Consumer Choice Biased by Nominal Representation of Price

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Abstract

In order to show that consumer choices are biased by the nominal representation of prices, three experiments were conducted with undergraduates as participants. Experiment 1 showed that participants choose a large-unit currency (small numbers) for paying the price of a consumer product but to obtain their salary in a small-unit currency (large numbers). Suggesting that accuracy is traded off against effort, participants were more susceptible to the bias toward the nominal representation when induced to feel positive and deactivated than when induced to feel negative and activated. The differences in frequencies of choice of currency were replicated in Experiment 2. No effect was however obtained of a natural mood variation assessed by self-report ratings before the choices. In Experiment 3 choices of more expensive products with additional features were more frequent when the prices were expressed in a large currency unit than when expressed in a small currency unit. Natural mood variation assessed by self-report ratings again failed to affect the choices.

Key words: Money illusion, price evaluation, consumer choice

Introduction

The money illusion has been recognized by economists for a long time (Fisher, 1928; Patinkin, 1965). It refers to that the nominal representation of the value of money, that is the actual numbers printed on coins and notes, affects the perceived real worth of money. In a series of experiments, Shafir, Diamond, and Tversky (1997) found that in hypothetical monetary transactions participants tended to discount changes in the value of money over time (i.e., inflation). Instead of choices of the most economically beneficial alternative, a bias toward the nominal representation was therefore observed. The results were explained in part as an effect of the salience of the nominal representation, in part as an effect of that thinking in nominal terms is easier than thinking in real terms.

While the money illusion is a bias toward the nominal representation overlooking the impact of inflation on the value of money, the “Euro illusion” (Burgoyne, Routh, & Ellis, 1999; Gamble, Gärling, Charlton, & Ranyard, 2002) refers to the same type of bias toward the nominal representation that people are susceptible to when converting their national currency to the Euro. In the various EU countries, the nominal value of the Euro is either smaller or larger than their national currency depending on the exchange rate. As Gamble et al. (2002) showed, people may therefore evaluate prices as more expensive or cheaper compared to prices in their national currency.

If prices are only accessible in an unfamiliar currency, an accurate evaluation is not possible unless the prices are converted to the familiar currency. Several recent studies (Dehaene & Marques, 2002; Lemaire & Lecacheur, 2001; Lemaire, Lecacheur, & Ferréol Barbey, 2001) have investigated different strategies for converting a national currency to the Euro or the reverse. Some conversion strategies are more thorough requiring investments of substantial effort in order to achieve a targeted degree of accuracy, whereas others are less thorough and demanding. We assume that less thorough conversion strategies lead to stronger influences of the nominal representation and a larger Euro illusion.

Any factor that makes the task seem less important, for instance, the purchase of a cheap and insignificant good may counteract a thorough and accurate conversion strategy. Alternatively, if the consequences of being inaccurate are serious such as purchasing an expensive item at the risk of paying too high a price, a thorough conversion strategy requiring more effort is likely to be made, thus reducing the Euro illusion. Such effects were demonstrated in Gamble et al. (2002).

In this paper we follow up on Gamble et al. (2002) providing additional demonstrations of that less thorough processing increases the Euro illusion. Drawing on research showing that an induced positive mood causes less thorough information processing compared to a neutral or negative mood (Isen, 2000; Schwarz, 2002), a larger Euro illusion is thus expected when participants are in a positive mood than when they are in a negative mood.
In a similar vein, Gamble et al. (2002) found that a positive attitude towards the new currency led to a larger Euro illusion than a negative attitude. Mood also varies in activation (Russell, 1980). A low activation is likewise expected to cause less thorough processing compared to a high activation (Hockey, Maule, Clough, & Bdzola, 2000; Lewinsohn & Mano, 1993) and hence a larger Euro illusion. Experiment 1 induced valence and activation mood differences in the participants who were expected to show a larger Euro illusion in a positive mood than in a negative mood. Furthermore, this effect was hypothesized to be attenuated by activation. Thus, the Euro illusion was expected to be even larger in a deactivated positive mood than in an activated positive mood and even less in an activated negative mood than in a deactivated negative mood. With the aim of validating the mood induction effects, Experiments 2 and 3 investigated whether the same effects are caused by a natural mood variation.

In Gamble et al. (2002) participants performed price evaluations. In the present experiments a goal was to demonstrate that the Euro illusion also affects consumer choices. In Experiments 1 and 2 participants therefore made choices of a (fictitious) foreign currency in which they would make a payment or receive a salary. For some time this option (i.e., dual pricing) has been given to citizens in the EU. In Experiment 3 participants made choices of more or less expensive products when the prices were given in two different currencies. The aim was to demonstrate a preference for more expensive products due to the bias toward the nominal representation of the currency in which the prices are expressed.

**Experiment 1**

**Method**

**Participants.** The participants were 192 (114 women and 78 men) undergraduates. Ninety four were recruited from a pool of undergraduates enrolled in different programs at Göteborg University volunteering to take part in experiments. They received the equivalent of US$5 in return for their participation. The remaining 98 participants were recruited in undergraduate classes at the School of Economics and Commercial Law, Göteborg University, and at Chalmers University of Technology, Göteborg. They received no financial compensation. The participants’ mean age was 26.3 years ranging from 19 to 63 years. They were randomly assigned to eight groups with 24 participants in each group.

**Procedure.** Participants served either individually or in groups. Participants serving individually were presented with a booklet immediately after an unrelated experiment. Those serving in groups received a booklet after a lecture.

On the first page of the booklet participants rated their current mood on two bipolar adjective scales assessing valence and activation. The nine-point scale tapping valence ranged from –4 (defined by the three adjectives displeased, sad, and depressed) through 0 (neutral) to 4 (pleased, glad, and happy), the nine-point scale tapping activation ranged from –4 (sleepy, dull, and passive) through 0 (neutral) to 4 (awake, peppy, and active). The choice of adjectives defining the end-points was based on the results reported in Västfjäll, Friman, Kleiner, and Gärling (2002).

On the subsequent page in the booklet, one of four different moods was induced by requesting participants to recall an emotion episode. Eighteen appraisal questions developed by Smith and Ellsworth (1985) and translated to Swedish (Västfjäll & Gärling, 2002) followed on the next two pages. After that, the adjective-scale ratings of current mood were performed once again in the same way as before the mood induction.

In the mood induction procedure different groups of participants were instructed to recall an emotion episode when they felt very sad and miserable (negative valence-low activation), very anxious and jittery (negative valence-high activation), very calm and relaxed (positive valence-low activation), or very happy and elated (positive valence-high activation). The selection of these adjectives was also based on Västfjäll et al. (2002). Participants were asked to pay special attention to their emotional reactions when recalling the episode. To encourage participants to do this, they were requested to write down the main points of the episode on the remainder of the page. With the same purpose, they were furthermore requested to answer the appraisal questions.

Following the mood induction, participants were asked to imagine that they worked in a EU country with two (fictitious) currencies called UP and EP. The exchange rate was 1.33 UP (or EP) to one Swedish Crown (small currency unit or large numbers) or 0.0133 EP (or UP) to one Swedish Crown (large currency unit or small numbers). Half of the participants in each mood-induction condition were told that they would pay for a consumer product, the other half that they would receive their salary. The price of the product was the equivalent of 250 Swedish Crowns and the salary was the equivalent of 25,000 Swedish Crowns. Participants were told that the two currencies were equal to the same amount in Swedish Crowns. Although being aware of
that the price or salary was the same in both currencies, participants were nevertheless asked to choose between paying (receiving their salary) in UP or EP (e.g., “I choose to pay 333.33 UP for the product” or “I choose to pay 3.33 EP for the product” or “I choose to receive my salary in UP and will then get 333 UP” or “I choose to receive my salary in EP and will then get 33,333 EP”). Across participants in each mood-induction and salary or price condition, the labels of the two currencies were counterbalanced so that half of the time the UP was the small-unit currency and EP the large-unit currency, half of the time the EP was the small-unit currency and UP the large-unit currency. In half the cases the small-unit currency was presented above the large-unit currency, in the other half of the cases the small-unit currency was presented below the large-unit currency.

The last page of the booklet induced a neutral mood. Participants were asked to relax for a couple of minutes by closing their eyes and let their thoughts wander as they tried to return to a neutral state of mind. This was followed by a final set of adjective-scale ratings of current mood indicating that the neutral-mood induction was successful.

Table 1. Mean adjective-scale ratings of mood after mood induction (Experiment 1). (The adjective ratings were made on a scale ranging from –4 to 4.)

<table>
<thead>
<tr>
<th>Mood induction</th>
<th>Negative valence</th>
<th>Positive valence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low activation</td>
<td>High activation</td>
</tr>
<tr>
<td>Ratings M</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>SD</td>
<td>2.1</td>
<td>0.9</td>
</tr>
<tr>
<td>Valence</td>
<td>0.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Activation SD</td>
<td>2.0</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Results

Manipulation Check. As a manipulation check of the mood induction, the adjective-scales ratings of mood were examined. The means are given in Table 1. As may be seen, as expected the valence induction affected the valence ratings and the activation induction affected the activation ratings. Unexpectedly, however, the activation induction also affected the valence ratings in that high activation increased valence and low activation decreased valence. An analysis of variance (ANOVA) yielded at $p=.05$ a significant main effect of the valence induction on the valence ratings, $F(1, 188) = 8.25$, $p=.005$, and a significant main effect of the activation induction on the activation ratings, $F(1, 188) = 7.96$, $p=.005$. In addition, the main effect of the activation induction reached significance on the valence ratings, $F(1, 188) = 4.51$, $p=.035$.

Choices of Currency. Table 2 shows the percentages of choices of the large-unit currency for payment of the consumer product and for receiving the salary. A logistic regression analysis was performed with the independent variables price (1) vs. salary (-1), large-unit currency below (-1) vs. above (1), the interaction between price vs. salary and valence, and the interaction between price vs. salary and activation. The overall fit of the model was marginally acceptable, $\chi^2 = 9.21$, $p=.056$. Consistent with the hypothesis, the percentages of choice of the large-unit currency was higher than 50% for the price of the consumer product but lower than 50% for the salary (56.3% vs. 40.6%). The difference reached significance at $p = .05$, $\chi^2(1) = 9.21$, $p=.031$. Refuting the existence of a position effect, the percentages of choice of the large-unit currency was not significantly higher when presented above than when presented below the small-unit currency (50.5% vs. 46.3%), $p=.569$. Furthermore, suggesting an expected effect of induced mood, the difference in percentages of choices of the large-unit currency for the price of the consumer product and the salary was larger for low than for high activation (29.2% vs. 2.1%) corresponding to a marginally significant interaction between price vs. salary and activation, $b = .112$, $\chi^2(1) = 3.62$, $p=.057$. Although this difference was in the expected direction also for positive compared to negative valence (20.9% vs. 10.4%), it was not large enough to reach significance, $b = .028$, $\chi^2(1) = 3.62$, $p=.057$. For the combined valence and activation inductions, as expected the difference between price and salary was largest for positive valence and low activation (62.5% vs. 25.0%, $\chi^2(1) = 6.86$, $p=.01$), second largest for negative valence and low activation (66.7% vs. 45.8%, $\chi^2(1) = 2.12$, $p=.15$), third largest for positive valence and high activation (41.7% vs. 37.5%, $\chi^2(1) = 0.09$, $p=.77$), and there was no difference for negative valence and high activation (54.2% vs. 54.2%).
Table 2. Percentages of choices of large-unit currency for the price of a consumer product and for the salary related to valence and activation of induced mood (Experiment 1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Negative valence</th>
<th>Positive valence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low activation</td>
<td>High activation</td>
</tr>
<tr>
<td>Price</td>
<td>66.7</td>
<td>54.2</td>
</tr>
<tr>
<td>Salary</td>
<td>45.8</td>
<td>54.2</td>
</tr>
</tbody>
</table>

Discussion

Consistent with the Euro illusion (Gamble et al., 2002), participants chose the small-unit currency (the large numbers) when receiving their salary, the large-unit currency (the small numbers) when paying for the consumer product. Furthermore, these effects of currency unit were modified both by valence and by activation.

Significant although weak effects were observed of the mood induction. In fact, no mean ratings were negative, that is, participants in the negative valence group were in a slightly positive or neutral rather than in the expected negative mood, and participants in the low activation group were slightly activated or neutral rather than deactivated. It is possible that taking part in the study made participants more activated than they would have been otherwise. Furthermore, it is generally difficult to make people feel negative (Larsen, 1993).

Despite the weak mood induction effects, mood differences affected the results in the expected way. Thus, the largest effect of the currency unit was obtained for those participants in whom a deactivated positive mood was induced and the smallest effect for those participants in whom an activated negative mood was induced. Somewhat unexpectedly, the activation induction had a stronger effect than the valence induction overall and for the price of the consumer product, whereas there was no effect of the valence induction for price but a stronger effect for salary.

It should also be noted that the low activation induction led to a negative valence and the high activation induction led to a positive valence. Thus, the effect of activation was confounded by the change in valence. According to the hypothesis investigated, this confounding should imply that the effect of activation was counteracted. Despite this, the activation induction had an effect in the expected direction in all conditions.

Experiment 2

Method

Participants. Participants were 120 undergraduates in business administration (64 women and 56 men) at Umeå University. They were recruited in classes and asked to stay after class to answer the questions in a booklet. They received no financial compensation. Their mean age was 26.3 years ranging from 19 to 63 years. An equal number of participants were randomly assigned to each of two groups.

Procedure. The procedure was identical to Experiment 1 except that no mood induction was employed. Before participants chose the currency, they rated their current mood on one nine-point scale for valence and another one for activation. The ratings were obtained in the same way as in Experiment 1 with the purpose of measuring the effect of the mood induction. The mood ratings and the choices of currency were last in a sequence of choice and rating tasks taking all together about 15 minutes to complete.

Results and Discussion

Replicating the results of Experiment 1, the percentages of choice of the large-unit currency was higher than 50% for the price of the consumer product but lower than 50% for the salary (66.7% vs. 33.3%). To determine whether the choices were affected by mood, a binary logistic regression analysis was performed with the choices as dependent variable. In this analysis the independent variables were price (1) vs. salary (-1), large-unit currency presented below (-1) vs. above (1), the interaction between price vs. salary and the ratings of valence, and the interaction between price vs. salary and the ratings of activation. For an acceptable overall fit of the model ($\chi^2(3) = 14.37, p = .006$), price vs. salary ($b = -0.597, \chi^2(1) = 5.80, p = .015$) reached significance at $p = .05$ but not the interaction with valence ($b = -0.08, \chi^2(1) = 0.083, p = .521$) nor with activation ($b = 0.010, \chi^2(1) = 0.107, p = .923$). Presenting the large-unit currency above or below had no significant effect ($52.0\%$ vs. $48.0\%, b = 0.205, \chi^2(1) = 0.265, p = .607$). Suggesting however that valence had an effect in the expected direction, separate analyses of choices of currency for price and salary yielded positive regression coefficients that differed ($b = 0.234, \chi^2(1) = 2.49, p = .115$, vs. $b = 0.127, \chi^2(1) = 0.561, p = .454$). Thus, the difference between price and
salary in choice of the large-unit currency increased with valence. For activation the regression coefficients were positive rather than negative and close to each other ($b=0.254$ vs. $b=0.208$).

Experiment 3

Method

Participants. A sample of 198 psychology undergraduates at Göteborg University, 133 women and 65 men, participated in the experiment. They received no financial compensation. Their mean age was 25.8 years ranging from 19 to 52. Participants were randomly assigned to two equally large groups.

Procedure. A booklet was distributed to the participants after a lecture. On the first page ratings of current mood were made in the same way as in the preceding experiments. Following these ratings participants were asked to imagine that they had accepted a job in another EU country. Before moving to this country, they wanted to purchase some equipment for their new home. Their task was to choose between a consumer product without additional features and one with additional features (e.g. a cellular phone with or without a hands-free unit) sold at a higher price. For instance, participants were asked “Do you prefer to buy a cellular phone which costs 5000 EP (the national currency of this country) or pay an extra 400 EP for the same cellular phone with a hands-free unit?” Another set of mood ratings was performed last. Sessions lasted for about 10 minutes.

In two pilot studies a set of three consumer products was selected. In the first pilot study the products shown in Table 3 were presented with and without additional features in randomized orders on separate pages in a booklet. Thirty one psychology undergraduates receiving the booklet after a lecture were asked to write down how much more than the indicated price in Swedish Crowns they were prepared to pay for the consumer products with the additional features. An approximate normal market price was given for each product. The medians and ranges of the indicated prices for the products with the additional features are given in the table. The results of the first pilot study were followed up in the second pilot study administering a booklet to another group of 28 psychology undergraduates after a lecture. In this booklet the participants were asked on separate pages to choose the consumer product without or with the additional features. Cellular phone with WAP, cellular phone with extra battery, and camera with zoom lens were not included because of the wide price ranges observed in the first pilot study. The prices for the consumer products without the additional features were again those indicated in the table, whereas the prices of the consumer products with the additional features were the medians obtained in the first pilot study. For four of the consumer products the choices of the additional features were close to 50% (ranging from 48.0% to 60.7% as shown in the table), thus were fairly consistent with the results of the first pilot study. Of these three, TV set was excluded because of the wide price range. For the other products choices were much less than 50%, possibly because participants wanted to pay as little as possible for something that they did not want to purchase anyway.

Table 3. Median (Md) indicated prices for consumer products with additional features and percentages of choices of these products in pilot studies\(^a\).

<table>
<thead>
<tr>
<th>Consumer product</th>
<th>Price</th>
<th>Additional features</th>
<th>1st pilot study</th>
<th>2nd pilot study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td></td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td>Telephone</td>
<td>199</td>
<td>number display</td>
<td>31 299</td>
<td>28 57.1</td>
</tr>
<tr>
<td>Camera</td>
<td>995</td>
<td>self-timer</td>
<td>31 1100</td>
<td>28 48.0</td>
</tr>
<tr>
<td>Cellular phone</td>
<td>1250</td>
<td>handsfree unit</td>
<td>31 1350</td>
<td>28 50.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WAP</td>
<td>31 1500</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>extra battery</td>
<td>31 1500</td>
<td></td>
</tr>
<tr>
<td>Microwave oven</td>
<td>1490</td>
<td>grill</td>
<td>31 1700</td>
<td>28 14.3</td>
</tr>
<tr>
<td>TV set</td>
<td>1790</td>
<td>stereo</td>
<td>31 2100</td>
<td>28 60.7</td>
</tr>
<tr>
<td>Sofa</td>
<td>8500</td>
<td>leather</td>
<td>31 10000</td>
<td>28 21.4</td>
</tr>
</tbody>
</table>

Note: \(^a\)Price, median, and range are given in Swedish Crowns (approximately US$ 0.10).

In the main experiment a telephone with or without a number display, a camera with or without a self-timer, and a cellular phone with or without a hands-free unit were presented on separate pages in the booklet to the different groups of participants with the prices indicated in “EP.” The exchange rate of the EP was either 4 EP to one Swedish Crown (small currency unit or large numbers) in one of the groups or 0.04 EP to one Swedish Crown (large currency unit or small numbers) in the other group. The consumer products were presented in different random orders to different participants.
Results and Discussions

The percentages of choice of the consumer products with additional features are given in Table 4. As can be seen, for all three consumer products these percentages were as expected higher when the prices were expressed in the large currency unit than when they were expressed in the small currency unit. As indicated in the table, in binary logistic regression analyses large vs. small currency unit reached significance ($p=.05$) for telephone although not for the other two consumer products. None of the interactions of currency unit with the ratings of valence or with the ratings of activation (averages of the ratings before and after the choices) yielded significant regression coefficients with the expected signs (associated with the interaction with valence: telephone, $b=-0.110$, $\chi^2(1)=1.09$, $p=.296$, camera, $b=-0.069$, $\chi^2(1)=0.49$, $p=.483$, and cellular phone, $b=-0.046$, $\chi^2(1)=0.20$, $p=.652$, respectively, and associated with the interaction with activation: $b=0.027$, $\chi^2(1)=0.11$, $p=.744$, $b=-0.069$, $\chi^2(1)=0.49$, $p=.483$, and $b=0.023$, $\chi^2(1)=0.07$, $p=.793$, respectively).

A multiple linear regression analysis performed on the mean percentages of choices ($M=57.2\%$ corresponding to the large currency unit vs. $M=44.0\%$ corresponding to the small currency unit) yielded for an overall fit of $R^2_{adj} = .031$, $F(3, 194) = 3.08$, $p=.029$, a significant regression coefficient associated with currency unit, $\beta=0.286$, $t(194) = 2.86$, $p=.005$, but no significant regression coefficients with the expected signs for the interaction with valence, $\beta = -0.130$, $t(194) = -1.13$, $p=.259$, or for the interaction with activation, $\beta = -0.006$, $t(194) = -0.07$, $p=.941$.

<table>
<thead>
<tr>
<th>Consumer product (additional features)</th>
<th>Currency unit</th>
<th>Test statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone (number display)</td>
<td>Small (4:1)</td>
<td>$\chi^2(1)=7.83$, $p=.005$</td>
</tr>
<tr>
<td>Camera (self-timer)</td>
<td>Large (0.04:1)</td>
<td>$\chi^2(1)=1.56$, $p=.211$</td>
</tr>
<tr>
<td>Cellular phone (handsfree unit)</td>
<td>31.3</td>
<td>$\chi^2(1)=2.25$, $p=.134$</td>
</tr>
</tbody>
</table>

General Discussion

All three experiments showed that choices were biased toward the nominal representation of the money. In Experiments 1 and 2 participants preferred paying for a consumer product in a large-unit currency (small numbers) but receiving their salary in a small-unit currency (large numbers). In Experiment 3 participants more frequently chose the more expensive consumer product with additional features when prices were expressed in a large-unit currency than when the prices were expressed in a small-unit currency. These results are consistent with and extend previous research demonstrating a Euro illusion (Gamble et al., 2002) implying that prices in small nominal values are evaluated as cheaper than prices in large nominal values.

An additional finding consistent with the hypothesis that accuracy-effort trade-off affects the Euro illusion is that, in Experiment 1, choices were more biased toward the nominal representation when participants were in a deactivated positive mood than when they were in an activated negative mood. Although the results were thus largely as expected when mood was induced, the results of Experiments 2 and 3 suggest that these effects may not be present when mood varies naturally. Yet, the Euro illusion did not for this reason disappear. One possible explanation of the different results is that the natural variation in valence and activation is curtailed. In partial support of this, Table 5 shows that for valence the standard deviations were larger in Experiment 1 (across all mood induction groups) than in Experiments 2 and 3. Effects in the expected directions although weaker may then be expected. This appeared to be true in Experiment 2 for valence but not for activation. In Experiment 3, however, the observed effects were, if anything, reversed.

Another possibility is that a natural variation in mood primarily reflects trait differences that are unrelated to willingness to invest effort. From a review of the evidence Rusting (1998) concludes that stable mood traits exist. It is questionable, however, whether differences in mood traits have differential effects on information processing paralleling those caused by induced moods. Thus, as proposed here, people who naturally are in a more positive mood may not be willing to invest less effort than those who naturally are in a less positive or negative mood. The same may be true of activation. Yet, everyone may be similarly affected if their mood is changed by external influences.
Table 5. Means and standard deviations (SDs) of mood ratings in Experiments 1-3.

<table>
<thead>
<tr>
<th>Ratings</th>
<th>Experiment 1 (n=192)</th>
<th>Experiment 2 (n=120)</th>
<th>Experiment 3 (n=198)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>Valence</td>
<td>1.0 (2.1)</td>
<td>1.3 (1.8)</td>
<td>1.7 (1.7)</td>
</tr>
<tr>
<td>Activation</td>
<td>0.9 (2.0)</td>
<td>0.2 (2.2)</td>
<td>0.8 (2.0)</td>
</tr>
</tbody>
</table>

Note: The ratings were made on scales from –4 to 4.)

*Means and SDs for each mood induction group are given in Table 1

**Means of mood ratings before and after the choices

It may again be emphasized that the effect of the Euro illusion on consumer choice exists even though no mood induction was employed. In real life one may therefore expect effects similar to those observed in the present experiments, at least as long as there are no other compelling reasons for consumers to process the information more thoroughly. Still, it would be important to substantiate the current findings by analysing available statistics on consumer choice.

In this vein it should be noted that the present results extend some previous research showing that emotions affect consumer decision making. For instance, consumers in a negative mood compared to consumers in a positive mood spend less time and money on spontaneous purchases (Spies, Hesse, & Loesch, 1997), engage in stronger avoidance behaviour in retail stores (Van Kenhove & Desrumaux, 1977), and are less likely to act on purchasing urges (Beatty & Ferrell, 1998). On the other hand, there are also inconsistent findings. Some studies have found that consumers in an induced negative mood engage in self-rewarding activities more than do consumers in an induced positive mood (Seeman & Schwartz, 1974; Baumann, Cialdini, & Kenrick, 1981). Furthermore, Faber and Christiansen (1996) demonstrated that compulsive buying is more common in an induced negative mood than in an induced positive mood. Unfortunately, none of these studies have disentangled the effects of activation.

We conclude with a few suggestions of future research. The present results may reflect an accuracy-effort trade-off (Bettman et al., 1995; Payne et al., 1993). Thus, several factors increasing the effort invested in the choice may reduce the bias toward the nominal representation. One line of future research would therefore be to identify such factors. Another line of research would be to document other cases of money illusions affecting consumer choice. For instance, how price changes are evaluated for low compared to high prices (Marques, 1999). A third line of research (Burgoyne et al., 1999) would be to study adaptation to the currency changes now taking place in several European countries.

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