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PRICE DEVELOPMENT UPON INTRODUCTION OF EURO BANKNOTES AND COINS

Following an inflationary peak at the start of the year caused by the scarcity of fruits and vegetables, the price climate has once again calmed down over the past months. Neither in Austria in particular nor in the euro area in general was there any surge in prices triggered by the change to euro banknotes and coins to be observed. Nevertheless, some sectors appear to have used the euro cash introduction to give a special boost to their prices. Most of such increases, which are of minor effect only when looking at the totality of prices monitored, were found in the services sector.

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In Austria, inflation as specified in the Consumer Price Index of July 2002 was 1.6 percent, as against 2.1 percent in January 2002. Inflation similarly abated in the euro area in general, to a year-on-year rate of 1.9 percent in July 2002.

With inflation being on the wane, the situation mostly corresponds to a development expected from the course of the main determinants of consumer prices.

At the beginning of 2002, the downward trend of inflation was interrupted mainly by the scarcity of fruits and vegetables as a result of unfavourable weather conditions. Since then, the price climate has returned to normal. On a year-on-year comparison, which is generally seen as a valid measure, inflation declined from 2.1 percent in January 2002 to 1.6 percent in July 2002, according to the national consumer price index. The second quarter of 2002, i.e., the quarter following the end of concurrent schilling-and-euro price marking, showed an average inflation rate of 1.8 percent.

A similar picture is produced by the Harmonised Consumer Price Index for Austria, which indicates a rate of inflation comparable to that of other EU countries. According to this index, inflation fell off from 2.0 percent in January 2002 to 1.5 percent in July 2002.

In the euro area in general, inflation further retreated over the past months. Still at 2.4 percent in April 2002, it was reduced to only 1.9 percent in July. This slowdown was due primarily to the lower year-on-year change of energy prices and prices for non-processed food.

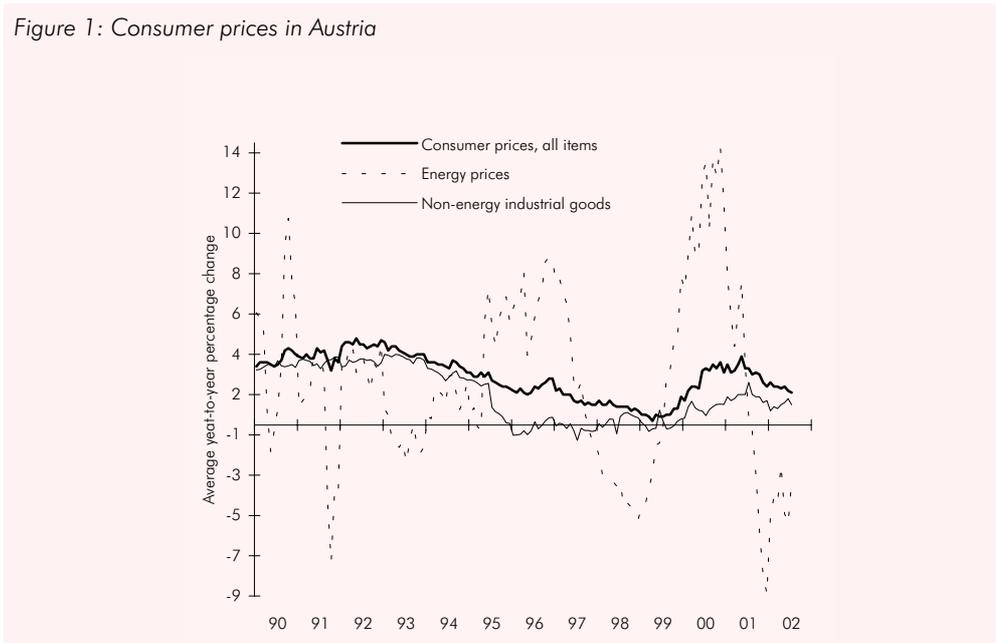
In April, prices for the latter were fully 4.1 percent higher than in April 2001, but grew by just 0.9 percent in July. Meat, poultry and fish, subject to a considerable inflationary thrust in the previous year, were offered more cheaply in some EU countries. The vegetable market, labouring under a severe supply shortage at and after the turn of the year, once again relaxed.

Energy prices rose in March and April 2002, consequent to the increase in crude oil prices, but the rate of change dipped again in May and June. This was the result, on the one hand, of a basis effect, i.e., the rapid rise of crude oil prices from March to May 2001 was eliminated from the year-on-year comparison, and, on the other hand, of the crude oil prices crumbling in May and June and the recent recovery of the euro exchange rate.

**Inflation abating in
Austria . . .**

**. . . and elsewhere in
the euro area**

Figure 1: Consumer prices in Austria



The rise of the crude oil price, combined with animal epidemics (BSE, foot-and-mouth disease) in some European countries, boosted not only prices for energy products and meat, but, consequently, also those of industrial goods and processed food. Once the indirect effects of these two shocks had subsided, inflation similarly declined for both industrial goods and processed food. Nevertheless, prices of the two consumer goods groups developed less uniformly in the euro area countries than did prices of energy and non-processed food.

Variations between the euro area countries were even greater when it came to the prices of services. This sector, which accounts for about 40 percent of consumer spending, shows country-specific variations much more distinctly; especially regarding rentals for accommodation, a category which is also included in the services sector. As an average of the euro area, prices of services accelerated their upward trend over the past months. The rise in the year-on-year change between April and May was due primarily to an increase of prices for package holidays, in some countries aggravated by a strong seasonal component. The inflation was further fuelled by an above-average increase in restaurant and café prices; this suggests that the price increase may be partially due to the introduction of euro cash. The same conclusion also applies, according to the European Central Bank (<http://www.ecb.int/>), to prices for hairdressers and cleaning services. Nevertheless, the effects of the cash changeover on inflation in the services sector appear to be rather limited and temporary only.

According to the Harmonised Consumer Price Index, Austria, at 1.8 percent, recorded the lowest inflation rate in the euro area in the first three months of 2002. For the second quarter, Austria was still among the top group, but some countries (Germany and Belgium among them) had managed lower inflation rates.

A comparison with Germany finds that the difference between price trends (0.75 percentage points in June 2002) derives mainly from the services sector: home maintenance, garbage disposal, operating costs in rented flats, medical services, air transport, educational services (university attendance fees), insurance services and package tours (city tours and flight-cum-hotel packages abroad). Yet, prices in these sectors are hardly relevant when it comes to the question of whether euro cash introduction triggered changes: some prices are subject to state regulations, some concern services where precise conversion is the rule. For a detailed listing of price trends in the food, industrial goods and restaurant sectors see the next section¹.

¹ Sources for Austria and Germany: Harmonised Consumer Price Index; for Switzerland: Landesindex der Konsumentenpreise.

Austria continues to be among the most price-stable countries

Figure 2: Consumer prices in Austria and the euro area

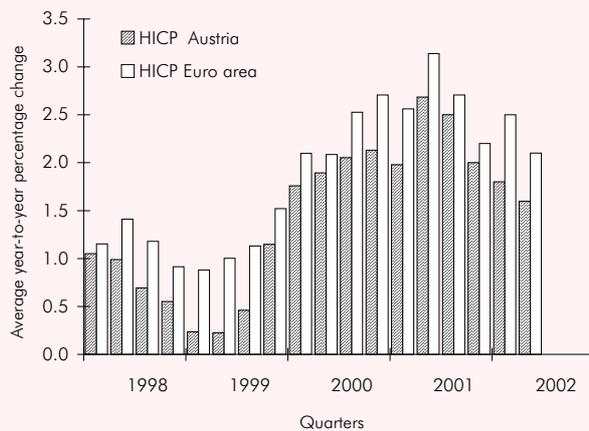
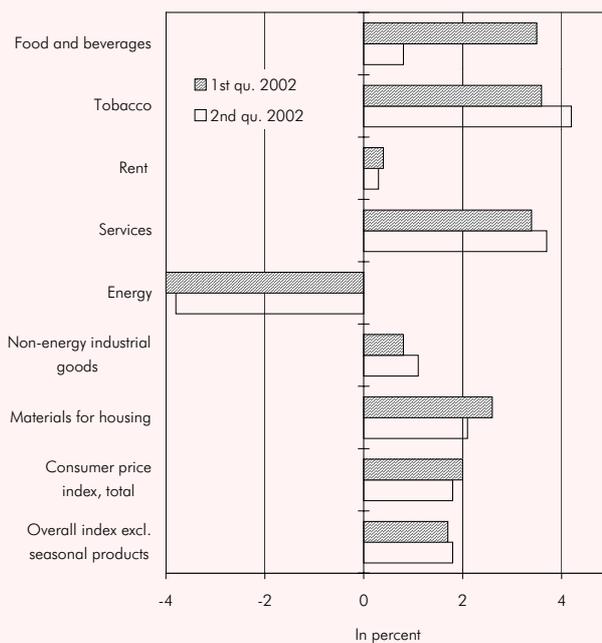


Figure 3: Inflation rates of the main consumer goods groups in Austria



Starting in early 2001, food prices rose at an exceptionally vigorous pace, contributing substantially to the rapid inflation of the past year. But once the year-on-year rate of change declined in the first half of 2002, it greatly helped to stabilise prices. A similar development was seen in all EU countries, and even Switzerland, which, not being an EU country, has its own agricultural market organisation with more stringent rules on support and protection, experienced a mostly parallel development.

Among food prices, the greatest attention must be accorded to the prices of meat, vegetables and potatoes. Together with fruits, these make up the group of *non-processed food*. Prices of meat and vegetables reflect the temporary effect of special factors which are disconnected with the euro changeover.

Comparison of selected consumer goods groups with Germany and Switzerland

Food and non-alcoholic beverages

Figure 4: Prices of food and non-alcoholic beverages

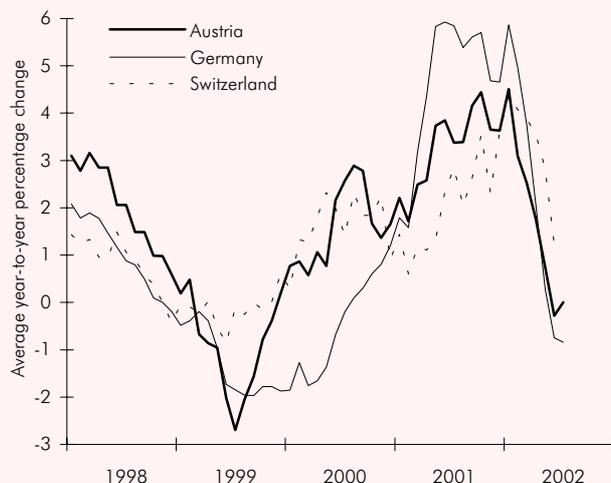
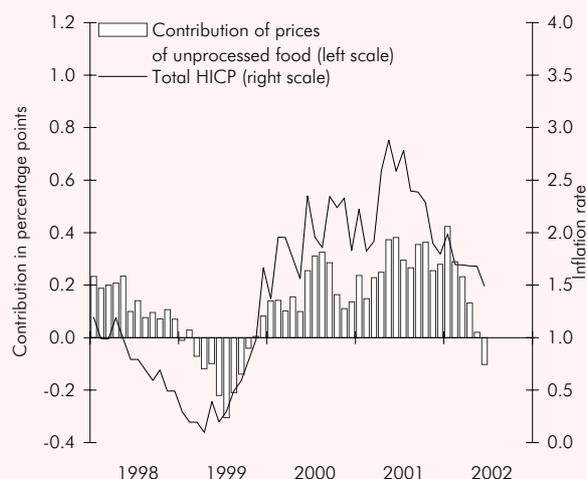


Figure 5: Contribution of prices of unprocessed food to inflation in Austria



With BSE and foot-and-mouth disease creating a supply shortage in 2001, meat prices shot up at a hefty rate. Now, with the effects of the epidemics dwindling, prices are slowly climbing down again. Similarly, the pressure exerted by vegetable prices, which had soared at the start of 2002 due to unfavourable weather conditions, was gradually relieved. In addition, the indirect impact of these shocks is beginning to lessen in the processed food group.

Figure 5 demonstrates the effect of increases in the price of meat, fruits and vegetables on inflation in Austria. Thus, the inflation rate in January 2002 would have been lower by 0.4 percentage point if the prices of meat, fruits and vegetables had not risen against January 2001. In this case, the inflation rate would have been just 1.6 percent rather than the actual 2.0 percent. Similarly large contributions to the inflation rate can be found already in the spring and autumn of 2001.

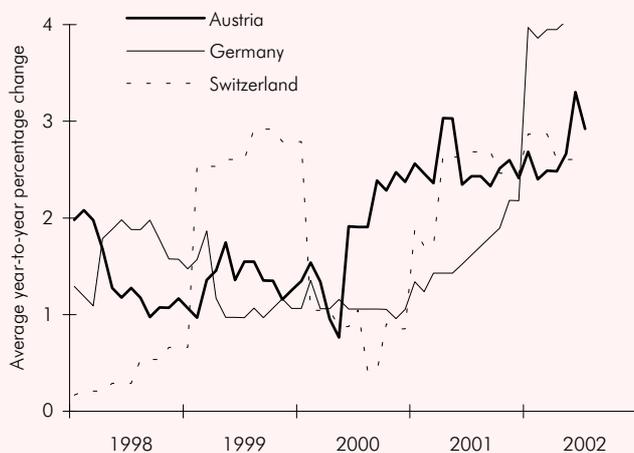
In addition to food prices, it was the price development in the restaurant sector which drew the greatest attention among the general public. As the European Central Bank noted (Monthly Bulletin, July 2002, p. 20), gastronomy prices in the euro area rose at a greater than the long-term average rate in the first six months of 2002; a link to the introduction of euro notes and coins might thus be assumed.

Prices of services

Restaurants and cafés

In Germany, the surge in gastronomy prices at the start of the new year was particularly noticeable: prices at restaurants and cafés were raised by 2.0 percent from December 2001 to January 2002. As a result, the year-on-year change of 2.2 percent in December 2001 jumped to 4.0 percent in January 2002. Since then, inflation has, however, stayed almost unchanged.

Figure 6: Prices in restaurants and cafés



In Austria, on the other hand, the time pattern was different: gastronomy prices were upped in mid 2001, i.e., long before the euro changeover, at a heftier rate than in Germany (and Switzerland), although the year-on-year change was just 2.5 percent. In contrast to Germany, the turn of the year was not used to raise prices, so that the year-on-year change, at 2.6 percent on average in the first five months, was significantly below that observed in Germany. It was only in May to June 2002 that prices were raised by 0.8 percent, an upward push which can be partly interpreted as a lagged effect caused by the euro. At +3.3 percent, the gap to the previous year in June was still below the corresponding value for Germany, but above that for Switzerland; in July, the year-on-year change rate declined to +2.9 percent.

Throughout the euro area, some services appear to have tagged on to the changeover by larger-scale price increases. In Germany, these involved, in addition to restaurants, especially hairdressers, car repair shops and specified other repair services (Deutsche Bundesbank, Monatsbericht, July 2002

<http://www.bundesbank.de/vo/download/mb/2002/07/200207mb.pdf>).

In Austria, the development was similar. Prices for hairdressing, car repairs and home plumbing services were raised at an extraordinary rate, partly at the turn of the year and partly over the following months. Nevertheless, the year-on-year change rate in July 2002 remained below the +5 percent mark throughout, with the exception of hairdressers.

The inflationary effect exerted by the rise in raw material prices (and especially crude oil prices), which had marked prices of industrial goods since the end of 2000, appears to level off at last. Throughout the euro area, inflation in this sector decelerated from 1.9 percent in February to 1.6 percent in June 2002 (July 1.4 percent). Nevertheless, considerable short-term swings in the prices for apparel, shoes, sports goods and house plants make it very difficult to properly interpret the price development.

A comparison between Austria and Germany finds contrarian effects over the past months. In Austria, inflation with regard to industrial goods slowed down to 0.5 percent at the start of the year and accelerated again in May and June. In Germany, on the other hand, prices of industrial goods shot up at the beginning of the year but have recently been observed to calm down. In June 2002, the two curves met at the 1 percent threshold. But inflation in Austria for this important field is still a good ½ percentage point lower than in the euro area in general.

Prices of other services

Industrial goods (without energy)

Figure 7: Prices of non-energy industrial goods

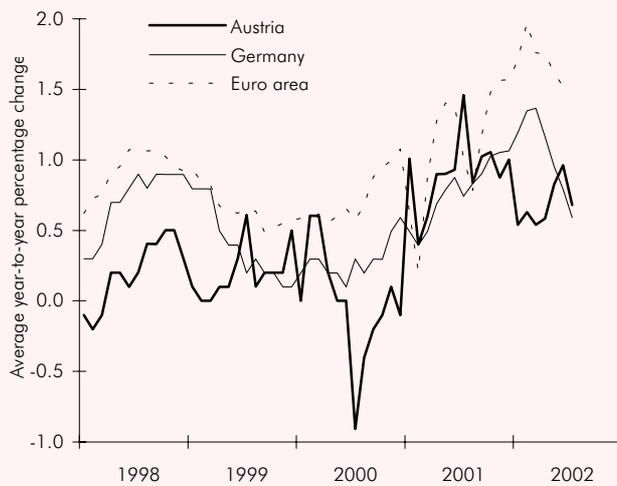
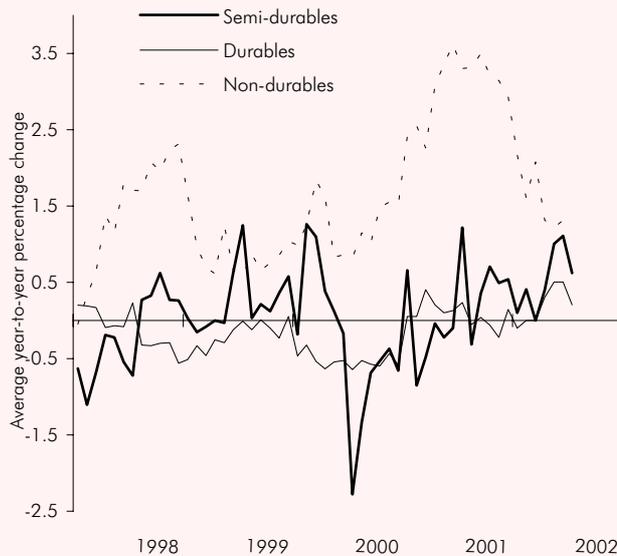


Figure 8: Price development of non-energy industrial goods broken down by subgroups, in Austria



As in years past, differences in the inflation rates are substantial for three subcategories. Consumer durables (i.a., vehicles, furniture, white goods, computers, VCRs, HiFi equipment, etc.) have the lowest inflation rate, ranking before the semi-durables (apparel, shoes, home fabrics, sports equipment, car spares and accessories) and non-durables (materials for home maintenance, newspapers, books, stationery, toiletries, cleaning agents and other household goods, pharmaceuticals). In 2001, i.e., during the phase preparatory to the changeover, inflation rates for the three groups of industrial goods were widely apart. The gaps between the almost stable prices of durables and the relatively large increase in prices for non-durables appear to have impacted on the "felt inflation" (see below), since price variations (especially increases) in goods purchased quite frequently (consumption goods) impress themselves much more strongly on consumers than variations in goods less frequently purchased (durables) and regular fees paid by automatic remit.

The variations in the inflation rates between the three groups were rather softened over the past few months: prices of durables went up a bit, inflation in non-durables slack-

ened. Compared to Germany and Switzerland, some durables and semi-durables, such as white goods, tools and equipment for the house and garden, as well as car spare parts and accessories, showed high year-on-year changes, but were still within the frame of 1 to 3 percent, after an – at times – negative change rate in the past years.

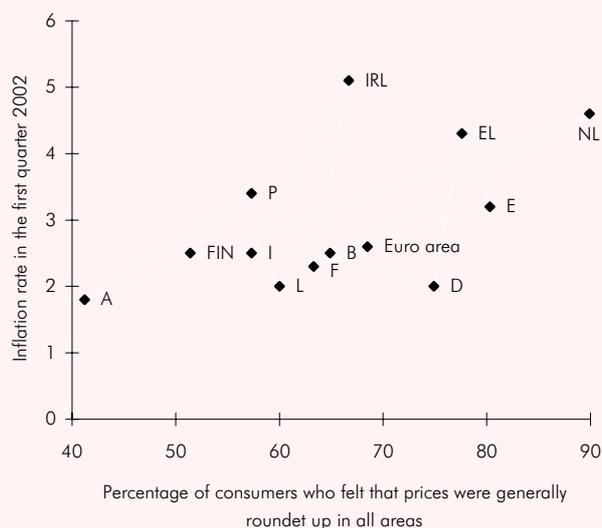
Discussions revolving around the euro and the preparations for the changeover occurred in a period in which inflation accelerated rapidly. Some parts of the population thus got the impression that the rising inflation was directly linked to the introduction of the euro as a cash currency. The euro was frequently seen as an "expensifier", an impression that held steady even when inflation subsided in the course of the first six months of 2002.

Findings of polls and numerous price complaints filed by consumers during the changeover from national currencies to the euro point in the same direction: consumers felt that inflation was higher than it actually was. According to a survey commissioned by the European Commission (Eurobarometer 57.1), 68.5 percent of the population in the euro area believe that the prices were rounded up in all sectors after the changeover. Only 11.4 percent felt that prices were either not rounded up or rounded down.

Subjective perception of inflation and actual inflation

Consumers overestimate inflation

Figure 9: "Perceived" inflation



Yet there are fundamental differences between EMU countries. In Austria, the 41.2 percent of respondents who felt that "prices were rounded up in all sectors" were the lowest in that category, and "not rounded up or rounded down" at 22.2 percent was the highest among surveyees. According to the poll, Austrians thus are relatively "satisfied" with the price development.

Generally, the price development is seen more favourably in those countries which had a low inflation rate in the first quarter of 2002. Yet this correlation is quite loose; other factors appear to have played quite as large a role. These include schemes by national institutions to ensure precise conversion, information campaigns and media reporting of the changeover and price developments.

Austrian consumers reserved their best marks for supermarkets: 51 percent of those polled noted that supermarkets would always or frequently round down or that their prices remained the same. They were followed by grocery stores and other small shops and public transport companies.

Austrians felt that services such as hairdressers, taxi cabs as well as restaurants and cafés were the greatest "profiteers" from the changeover. In these two fields, Austrian consumers reflected the opinion of European consumers, even though, on average, restaurant prices were not raised either at the turn of the year or shortly afterwards, although there were certainly exceptions in specific cases.

Prices had indeed gone up considerably in 2000 and 2001, as mentioned above. Already in late 1999, the price of energy, which is included in the consumer price index, had experienced a substantial boost consequent to the drastic increase in crude oil prices. This shock was further amplified by a second shock in the spring of 2001: the inflationary effects of the animal epidemics, which led to a shortage in the supply of meat and dairy products. Food prices became even more expensive due to bad harvests of vegetables and fruits as a result of the hot and dry summers of 2000 and 2001. However, vegetable prices climaxed at the turn of 2001-02, exactly at the time when the euro was introduced as a cash currency: in January 2002, vegetables were 18 percent more expensive than in January 2001.

In view of this development, consumers felt confirmed in their opinion that prices had risen both during the run-up and in the aftermath of the euro introduction. To the extent, however, that their assessment of the inflationary effect of euro introduction is based on actual data, which in general refer to year-on-year changes, it becomes questionable whether looking back is the proper method to estimate ongoing price increases.

The goods affected by the said shocks, i.e., petrol, fruits, vegetables, meat, milk and dairy products, are excellent examples of frequent expenses which are given a special weight by consumers in judging inflation. Considering the sharp increase in exactly these fields it is only plausible for consumers to feel that inflation was greater than it actually was. The effect that consumers overestimate increases in specific goods they tend to buy frequently is best demonstrated in gastronomy: complaints of price increases in restaurants pile up even though the consumer price statistics for Austria (contrary to Germany) registered only a moderate increase in prices as an average of all gastronomy services, which furthermore occurred not at the turn of the year but rather between May and June 2002.

Typical daily purchases thus draw the greatest attention among consumers. The consumer price index, on the other hand, also includes major purchases made much less frequently: furniture, TV sets, cameras, passenger cars turned only slightly more expensive or became even cheaper during the transition period. These are changes which are not regularly registered by consumers²).

In addition, the consumer price index includes a number of goods and services where there is no cause for doubt that the prices were exactly converted from the schilling to the euro. These include, i.a., flat rentals, which remained at more or less the same level over the past months and thus tended to dampen inflation at the consumer level.

The assumption that consumers base their price judgements primarily on the movements of prices for frequently bought goods is supported by a study by the European Central Bank (ECB, Monthly Bulletin, July 2002, pp. 18-19). Within the scope of the European Commission Consumer Survey, consumers are asked about the inflation "felt" during the past 12 months. In general, there is close agreement between the perceived inflation indicator and actual inflation as identified in the Harmonised Consumer Price Index. Consumers thus are quite good in judging actual price developments in their assessment of price movements during the past year.

Since mid 2000, however, the indicator of perceived inflation is increasingly moving away from the actual development: inflation has been perceived by consumers to be higher than it actually was. This deviation grew over the first half of 2002. While inflation was abating during this period, consumers appear to have been under the impression that it had actually accelerated.

As noted above, it was mostly the prices of petrol and food, including in particular meat, fruits and vegetables, which took a different development than the remaining basket over the past two years. The time match for the price development for these goods and the gap between felt and actual inflation supports the thesis that consumers give great weight to the price development of goods and services which they often require (European Central Bank, Monthly Bulletin, July 2002, pp. 18-19).

Accelerated inflation during the preparatory phased affected consumer perception

"Perceived inflation" increasingly deviates from actual inflation

² As noted above, systematic differences between the inflation rates have been found for years between groups of industrial goods: prices of consumption goods (i.e., goods that are frequently purchased) rise faster than those of durables (furniture, vehicles, technical equipment) and of semi-durables.

Price Development Upon Introduction of Euro Banknotes and Coins – Summary

Detailed comparisons with Germany and Switzerland as well as an analysis of the time pattern of sub-indices of the Consumer Price Index do not indicate that the introduction of the euro had any strong inflationary impact. In some sectors, however, there were price increases which may be related to the adoption of the new currency.

One sector which attracted a lot of public attention was cafés and restaurants. In contrast to Germany (and other countries of the euro area), in Austria the turn of the year 2001-02 was not used to raise prices. It was not until June 2002 that price increases were implemented which can be interpreted as lagged effects of the euro cash changeover.

As far as other service prices are concerned, the development in Austria deviates only marginally from that in the euro area. Prices of hairdressing, car repairs and plumbing were raised more than usual. The inflation rates of individual service prices, however, exceeded the mark of 5 percent in only a few instances.

Prices of non-energy industrial goods posted only modest increases, with inflation rates well below those in Germany and in the euro area. A slight acceleration was, however, recorded in recent months.

Consumers overestimate actual inflation

Consumer surveys suggest that consumers have perceived inflation as being higher than it has been in reality. A majority of consumers believes that the rise in inflation, which occurred in the period leading up to the introduction of the euro, was causally related to the adoption of the new currency. Part of the explanation for the divergence between actual and perceived inflation is that consumers attach a relatively large weight to price developments of items that are frequently purchased, while price developments of products less frequently purchased attract less attention. Indeed, prices of items frequently purchased, such as petrol, meat, vegetables and restaurant services posted high inflation rates in the second half of 2001 and at the beginning of 2002, while prices of other items (such as non-energy industrial goods, rentals) recorded a stable development. Thus, it is likely that consumers formed an unrepresentative picture of overall price developments.