

Discount Pricing in Austria: Insights into Retail Business Practices and HICP Coverage

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Discount pricing – the strategy of reducing regular prices through quantity, seasonal, cash or promotional discounts, coupons, customer loyalty programs and the like – plays an important role in retail pricing and is widespread business practice in virtually all retail industries in Austria. This is the main result of our study, for which we surveyed major Austrian retailers and analyzed empirical data compiled by A.C. Nielsen. Moreover, we found that shoppers who participate in customer loyalty programs benefit from discounts more frequently and pay less on average than shoppers who do not.

In Austria, three out of four consumers held at least one loyalty card in 2008. All in all, some 30 million loyalty cards were circulating in Austria at the time, with five cards per cardholder being the average. 90% of respondents indicated the prospect of instant rebates as the main incentive for holding loyalty cards.

The retailers participating in the OeNB survey generate roughly one-third of their sales revenue under customer loyalty programs. On the consumer side, the average level of retail discounting (as established in the OeNB survey) adds up to a purchasing power effect of approximately EUR 300 million a year.

In addition, the paper assesses the HICP coverage of discounts with a view to drawing lessons for policymaking. The current measurement practices are found to reflect some but not all forms of discounting. Looking ahead, it would be advisable to change measurement practices to catch the effect of customer loyalty programs, as they are common in many industries and tend to generate higher discounts than other discounting practices. The most suitable method would be to cover retailers who run loyalty programs throughout Austria and offer the same terms to all cardholders. Retail scanners could provide useful price data for inflation measurement.

JEL classification: D11, D12, E31, L81

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1 Retail Discounting – A Widespread Yet Elusive Business Practice

Offering discounts for different products or periods or to various buyers plays an important role in retail pricing, both in the business-to-business (B2B) setting and at the business-to-consumer (B2C) level, to which we restrict our analysis in this paper. While companies and shops readily provide information on sales and promotions on their websites or through their customer loyalty program channels, the quantitative effects of discounting are nonetheless

hard to pin down – analyzing the macroeconomic impact of retail discounting is quite a challenge.

Our study is motivated by the fact that inflation measures need to be representative of actual prices and by the understanding that pricing and discounting practices have an impact on measured prices. While today's inflation measures already reflect different types of discounts, they do not cover the special terms linked to customer loyalty programs. Given the fundamental importance of the HICP inflation rate for monetary policymaking in the euro

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area and for the Eurosystem's objective of maintaining price stability in the medium term, we have in a first step analyzed the discounting policies of Austrian retailers to establish their underlying patterns and relative importance. In a second step we have compared those results with the established practice of inflation measurement.

Section 2 looks into the theoretical background of price differentiation as a pricing instrument, discusses the relevant preconditions and outlines different types of price differentiation. Moreover, section 2 discusses the different types of discounts retailers grant in practice under customer loyalty programs and through other channels, and briefly summarizes the underlying benefits and drawbacks for businesses and consumers.

Section 3 provides a quantitative assessment of retailers' discounting practices and their relative importance, based on a survey conducted among selected retail chains operating in the Austrian market. In addition, this section looks into the question of how widespread customer loyalty programs are. Section 4 analyzes how retail discounting is generally reflected in inflation measures, based on a number of case studies. Section 5 assesses the purchasing power effect that membership in customer loyalty programs creates for Austrian consumers. Section 6 provides a summary overview and makes suggestions for changing measurement practices to adequately reflect discounts granted under customer loyalty programs.

Box 1

Selected Definitions

Discount pricing: Refers to the widespread retail practice of granting temporary or permanent price reductions, for instance in the form of cash discounts, quantity discounts, limited-time discounts, personalized discounts or loyalty discounts, or in the form of sale prices and coupons (see also question 1 of the attached questionnaire). Discounts are an integral part of the benefits of customer loyalty programs but are not limited to such programs (see also box 3). When linked to loyalty programs, discounts are customized and conditional on ownership of a loyalty card. Otherwise, discounts are granted across the board to all consumers buying products that have been marked down. This paper analyzes both types of retail discounting in the business-to-consumer segment.

Price differentiation (discrimination, customization): Refers to the business strategy of charging different prices in different market segments in order to raise additional revenue by exploiting the consumer surplus that can be achieved in the given market.

Discount: A discount is a price reduction (by a certain amount or percentage) from the suggested retail price or from the sticker price.

Consumer surplus: The difference between the maximum consumers are willing to pay for a commodity or a service (also called reservation price) and the price they are actually charged.

Reservation price: Refers to the maximum consumers are willing to pay for a commodity or a service depending on their income and individual preferences or – from the seller's perspective – to the lowest price at which suppliers would sell.

Inflation as measured by the HICP: Every month, Statistics Austria collects the prices of approximately 40,000 individual items at some 4,000 outlets as the basis for the calculation of specific price indices for 760 goods and services typically acquired by households, using the applicable expenditure weights. The individual indices sum up to headline inflation, i.e. the rate at which all prices have changed compared with the previous month, or the same month of the previous year. The HICP, i.e. Harmonised Index of Consumer Prices, is thus called because it is calculated with an approach that has been broadly harmonized at the EU level. It is the key indicator on which the Eurosystem relies for monetary policymaking.

HICP coverage of discount pricing: *The general approach is that the HICP does not reflect cases of price differentiation in which a limited group of consumers has price privileges or in which discounts are not directly assignable to a particular good. Hence, individual price advantages that come with loyalty programs are not covered, whereas some price advantages not linked to customer loyalty programs are (exceptions include coupons that may not be linked to a particular product). Price surveys have been designed to document nondiscriminatory discounts or discounts which apply to all purchases of a specific good. The specifics of calculating price indices are governed by EU rules for treating price reductions in the HICP as well as by the guidelines and recommendations laid down in the international Consumer Price Index Manual.*

2 Profit Maximization by Price Differentiation

Pricing, i.e. setting regular and discount prices, has gained in importance for retailers in recent years in both strategic and operational terms: There are a number of industries in which customers are highly price-sensitive and will readily switch to cheaper suppliers (Janger, 2010).² At the same time, retailers heavily advertise the special prices and terms they offer with a view to gaining market shares. Analyzing, planning, implementing and evaluating pricing instruments has thus become all the more important also as an integral part of corporate marketing policies.

In a dynamic economy, companies use different pricing policies and strategies to optimally target specific market segments. Differentiated market strategies exploit the heterogeneity of the client base and allow companies to charge different (groups of) clients different prices for the same or similar products or services.

The main purpose of price differentiation is to exploit the consumer surplus in individual markets to increase profit. Retailers will be able to achieve the highest possible average price in each case by adjusting prices to different customer groups. Another purpose of differentiating prices is to target a specific customer base. Companies

with a regional and international network of outlets will test the market by charging different prices in different segments. Last but not least, price differentiation strategies allow retailers to increase sales volumes and to influence the timing of purchase decisions (Siems, 2009).

Price differentiation has different benefits for different customer segments. While customers with very high demand elasticity and low purchasing power benefit from discount pricing, customers with low demand elasticity and stronger purchasing power are liable to pay higher prices. The impact differentiated prices will have on aggregate price levels depends on the relative size of the market segments and on the differences in demand elasticity (box 2).

Numerous empirical studies (for a compact overview see Wolk, 2007) have shown that price differentiation strategies enable retailers to raise their profits by a range of 4% to 10%, or even by up to 26% (e.g. Khan and Jain, 2005). This goes to show that it pays for companies to select and implement price differentiation strategies.

2.1 Preconditions for Various Types of Price Differentiation

Imperfect markets are a key prerequisite for differentiating prices – in other words, differentiation requires an envi-

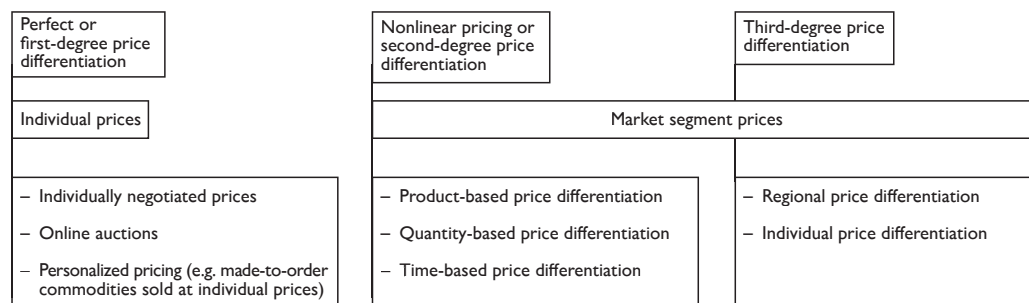
² *E.g. in food and electronics retailing, price comparison rates are as high as 70% or more, and consumers consider the effort of comparing prices to be lower in this area than in most other industries.*

ronment in which consumers have different levels of information and different preferences. In a perfect market, consumers would only buy at the lowest price. A further precondition is that it must be possible to segment the market in terms of purchasing power, demand elasticity, price awareness and price information. Companies must identify different demand segments and must be able to make higher profits to recover the costs of segmenting the market. Finally, retailers must be able to prevent consumers who get a commodity at a discount to resell it to customers in upscale segments (absence of arbitrage opportunities).

Macroeconomics and business economics (microeconomics) define price differentiation differently. The microeconomic strand of the literature³ distinguishes between three forms of price differentiation (Weber and Pasche, 2008), following Pigou (chart 1), who first developed this theory in 1920. In a first-degree differentiation setting, every single customer is charged the maximum price (reservation price), so that the seller gets all of the consumer surplus. A case in point for such perfect price discrimination would be online auctions. Second-degree differentiation, or nonlinear pricing, leads to a self-selection of customers: By deciding to

Chart 1

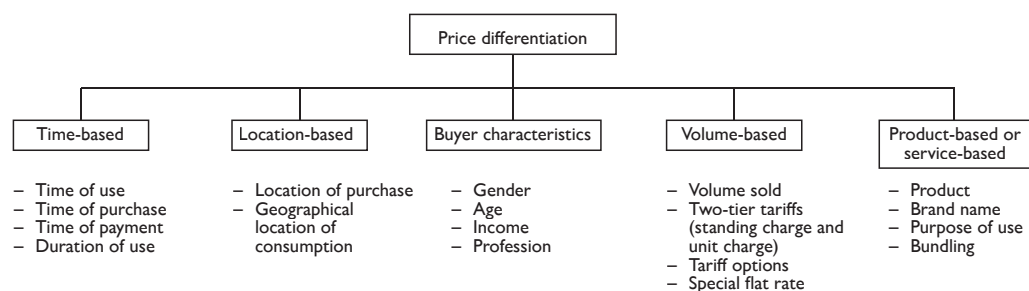
Types of Price Differentiation Based on Pigou



Source: Hartmann (2006).

Chart 2

Types of Price Differentiation



Source: Based on Siems (2009).

³ Even the terminology varies; the macroeconomics term of choice for price differentiation is “price discrimination,” whereas business economics leans toward “price customization” (Siems, 2009).

buy something, the customer self-assigns himself or herself to a particular segment. Finally, if a company determines the optimum price for each segment *without* the customer having a possibility of self-selecting the segment to which he or she belongs, we have a case of third-degree price differentiation (see box 2 for a theoretical overview). Switching segments is either impossible or highly dif-

ficult because the individual segments are fenced. Last but not least, in second- and third-degree price differentiation, prices are typically not negotiated with customers and price demands generally lack customization (Hartmann, 2006).

Chart 2 provides another definition of price differentiation, based on microeconomic criteria such as time, location and quantity.

Box 2

The Theory of Third-Degree Price Differentiation

According to economic theory, a firm may increase its revenue by segmenting its market into a number of submarkets (the charts below assume two segments), subject to the condition that it has sufficient market power. Let us assume that there are two groups of customers which differ in terms of the reservation price (i.e. the maximum amount they would pay for a specific product) and the price elasticity of their demand. Chart 3a shows the price at which market equilibrium is achieved in the segment with the lower reservation price (the point at which the demand curve *D* crosses the *y*-axis) and with relatively elastic demand (reflected by the lower slope of *D*). This setting is typical of a market with lower-income consumers, who search more thoroughly for the best price and whose demand is therefore more elastic than those of others. In a monopoly market, market equilibrium is given by the optimality conditions that the marginal costs *MC* (which are assumed to remain constant here) equal the marginal revenue *MR*. In the case at hand, which is based on a numeric example in Helmedag (2001), the firm sells quantity q_1^* of 60 units at a price p_1^* of 35 to optimize its profit. Specifically, it would earn a profit (shaded orange in the chart) of 900 money units ($PR_1^* = (35 - 20) \times 60 = 900$) in this market. Let us assume further that the same (monopoly) supplier (facing the same marginal costs) offers its product in a second market with typically higher-income consumers characterized by a higher reservation price and lower demand elasticity. In this segment, market equilibrium is achieved already at a quantity q_2^* of 40 units but at a much higher price p_2^* of 60 (chart 3b). This yields a profit of 1,600 money units ($PR_2^* = (60 - 20) \times 40 = 1,600$). In total, the firm would therefore earn 2,500 money units (900 + 1,600).

If we compare this setup with a situation in which the firm is not in a position to segment its market (chart 3c, which results

Chart 3a

Equilibrium in Market Segments with ...

... a Small Reservation Price and Relatively Elastic Demand

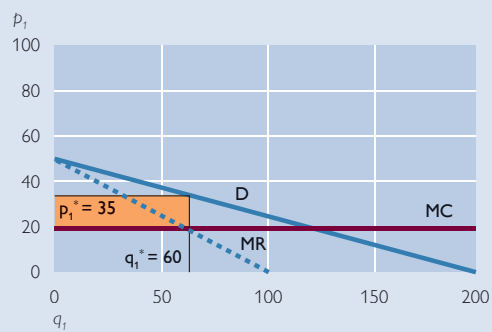
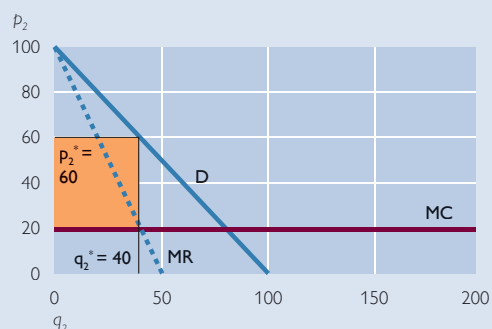


Chart 3b

... a Higher Reservation Price and Relatively Inelastic Demand

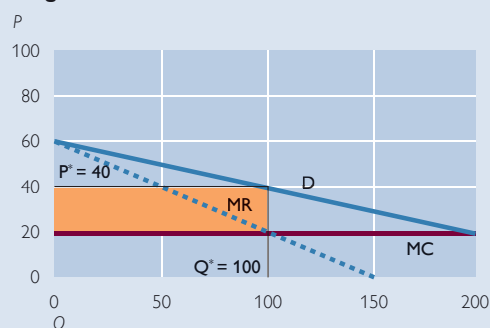


from the horizontal aggregation of the two segments), the monopoly supplier would maximize its profit by offering 100 units (Q^*) at a price of 40 (P^*). In this case, it would earn 2,000 money units ($PR^* = (40 - 20) \times 100 = 2,000$), which is less than what it would have made in a segmented market. Therefore, the company will try to segment its market and serve the different segments individually, provided the conditions for doing so are met.

In the case at hand (where the market segments are roughly equally large), the average price level is higher with segmented markets than in the single market. However, this is not a general result and will depend on the relative sizes of the segments and on the relationship between demand elasticities and reservation prices. If the relationship were four to one, i.e. more like that of a mass market to that of a luxury market, the average price level of the segmented markets, would, *ceteris paribus*, match that of a single market.

Single Market

Chart 3c



Source: OeNB, based on Helmedag (2001).

2.2 Customer Loyalty Programs: Creative and Popular Solutions

The consumer perception of price differentiation is dominated by the microeconomic rather than the macroeconomic perspective. Retailers use different types of discounting to provide consumers with added incentives to buy their products. Customer loyalty

programs are one of the most important marketing instruments that retailers have developed. They come in many different forms, such as discounts for paying cash or for buying larger quantities, trade credit or repeat customer discounts, personalized or limited-time discounts, bonus point schemes or coupon systems, or benefit cards.⁴

Box 3

Customer Loyalty Programs: Customer Clubs and Loyalty Cards

Customer clubs are meant to create loyalty by providing a platform for recurrent exclusive offers and benefits for members. There are two types of customer clubs: open clubs, and limited clubs. As the names imply, limited customer clubs come with entry conditions (customers have to pay to become a member or need to commit to spend a minimum amount of money), whereas open clubs are open for everyone. The inhibition to join an open club is low, and acceptance rates are high. Essentially, customer clubs seek to build customer identification (i.e. an emotional relationship) with a particular company and its services. Customer clubs project values, such as status and prestige, and create a sense of belonging. They are widely used in retailing, since there are no or almost no barriers for joining and since they may increase the purchasing frequency of occasional customers (through a higher interaction frequency) (Wirtz, 2009).

Loyalty cards serve as proof of membership in a customer club. They are meant to strengthen the emotional bonds with customers, promote brand awareness and offer (mostly financial) rewards. Companies use loyalty cards to collect and analyze information on transactions in order to gain insights into the purchasing habits of their clients.

⁴ The Austrian consumer magazine "Konsument" published a detailed overview of the incentives individual Austrian retailers offer under their customer loyalty programs in its June 2009 issue.

Companies may offer personalized discounts, limit discounts to particular products, run sales only on particular days, or may require clients to spend a given amount or purchase a particular quantity in order to become eligible for a discount. Since the Austrian Discount Act was suspended in 1992, price discounts have not been subject to any legal constraints.⁵ Any abuse of pricing power can, however, be addressed under competition law. Apart from serving as a price differentiation tool proper, large-scale promotional discounts are also used to stimulate consumer spending in periods of subdued economic activity. In Austria, for instance, retailers responded to the economic crisis that was emerging in late 2008 by frontloading clearance sales and increasing markdowns, as a result of which Christmas sales went well.⁶ This shows that adjusting pricing strategies may boost consumption and fuel economic growth.

The different retail industries are highly creative in acquiring clients, as myriads of marketing brochures, advertisements and commercials or direct mailing campaigns show. How successful buyers are in getting special conditions depends on a number of factors, such as on the product (or brand) they choose, whether they are regular customers or not, or how good their negotiating skills are. Some industries, such as electrical appliance retailers, DIY retailers and furniture stores or the car industry tend to grant substantial personalized discounts on the purchase

of durable goods.⁷ Industries with a lower purchase frequency typically grant smaller discounts, but they regularly mark down different products or product ranges.

2.3 Customer Retention: A Win-Win-Situation for Retailers and Their Clients?

Customer loyalty programs help retailers increase their revenue, essentially by extracting consumer surplus from buyers, gaining new customers through word of mouth recommendation, strengthening existing customers' intentions to return and managing to cross-sell⁸ them additional products. Customer loyalty programs also help enlarge the customer base, i.e. they reduce the cost of acquiring new customers, which is very high in saturated markets. Through such programs, it is possible to increase sales revenue and market shares even in markets with (almost) perfect competition. Retailers will price the loyalty discounts they grant into their net sales prices, along with the markup over costs and any discounts they grant for swift payment.

Individual clients benefit above all from the financial rewards, value-added services and other bargains that come with joining a customer loyalty program. The "prospect of saving" thus created prompts customers to go shopping to be able to benefit from the string of customized offers.

Participation in such programs is often conditional on supplying personal data. Access to customer data is a big

⁵ A few items continue to be regulated, such as tobacco products, on which discounts are forbidden under the Tobacco Tax Act of 1995 (Article 5 paragraph 6) and under the Tobacco Monopoly Act of 1996 (Article 8 paragraph 5).

⁶ See *KMU Forschung Austria* (2009) and a report on www.oe24.at (December 6, 2008) entitled "Rabattschlacht heuer schon weit vor Weihnachten" ("Retailers Discounting Aggressively Way Ahead of Christmas This Year").

⁷ For instance, discounts to customers who (re)furnish their homes, buy a new car or spend large amounts on electrical appliances or DIY home products. Durable consumer goods tend to have a low purchase frequency, so that discounts, which may be quite high in some instances, can be negotiated only at large intervals in those product segments.

⁸ Refers to the practice of suggesting related products or services to a customer.

asset for retailers, since these data help them sell more and spend less: Once the individual customers can be identified, all their purchases (i.e. their buying patterns) are tracked and combined with the data they supply on registration. The detailed customer profiles created on the basis of these data save the retailers heavy expenses on comprehensive market analyses. Longer purchase histories might tell retailers something about the price a particular customer is willing to pay and the level beyond which he or she will stop buying a particular product. Such information allows retailers to individualize their offers.

At the same time, customer advocacy groups are making an effort to raise consumer awareness for the side effects of customer loyalty programs, arguing that those programs come with a catch and voicing privacy concerns. Austria's Federal Ministry of Labour, Social Affairs and Consumer Protection (2007) specifically issued a folder to warn consumers against the risk that the data they supply when registering for a loyalty program may be abused ("Kundenkarten – bezahlt wird mit Daten" = "customer cards – you are paying with your data"). The Austrian consumer magazine "Konsument" (issue 6/2009) arrived at a very critical assessment of customer loyalty programs as a result of evaluating 27 different loyalty cards, alerting customers to the fact that "your shopping cart is spying on you" and claiming that the rewards are limited.

Yet customer loyalty programs are not without risks for the retailers, either: When they seek to retain customers above all by offering them discounts,

they run the risk that customers will readily adjust to the discounts and stop buying products unless they are marked down, while the purpose of promotional prices is of course to increase sales revenue. Given that more and more retailers offer loyalty programs and given that the majority of customers participate in several programs at the same time, customers might easily switch suppliers when they are no longer satisfied with the conditions of a particular company. Moreover, the costs of implementing and running customer loyalty programs are high. Last but not least, inactive cardholders, who make little use of their cards but still generate administrative costs, give rise to tracking costs (Elfers and Ulrichs, 2006).

3 Discounting Is Widespread in Austria

3.1 Retailers Are Reluctant to Disclose Data on Discounting

In April and May 2010, the Oesterreichische Nationalbank (OeNB) conducted an anonymized survey among Austrian retailers in order to gain quantitative and qualitative insights into their discounting practices. All in all, 98 retailers operating in 16 different industries were included in the survey. On the one hand, we contacted retailers with a strong geographical presence who are widely known and who have high market shares in Austria. On the other hand, we addressed above all firms whose customer loyalty programs are indeed representative, i.e. which apply uniform conditions to all of their customers.⁹ Other areas, such as particular service industries (e.g. tourism, transport, leisure, sports, hairdressers,

⁹ With regard to the impact of retail discounting on inflation measurement, we were also interested in establishing the amount of cash or other discounts granted outside the framework of customer loyalty programs. Therefore the questionnaire (see annex) also included questions on such discounting practices.

communications and cultural services), in which discounts are offered selectively and on a case-by-case basis, were not part of the survey. The same holds true for car retailers, who are known to provide a wide range of customized discounts.

In the end, 20 retailers operating in 11 different industries completed and returned questionnaires to the OeNB, which corresponds to a response rate of 20%, but is more or less what other institutes elicited in surveys on the same topic (Elfers and Ulrichs, 2006). While the informative value of the results is thus limited, they do provide some essential insights into retail discounting.

While all toy retailers whom we contacted returned the questionnaires, the response rate was lower but still above average in the motor vehicle spares and accessories business (40%), for gardening retailers (40%), furniture stores (36%) and home and DIY retailers (33%). In contrast, the response rate was very low among clothing and textile retailers (13%), electrical appliance retailers (14%) and in food and beverage retailing (14%).¹⁰

3.2 Retail Discounting Practices Vary Strongly in Austria

3.2.1 Retailers Prefer Sales and Coupons

The most common forms of retail discounting in Austria are sales¹¹ and coupons, followed by loyalty discounts, quantity discounts and cash discounts.¹²

By comparison, limited-time discounts¹³ and personalized discounts are less widespread. With the exception of loyalty discounts, which are conditional on participation in customer loyalty programs, all kinds of discounts are not necessarily linked to customer loyalty programs (chart 4).

Sales promotions – above all season sales and sale days – are the most common form of discounting both under customer loyalty programs and outside such programs (reported 42 versus 30 times¹⁴). Coupons are more important for loyalty cardholders than for non-holders. The same holds true for cash discounts, which were reported twice as often when linked to customer loyalty programs. When cash discounts are specified further (chart 4), we see that loyalty card-based discounts are also higher: Cash discounts of between 3% and 10% or above 10% are available more or less only to loyalty cardholders. In contrast, the results are fairly balanced for quantity, personalized and limited-time discounts.

3.2.2 More Than One-Third of Customers Participate in Loyalty Programs, Contributing One-Third of Sales Revenue

On average, 36% of all customers participate in some kind of customer loyalty program. This percentage masks significant variations across industries, however. Drugstores and cosmetics retailers reported shares of more than

¹⁰ This is why we do not provide tables or charts detailing the results for the individual industries.

¹¹ Sales include sales on selected products (e.g. 10% off on pears), sale days and sale weeks for a particular product range (e.g. 10% off on fruit), bargain days/weeks for the entire range of products (e.g. a 10% discount on all products) and season sales (e.g. winter clearance sales).

¹² The questionnaire included the following response options for cash discounts: Up to 3%; between 3% and 10%; more than 10%; and VAT-free days (e.g. Saturdays).

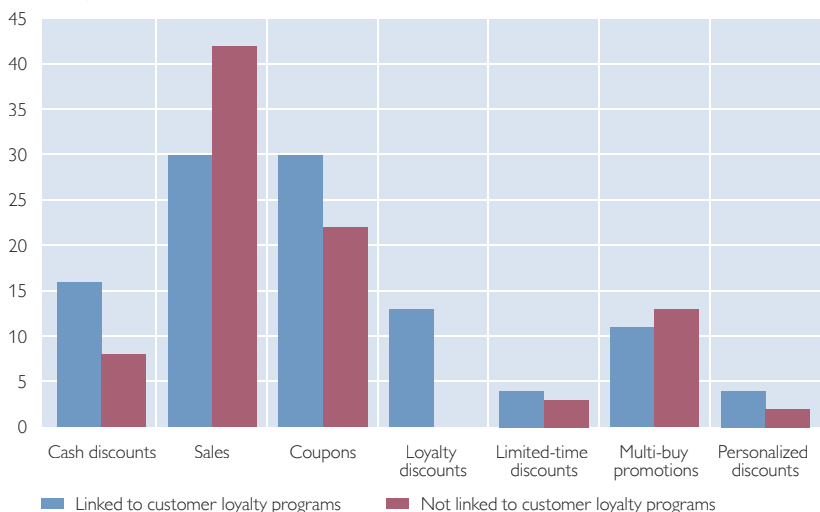
¹³ Limited-time discounts include discounts on perishable products (e.g. on fruit after 5 p.m.), happy hours, evening discounts and the like.

¹⁴ The questionnaire provided for multiple responses within the individual categories (e.g. special offers) (see annex).

Retail Discounting in Austria

Discount types

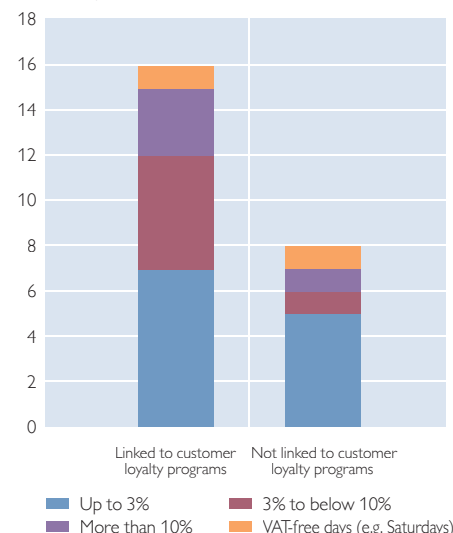
Retailer responses



Source: OeNB.

Cash discount pattern

Retailer responses



60%, and clothing and textile retailers some 50%, as did, more or less, furniture stores and toy retailers. In industries selling big-ticket items or durable consumer goods (such as motor vehicle accessories or electrical appliances), retailers reported much lower shares of loyalty cardholders.

The share of corporate sales revenue attributable to customer loyalty programs is another indicator of the importance of such programs. In our survey, we found this share to total 33% on average across all industries. As was to be expected, this share is correlated relatively strongly with the percentage of clients who participate in loyalty programs in the first place. This is true above all for drugstores, cosmetics retailers, clothing and textile retailers, furniture stores and gardening retailers. DIY retailing is an exception, with loyalty cardholders contributing double their share in the client base (20%) to overall sales revenue (40%). This might imply that loyalty cardholders tend to patronize “their” shops more

readily, and/or that they tend to spend more than customers who have opted not to participate in the loyalty programs.

The reverse is true for toy retailers: As many as 42% of their customers are loyalty cardholders, but they contribute only close to 21% of sales revenue. This might be explained by the fact that numerous customers fail to show their cards when making instant purchases, so that those purchases will not qualify as loyalty program purchases. Another possible explanation is that parents whose children have outgrown toys continue to hold their cards but buy less.

Furthermore, retailers reported that they granted discounts on as many as 32% of their products on average, both under customer loyalty programs and outside such programs. Broken down by industries, the figures again vary considerably. Gardening retailers sell three times as many of their products to loyalty cardholders at a discount than to nonholders. Drugstores grant discounts on 50% of their products,

but they limit those discounts to loyalty cardholders. The industries which essentially treat loyalty cardholders very much like nonholders include electrical appliance retailers (who offer discounts on 85% of their products to both groups), furniture stores (40%), clothing and textile retailers (10%) as well as DIY retailers (10%).

3.2.3 Loyalty Cardholders Tend to Get Higher Discounts on Average

While discounts are commonly granted both under customer loyalty programs and outside such programs, the companies participating in our survey reported that they gave cardholders somewhat higher discounts than their other customers (6.6% versus 4.7%). We found that furniture stores and electrical appliance retailers granted the highest discounts to cardholders, whereas drugstores and cosmetics retailers as well as DIY retailers were less generous.

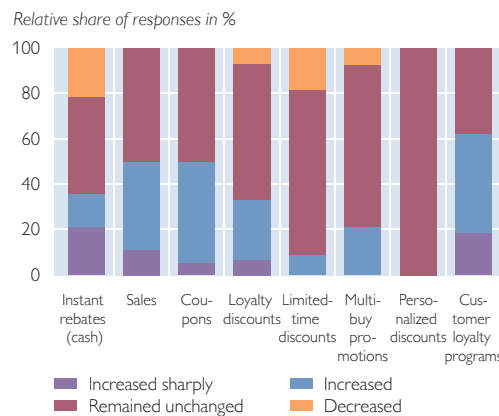
3.2.4 Discount Pricing Has Become More Important in Recent Years

Macroeconomic developments in recent years (inflation spikes in the food and energy sectors in 2008, the economic and financial crisis in 2008 and 2009, deflationary trends in the summer of 2009) may have prompted businesses to change their pricing conditions. Against this backdrop, we asked respondents to indicate whether the importance of discount pricing has changed in recent years.

Chart 5 shows that the importance of the various types of discount pricing has increased rather than decreased in recent years. When we add up the answer categories “increased sharply” and “increased,” we find customer loyalty programs to have gained more than 60% in importance across industries, while the relevance of sales and coupons has risen by 50%. Some 35% of

Chart 5

Changes in Discount Pricing in Recent Years



companies reported that they had granted instant rebates more often, whereas more than 20% indicated that instant rebates had become less widespread. All other types of discounts, namely loyalty discounts, multi-buy promotions, limited-time discounts and personalized discounts, have remained broadly unchanged.

3.2.5 Discount Prices Change More Often than Original Prices, with Heterogeneous Patterns across Industries

Retailers tend to vary their discount amounts, their markdown percentages and the terms of their customer loyalty programs at (fairly) frequent intervals. They react increasingly faster to changes in competitiveness or costs. The survey results show a mixed picture: While 17% of the responding firms reported adjustments of discounting practices more than once a week and 6% to do so once a week, 11% reported that they made such changes only once a quarter or every six months, with 33% keeping their conditions unchanged even longer. 22% reported that they adjusted discount pricing on a monthly basis.

This confirms the proposition made above that discount pricing is a dynamic element of pricing. Expressed on a daily basis, some 11% of price discounts are adjusted every day on average; in other words, the discount patterns are adjusted 32 times a year, or every other ten days on average.¹⁵

This is a higher frequency than the rate at which the prices compiled by Statistics Austria as input for calculating the CPI/HICP change on average, which Baumgartner et al. (2005) established at being in the range of 15% a month. Of course, the data sets on which these figures are based – Statistics Austria’s HICP statistics and our business survey – are not comparable for numerous reasons, such as the low response rate of firms or the monthly frequency at which prices are compiled for the HICP. At the same time, changes in discount pricing appear to be a frequent yet largely neglected source of price changes, which show actual retail pricing to be more dynamic in Austria than the current measurement practices imply.

As a case in point, electrical appliance retailers adjust their discount conditions every other day on average, toy retailers do so roughly once a week, whereas furniture stores, sports retailers and gardening retailers change their terms less than once every six months. When we look at the price discount methods of choice of industries with sticky discount pricing, we find them leaning disproportionately heavily to loyalty discounts and rather rarely to sales. In other words, loyalty discounts appear to be a pricing tool that is adjusted rather rarely, while all other types of bargain prices are adjusted more often.

¹⁵ To establish those frequencies, we converted the figures to daily frequencies based on the assumption of 300 business days a year. Thus, the response “weekly” can be expressed on a daily basis by dividing 52 by 300, which produces 17.3%.

3.2.6 Changes in Discount Pricing Are Mostly Driven by Company-Specific Factors

Among the reasons why companies change their discount pricing strategies, company-specific reasons were cited much more often than industry-wide events or macroeconomic developments (table 1). Changes in a company’s competitive conditions (including changes affecting its competitors) drew the highest number of answers, followed by purchasing conditions and a change in the company’s costs. Seasonal factors (such as clearance sales or other regular sales) were also rated highly, but not at the top of the list. In the mid-ranks, we find industry-specific shocks, whereas the bottom ranks include macroeconomic factors, such as the economic and financial crisis, high inflation rates and cyclical conditions in general as well as the income situation of consumers.

Table 1

Main Reasons for Adjusting Discount Pricing Practices

	Mean scores ¹
Changes in the company’s competitiveness	3.4
Wholesaling conditions	3.2
Changes in costs	2.8
Seasonal conditions (regular changes in conditions over the year)	2.5
Industry-specific shocks	2.2
Economic and financial crisis	1.7
High inflation	1.6
Cyclical developments	1.5
Increases in customers’ incomes	1.3
Reductions of customers’ incomes	1.2
Other reasons: clearance sales	0.2

Source: OeNB.

¹ The calculation is based on the following codes assigned to possible answers: very important = 4, rather important = 3, rather unimportant = 1, unimportant = 0. The results are mean scores per category and are to be interpreted only in an ordinal way.

3.3 Loyalty Card Holders Typically Hold Five Cards – Financial Rewards Are the Key Motif

In 2008, some 30 million loyalty cards were reported to have been issued in Austria.¹⁶ A survey conducted by A.C. Nielsen in March 2008 provides detailed insights into loyalty card ownership in the Austrian food, drugstore, DIY, furniture and shoe retail industries. The results show that three out of four persons shopping in such stores have a loyalty card. Holders of customer loyalty cards tend to have five cards on average, and they tend to have more than one card for each industry, which shows that customers tend to patronize more than one supplier. Loyalty cards issued by food retailers and drugstores are most popular by far (chart 6); 70% and 67% of all customers, respectively, hold a card.

A MAKAM survey of April 2008 shows loyalty cards to be on the up and up: While in 2005 only 65% of all shoppers polled in Austria reported that they owned at least one loyalty card, as many as 86% customers did so by 2008.

The survey by A.C. Nielsen also provided insights into the motifs of

holding loyalty cards, and identified the prospect of financial rewards as the most important incentive by far: We have quantified this for the two industries with the highest share of loyalty cards, namely food retailers and drugstores (chart 7): Two-thirds of respondents cite the prospect of saving money through discounts as their main motif for holding cards. The runners-up (both at 15%) are incentives to earn and redeem bonus points and exclusive shopping offers for club members, followed by instant rebates on one's purchases. All other benefits (such as coupons, giveaways, club magazines, enhanced warranty conditions) are considered much less important.

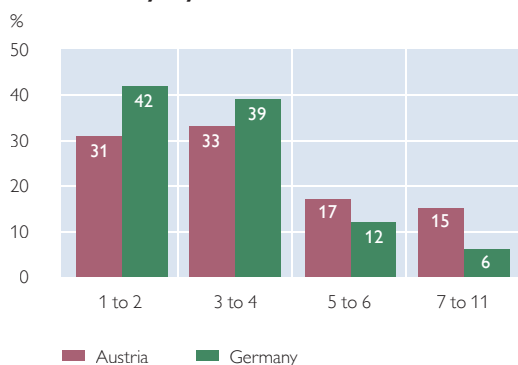
The influence of customer loyalty card ownership on shopping habits is less impressive but nonetheless significant: As many as 25% of cardholders reported more frequent shopping trips to shops that reward them for patronizing them (and 8% reported much more frequent shopping trips).

Customer loyalty cards are widespread in Germany as well. Dialego (2004), an Aachen-based research institution, reports that close to 90% of

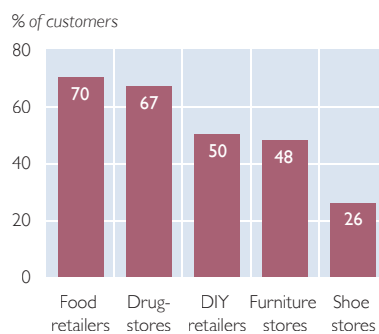
Chart 6

Loyalty Card Ownership in Austria and in Germany

Number of loyalty cards



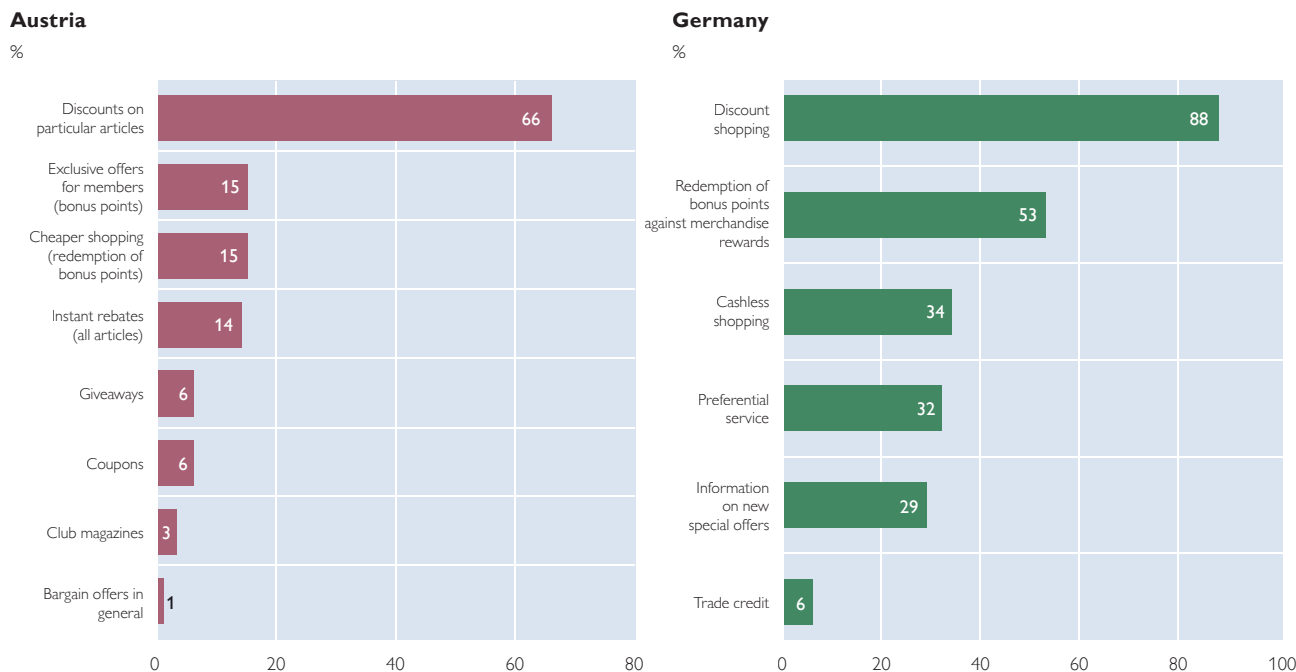
Retail industries in Austria



Source: Austria: A.C. Nielsen (2008); Germany: Dialego (2004).

¹⁶ As reported by the Austrian daily "Kurier" on December 15, 2008.

Which Incentives Do I Expect a Loyalty Card to Offer?



Source: Austria: A.C. Nielsen (2008); Germany: Dialego (2004).

all Germans owned at least one loyalty card in the early 2000s. A Commerzbank study (Elfers and Ulrichs, 2006) put the number of cardholders at some 100 million in Germany, some 30% of which were estimated to be inactive cardholders.

Just like Austrian shoppers, German households value above all the financial rewards of loyalty cards (90% response rate; see chart 7). The Dialego survey also shows that loyalty card ownership rises with age. Interestingly, customer satisfaction with the benefits that come with holding loyalty cards of particular firms are consistently high, even though the German consumer advocacy agency Stiftung Warentest showed loyalty card-based discounts to lie within a moderate range, namely between 0.25% and 3% (Kaupmann, 2009).

4 Inflation Measures Partly Reflect Discount Pricing

Discount pricing is also an important consideration in measuring inflation, as inflation measures need to be representative of actual prices to provide a reliable yardstick. The question of whether discounts granted to individual customers, say, at a furniture store or discounts on food purchases or a certain percentage off on a car purchase are accounted for in the inflation rate is difficult to answer. Identifying the price charged to loyalty cardholders and quantifying its relative weight in the overall market price is a special challenge in inflation measurement. In an extreme scenario, if a good or service is purchased only at the reduced price and very many consumers hold a loyalty card, the reduced price is the representative price, i.e. the price that should for all intents and purposes be used to measure inflation. However,

the move to fully adjust inflation measurement for retail discounting would produce only a one-off effect – i.e. inflation would be lower in the year following this adjustment. Since the rate of inflation measures the change in prices over time and not the level of prices, this cross-sectional study cannot provide an answer to the question of how fully accounting for discounts would affect inflation. To this end, detailed analyses would be required on which types of discounts change how much, and on how these changes affect the HICP depending on the weights used in the basket of goods and services.

4.1 HICP Reflects Various Discounts

The indicator commonly used to measure the change in households' purchasing power is the consumer price index – traditionally the CPI mainly for national purposes and, following harmonization at the EU level, also the HICP, which is the Eurosystem's target indicator for monetary policymaking.¹⁷ Users of consumer price statistics generally appreciate the high quality of inflation measurement as well as the reliability and timeliness of the CPI and the HICP. These indexes have particular advantages:

- The methodological framework integrates key theoretical and empirical research results;
- The basket of goods is representative;
- Very detailed data are available frequently and rapidly;
- Biases in measuring inflation due to quality changes are remedied frequently; and
- Revisions are rare.

Despite all the progress made up to now, some factors which have always

preoccupied researchers involved in price index theory have an impact on the degree of precision with which inflation can be measured. These factors include the frequency of updates of the expenditure weight in the basket of goods and services, quality adjustments and the coverage of discounts. On principle, the conceptual design of inflation measurement is such that both the monthly price sample (consisting of 40,000 individual prices in Austria) and the composition of the basket of goods and services reflect the kind of temporal, geographical, demographic, volume-based and product (or service)-based variations that are differentiated in theory (e.g. chart 2). To this end, volume-based discounts, special sales, (season) sale prices and some discriminatory prices (prices applicable to specific groups of individuals and households) are taken into account (table 3). The coverage of discounts is generally very difficult, however, given the lack of information and reliable data; therefore, not all price strategies in the market can be adequately captured. Table 2 provides an example of multidimensional price discrimination in a breakdown of the Austrian HICP coverage of the price range of public pool admission prices (as currently covered) and spa admission prices (as scheduled to be covered in 2011).

The current practice in inflation measurement is to take the admission price applicable to the largest group of customers as well as the rate charged for children and the rate for senior citizens; all other price categories are neglected for lack of representativeness. This concept is unlikely to change in the new basket.¹⁸ While spa admission

¹⁷ The following analysis refers only to the HICP coverage of retail discounting.

¹⁸ The new basket, which will apply to inflation measurement from 2011 to 2015, is currently being defined on the basis of the consumer survey 2009/10.

Table 2

Multidimensional Price Discrimination: HICP Coverage of Public Pool Admission Prices and Spa Admission Prices

Price discrimination by factor	Possible price ranges	Prices currently covered by the HICP: public pool admission prices	Prices scheduled for HICP coverage from 2011: spa admission prices
Time	Annual pass, semiannual pass, three month pass, day ticket, half-day ticket, three-hour ticket Evening, morning and weekend rates	Single admission for one adult including locker use (most common rate)	Most common admission prices
Individual	Discounts for children, students and seniors; family passes	Single admission for children under 15 including locker use Single admission for seniors including locker use	Breakdown similar to that for pool admission prices
Amount	Prepaid card, in the case of a two-hour card, a discount of EUR ... applies to every additional hour	No	No
Service	Only swimming pool; swimming pool + sauna + spa facilities; package deal	No	No

Source: OeNB, Statistics Austria.

prices will be covered as a new category of expenditure relevant for inflation measurement, only a narrow range of rates will be taken into account, as in the case of pool admission rates. In other words, the highly heterogeneous price structure that is typical of spas – Römertherme Baden, for instance, has nearly 60 different rates¹⁹ – is largely unaccounted for in the price index. While the price ranges are not quite as complex in other service categories, they are common for e.g. tourist travel passes, various sports and cultural event services, public transport fees and even insurance premiums; as a rule, again, prices that are sufficiently representative are (partly) reflected in the HICP.

4.2 More Detailed Information about the HICP Coverage of Discounts

The prices used in the HICP are the prices paid by households to obtain individual goods and services in monetary transactions.²⁰ The key point is that coverage in the index requires a monetary transaction – that is, an economic flow during which a good or service passes to the buyer and money to the seller – and that the prices used in the HICP are the purchase prices (adjusted for any discounts). The treatment of discounts is delineated in a Council Regulation dating from the year 2000.²¹ This regulation stipulates that purchase prices used in the HICP shall in general take account of reductions in prices of individual goods and services if such reductions:

¹⁹ Many of these rates are not representative enough to warrant coverage by the price index.

²⁰ See Council Regulation (EC) No 1687/98.

²¹ Commission Regulation (EC) No 2602/2000 of 17 November 2000 laying down detailed rules for the implementation of Council Regulation (EC) No 2494/95 as regards minimum standards for the treatment of price reductions in the Harmonised Index of Consumer Prices.

- can be attributed to the purchase of an individual good or service;
- are available to all potential consumers with no special conditions attached (nondiscriminatory);
- are known to purchaser at the time they enter into the agreement with the seller to purchase the product concerned; and
- can be claimed at the time of purchase or within such a time period following the actual purchase that they might be expected to have a significant influence on the quantities purchasers are willing to purchase.

Moreover, the Consumer Price Index Manual (ILO et al., 2004), which was compiled by six institutions,²² and Eurostat (2001) provide detailed instructions on how to cover various types of price discrimination and discounts (table 3). The general approach is that the HICP does not reflect cases of price discrimination in which a limited group of consumers has price privileges or in which favorable conditions are not directly assignable to a particular good. Hence, the individual price advantages that come with customer loyalty programs are not covered, whereas some price advantages not linked to customer loyalty programs are. Price surveys have been designed to document all nondiscriminatory discounts and all discounts which apply to every customer or all purchases of a specific good. Sale prices are one such case in which coverage is quite widespread. Unlike other types of discounts, sale prices are more frequent

outside of customer loyalty programs than in customer loyalty programs and are thus well covered. According to Schindlar (2010), some 8½% of all prices covered in the Austrian HICP are discounts; the share is, however, noticeably larger in individual sectors (shoes and clothing: 24% of all prices covered are sale prices).²³ Yet these data do not include HICP prices of those items where price discrimination is an inherent part of the product, as is the case e.g. with insurance premiums, where prices for different age categories and gender-specific prices are covered. The treatment of recreational services is similar – in the case of airline tickets, for instance, last minute travel deals or early bird discounts are covered as separate categories.

Moreover, the electronically scanned prices of the regular and discount prices of two large companies which together represent a large share of the electrical appliance retailing market feed into the HICP. Although retail scanners are the most useful source of retail discounting data,²⁴ they are not helpful when it comes to establishing price reductions that do not apply to a particular good, such as discount coupons for a percentage off on an entire bill.

A similar coverage problem arises in the event of inducements in form of extras (Eurostat, 2001) such as the incentive of getting a highway toll sticker for free when taking out a newspaper subscription. While both products are covered in the basket of goods, they are classified under different COICOP

²² ILO, IMF, OECD, Eurostat, UNECE, The World Bank.

²³ Another source with similar data provided slightly different results. The share of price promotions – sale prices and other bargain prices – in food and drug retailing came to 29.3% in 2009 according to A.C. Nielsen (2010), up from 20.8% in 2000.

²⁴ Some European statistical offices already use scanner data extensively, e.g. those of Norway, the Netherlands and Switzerland. In particular the Dutch Centraal Bureau voor de Statistiek has been using scanner data provided by six supermarket chains for the CPI since 2010 (van der Grient and de Haan, 2010).

HICP Coverage of Selected Discount Prices

Type of Price (Discount)	HICP Coverage Yes/No	Reason
Special sale prices	Yes	As a rule, such discounts are covered, because they are: – valid for a limited time – apply to all customers – apply to particular goods or services
Opening prices	Conditional yes	Such prices are the same for all customers, and products are available in the future (at the regular price); they are a representative price in the index
Clearance and closure sales, end-of-season sales	Yes	Other retailers sell the goods at regular prices; all customers receive the same discount on the same items; prices apply to particular items
Damaged or defective goods	No	The quality of these goods is lower; they are not expected to be available in the future
Discontinued goods	No	The prices of follow-up models are covered, provided the new models are already on the market
Time-dependent discounts		
Goods approaching the use-by date	No	The quality of such goods is lower and the goods will not be available in the future
Happy hours, evening sales	Yes	Lunch specials, e.g. every Monday through Friday from 12:00 noon to 2:00 p.m., are covered because they are available to all patrons during busy hours
	No	Evening sales are not included because they take place rarely (e.g. once a month) and for a very limited time
Early bird discount, preseason sale	No	Early bird prices are covered if they represent a significant market share; applies to last-minute booking as well
	Yes	Post- or preseason products (e.g. tires): discounts apply for every consumer and for a particular product (not covered: discounts for individual consumers)
Credit and payment agreements	No	Credit costs are not consumer prices – interest, service charges and surcharges for nonpayment or late payment are not covered
Interest-free or interest-bearing loans for the purchase of a consumer durable (e.g. a car)	No	Represent a credit and are thus not suited to coverage
Discounts in the form of giveaways	No	Discounts are not covered if the giveaways are minor. If the market value of the giveaway is known, it can be deducted and added again after the free giveaway period ends
x units at a lower price than a single unit	Yes/no	Borderline case. These discounts are covered if the good involved is significant and if both x units and single units are common (e.g. construction material)
x free for the price of y	No	y is routinely covered, x is not (because x is an insignificant good). Therefore, such discounts are not covered
Rebate coupons earmarked to specific goods	No	Not covered as a rule
	Yes	Such rebates are covered if all potential customers can take advantage of them where the good is sold
Discounts for particular types of household goods	No	Not covered if the terms differ among households
	Yes	Covered if a significant share of expenditure is associated with particular types of households
Senior citizen, student (university, school), and membership (e.g. labor union members) discounts	No/yes	Not covered unless the discounts apply to a significant share of expenditure exclusively for a particular group of persons (e.g. student aid, expenditure for senior citizens' residences, senior citizens' railroad ticket)
Discounts for members of organized groups (e.g. labor union members, staff council)	No	Discounts apply to particular individuals, not to everyone
Households with individual customer loyalty cards (purchased or issued free of charge) and discounts in particular stores (e.g. tourism cards)	No	Discriminatory prices that do not apply to all consumers. Discounts include price reductions for various club memberships (e.g. sports clubs, cultural associations, labor unions) and related services (cheaper admission tickets, cheaper vacation services, price reductions on individual services such as tours, city breaks, stays at health resorts, spa deals)
Subsidized rents	No	Are part of household income

Regular discounts or rebates	Yes	Are covered if applicable to particular products and for all consumers
Bottle deposit refunds	Yes	As a rule, regular deposits are subtracted from prices. Refunds that are made years after purchase (e.g. premiums for scrapping cars) and that do not help increase purchases are not covered
Irregular discounts/rebates	Yes	Irregular discounts are covered if they apply to a particular product for a particular period and thus have a significant effect on the amount sold
	No	Irregular discounts are not covered if they apply to particular customers and do not apply to a particular good or service
Retailer bonus program (various types)	No	Do not benefit all customers
Loyalty cards entitling holders to a discount of x% on purchase y	No	Do not benefit all customers, do not apply to a particular good
Incentive programs (e.g. car trade-ins)	Yes	Apply to a particular good and have a significant impact on the amount sold
Retroactive refunds (e.g. bonus refundable next year)	No	Do not apply to a particular good, have no impact on the amount sold because their effect is retroactive, apply to particular customers
Memorandum item: surcharges (e.g. tips)	Yes	If a service surcharge is customary for the product, it is to be covered
	No	Variable tips (whose size is determined by individuals) are not covered

Source: Consumer Price Index Manual (2004); Eurostat (2001).

(Classification of Individual Consumption by Purpose) categories, which gives rise to question of which category the package should be recorded in. Tourist travel passes are another example of a product that combines services from different COICOP categories. Strictly speaking, it would be necessary to track the price of all products covered by the tourist travel pass as a separate item in the price index or as a sample within an item in addition to the product proper, which is difficult and complicated. Therefore, items are only covered individually rather than in the form of packages.

4.3 Coverage of Typical Price Reductions in Inflation Measures

To illustrate the theoretical conventions in table 3, we will now provide some practical examples that statisticians are confronted with in measuring inflation. Moreover, box 4 analyzes the main features of an Austrian retailing chain's customer loyalty program on the basis of the promotional flyer and describes the most common applicable

inflation measurement methods for each feature.

Instant rebate (e.g. 3% discount for holders of a customer loyalty card) on the total: As discounts are granted to individuals with loyalty cards, they are not covered in the HICP.

EUR 10 coupon for particular customers: Not all potential customers have a coupon, nor does the coupon apply to a particular product: the HICP does not cover the EUR 10 reduction.

Special offer of 50% off on cleaning agents (applicable to store A on the survey date; discount is not linked to loyalty card ownership): Every customer receives a discount on the given date. If the special offer price is applicable to the HICP survey period (as a rule, the second week of the month),²⁵ it is taken into account; if not – for example if the special offer is valid only on a Saturday – it is not covered. If the special offer is available only to loyalty cardowners, it is not covered in the HICP.

Retailer bonus program (annual bonus) of EUR 50: Customers receive a one-time bonus by mail that they can re-

²⁵ The prices of goods that vary strongly within a month and of seasonal goods such as fruit and vegetables are measured in the second and fourth weeks of a given month.

deem on a purchase of their choice up to a certain deadline. As this bonus is given to holders of loyalty cards and does not apply to a particular good, it is not covered in the HICP.

Multi-buy promotions (e.g. buy one, get one free): Discounts are taken into account if the amount of the product roughly corresponds to the amount given as the household standard in the description of the good, for example two bottles of shampoo sized 250ml for the price of one bottle of 300ml. The discount price equivalent to the standard size is calculated and included in the HICP.

Scaled prices and bulk purchase prices (e.g. buy one bag of cement for EUR 10.29, buy one pallet (35 bags) of cement bags for EUR 9.98 a bag): Such discounts are reflected in the HICP if the product in question is customarily sold or demanded in this fashion. For instance, from 2011, pellets will be included as a new item in the index. The price of 4 tons of such fuel – the usual amount sold to a household – will be covered (but not discounts on this volume granted to individuals).

Car purchases with or without trade-ins: If customers purchase a car for EUR 30,000 and are given 8%²⁶ off the listed price, they may also have negotiated an all-inclusive price that covers special features such as light alloy wheels, a GPS system and better service

and guarantee conditions. The listed prices of 50 popular new car models with standard features and the prices of around 25 popular used car models are covered in the HICP. Car dealers frequently take used cars on a trade-in basis, which has no impact on the price of a new vehicle, as the trade-in is defined as a second-hand transaction and as the trade-in price is defined in bilateral negotiations, is intransparent and therefore almost impossible to determine.

Tourist travel passes: Travel passes, which are offered by many Austrian tourist regions, sometimes free of charge, give tourists access to a broad range of discounts (including price-discriminatory discounts) for recreational, cultural, sports and transport services. The price index includes a selection of services available under the tourist pass, under the prerequisite that these services are available to all households. The price of each service is covered separately. However, the package price of travel passes for a specific region is not included; such packages offer users considerable discounts compared to the regular price of each service purchased separately.²⁷

Furniture and fixtures: The price index includes a number of prices of furniture, fixtures and other household items. The index sample includes large furniture stores, cabinetmakers' workshops and do-it-yourself shops with

²⁶ Individual discounts in automotive retailing are subject to many criteria and are therefore highly variable: These criteria include, for example, being a regular rather than a new customer, demand on the automotive market, trade-ins of used cars, the most recent sales figures of the retailer (if sales are slow, customers can expect bigger discounts), the car type and model, clearance sales.

²⁷ The Kärnten Card travel pass (for the summer of 2010) serves to illustrate the discounts available. The travel pass gives holders free admission to some 100 destinations, discounts for the services of over 50 partners, such as around 50% off on bus and train fares. One-, two- and five-week passes are available for adults and children; season passes, spring passes or summer passes are available for residents (with separate prices for adults, children and seniors). Use of the passes is unlimited. Some accommodation facilities offer their guests passes free of charge for the duration of their stay as an additional service. Discounts under the Neusiedler See Card travel pass are comparable. This travel pass is available free of charge from over 700 accommodation providers in Burgenland; cardholders may use most of the over 40 recreational facilities in Burgenland free of charge from April through October.

standard products. As a rule, the index includes special offers but no additional individual discounts, special delivery terms or other purchase-related services such as assembly.

Insurance premiums: The index includes the premiums of representative accident, health, life, home and car insurance policies. Insurance companies also offer individual (gender or age) discounts that are also taken into account in measuring inflation; discounts negotiated with individuals are not.

Tourism and accommodation: Inflation measurement is based on the cate-

gory prices stated in catalogues or in the Internet. However, individual additional benefits in the travel package, such as airport parking fees, rental cars or travel insurance, are not taken into account. Early bird bonuses or last minute deals are covered if they represent a significant market share. Also, special family packages at particular accommodation facilities are included, provided they apply across the board.

Senior citizen railroad passes: The index includes this instance of price discrimination, as it represents a significant share of expenditure.

Box 4

Long-Term Discount on 300 Items (Vorteilsaktion 300): An Austrian Supermarket Chain's Program for Loyalty Cardowners

The Basket of Goods and the Discounts

A large Austrian grocery retailer gives its loyalty customers a long-term discount on a basket of 300 products,¹ mainly brand-name supermarket items (food and beverage items, personal hygiene items). The discounts are available for a guaranteed period of three months. Most or all of the brand-name items in the basket are exchanged every three months, but the quality of the items and as a consequence the utility level for consumer is roughly the same.

The discount basket of early July until early October 2010 was analyzed on the basis of the related advertising flyer listing the original and the discount prices. The basket comprises some 230 individual products; the total of 300 products is the result of different varieties of one and the same product with the same price. The full price of the products in the discount basket of 230 goods is about EUR 840, which is the price that customers without a loyalty card have to pay. Loyalty cardholders, on the other hand, pay a total of EUR 640 EUR – savings of EUR 200 on the regular price. The baskets of the other quarters were found to have a similar profile.² Moreover, the typical purchasing frequency of the products differs – some are bought daily, some weekly, others monthly or at even greater intervals. In other words, customers can potentially enjoy discounts every time they go shopping. The products are selected in a way that different categories of consumers (e.g. age, income, marital status) benefit from discounted prices.

The following pattern for discounts emerges:

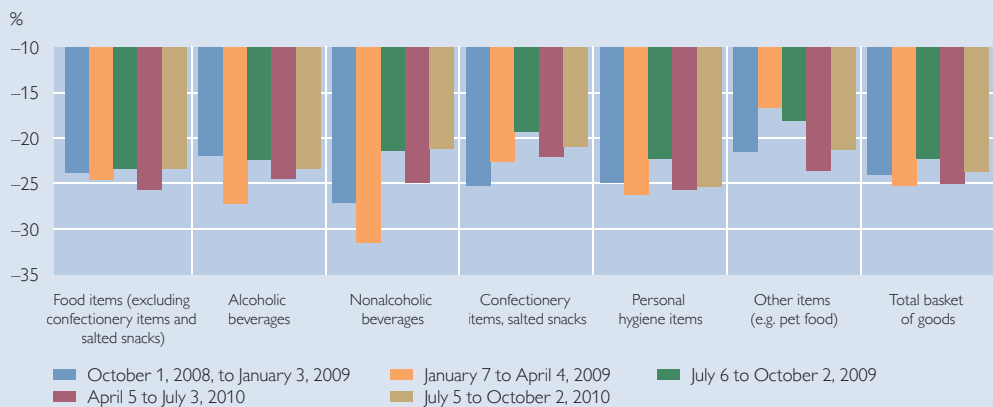
- The average discount for the entire basket varies marginally from one quarter to another, ranging between 22% and 25% (chart 8). The discounts themselves differ by up to ± 10 percentage points from one product group to another (e.g. food items, alcoholic beverages, personal hygiene products).
- Discounts on individual products are broadly diversified within a range of 7% to 50%, with the lowest number of articles at these margins (6% to below 10% and above 40%; chart 9).
- A discount of between 20% and 30% applies to approximately 60% of the (generally low-priced) items (chart 9).

¹ This basket was expanded to include 400 brand-name articles from October 4, 2010; moreover, the retail chain guarantees that these are “best price” products.

² The advertisement brochures were available for five quarters (chart 8).

Chart 8

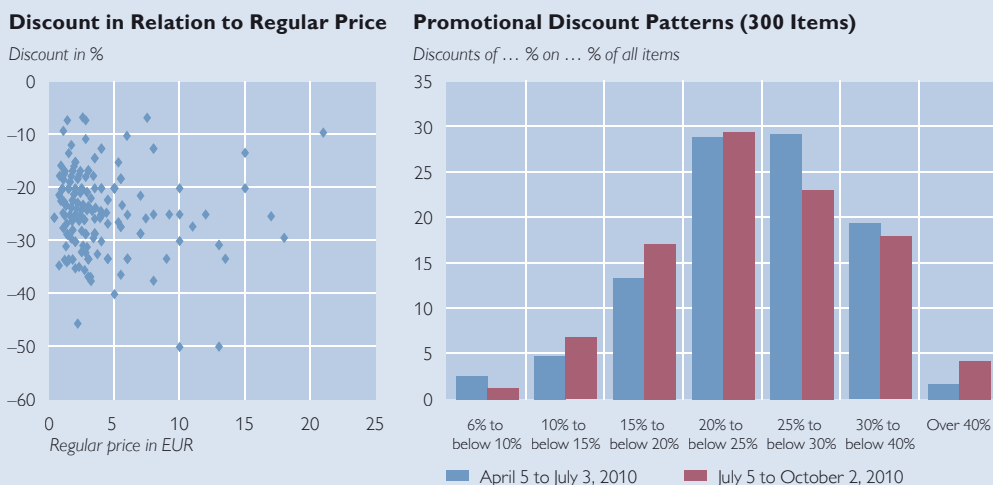
Long-Term Discounts on 300 Items: An Austrian Supermarket Chain's Program for Loyalty Cardowners



Source: Authors' calculations based on the supermarket chain's advertising flyers.

Chart 9

Discounts on 300 Items under an Austrian Supermarket Chain's Program for Loyalty Cardowners in the Second and Third Quarters of 2010



Source: Loyalty cardowner program with discounts on 300 items of an Austrian supermarket chain from April 5 through July 3, 2010; authors' calculations.

How Would The Discount Basket Be Reflected in Inflation Measurement?

The basket of goods in the customer loyalty program (Vorteilsaktion 300) represents only a small share of the HICP basket, its representativeness for inflation measures is therefore limited. According to Statistics Austria, it covers at most 17% of the HICP basket. Moreover, the product-specific weighting in both baskets diverges sharply and some staples, such as milk, are not represented in the discount basket whereas other items, in particular (high-proof) alcoholic beverages, are included with a significant higher weight.

The HICP includes only those basket prices, if any, that are valid for customers without a loyalty card, not the discounted prices that apply only to customers participating in the loyalty program. Table 4 shows the impact that accounting for retail discounting would have on the inflation rate. The figures as such are of secondary importance in this respect; what is important is that the price averages reflecting discounting practices (far-right column) do put a new

angle on the information that the standard inflation measures provide. The analysis is, however, based on the assumption that customers purchase only the products in the respective basket, which is a rather unrealistic proposition.

The basket became slightly more expensive – 0.5% – for customers without a loyalty card in the period from the third quarter of 2009 until the third quarter of 2010. In contrast, it became 1.4% cheaper for customers entitled to discounts, partly because of the higher discounts they tend to enjoy on average. As a result, the average aggregate price for both groups of customers dropped by almost 0.4% year on year – which is roughly 1 percentage point below the rate that would feed into the “official” inflation rate, i.e. 0.5%. At the same time, this discrepancy relates to at most 17% of the HICP basket, which limits the inflation bias of the discount basket under the customer loyalty program to roughly 0.1 percentage point.

Table 4

Long-Term Discount on 300 Items: Impact on the Basket of Goods

Observation period	Customer without a loyalty card	Customer with a loyalty card	Discount for loyalty customers	Average price for both types of customers
	EUR		%	EUR
July 6 to October 3, 2009	833	647	-22.3	740
July 5 to October 2, 2010	836	638	-23.7	737
	Change in %; change in percentage points (column 4)			
	0.45	-1.38	-1.41	-0.35

Source: Authors' calculations.

The table shows two observation periods in which the average discount rises, so that the basket becomes relatively cheaper. However, it must be pointed out that there may also be periods during which the discount diminishes or stays unchanged which would reduce the bias even more.

5 The Effect of Consumer Loyalty Programs on Household Purchasing Power

The share of sales revenue generated through customer loyalty programs in Austrian retailing is quite large, averaging about one-third across all surveyed retailers (section 3.2). Considering that the discounts under such programs are larger than the discounts nonparticipating customers receive, consumers participating in loyalty programs should benefit from higher purchasing power. To the extent that discounts result only from participating in a customer loyalty program and are thus limited to a particular group of customers, they are not taken into account in the measured inflation rate, as elucidated in section 4.

Establishing the macroeconomic effect that price discrimination instruments in the form of loyalty programs have on the aggregate price level or on purchasing power is thwarted by the lack of data on the inflationary effect of price discrimination (section 2). Therefore, the quantitative effects we cite in this study are to be understood only as a gross effect (*ceteris paribus*) for the households that make purchases under the loyalty program.

In this section, we will treat the impact of participation in a consumer loyalty program and thus of individual price advantages and will try to quantify them using information from our survey among retailers. However, the estimate was made indirectly, on the

basis of a link established between the survey information about the discounts and the share in the product range of these discounts compared with total sales revenue. These data are available separately for total sales revenues and for sales revenues exclusive of the loyalty program. Considering that the number of observations is low and the degree of representativeness is therefore constrained, the results must be interpreted with caution. Moreover, the effect calculated on the basis of the OeNB sample is likely to be at the upper limit for retailing as a whole, which includes many smaller retailers that do not operate a customer loyalty program.

By multiplying the average amount of the discount with and without customer loyalty programs with the share in the total product range for which discounts are given, we calculate the average amount of discounts for the total product range in a first step. The difference between the two values – roughly 0.7 percentage points²⁸ – represents the additional discount for loyalty cardowners on the basis of the total product range. This difference at the same time represents the price level difference that remains unaccounted for in the price statistics as a result of excluding customer loyalty programs and would be tantamount to the one-off inflationary bias resulting from unaccounted retail discounting. Based on total sales in Austrian retailing – about EUR 48.6 billion in 2009 – we calculate a one-off effect on purchasing power of about EUR 320 million, which, according to Statistics Austria, corresponds to about 0.2% of total household expenditure on which the HICP is based.

6 Discount Pricing – Summary

Austrian retailers have increasingly resorted to (discriminatory) pricing policies to raise sales and sales revenues in recent years. As the OeNB survey analyzed in this study illustrates, more than one-third of all retailers who provided information operate a customer loyalty program, and the customers participating in those programs contribute roughly one-third of total sales revenue. The average size of discounts was 7% for loyalty cardowners and about 5% for customers not participating in a loyalty program. Moreover, some retailing sectors change discount prices fairly often. Company-specific factors (above all, changes in the competitive situation, of purchasing conditions, and of costs) play a much larger role in discount pricing than macroeconomic reasons do (inflation, cyclical developments).

Customers are very avid users of loyalty programs: Some 30 million loyalty cards had been issued in Austria by 2008. Those customers that held loyalty cards owned on average five cards (A.C. Nielsen, 2008). The main motivation for card ownership is taking advantage of savings. The authors estimate the overall effect on purchasing power of participation in loyalty programs to come to around EUR 320 million. However, at the macroeconomic level, this effect would have to be offset against a possible price-raising effect of price discrimination measures.

Discount pricing is partly reflected in inflation measurement in the HICP, the key monetary policy indicator. Various institutions have put together a CPI handbook containing guidelines and conventions for coverage of price reductions outside of consumer loyalty

²⁸ Calculation: Average discount with/without loyalty card (6.6%/4.7%) multiplied by the average share in the range of products on which discounts are given with/without loyalty card (32.1%/31.5%).

programs. The EU has passed a regulation treating HICP coverage of price reductions, in particular, different types of price differentiation (such as price, volume and personalized discounts) as well as a wide variety of discount prices. In Austria, customers in loyalty programs and nonparticipating customers often have a chance to benefit from discounts. Discounts granted under loyalty programs are not covered in the HICP, nor are frequently offered cash and loyalty discounts that are also mainly offered under consumer loyalty programs or discount coupons, the latter because they do not apply to particular products.

Price reductions are so complex and intransparent that they cannot be fully covered by inflation measures. Up to now, no satisfactory approach has been found to adjust the disclosed purchase prices by a broad variety of individual discounts that depend on the customer profile and the sector offering the discounts – including the benefits under customer loyalty programs.

The share of customers in a loyalty program is very high in some retail sectors: in some cases, up to 50% of the product range is subject to discounts. In other words, after factoring in discounts, the prices of individual goods are not the same as the relevant purchase prices stated in the stores and as the relevant prices reported for and covered by the HICP. Moreover, according to our survey, discount pricing changes quite frequently in some sectors – in 23% of the reporting companies, it changed at least once a week.

All these aspects have an impact on headline inflation, which is meant to record and reflect representative prices. This effect is all the more striking in sectors that operate a high percentage of consumer loyalty programs and whose goods represent a substantial

share of the HICP basket, such as food retailing, drugstores, clothes retailing and DIY as well as furniture retailing. The analysis of a particular Austrian food retailer's consumer loyalty program, which offers discounts, including substantial bargains, on a number of food staples for an extended period, comes to the conclusion that only a portion of these goods are covered in the HICP basket and that the impact on the rate of inflation is thus likely to be small.

Expanding the coverage of discounts in inflation measurement requires reliable sources and data. As our experience in this study shows, that is indeed the sticking point: For strategic reasons, companies are rather unwilling to provide such information. Scanner data would be more suitable for precise records of the prices for customers both with and without customer loyalty cards. However, this would require the preparedness of the statistical office to use such instruments; moreover – and this is more of a hurdle – retailers would need to provide the necessary information reliably and in a timely manner. Experience in the electrical retailing business, which already records scanner data for the CPI and the HICP, might be viewed as pioneers for the extension of the method to other relevant sectors. However, even this method of recording data is not a panacea – it cannot cover all types of discounts (such as coupons or loyalty discounts).

All in all, Austrian retailers regularly offer a wide variety of discounts. Inflation measurement has been adjusted to reflect the prevalent price discrimination strategies as laid down in relevant handbooks, guidelines and regulations. Wherever the data and the survey methods permit discounts to be covered efficiently, discounts that are granted to a broad group of customers

(not to individuals) are taken into account in regular inflation measurement. Looking ahead, it appears to be advisable to include also customer loyalty programs, which are common in many industries and which tend to gen-

erate higher discounts than ordinary discount schemes. Above all retailers which run customer loyalty programs throughout Austria and offer the same conditions to all cardholders should be included in inflation measurement.

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Annex – Questionnaire Survey on Retail Discounting in Austria (Please check as appropriate)

Question 1:

**What types of price discounts does your company commonly offer?
(several answers possible)**

Types of discounts	Linked to loyalty programs (loyalty cards, club membership, etc.)	Not linked to loyalty programs
Cash discounts: Instant rebate on all purchases during one shopping trip		
Up to 3%	<input type="checkbox"/>	<input type="checkbox"/>
Over 3% to 10%	<input type="checkbox"/>	<input type="checkbox"/>
Over 10%	<input type="checkbox"/>	<input type="checkbox"/>
VAT-free days (e.g. Saturdays)	<input type="checkbox"/>	<input type="checkbox"/>
Special offers, sale days, sale weeks, up to 3% off		
Special offers on particular products (for example 10% off on pears)	<input type="checkbox"/>	<input type="checkbox"/>
One-sale days or weeks on a particular range of products (for example 10% off on fruit)	<input type="checkbox"/>	<input type="checkbox"/>
Sale days or week on all products (for example 10% off on all products)	<input type="checkbox"/>	<input type="checkbox"/>
End-of-season sales (for example, winter clearance sales)	<input type="checkbox"/>	<input type="checkbox"/>
Coupons		
Coupons for particular products	<input type="checkbox"/>	<input type="checkbox"/>
Instant rebate coupons (for example entitling users to 10% off on purchases totaling over EUR 100)	<input type="checkbox"/>	<input type="checkbox"/>
Coupons for certain products printed on customers' receipts	<input type="checkbox"/>	<input type="checkbox"/>
Combination coupons	<input type="checkbox"/>	<input type="checkbox"/>
Coupons in advertising flyers	<input type="checkbox"/>	<input type="checkbox"/>
Loyalty discounts		
Reward programs and bonus points redeemable on exclusive items	<input type="checkbox"/>	<input type="checkbox"/>
Annual bonus (cash reward as a percentage of total annual purchases)	<input type="checkbox"/>	<input type="checkbox"/>
Limited-time discounts		
Discounts on products with a short use-by date (for example on fruit after 5:00 p.m.)	<input type="checkbox"/>	<input type="checkbox"/>
Happy hours, evening discounts, etc.	<input type="checkbox"/>	<input type="checkbox"/>
Multi-buy promotions		
Buy one, get one free / buy two, get one free	<input type="checkbox"/>	<input type="checkbox"/>
Scaled prices and bulk purchase prices	<input type="checkbox"/>	<input type="checkbox"/>
Individualized discounts		
Discounts for young persons, students, senior citizens	<input type="checkbox"/>	<input type="checkbox"/>
Family discount cards and other options	<input type="checkbox"/>	<input type="checkbox"/>
Birthday discount offers	<input type="checkbox"/>	<input type="checkbox"/>
Other discount options	<input type="checkbox"/>	<input type="checkbox"/>
Comments:		

Question 2:

How high was the share of retail customers participating in your company's consumer loyalty program in 2009?

Up to 10%	<input type="checkbox"/>
Over 10% to 30%	<input type="checkbox"/>
Over 30% to 50%	<input type="checkbox"/>
Over 50% to 75%	<input type="checkbox"/>
Over 75%	<input type="checkbox"/>

Question 3:

How high was the share of your company's sales in Austria to customers participating in the loyalty program in total sales in 2009?

Up to 5%	<input type="checkbox"/>
Over 5% to 10%	<input type="checkbox"/>
Over 10% to 20%	<input type="checkbox"/>
Over 20% to 30%	<input type="checkbox"/>
Over 30% to 50%	<input type="checkbox"/>
Over 50%	<input type="checkbox"/>

Question 4:

How high is the share of discount products in the total product range?

Share in total product range	Linked to loyalty programs	Not linked to loyalty programs
No discounts	<input type="checkbox"/>	<input type="checkbox"/>
Up to 20%	<input type="checkbox"/>	<input type="checkbox"/>
Over 20% to 40%	<input type="checkbox"/>	<input type="checkbox"/>
Over 40% to 60%	<input type="checkbox"/>	<input type="checkbox"/>
Over 60% to 80%	<input type="checkbox"/>	<input type="checkbox"/>
Over 80%	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

Question 5:

**How high are your discounts on average (exclusive of sales)?
(only one answer per column)**

	Linked to loyalty programs	Not linked to loyalty programs
No discounts	<input type="checkbox"/>	<input type="checkbox"/>
Up to 3%	<input type="checkbox"/>	<input type="checkbox"/>
Over 3% to 5%	<input type="checkbox"/>	<input type="checkbox"/>
Over 5% to 10%	<input type="checkbox"/>	<input type="checkbox"/>
Over 10% to 20%	<input type="checkbox"/>	<input type="checkbox"/>
Over 20% to 30%	<input type="checkbox"/>	<input type="checkbox"/>
Over 30%	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

Question 6:

How have the following discounting methods changed in your company in recent years?

	Increased sharply	Increased	Remained unchanged	Decreased
Instant rebate (cash)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special offers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coupons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loyalty discounts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Limited-time discounts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-buy promotions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Individualized discounts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Customer loyalty programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

Question 7:

How often do your company's discount pricing policies change?

Several times a week	Weekly	Monthly	Quarterly	Semiannually	Rarely
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

Question 8:

How important are the following reasons for changes in your company's discount pricing policies? (several answers possible)

	Very important	Rather important	Rather unimportant	Unimportant
Changes in costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Changes in the company's competitiveness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reductions of customers' incomes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increases in customers' incomes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High inflation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Economic and financial crisis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cyclical developments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seasonal conditions (regular changes in conditions over the year)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry-specific shocks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wholesaling conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other reasons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

Question 9:

Which of the following sectors does your company primarily operate in?

Food and beverage retailing	<input type="checkbox"/>
Retailing of drugstore goods and cosmetics	<input type="checkbox"/>
Clothing and textiles retailing	<input type="checkbox"/>
Retailing of shoes	<input type="checkbox"/>
Furniture and fixtures retailing	<input type="checkbox"/>
Mail order retailing	<input type="checkbox"/>
Sports goods retailing	<input type="checkbox"/>
DIY retailing	<input type="checkbox"/>
Nurseries, lawn and garden supply retailing	<input type="checkbox"/>
Books and paper goods retailing	<input type="checkbox"/>
Electrical appliance retailing	<input type="checkbox"/>
Travel agencies	<input type="checkbox"/>
Gasoline stations	<input type="checkbox"/>
Motor vehicle spares and accessories retailing	<input type="checkbox"/>
Optical goods retailing	<input type="checkbox"/>
Toys retailing	<input type="checkbox"/>

Question 10:

How large is your company's market share in Austria in the sector you have checked?

Up to 10%	<input type="checkbox"/>
Over 10% to 20%	<input type="checkbox"/>
Over 20% to 30%	<input type="checkbox"/>
Over 30% to 40%	<input type="checkbox"/>
Over 40% to 50%	<input type="checkbox"/>
Over 50%	<input type="checkbox"/>