

Consumer Adaptation Strategies: From Austrian Shilling to the Euro

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Abstract On 1st January 2002, in 12 countries of the European Union, euro notes and coins replaced existing national currencies. The currency changeover required citizens to adapt in various ways. They had to learn to handle new coins and notes, and evaluate prices in the new currency. Data on how these tasks were performed by Austrians are presented. In particular, Austrian consumers applied four different strategies to establish price intuition for the euro: a conversion strategy, an intuitive strategy, an anchor strategy, and a marker value strategy. Data on these strategies show that their application varies across socio-demographic characteristics, differs with purchase situations, relates to euro attitudes, and changes over time. Although the introduction of the euro took place about 5 years ago, the adaptation process is still ongoing.

Keywords Currency changeover · Euro · Austria · Consumer adaptation · Adaptation strategies

Introduction

On 1st January 2002, in 12 countries of the European Union (EU) (Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, and Spain) euro notes and coins replaced existing national currencies. Besides its economical importance for the European Union, the introduction of the euro also had a great impact on citizens' everyday life in the concerned countries. They had to learn the design of coins and notes and to adapt their intuitive value system so that they would be able to accomplish

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routine tasks such as checking whether the received change is correct, or judging whether a good is expensive.

Before, during, and after the introduction of the euro, various research groups (e.g., Gamble et al. 2002; Meier-Pesti and Kirchler 2003; Müller-Peters et al. 1998) as well as the European Commission (e.g., 1999, 2000, 2001, 2002a) have been observing European citizens' feelings towards the euro. Data have been collected on attitudes, expectations, experiences, and other factors relevant to the introduction. Several review articles have summarised empirical research on the euro changeover (e.g., Hofmann et al. 2005; Kamleitner et al. 2006; Kirchler et al. 2006). The following issues have been focused on, some of which are also covered in this special issue: (1) Associations with the euro; what terms were linked to the euro, and what terms were linked to former national currencies. Additionally, changes of these terms over time were examined. (2) Attitudes towards the euro, and how attitudes were influenced by national and European identity. (3) Euro "logistics"; how citizens thought that the introduction of the euro should take place and who was responsible for it. (4) The "euro illusion", that is the phenomenon that prices in euro seemed lower in most countries than in national currencies because of the lower nominal value. (5) Perceived price changes. Some citizens of the European Monetary Union believed that prices had increased with the introduction of the euro. (6) The adaptation process to the euro. It comprised the learning of the design of euro coins and notes and the development of price intuition for the euro; that is, how citizens came to get a feeling for prices in euro, and which strategies they developed to do so.

Published research on the adaptation process, especially on the actual development of price intuition for the euro is rare (e.g., el Sehity 2001; Lemaire 2007; Lemaire and Lecacheur 2001; Lemaire et al. 2001; Marques 2007; Marques and Dehaene 2004). For Austria, data are available on the adaptation process from 1998 to 2004. So far these data have been published in research reports only in the German language and have not been presented to an international scientific community. The data were obtained mainly from representative samples via questionnaires and focus groups before, during, and after the introduction of the euro.

The Austrian research included the following three aspects of adaptation which will in turn be presented below: (1) general adaptation to the euro, (2) adaptation to the design of euro coins and notes, and (3) adaptation to euro values. Monitoring the general adaptation to the euro showed how Austrian citizens coped with the euro in general. Research on the adaptation to the design of euro coins and notes comprised the learning of the design as well as the manipulation of the coins and notes. Finally, studies on the adaptation to euro values focused on the development of price intuition, and have revealed four strategies to evaluate prices in euro.

General Adaptation to the Euro

General aspects of the adaptation to the euro concern how people felt they coped with the currency changeover at large. This coping process was assisted by authorities and by citizens' preparations.

General Preparation for the Adaptation to the Euro

Preparations that supported the adaptation process were undertaken by European and national authorities, that is, the European Central Bank, the European Commission, national

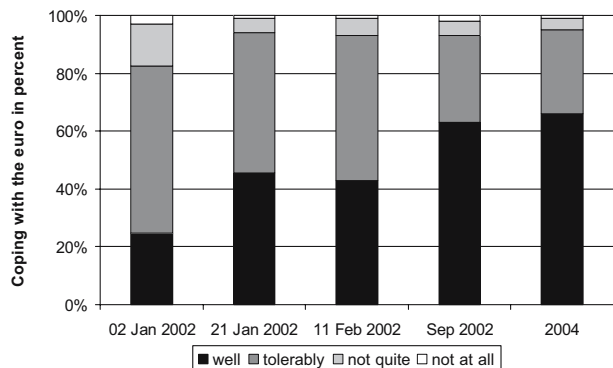
banks, national governments, financial institutes, retailers, etc., responsible for strategic and logistics planning and also for informing citizens. For the information to citizens, hotlines, brochures, media reports, and advertising campaigns were introduced (Fluch et al. 2007). The Austrian National Bank – in contrast to other National Banks in other EU countries – was especially interested in psychological consequences of the introduction of the euro. It financed several studies of citizens' knowledge of the currency changeover, collected data on citizens' expectations and concerns before the introduction of the euro, and financed repeated studies of adaptation strategies. The results of these studies were communicated via media to the public and were considered in the strategies, which the National Bank applied during the period of change. These activities were supposed to make the currency changeover as smooth as possible for individuals and to convince citizens that the responsible institutions had logistics for the change process well prepared and had everything under control.

Actual General Adaptation to the Euro

Before the introduction of the euro, Austrians thought that they would take some time to learn to cope with the new currency; only 10% believed that they would cope quickly with the euro, 47% stated that they would cope rather quickly, 38% that they would cope rather slowly, and 4% that they would cope very slowly (Kirchler and Fessel GfK 2001b). Nevertheless, according to self reports Austrians coped rather well with the euro. On 2nd January 2002, 80% of Austrians stated that they coped well or tolerably with the euro. Three weeks later, already 93% stated the same, and since then the percentage of Austrians that cope well or tolerably has not changed (Kirchler and Fessel GfK 2002a, b; Fessel GfK 2004) (see Fig. 1).

Analyses of feelings of coping well with the euro from 2002 (Kirchler and Fessel GfK 2002a, b) revealed that Austrians, who declared that they coped well with the euro, held positive attitudes towards the euro, and had a higher income and higher education. Euro opponents who had a lower income and lower education had either not or not quite coped with the euro. This changed during the first 2 months after the introduction. Coping well with the euro was also related to age: in January, those Austrians who found it difficult to cope with the euro were predominantly either under 29 years or over 65 years. A month later, those who still had problems were often older persons. Thus, a few weeks after the introduction, Austrians in general coped well with the new currency though older people needed longer to adapt.

Fig. 1 Austrians' coping with the euro in percent (Kirchler and Fessel GfK 2002a, b; Fessel GfK 2004)



During the first 5 days of the currency changeover, actual behaviour was observed at points of sale, for instance, in supermarkets, restaurants, shops, etc. (Kühberger and Keul 2003). The observations showed that the transaction of euro coins and notes flowed smoothly and that consumers coped well. Only in 5.5% of more than 2,200 observed transactions were there hold-ups due to the new currency. These hold-ups mainly took place in supermarkets and restaurants where employees and customers are pressed for time. In no more than 2.1% of observed transactions, did the delays cause aggressive behaviour. Nevertheless, although few problems were observed and a majority stated that they could cope well with the euro, 49% of Austrians still felt that they had problems with the overall adaptation (Kirchler and Fessel GfK 2002b). Coping well was not necessarily accompanied by feelings of increased adaptation. Austrians did not feel confident because they did not understand the value of prices, and they needed more time in shops because of the conversion. Prices were perceived as very low, so they were afraid of spending too much money. Thus, observations and self reports contradict each other; it seems that citizens coped well with the introduction but felt unsure and had to accept annoying time delays when handling the new currency.

The fact that only few problems occurred might be due to the Austrians' preparation. After the introduction of the euro it was thought that the currency changeover was as they had expected. Already on 2nd January, most Austrians stated that the changeover was easier for them (30%) or exactly as they had expected (46%), while only 15% thought that the changeover was more difficult than expected (Kirchler and Fessel GfK 2002a). After 3 and 6 weeks, Austrians increasingly believed that the changeover was easier (48%; 44%) or as they had expected (37%; 40%). It seemed as if Austrians had adapted to the new currency.

Overall, Austrians felt that they could cope with the currency changeover. Their feelings correlated with attitudes towards the euro and socio-demographic data. Observation of everyday money transactions in supermarkets, restaurants, etc., supported these findings. The reason for feeling that they would cope well might have been that people thought that the introduction had proceeded as they had expected and that they felt prepared. Nevertheless, although in 2004 the majority stated that they coped well with the introduction, 34% of Austrians still said that they had coped less than well, that is, they stated that they coped tolerably (29%), not quite (4%) and not at all (1%). Therefore, research on how people experience coping with the euro introduction should continue and focus on changes over time as well as on correlations of attitudes towards the euro and socio-demographic data. Also, in order to be better able to derive practical implications, it would be interesting to assess subjective explanations for a person's coping status.

Adaptation to the Design of Euro Coins and Notes

An important part of the adaptation to the euro is the learning of the design of the new coins and notes. Before the introduction of the euro, European and national authorities provided devices to facilitate this learning process and to help individuals to become prepared.

Preparations for the Adaptation to the Design of Euro Coins and Notes

Before the introduction of the euro, citizens were informed about the new currency; posters showed the design of coins and notes. Also, starter packages could be purchased. They contained several euro coins and helped citizens to get used to the unfamiliar design. Nevertheless, 2 months before the introduction, Austrians felt that they had little knowledge

of the different values of euro and cent coins (2.00, 1.00, 0.50, 0.20, 0.10, 0.02, 0.01 euro) and of euro notes (500, 200, 100, 50, 20, 10, 5 euro) (Kirchler and Fessel GfK 2001a): Twenty-three percent of Austrians had not informed themselves and just wanted to wait for the currency changeover to get to know the design, 19% had skimmed over some information, and 33% had informed themselves but did not feel that they knew enough. Only 14% stated that they had informed themselves and knew about the coins and notes.

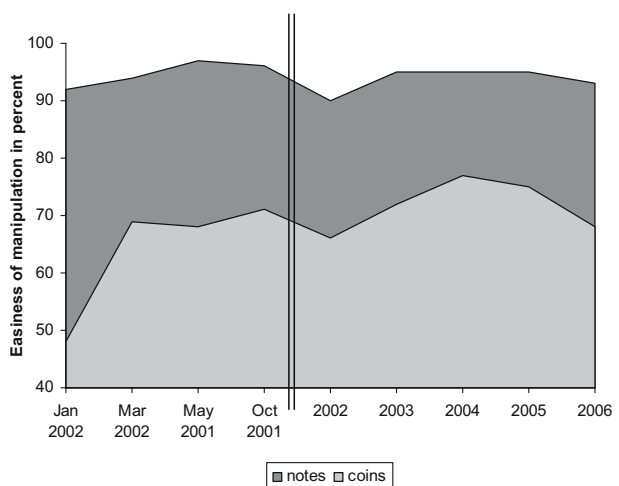
Attitudes towards coins and notes were important to citizens. In focus groups about half a year before the introduction of the euro, participants stated that they would have to change their attitudes towards euro coins (Kirchler and Meier 2001), because the new coins were of higher value (2.00, 1.00, 0.50, 0.20, 0.10, 0.02, 0.01 euro) than the coins in Austrian shilling (20, 10, 5, 1, 0.50, 0.10, 0.05 Austrian shilling; 1 euro is equivalent to 13.76 Austrian shilling). They were afraid of underestimating the value of euro coins; so far they had perceived coins as negligible and being of low value. They also thought that they would have more aversive feelings towards euro coins than they had had towards Austrian shilling coins. This is because the value of euro coins is higher, and therefore they would have to handle even more coins than before, something they disliked.

Actual Adaptation to the Design of Euro Coins and Notes

With the introduction of the euro, when people actually had to handle euro coins and notes, the difficulties of distinguishing between and manipulating them disappeared quickly (European Commission 2002b, c, d, e, f, 2003, 2004, 2005, 2006). While in the first month some Austrians (48%) seemed to have problems manipulating the coins, a great majority of Austrians (92%) stated that they could manage euro notes without problems (see Fig. 2). Two months later, the handling of coins also became easier; 68% of Austrians stated that they manipulated coins easily. Since then, the reported easiness of manipulation of coins and notes has stayed at the same level, at about 70% and 93%, respectively. Thus, Austrians did not have problems in getting used to the euro notes, and needed only 2 months to handle the coins easily.

The rapid adaptation to euro coins might be due to the distribution of starter packages before the introduction of the euro, which many Austrians seem to have acquired. This is

Fig. 2 Easiness of manipulating euro coins and notes for Austrians in percent (European Commission 2002b, c, d, e, f, 2003, 2004, 2005, 2006)



supported by the fact that on 2nd January 2002, Austrians had in their possession more euro coins than they had 3 and 6 weeks later (Kirchler and Fessel GfK 2002a). For example, on 2nd January, 17% of Austrians had euro coins up to the value of 5 euro and 89% had coins worth more than 5 euro; but on 21st January 21 (11th February), 43% (46%) of Austrians had coins up to 5 euro and only 54% (52%) stored more than 5 euro in coins at home. At the beginning of the euro changeover, this great number of coins might have helped Austrians to learn to distinguish and manipulate coins.

Nevertheless, in 2006 29% of Austrians still reported difficulties with the manipulation of euro coins (European Commission 2006); since 2004 an increasing number of persons reported that they had difficulties handling coins. This number is rather high compared to 5% of Austrians who had difficulties manipulating euro notes. Future research should investigate whether the reasons for difficulty with manipulation were the design of the euro coins, a general dislike of coins, rising negative attitudes towards the euro, or other motives.

Adaptation to Values of Euro Prices

The introduction of the euro meant a substantial change in the daily activity of purchasing. Hence, probably the most important aspect of adaptation to the euro is the development of price intuition. People were used to their former national currencies and they automatically knew whether an amount of 10 was a large sum or not and what the buying power of this amount was. The currency changeover made it necessary to establish an intuitive value system for the euro. To meet this demand, assisted by several aids such as dual price systems, citizens prepared themselves in advance for the development of a new value system.

Preparations for the Development of Price Intuition

Long before the euro introduction, it was acknowledged that the development of price intuition for a new currency is a long-term process and thus preparations were made to assist this process. Citizens themselves used the following strategies to prepare for the new value system even before the euro was introduced (Kirchler and Fessel GfK 2001a): (1) 87% learned exchange rates for converting Austrian shilling into euro and vice versa; (2) 60% started to learn the value of specific euro amounts, such as 5, 10, 20 euro, in Austrian shilling; (3) 51% tried to remember prices of some goods in euro by using the dual price displays which were available before the actual introduction. Half a year before the euro introduction, participants of focus groups were asked about the way they intended to accommodate to euro values (Kirchler and Meier 2001). Most stated that they would use a multiplication strategy. As the conversion rate for euro into Austrian shilling is 1 to 13.76, they said that they would multiply euro prices by 14 to approximate prices in Austrian shilling. Few thought of making this multiplication easier by first multiplying by seven and then by two.

Apart from citizens' own preparations, national and European institutions tried to support people in their attempts to establish intuitive value systems for the euro. Besides large-scale information campaigns, measures were taken that particularly aimed at facilitating the conversion process, for instance, the distribution of conversion tables that contained values in Austrian shilling and their equivalent in euro. The most important measure in this respect was the dual price system, which was established in every country of the European Monetary Union (EMU). Even before the euro introduction every price tag displayed prices in the national currency as well as in euro. Thus, it assisted consumers in

understanding and learning prices in euro. Although people reported that this was of help at the beginning of the euro introduction it probably did not assist long-term adaptation. Even before the introduction, some participants of a focus group study (Kirchler and Meier 2001) stated that the dual price system hindered their learning of euro prices, because they paid more attention to the prices in Austrian shilling than the prices in euro. In line with this argument, soon after the currency changeover, Austrians stated that they no longer wanted the dual-price system (Kirchler and Fessel GfK 2002a). Overall, it seems that all these preparations assisted the first phase of a long-term process towards the development of an intuitive value system for the euro.

Strategies for the Development of an Intuitive Value System

There are several ways in which people can learn the meaning of value of a currency and thus decide whether a particular price is reasonable or not. One possibility is the use of the anchoring-and-adjustment heuristic (Gamble 2007; Tversky and Kahneman 1974). In the context of the evaluation of prices after a currency changeover, people would have a price range with a lower and upper boundary as an internal reference price for goods in the former national currency, which would be applied for the evaluation of prices in euro (Jonas et al. 2002). In the case of the changeover from Austrian shilling to the euro, even the higher boundary value of this internal reference price would be significantly smaller in euro than the lower boundary value in Austrian shilling. Hence, the euro price would be perceived as inexpensive. Thus, the assessment of prices would depend on people's internal reference prices in their former national currencies. Besides the impact of the anchoring effect, the development of a new value system depends on strategies used by citizens to judge the value of the prices.

Several ways of adapting to euro values and developing price intuition are conceivable. In Austria, the following four strategies that are similar to the strategies used in preparing for the euro were used (Kirchler and Fessel GfK 2002a, b). (1) In the *intuitive strategy* no conversion or comparison between the former national currency and the euro is made. People using this strategy bought just what they needed and relied on some preliminary intuition for the euro, which was their only standard of comparison. People who frequently used this strategy adapted quickly to the euro and had no problems developing price intuition for the euro. They reported experiencing the currency changeover as smooth and easier or equal to their expectations. Also, as they did not convert prices, for them the introduction of the euro did not affect purchases. (2) The *conversion strategy* comprised all forms of conversions, ranging from exact conversions from Austrian shilling into euro to rules of thumb (for different conversion strategies from French franc into euro and from euro into French franc, see Lemaire 2007; Lemaire et al. 2001). Consumers who applied this strategy converted every single price from euro into Austrian shilling in order to derive the exact meaning of the euro value. Although this strategy was the most precise, people applying it found it to be a time-consuming hassle and did not cope well with the currency changeover. They developed price intuition only slowly and did not feel confident about transactions made in euro. (3) Application of the *anchor strategy* meant that prices of habitually bought products were learned and used as anchors when evaluating prices. Consumers applying this strategy remembered prices of some, usually frequently bought products, such as bread, milk, petrol, meat and meat products, or fruit and vegetables (Kirchler and Fessel GfK 2001b). Then they learned prices of other products by using the remembered prices as anchors. Similar to people using the intuitive strategy, people applying this strategy soon became independent of the former national currency and coped

well with the adaptation. The anchor strategy is similar to the relearning hypothesis (Marques and Dehaene 2004) derived from the theory of the acquisition of automaticity (Logan 1988). In a study with Austrian and Portuguese students (Marques 2007), it was shown that when confronted with a currency changeover, people first would trust an algorithm, such as the conversion strategy, but then would start to rely on automatic memory retrieval of prices in euro for habitually bought goods – thus, they would rely on anchors. (4) The *marker value strategy* was similar to the anchor strategy in that only few values were learned. In contrast to the anchor strategy, it was not based on the price of certain goods but on special marker values (e.g., 100 Austrian shilling are equivalent to approximately 7 euro). People applying this strategy knew what prevalent euro values (e.g., 5, 10, 20 euro) are worth in Austrian shilling and what prevalent values in Austrian shilling (e.g., 50, 100, 200 Austrian shilling) are worth in euro. Values in between these marker values were estimated. Thus, people applying the marker value strategy tried to learn the new value system as a whole by rescaling their previous value system.

Although all strategies were reportedly used, they were not used equally often (Fessel GfK 2004; Kirchler and Fessel GfK 2002a, b). As Fig. 3 shows, the marker value strategy dominated; in January 2002, it was used by about 75% of Austrians (Kirchler and Fessel GfK 2002b). Less than half of Austrians reported that they would use the conversion strategy, and about two thirds that they would use the intuitive strategy or the anchor strategy. The fact that rather few Austrians thought of using the conversion strategy might have stemmed from the difficult calculations that would have to be done (remember that 1 euro is equivalent to 13.76 Austrian shilling), and they might have been looking for easier strategies to evaluate prices.

In addition to frequency, Fig. 3 depicts changes in strategy use. From 2002 to 2004 the frequency with which the anchor and the marker value strategies were applied hardly changed. At the same time there was an observable change in the usage of the conversion

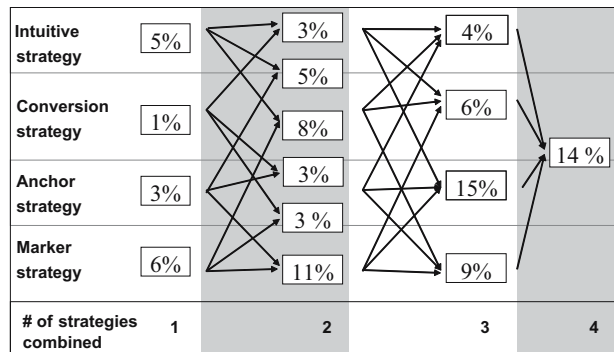
Strategies	Habitual purchases	Exceptional purchases	Strategy never applied
Intuitive strategy	52% 51%, 64%, 65%	20% 18%, 16%, 17%	39% 39%, 30%, 26%
Conversion strategy	14% 13%, 9%, 6%	40% 38%, 42%, 33%	55% 58%, 55%, 66%
Anchor strategy	61% 57%, 59%, 55%	19% 18%, 21%, 20%	34% 37%, 33%, 38%
Marker value strategy	58% 60%, 55%, 56%	43% 40%, 41%, 50%	25% 27%, 25%, 23%

Fig. 3 Strategies for the assessment of euro values; application across type of purchase and time in percent. Numbers above depict percentages of Austrians applying these strategies on 21st January 2002 (*bold numbers, first row*; Kirchler and Fessel GfK 2002b), on 11th February 2002 (*first number, second row*; Kirchler and Fessel GfK 2002b), in September 2002 (*second number, second row*; Kirchler and Fessel GfK 2002a), and in July/August 2004 (*third number, second row*; Fessel GfK 2004). Multiple answers were possible

strategy and the intuitive strategy. The biggest increase in usage rates occurred for the intuitive strategy. Whereas in January 2002 39% of Austrians stated they did not use this strategy, in 2004 less people (26%) ruled out the suggestion that they never would use the intuitive strategy. The biggest decrease in usage rates occurred for the conversion strategy. Whereas in January 2002 55% of Austrians stated that they never used the conversion strategy, two and a half years later this percentage increased to 66%. This decrease in usage could signal an improvement in adaptation. Nevertheless, peoples' conversion skills were low. In 2004, when asked to convert either 1.80 or 1,300 euro into Austrian shilling, the majority failed (Fessel GfK 2004). Only 38% were able to convert 1.80 euro (=24.800 Austrian shilling) and even less people (3%) were able to convert 1,300 euro (=17,888 Austrian shilling). It has to be noted that an answer was assumed correct when it fell within a wider range (24 to 25 Austrian shilling, 17,500 to 17,999 Austrian shilling). Overall, the change in used strategies seems to indicate some progress towards the development of price intuition. Usage rates of the strategy favouring the development of price intuition the most (the intuitive strategy) increased, whereas usage rates of the strategy hindering the development of price intuition decreased. Nevertheless, absolute usage rates and changes in these indicate that the progress towards establishing an intuitive value system for the euro is slow.

Although people probably preferred some strategies over others, most Austrians applied more than one strategy to evaluate prices in euro (Kirchler and Fessel GfK 2002a, b). In January 2002, about 14% of Austrians applied all four strategies and this percentage increased over time (September 2002=21%). Whereas the percentage of people using all four strategies increased, the proportion of those using less than all strategies remained relatively stable. About a third of Austrians combined three strategies, about another third mixed two strategies, and about 15% used only one strategy. Figure 4 depicts which combinations of strategies were most frequent. Where two strategies were combined, they were mostly the intuitive and the marker value strategies (8%) or the anchor and the marker value strategies (11%). If three strategies were combined, they were most often the intuitive, anchor, and marker value strategies (15%). The least frequent combination of three strategies was a combination consisting of the intuitive, conversion, and anchor strategies (4%). Overall, if less than all four strategies were combined, the intuitive, anchor, and marker value strategies were combined most often. The conversion strategy was less frequently combined with other strategies.

Fig. 4 Combinations of strategies in percent (Kirchler and Fessel GfK 2002b). Percentages depict percentages of Austrians that use the combination of strategies depicted by the incoming arrows



Factors Related to the Strategies Used

Which strategy was used depended on several interpersonal and situational factors (Kirchler and Fessel GfK 2002a, b; Fessel GfK 2004). Most pronounced differences in strategy use were observed for the type of purchase, exceptional versus habitual purchases (see Fig. 3). Only the marker value strategy was applied to habitual as well as exceptional purchases. Whereas its application for habitual purchases stayed rather stable over time (2002=58%; 2004=56%), its usage frequency for exceptional purchases increased slightly (2002=43%; 2004=50%). Apart from the marker value strategy, the application of all other strategies varied markedly across type of purchase. The conversion strategy was more frequently used with exceptional purchases (2002=40%; 2004=33%) than with habitual purchases (2002=14%; 2004=6%) (for similar findings in Ireland see Ranyard et al. 2007). Hence, the strategy most related to difficulties in the development of price intuition was mostly applied in financially significant transactions. This finding indicates that Austrian's price intuition developed with the frequency of certain purchases. This is in line with Marques and Dehaene (2004) who found that Austrians seemed to relearn single prices instead of rescaling their whole value system. The intuitive strategy and the anchor strategy were mainly used to evaluate prices for habitual purchases and seldom for exceptional purchases. Whereas in 2002 the intuitive strategy was used for habitual purchases by 52% (2004=65%), it was used for exceptional purchases by 20% (2004=17%). Similarly, whereas in 2002 the anchor strategy was used for habitual purchases by 61% (2004=55%), it was used for exceptional purchases by 19% (2004=20%).

Apart from type of purchase, attitudes towards the euro seemed to relate to the use of different strategies. Further analysis of the data on habitual purchases (Kirchler and Fessel GfK 2002a, b) revealed that people holding positive attitudes towards the euro were more likely to use the intuitive strategy or the anchor strategy than people holding negative attitudes. In contrast to this, persons who felt negative about the euro were more likely to apply the marker value strategy or the conversion strategy than persons who felt positive about the euro. The conversion strategy leads to slower adaptation and entails more hassles (e.g., it is time consuming) than all other strategies. It, thus, seems as if persons holding negative attitudes are likely to prove themselves right in their beliefs about the currency changeover by using that particular strategy. These findings thus corroborate the proposition that the adaptation was easier for those with favourable attitudes towards the euro (Witte and Raphael 2004).

Moreover, socio-economic variables were related to the type of strategies used (for a discussion on the effect of age on the euro adaptation, see also Lemaire and Lecacheur 2001). People applying the conversion strategy were typically older (over 50 years) and had low levels of income and education (Kirchler and Fessel GfK 2002b). This socio-demographic constellation was also shown to relate to negative attitudes towards the euro (e.g., Müller-Peters et al. 1998). A socio-demographic constellation known to characterize people with positive attitudes towards the euro also characterizes persons utilising the intuitive strategy. Highly educated people, people younger than 20 years old, and women were particularly likely to use the intuitive strategy. People using marker values were similar to those using the intuitive strategy. They were mostly younger and highly educated. For the anchor strategy, socio-demographics had no relationship.

For exceptional purchases, the conversion and the marker value strategy were used. While people of higher age, with a lower income level, with a lower education level, and with negative attitudes preferred the conversion strategy, younger persons with high education and generally favouring the euro, preferred the marker value strategy. Persons

with negative attitudes applied the marker value and the conversion strategies. Thus, in general, people with positive attitudes towards the euro, who are usually younger and are on the average higher educated, use a mix of all four strategies, and therefore are more flexible in strategy use than people with negative attitudes. Perhaps negative attitudes towards the euro are related to mistrust in the new currency, and that the conversion strategy therefore is used because it has an exact comparison value.

It seems that the process of developing price intuition was still ongoing in 2004, especially for rarely bought products. Which strategies are used to evaluate prices in euro seems to relate to a number of situational and interpersonal factors. In particular, the type of purchase but also euro-attitudes and socio-demographic characteristics relate to the type of strategy used. Whereas the type of purchase seems to cause the usage of different strategies, causation with respect to attitudes remain unclear. Although a certain attitude may make people more likely to use certain strategies – similar to self-fulfilling prophecies – the application of certain strategies may also influence attitudes. For example, application of the conversion strategy is a time-consuming endeavour that makes demand on cognitive resources and may therefore easily be experienced as a hassle. People applying that strategy might thus become more likely to experience the euro as a nuisance than people applying less demanding strategies. This interplay of attitudes and socio-demographic characteristics as well as the question whether attitudes mediate the relation between socio-demographic characteristics and strategy usage, seem worth further analysis.

Discussion

The introduction of euro coins and notes on 1st January 2002 had great impact on EMU citizens' everyday life. They had to prepare and inform themselves to be able to adapt to the currency changeover. Above all, they had to (1) get to know the design of euro notes and coins, and to manipulate them successfully, and (2) to develop an intuitive value system for the euro that enabled them to understand prices in euro. Whereas Austrians soon became familiar with coins and notes, establishing an intuitive value system for euro amounts proved to be difficult. In particular it seems that strategies used to adapt to values in euro relate to the overall adaptation process. Based on focus groups and nation-wide surveys, four strategies were identified (the conversion, intuitive, anchor value, and marker value strategies). A major finding is that the type of strategy used relates to euro attitudes. Euro supporters were more likely to apply the intuitive strategy and the anchor value strategy, which are associated with a quick adaptation process. Euro opponents were more likely to use the conversion strategy that may hinder the development of an intuitive value system. All strategies were still in use two and a half years after the introduction. Despite a slight decrease in usage of the conversion strategy and a slight increase in usage of the intuitive strategy between 2002 and 2004, adaptation seems to have progressed slowly in that the development of an intuitive value system is still ongoing.

It appears highly probable that all facets of adaptation are interrelated, although the data at hand do not allow for testing this proposition. People may have particular troubles in developing price intuition for a currency they do not feel competent in handling physically. Hence, improving one facet of adaptation may spread out to other aspects of adaptation. Apart from this proposition, future research should continue investigating the usage of the strategies over time as this might reflect the degree of adaptation in a behaviourally relevant manner. Deeper insights could also be gained by examining the reasons consumers have for stopping the use of certain strategies.

Research on adaptation should also expand in order to add to a bigger picture of the effects of the introduction of the euro. Often, research has focused on single aspects of the currency changeover, partly ignoring the fact that aspects might be interrelated. This could also be the case here. It would be interesting to see how adaptation strategies relate to other aspects discussed in the context of the euro introduction. For example, social representations and social identity might relate to strategy usage in order to evaluate euro values. This seems highly likely as both aspects are inherently linked to attitudes. Also it would be interesting to see whether people using the intuitive strategy are more prone to the euro illusion (see Gamble 2007) than people applying the conversion strategy. Finally, it seems highly probable that the degree to which people perceive price changes (so called felt inflation) relates to strategy usage. In particular, those using the conversion strategy might still compare prices in euro with former prices in Austrian shilling. If they neglect inflation, prices in euro necessarily seem high.

A final interesting aspect is that of cultural difficulties. The European commission has done an impressive job in implementing the so-called Eurobarometer that longitudinally assesses several beliefs and opinions related to the euro in all countries of the EMU. For example, it shows that while the Irish seem to have adapted to the new currency almost completely, in other countries such as Italy or Portugal habituation still seems far away (European Commission 2005). Although data allow such cross-national comparisons, they often allow only speculations on why differences between countries occur. In addition, aspects such as strategies used to develop price intuition are rarely assessed. In order to further our understanding of motives and processes related to successful adaptation, cross-national studies seem worthwhile. One study has already shown that adaptation strategies may vary across countries. Marques and Dehaene (2004) found that in Austria re-learning processes seem to dominate re-scaling processes more than in Portugal.

Besides suggestions for future research, the current findings also allow some suggestions about consumer policy guidelines. In general, although it was proved that the introduction went rather smoothly, citizens still felt they had problems in adapting. We believe that they were able to cope with this new situation but that the dissatisfaction might have stemmed from small everyday hassles, such as taking a little bit longer at the cashier in the supermarket or counting the change in a restaurant. Obviously, people had to spend some time to get used to the new currency. Perhaps the campaigns before the introduction should not only have had included the presentation of positive effects of the euro but also prepared citizens by informing them about the difficulties they would have to face in the first weeks of the introduction.

Guidelines for the introduction of coins and notes can also be given. As citizens coped well with notes, the posters of euro coins and notes seem to have been effective. Unfortunately, the currency changeover did not run that smoothly for coins. In the beginning, the distributed starter packages enabled persons to get to know the euro coins, but in the long run the feeling of being able to cope with euro coins decreased. We believe that people do not like the euro coins for several reasons. First, they are heavier and of less value than notes. Second, in Austria before the introduction, the smallest note was 20 Austrian shilling (=1.45 euro), the smallest note after the introduction was 5 euro (=68.80 Austrian shilling). Consequently, after the euro introduction people had more coins than before in their purses. We think that this might have been inconvenient and disturbing and led people to the perception of loss of control in everyday spending. A reduction in the number of coins by stopping the production of 0.01 and 0.02 euro coins or the introduction of 2 euro notes could increase positive attitudes towards euro coins and change the feelings of coping – at least in Austria.

The intuitive value system was learned by means of four strategies, intuitive, conversion, anchor, and marker value strategy. Our findings suggested that these strategies are applied for certain purchases and by certain persons. Based on the data reported here, one cannot figure out the best strategy, but it may be true that the conversion strategy, that is, exact conversions from Austrian shilling to euro, hinders people from developing an intuitive value system for the new currency (cf. Marques 2007). Using this strategy, people still operate within a value system in Austrian shilling, not in euro. From this view, calculators, with which prices in new currency can be converted quickly to national currencies, should not be distributed as supportive devices for currency changeovers. Particularly as euro opponents use the conversion strategy, it should be possible to dispel their doubts by organising campaigns to improve peoples' attitudes towards the euro. If they were to have faith in the euro, they probably would start using other strategies. The other strategies seem to provide good possibilities for developing an intuitive value system. The usage of the anchor strategy was supported by the dual-price system. Shortly before and after the introduction, price tags with prices in Austrian shilling and in euro were perceived as helpful, but persons also reported that in the long run they would hinder the learning of the new euro prices because they would not pay attention to prices in euro but only to prices in Austrian shilling. As soon as they remembered some prices, they did not need the dual-price system any more and relied on their acquired knowledge. Additional tables with average prices in Austrian shilling and euro of everyday goods, such as comestibles and toiletries, could also be supportive. Similar tables of ascending values in Austrian shilling and in euro could assist the utilisation of marker value strategy.

Overall, difficulties with the new currency have lasted longer than most people expected beforehand, and the process of adaptation is still far from being complete (e.g., Del Missier et al. 2007; Marques 2007; Marques and Dehaene 2004; Strazzari et al. 2005). In Austria, since the introduction of the euro, the time participants believe is needed to completely adapt to the euro has even increased (Kollmann 2004). Investing future research efforts in this seemingly outdated topic thus seems quite worthwhile in order to generate knowledge for guidance of future currency changeovers.

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