Price matched value certificate	56	*18%****	19	*17%*††	
		Cash spent to buy everyday purchases	247	*80%****	86	*78%*†††	
			871	*83%*	**179**	*17%*	**1050**

[1]: Respondents who select the answer that they already planned to buy the product are part of the group "Bought similar product without certificate";
*/**/***: denotes a significant difference with group **I** at the 10%/5%/1% level.
†/††/†††: denotes a significant difference with group **II** at the 10%/5%/1% level.
‡/‡‡/‡‡‡: denotes a significant difference with group **III** at the 10%/5%/1% level.
All significance levels based on two-sided t-tests.

[31]A total of 128 respondents not selecting the answer *I would have spent cash in exactly the same way* indicates that they would have spent gifts in cash earlier. Of these, 31 state that they would have spent the cash on everyday purchases.

5.1 Broad bracketing consumers

Table 4 categorizes respondents into four groups based on whether they would have bought a similar product without the certificate (columns) and whether they would have spent the gift in the same way if it were given in cash (rows). We observe that the majority of our respondents (83%) would have bought a similar product even if they had not received the certificate, these are the broad bracketing consumers.

Of these consumers, a large number (563 out of 871, 54% of all respondents) says that the circumstance that they received a gift certificate instead of plain money did not affect the way they have spent the gift. The others (308, 29% of all respondents) indicate that although they would have bought a similar product without the certificate, they would have spent a cash gift in a different way. The question is whether the limited number of accepting merchants forced these consumers to visit a shop they usually do not visit and to buy an item they normally would not buy. If so, giving these consumers a gift certificate instead of the same amount in cash would entail a utility loss. However, this appears not to be the case: 72% of respondents in this group says that they spent it on an item they already planned to buy. Though significantly lower than in the first group, this is still a large majority. 18% of all respondents answers that they did buy a particular item because its price matched the value of the certificate.

In order to shed more light on the determinants of broad bracketing, Table 5 shows the estimates of a probit regression where the dummy outcome variable *Bought similar product without certificate* is regressed on a vector of explanatory variables. This vector includes: the value of the certificate, respondent characteristics, details about the occasion at which the certificate was received including the number of months that have passed since, and variables describing the relationship between giver and recipient.

The estimates in Table 5 show that men are generally less responsive to receiving a gift certificate. They are more likely than females to use the certificate to buy an item they would also have bought without the certificate. Although none of the individual coefficients is significant, elderly people seem a bit more likely to spend gift certificates and cash gifts similarly. Broad bracketing is uncorrelated with household size, suggesting that the role of intra-household bargaining is small. The relation between giver and recipient and the occasion at which the certificate is received has no major effect on the answer given, suggesting no role for socially acquired heuristics that prescribe that certificates received on special occasions or from specific persons ought to be set apart. The effect of income is mixed.

Table 5: Probit regressions of response to *Bought similar product without certificate* and *Spent cash in exactly the same way*. Standard errors in parentheses

Dependent variable	Bought similar product without certificate		Spent cash gift in exactly the same way	
	coeff.	s.e.	coeff.	s.e
		Value of the certificate		
Total face value <€10	0.0638†	(0.0309)	0.0492	(0.0540)
Total face value €10-20	0.0133	(0.0326)	0.0263	(0.0482)
Total face value >€50	0.0156	(0.0419)	0.0445	(0.0659)
		Respondent characteristics		
Male	0.0674*	(0.0291)	0.0667	(0.0449)
Urban (recipient)	0.0226	(0.0269)	0.0393	(0.0392)
Age < 25	-0.0450	(0.0579)	-0.0188	(0.0724)
Age 25-34	-0.0181	(0.0463)	0.0294	(0.0601)
Age 35-44	-0.0337	(0.0431)	0.0497	(0.0536)
Age 55-64	0.0258	(0.0459)	0.0715	(0.0653)
Age > 65	0.0191	(0.0576)	0.1356	(0.0800)
Hh. size= 1	-0.0692	(0.0616)	-0.0001	(0.0707)
Hh. size= 2	-0.0028	(0.0363)	0.1082*	(0.0477)
		Relation recipient and giver		
Partner/household member	-0.0484	(0.0734)	-0.0615	(0.0898)
Friends	0.0122	(0.0320)	0.0115	(0.0505)
Colleagues	0.0000	(0.0536)	0.1227†	(0.0668)
Employer	-0.0344	(0.0376)	0.0659	(0.0534)
		Occasion		
Christmas/St. Nicolas Day	0.0129	(0.0384)	-0.0784	(0.0602)
Volunteering	0.0019	(0.0404)	-0.0880	(0.0613)
Farewell	0.0591	(0.0451)	-0.0486	(0.0957)
Jubilee	0.0180	(0.0591)	0.0316	(0.0915)
Other	-0.0105	(0.0490)	-0.0174	(0.0691)
# months since receiving	-0.0025	(0.0039)	-0.0149*	(0.0067)
		Gross income recipient		
< €1500	-0.1072	(0.1037)	-0.1120	(0.1010)
€1500-2000	-0.1480†	(0.0962)	0.1853*	(0.0783)
€2000-2500	-0.1401†	(0.0929)	-0.1044	(0.0911)
€3000-4000	-0.1223	(0.0950)	0.0148	(0.0887)
>€4000	-0.1734†	(0.1080)	-0.1143	(0.1009)
Loglikelihood	-444.20		-662.06	
Pseudo R^2	0.0388		0.0604	
Obs.	*1050*		*1050*	

Notes: Columns give estimated marginal effects (for variables denoted in the first column).
We applied sampling weights equal to the inverse probability that the observation is included based on urban/non-urban status.
Omitted categories are: total face value €20-50; age 45-54; hh. size> 2; Family; Birthday; income €2500-3000.
Controls for missing income and # months ago are included. †/*/**: significant at the 10%/5%/1% level.

Table 5 also presents estimates of a similar probit regression with the answer to *Spent cash in exactly the same way* as outcome variable. An affirmative answer to this question can be given by broad bracketing consumers who do not adjust their shopping pattern, but as well by narrow bracketing consumers who treat gift income in the form of certificates and cash similarly. We observe that in two-person households (mainly couples), it is more common to spend the certificate in the same way as a gift in cash. The longer the time lag between receiving and spending the certificate, the less likely that the respondent will spend the certificate in the same way as a cash gift.

For the groups of broad bracketing consumers (I and III), we estimate a probit model in which a latent variable is related to observed yes/no answers to questions concerning changes in shopping pattern. These changes may be attributed to the no-refund condition. The vector of explanatory variables is the same as before. Table 6 presents the results.[32] In interpreting the estimates, one needs to keep in mind that only those consumers are included who indicated that they would also buy a similar item without the certificate. That is, the estimates are about changes in when and how much of a particular product is bought because of the certificate, conditional on the products also being bought without the certificate. With regard to face value, we obtain the plausible result that certificates with low face values are less likely to lead to changes in shopping pattern in any of the four dimensions considered. We also observe that women are more likely than men to upgrade to a more expensive version, to buy a higher quantity or to buy the product sooner. Living in an urban area is positively correlated with buying in a shop that one normally does not visit. Compared to families, couples are less likely to buy products sooner because of the certificate. The relationship between giver and recipient and the occasion at which the certificate was given, has some impact on visiting shops normally not frequented: recipients seem less likely to do so when the certificate is received from a partner or other household member whereas they seem more likely to do so for certificates received for Christmas, a farewell or jubilee (instead of a birthday which is the omitted category).

5.2 Narrow bracketing consumers

The remaining respondents in Table 4 (groups II and IV, 7% and 10%, respectively) answered 'no' to the question whether they would have bought the product hadn't they received the certificate. The most important and highly significant difference between these two groups and the two groups discussed

[32] Given that respondents could select multiple answers to the question how they changed the timing of the expenditure, one may prefer estimating a multivariate probit model. Such a model involves simultaneous modeling of the different changes and allows the unobserved disturbances to be freely correlated. We did this and results are given in the online Appendix (Table B.8, the estimates should be compared with the probit estimates in Table B.9). All but one correlation coefficients are statistically significant and the null of independent disturbances is rejected. However, the estimated coefficients are very similar such that we decided to report the marginal effects of univariate probit estimation.

Table 6: Probit estimation of changes in consumption patterns due to gift certificate spending. Standard errors in parentheses.

Dependent variable	(1) More expensive version		(2) Higher quantity		(3) Bought in shop normally not visited		(4) Bought product sooner	
	coeff.	s.e.	coeff.	s.e	coeff.	s.e	coeff.	s.e
Value of the certificate								
Total face value <€10	-0.0964**	(0.0285)	-0.0656*	(0.0230)	-0.0678†	(0.0344)	-0.0999*	(0.0380)
Total face value €10-20	-0.0403	(0.0302)	-0.0285	(0.0270)	-0.0693*	(0.0320)	-0.0296	(0.0402)
Total face value >€50	0.0625	(0.0557)	0.0459	(0.0482)	0.0654	(0.0586)	0.0193	(0.0553)
Respondent characteristics								
Male	-0.0857**	(0.0284)	-0.0483†	(0.0237)	-0.0435	(0.0318)	-0.1001**	(0.0338)
Urban (recipient)	0.0481†	(0.0296)	0.0108	(0.0244)	0.0643*	(0.0295)	0.0572†	(0.0333)
Age < 25	0.0888	(0.0650)	-0.0598†	(0.0275)	-0.0366	(0.0482)	0.0305	(0.0658)
Age 25-34	-0.0219	(0.0411)	0.0475	(0.0431)	-0.0568	(0.0365)	0.0046	(0.0503)
Age 35-44	-0.0373	(0.0382)	-0.0058	(0.0336)	-0.0712†	(0.0352)	-0.0967*	(0.0393)
Age 55-64	0.0053	(0.0486)	0.0813†	(0.0557)	-0.0080	(0.0463)	-0.0655	(0.0483)
Age > 65	0.0140	(0.0686)	0.1197	(0.0937)	-0.0785	(0.0420)	0.0315	(0.0868)
Hh. size= 1	0.0205	(0.0614)	-0.0086	(0.0441)	-0.0468	(0.0474)	0.0095	(0.0593)
Hh. size= 2	-0.0685*	(0.0319)	-0.0489†	(0.0284)	-0.0055	(0.0377)	-0.0820*	(0.0385)
Relation recipient and giver								
Partner/household member	0.1183	(0.0857)	-0.0063	(0.0505)	-0.1028*	(0.0322)	-0.0568	(0.0562)
Friends	0.0651†	(0.0421)	-0.0255	(0.0276)	-0.0322	(0.0377)	-0.0023	(0.0423)
Colleagues	0.0536	(0.0627)	0.0561	(0.0525)	-0.0803†	(0.0333)	0.1340†	(0.0784)
Employer	-0.0072	(0.0404)	0.0170	(0.0322)	-0.0437	(0.0406)	0.0474	(0.0488)
Occasion								
Christmas/St. Nicolas Day	0.0192	(0.0431)	-0.0302	(0.0323)	0.1224*	(0.0601)	-0.0005	(0.0481)
Volunteering	-0.0230	(0.0392)	-0.0004	(0.0384)	-0.0266	(0.0472)	-0.0736	(0.0410)
Farewell	0.0487	(0.0837)	0.0894	(0.0760)	0.1753*	(0.1057)	0.0389	(0.0799)
Jubilee	0.0835	(0.0805)	-0.0179	(0.0461)	0.2010*	(0.1029)	-0.1418*	(0.0341)
Other	0.0060	(0.0515)	0.0765	(0.0548)	0.0283	(0.0628)	-0.0167	(0.0545)
# months since receiving	-0.0028	(0.0038)	-0.0064†	(0.0035)	-0.0041	(0.0043)	-0.0062	(0.0048)
Gross income recipient								
< €1500	-0.0137	(0.0665)	0.2774**	(0.1210)	0.0127	(0.0770)	0.1645†	(0.1078)
€1500-2000	0.0838	(0.0955)	0.0476	(0.0809)	-0.0519	(0.0549)	0.1478†	(0.1007)
€2000-2500	0.1654†	(0.1029)	0.0957	(0.0862)	0.0572	(0.0830)	-0.0712	(0.0583)
€3000-4000	0.1963*	(0.1028)	0.1234†	(0.0831)	-0.0089	(0.0657)	-0.0052	(0.0748)
>€4000	0.0405	(0.0843)	-0.0019	(0.0602)	-0.0243	(0.0690)	0.0044	(0.0935)
Loglikelihood	-316.86		-271.72		-321.94		-371.10	
Pseudo R^2	0.1052		0.1098		0.1076		0.1212	
Obs.	*834*		*834*		*834*		*834*	

Notes: Columns give estimated marginal effects (for variables denoted in the first column). The sample includes only the respondents who answered "YES" to the question: "Would you have bought a similar product without certificate?"
We applied sampling weights equal to the inverse probability that the observation is included based on urban/non-urban status.
Omitted categories are: total face value €20-50; age 45-54; hh. size> 2; Family; Birthday; income €2500-3000.
Controls for missing income and # months ago are included. †/*/**: significant at the 10%/5%/1% level.

in the previous section is that they *en masse* report (83% and 80%) that they bought a particular product because they 'loved to buy something that they would not buy that easily otherwise'. It thus turns out that the large majority of consumers in these two groups does not spend the certificate differently than regular income because the certificate limits their choice set, but because they are narrow bracketing consumers who purposely label this income component 'gift income'.

We hypothesized that, because of their distinct physical form, recipients are more likely to narrow bracket gift certificates than cash gifts. The testable implication of this is that among the narrow bracketing consumers, there should be consumers who indicate that they would spend the given sum of money differently when given in cash. Table 4 shows that in line with our hypothesis, 10% of all respondents (group IV) does narrow bracket gift certificates but not gifts in cash. The fact that the majority (78%) of respondents in this group says that they would have spent a cash gift to buy everyday purchases lends further support to our idea that they seize the opportunity given by the certificate to separate the gift from other income.[33]

Table 7 reveals more on the determinants of narrow bracketing by giving the estimates of three separate probit regressions that relate different reasons to spend the certificate on a certain item to respondent background characteristics, certificate characteristics and information on when and from whom the certificate(s) was (were) received. In line with our previous results, we see that being a male and having certificates with a total face value of less than €10 is negatively correlated with using the certificate to treat oneself. Household size turns out not to have any effect on the propensity to buy something special, which suggests that narrow bracketing of gift certificate use is unrelated to intra-household bargaining. Receiving the certificate from one's friends or employer positively affects the likelihood that the certificate is spent to buy a special item, maybe due to a socially acquired heuristic.

We have argued that narrow bracketing of gift income may also result from positive reciprocity towards the giver. As shown in Table 4, 4% (40 out of 1050) of all recipients in our sample is motivated by a suggestion from the giver on what to buy. Although this number is arguably small, we do observe that in the group of narrow bracketing consumers who would have spent a cash gift in exactly the same way (group II), the percentage of recipients motivated by suggestions is with 10% significantly higher than the 2% in the group who would have bought the product as well without a certificate (group I). The second column of Table 7 shows that recipients are more likely to buy an item on instigation of the giver if this person is your partner or another person in your household. This seems plausible

[33] In group II, only 1 consumer answers that she would spend a cash gift to buy everyday purchases. This is consistent with our hypothesis that the narrow bracketing consumers in group II label gift certificates and cash gifts alike.

Table 7: Probit estimation of reasons to spend the certificate on a particular item. Standard errors in parentheses.

Dependent variable	(1) Love to buy something not bought otherwise		(2) Giver suggested this item		(3) Price matched value certificate	
	coeff.	s.e	coeff.	s.e	coeff.	s.e
Value of the certificate						
Total face value <€10	-0.0880*	(0.0346)	0.0007	(0.0090)	0.0572	(0.0435)
Total face value €10-20	0.0228	(0.0386)	0.0041	(0.0090)	0.0399	(0.0343)
Total face value >€50	0.0329	(0.0493)	0.0363*	(0.0244)	-0.0884*	(0.0314)
Respondent characteristics						
Male	-0.1026**	(0.0300)	0.0021	(0.0082)	-0.0007	(0.0294)
Urban (recipient)	-0.0107	(0.0293)	-0.0058	(0.0067)	0.0566*	(0.0266)
Age < 25	0.0457	(0.0597)	-0.0073	(0.0089)	-0.0956*	(0.0280)
Age 25-34	-0.0555	(0.0412)	0.0103	(0.0152)	-0.0311	(0.0342)
Age 35-44	-0.0335	(0.0396)	0.0262†	(0.0190)	-0.0292	(0.0339)
Age 55-64	-0.0595	(0.0434)	0.0320†	(0.0238)	0.0228	(0.0483)
Age > 65	-0.0224	(0.0666)	0.0227	(0.0276)	0.0096	(0.0562)
Hh. size= 1	0.0315	(0.0609)	-0.0201**	(0.0053)	-0.0263	(0.0407)
Hh. size= 2	-0.0302	(0.0369)	-0.0024	(0.0087)	-0.0238	(0.0323)
Relation recipient and giver						
Partner/household member	0.0228	(0.0755)	0.0468*	(0.0298)	-0.0385	(0.0522)
Friends	0.0740†	(0.0407)	-0.0121†	(0.0059)	-0.0317	(0.0308)
Colleagues	0.0471	(0.0652)	0.0103	(0.0183)	-0.0283	(0.0370)
Employer	0.1024*	(0.0436)	0.0011	(0.0119)	-0.0158	(0.0332)
Occasion						
Christmas/St. Nicolas Day	-0.0111	(0.0402)	-0.0284**	(0.0086)	0.0214	(0.0372)
Volunteering	0.0427	(0.0473)	-0.0186*	(0.0058)	0.0187	(0.0381)
Farewell	-0.0184	(0.0617)	-0.0156*	(0.0051)	0.1544*	(0.0794)
Jubilee	-0.0255	(0.0627)	-0.0144*	(0.0045)	0.0976	(0.0861)
Other	0.0692	(0.0573)	-0.0146†	(0.0054)	0.0116	(0.0500)
# months since receiving	-0.0013	(0.0044)	0.0001	(0.0009)	0.0011	(0.0038)
Gross income recipient						
< €1500	0.0189	(0.0858)	-0.0067	(0.0105)	0.0788	(0.0828)
€1500-2000	0.0909	(0.0881)	-0.0142†	(0.0056)	-0.0928†	(0.0345)
€2000-2500	0.0461	(0.0764)	-0.0175*	(0.0048)	0.0109	(0.0583)
€3000-4000	0.0523	(0.0834)	-0.0153†	(0.0049)	0.0902	(0.0789)
>€4000	0.1675†	(0.1047)	–	(–)	0.0028	(0.0721)
Loglikelihood	-485.30		-131.66		-402.77	
Pseudo R^2	0.0611		0.2118		0.0730	
Obs.	*1050*		*987*[1]		*1050*	

Notes: Columns give estimated marginal effects (for variables denoted in the first column). The sample includes all respondents. Controls for missing income and # months ago are included. †/*/**: significant at the 10%/5%/1% level.
We applied sampling weights equal to the inverse probability that the observation is included based on urban/non-urban status.
Omitted categories are: total face value €20-50; age 45-54; hh. size> 2; Family; Birthday; income €2500-3000.
[1]: None of the 63 respondents with income >€4000 indicated that the giver suggested which product to buy. Due to the absence of variation in this variable, these observations have been dropped.

because household members are more likely to inform whether you followed their suggestion than a colleague or employer. This will foster positive reciprocity. People in a single-person household are less likely to follow a giver's suggestion, as are people who received the certificates for any other occasion than the birthday (the omitted category). The latter reflect the circumstance that suggestions are less often made at these occasions because presents are given anonymously (Christmas/St. Nicolas Day) or by more than one person (Farewell, Jubilee). People who are given the certificate as a reward for volunteer work also tend not to receive or follow suggestions. In this case, recipients may feel entitled to use the certificates for whatever purpose they please.

Finally, the estimates in column (3) show that the higher the value of the certificates received, the less likely it is that recipients will choose an item because its value matches the value of the certificates. Having received the certificates as a farewell gift on the other hand increases this likelihood substantially.

5.3 Broad and narrow bracketing by branch

In the preceding sections, we have determined the percentages of broad bracketing and narrow bracketing consumers among the recipients of gift certificates. We related the propensity to bracket to an individual's background characteristics and to the occasion at which the certificate was received and investigated the motives behind the decision to narrow bracket. In this subsection we will relate the propensity to bracket gift certificate income and the tendency to label or show reciprocal behavior to the branches in which the certificates are spent. This will inform us which branches broad and narrow bracketing consumers are most likely to visit.

Tables 8 and 9 present estimates of probit regressions with the same dependent variables as in Table 5 and 7, respectively, but now with branch dummies as right-hand side variables. In both tables "HEMA" is the omitted branch. Compared with consumers who visit the HEMA, we see that especially shops that sell Jewelery; Interior, furniture&ornaments and Toys & games are less likely to attract broad bracketing gift certificate recipients who state that they bought an item they would also have bought without the certificate. Gift certificate owners who visit DIY stores are significantly more likely to report that they would have spent a cash gift on exactly the same item.

The first column in Table 9 clearly shows that, among gift certificate recipients, narrow bracketing consumers who use their certificate to buy an item they love to buy are more likely to visit the branches Jewelery, Toys & games, Interior, furniture & ornaments, Books & music and Cycling, sports & leisure and less likely to show up in DIY stores, although this effect is insignificant. Shops

Table 8: Probit regressions of response to *Bought similar product without certificate* and *Spent cash in exactly the same way* on branch dummies. Standard errors in parentheses

Dependent variable	(1) Bought similar product without certificate		(2) Spent cash gift in exactly the same way	
	coeff.	s.e.	coeff.	s.e
Household appliances	-0.1723*	(0.0818)	0.0298	(0.0743)
Electronics	-0.0841	(0.0874)	0.1210	(0.0843)
Garden, fl. & animals	-0.0213	(0.0545)	0.0359	(0.0687)
Books & music	-0.1759**	(0.0777)	-0.0243	(0.0764)
Cosm. & drugstores	-0.1713*	(0.0929)	-0.0444	(0.0912)
DIY	0.0041	(0.0749)	0.1723*	(0.0776)
Clothing & shoes	-0.0538	(0.0811)	0.0694	(0.0872)
Toys & games	-0.2034**	(0.0928)	0.0191	(0.0859)
Cycling, sports & leis.	0.0892†	(0.0372)	0.0196	(0.0892)
Interior, furn. & orn.	-0.3100**	(0.1204)	0.1166	(0.0949)
Jewelery	-0.3646**	(0.1049)	0.0369	(0.0983)
Loglikelihood	-433.26		-696.04	
Pseudo R^2	0.0625		0.0122	
Obs.	*1050*		*1050*	

Notes: Columns give estimated marginal effects (for variables denoted in the first column). HEMA is the omitted branch. We applied sampling weights equal to the inverse probability that the observation is included based on urban/non-urban status. †/*/**: significant at the 10%/5%/1% level.

Table 9: Probit estimation of reasons to spend the certificate on a particular item. Standard errors in parentheses.

Dependent variable	(1) Love to buy something not bought otherwise		(2) Giver suggested this item[1]		(3) Price matched value certificate	
	coeff.	s.e.	coeff.	s.e	coeff.	s.e
Household appliances	0.1525*	(0.0771)	0.9090**	(0.0621)	-0.0643	(0.0350)
Electronics	0.0607	(0.0845)	0.9493**	(0.0461)	-0.1342**	(0.0235)
Garden, fl. & animals	0.0210	(0.0558)	0.9094**	(0.0618)	-0.0595	(0.0339)
Books & music	0.1794**	(0.0774)	0.9542**	(0.0351)	-0.0335	(0.0405)
Cosm. & drugstores	0.1047	(0.0868)	0.9647**	(0.0318)	-0.0796†	(0.0360)
DIY	-0.1035	(0.0559)	0.9474**	(0.0393)	-0.1236*	(0.0259)
Clothing & shoes	0.1042	(0.0890)	0.9466**	(0.0482)	-0.1232**	(0.0256)
Toys & games	0.1895*	(0.0900)	0.9047**	(0.0867)	-0.0857†	(0.0342)
Cycling, sports & leis.	0.1895*	(0.0900)	0.9047**	(0.0867)	-0.0857†	(0.0342)
Interior, furn. & orn.	0.2212*	(0.1104)	–	(–)	-0.0983†	(0.0346)
Jewelery	0.3582**	(0.1013)	0.9625**	(0.0327)	-0.1241**	(0.0191)
Loglikelihood	-488.31		-159.65		-412.78	
Pseudo R^2	0.0553		0.0553		0.050	
Obs.	*1050*		*1050*		*1050*	

Notes: Columns give estimated marginal effects (for variables denoted in the first column). The sample includes all respondents. HEMA is the omitted branch.
We applied sampling weights equal to the inverse probability that the observation is included based on urban/non-urban status.
[1] : The highly significant estimates in column (3) only signal that none of the respondents visited the HEMA because the giver suggested the item. †/*/**: significant at the 10%/5%/1% level.

in the former categories mainly sell personal items whereas DIY stores almost exclusively sell useful basic products. This lends further support to our hypothesis that consumers who buy "something not bought otherwise" indeed attach the label 'gift' to their certificates and buy personal items to treat oneself. All estimates in column (3) are negative and more than half of them significant at the $p = 0.10$ level. This foremost implies that consumers who redeem their certificates at HEMA (the omitted category) are more likely than consumers in other branches to buy an item the price of which matches with the value of their certificates. For different reasons, this is less likely in the branches Electronics and Jewelery (high average face value certificates) and in the branches Clothing & shoes and DIY (certificates used for ordinary expenditures).

6 Summary and conclusions

We set out to investigate whether consumers spend gift certificates differently than non-gift labor income or cash gifts. Broad bracketing consumers may spend certificates in a different way than cash if the certificate can only be redeemed at a limited number of shops, thereby distorting consumption. Therefore, we focused in this study on the use of VVV Cadeaubon, the most flexible and best known open loop gift certificate in the Netherlands. The fact that the VVV certificate can be redeemed at more than 18,000 retailers in different branches makes this certificate a close substitute for cash. Consistent with this, people who sell VVV certificates on the secondary online market receive a higher percentage of the face value than sellers of any other card or certificate.

Our empirical evidence shows that the scope of this certificate is indeed sufficiently wide in order not to distort consumption. A large majority of 83% of all surveyed users broad brackets gift certificate income and spends them in the same way as cash; 79% of the respondents in this group indicates that they have used the certificate to buy an item they already had planned to buy.

However, receiving a gift certificate also causes a sizeable group of 17% of all surveyed users to narrow bracket. 7% of the respondents narrow bracket all types of gift income (certificates and cash gifts) by labeling it 'gift income', the other 10% only narrow brackets when the gift is received in the form of a certificate. Three-fourth of all consumers in the latter group indicate that, had they received cash instead of a certificate, they would spend it on everyday purchases. The most important and highly significant difference between the groups of broad and narrow bracketing users is that over 80% of the narrow bracketers report that they bought a particular product because they 'loved to buy something that they would not buy that easily otherwise'. It thus turns out that the large majority of narrow bracketing consumers does not spend the certificate differently than cash because the certificate

limits their choice set, but because they seize the opportunity of having received a certificate to buy nice and personal items they really like to have.

Among recipients, men are more likely to broad bracket gift certificate and to spend them on ordinary items, whereas women are more likely to treat themselves by buying more personal items. Certificates do not induce changes in shopping when the face value is less than €10. Interestingly, the occasion at which the certificates are received and the social proximity between giver and recipient do not have a distinct impact on how the certificates are spent. Suggestions by the giver are more likely to be followed if the giver is a household member, possibly for reasons of positive reciprocity.

In sum, open loop gift certificates do not seem to entail a welfare loss to consumers who use them. In contrast, the majority of respondents uses this payment instrument just as they would use cash. The sizeable fraction of consumers who do narrow bracket seems to value the possibility to separate gift certificate income from other sources of income. In a recent paper on narrow bracketing in insurance markets, Gottlieb and Smetters (2012, p. 2) notice that "Thus far, however, there has been little evidence of retail services or products that directly exploit narrow framing at significant scale." Our evidence suggests a role for narrow bracketing in explaining the viability of the market for open loop gift certificates. They serve gift-givers as a good intermediate option between the two alternatives of giving an in-kind gift and giving cash. To part of the recipients, they have an appeal because they can be used as cash whereas to another part, they have added value because of the opportunity offered to separate gift income from other sources of income in order to buy an item one really loves to have.

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