



# PAYSYS REPORT

Issue 1/2 – March 2020

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### 1. Interchange Fee Regulation: Diverging Assessment Reports

The EU Commission report assessing the effects of the Interchange Fee Regulation (IFR) has been published a few days ago. It is not the first IFR assessment report. In January, a Mastercard commissioned study of the effects of the IFR has been published by Edgar Dunn (EDC). A first look at the two studies shows that the results are exhibiting some noticeable differences, in particular with respect to pass-through of IF reductions to consumer prices and card holder fees, the effects on scheme fees and the evolution of merchant acceptance. Also with respect to the increase of card usage figures there is a difference in emphasis. Overall, the EDC Report tries to show that IFR has hurt consumers and has been mainly beneficial for merchants. From of the EU Commission Report, a different picture emerges. The IFR is interpreted as having brought major benefits, in particular for consumers.

**Appendix:** Some initial critical comments on the methodology of the Interchange Fee Regulation Impact Assessment Study by EDC

### 2. Consumer credit by credit cards in Europe: more payments – more credit?

Since 2015, the credit business via credit cards has recorded significant growth in Europe. The additional interest income offers card issuers welcome partial compensation for its interchange fee losses. However, the analysis based on ECB data shows that sales revenue does not lead to a proportional increase in credit volume.

**Appendix:** Credit card credit interest rates ranging from 8 to 22%

# Interchange Fee Regulation: Diverging Assessment Reports

(mk) While the European card community was still waiting for the Assessment Report prepared for the EU Commission, Edgar, Dunn & Co. (EDC)<sup>1</sup> published an assessment report that had been commissioned by Mastercard (EDC Report). Perhaps not surprisingly, the EDC Report provides a fairly sobering assessment of the effects of the EU Interchange Fee Regulation (IFR) (Regulation (EU) 2015/751). Meanwhile, the

EU Commission Report (prepared by Ernst Young and Copenhagen Economics) has come out.<sup>2</sup> A first assessment based on the management summary and a quick look at some of the quantitative results shows that the EU Commission comes to the conclusion that the IFR has had mainly beneficial consequences.

## Our Comment:

It was to be expected that the assessment of the consequences of the EU IFR would be a contentious issue. Given the economic importance of interchange fees, it should not come as a surprise that Mastercard did not want to leave data collection and data interpretation to the EU Commission.

In this article we wish to provide a preliminary comparison of the results of the two reports. Table 1 provides a comparative summary of the main results.

Interestingly, on some key issues the fact-finding has led to noticeable different results and also the interpretation of results differs in many ways:

### Pass through of lower MSCs to consumers:

Based on various research results of pass-through of cost reduction, the EU Commission report assumes a pass-through rate of about two thirds. The EDC Report, however, sees no evidence supporting pass-through. Evidently this is an important point, because "no pass-through" would imply that lower interchange fees have been completely pocketed by merchants. A simple redistribution of profits from issuers to merchants without any consumer benefit would substantially reduce

the case for regulation. But the problem is that empirical proof of pass-through/no pass-through is difficult to establish.

For instance, in German retailing there was a margin of 32.7% in 2017 (margin in percent of sales). Since 2005, this margin has varied between 32.9% and 31.2%.<sup>3</sup> The interchange fee reduction has only been a fraction of a percentage point. Thus, identifying interchange fee effects against the background noise of other factors influencing the average margin, is notoriously difficult. However, common sense in economics would suggest that we should expect substantial pass-through. After all, even a monopolist would find it profitable to pass on a part of cost savings in the form of lower prices.<sup>4</sup>

### Pass through of lower IFRs to consumers (in the form of higher fees):

The Commission Report finds no evidence that fees per account or other fees have been raised. It also sees no shift towards the cards of 3-party systems. According to the EDC Report, falling interchange income has led issuers to raise fees for customers:

Table 1: Comparison of the Results of the two IFR Assessment Reports

	EY and CE* (EU Commission)	Edgar, Dunn & Co. (Mastercard)
Pass through acquirer to merchant	Large cost reductions, especially for large merchants	Better for large than for small merchants
Pass through merchant to consumer	Significant pass-through and thus high savings for consumers	No supporting evidence
Card holder fees	Hardly any fee rises	Increase in annual fees and usage fees
Loyalty programmes		Decrease in value/more programmes**
Merchant acceptance	Acceptance rose by 20%	Very low growth
Number of cards	A slight decrease	A slight increase
Card usage	Value and numbers increased significantly	Strong increase - but driven by contactless
Network fees	Scheme fees have risen for issuers and acquirers	Marginal decrease of fees***
Innovation		Suffered (contactless investments before IFR)
Surcharging		Continues
Shift to unregulated products	Hardly anything happened	No supporting evidence

\*: Ernst & Young and Copenhagen Economics

\*\* : Possibly some of these programmes with added values by merchants.

\*\*\*: Total fees (issuers plus acquirers) divided by the number of trx.

*"consumers faced increased cost of ownership for regulated credit and debit cards post-IFR as issuers were forced to revise their cost structures and pricing policies as a result of the decrease in interchange fees received. Specifically, consumers experienced increases in annual fees and usage fees for their payment products, as well as a decrease in the value of loyalty programmes." (EDC Report, p. 2)*

However, the facts presented in the EDC Report do not support such a statement. While the report shows that from 2014 to 2018 issuer revenues have increased, in spite of a reduction of interchange revenue of almost €5b, it also shows that this increase is almost entirely due to increased interest rate income on card debt (EDC Report, p. 21).

This increase of interest rate income seems to be the result of rising credit volumes of credit card debt and even more so of current account overdrafts.<sup>5</sup> However, the use of overdraft is only remotely related to card usage. Therefore, it cannot be interpreted as the consequence of the IFR. Even when it comes to credit card debt, the case is not clear. True, interest rate income of

credit card issuers has gone up. But this can be simply demand driven.

Again it should be pointed out that finding empirical proof for or against a shift of the burden towards card holders is tricky. In a number of countries, interchange fees had already been regulated downward before the IFR. At least in one country, Germany, there have been additional reductions (albeit small ones) since the IFR. Finally, there may have been fee hikes or terminations of low fee/zero fee cards in anticipation of the IFR.

**Scheme fees:**

In the recent past, scheme fees have become a highly contentious issue. Many merchants are complaining about substantial fee hikes. The Commission Report does indeed find, that scheme fees have been rising, however for both, issuers and acquirers/merchants. This finding makes it difficult for merchants to argue that scheme fees have been used to circumvent the IFR (by raising fees for acquirers and lowering them for issuers).

Again, the EDC Report presents significantly different findings. The report looks at total fees (paid on the issuing and acquiring side of the market) and divides this total by the number of transactions. Based on this metric, scheme fees have slightly declined (from 0.236 cents to 0.23 cents) (EDC Report, p. 34).

Unfortunately, the EDC Report does not provide a breakdown of this figure. Thus, it is somewhat difficult to interpret. These results are a contradiction to the net-revenues of scheme fees as published by Visa. At least for Visa Europe (figures of Mastercard Europe are not publicly available), fee revenues per transaction increased. Within 2 years the revenues per transaction have almost doubled from 3.8 € cents (2016) to 7.4 cents (2019). See our Report 8/2019. This is in line with data provided by the German Retail Association, indicating that scheme fees to be paid by German acquirer have risen substantially faster than transaction volumes.<sup>6</sup>

## The Commission Report does indeed find, that scheme fees have been rising, however for both, issuers and acquirers (merchants).

### Card usage:

There seems to be broad agreement that card usage has increased significantly. The EU Commission Report (p. 45) cites an increase of 53% of transactions and 25% in terms of the value of transactions (2014-18). For transactions, this translates into a CAGR of 11.2%. EDC reports a CAGR of 11.6% for the same period. But the EDC Report takes great pains to stress that this large increase is mainly due to the introduction of contactless payments and that the take-off of contactless is the result of investments carried out before the IFR.

Thus the message is clear, the large increase of transactions should not be seen as a consequence of the IFR. The validity of this argument cannot be denied. Without the introduction of contactless, transactions would certainly have increased less. Still, one should remember that the opponents of interchange fee regulation (coming from the card industry and academia) have repeatedly argued that tinkering with such an important element of a two-sided market could have severe adverse consequences.

Today, we can say with some confidence: These adverse consequences have not materialised. The card market looks healthy.

### Merchant acceptance:

This is an issue where there may be true disagreement about the facts. The EU Commission (p. 56) finds that the number of terminals has increased by 48% (2014-2017) and estimates an increase of merchant acceptance of 11% after 2015 (p. 159). The report cautions however, that the increase is not larger than in the years before the IFR was introduced. The EDC Report finds only an increase of 2% regarding card acceptance in general and 0.4% for Visa acceptance and 1% for Mastercard acceptance. Less popular and unregulated brands such as Amex, Diners, JCB and UnionPay had higher growth rates.

Judging from the ECB's Blue Book figures on POS terminals, +50% from 2014 to 2018, it seems credible that there has been a substantial increase in acceptance. The increased acceptance is likely to be the result of lower interchange fees - at least partially.

Thus, in Germany it could be observed that Visa and Mastercard acceptance strongly increased after the coming into force of the IFR. Obviously, in most cases the merchants that decided to introduce Visa and Mastercard had already been accepting cards (Girocard, Maestro, V Pay) before. So, in some sense card acceptance increased – but at the same time it didn't. But at least as far as international customers are concerned, card acceptance has undoubtedly increased.

Overall, the EDC Report tries to show that IFR has hurt consumers and has been mainly beneficial for merchants. Moreover, it points out that there is some indication that the market may suffer in the future (less innovation).

## The EDC Report tries to show that IFR has hurt consumers and has been mainly beneficial for merchants.

From the EU Commission Report, a different picture emerges. The IFR is interpreted as having brought major benefits, in particular for consumers

From the EU Commission Report, a different picture emerges. The IFR is interpreted as having brought major benefits, in particular for consumers. For potential future modifications of the IFR, it is important which view prevails. Given the EU Commission results, it may be worth considering a zero IF. Both reports have in common that they provide little support for a regulation of scheme fees.

Apparently, Visa has also announced an impact analysis. We now have one study which meets the Commission's expectations and objectives and a second study

which largely corresponds to the assessment of the impact of the IFR on the international card schemes at the time. Now, what should we expect of a Visa commissioned study?

We are planning to analyse in greater depth the two assessments (or three, if Visa also publishes something). By the way: So far, this forthcoming analysis has not been commissioned or paid for by anyone (sponsors are welcome ☺).

## Appendix:

### Some initial critical comments on the methodology of the Interchange Fee Regulation Impact Assessment Study by Edgar, Dunn & Company (EDC)

(hg) The main source of the market data used by EDC is GlobalData, a research and consulting company in the UK. This data is not publicly available. For just a few EU-countries you can buy country reports with up-to-date data to card business, used by EDC for the period including 2018 (price per country report 2,750 USD). EDC doesn't explain, why they are not using the payment statistics of the European Central Bank, which are publicly available for free. An appendix with used data material is missing. This procedure makes it difficult to compare the outcome of the EDC analysis with the EY analysis (based on ECB-Data). Furthermore, the results of EDC cannot be checked and therefore cannot be criticized. The reader must simply assume that the correct data has been taken, that the calculations have been performed correctly, samples are representative, etc. Still, it is possible to critically evaluate some of the EDC calculations.

Regarding the impact of IFR on issuers' revenues, EDC distinguishes between debit and credit cards. For debit cards, it is methodologically difficult to separate card-specific revenues from current account revenues. Often there is no separate annual fee for the debit card, the revenues are part of a flat annual fee for the account. EDC avoids this problem by presenting all changes in revenues (account and card) as a result of the IFR. It considers the following revenue elements of the issuer:

- Annual fees
- Overdraft fees
- Fees for international transactions
- Late payment fees
- Interchange

The consequences of the IFR for the **annual fees** can be separated if the bank prices the "current account" and "debit card" products separately and does not practice cross-subsidization. This will rarely be the case. Practice shows that the lack of interest income due to the central banks' zero interest rate policy was and will be probably the main driver for the increase in current account fees. It therefore makes little sense to present a change in annual fee revenues solely as an impact of the IFR.

The actual process of an **account overdraft** can be triggered by different payment transactions (credit transfer, direct debit or card payment). Which drop (payment instrument) causes the bucket to overflow is actually completely irrelevant in terms of causality. Therefore, the issuer's revenues from overdraft fees cannot be presented as an effect of the IF Regulation too. In the EDC analysis, however, the interest revenues of account overdrafts play a decisive role due to their size. According to EDC, debit card issuers in the EU lost 3.1 billion euro revenues from interchange (IF revenues 2018 minus IF-revenues 2014). To compensate for this loss, they were apparently able to gain 6.5 billion euro additional interest fee revenues for account overdrafts (an increase of 83%). If we eliminate the effect of increasing number of issued debit cards in the period between 2014-2018, the issuer lost 6.63 € per debit card through interchange fees, which was compensated by 10.58 € additional overdraft interest fees. According to EDC, the average interest rate for overdrafts increased only by 0.91 percentage points (from 10.61% to 11.52%) comparing 2018 to 2014. So the main effect was caused by a huge increase in debit card holders using the overdraft facility of their current accounts without any causality between the two events.

However, the results of the EDC analysis for the EU-28 contradict the development of overdrafts (including revolving credits) in the euro area according to ECB statistics. In these Member States a decrease (not an increase) in overdrafts was recorded in 2014-2018. The volume of overdrafts and revolving credits of MFIs to households decreased by b€ 35.2 from b€ 181.3 to b€ 146.1. The average interest rate decreased too (from 7.13% in 2014 to 5.87%). Based on a rough estimate, the interest revenues of the banks declined by approx. 4.4 b€.

The results are therefore quite contradictory regarding the changes of the interest charges for overdraft credit granted by banks to households for the period 2014-2018:

- EDC: plus 6.5 b€ (EU-28) with increasing interest rates
- ECB: minus 4.4 b€ (euro zone) with decreasing interest rates

The contradictory results could theoretically be explained by the assumption that overdrafts have increased massively only outside the euro area, generating a huge volume of about 11 b€ interest charges. Outside the euro zone, only the weighty (former) Member State UK could be the reason for this. However, overdraft debt has been permanently falling in the UK since 2010! It seems to be, that the methodology used by EDC (extrapolation of a sample of issuers from 7 countries) leads to results that contradict the macroeconomic data and trends of consumer credit via overdraft facilities in the EU.

However, there are revenues, which are directly linked to the debit card: **ATM fees**. These fees are totally missing in the EDC analysis for debit cards as well for credit cards. To compensate for the low IF income from POS transactions, it is quite possible that issuers would have raised these card-related fees.

Last but not least: Why should there be "**late payment fees**" in the debit card business as in the credit card business? By definition, a debit card transaction is posted directly against the current account. One could imagine such a fee only for "decoupled debit cards" if the linked account is not held at the card-issuing bank. These cards are (still) very rare in debit card business (not in credit card business).

# Consumer credit by credit cards in Europe: more payments – more credit?

(hg) According to the recently published Interchange Fee Regulation Impact Assessment Study by Edgar, Dunn & Company (EDC), an additional income through interest charges in debit and credit card business helped European card issuers to (partly or fully) compensate the interchange losses due to interchange fee regulation (IFR 2015). See also the previous article in this report. Comparing the post-IFR revenues of the card issuer (2018) with the pre-IFR year 2014, the total loss of IF of 5.1 b euro was compensated by 8.3 b euro additional interest charges. See table 2.

Regarding debit card business, there is no direct causality between card usage (generating interchange fee revenues) and the use of overdraft facilities (generating interest revenues) by the account holder (see our critical notes to the EDC analysis). In credit card business<sup>7</sup>, at least for revolving credit cards, IF and interest charges are from the issuer’s perspective complementary revenues of the same product. Furthermore, there is no link here with current accounts, since in many markets these cards are mainly issued to customers who do not hold a current account with the card issuer (decoupled cards).

As a consequence of the IFR, issuers could have tried to intensify the lending business via cards e.g. by adding the credit facility to charge cards (deferred debit), by making a credit card and its lending conditions more attractive etc.

According to EDC, European card issuers were clearly successful. Based on a (representative?) sample of 360 credit card products from 7 countries (France, Germany, Italy, Poland, Romania, Spain and UK), the total extrapolated effect for the whole EU-28 is quantified at a delta of 1.7 b. € of interest charges (2018 vs. 2014). Taking into account a modest increase of 15.7 million credit cards (CAGR 1.2%) according to EDC, the effect was 3.45 € per average credit card (including charge cards!). We take this extrapolation (based on data which unfortunately cannot be verified) as an opportunity to analyse this market of revolving credit cards "top-down" on the basis of ECB data, which are publicly available. How has this card market developed in the post-IFR-era? How have the issuers reacted to the changed market conditions.

**Table 2: Change of card issuer revenues (2014-2018) in the EU**

Issuer Revenues 2018 versus 2014	Delta in b€	Delta per card in €
Debit card & current account business		
- Interchange Fees in b € (€ per card)	- 3.1	- 6.63
- Interest Charges in b € (€ per card)	+ 6.5	+ 10.58
Credit card business (incl. delayed debit)		
- Interchange Fees in b € (€ per card)	- 2.1	- 8.36
- Interest Charges in b € (€ per card)	+ 1.7	+ 3.45

Source: Interchange Fee Regulation Impact Assessment Study (EDC)



## Our Comment:

According to the ECB Regulation on payment statistics (ECB/2013/43) a card with a credit function is defined as:

*“A card enabling cardholders to make purchases and in some cases also to withdraw cash up to a pre-arranged ceiling. The credit granted may be settled in full by the end of a specified period or may be settled in part, with the balance taken as extended credit on which interest is usually charged. The distinguishing feature of a card with a credit function, in contrast to a card with a debit function or a delayed debit function, is the contractual agreement granting the cardholder a credit line allowing for extended credit.”*

The criterion for reporting these cards by issuers is the ability of the cardholder to draw on this credit (usually after an interest-free period). It does not matter whether the cardholder repays the outstanding amount in full after the interest-free period or converts the amount (partially or in full) into a loan. In addition, cards are listed in the section "cards with a credit and/or delayed debit function".<sup>8</sup> In Italy, Spain and Portugal issuers report revolving credit cards only in this category. For the analysis, it is consistently assumed that 20% of these hybrid

cards can be considered as being "genuine" revolving credit cards.

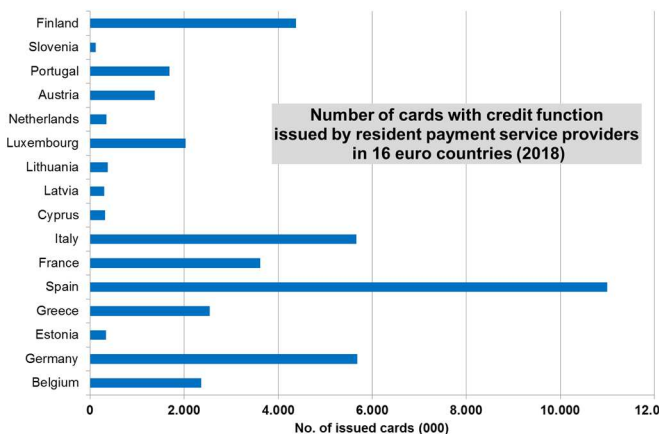
Outside the euro area, issuers are not obliged to report data to the ECB. As the voluntarily reported data from these EU member states are in part incomplete and deficient (this applies in particular to the UK), we will only consider the euro zone in the following analysis. Within the euro area countries, Ireland, Malta and Slovakia have still not reported any data on "cards with a credit function" for the year 2018. These countries will thus not be considered further.

### Numbers of cards issued

The results for the remaining 16 euro area countries are as follows:

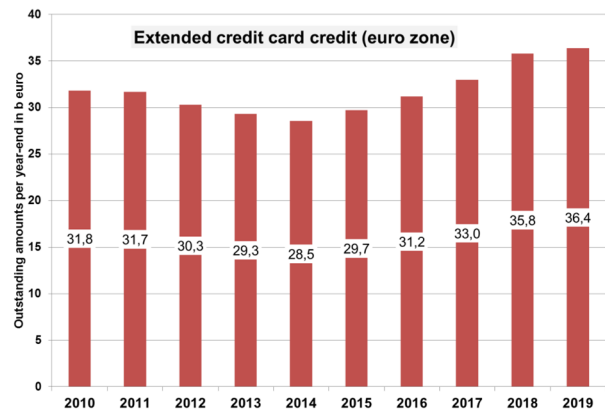
- The total number of payment cards issued increased by 10.5% from 479.9 (2014) to 530.1 million cards (debit, charge and revolving credit cards) in 2018.
- The growth of revolving credit cards in the same period was slightly lower: 9.3% (38.6 to 42.2 million).

Fig. 1: Number of cards with credit function issued by resident PSPs (2018)



Source: ECB (payment statistics)

Fig. 2: Outstanding amounts of extended credit card credit in the euro zone per year-end (2010-2019)<sup>9</sup>



Source ECB interest rate statistics

## So, both the ECB and the EDC data show that interest earnings from credit card credit has increased.

But it remains unclear to what extent this increase is related to the IFR.

- The share of revolving credit cards of total cards issued therefore marginally decreased from 8% to 7.3%. There is therefore no evidence that banks in the euro zone have particularly pushed the issuance of revolving credit cards in reaction to the IFR.

### Credit volume

What is decisive, however, is not the number of revolving credit cards, but the actual use by the cardholder. The ECB interest rate statistics report the loans to households generated via cards monthly in two categories: interest-bearing credits by revolving credit cards ("extended credit cards credits") and the interest-free interim financing by charge cards ("non-extended credit cards credits"). For our analysis, the first category is relevant.

Since 2014, the volume of extended credit increased from 28.5 to 35.8 b € in 2018 (25%). See figure 2. The average weighted effective interest rate, applied by the credit card issuers in the euro zone slightly decreased (from 17.15% in 2014 to 16.68% (2018)<sup>10</sup> (see also appendix). A rough calculation leads to the result that the interest charges, generated by credit cards in 2018 have increased by approx. 1.1 b € compared to 2014.

This result for the euro zone confirms EDC's projection for the entire EU (based on credit cards samples issued in 7 Member States incl. UK!) of 1.7 b €, if one takes into account that in the UK in particular, debt via revolving credit cards is a major factor in UK consumer credit. So, both the ECB and the EDC data show that interest earnings from credit card credit has increased. But it remains unclear to what extent this increase is related to the IFR.

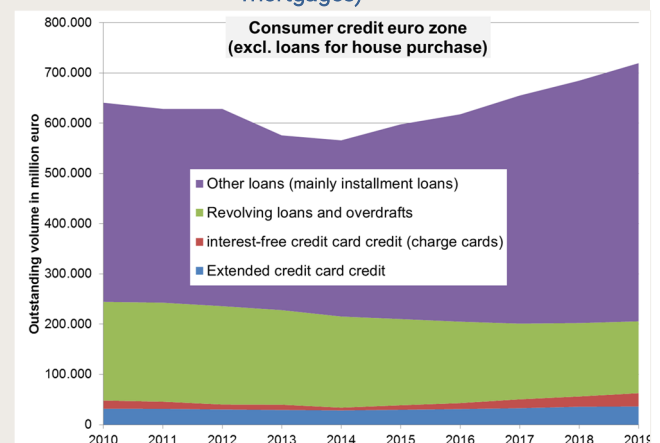
### Credit card debit as share of total consumer credit

If we look at the entire consumer credit market (excluding house mortgages), the share of credit via credit

cards is relatively low. The share is 5% and shows no change in the period 2010-2019 (see figure 3). In contrast, overdrafts are much larger but they are losing market share. The share of this credit category decreased by 10 percentage points (2010: 30.6%; 2019: 19.9%). The remaining part "other loans" are mainly installment credits.

The strong increase in consumer loans since 2014 is mainly due to this type of loan or other credit facilities. We see many new players and product innovations in this segment. Beside credit cards, other means of payment used by the consumer can also be directly linked to consumer credit, like Klarna's "Pay later" or the PayPal option "buy now, pay later". At the physical POS, more and more retailers are working with consumer credit banks so that the consumer can take out a loan at checkout - even in a few minutes. So far, however, these new credit facilities have clearly not been able to replace traditional credit card loans, at least not in the euro zone.

Fig. 3: Consumer credit from MFIs to households (excl. mortgages)



Source: ECB (MFI balance sheets and interest rate statistics).

The development in volume of credit generated by credit cards in the period 2010-2019 is identical to the overall development of total consumer credit, although

its market share is small (5%): decrease up to 2014 and increase from 2015 onwards. It indicates that the changes are due to the general consumer demand for credit. There is probably no direct causality with the IFR.

## Additional consumption using these credit cards does not proportionally lead to additional credit.

### Sales and credit per card

Both the number of credit cards and the credit volume drawn down via these cards have increased in the period 2014-2018. The per-card analysis (see fig. 4) shows that the credit volume per card has increased by about 110 euros (from 740 to 849 euros). Like debit cards and charge cards, revolving credit cards also show a significant increase in sales volume as a result of IFR (increasing acceptance by merchants) and the

steady cash substitution. However, additional consumption using these credit cards does not proportionally lead to additional credit. The ratio of credit volume to sales volume is decreasing.

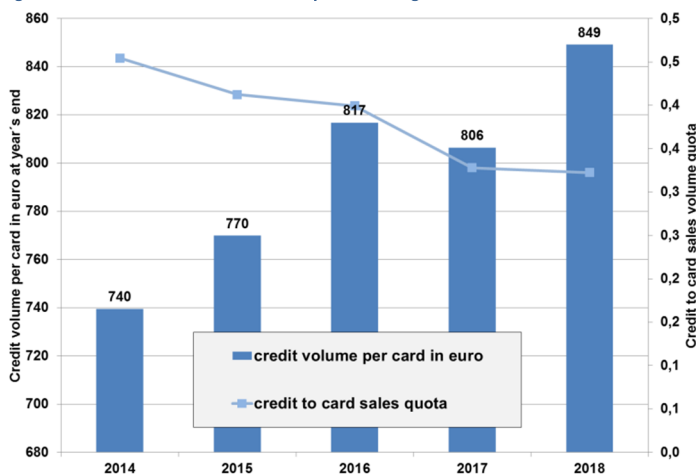
Keep in mind that the ECB-category "card with credit function" includes cards with credit activity as well as credit-inactive cards, used by the cardholder as a charge card (100% repayment every month). Theoretically, there are two interpretations for the decrease of the credit/sales quota:

- Increased consumption via credit card leads to a corresponding increase in credit (assumption: the number of credit-active cards declined)
- or
- Additional consumption per card is not financed by credit or is financed to a lesser extent (assumption: the percentage of credit-active cards remained stable).

An issuer of revolving credit cards told me that based on its data, the first thesis is probably closer to the truth.

Together with other types of consumer credit (except overdrafts), the revolving credit card business has been growing since 2015, partially offsetting the decline in IF Revenues. A causality between the IFR (2015) and the growing credit volume via credit cards is not discernible.

Fig. 4: Credit and sales volume per average credit card in the euro zone (excluding Malta, Ireland and Slovakia)



Source: ECB (payment statistics)

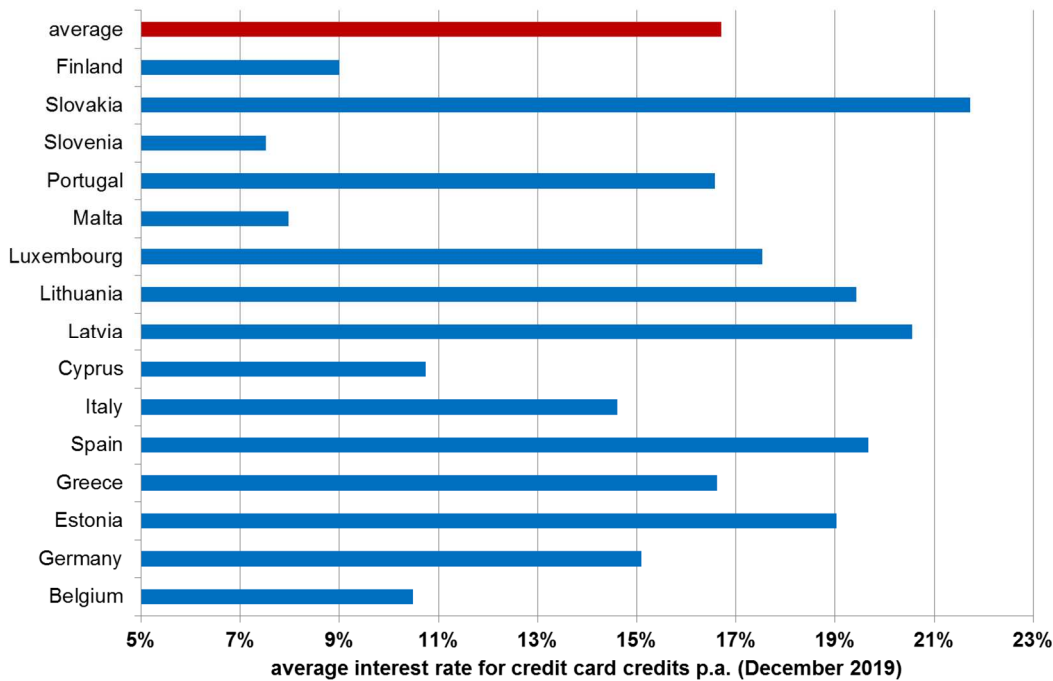
# Appendix:

## Credit card credit interest rates ranging from 8 to 22%

(hg) The average interest rate for credit card loans to households was 16.7% p.a. within the euro zone in December 2019. The huge interest spread between 7.5% (Slovenia) and 21.73% (Slovakia) is remarkable. However, interest rate is a pricing component beside other prices for the card product, like annual fees and ATM fees. Cards could be attractive by product feature like loyalty programs or insurance products. These other fees and additional benefits could be more important from a cardholder perspective. A more extended country comparison should consider all card-related fees and benefits.

Interest rates for overdrafts (average 5.6% in the euro zone in December 2019) and installment loans are significantly lower in all Member States. Although consumer associations repeatedly point out these cheaper alternatives, the market share of loans via credit cards in total consumer credit remains constant over the years. Several reasons are conceivable: The debtor does not act rationally or is insufficiently informed, access to the alternative types of credit is more difficult for him, credit cards are a more convenient product or credit via credit cards is the last line of credit left open for the credit card junky.

Fig. 5: Average interest rate for credit card credits p.a. in the euro zone (excluding Ireland, France, Netherlands and Austria) of December 2019



Source: ECB (bank interest rate statistics)

**Notes**

- 1 Edgar, Dunn & Co.: Interchange Fee Regulation Impact Assessment Study, January 2020.
- 2 European Commission: Study on the application of the Interchange Fee Regulation. Final Report, prepared by Ernst&Young and Copenhagen Economics, Luxembourg 2020.
- 3 Statistisches Bundesamt: Unternehmen, Beschäftigte, Umsatz und weitere betriebs- und volkswirtschaftliche Kennzahlen im Handel: Deutschland, Jahre, Wirtschaftszweige.
- 4 For instance, with linear demand and constant marginal costs a monopolist would pass on 50% of cost reductions in the form of lower prices.
- 5 According to ECB statistics, credit card debt (private households) rose by 25% from €28.5b in 2014 to €35.8b in 2018. But the main driver seems to have been the rise of overdrafts. See accompanying "critical remarks".
- 6 Ulrich Binnebösel: Payment-Update aus Handelssicht, Präsentation EHI-Tagung, Düsseldorf, 18. Februar 2020.
- 7 From the IFR perspective: cards with delayed debit function and cards with a credit function.
- 8 The statistics offer reporting of hybrid cards that cannot be clearly classified as revolving credit cards or charge cards or the card-related data cannot be broken down by issuer into "cards with a credit function" and "cards with a delayed debit function".
- 9 Loans from MFIs (Monetary Financial Institutions). Due to the revolving characteristic of these credits, new business and outstanding amounts coincide. The extended credit via credit cards to non-financial corporations (credit via commercial cards) is excluded. However, this total volume is very low (2019: 0.5 b. €). In the considered period (2010-2019), the Baltics joined the euro zone: Estonia 2011, Latvia 2014, Lithuania 2015. The effect on the growth of consumer credit by cards can be neglected.
- 10 Instead, EDC notes an increase in interest rates applied to revolving balances from 16.2 to 18.8%. See page 22.

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