

Internet Payment Behavior in Austria

The popularity of online shopping has risen sharply in recent years, bringing about the emergence of new forms of payment. Against this background, the OeNB conducted a survey in fall 2011 on the general payment behavior of households in Austria (payment survey). This study presents the results of this survey, focusing on Austrians' Internet shopping habits. The survey shows that in Austria 7 of 10 persons use the Internet on a regular basis. More than 60% of these Internet users have purchased goods or services over the Internet at least once. It has become apparent that the ratio of online shoppers varies greatly across sociodemographic groups. The share of online shoppers is higher among men, younger people, more highly educated people and persons living in less densely populated areas. The majority of online payments (around 50%) are made via bank-based payment services, followed by credit card payments, which account for 27% of all payment transactions. The use of Internet-specific payment methods like PayPal is still not widely accepted in Austria. However, with a share of more than 10%, the number of Internet-specific payment schemes has grown considerably compared to the results of previous OeNB studies on payments. The strong boost in e-commerce in recent years has promoted the use of payment instruments on the Internet. Therefore, online shopping will have a growing influence on payment behavior.

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The rising use of Internet services like e-mail, online encyclopedias or social networks has given the Internet a key role in everyday routines. Following this trend, shopping on the Internet has become more and more popular. It is therefore important for companies to present themselves and their goods or services via the Internet and to provide consumers with different options for online payment. Technological advances have boosted the number of such payment methods and have made paying online considerably more convenient in recent years. Internet shopping has become a promising market that is projected to grow further in the future. Consumers' concerns about user safety play a major role in their choice to purchase goods or services online.² The prediction that electronic money will soon completely replace traditional

means of payment, which would limit central banks' possibilities to control monetary growth and inflation, has yet to be proven (Stix et al., 2006). Nevertheless, knowing about people's online payment habits is of particular importance for central banks, as central banks have the mandate to promote the smooth functioning of payment systems. In this context, this study presents the results of a survey commissioned by the Oesterreichische Nationalbank (OeNB) and conducted in the third quarter of 2011 by IFES with the aim to find out more about the payment behavior of Austrian households. This paper is structured as follows: Section 1 discusses and compares the Internet use and online shopping activities of consumers in Austria and in the EU. Section 2 outlines the results of the payment survey with a special focus on Internet

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² Consumer market study on the functioning of e-commerce and Internet marketing and selling techniques in the retail of goods
http://ec.europa.eu/consumers/consumer_research/market_studies/docs/study_ecommerce_goods_en.pdf.

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shopping habits. In section 3, recent activities of EU institutions aimed at increasing Internet security are laid out. Section 4 concludes by giving a brief summary and a short outlook.

1 Increasing Internet Use and Rise in Online Shopping

The number of Internet users and of households with Internet access has been rising since the 1990s. Consequently, the spread of Internet use in Austria and in the EU has been the subject of a large number of surveys.

1.1 Internet Access and Use in Austria and European Countries

One goal formulated in the Lisbon Strategy was to make the EU “the most competitive and dynamic knowledge-based economy in the world,” which includes developing a successful information society. To monitor the implementation of this goal, Eurostat – in collaboration with the national statistical offices (in Austria: Statistics Austria) – organizes two annual Community Surveys to collect data on the development of an EU-wide information society.³ To guarantee comparability at the European level, a standardized methodology and standardized definitions are used.⁴

According to these surveys, the percentage of households with Internet access as well as the share of Internet users varies greatly within Europe. Table 1 provides comparative data on Internet access and use across the EU as a percentage of households (Internet access) and persons (Internet usage). Internet penetration is found to be highest for Northern and Northwestern European countries and lowest for

Table 1
Internet Use across Europe in 2012

Share of households with Internet access	Share of persons who used the Internet during the previous three months		
<i>% of households or individuals</i>			
Netherlands	94	Netherlands	100
Norway	93	Norway	95
Luxembourg	93	Sweden	93
Sweden	92	Denmark	92
Denmark	92	Luxembourg	92
Finland	87	Finland	90
United Kingdom	87	United Kingdom	87
Germany	85	Germany	82
Ireland	81	Belgium	81
France	80	France	81
Austria	79	Austria	80
Belgium	78	Estonia	78
Malta	77	Ireland	77
Euro area	76	Slovakia	77
EU-27	76	Euro area	74
Estonia	75	EU-27	74
Slovakia	75	Czech Republic	73
Slovenia	74	Latvia	73
Poland	70	Hungary	71
Hungary	69	Spain	70
Latvia	69	Malta	68
Spain	68	Slovenia	68
Czech Republic	65	Lithuania	67
Italy	63	Poland	62
Lithuania	62	Cyprus	61
Cyprus	62	Portugal	60
Portugal	61	Italy	56
Greece	54	Greece	55
Romania	54	Bulgaria	52
Bulgaria	51	Romania	46

Source: Eurostat. 2012. *Individuals – Internet use. IKT-Einsatz in Haushalten 2012* (retrieved on July 23, 2013).

Southern and Southeastern European countries. In 2012, the highest rates of Internet use were observed in the Netherlands (100%), followed by Norway (95%) and Sweden (93%); while the lowest rates were recorded in Romania (46%), Bulgaria, Italy and Greece (around 55%). The respective rates for households with Internet access are distributed equally. In Austria, 80% of survey respondents said they used the

³ Surveys on the usage of information and communication technologies (ICT) in enterprises (e-commerce) and surveys on ICT usage in households and by individuals.

⁴ The survey regarding households' Internet usage is a sample survey that comprises households with at least one household member aged 16 to 74.

Internet, and eight out of ten households said they had Internet access. This means that the rates for Austria are slightly above the EU-27 average rates (76% for Internet access and 74% for Internet use).

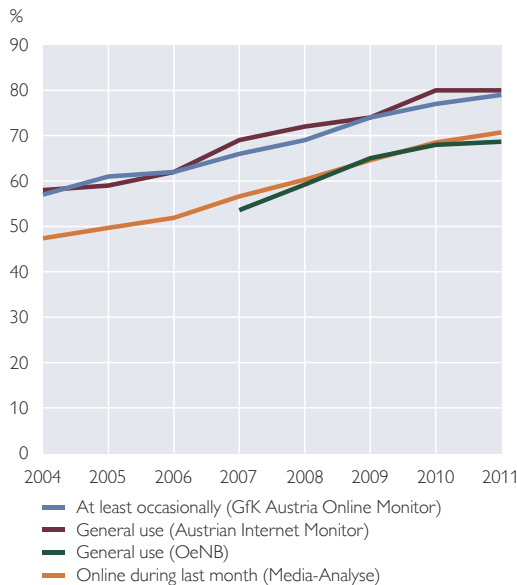
A wide range of other studies about Austrian households' Internet use have been written. However, since the surveys these studies are based on differ in the type of questioning, the way of sampling and the timeframe the questions refer to, their results are only comparable to some extent. Based on data provided by GfK Austria Online Monitor, chart 1 shows how the share of the population that uses the Internet at least occasionally has developed over the last few years (left-hand panel, blue line). In 2011, 80% of respondents said

they used the Internet compared to 50% in 2002. Similar results were observed by the Austrian Internet Monitor (purple line), whereas data provided by the OeNB payment survey and the OeNB payment card-surveys⁵ and a related survey carried out by Media-Analyse deviate considerably from the other surveys mentioned before. In contrast to the Media-Analyse survey, which refers to Internet use during the last month preceding the survey, the OeNB payment card survey analyzes Internet use in general. According to both surveys, around 70% of Austrian households use the Internet, which is 10 percentage points below the results of surveys conducted by GfK Austria and the Austrian Internet Monitor. Despite these differences, it is fair to

Chart 1

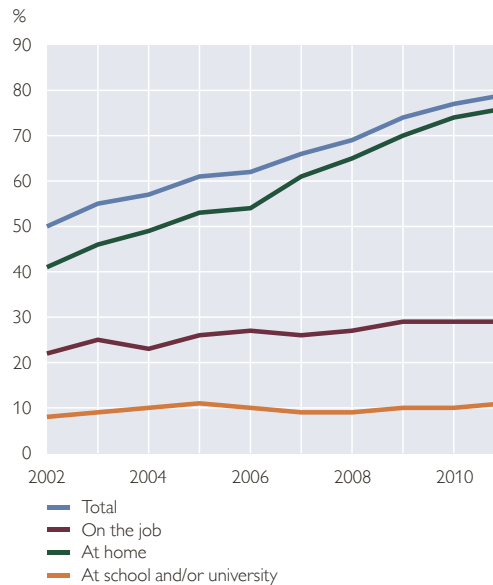
Internet Use in Austria

Frequency of Internet Use



Source: GfK Austria, Integral, Media-Analyse, OeNB.
 Note: The data refer to persons aged 14 and over.

Internet Use by Location of Access



Source: GfK Austria.
 Note: The data provided by the European Commission refer to the population aged 15 and over. All other data presented refer to the population aged 14 and over. Media-Analyse data refer to the entire year.

⁵ The payment card survey commissioned by the Oesterreichische Nationalbank (OeNB) collects data on payment card ownership and the use of payment instruments on a frequent basis.

assume that general Internet use in Austria has at least surpassed the 70% mark and is still on a steady upward trend. The data support the assumption that Internet users use the Internet on a frequent basis.

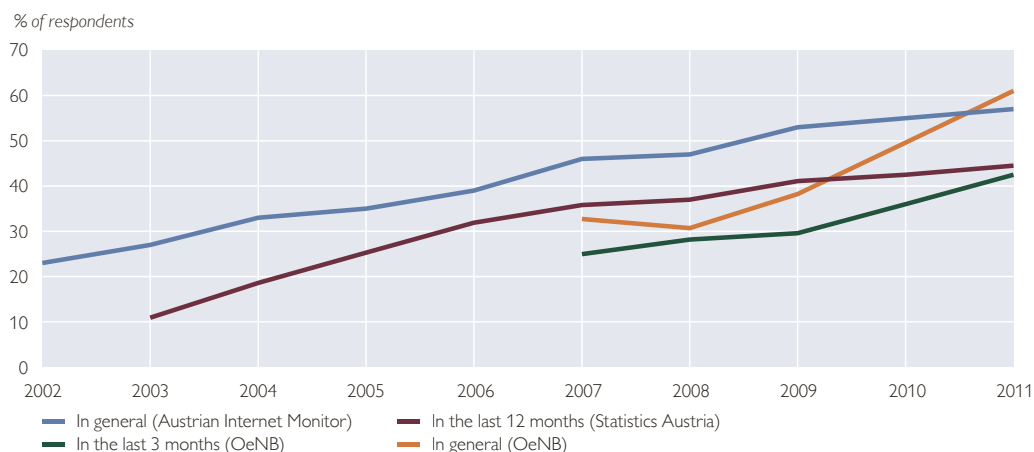
The right-hand panel of chart 1 shows the locations from which Austrians access the Internet. The data – based on a sample of 4,000 people aged 14 years or older – are taken from GfK Austria and were collected on a quarterly basis. 76% of the respondents said they used the Internet at home (green line), 29% opted for “at work” and 11% for “at school or university.” The data show that the rise in the rate of Internet use over the past few years mainly results from an increase of Internet use at home, as figures for Internet use at work or at school and/or university have been stagnating. According to GfK Austria, the number of Austrians aged 14+ is about 7.1 million, which means that, in 2011 approximately 5.4 million Austrians used the Internet at home, 2.1 million used it at work and 0.8 million at school and/or university.

1.2 Online Shopping in Austria

The various surveys also provide information on the extent of online shopping in Austria. For the reasons mentioned above, the online shopping figures are comparable only to a limited extent. In line with the rise of Internet use in Austria, the popularity of online shopping has increased over the past few years. The reasons for this development are the increasing number of Internet users and mobile phone users (in particular among young consumers), technological advances, and more frequent use of online banking facilities. Online banking is of special interest, as having an online banking account is a necessary precondition for using a variety of online payment methods. Data for the third quarter of 2011 provided by the OeNB payment survey show that more than 52% of respondents use online banking, and more than 32% use it on a frequent basis. As illustrated in chart 2, the rate of online shopping increased from 23% of respondents in 2002 to 57% in 2011 (blue line). These data stem from the Austrian Internet Monitor and indicate the share of people who have

Chart 2

Online Purchases in Austria



Source: Integral, OeNB, Statistics Austria.

Note: OeNB data for 2010 are estimated.

bought goods or services over the Internet at least once. This result is consistent with data collected during the OeNB payment survey. According to the latter, more than 60% of respondents have purchased goods over the Internet at least once (42% in the last three months). In a survey conducted by Statistics Austria (purple line), 45% of persons aged 16 to 74 years reported that they purchased goods or services over the Internet in 2011.

A look at the supply side shows that companies are also increasingly taking into account consumer demand: In 2010, 50% of retail companies in Austria had their own websites and 15% operated an online store, generating a total turnover of EUR 1.6 billion – this means that compared to 2006, the number of online stores went up by 75% and revenues augmented almost threefold (KMU Forschung Austria, 2011).

2 Survey Results

2.1 Some Remarks on the Methodology Applied

The OeNB payment survey included a detailed questionnaire as well as a “payment diary” in which respondents were asked to record the payments they had made for purchases of goods and services in the week preceding the survey, providing details on the respective payment amounts, means of payment as well as the sector to which the good or service purchased could be assigned. While the payment survey provided data on payment habits in general, the analysis in this paper is limited to online payment-relevant data.⁶

The sample surveyed comprised 2,271 households, 1,165 of which sent back a payment diary. Given incomplete entries in some of these payment diaries, the statistical analysis in this

study was conducted on the basis of 1,138 payment diaries. Of these 1,138 households, 7.3% stated that they had ordered goods or services over the Internet at least once within the week in question. With a total of 125 transactions generating a payment volume of EUR 9,342.08, the online transactions recorded in that week account for roughly 1.1% of all direct payment transactions and 3% of the value of all payments recorded in the payment diaries. Table 2 presents the descriptive statistics with regard to the payment values of the online transactions carried out in the observation period in fall 2011.

With a mean payment volume of EUR 74.7 and a median of EUR 50, it is evident that the payment volume of online transactions recorded in the sample was not very high. Furthermore, we can deduct that the use of online transactions was more frequent for payment volumes below the mean of EUR 74.7. Among the group of online shoppers surveyed, 66.7% stated that they had bought goods and services online once, 22.6% twice and 10.7% three times or more in the observation period.

As the amount of payment diary data was sparse, these results should be

Table 2

Distribution of Online Payments¹

	EUR
minimum	0.79
p5	9
p25	22.9
median	50
mean	74.7
p75	100
p90	150
p95	225
maximum	470

Source: OeNB Payment Survey, 2011.

¹ Statistical indicators: variance 5,906.35; skewness: 2.62; kurtosis: 12.32.

⁶ For a more general analysis, please refer to Mooslechner et al. (2012).

interpreted with caution and, if possible, in comparison with the results of other related studies.

2.2 Use of Internet-Specific Payment Schemes still not Widespread in Austria

Given the speedy development of innovative means of payment as well as the increasing use of online shopping, the OeNB decided to evaluate which means of payment people tend to use when shopping online. To arrive at a complete picture of online payment practices in Austria, the results presented in this section are based on the answers given in the general questionnaire of the OeNB payment survey as well as on data gathered in the payment diaries.

According to the questionnaire, 60% of respondents have ordered goods or services via the Internet at least once so far. The results show that to pay for their online purchases, 35% of respon-

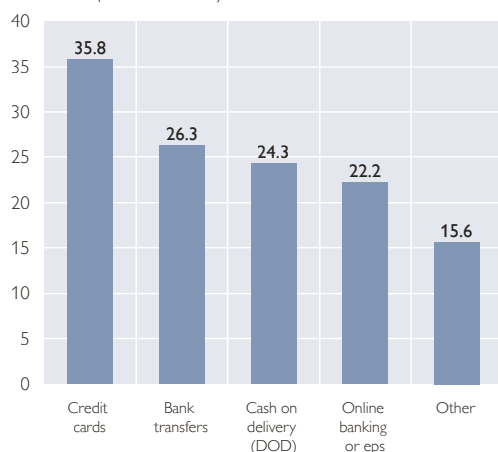
dents used their credit cards. Around one-quarter paid by bank transfers using a paper form to initiate transactions.⁷ With a share of 24% in total payments for online, paying cash on delivery (COD) is still relatively common in Austria. This might be a side-effect of the general high level of cash use in Austria. The study Mooslechner et al. (2012) shows that cash is the most important payment instrument, accounting for 82.1% of transactions and 65.3% of the total payment volume. The fourth-highest rate, at more than 20%, is recorded for online banking, including credit transfers made electronically and transactions made by eps Online-Überweisung (an Austrian online bank transfer scheme). All other payment options (including payments via mobile phone, PayPal, Paybox) were used by less than 10% of respondents. This might indicate these options are not yet well known and that their acceptance by online shops is comparatively low.

As the use of Internet-specific payment schemes is still not widespread in Austria, the degree of brand awareness on the one hand and the actual use of online payment methods on the other hand are of major interest. The results show that the best known Internet-specific payment instruments are PayPal and Paybox (each 38%); however, only 9% (PayPal) or 4% (Paybox) of respondents claimed to actually have used the respective service. 28% stated that they had heard of eps Online-Überweisung and 14% that they had already used this e-payment scheme. Thus, eps Online-Überweisung proved to be the most widely used Internet payment service, but not the best known. The high usage of eps Online-Überweisung could be caused by the fact that it relies on the

Chart 3

Use of Online Payment Methods in Austria

% of persons who purchased goods or services over the Internet in 3 months prior to the survey



Source: OeNB.

Note: The chart shows data for 2011.

⁷ For bank transfers, the payment form is submitted together with the bill and the good is delivered to the buyer by mail.

infrastructure of Austrian banks, which means that account holders at every Austrian bank providing this service can use eps Online-Überweisung for all online merchants that accept this payment method. To use PayPal, by contrast, consumers must first register for this particular service and open a payment account with PayPal.

2.3 Payment Diary Data Show that Bank Transfers Remain Most Popular Payment Method

The results of assessing the payment diary data show that – against previous studies conducted by the OeNB – bank transfers remain the most popular payment method for online purchases: 50% of online payments are made by using payment forms or direct debit (chart 4). With credit cards currently being used for around 30% of online payment transactions, around 80% of all online payment transactions are made using only two methods of payment. In Austria, paying cash on delivery is still very popular and constitutes the largest component among the payment methods summarized as “Other” in chart 4. When comparing the results with those of previous studies, cash-on-delivery transactions remained relatively stable. Internet-specific payment methods like “eps Online-Überweisung” and PayPal increased considerably compared to the findings of previous studies and account for 11.3% of all online payment transactions.

In a breakdown by payment amounts, the shares of payment methods are distributed analogously to the number of payment transactions. Again, bank transfers have the highest share (around 50% in total transaction value). The share of credit card transactions comes to roughly one-third of the total value of transactions. While for payments at traditional retail outlets, the share of

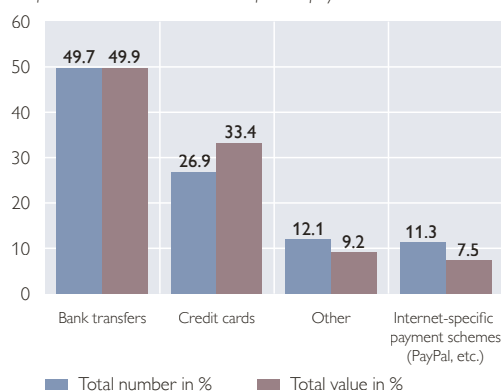
credit card payments in the total transaction value is far higher than the share in the number of transactions, which indicates that credit cards are primarily used for larger-value amounts, this is not the case for online payments. For online shopping purposes, credit cards are also used for smaller amounts. Payments by Internet-specific payment schemes accounted for 8% of the total value of online payment transactions.

The relation between payments amount and payment methods also provides further insight into the way online payment schemes are used. Apparently, for small-value payments up to EUR 10, credit cards are used to a significantly higher extent (59.6%) than at traditional retail outlets, where they are primarily used for larger-value amounts. In general, the use of credit cards is relatively high across payment amounts, which possibly results from the generally high acceptance of credit cards in online shops. Bank transfers are particularly important for higher payment amounts, with their share rising to more than 60% in the cate-

Chart 4

Breakdown of Online Payment Transactions in Austria by Payment Method

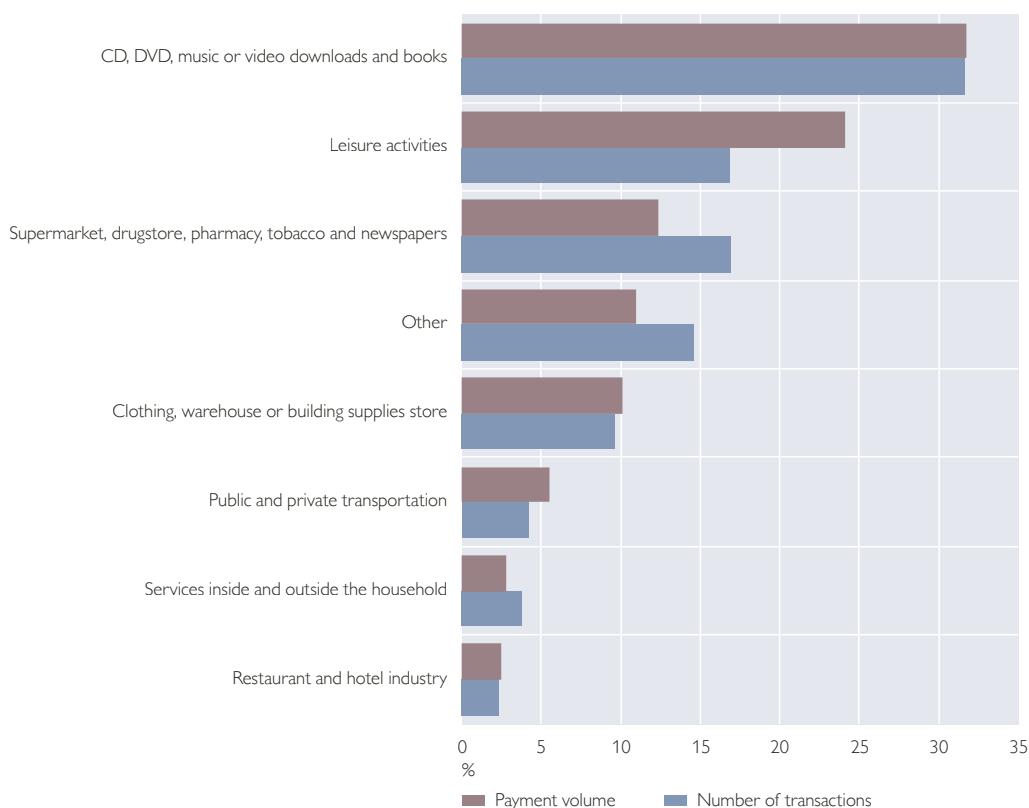
% of total number and total value of online payment transactions



Source: OeNB (Payment Diary).

Note: The chart shows data for 2011.

Breakdown of Online Payment Transactions by Sector



Source: OeNB (Payment Diary).

Note: The chart shows data for 2011.

gory of payments over EUR 100. This might be explained by the fact that in general, more trust is placed in the security of this payment method.

The respondents who filled in the payment diary stated that the majority of their online shopping transactions (32%) belonged to the category of “CD, DVD, music or video downloads and books.” Transactions in this category also accounted for 32% of the overall online transaction value. The high popularity of this particular category can possibly be traced to the character of the goods provided and to the fact that the respective online shops are long established and provide a broad range of goods. The business areas “leisure activities” and “supermarket, drugstore,

pharmacy, tobacco and newspapers” each accounted for 17% of all online shopping transactions. In terms of the value of payments made, the category “leisure activities” scores considerably higher than the other category, which was to be expected given the strong differences in the value of goods in both categories.

2.4 Comparison with a Deutsche Bundesbank Study Points to Differences

Comparing the above results with those of a survey conducted by the Deutsche Bundesbank in 2012 on the payment behavior of German households, we find similarities in some areas. According to Deutsche Bundesbank (2012), 64% of all respondents were Internet users and

around 77% of Internet users stated they had bought goods or services over the Internet at least once. This is similar to the results of the OeNB study which found that 60% of respondents had used the Internet for online purchases.

When it comes to the individual payment methods used for online purchases, differences in the results can be identified. In Germany, the payment instruments most frequently used for online shopping are credit transfers after delivery (48%)⁸ and Internet-specific payment schemes (31%). In particular, male users and users aged 25 to 34 prefer to pay online using Internet-specific payment schemes. 21% of respondents said they used their credit cards – a rate which is far lower than in Austria. In Germany, paying cash on delivery is not as popular as in Austria: According to the Bundesbank's questionnaire, approximately 12% of respondents used this payment method for their online purchases.

The results outlined above and those from previous studies implicate that compared to the Deutsche Bundesbank study the adoption of innovative Internet payment methods in Austria is rather slow. This factor seems to be specific to Austria. The results of the OeNB study showed that Austrians prefer to use traditional payment instruments for online purchases. 67% of respondents stated that they preferred to pay with familiar payment methods. 30% proved open-minded toward new payment instruments once these had become successfully established on the market, and just 3% indicated that they would try new payment methods as soon as they became available.

2.5 Representative Online Shoppers are Young and Well-Educated

When analyzing specific characteristics of online shoppers, an evaluation of Internet usage rates by sociodemographic criteria should be the starting point. The four criteria age, education, gender and community size seem to play a crucial role in this regard. As illustrated in table 3, Internet usage rates are higher for younger age groups and better-educated people. In the youngest age group (15 to 24 years) surveyed, more than 95% said they used the Internet, while the oldest age group (over 60 years) recorded an Internet usage rate of 28%. Almost 94% of people with a university degree said they browsed the Internet, which is significantly higher than the share of Internet users among people with lower education. Furthermore, women were found to use the Internet less frequently than men, and Internet usage is much more widespread in larger communities.

Also, the rate of Internet users who shop online varies greatly across sociodemographic groups (table 3, right-hand column).⁹ Again, the most important determining factors here seem to be age, education and gender. Online shopping rates are higher for younger and better educated persons and for men. The older the Internet users are, the less likely they are to make online purchases – around 28% of Internet users aged 60 and older stated that they had ordered goods or services over the Internet in the three months preceding the OeNB payment survey. In contrast, the highest share of online shoppers is observed in the age group of 25 to 44 years (53%), followed by the group

⁸ The OeNB survey does not differentiate between credit (bank) transfer after delivery and prior to delivery.

⁹ Please note that these numbers only represent people who purchased goods or services over the Internet in the last three months preceding the OeNB payment survey and therefore do not represent the overall share of online shoppers in Austria.

Table 3

Internet Usage and Online Shopping Behavior by Sociodemographic Characteristics

	Do you use the Internet? % of respondents that answered "yes"	Have you ordered goods or services over the Internet in the past three months? % of Internet users that answered "yes"
Age		
15 to 24 years	95.17	45.29
25 to 44 years	89.62	52.52
45 to 59 years	69.28	36.91
over 60 years	28.34	26.89
Education		
Compulsory education	57.36	37.80
Secondary education	78.31	41.42
Higher secondary education	89.46	51.00
University education	94.09	64.58
Gender		
Women	63.82	39.89
Men	73.89	48.53
Community size		
Up to 2,000 residents	59.96	46.82
Up to 5,000 residents	65.10	52.41
Up to 20,000 residents	66.97	45.72
Up to 1 Mio residents	69.90	40.19
Over 1 million residents	80.62	38.21

Source: OeNB Payment Survey, 2011.

Note: This table summarizes the results of two questions asked in the questionnaire.

aged 25 years and younger (45%). Although this age group has the highest rate of Internet usage, it only accounts for the second highest share of online shoppers. An explanation for this finding could be that younger people usually have low income or none at all. The level of education also seems to play a key role: the higher the education level, the higher the share of Internet users who shop online. In addition, the share of Internet users who claimed to have ordered goods or services over the Internet ranges from 38% (compulsory education) to 65% (university degree), which is the greatest difference among all sociodemographic groups. Male

Internet users shop online more frequently than women. At least for the two criteria education and gender, the OeNB payment survey demonstrates that the higher the share of Internet users is, the higher the rate of online shoppers is. In contrast to this, the rate of online shoppers is found to be lowest in the most densely populated areas, which have the highest share of Internet users. In communities with over 1 million residents, only 38% of Internet users claim to have bought goods or services over the Internet – in smaller communities (up to 5,000 residents), the comparable figure is 52%. A possible explanation for this result might be a lack of shopping facilities in smaller communities, which makes online shopping more attractive in these areas.

Statistical tests confirm that each of the four criteria has a statistically significant influence on Internet usage and online shopping rates. In this regard, we performed multiple logit regressions in combination with likelihood ratio tests. Each regression considered Internet usage, or online shopping, as a dichotomous dependent variable and only one of the sociodemographic criteria as a categorical independent variable to steer clear from possible interactions between sociodemographic criteria.¹⁰

3 ECB Focus on Security

Although the questionnaire did not include questions on the perceived security, it is worth taking a look at the currently increasing institutional awareness and the ongoing issues in this area. In the EU as well as in Austria, Internet security plays a major role when it

¹⁰ For every statistical test used in this study, the significance level was set to 0.05. In case of multiple tests on the same set of data, the Bonferroni correction was utilized to regulate the alpha adjustment for multiple comparisons.

comes to online shopping. When talking about Internet security, the terms payment card fraud, phishing and malware are often used together. These are forms of identity theft and involve the unauthorized use of confidential and personal information with the aim of charging purchases to a third party's account or removing funds from such an account. The total level of fraud using cards issued within the Single Euro Payments Area (SEPA) amounted to EUR 1.16 billion in 2011 (ECB, 2013). 56% (EUR 655 million) of this total resulted from card-not-present payments, including card-not-present payments carried out via the Internet.¹¹ Card-not-present fraud is therefore the largest category by far and has been the main driver of fraud rates in previous years. Phishing refers to the practice of sending e-mails with a link to a fake website and requesting confidential information such as customer or transaction credentials. Malware (short for malicious software) includes computer viruses that can be installed on a device in order to undertake unauthorized actions on the user's computer with the aim of capturing sensitive data. Since these risks are of great concern for consumers when shopping online, it is crucial for payment service providers to implement high security standards to gain consumer trust. In their capacity as the overseers and supervisors of such providers, central banks and supervisory authorities are called upon to play a key role in this regard. Against this background, the European Forum on the Security of Retail Payments (SecuRe Pay) was established in 2011. It is a voluntary cooperative initiative of supervisors of payment service providers and

payment systems overseers whose aim is to generate a common understanding of issues regarding the security of electronic retail payment services and instruments (ECB, 2013a). The first achievement of this initiative was to draft a set of "Recommendations for the security of Internet payments," published by the ECB in January 2013. These 14 recommendations define the very minimum of security measures that should be implemented by payment service providers¹² who offer Internet payment services and by governance authorities of payment schemes (e.g. card payment, credit transfer and direct debit schemes). To take account of technological innovation, the recommendations are formulated in a more generic way. They are built upon four guiding principles (ECB, 2013a):

- *Principle 1:* Risk assessments regarding the provision of Internet payment services should be conducted on a regular basis. Given the rapid advancement of the Internet, regular updates of the risk assessments are necessary to tackle new types of Internet fraud.
- *Principle 2:* The execution of Internet payments and access to sensitive data should be protected by strong customer authentication. This is a procedure that uses two or more of the following elements during the payment process: (1) something only the user knows (e.g. a password or personal identification number); (2) something only the user possesses (e.g. a token, smart card or mobile phone) or (3) something the user is (e.g. biometric characteristics).
- *Principle 3:* Payment service providers should implement strong measures

¹¹ About 25% of the total value of fraud in 2011 resulted from payments at point-of-sale (POS) terminals and almost 20% at automated teller machines (ATMs).

¹² As defined in the Payment Services Directive.

for authorizing transactions as well as means to monitor unusual customer payment behavior in order to prevent fraud.

- *Principle 4:* Finally, payment service providers and governance authorities should engage in promoting customer awareness. This includes developing education programs on security issues with the aim of ensuring that customers use Internet payment services safely and efficiently.

The recommendations of the ECB are to be integrated in the respective national jurisdictions and supervisory and/or oversight frameworks, and market players will have to comply with them by February 1, 2015, at the latest.

4 Summary and Conclusion

Technological advances and a general rise in Internet access points have resulted in a steady increase in Internet use. In line with these developments, the Internet has become a promising medium for innovative services and applications like online shopping, which results in the evolution of new payment methods. Since this aspect is of utmost importance for central banks, this study focuses on the payment behavior of Austrian households shopping on the Internet. The study is based on a survey commissioned by the OeNB in fall 2011. The survey included a detailed questionnaire as well as a “payment diary,” in which respondents were asked to record the payments they had made for goods and services in the week preceding the survey. While the survey investigates the general payment habits of Austrian households, this analysis focuses only on the use of the Internet and on online shopping habits. As the number of cases surveyed was relatively small, the results should be interpreted with caution (in particular with regard to payment diary data).

The survey revealed that almost 70% of respondents use the Internet and over 60% have used online shopping facilities at least once in their lifetime. Looking at the payment diary data, about 7.3% of respondents said they had done some online shopping during the week preceding the survey, conducting a total of 125 transactions and accumulating a transaction volume of EUR 9,342. With a share of over 49% in total online payments, bank transfers were the most frequently used payment method, followed by credit card payments with a share of 27%. Although Internet-specific payment methods like PayPal or “eps Online-Überweisung” were used to a far lesser extent, the use of these payment methods increased considerably compared to the findings of the last OeNB payment study in 2006. With regard to payment volumes, the data show a similar picture, with bank transfers and credit card payments accounting for the highest shares in online payment volumes. The most popular sectors in which respondents bought goods or services over the Internet were “leisure activities” and “CD, DVD, music or video downloads and books.”

As observed in previous studies, Internet usage and online shopping habits vary greatly across sociodemographic groups. Age, gender, education and community size seem to have a significant impact on people’s Internet use and online shopping behavior. The share of Internet use is higher for men, younger and more highly educated people and in more densely populated areas. In the case of online shopping, the same is true for the criteria age, gender and education. In contrast to the results for Internet use, the share of online shoppers is highest in smaller communities, which might be due to a lack of shopping facilities in these areas.

Consumers' concerns about user safety play a major role in their choice to purchase goods or services online. Internet payment service providers should therefore guarantee a high level of security. As overseers and supervisors of such providers, central banks and supervisory authorities have a key role to play in this regard. Against this background, the European Forum for the Security of Retail Payments was established. This forum is a voluntary cooperative initiative of supervisors of payment service providers and payment systems overseers with the aim of generating a common understanding of issues regarding the security of electronic retail payment services and instruments. The first achievement of this forum was to draft a set of "Recommendations for the security of Internet payments," published by the ECB in January 2013. These standards are to

be considered as common minimum requirements for Internet payment services and have to be implemented by payment service providers and governance authorities of payment schemes by February 1, 2015 at the latest.

In conclusion, strong growth in e-commerce in recent years has promoted the use of payment instruments on the Internet, allowing consumers to purchase digital or physical goods simply and quickly. Therefore, online shopping is likely to have a growing influence on overall payment behavior (Deutsche Bundesbank, 2012). Although traditional payment instruments are currently very popular for online payments, new methods are being developed. Central banks will continue to play an important role in online payments, as they are responsible for payment systems oversight and policymaking in this field.

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