Interchange Fee Regulation Impact Assessment Study

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Edgar, Dunn & Company
Strategic Payments Consulting
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Interchange Fee Regulation Impact Assessment Study
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Executive Summary

1.1
Introduction

The Interchange Fee Regulation (IFR) took effect on the 8th June 2015. A key element of the IFR was the imposition of capped rates for interchange on consumer debit and credit cards, which took effect on 9th December 2015. The capped interchange rates are at 0.20% and 0.30% for debit and credit card transactions respectively. The capped rates are applicable to POS and CNP transactions for domestic and intra-regional transactions within the EU28. Commercial cards and three-party schemes are not covered by the IFR and referred to as unregulated cards.

The IFR also introduced new business rules and transparency requirements, such as, the separation of scheme and processing and a prohibition on 'honour-all-cards' rules to cover unregulated cards. The business and transparency rules part of the IFR came into force 9th June 2016.

With the transposition of the second Payment Service Directive (PSD2) surcharging of cards with interchange capped by the IFR is not permitted.

1.2
Objective of the IFR Study

Mastercard appointed Edgar, Dunn & Company (EDC) to undertake an independent study of the impact of the IFR. The objective of the IFR Study was to qualitatively and quantitatively assess the impact of the IFR by comparing baseline data collected before and after the IFR came into force.

A detailed analysis of the retail card payment market from pre-IFR to post-IFR was completed for seven countries within the EU28, namely, France, Germany, Italy, Poland, Romania, Spain, and the United Kingdom. The quantitative results of the analysis were extrapolated to the EU28 level.

1.3
Overview of findings – intended and unintended consequences

The reductions in interchange were expected to deliver lower MSCs to merchants which would be passed on through lower prices to consumers. While the Study found that the reductions in interchange had been reflected in a decrease in MSCs, it also found that large merchants benefited more than smaller merchants who typically remained on blended MSC rates. The Study could not find any available evidence of whether merchant to consumer pass through took place. However, 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. While the value of loyalty programmes decreased (lower reward earning per unit of spend) the Study also found there was a growth of the proportion of payment products with loyalty programmes reflecting increased competition for transacting cardholders. Specifically, there was an increase in the number of cashback programmes applying to a restricted range of merchants (which could indicate merchant contribution to funding).

It was expected that lower interchange fees, and thus costs to merchants, would see an increase in acceptance and usage of cards. The Study found that growth in acceptance for MasterCard and Visa has been the lowest of all international card brands with growth in acceptance of less than 1%.[1] While growth in acceptance has been low since the introduction of the IFR the growth in card usage has been significant, which implies the growth is driven by consumer preference. There is a strong correlation between the growth in contactless transactions and overall transaction growth. Contactless is primarily used for low value transactions as a substitute for cash, which is reflected in the higher growth in debit card transactions than credit card. The consumer preference for contactless is also reflected in the 15.1% shift in market share from the domestic debit card scheme in Italy, which was late in supporting contactless compared to the international card scheme branded cards.

The Study assessed network fees measured as the combination of scheme and processing fees for the international payment schemes. The Study found that while some fee adjustments have occurred the growth in the volume of transactions between 2014 and 2018 have resulted in a marginal decrease in the end-to-end per transaction network fee costs across issuers and acquirers in the EU28.

The Study found that some intended consequences of the regulation changes have not fed through to the market. Surcharging regulated products was still being experienced by consumers. The reduction of interchange has made the business case for entry into the issuing side of the market more difficult. Innovation has suffered from the reduced revenue potential, especially on the issuing side with the most resent major innovative step being the development of contactless technology for which the investments were incurred well in advance of the IFR.

The Study did not find that the IFR had any significant impact on the market shares between international and domestic card schemes. The only significant shift in market share was in Italy where PagoBancomat was late in supporting contactless transactions compared to the international card schemes, which has resulted in a 15.1% drop in market share, as mentioned above.

Finally, the Study did not find that rights to choose embedded in regulation were widely adopted by either merchants or consumers. Merchants did not report that they exercised their right to reject un-regulated product such as four party system commercial cards, nor did consumers report they utilised their right to override the merchant's preferred scheme choice for co-branded scheme products. Neither did the Study find any evidence that issuers had increased the issuance of un-regulated products such commercial cards to drive volume to higher interchange products.

A summary of the key findings of the Study are provided in the following.

1.4
There was significant growth in the number of card transactions as consumers and merchants adopted the convenience of contactless often combined with self-service checkout.

The growth in the number of cards in issue did not contribute to the significant growth of the number of transactions since the IFR.

1. Visa and Mastercard had a higher level of acceptance than all other international card brands before the introduction of the IFR.

There was a slight increase in total number of payment cards in issue across the EU28 post-IFR. Debit cards in issue grew by 1.6% CAGR (2014 to 2018), whereas credit cards in issue increased by 1.2% CAGR (2014 to 2018). However, the growth in debit card transactions was 12.7% CAGR (2014 to 2018), while the growth in credit card transactions was 7.3% CAGR over the same period.

The introduction of contactless was a strong contributory factor to the growth in card usage, evidenced by the decrease in Average Transaction Value (ATV). Debit card ATV decreased to €36.60 (2018) from €42.34 (2014) and credit card ATV decreased to €54.15 (2018) from 58.16 (2014).

The Study found that the significant increase in card usage has been driven by the adoption of contactless, initiatives to migrate from cash to electronic transactions and organic growth, rather than as a result of the introduction of the IFR.

The investment in contactless and the substitution of cash with electronic payments had been observed for several years prior to the introduction of the IFR.

1.5

Issuers received reduced interchange and compensated by increasing the cost of payment products to consumers

Card issuers received €5.14Bn less in interchange in 2018 than in 2014 despite an increase in card turnover of €749Bn.

Assuming interchange rates in the absence of IFR had remained at their 2014 levels issuers would have received €9.02Bn more in interchange in 2018 than the €6.73Bn received post-IFR, which would have been an increase of 57.3%.

Consumer cost of ownership of credit cards has increased through a combination of higher interest charges and reduced value of loyalty programmes.

Since the implementation of the IFR consumer cost of ownership has been increased by issuers through a combination of interest charges and usage and penalty fees. The average annual fee, for example, for the entire sample of regulated consumer credit cards increased by 13% from €54.63 to €61.56.

The review of Terms & Conditions found that the earning structure of loyalty programmes has been reduced post-IFR. This is demonstrated through reduced points earning per unit of spend or through a restricted range of merchants included in cashback programmes.

Consumer choice of card products has diminished post-IFR.

The number of credit card products on offer in the seven markets was reduced by 49[2] following the implementation of the IFR, a reduction of 14% as issuers consolidated their product offerings. 29 of the withdrawn products were regulated products (Mastercard/Visa), 10 were American Express or Diners issued by banks, while a further 10 were dual card products where a Mastercard or Visa card was combined with an American Express card.

The number of debit card products offered by issuers in the Study was reduced by 21[3] following the implementation of the IFR. In addition, since IFR 38[4] current accounts with an overdraft facility have been withdrawn from the market.

Current account loyalty programmes provide less benefit.

Although the average annual fee for a current account decreased, the number of current accounts with a loyalty programme has decreased and those that remain provide less benefit. A total of 23[5] current accounts have been withdrawn from the market since IFR.

The number of debit cards with cashback rewards has increased from 19 to 36, an 89% increase. However, the ability to earn cashback is restricted to specific subsets of merchants, merchant categories or limited to purchases over a certain value threshold. It appears that issuers are reducing the cost of cashback loyalty by obtaining a contribution from merchants through offering exclusive access to their customers.

Prior to the IFR cashback was typically offered across all purchases without merchant restrictions.

1.6

Acquirers have passed on a proportion of the interchange reduction, but this has largely benefited mega and large merchants

MSCs for credit and debit card transactions reduced considerably after the IFR came into force, with the effective MSC across credit and debit reducing from 0.94% in 2014 to 0.76% in 2018, while overall MSCs received by acquirers decreased from €20.40Bn (2014) to €19.72Bn (2018).

Acquirers have partially passed through the interchange reductions to merchants.

The reduction in MSC of 18bps was lower than the weighted average reduction in interchange across credit and debit of 32bps, even allowing for an increase in the average network fee element of the MSC of around 1bps, due a lower ATV in 2018 and changes in scheme fees.

Large merchants have benefited more than small merchants.

While the average MSC has reduced the scale of this reduction for individual merchants depends on the commercial agreement. Large and mega-merchants are typically on a 'interchange plus plus' contract and thus realise with immediate effect any changes in interchange. Smaller merchants (i.e. SMEs) will typically have a blended MSC for their portfolio of card brands/products accepted, for which the MSC is not updated automatically for changes in interchange. According to SMEunited[6] there are 24 million SMEs in Europe which account for 99.8% of all enterprises.

There is no available evidence of whether merchant to consumer pass-through took place.

Where merchants received a lower MSC as a result of capped interchange rates, there is no available evidence of whether merchant to consumer pass through took place.

Merchant acceptance of regulated cards (such as Mastercard, Visa, Cartes Bancaires or Girocard) has not increased as fast as the acceptance of unregulated card brands such as Diners and American Express.

The increase in acceptance for unregulated card brands, as reported by merchants, was 6.2% for Diners and 2.6% for American Express. For regulated brands the increase in acceptance was only 0.4% for Visa and 1.0% for Mastercard, although from a high base level of 90%+.

2. There were 360 credit card products in the pre-IFR Study sample.
3. There were 264 debit card products in the pre-IFR Study sample.
4. There were 189 current accounts that offered an overdraft facility pre-IFR.
5. There were 296 current accounts (with and without loyalty programmes) in the pre-IFR Study sample.
6. https://smeunited.eu - formally known as UEAPME.

Merchants use of the right to reject commercial card products is limited.

Merchants reported that the right to reject unregulated four party products (i.e., commercial cards) was not widely used. Only a few (typically small) merchants in the seven markets choose to exercise their right to reject commercial cards. The highest proportion of merchants that reported that they reject commercial credit cards were in the UK and Germany at 10% and 6% respectively.

Cardholders reported that the incidence of merchants rejecting their cards has increased in the UK and Germany since 2016.

Consumers continue to experience surcharging on card transactions post-IFR and PSD2.

Consumers reported that they continue to experience surcharging of both regulated[7] and unregulated cards since the PSD2 regulation came into force.

The highest proportion of consumers who reported experiencing surcharging was in the UK and Germany with 44% and 41% of respondents respectively.

The ban on by-default application selection has had a minimal impact.

Consumers reported that they are rarely provided the option to override the merchants' by-default selection of card scheme application at POS. However, when consumers were given the option to select a different scheme, a minority of respondents chose to override the pre-selected application.

A limited number of merchants reported that they had the ability to pre-select card scheme applications at POS, which correlates with consumers reporting they are infrequently offered the option to override the merchant's pre-selection. It is noticeable that merchants report experiencing considerably lower incidence of consumers using the ability to override a pre-selection in comparison with that reported by consumers.

1.7
Other market impacts observed

The card issuing market remains highly competitive post IFR.

Issuers reported little change in the level of competition. The most noticeable source of increased competition reported was from new entrants, such as challenger banks. However, there is no evidence to suggest this can be attributed to the IFR, rather it can be attributed to a business model that is based on branchless operations, new infrastructure systems and redesigned business processes such as, for example, customer onboarding providing a digital-only experience and cost efficiencies.

The number of new entrants to the cards-based payments market has increased post-IFR. However, there is no evidence of a correlation between the IFR and the increase in the number of FinTech companies and challenger banks that are offering products supported by card payment products. In addition, the market share of these new entrants is so small that they do not represent a significant proportion of cards issued.

Competition in the card acquiring market has increased in some specific segments but is not linked to the IFR.

Acquirers reported increased competition in the SME segment and eCommerce. For the SME segment this was related to recruiting small and micro merchants and converting cash-only merchants to accepting cards, where specialist acquirers, such as iZettle and Sumup are offering bundled mobile POS device and acquiring services.

The level of competition in the eCommerce market is high and is expected to intensify due to the rise of alternative digital payment methods, driven by the PSD2 and Open Banking regulations. Interviews undertaken as part of the Study revealed that the majority of interviewees do not believe the increase in competition in acquiring eCommerce transactions is due to the IFR.

International versus domestic scheme competition is not affected by the IFR.

The IFR did not affect relative market shares of domestic payment schemes within the Study, which have not changed significantly relative to the international card schemes (ICS), except for Italy.

In Italy the market share of the PagoBancomat scheme decreased by 15.1% due to PagoBancomat being late in investing in technology to support contactless. As a result co-badged PagoBancomat/ICS debits cards will only be able to support PagoBancomat contactless once they are reissued. It is expected that once all co-badged cards are reissued with contactless PagoBancomat functionality the relative use of PagoBancomat versus ICS across both contact and contactless will revert to prior levels. This is supported by evidence in the other markets with domestic schemes who support contactless, where there were no changes in market share across face-to-face and contactless.

Investment in product innovation by issuers has slowed since the IFR.

Issuers reported that investment in innovation has slowed as a result of the reduction in interchange and the resulting challenge to generate a return on any investment. The exception was investment in Strong Customer Authentication (SCA) and fraud prevention, with the investment in SCA required by PSD2.

The Study covered a period of significant growth in contactless payments, however, the investment in the innovation of contactless payments was incurred well in advance of the IFR. It is noticeable that since the IFR, the card payments industry has not made industry-wide investments in innovation on the same scale as contactless payment technology.

The issuance of unregulated commercial cards has not increased.

The evidence shows that pre-IFR, growth in the commercial credit card market exceeded growth in the consumer credit card market in terms of cards in issue and total transaction volume. By contrast, this trend reversed post-IFR with the growth of the consumer credit card market exceeding the growth of the commercial credit card market for both cards in issue and transaction volume growth.

Growth in the number of issued commercial credit cards decreased from 3.1% CAGR (2012-15) to 0.5% CAGR (2016-18), whilst the growth in the number of issued consumer credit cards increased from 0.4% CAGR (2012-15) to 1.6% CAGR (2016-18).

Growth in the number of commercial credit card transactions decreased from 7.4% CAGR (2012-15) to 4.8% CAGR (2016-18), whilst the growth in the number of consumer credit card transactions increased from 6.4% CAGR (2012-15) to 7.0% (2016-18).

7. According to PSD2 surcharging regulated cards should not be permitted.

02

IFR Impact Assessment Study

2.1
Introduction to the IFR Impact Assessment Study

Mastercard appointed Edgar, Dunn and Company (EDC) to undertake an impact assessment of the IFR in the EU. The IFR impact assessment study (the Study) was structured to provide a quantitative and qualitative assessment of the payments landscape in 7 EU markets before and after the implementation of the IFR.[8] The Study established a baseline of data points before the introduction of the IFR (2014/15), with the same data points collected after the introduction of the IFR (2018) to enable an analysis of the changes resulting from the IFR.

In its justification for introducing the IFR the European Commission (EC) identified three key themes which were expected to be affected by the regulation. The Study was designed to monitor and assess changes in the market connected to these themes:

Cost pass-through

The Study assessed pass-through of interchange cost reductions from acquirer to merchant.

Competition

The Study assessed competition throughout the European payments market, including competition in issuing, acquiring, card schemes (domestic and international), and card scheme and transaction processing. The Study assessed changes in the levels of competition by assessing the number of new entrants, by reviewing changes in market share, surveys of consumers and merchants, as well as qualitative interviews with issuers, acquirers and Fintech companies.

Innovation

Innovation was assessed through a review of Terms and Conditions (T&Cs) of credit and debit cards offered by issuers together with qualitative interviews with issuers, acquirers and FinTech companies.

8. Quantitative results were extrapolated to an EU28 level.

03

The Methodology

3.1
Overview of the methodology

The Study was undertaken across a sample of seven markets - France, Germany, Italy, Poland, Romania, Spain, and the United Kingdom. The markets were selected as a representative sample of European markets subject to the IFR at varying stages of development. The size of the markets ranges from small (Romania) to large (UK) in terms of card transaction volumes. The aggregated card transaction volume from the seven markets constitutes ~70% of total transaction volume in the EU28.[9]

The Study was undertaken in two phases:

- a pre-IFR phase in which a baseline of data points within the European cards market was established (2015-16);
- a post-IFR phase in which the same data points were determined to enable an assessment of the changes from the pre-IFR to post-IFR environments.

The scope of research undertaken across the seven markets in the Study covered:

- Analysis of the terms andconditions of consumer debit and card products offered
    - » 624 products pre-IFR
    - » 554 products post-IFR
    - » ~800 individual products in total
- Consumer surveys (primary research)

TABLE 1

Total number of consumers surveyed per market

Market	Pre-MIF Sample Size	Post-MIF Sample Size
France	530	521
Germany	510	518
Italy	519	521
Poland	531	556
Romania	534	533
Spain	501	514
UK	504	511
Total	3,629	3,674

- Merchant surveys (primary research)

TABLE 2

Total number of merchants surveyed per market

Market	Pre-MIF Sample Size	Post-MIF Sample Size
France	405	400
Germany	357	400
Italy	268	401
Poland	386	374
Romania	308	326
Spain	310	400
UK	346	400
Total	2,380	2,701

Additional post-IFR workstreams included:

- 17 issuer interviews
- 12 Acquirer interviews
- 8 Interviews with mega-merchants[10]
- 4 Interviews with FinTech companies.

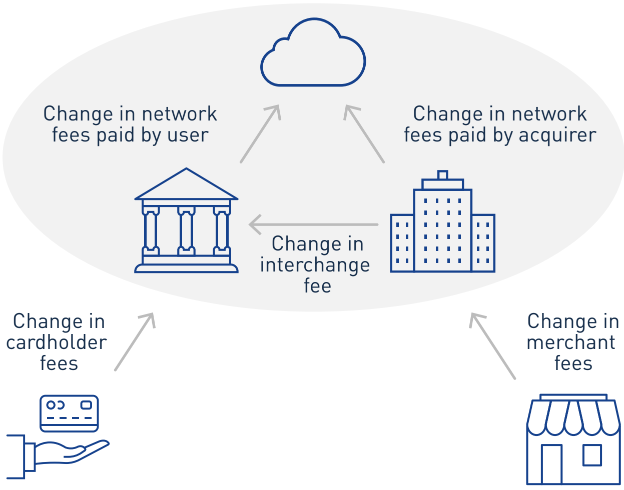
The Study collected over 20,000 quantitative data points, including scheme fees, interchange fees and transaction data. The data covered international four-party schemes (Mastercard & Visa), three-party schemes (American Express, Diners) and domestic schemes (Cartes Bancaires) (CB).

3.2
Financial modelling

A comparison of stakeholder revenues within the card payments ecosystem was undertaken to quantify the changes for issuers, acquirers and card schemes due to the IFR.

FIGURE 1

4-party model ecosystem revenues changes assessed



The analysis covered the key revenue drivers for the three operators in the payments ecosystem and covered:

- **Interchange**

  An interchange model assessed the change in interchange received by issuers (and paid by acquirers). The model determined the change in interchange received by issuers in absolute terms as well as at a per transaction level.

- **Issuer and acquirer revenues**

  Two revenue models assessed changes in revenues received by issuers and acquirers from cardholders and merchants respectively in absolute terms and at a per transaction level.

- **Network fees**

  Scheme and processing fees charged by international and domestic card networks to issuers and acquirers were assessed both pre- and post-IFR.

9. 2018
10. Definition of a mega-merchant: must have a turnover greater than €50m and operates in multiple European markets (comparable with the EU Commission Study criteria).

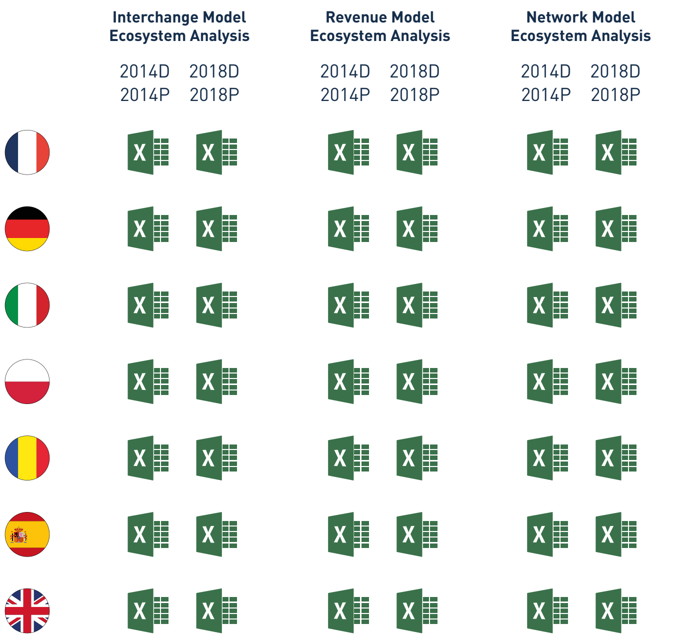
The analysis was undertaken for consumer debit and credit cards using calendar year 2014 and 2018 for pre- and post-IFR analysis. The figure below illustrates the construct of the modelling.

An overall ecosystem analysis was undertaken using 2014 drivers applied to 2014 pricing compared to 2018 drivers applied to 2018 pricing. In addition, an analysis of network fee developments was undertaken by comparing 2014 drivers applied to 2014 pricing and 2018 pricing

FIGURE 2

Overview of the Study model: interchange, network fees and revenues

D = Drivers P = Pricing



3.2.1

Interchange modelling

The interchange model consisted of 7 individual market models used to calculate the value of interchange reimbursement fees (IRFs) received by issuers in each market. Total interchange was calculated at both individual issuer and market level.

Scope

Interchange was determined for consumer POS and CNP transactions for Visa, Mastercard and domestic schemes.

Data Sources

Inputs

TABLE 3

Interchange model - market data and sources

Market data	Source
Mastercard Interchange rates	Mastercard
Visa Interchange rates	Visa
Domestic Scheme Interchange rates	BDE, Bancomat, Girocard, Cartes Bancaires
Issuer market share	Global Data
Number of transactions (credit & debit)	Global Data
Value of transactions (credit & debit)	Global Data
Consumer credit card transactions (volume and value)	Global Data
Credit card transaction (value and volume) split by scheme	Global Data
Debit card transaction (value and volume) split by scheme	Global Data

TABLE 4

Interchange model - channel data and sources

Transaction split data	Source
Domestic:	ECB / Mastercard data
Of which non-on-us	Mastercard data / EDC assumptions
Of which on-us	Mastercard data / EDC assumptions
International:	ECB / Mastercard data
Of which - Inter	Mastercard data / EDC assumptions
Of which - Intra	Mastercard data / EDC assumptions
POS	Global Data
CNP	Global Data

3.2.2

Revenue modelling

The revenues were calculated for issuers and acquirers by key revenue streams. The revenue drivers for issuers modelled were annual fees, foreign transaction fees, interest charges, late payment fees, and interchange.

The revenue drivers for acquirers were merchant service charges and terminal rental fees.

Model structure

Data Sources

TABLE 5

Revenue model – credit card market data (2014 and 2018)

Market data	Source
Number of cards in market	Global Data
Market share of issuers	Global Data
Split between Standard, Premium and Super Premium	Analysis of Terms & Conditions / Mastercard (MC) data
Number of transactions	Global Data
Value of transactions	Global Data
Split of transactions between domestic, Intra-region and Inter-regional	Global Data / Mastercard (MC) data
Outstanding credit card debit	UK Finance / Global Data / Lafferty
Revolve rate	Global Data
Value of credit card payments	Bank of England / Assumption
Proportion of late payments	Global Data
Foreign Exchange rate	Bank of England / Assumption
Average monthly credit card repayment	Assumption 2018 - EDC analysis
Annual fees	Analysis of Terms & Conditions
APR	Analysis of Terms & Conditions
International currency conversion fee	Analysis of Terms & Conditions
Late payment fee	Analysis of Terms & Conditions

TABLE 6

Revenue model - debit card market data (2014 and 2018)

Market data	Source
Number of cards in market	Global Data
Market share of issuers	Global Data
Split between Standard, Premium and Super Premium	Analysis of Terms & Conditions / Mastercard (MC) data
Number of transactions	Global Data
Value of transactions	Global Data
Split of transactions between domestic, Intra-region and Inter-regional	Global Data / Mastercard (MC) data
Number of current accounts 2018	Lafferty report 2017 and EDC estimate analysis for 2018
Total value of outstanding overdrafts	Lafferty forecast 2018
Total value of arranged overdrafts	FCA - Assumption 2014 / Assumptions
Total value of unarranged overdrafts	FCA - Assumption 2014 / Assumptions
Average arranged overdraft	The Guardian (UK), Assumptions
Average unarranged overdraft value borrowed	FCA / Assumptions
Average number of days in unarranged overdraft	FCA / Assumptions
Average account payment	Assumption 2014 - EDC analysis
Proportion of refused transactions	Assumption 2014 - EDC analysis
Use of current accounts (personal payments)	Global Data
Use of current accounts (including business)	Payments UK / Assumptions
Annual fees	Analysis of Terms & Conditions
International currency conversion fee	Analysis of Terms & Conditions
Arranged overdraft	Analysis of Terms & Conditions
Unarranged overdraft	Analysis of Terms & Conditions

TABLE 7

Revenue model - acquiring market data (2014 and 2018)

Transaction split data	Source
Market share of acquirers	Global Data
Value of acquired transactions - credit	Global Data
Value of acquired transactions - debit	Global Data
Number of POS terminals	2018 Global Data for POS terminals, EDC 2014 analysis for split
Domestic MSC (credit & debit)	Global Data / acquirer interviews / assumptions
Foreign MSC (credit & debit)	Global Data / merchant interviews / assumptions

Outputs

The total revenues by market were extrapolated from the sample, which was segmented by large, medium and small issuers and acquirers respectively.

3.2.3
Network fee modelling

The value of network fees comprising scheme and processing fees were determined by market for issuers and acquirers.

Scope

Network fees were determined for consumer debit and credit card transactions.[11]

Model structure

Inputs

- Network fee pricing manuals for Mastercard by market (2014 and 2018 manuals) and Visa pan-European fee guides (2013 and 2018).

TABLE 8

Issuing market and channel data sources

Market data	Source
Issuer market share	Global Data
Number of transactions (credit & debit)	Global Data
Value of transactions (credit & debit)	Global Data
Number of cards in issue (credit & debit)	Global Data
Credit card transaction (value and volume) split by scheme	Global Data
Debit card transaction (value and volume) split by scheme	Global Data
Value band splits	MC Data
MC debit / Maestro split	MC Data
Transaction split data	**Source**
Domestic:	ECB / MC Data
International:	ECB / MC Data
Of which - Inter	MC Data / EDC assumptions
Of which - Intra	MC Data / EDC assumptions
POS	Global Data
CNP	Global Data

TABLE 9

Acquiring market and channel data (2014 and 2018)

Market data	Source
Acquirer market share	Global Data
Number of transactions (credit & debit)	Global Data
Value of transactions (credit & debit)	Global Data
Credit card transaction (value and volume) split by scheme	Global Data
Debit card transaction (value and volume) split by scheme	Global Data
Value band splits	MC Data
MC debit / Maestro split	MC Data
Transaction split data	**Source**
Domestic:	ECB / MC Data
International:	ECB / MC Data
Of which - Inter	MC Data / EDC assumptions
Of which - Intra	MC Data / EDC assumptions
POS	Global Data
CNP	Global Data

TABLE 10

Mastercard issuing network fee types and drivers (2014 and 2018)

Year	Fee Type	Driver
2014 & 2018	Card fees	Number of cards
2014 & 2018	Volume fees	Quarterly reported volume
2014 & 2018	Cross-border fee	Cross border volume
2014	Currency conversion fees	All currency converted transaction values
2018	Reported Transaction fees	Domestic (D) + Intra (IA) + Inter (IR) transactions
2018	Card Not Present (CNP)	CNP transaction value
2014 & 2018	Authorisation	Number of trnx & ATV
2014	Clearing and Settlement	Number of trnx & ATV
2018	Clearing	Number of trnx & ATV
2014 & 2018	Connectivity fee	Cleared transactions

11. A commercial card transaction volume factor and an ATM transaction volume factor were applied to consumer transaction volumes to determine the appropriate tiered pricing.

TABLE 11

Mastercard acquiring network fee types and drivers (2014 and 2018)

Year	Fee Type	Driver
2014 & 2018	Volume fees	Quarterly reported volume
2014 & 2018	Cross-border fee	Cross border volume
2014	Currency conversion fees	All currency converted transaction values
2018	Card Not Present (CNP)	CNP transaction value
2018	Reported Transaction fees	Domestic (D) + Intra (IA) + Inter (IR) transactions
2018	Authorisation	Transaction value
2014	Clearing and Settlement	Number of trnx & ATV
2018	Clearing	Number of trnx & ATV
2018	Connectivity fee	Cleared transactions

TABLE 12

Visa issuing network fee types and drivers (2014 and 2018)

Year	Fee Type	Driver
2014 & 2018	Authorisation Europe (Domestic and Intra)	Euro monthly number of trnx
2014 & 2018	Clearing & Settlement Europe (Domestic and Intra)	Euro monthly number of trnx
2014 & 2018	Authorisation Inter	Inter monthly number of trnx
2014 & 2018	Clearing & Settlement	Inter monthly number of trnx
2014 & 2018	Consumer cardholder Expenditure Volume (CEV) - Euro Debit	Euro quarterly debit volume
2014 & 2018	Consumer cardholder Expenditure Volume (CEV) - Euro Credit	Euro quarterly credit volume
2014 & 2018	Consumer cardholder Expenditure Volume (CEV) - Debit & Credit Inter	Euro quarterly debit & credit Inter volume
2014 & 2018	International Services Assessment	International card volumes (excl Visa Europe)
2014 & 2018	International Services Assessment (MONO Currency)	International card volumes (excl Visa Europe) - mono
2014 & 2018	Cross border Service Assessment	International Visa Europe volumes

TABLE 13

Mastercard acquiring network fee types and drivers (2014 and 2018)

Year	Fee Type	Driver
2018	Domestic Authorisation	Domestic transaction volume
2018	Intraregional - Authorisation	Intraregional transaction volume
2014 & 2018	Domestic Clearing and Settlement	Domestic transaction volume
2014 & 2018	Intraregional - Clearing and Settlement	Intraregional transaction volume
2018	International - Acquirer Authorisation	Inter regional transaction volume
2014 & 2018	International - Acquirer Clearing and Settlement	Inter regional transaction volume
2014 & 2018	Acquiring Association POS (Immediate Debit, Prepaid and V Pay)	Flat rate % Fee on quarterly acquiring POS
2014 & 2018	Acquiring Association POS (Credit, Deferred Debit and Charge)	Flat rate % Fee on quarterly acquiring POS
2014 & 2018	International - Acquiring (service fee)	International transactions value
2014 & 2018	International - Card Not Present	Inter CNP volumes
2014 & 2018	e-commerce fee	Domestic and intra electronic e-commerce

Adjustments for incentive[12]: discounts were applied to Mastercard network fees based on data from Mastercard.[13] Discounts were applied to Visa fees according to the rebate tables in the Visa Europe network fee manual.

Key assumptions

Domestic scheme network fees were determined based on EDC assumptions applied relative to international scheme and network fees due to the lack of publicly available data.

3.2.4

Extrapolation to the EU28 level

Results from the interchange, network fee and revenue modelling for the seven markets were extrapolated to the EU28 level.

The 21 markets not included in the Study were extrapolated using proxy markets that are similar in market share or structure (i.e., domestic scheme markets) to calculate the total value of interchange, network fees and issuer / acquirer revenues.

12. Incentives (also known as rebates) consist of long term contracts with financial institution clients in which clients are rewarded financially for operating programmes that build payments volume, increase card issuance and product acceptance.

Markets were separated into 4 groups[13]:

- **Group 1:** Markets with 0-2% market share of card volume in the EU28 were extrapolated using Romania as a proxy (0.3% market share). Total 15 markets (including Austria, Croatia, Czech Republic, Estonia, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Romania, Slovakia, Slovenia, Malta, Cyprus)
- **Group 2:** Markets with 2-10% market share of payment volume in the EU28 were extrapolated using Poland as a proxy (2% market share). Total 4 countries (including Finland, Netherlands, Poland, Sweden)
- **Group 3:** Markets with domestic schemes (Belgium, Bulgaria, Denmark and Portugal) were extrapolated using France, Germany, Spain and Italy as proxies. Total 8 markets (including Belgium, Bulgaria, Denmark, France, Germany, Italy, Portugal, Spain)
- **Group 4:** The UK only

Within each group the total value of interchange, network fees and revenues were determined proportionally to the number and value of transactions within the sample of the markets in the Study.

3.3
Terms and Conditions analysis

The Study analysed the terms and conditions (T&Cs) of consumer credit and debit card products in the seven markets capturing annual fees, APRs, international transaction fees, late payment fees, unarranged overdraft fees, reward programmes and other value-added services.

In total T&Cs for 624 credit and debit card products were collected pre-IFR and for 554 products post-IFR.

3.4
Consumer survey

In total 7,284 consumers were surveyed across the pre- and post-IFR studies.

Topics covered in the survey were:

- Payment methods awareness, ownership and usage
- Payment card choice and usage patterns
- Experience of paying by card
- Card fees
- Card benefits
- Payment cards in domestic scheme markets

The surveys were conducted by CSA Research as an online survey across the seven markets, with a minimum sample of 500 consumers in each market.[14] The consumer sample was selected to be demographically representative.

The post-IFR surveys in markets where payment application pre-selection became available, i.e. France, Germany, Spain and Italy, included questions on the experience of payment application pre-selection at the POS.

3.5
Merchant survey

The merchant surveys were conducted by CSA Research. In total 5,047 merchant surveys were completed across the pre- and post-IFR studies.

Topics covered in the survey were:

- Business overview
- Payment preferences
- Surcharging
- Card acceptance and pricing
- Card acceptance cost satisfaction
- Number and value of card transactions.

The merchant surveys were conducted by telephone interview[15], with a minimum target of 400 respondents in each market.[16] Merchants were selected based on size of business with the number of employees used as a proxy for size and specified NACE[17] merchant categories(retail trade, accommodation, food & beverage, travel agency, etc.).

The post-IFR surveys in markets where payment application pre-selection became available, i.e. France, Germany, Spain and Italy, questions were included on the experience of payment application pre-selection at the POS.

The post-IFR surveys also included questions on the right not to accept unregulated payment cards .

13. Example based on card transaction volume having been used as a driver.
14. The minimum threshold of 500 respondents per market pre- and post-IFR was met in all cases.
15. In the merchant's local language.
16. This minimum target was not always feasible in all markets (e.g. Romania) but an representative sample of merchants was achieved in all seven markets.
17. NACE is the classification of economic activities in the European Union (EU); the abbreviation NACE is derived from the French Nomenclature statistique des activités économiques dans la Communauté européenne.

3.6
Issuer interviews

17 issuer interviews were conducted post-IFR.

Topics covered were:

- Impact of the IFR on the consumer
- Impact on the issuer
- Market dynamics (competition)
- Innovation
- Security.

Interviews were conducted following an interview guide to ensure consistency between interviews.

3.6.1
Acquirer interviews

12 acquirer interviews were conducted post-IFR.

Topics covered were:

- Changes to overall market
- Merchant portfolio
- MSC and unbundling
- Interchange cost pass through
- Application selection at POS
- Honour all cards rule
- Cross-border acquiring
- Separation of scheme and processor.

Interviews were conducted following an interview guide to ensure consistency between interviews.

3.6.2
FinTech Interviews

Four interviews were conducted post-IFR with FinTech businesses.

Topics covered were:

- Changes to overall market
- Business model
- Market competition
- Investment in innovation

3.6.3
Low Interchange Markets

The Study included an assessment of three low interchange markets (Belgium, Ireland, and the Netherlands) to compare high level findings to the sample of seven markets.

3.6.4
Results are reported at the EU 28 level

All quantitative data in this report are at an EU28 level unless otherwise stated. The qualitative findings from the interviews and surveys are based on the seven markets covered by the Study.

04

Macro changes in the European cards market since 2014

While there has been a small growth in the number of debit and credit cards, there has been significant growth in the number and value of payment card transactions across all EU28 markets since 2014.

The increase in card usage has been driven by a significant growth in the use of contactless, as well as e-commerce, cross-border activity, initiatives to migrate from cash to electronic transactions and organic growth. The investment in contactless and the initiatives to support the substitution of cash with electronic payments were initiated several years prior to the introduction of the IFR. The growth in acceptance of regulated payment card brands was much lower than the growth in transactions and value, which argues that the growth in cards usage is due to the pre-existing initiatives rather than as a result of the IFR.

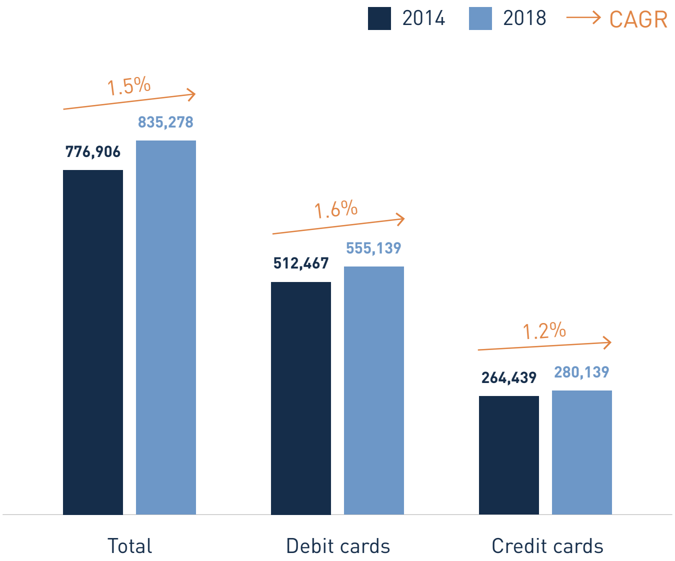
Card usage has demonstrated secular growth as the migration from paper-based payment methods (e.g., cash and cheques) to electronic payment methods, such as payment cards and Alternative Payment Methods (APMs) has gathered pace in recent years at POS, supported by increased consumer adoption of eCommerce which has contributed to the overall growth in card payment activity.

The growth in the number of current accounts and number of issued cards per capita did not drive the significant growth in the number of card transactions since the IFR. There was a small increase in total number of payment cards in issue across the EU28 post-IFR with a stronger growth in debits card in issue than for credit cards, as illustrated below.

FIGURE 3

Total number of consumer debit and credit cards in EU28 (2014-18)

Number of cards (million)

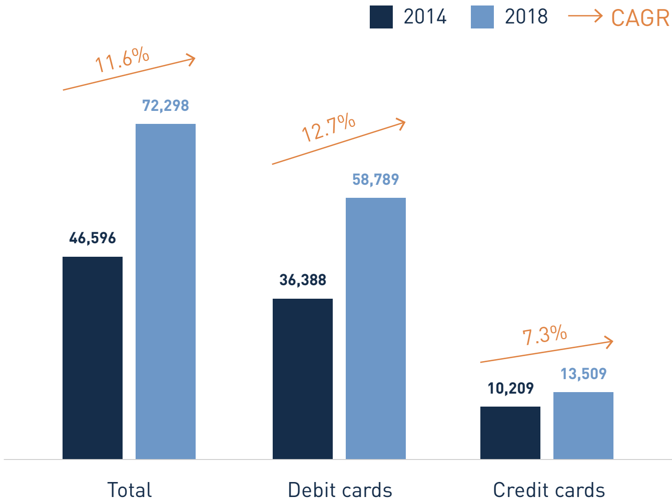


The total number of cards in the EU28 increased post-IFR for both debit and credit cards. Debit cards in issue had the highest level of growth at 1.6% CAGR, increasing from 512m cards (2014) to 555m (2018). Credit cards in issue increased at a CAGR of 1.2% from 264m cards (2014) to 280m (2018).

FIGURE 4

Total number of debit and credit card transactions in the EU28 (2014-18)

Transaction volume (million)

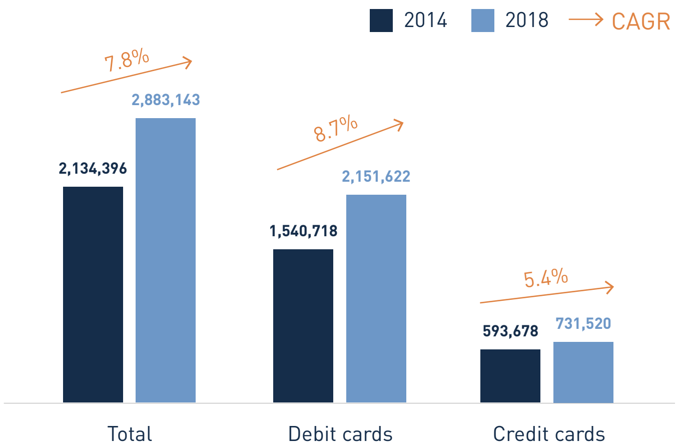


Compared to the low growth in card numbers, debit and credit card usage increased significantly. The number of debit card transactions increased the most with a 12.7% CAGR between 2014 and 2018. The growth in credit card transactions was lower with a CAGR of 7.3% (2014-18). This indicates that consumers are primarily using debit cards when substituting cash for electronic transactions.

FIGURE 5

Total value of debit and credit card transactions in the EU28 (2014-18)

Transaction value (€million)



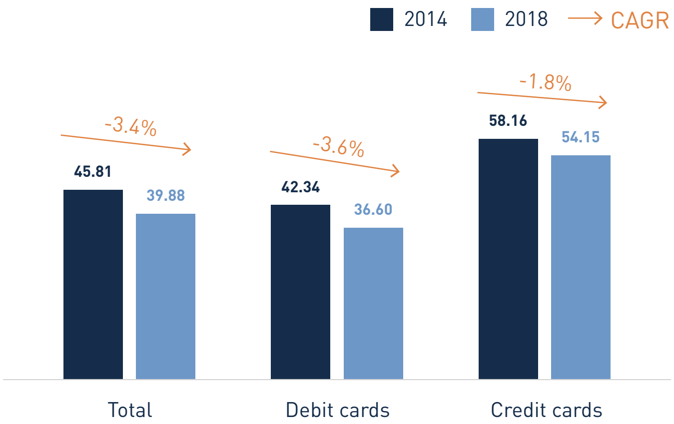
The increase in value of debit and credit card transactions was lower than the increase in transactions, resulting in a continued decrease in average transaction values as more low value transactions are occurring on cards. Total debit card transaction value increased at a CAGR of 8.7% between 2014 and 2018 while credit card value increased at a CAGR of 5.4% over the same period. The combined debit and credit card transaction value increased at a CAGR of 7.8% between 2014 and 2018, which equates to an increase of €749bn in value of transactions.

As mentioned earlier, consumer adoption of contactless for low value payments has been a strong contributory factor to the growth in transactions and the decrease in Average Transaction Value (ATV). Debit card ATV reduced to €36.60 (2018) from €42.34 (2014) and the credit card ATV to €54.15 (2018) from 58.16 (2014).[18]

FIGURE 6

Debit and credit card ATV decreases in the EU28 (2014-18)

ATV (€)



The importance of contactless to the growth in debit card usage was illustrated by PagoBancomat, which did not support contactless during the Study period and as a result lost 15.1% market share during compared to the other four-party card schemes from 2014 to 2018.

This significant reduction in PagoBancomat's market share was as a result of an increase in the usage of Mastercard and Visa branded contactless debit cards while PagoBancomat was not able to support contactless. As a result co-badged PagoBancomat/ICS debits cards will only be able to support PagoBancomat contactless once they are reissued. It is expected that once all co-badged cards are reissued with contactless PagoBancomat functionality the relative use of PagoBancomat versus ICS across both contact and contactless will revert to prior levels. This is supported by evidence in the other markets with domestic schemes who support contactless, where there were no changes in market share across face-to-face and contactless.

This is a result of differences in the domestic investment strategies for product innovation in the Italian market between the schemes rather than a result of the introduction of the IFR.

18. Debit and credit card ATVs decreased by 3.6% CAGR and 1.8% CAGR, respectively (2014-2018).

05

Impact on issuers and consumers

The reduction in interchange was €5.14Bn from 2014 to 2018. The reduction in absolute terms was partially mitigated by the growth in total transaction value for card transactions between 2014 and 2018. Had interchange remained at the levels in force prior to the IFR issuers would have earned an additional €8.93Bn in interchange in 2018.

Post-IFR consumers have seen increases in the cost of card ownership through increased interest charges and other fees as well as decreases in the value of reward programmes as issuers revised their cost structures and pricing policies as a result of the decrease in interchange fees received. Total issuer revenues from credit and debit cards increased in absolute terms post-IFR, as issuers increased APRs on debit card overdrafts and credit cards to recover bad debt and other risk losses previously recovered in part through interchange. Although issuer revenues increased in absolute terms total revenues on a per transaction basis decreased due to the increase in transaction volumes between 2014 and 2018.

Competition for active customers has resulted in an increase in the proportion of credit cards with loyalty programmes, where the reduction in interchange could have been expected to lead to a reduction in the proportion of credit cards with loyalty programmes. However, the earning structures of the reward programmes have reduced post-IFR, reducing the benefit for the individual consumer. For example, the earning structure for cashback has been reduced, typically through a restricted range of merchants included in the cashback arrangements (which could also indicate potential merchant contribution) or reduced points earned per unit of spend. The number of reward programmes associated with current accounts decreased post-IFR and the value of rewards relative to spend diminished similar to the trend on credit cards.

Consumer choice in credit and debit card products diminished as issuers rationalised their card product offerings post-IFR. Dual brand American Express and Visa or Mastercard credit card products have been withdrawn from the market in entirety as American Express has begun to phase out its GNS-model cards.

5.1

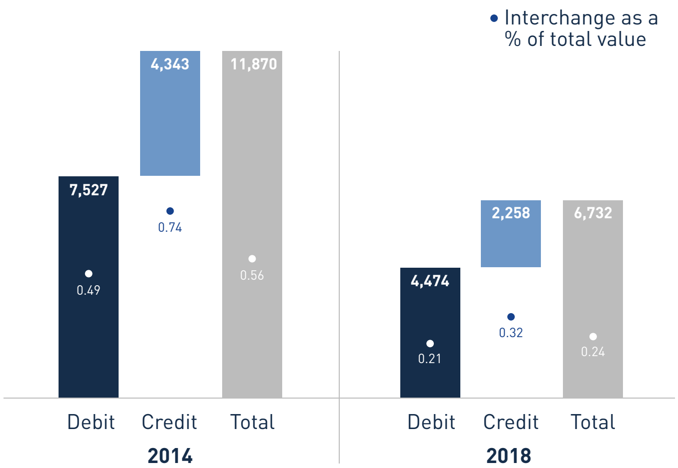
Issuer interchange revenues decreased significantly post-IFR

The total value of credit and debit card interchange received by issuers in the EU28 decreased by 43.3% from €11.87Bn (2014) to €6.7Bn (2018), a decrease of €5.1Bn. The decrease in interchange occurred despite an increase in card transaction value of €749Bn from 2014 to 2018.

FIGURE 7

Interchange reductions in EU28 (2014-18)

Interchange revenue (€m)



If interchange had remained at 2014 levels (i.e. in be absence of an IFR) issuers would have received €15.7Bn in interchange revenues in 2018 across debit and credit, which would have been €8.9Bn more than the €6.7Bn they received in 2018. This scenario is shown in Figure 8 and Table 14.

FIGURE 8

Capped versus unchanged interchange scenario

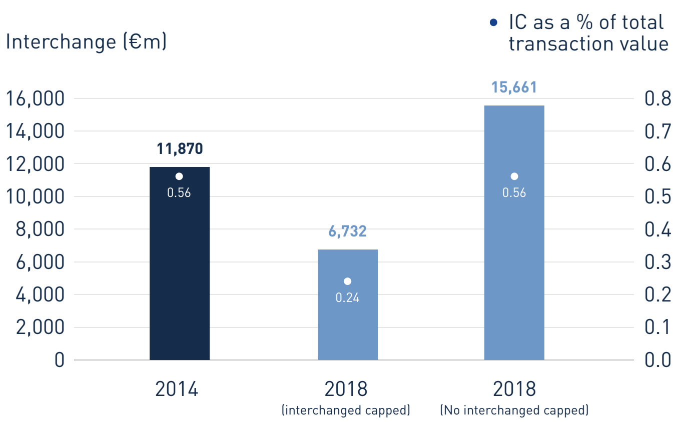


TABLE 14

Capped versus unchanged interchange scenario

Actual results	2014	2018	VAR. (%)	Delta
Total interchange (€mn)	**11,870**	**6,732**	**-43.3**	**-5,138**
Total interchange as a % of total transaction value	0.56	0.24	-57.8	-0.32
Results assuming that interchange had not been capped	**2014**	**2018**	**VAR. (%)**	**Delta**
Total interchange (€mn)	**11,870**	**15,661**	**31.9**	**3,791**
Total interchange as a % of total transaction value	0.56	0.56	0.0	0.0
Results comparison between actual interchange and the uncapped interchange scenario	**2014**	**2018**	**VAR. (%)**	**Delta**
Total interchange (€mn)	**6,732**	**15,661**	**132.6**	**8,929**
Total interchange as a % of total transaction value	0.24	0.56	135.9	0.32

The average credit and debit card interchange received decreased by 57.8% from 0.56% of transaction value (2014) to 0.24% (2018) – a decrease of 32bps. A breakdown by card type is shown in the Table 15 below.

TABLE 15

Debit and credit card interchange variance and delta (2014-18)

Actual results	2014	2018	VAR. (%)	Delta
Total value of consumer debit interchange (POS and CNP) (EUR Million)	7,527	4,474	-40.6	-3,053
Total value of consumer debit interchange as a % of total debit transaction value	0.49	0.21	-57.4	-0.28
Total value of consumer credit interchange (POS and CNP) (EUR Million)	4,343	2,258	-48.0	-2,085
Total value of consumer credit interchange received as a % of total credit transaction value	0.74	0.32	-57.0	-0.42
Total value of consumer debit and credit interchange (POS and CNP) (EUR Million)	11,870	6,732	-43.3	-5,138
Total value of consumer debit and credit interchange received as a % of total transaction value	0.56	0.24	-57.8	-0.32

For debit cards the total value of interchange fees decreased by 40.6% from €7.5Bn (2014) to €4.5Bn (2018). As a percentage of transaction value debit card interchange decreased by 57.4% from 0.49% (2014) to 0.21% (2018) – a decrease of 28bps.

The total value of credit card interchange decreased by 48.0% from €4.3Bn (2014) to €2.3Bn (2018). As a percentage of transaction value credit card interchange decreased by 57.0% from 0.74% (2014) to 0.32% (2018) – a decrease of 42bps.

5.2
Issuer revenues from consumers increased in absolute terms post-IFR

TABLE 16

Issuer gross revenue vs. revenues from consumers (2014 and 2018)

	Actual results	2014	2018	VAR. (%)	Delta (€mn)	% of total revenue in 2014	% of total revenue in 2018
Total issuer gross revenue (includes interchange and cardholder fees)	Revenue generated by transactional fees such as IC or INT txn fees (€mn)	13,147	8,294	-36.9	-4,852	22.1	13.4
	Revenue generated by non-transactional fees (€mn)	46,316	53,378	15.25	7,062	77.9	86.6
	Total issuer gross revenue (€mn)	59,463	61,672	3.7	2,209	100.0	100.0
Total issuer gross revenue from consumers (excludes interchange)	Revenue generated by transactional fees such as INT txn fees (€mn)	1,277	1,562	22.3	284	2.7	2.8
	Revenue generated by non-transactional fees (€mn)	46,316	53,378	15.2	7,062	97.3	97.2
	Total issuer gross revenue from consumers (€mn)	47,593	54,940	15.4	7,347	100.0	100.0

In response to the significant reduction in interchange fees received issuers had to increase cardholder fees to mitigate the impact on total revenues. Issuer revenues from consumers increased in absolute terms post-IFR through a combination of increases in existing fees and/or the introduction of new card-based fees and other non-transactional charges.Card-based fee were mainly international transaction fee increases and non-transactional increases were related to interest charges (Annual Percentage Rates) and late payments fees.

Issuers increased transaction fees applicable only to a subset of transactions. For example, some issuers increased cross border fees applicable to transactions in foreign currencies. Non-domestic transactions account for ~10% of total transaction volume.

Issuer revenues from consumers increased by 15.4% from €47.59Bn (2014) to €54.94Bn (2018). The increase of €7.35Bn in absolute terms was due largely to the increases in non-transactional fees such as current account arranged overdraft fees of €6.52Bn and credit card interest revenues of €1.73Bn. However, issuer revenue from consumers decreased on a per transaction basis as the growth of total transaction volume exceeded the growth in revenues. Issuer revenues from consumers decreased from €1.02 (2014) on a per transaction basis to €0.76 (2018) and from 2.23% (2014) as a percentage of transaction value to 1.85% (2018).

The distribution of revenues for credit cards and current accounts, shown in Figure 9 and Figure 10, show that there has been a significant shift in revenues with an increased reliance on interest revenues for both credit cards and current accounts as interchange revenues have decreased post-IFR.

FIGURE 9

Distribution of credit card revenues Pre- and Post-IFR

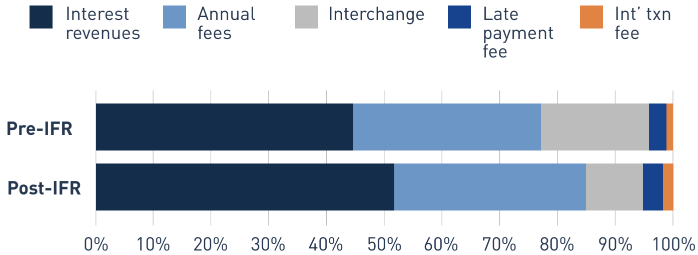
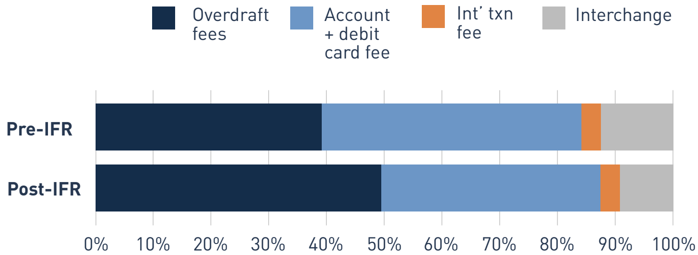


FIGURE 10

Distribution of credit card revenues Pre- and Post-IFR



5.3

Consumer choice of credit card products diminished following the implementation of the IFR

The implementation of the IFR resulted in a reduction in the number of credit card products on offer the from 360 products across the sample of seven countries before the implementation compared to 311 post IFR, a reduction of 49 products. 29 of the products withdrawn were Mastercard/Visa, 10 were American Express GNS products or Diners, while a further 10 were dual brand products with a Mastercard or Visa card combined with an American Express card. Dual brand products are no longer available in the market post-IFR.

5.4

Consumer cost of ownership of credit cards has increased through increased interest charges and reduced value of loyalty programmes

Since the implementation of the IFR consumer cost of ownership has increased through a combination of increases in interest charges (APRs[19]) and usage and penalty fees.

The APRs applied to revolving balances have increased by 2.57% from 16.2% pre-IFR to 18.8%. Over the same time period the ECB marginal lending rate has decreased by 0.05% from 0.30% in September 2014 to 0.25% in March 2016. Meanwhile consumer bad debt rates have decreased by 0.01% on a weighted average basis between 2014 and 2018 across the seven markets.[20]

Average international transaction fees increased slightly from 2.15% to 2.17% and the average late payment fees increased by 17.6% (from €7.92 to €9.31). The proportion of credit card products with international transaction fees increased to 87.8% post-IFR from 86.9% pre-IFR.

For cards products with an annual fee the average annual fee for the sample of consumer credit cards increased by 13% from €54.63 to €61.56.

The Study found there was an increase in the number of credit card products with loyalty programmes, however the value of individual loyalty programmes had reduced post-IFR, which is likely to be a reflection of the decrease in income issuers have from interchange. While the reduction in interchange could have been expected to lead to a reduction in the proportion of credit cards with loyalty programmes and the value of the programmes, competition for active customers appears to have driven an increase in the proportion of credit cards with loyalty programmes. The provision of loyalty programmes has also been used to justify annual fee increases by card issuers.

The number of credit card products with reward programmes has increased from 30% pre-IFR to 56% post-IFR and now accounts for 174 of 311 credit card products in the Study sample. This could be contrary to expectation, but illustrates that post-IFR competition for, and retention of, active cardholders has increased.

The loyalty programmes are a combination of three types of reward programme types:

- Cashback
- Points based rewards
- Other benefits (typically travel insurance, etc.).

Depending on card products the loyalty programme can be a single reward type of the options listed above or a combination of two or all three options.

The mix of types of loyalty has changed noticeably from pre-IFR to post-IFR with the use of cashback increasing from the least frequent loyalty programme to the second most frequent, as shown in the table below:

TABLE 17

Mastercard acquiring network fee types and drivers (2014 and 2018)

	Pre-IFR	Post IFR	Increase
Cashback	53	133	151%
Points based	67	80	19%
Other benefit	205	219	7%

The review of Terms & Conditions of credit card products found that across all three categories of reward programmes the earn rate had been reduced post-IFR, for example through cashback applying to a restricted range of merchants (which could indicate merchant contribution to funding) or reduced points earn rate per unit of spend.

5.5

Issuer revenues from credit cards has decreased on a per transaction basis

While issuer revenues from consumers have increased in absolute terms, the average income on a per transaction basis has decreased as the revenue increases from consumers have not offset the decrease in interchange on a per transaction basis. Total revenue per transaction was €2.28 in 2014, which decreased to €1.97 in 2018.

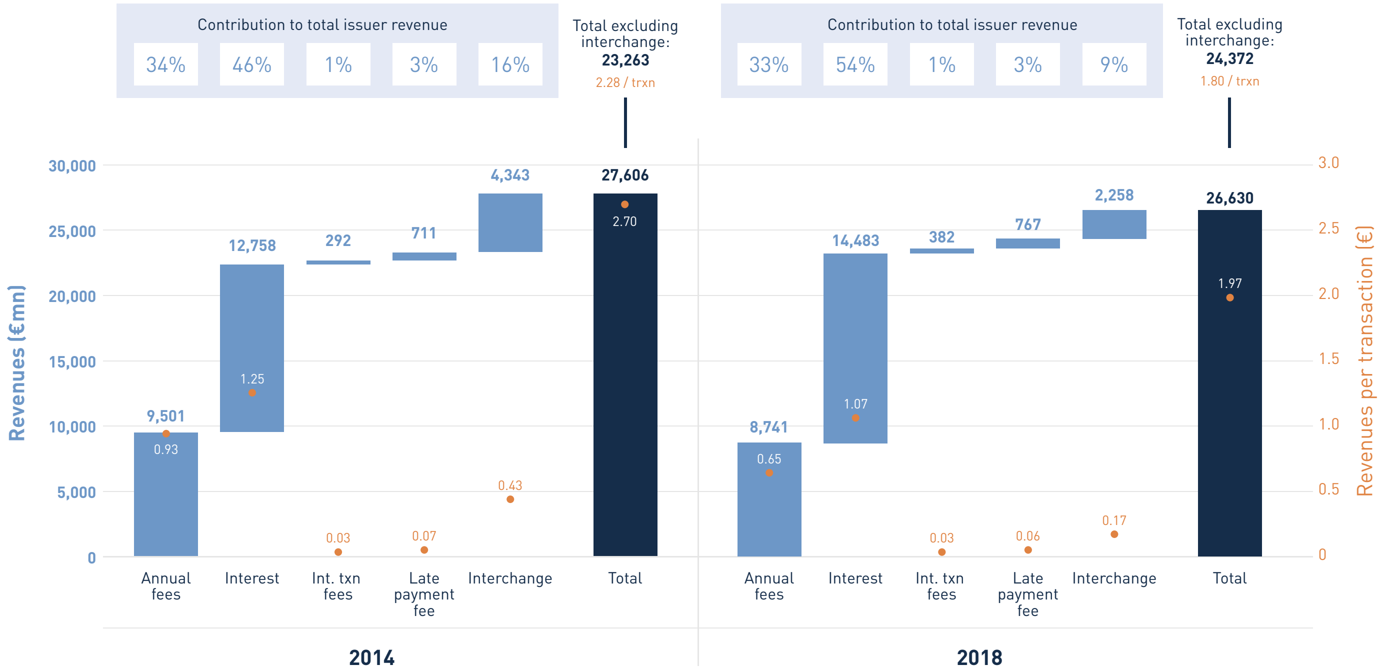
While issuer revenues in total has increased post-IFR the growth in transaction volumes has exceeded this so that on a per transaction basis issuer revenues from consumers decreased from €2.28 per transaction (2014) to €1.80 per transaction (2018) – a decrease of €0.48.

As the relative contribution of interchange to total revenue has decreased, the contribution of interest charges, international transaction fees and late payment fees has increased. Interchange accounted for 16% of total issuer revenue in absolute terms in 2014, but this changed to 9% by 2018. The contribution in absolute terms of interest charges, international transaction fees and late payment fees increased by 9% from 50% (€13.76Bn) to 59% (€15.63Bn). Despite the increase in absolute terms, issuer revenues decreased on a per transaction basis due to the increases in transaction volumes between 2014 and 2018.

19. An annual percentage rate (APR) is the annual rate charged for borrowing as part of a credit card terms and conditions.
20. Global Data

FIGURE 11

Issuer revenue from credit cards (2014-18)



Despite total credit card revenue (excluding interchange) increasing from €23.26Bn (2014) to €24.37Bn (2018) – an increase of €1.11Bn in absolute terms - issuers have been unable to replace lost interchange on a per transaction basis with non-transaction-based fees such as annual, usage and penalty fees, and other charges such as interest charges.

5.6

Consumer choice in debit cards has diminished since the implementation of the IFR

Consumer choice of current accounts and debit cards has diminished since the implementation of the IFR. Firstly, the number of debit cards on the market has been reduced, secondly, the number of debit cards that do not incur an annual fee has been reduced and lastly, the number of current accounts that allow the customer to go into overdraft without a charge has been reduced.

The number of debit card products on offer reduced by 21[21] following the implementation of the IFR. The availability of current accounts that permits an overdraft has been significantly reduced, with 38[22] current accounts that allowed the customer to go into an overdraft without a charge have been withdrawn from the market.

5.7

Loyalty programmes associated with current accounts provide less benefit for the consumer

Loyalty programmes associated with current accounts have been amended since the implementation of the IFR. Although the average annual fee for a current account decreased, the number of current accounts with a loyalty programme has decreased and those that remain provide less benefit.

The average annual fee for a current account decreased by 11% from €51.05 (2015) to €45.54 (2018). The number of current accounts with loyalty programmes has been cut from 167 to 162, removing 5 loyalty programmes from the market. A total of 23[23] current accounts have been withdrawn from the market since IFR.

There are three main categories of loyalty; cashback, points-based, and other benefits. Other benefits could include, for example, travel insurance, access to airport lounges or a free companion card. The "other benefits" category has been significantly reduced – there are 22 fewer programmes that have this type of benefit, which is a 23% reduction since the implementation of the IFR. Conversely, the number of debit cards with cashback rewards has increased from 19 current accounts to 36, an 89% increase. This has been most noticeable in Poland and France where cashback associated with current accounts did not exist prior to the IFR. However, cashback across all products has been restricted to specific subsets of retailers or certain merchant categories, or for purchases over a certain value. Prior to the IFR cashback programmes discriminate between types of purchases or merchants. It is also likely that at least some of the merchant specific cashback programmes are likely to be partially funded by the merchants. Point based loyalty programmes have been reduced from 9 to 7.

21. There were 264 debit card products in the pre-IFR Study sample.
22. There were 189 current accounts that offered an overdraft facility in the pre-IFR Study sample.
23. There were 296 current accounts (with and without loyalty programmes) in the pre-IFR Study sample.

5.8

Issuer revenues from debit cards has decreased on a per transaction basis

Issuer revenues from debit cards has decreased on a per transaction basis as issuers have been unable to replace lost interchange with increased debit card and current account-based fees.The reliance on revenues from arranged and unarranged overdraft (OD) fees and international transaction fees has increased as the relative contribution of interchange to total revenues has decreased.

Debit card and current account revenues from consumers increased by 25.64% from €24.33Bn (2014) to €30.57Bn (2018) – an increase of €6.24Bn in absolute terms. The revenues increased in absolute terms due to growth in current account based charges post-IFR.

Average annual fees on debit cards have increased since the implementation of IFR by 110% from €3.35 to €7.08. However, there has been a decrease in the average annual fee for the current account to which the debit card is associated. Average annual current account fees have decreased by 11% from €51.05 to €45.54.

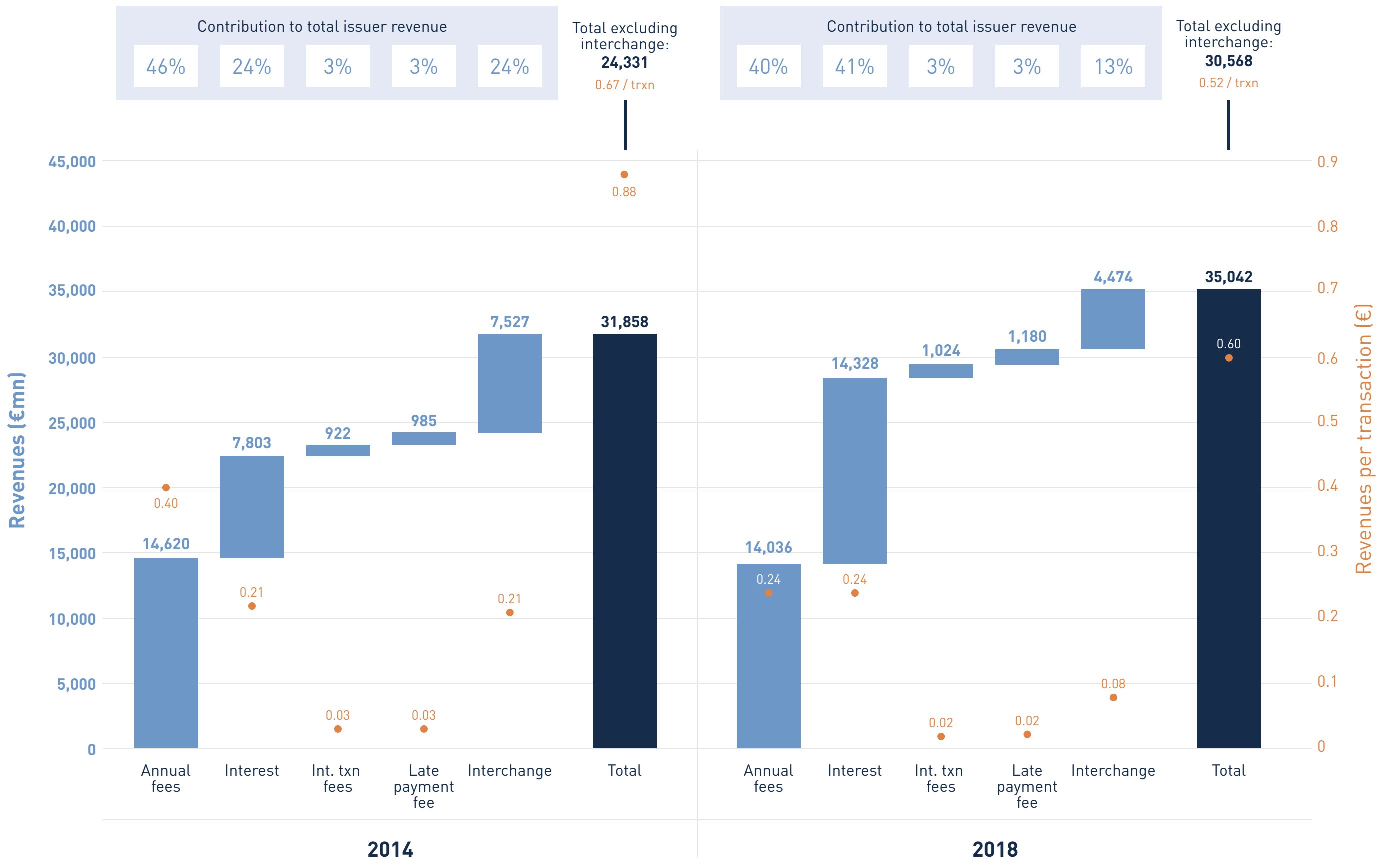
As with revolving balances on credit cards, the interest rate applied to current account overdraft balances have increased by 0.91% to 11.52% from 10.61% pre-IFR. Over the same time period the ECB marginal lending rate has decreased by 0.05% from 0.30% in September 2014 to 0.25% in March 2016. Meanwhile consumer bad debt rates have decreased by 0.01% on a weighted average basis between 2014 and 2018 across the seven markets.[24]

Issuer income per debit card[25] transaction, illustrated in the following figure, has decreased from €0.67 (2014) to €0.52 (2018) – a decrease of €0.15.

As the relative contribution of interchange to total revenue has decreased, the contribution of arranged and unarranged overdraft (OD) fees and international transaction fees has increased. Interchange accounted for 24% of total issuer revenue in absolute terms in 2014 but reduced to 13% in 2018. The aggregated contribution in absolute terms of other fees and charges increased by 17% from 30% (€7.23Bn) to 47% (€12.48Bn). Despite revenue increases in absolute terms from these fees and charges, issuer revenue decreased on a per transaction basis due to the increase in transaction volumes between 2014 and 2018.

FIGURE 12

Issuer revenue from debit cards and current accounts (2014-18)



24. Global Data
25. This metric also contains revenue from current accounts.

06

Impact on acquirers and merchants

With the introduction of transparency rules in June 2016 the expectation was that acquirers would pass on savings made from reduced interchange costs to merchants, which in turn merchants were expected to pass on to consumers through lower retail prices for goods and services, due to the competitive pressures in retailing. The Study found that acquirer MSC revenue did decrease after the introduction of the IFR, but the reduction of interchange was greater than the reduction in average MSC net of interchange and network fees. The Study found that on average 56% of the reduction in interchange was passed through to merchants.

The majority of the benefit of the interchange reductions post-IFR has been received by mega- and large merchants who have 'Interchange plus plus' pricing arrangements in the commercial contracts with their acquirers. Interchange plus plus pricing provides automatic pass-through of interchange reductions and changes in network fees. Small and medium merchants typically have blended pricing arrangements with fixed MSC rates that are not automatically adjusted for changes in acquirer input costs. As blended rate contracts are renewed it can be expected that competitive pressures will reduce the MSC rates charged to SME merchants, but for now the Study found that smaller merchants have not seen the same level of reductions in interchange as large merchants.

Where merchants received a lower MSC as a result of reduced interchange rates, there is no available evidence of whether merchant to consumer pass through took place.

The Study found that merchant acceptance of four party card schemes regulated by the IFR increased at a rate of less than 1% from an already high acceptance level of just over 90%, while unregulated card brands such as Diners grew by 6.20% and American Express by 2.55%. Merchant acceptance of regulated card brands was expected to increase post-IFR, but the higher growth for unregulated card brands found was unexpected.

The Study compared the developments in the seven markets with three markets with interchange lower than the capped rates in the IFR (Belgium, Ireland and the Netherlands). Similarities in the development of these markets and markets that kept the capped rates from the IFR would indicate that lowering interchange below the current capped rates would not incrementally benefit the development of the cards markets the have applied the capped rates in the IFR.

6.1

Acquirers have partially passed through the interchange reduction to merchants post-IFR

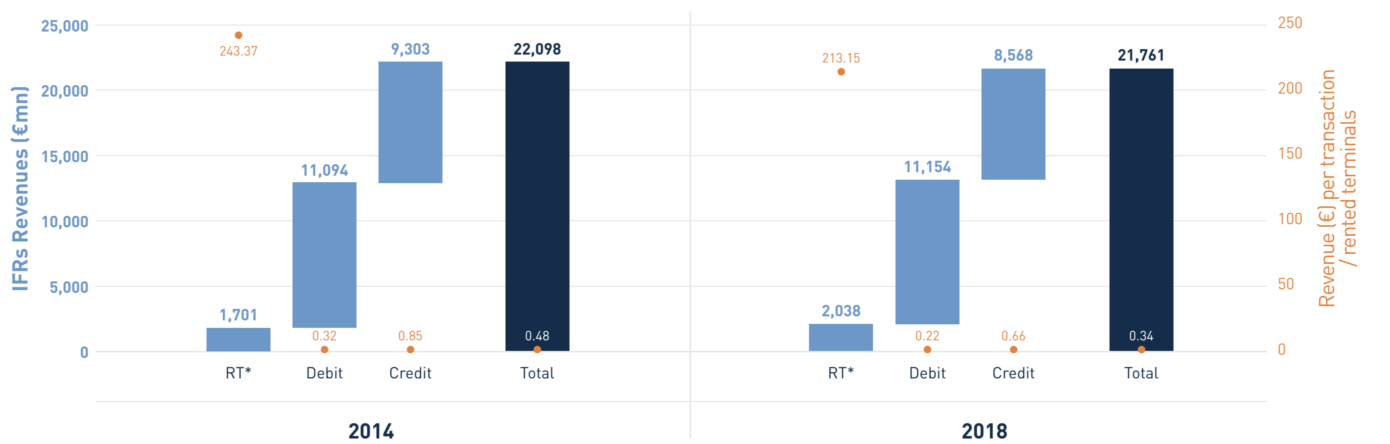
Total acquirer gross revenues decreased post-IFR as the capped interchange rates reduced the domestic and intra-regional interchange components of the MSC. Total acquirer gross revenues decreased by 1.5% in absolute terms from €22.10Bn (2014) to €21.76Bn (2018) and by 17.6% as a percentage of total transaction value from 1.02% (2014) to 0.84% (2018). (Figure 13).

Total MSC revenues received by acquirers from merchants in the EU28 decreased by 3.3%, from €20.4Bn (2014) to €19.72Bn (2018) – a decrease of €0.67Bn. The decrease as a percentage of total transaction value was 19.1%, with a reduction from 0.94% (2014) to 0.76% (2018) – a decrease of 18bps. Thus, the increase in total transaction value post-IFR has partially offset the decrease in MSC revenue.

Assuming the total volume and value of transactions remained static between 2014 and 2018, as illustrated in the table on page 27, the MSC as a proportion of total transaction value would have been 0.78%. This is higher than the actual of 0.76% in 2018, which is due to the proportion of debit transactions increasing from 68% (2014) to 71% (2018) of total transaction value.

FIGURE 13

Total acquirer revenues (2014-18)



* Rent of terminals

TABLE 18

Acquirer MSC revenues with and without transaction growth

Actual results	2014	2018	VAR. (%)	Delta
Total MSC fees (€mn)	**20,397**	**19,722**	**-3.3**	**-675**
Total MSC as a % of total transaction value	0.94	0.76	-19.3	-0.18
Results assuming that transaction value had not increased	**2014**	**2018**	**VAR. (%)**	**Delta**
Total MSC fees (€mn)	**20,397**	**16,859**	**-17.3**	**-3,538**
Total MSC as a % of total transaction value	0.94	0.78	-17.3	-0.16

Acquirer contribution margin increased post-IFR as the interchange reduction post-IFR was greater than the reduction in the average MSC net of interchange and network fees. The weighted average reduction in interchange across credit and debit was 32bps between 2014 and 2018, whilst the average decrease in MSC was 18bps, leaving an increased acquirer contribution margin of 14bps.

The majority of the benefit of the interchange reductions post-IFR has been received by large merchants. Acquirers reported they proactively re-negotiated contracts with their largest merchants in order to protect their key accounts. This was reflected in the mega-merchant interviews, where 75% reported that their average cost of acceptance per transaction had decreased post-IFR, in some cases due to benefiting directly through being on interchange plus-plus contracts prior to the implementation of the IFR.

Acquirers reported that they were reactive to requests from the SME segment for contract re-negotiations, with no acquirers having sought to pro-actively re-negotiate their entire merchant portfolio. The majority of the SME segment contracts were reported to be blended MSC contracts due to merchant preference. According to SMEunited[26] there are 24 million SMEs in Europe which account for 99.8% of all enterprises.

Further evidence of a lower degree of pass-through to SME merchants was provided from the merchant survey, where the average cost of accepting regulated credit card payments was reported to have decreased by 0.16%, from 1.39% to 1.23%. The average cost of accepting debit card payments was reported to have decreased by 0.20%, from 1.32% to 1.12%., while markets with domestic debit card brands reported a decrease in the average cost of acceptance of 0.15%, from 0.94% to 0.79%, which is lower than the reduction in markets with only international card scheme debit cards. However, as some markets with domestic schemes had lower domestic scheme interchange compared to the international cards schemes pre-IRF the scope for reduction was lower.

The merchant survey also provided evidence of pricing pressures on unregulated card schemes, such as American Express, with the average cost of acceptance reported to have decreased by a relatively small amount of 0.04%, from 1.96% to 1.92%.

One exception found in the Study was from French merchants who reported that the average MSC for cards had increased by 0.10% from pre- to post-IRF. However, this increase coincided with the increase of commercial card interchange under the Cartes Bancaires scheme to 0.9%, which will have been reflected in blended MSC contracts.

The evidence, with the exception of the French market, is that some pass through has occurred, but that the majority of the benefit has been accrued by large merchants on "interchange++" contracts.

6.2

Merchant acceptance of regulated cards has not increased as quickly as the acceptance of unregulated card brands such as Diners and American Express

The expectation pre-IRF was that lower interchange fees would increase acceptance of regulated payment products, while merchants would exercise their right to surcharge or reject unregulated payment cards, which typically have higher acceptance costs. The Study found an increase in credit and debit card acceptance of just over 2% from 2014 to 2018. However, the increase in acceptance of the regulated brands was only 0.4% for Visa and 1.0% for Mastercard, although from a high base level of 90%+.

The increase in acceptance for unregulated card brands, as reported by merchants, was 6.2% for Diners and 2.6% for American Express.

The growth in acceptance for other card brands that are typically issued outside the EU was much higher with 10.3% for Union Pay and 8.5% for JCB. This indicates that merchants have an interest in accepting cards from tourists from markets outside of Europe. Some issuance of Union Pay and JCB cards inside the EU by EU based issuers has only recently occurred – i.e., towards the end of the Study period and is not assumed to have influenced the acceptance growth found the Study.

TABLE 19

Acceptance of major card brands (%)

Acceptance	2016	2018	Delta
Visa	94.85	95.27	0.42
Mastercard	93.67	94.63	0.96
AMEX	54.59	57.14	2.55
Diners	28.09	34.29	6.20
JCB	18.78	27.29	8.50
Union Pay	15.11	25.37	10.25

26. https://smeunited.eu - formally known as UEAPME.

In parallel with the growth in acceptance of more costly unregulated card brands, acquirers reported that merchants have not been enquiring about the ability to surcharge or reject unregulated cards, such as commercial cards or American Express. This was substantiated by 94.8% of small to medium merchants surveyed who reported they do not exercise their right to surcharge or reject unregulated cards. Similarly, the mega-merchants reported that they do not surcharge or reject unregulated payment cards.

In addition to the growth in acceptance of unregulated card payment products, mega-merchants expressed interest in Alternative Payment Methods (APMs), driven by increased consumer demand. A majority of mega-merchant interviewees specifically mentioned Chinese payment methods, such as Alipay and WeChat Pay, due to the number of affluent Chinese tourists visiting Europe.

Overall, the Study found that merchants want to be able to accept the preferred payment option of the customer and thus seek to accept a wide range of payment options.

6.3

The Study found no evidence of whether merchant pass-through to consumers took place

Where merchants received a lower MSC as a result of capped interchange rates, there is no available evidence of whether merchant to consumer pass through took place.

6.4

There have been no additional benefits to markets with lower interchange than the capped rates in the IFR

The IFR capped debit card interchange at 0.20% of the transaction value, while allowing member states to set a lower average interchange fee cap applicable to domestic transactions. The member states that decided to set a lower capped rate for consumer debit card transactions were Belgium, Ireland, Italy, Luxembourg, Malta, the Netherlands and Spain. The development of these markets since the introduction of the IFR has been similar to the development of markets that adopted the capped interchange rates in the IFR. The similarities in the development of these markets and markets that kept the capped rates from the IFR indicate that lowering interchange below the current capped rates would not provide any benefit the development of the cards markets the have applied the capped rates in the IFR.

TABLE 20

Member states with lower interchange for domestic consumer debit transactions

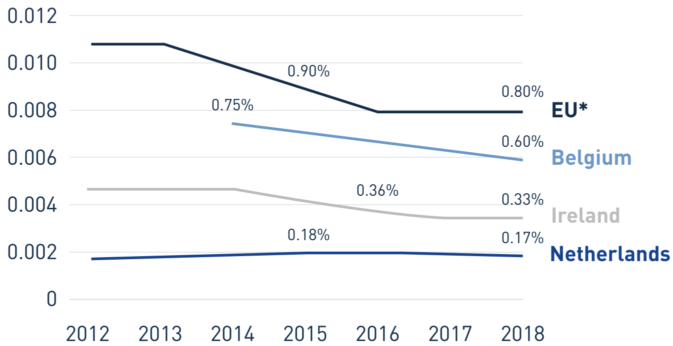
Country	Domestic Interchange Fees - Consumer Debit
Belgium	0.20% per transactoin - max of €0.056
Ireland	0.10% per transaction
Italy	Payments value up to and including €5: 0.18% Payments value over €5: 0.20% per transaction - max of €0.08
Luxembourg	0.12% per transaction
Malta	0.15% per transaction
The Netherlands	€0.02 per transaction
Spain	Payments value up to and including €20: 0.10% Payments value over €20: 0.20%

A comparison of three low interchange markets (Belgium, Ireland and the Netherlands) against markets where the IFR capped rate of 0.20% was implemented was undertaken to compare trends in market development.

An analysis of MSCs show that in general MSCs did reduce in the low interchange markets, but to a lesser degree than in the other markets which is due to lower MSCs being in force prior to the implementation of the IFR.

FIGURE 14

MSC reductions in EU markets with 0.20% interchange on debit versus low interchange markets



Source: Global Data, Lafferty Report, EDC
(*) EDC calculation for EU28 on IFR modelling analysis

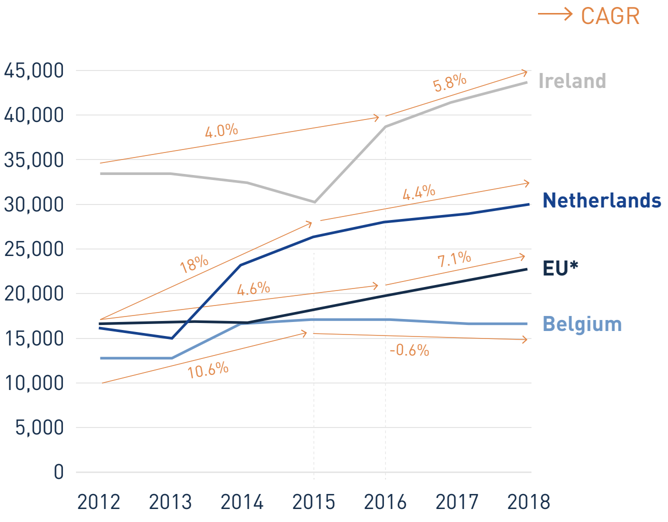
A comparison of acceptance infrastructure is difficult to draw conclusions from as a number of domestic factors influence the trends observed. For example, Ireland has a well-developed card payment infrastructure, but had a stamp duty applied to debit cards of €5 each, which The National Payments Plan[27] considered to discourage ownership and use of debit cards[28]. In 2016 this stamp duty was changed to €0.12 per ATM withdrawal for combined cards (ATM & debit) to a maximum of €5.00 per card. The change in assessing the stamp duty had the combined effect of potentially lowering the cost if consumers avoided ATM usage and thus providing an incentive to use debit cards at POS instead of cash. Figure 15 shows a declining POS deployment prior to 2015, with a noticeable uplift once the change in applying stamp duty was announced.

The EU, the Netherlands and Belgium all have a similar level of acceptance infrastructure deployment per capita in 2013. The strong growth in terminalisation in the Netherlands coincides with the abandonment of the PIN domestic and migration to international debit schemes and EMV cards that also support contactless. The initial growth in terminals from 2013 to 2015 can be seen to be very strong. The EU shows strong growth from 2015, while Belgium stands out with stagnant growth in acceptance infrastructure with a negative growth since 2015. Hence, the Study did not find a correlation between low interchange markets and improving acceptance infrastructure.

FIGURE 15

POS devices deployed in EU markets with 0.20% interchange on debit versus low interchange markets

POS devices per million inhabitants

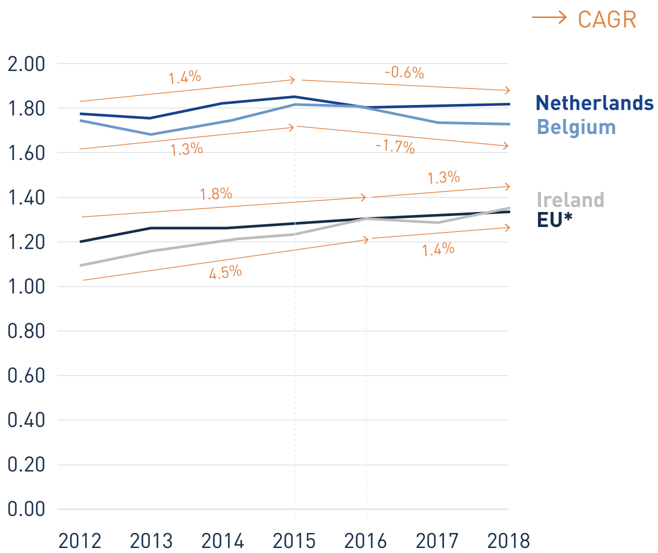


Source: Global Data
(*) EDC calculation for EU28 on IFR modelling analysis

There is a high level of penetration of debit cards among Belgium and Dutch consumers, but since 2015 the number of debit cards per adult has been decreasing in both markets, possibly driven by increasing cardholder fees as issuers seek revenues to cover the increased cost of supporting the transaction volume growth. Only Ireland, from a relatively low level of issuance, has shown growth in the number of issued cards comparative to the EU.

FIGURE 16

Number of debit cards per adult in EU markets with 0.20% interchange on debit versus low interchange markets



Source: Global Data, WorldBank, EDC
(*) EDC calculation for EU28 on IFR modelling analysis

The number of cards per adult decreased in Belgium and the Netherlands by 1.7% CAGR and 0.6% CAGR, respectively, over the 2016 to 2018 period. The number of debit cards per adult increased post-lowering of interchange rates in Ireland (1.4% CAGR) and the EU markets (1.3% CAGR) with 0.20% debit card interchange but at a lower rate than before. Belgium - the market with a decrease in the number of POS terminals per million inhabitants - the highest decrease in debit cards per adult , followed by the Netherlands which had the second lowest level of growth in acceptance infrastructure.

27. National Payments Plan, A Strategic Direction for Payments, Central Bank of Ireland, April 2013.
28. The stamp duty on credits cards in Ireland is €30 per credit card account.

07

Impact on competition

Overall, levels of competition in the EU cards issuing and acquiring markets have changed since the introduction of the IFR, but those changes cannot be attributed to the regulation. However, three-party card schemes have benefited from being outside of the scope of the regulation.

Competition in the EU cards issuing market increased due to the entrance of new challenger banks into a number of markets, but this increase in competition is not attributable to the IFR. Challenger banks offer debit cards as a core element of their customer proposition and depend on interchange as a key revenue source. It is therefore probable that decreasing interchange had a negative effect on competition making it more difficult for challenger banks and other FinTech organisations issuing payment cards.

There was no evidence to suggest changes to competition within the overall acquiring market. Acquirers reported increased competition within the SME merchant segment, where specialists such as iZettle and Sumup are offering bundled mPOS devices and financing options within their acquiring offering, although not driven by the IFR. The reduction in interchange has reduced acceptance costs for cards and has narrowed the difference in acceptance costs between cards and Alternative Payment Methods (APMs), such as bank transfers. However, evidence on the impact of this cost decrease on acceptance levels for APMs is not yet available.

There was no evidence to suggest changes in market share between international and domestic card schemes since the introduction of the IFR. Changes in market share between were only evident in Italy, where the domestic card scheme PagoBancomat lost 15.1% market share to the international card schemes, due to PagoBancomat being late in investing in technology to support contactless. As a result co-badged PagoBancomat/ICS debits cards will only be able to support PagoBancomat contactless once they are reissued. It is expected that once all co-badged cards are reissued with contactless PagoBancomat functionality the relative use of PagoBancomat versus ICS across both contact and contactless will revert to prior levels. This is supported by evidence in the other markets with domestic schemes who support contactless, where there were no changes in market share across face-to-face and contactless.

There-party schemes such as American Express and Diners have benefitted from being outside of the scope of the regulation. American Express has restructured its business to reduce its focus on bank-issued GNS model cards. GNS cards fall within the scope of the IFR, whereas cards issued via American Express's proprietary model are unregulated. American Express has discontinued the majority of its GNS-issued card programmes but has maintained a similar market share by increasing issuance of proprietary issued cards.

7.1

Competition in the card issuing market

Issuers reported there was little noticeable change in competition from pre- to post-IFR. The most noticeable source of increased competition reported was from new entrants, especially challenger banks. However, the emergence of challenger banks was attributed to business models based on branchless operations, new infrastructure systems and redesigned process around, for example, customer onboarding providing a digital-only experience and cost efficiencies. Challenger banks emerged in the UK in 2010 (Metro Bank) and were initially considered minor competitors for incumbent 'bricks and mortar' retail banks. Digital-only challenger banks first appeared in 2015 (Monzo) and issue payment cards as a core element of their consumer proposition. During the Study digital-only banks have entered a number of European markets and have increased their customer base as their service proposition has matured. Challenger banks such as Atom Bank, Starling Bank, Revolut and Monzo are no longer a phenomenon unique to the UK. Digital-only institution N26, based in Germany, has reportedly tripled its customer base to approximately 2.3 million consumers[29] in the last 12 months. However, challenger banks are dependent on transactional revenues and Revolut in its 2018 Annual Report[30] reported that Card Usage and Interchange Fees accounted for 71% of their revenues, down from 91% in 2017.

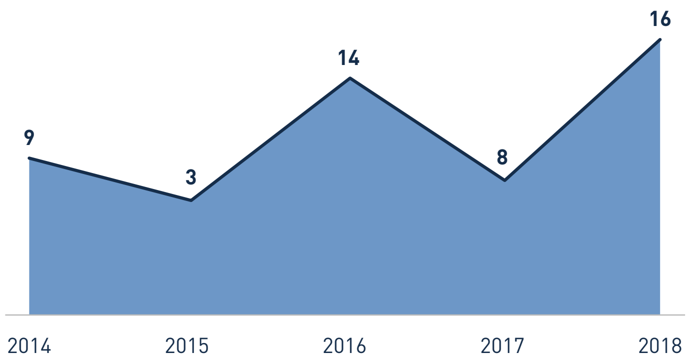
Issuer interviews indicated that building business cases for the provision of new card products is more difficult post-IFR. The entry or exit of card issuers is not likely to be a direct result of IFR but due to a number of other factors. For example, some consolidation was reported across several markets, but this was perceived as being driven by "normal" M&A activity.

The FinTech companies interviewed operating in the issuing market felt there has not been an increase in competition as a result of the IFR, nor had the regulation caused them to reconsider their corporate strategy. The perception was that the FinTech businesses interviewed were generally relying on seed funding to sustain the operation while they pursued a market growth strategy.

Based on the number of authorised e-money institutions (EMIs) registered with the European Banking Authority's (EBA) an increase is seen in the number of EMI issuers post- IFR. Fintech interviews indicated that new EMI issuers had entered the market targeting a range of different client segments but have found the lower interchange environment post-IFR challenging their revenue generation. For example, the challenger bank Revolut operated under an EMI license until mid-December 2018.[31] Revolut had total revenues of £58m in 2018, of which £41m were from interchange.[32] The firm made a pre-tax loss of £33m. It is probable that Revolut would not have made a significant loss if the interchange caps had not been introduced.

FIGURE 17

Number of new EMIs registered by the European Banking Authority (EBA)



29. As reported in January 2019 by N26.
30. Revolut Ltd, Annual Report and Financial Statements for the year ended 31 December 2018, page 25.
31. https://blog.revolut.com/we-got-a-banking-licence/
32. https://www.ft.com/content/e25c62f2-e3a1-11e9-9743-db5a370481bc

Although most EMIs have pass-ported from their home market to the other EU markets there are no examples of EMIs issuing on a Pan-European basis since the introduction of the IFR. Most leading EMIs focus on one or two EU markets and the market share of the new entrants is so insignificant that they do not appear on any national or Pan-European statistics of the number of cards issued.

7.2

Competition in the acquiring market

Acquirers reported increased competition in the SME segment and eCommerce. For the SME segment this was related to recruiting small and micro merchants and converting cash-only merchants to accepting cards, where specialist acquirers, such as iZettle and Sumup are offering bundled mobile POS device and acquiring services.

The level of competition in the eCommerce market is high and is expected to intensify due to the rise of alternative digital payment methods, driven by the PSD2 and Open Banking regulations. Interviews undertaken as part of the Study revealed that the interviewees do not believe the increase in competition in acquiring eCommerce transactions is due to the IFR.

The IFR came into force on 9th December 2015 whilst the PSD2 regulation for the establishment of Third-Party Providers (TPPs) came into force on 13th January 2018. New TPPs entering the market are impacted by the PSD2 and the RTS (Regulatory Technical Standards), rather than capped interchange rates. However, for TPPs the IFR has reduced the cost of payment card acceptance which decreased the difference in acceptance costs between cards and APMs using cheaper clearing and settlement options such as bank transfers. This has effectively increased the pricing competition for TPPs. It was not possible to determine the impact of PISPs on traditional card acquiring businesses as they have not been established long enough to be included in publicly available statistics.

7.3

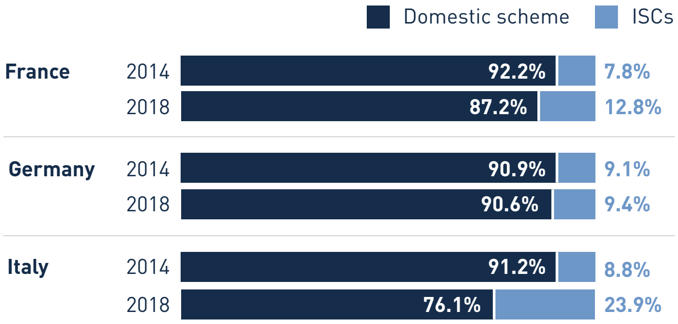
International versus domestic card scheme competition has not changed due to the IFR

The market share of domestic payment schemes within the Study has not changed significantly relative to the international card schemes (ICS), except for Italy where the market share of the PagoBancomat scheme decreased by 15.1%.

Figure 18 shows the proportion of international and domestic scheme branded card transactions for France, Germany and Italy. For France the figure includes both debit and credit as Cartes Bancaires branded cards do not differentiate the card type, while the domestic schemes in Germany and Italy are debit card schemes.

FIGURE 18

Market share of the Domestic Schemes vs ICSs (2014-18)



Only in Italy was there a significant loss of market share for the domestic scheme where PagoBancomat lost 15.1% market share due to PagoBancomat being late in investing in technology to support contactless. As a result co-badged PagoBancomat/ICS debits cards will only be able to support PagoBancomat contactless once they are reissued. It is expected that once all co-badged cards are reissued with contactless PagoBancomat functionality the relative use of PagoBancomat versus ICS across both contact and contactless will revert to prior levels. This is supported by evidence in the other markets with domestic schemes who support contactless, where there were no changes in market share across face-to-face and contactless.

The French domestic scheme Cartes Bancaires lost 5% market share over the Study period and the German domestic scheme Girocard lost 0.3% market share.

The German direct debit system ELV has lost market share against Girocard and ICS since the introduction of the IFR. The capping of the interchange has resulted in Girocard and ICS becoming more competitively priced against ELV. Additionally, Girocard and ICS payments, unlike ELV payments, provide a payment guarantee. As a result, German merchants are replacing ELV transactions with Girocard. In 2018, ELV card transaction value decreased by 19%, whilst Girocard transaction value increased by 15%.

7.4

Three-party versus four-party scheme competition

Three-party schemes such as American Express and Diners have benefitted from being outside of the scope of the regulation.

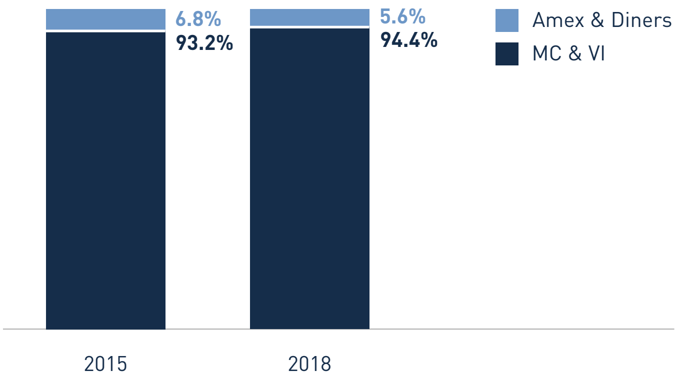
The IFR stipulated that 'three-party' networks, such as American Express, if they operate as a four-party model should be subject to the interchange fee caps where third party providers are licensed to issue cards and/or to acquire payment card transactions. In the ruling issued on 7th February 2018, the EU Court of Justice confirmed the validity of the application of the fee cap provisions, as well as other provisions, in circumstances where three-party networks issue cards with a co-brand partner or through an agent.

The business built around partnerships with financial institutions that issue American Express-branded cards, called GNS, has undergone a significant restructuring in Europe post-IFR. American Express has indicated that its GNS business is no longer viable in Europe due to the regulatory burden and has therefore shifted its focus to its proprietary (three-party) business model in the EU and will not issue new GNS licenses in Europe. In addition, American Express has notified existing GNS partners in the EU of the termination of their licenses and are in the process of winding down the business. This has impacted its market share of American Express.

The market share of the three-party card schemes has decreased from 6.8% (2015) to 5.6% (2018) in terms of number of transactions, while it remained static at 5.4% (2015-2018) in terms of cards in issue. The market share of American Express by cards in issue has not decreased. This implies that the number of proprietary American Express cards in issue has increased over the Study period, which has offset the loss of GNS-issued cards. The decrease in the market share of transactions for three-party card schemes is also likely to be affected by the strong growth in contactless transactions using debit cards.

FIGURE 19

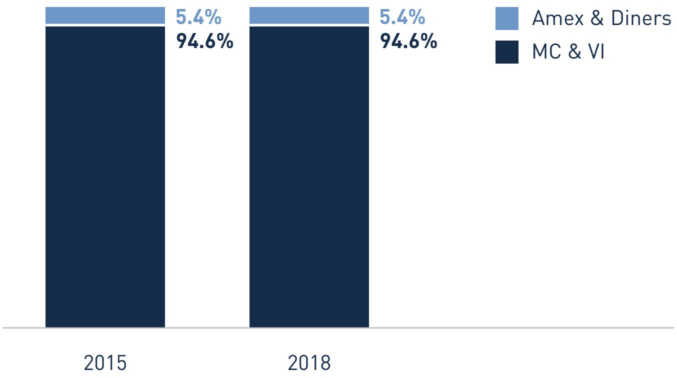
Market share of the three- and four-party card schemes based on number of card transactions (2015-18)



The decrease in the market share of transactions for three-party card schemes is affected by the growth in contactless transactions using debit cards, which are predominantly four-party scheme cards.

FIGURE 20

Market share of three- and four-party card scheme cards issued (2015-18)[33]



Combined American Express and Diners market share in terms of number of cards in issue has remained static at 5.4% during the Study period (2014 – 2018). Combined American Express and Diners market share in terms of transaction volume has slightly decreased from 6.8% (2015) to 5.6% (2018) – a decrease of 1.2%.

The Study found that the proportion of merchants accepting three-party branded cards has increased post-IFR. The increase in acceptance levels for American Express and Diners grew by 2.55% and 6.20% respectively.

Acceptance of three-party schemes cards, such as American Express and Diners, has increased faster than regulated brands. There was an expectation was that lower interchange fees would accelerate acceptance of regulated payment products relative to unregulated three-party schemes. Increases in the acceptance levels of the regulated brands were only 0.42% for Visa and 0.96% for Mastercard, albeit starting from a high base level of just over 93%. The growth in acceptance for American Express grew by 2.55% and Diners 6.20%.

33. EU markets included in the data shown in Figure 19 and Figure 20 are Austria, Croatia, Finland, Germany, Greece, Italy, Slovenia, Sweden and the UK. Reliable data on card issuance and usage for American Express and Diners for all EU28 member states was not available.

7.5

End-to-end network fees decreased on a per transaction basis

Network fees are the combination of scheme and processing fees which are typically designed to reflect economies of scale through providing decreasing fees as volume increases. The growth in the value and volume of credit and debit card transactions between 2014 and 2018 have resulted in increased scale economies originating from the tiered pricing tables that have resulted in a decrease in the end-to-end per transaction network fee costs for issuers and acquirers in the EU28.

TABLE 21

End to end network fees (2014 and 2018)

	2014	2018	VAR. (%)	Delta
Network fees (scheme + processing) net of rebate per transaction (€)	0.0236	0.0230	-2.5	-0.0006

So although the value of network fees paid by issuers and acquirers to the card networks did increase in absolute terms from 2014 to 2018, combined end-to-end issuer and acquirer network fees decreased on a per transaction basis from €0.0236 in 2014 to €0.0230 in 2018, a decrease of €0.0006. It is more cost effective on a per transaction basis to use card scheme and network processing services than before the introduction of the IFR, although it should be noted that there is no correlation between the regulation and network fees.

08

Other market impacts of the IFR and PSD2

The combined regulations of the IFR and the PSD2 have had a range of further implications for the payments market in the EU. Specifically, this section will address the impact on innovation, the development of the unregulated four party system commercial cards market, surcharging and the impact of application pre-selection for merchants and consumers.

The reductions in interchange revenues for issuers have had a negative impact on innovation, with issuers reporting reduced investments in innovation due to the challenge of developing a positive business case. At the same time regulatory requirements have made demands on available funds to meet SCA requirements set out in PSD2.

The impact of the IFR on commercial cards indicates that commercial cards are not being used by issuers to replace lost interchange on consumer cards. The growth in consumer cards exceeded growth in commercial cards post-IFR in terms of both cards in issue and transaction volume. This indicates that issuers have not sought to substitute retail card activity with commercial cards that would attract higher.

The ban on by-default application selection for co-badged card products has had minimal impact. Within the markets with co-branded domestic schemes few merchants reported they had the ability to pre-select their preferred card brand, and a minority of consumer reported that they overrode the merchants' pre-selection when offered the chance to do so. Vulnerable consumers such as elderly or disabled cardholders reported an overall increase in their perception of the user friendliness of payment services, but it was also noticeable that vulnerable users in the market with the highest merchant awareness of pre-selection expressed the highest impression of a negative change in user-friendliness of co-badged cards.

8.1

Investment in innovation

Issuers reported that investment in innovation has slowed as a result of the reduction in interchange and the challenge to generate a return on the investment. The exception was investment in Strong Customer Authentication (SCA) and fraud prevention, where the investment in SCA was required by regulation stipulated in PSD2. Specifically, issuers reported that the level of investment in developing new consumer propositions has been reduced.

The Study covered a period of significant growth in the use of contactless payments, however, the investment in contactless payments was incurred well in advance of the IFR. Specific examples on the ongoing investment in contactless payments include:

- Contactless payments infrastructure
  - Wearable payment devices
  - Self-service checkouts
  - Terminalisation supporting contactless payments, including handheld devices
- Introduction of NFC payments through smartphone devices, such as Apple Pay (2015) and Samsung Pay (2016)
- Transport for London (TfL) in 2014 enabled the use of contactless credit and debit cards (including on NFC-enabled smartphones) to be used and is now the largest ticketless travel urban transport system in Europe with over 2 million contactless transactions per day.[34]

These investments, especially the development of contactless standards, technology and the deployment of contactless payments were initiated by the payments industry well in advance of the IFR. It is noticeable that since the IFR, the card payments industry has not made further industry-wide investments in innovation on the same scale as contactless payment technology.

FinTech businesses with card products reported that the IFR had not impacted their ability to innovate or invest in new technologies. Rather, their strategies were based on reinventing the value proposition and/or reengineering the cost structure through the application of technology. FinTech businesses interviewed reported a stronger impact arising from PSD2 due to compliance reporting requirements and Strong Customer Authentication (SCA), which have affected their ability to make the customer proposition unique and relevant.

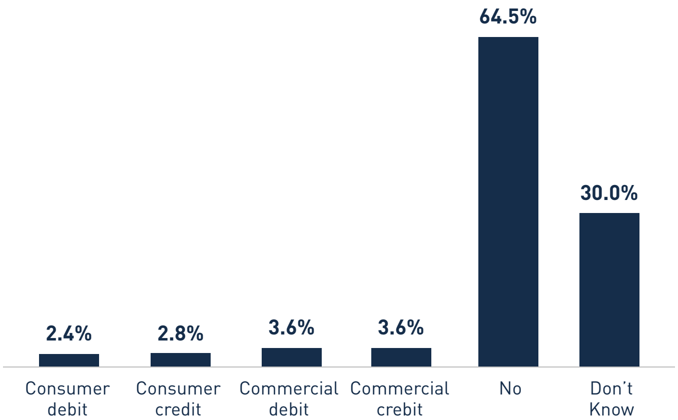
8.2

Merchants are aware of the right to reject commercial card products, but few chose to exercise this right

The merchant surveys found that the right to reject unregulated four-party products (i.e., commercial cards) was not widely used. The merchants that exercised their right to reject commercial cards were typically smaller merchants. The UK and Germany had the highest proportion of merchants that stated they would reject commercial cards with 10% and 6% respectively. The low use of the right to reject commercial cards indicate that the majority of merchants assess that the incremental business brought by commercial cards is worth the incremental acceptance cost.

FIGURE 21

Merchants' responses when asked if they exercise their right to reject certain payment cards



34. Source: 2017 - Transport for London (TfL)

The merchants surveyed who chose to exercise their right to reject commercial cards stated that accepting commercial cards is not a requirement for them and that they chose to exercise their right to reject these card payments as the cost of acceptance was too high compared to regulated products. Merchants in Germany and the UK were more likely to reject commercial cards than the other markets. In the UK, 6% of merchants stated they rejected both commercial debit cards and commercial credit cards. In Germany, 9% of merchants stated they rejected commercial debit cards, whilst 10% of merchants stated they rejected commercial credit cards.

The findings indicate that merchants are aware of their right to not accept certain payment card types, such as commercial cards, and are exercising this right when they feel the value proposition of accepting non-regulated cards is too low. However, the Study found that the majority of merchants do not chose to reject acceptance of non-regulated card products. The merchant survey has revealed that some merchants do not view commercial cards as an essential payment method to accept and exercise their right to reject unregulated cards based on an assessment of the benefit of accepting unregulated cards at a higher cost compared to regulated cards versus the risk of loss of business from declining the payment method.

The consumer survey found that fewer cardholders reported experiencing commercial cards being rejected post-IFR across the seven markets, although the decrease was small. The proportion of consumers who have experienced having a commercial credit card rejected decreased from 31.64% (2015) to 30.50% (2018) – a minor 1.14% reduction across the seven markets. However, within the overall reduction consumers in five markets reported a reduction, while consumers in two markets reported an increase.

Decreases in the experience of rejections were Spain by 11%, Poland by 10%, France by 7%, Italy by 2% and Romania by 1%. Increases in the experience of having commercial cards rejected were reported in the Germany and UK. The increase was most significant in Germany, where 47% of consumers reported experiencing commercial cards being rejected in 2018 compared to 31%in 2016, while in the UK 40% of consumers reported having experienced commercial cards being rejected in 2018, compared to 33% in 2016.

8.3

The issuance of unregulated commercial cards has not increased post-IFR

There was some speculation pre-IFR that some issuers would attempt to mitigate the loss of interchange on consumer credit cards by issuing more commercial credit cards. To evaluate whether there was any evidence of substitution of retail cards with commercial cards the Study analysed the changes in commercial credit card issuance and usage across the EU28 using data from Global Data and compared this to retail credit cards.

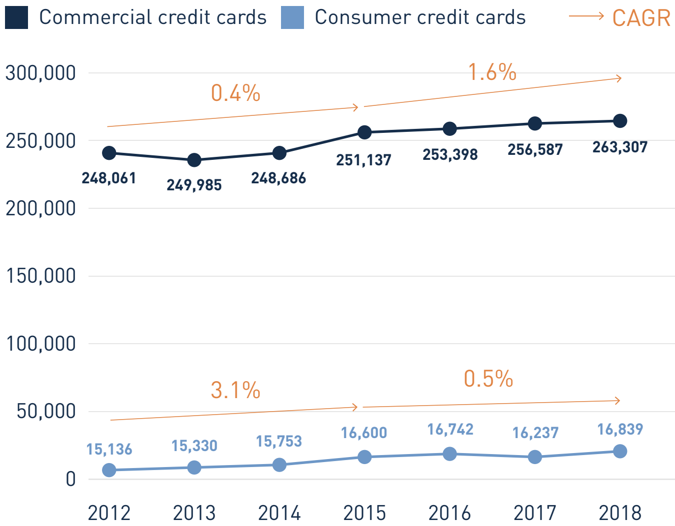
The Study found that the growth in commercial card issuance and transaction volumes had slowed relative to consumer cards since the introduction of the IFR.

The growth in the number of commercial credit cards decreased from 3.1% CAGR (2012-15) to 0.5% CAGR (2016-18), whilst the growth in the number of consumer credit cards increased from 0.4% CAGR (2012-15) to 1.6% CAGR (2016-18), see Figure 22.

FIGURE 22

Number of commercial and consumer credit cards[35]

Total number of cards in issue (000s)

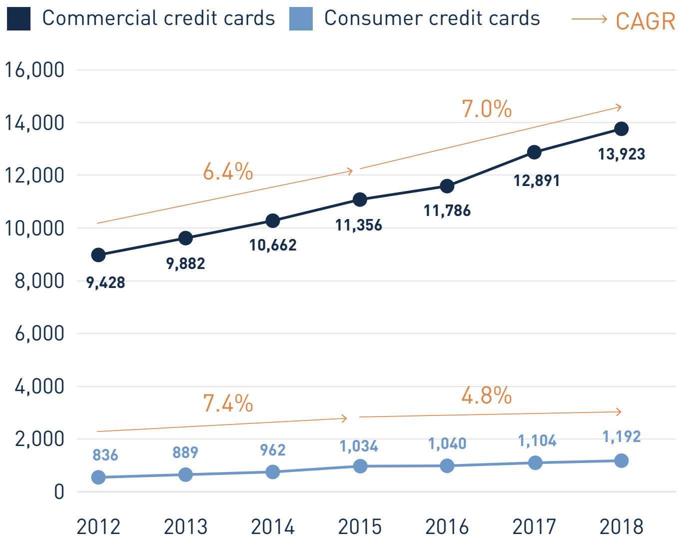


The growth in the number of commercial credit card transactions decreased from 7.4% CAGR (2012-15) to 4.8% CAGR (2016-18), whilst the growth in the number of consumer credit card transactions increased from 6.4% CAGR (2012-15) to 7.0% (2016-18), see Figure 23.

FIGURE 23

Number of commercial and consumer credit card transactions showing growth pre- and post-IFR[36]

Total number of transactions (m)

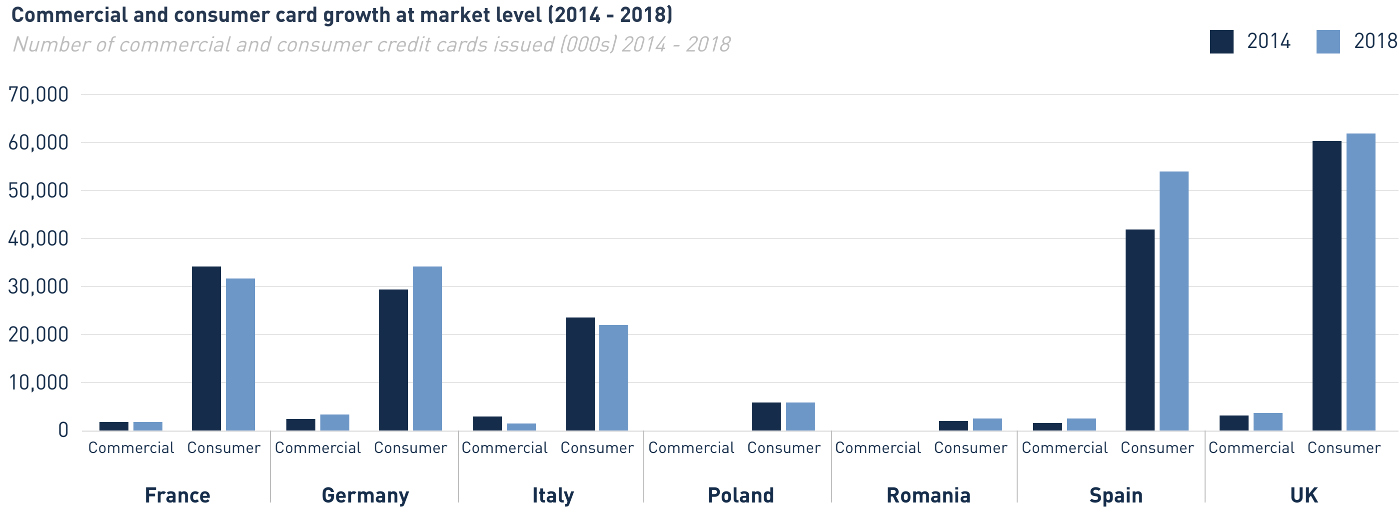


35. Source: Global Data
36. Source: Global Data

FIGURE 24

Commercial and consumer card growth at market level (2014 - 2018)

Number of commercial and consumer credit cards issued (000s) 2014 - 2018



The analysis shows that pre-IFR, growth in the commercial credit card market exceeded growth in the consumer credit card market in terms of cards in issue and transaction volume. But this is reversed post-IFR with the growth of the commercial credit card market being lower than the growth of the consumer credit card market for both cards in issue and transaction volume.

Post-IFR, the growth in commercial credit card issuing market has slowed, both in terms of cards in issue and transaction volume. Growth in the number of commercial credit cards in issue decreased from 3.1% CAGR (2012-15) to 0.5% CAGR (2016-18), whilst the growth in the number of consumer credit cards in issue increased from 0.4% CAGR (2012-15) to 1.6% CAGR (2016-18).

The Study found no evidence of increased issuance of commercial cards post-IFR or use of commercial cards in response to the lower interchange fees on retail cards.

8.4

Consumers continue to experience surcharging and minimum spend limits on card transactions post-IFR and PSD2

Consumers reported that they have experienced being surcharged for card payments since the implementation of the PSD2 regulation, which prohibited surcharging on cards payments with interchange regulated under the IFR. Consumers reported that they experience surcharging on both regulated and unregulated cards since the PSD2 regulation came into force.

The proportion of consumers who reported experiencing surcharging on card transactions across the seven markets decreased from 30.75% (2016) to 30.13% (2018) – a small decrease of 0.62%. The minimal decrease in surcharging indicates that merchants continue to surcharge consumers (for both regulated and unregulated cards) post-IFR. This would appear to support the findings of a Study commissioned by the European Union in 2013, which found that surcharging is seen by some merchants as means to generate incremental revenues rather than recovering the cost of card acceptance fees.[37]

The highest proportion of consumers who reported experiencing surcharging was in the UK and Germany with 44.39% and 40.55% respectively. The Study was not able to determine the extent to which surcharging was experienced on regulated versus unregulated cards, however, the proportion of commercial cards to consumer cards in the UK is 6.1% and 9.5% in Germany, so the proportion of consumers report having experienced surcharging exceeds the proportion who would hold commercial cards in both markets. In addition, the transposition of PSD2 into local law in EU member states was inconsistent and/or delayed in some countries, which may have contributed to the reported experience of surcharging.

Pre-IFR, the level of surcharges was reported to be up to 3.5% of transaction value. Post-IFR the Study found that the level of surcharging had reduced, with the level reported as being up to 2% of transaction value.

There was evidence of a degree of reclassification of surcharges with a small number of merchants interviewed stating that the pricing of products or services had been amended due to the prohibition of surcharging for regulated payment products.Such amendments included applying 'booking fee' or 'administration fee' of a fixed amount ranging from €2 to €8 per transaction in place of a card surcharge. Examples of this can be seen in the travel sector for airline ticket bookings and hotel bookings.

There has been a small reduction in the proportion of consumers that have experienced merchants imposing a minimum spend limit for card acceptance of 1.24%, down from 61.6% pre-IRF to 60.35% post-IRF.

The IFR enabled merchants to either surcharge or decline acceptance of card payments not regulated by the IFR, i.e. commercial cards. See section 8.2 for more detail about the right to reject commercial cards.

37. TNS-Study on the effects of information disclosure on consumer choice of payment instruments (2013).

8.5

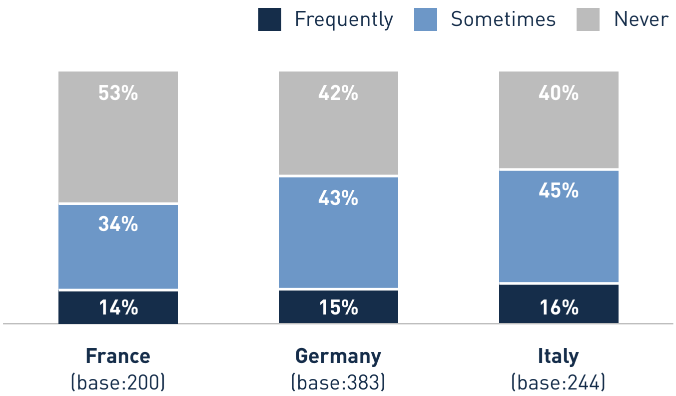
The payer right to select payment brand has had minimal impact

Payment application pre-selection is operated in three of the seven markets in the Study, namely, France, Germany, and Italy, where co-badged domestic and international scheme cards are issued. Merchants in these markets can pre-select which card scheme application they prefer to default to for co-badged cards. The IFR stipulated that the payer (consumer) has the right to override the pre-selection in favour of the co-badged partner brand.

In the consumer survey, consumers reported that they infrequently experience being provided the option to override the merchants' pre-selection of card scheme application. However, when provided the option to select a different scheme, 38% of respondents reported that they chose to override merchant's pre-selected card scheme.

FIGURE 25

The proportion of consumers that were offered to override the merchant's pre-selected application



Customer Survey Questions
Q46a. When paying at the point of sale machine with your card(s), have you been offered the chance to / select a scheme different to the option provided?

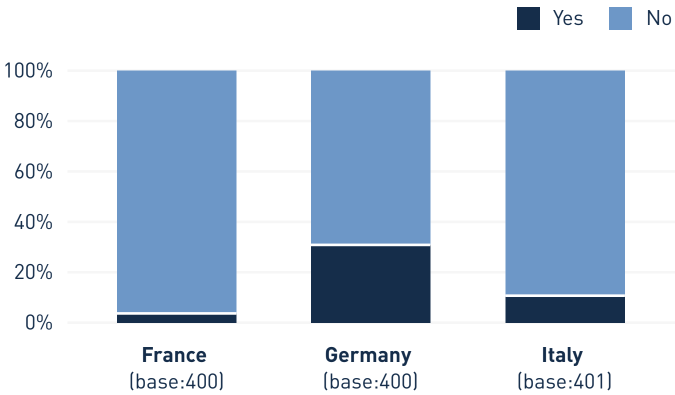
In France, 53% of consumers report they have never been provided the option to select a different scheme and only 14% reported being asked frequently. In Germany, 42% of consumers were never provided the option to override the pre-selection and only 15% were asked frequently. The results for Italy are similar, with 40% of consumers reporting never being provided the option to select a different scheme by the merchant, while only 16% reported being provided the option frequently.

When provided the option to override the merchants' pre-selected scheme choice over a quarter of respondents reported they chose to do so. In France, 38% of consumers chose to override merchants' pre-selection, with 27% of consumers in Germany and 25% of consumers in France choosing to override the preselected choice.

Few merchants reported that they had the ability to pre-select card scheme applications at POS, which correlates with consumers reporting they are infrequently offered the option to override the merchant's pre-selection.

FIGURE 26

Proportion of merchants that have the ability to pre-select payment application



Merchant Survey Questions
Q3. Do you have the ability to pre-select what payment card brand your customers pay with?

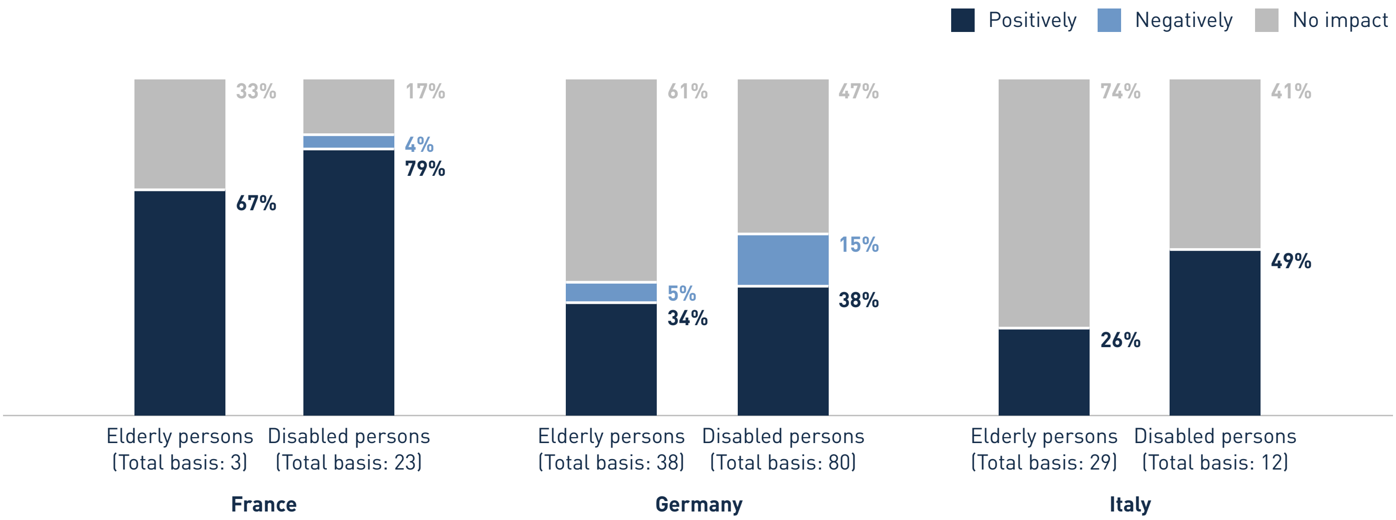
Merchant awareness of the ability to pre-select was highest in Germany where 31% of merchants reported they had the option to pre-select their preferred card scheme. Germany was followed by Italy with 11%, while in France only 4% of merchants who reported they had the option to preselect.

The Study included a survey of vulnerable users'[38] experience of user friendliness of co-badged payment cards post-IFR, see Figure 27. However, the findings are based on a small sample of self-declared vulnerable respondents.

38. Vulnerable users were defined in the consumer survey as either elderly (65+) or described themselves as being disabled. It was not possible to ask customers question 48 (user-friendliness) in Spain.

FIGURE 27

User-friendliness of using co-badged cards where application selection was available



Customer Survey Questions: Q48. Has the user-friendliness changed in the last year?

The surveys show an inverse correlation between vulnerable consumers reporting a positive change in user friendliness and merchants reporting they have the ability to pre-select.

- In France, where only 4% of merchants reported having the ability to pre-select, 77% of vulnerable consumers reported an increase in user-friendliness, split by 79% of disabled consumers (low basis of 23 respondents) and 67% of elderly consumers (low basis of 3 respondents)
- In Italy, where 11% of merchants reported having the ability to pre-select, 41% of vulnerable consumers reported an increase in user-friendliness, split by 49% of disabled consumers (low basis of 29 respondents) and 26% of elderly consumers (low basis of 12 respondents)
- In Germany, where 31% of merchants reporting having the ability to pre-select, 36% of vulnerable consumers reported an increase in user-friendliness, split by 38% of disabled consumers (low basis of 80 respondents) and 34% of elderly consumers (low basis of 38 respondents)

It is noticeable that Germany, which reported the highest merchant awareness of the option to pre-select, had vulnerable users reporting the highest dissatisfaction with the change in user friendliness. Specifically, vulnerable consumers in Germany reported that changes made to how they use the POS equipment since the introduction of the IFR has negatively impacted user friendliness. 15% of consumers with a disability in Germany said the changes implemented at POS post-IFR which enable merchants to pre-select card scheme applications, had negatively impacted user-friendliness, while 5% of elderly consumers indicated co-badging had negatively affected user-friendliness - based on a small sample of 38 respondents.

The main reasons disabled consumers in Germany feel user-friendliness has been negatively affected include; "I feel uncomfortable challenging the merchant's preference" (73%), "the process of selecting another brand on the POS is confusing" (58%) and "it is difficult for me to operate the POS machine for the length of time it takes to make the change" (33%). This finding is based on a small sample of 12 respondents.

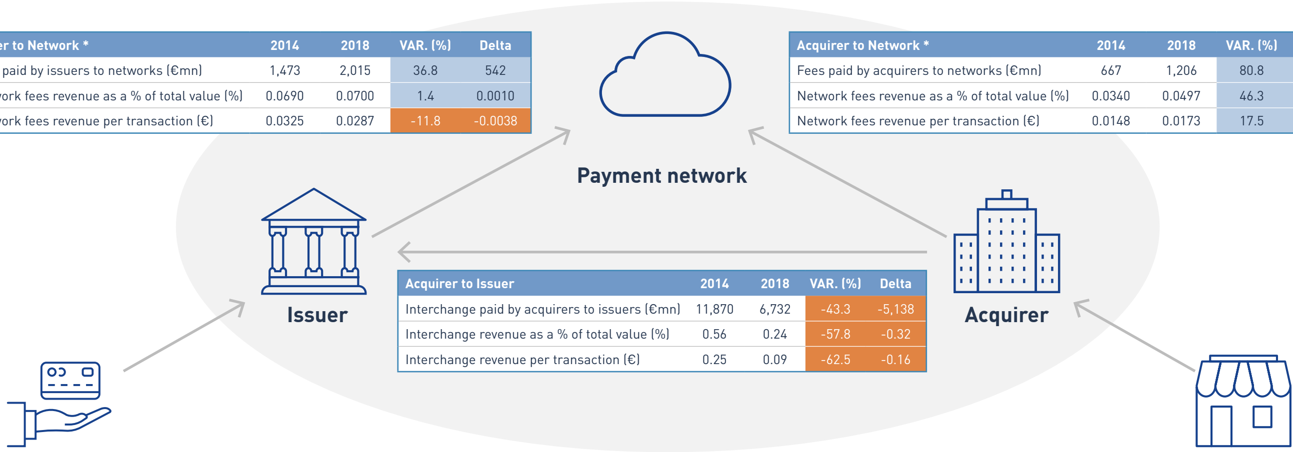
09

Appendix

9.1
Card payment ecosystem revenues (2014-18)

9.1.1
Overview of card payment ecosystem revenues and costs in EU28 (2014-18)

Increases in metric-post IFR
Decreases in metric-post IFR



Issuer to Network *	2014	2018	VAR. (%)	Delta
Fees paid by issuers to networks (€mn)	1,473	2,015	36.8	542
Network fees revenue as a % of total value (%)	0.0690	0.0700	1.4	0.0010
Network fees revenue per transaction (€)	0.0325	0.0287	-11.8	-0.0038

Acquirer to Network *	2014	2018	VAR. (%)	Delta
Fees paid by acquirers to networks (€mn)	667	1,206	80.8	539
Network fees revenue as a % of total value (%)	0.0340	0.0497	46.3	0.0157
Network fees revenue per transaction (€)	0.0148	0.0173	17.5	0.0026

Acquirer to Issuer	2014	2018	VAR. (%)	Delta
Interchange paid by acquirers to issuers (€mn)	11,870	6,732	-43.3	-5,138
Interchange revenue as a % of total value (%)	0.56	0.24	-57.8	-0.32
Interchange revenue per transaction (€)	0.25	0.09	-62.5	-0.16

Consumer to Issuer **	2014	2018	VAR. (%)	Delta
Fees paid by consumers to issuers (€mn)	47,593	54,940	15.4	7,347
Consumer fees revenue as a % of total value (%)	2.23	1.85	-17.0	-0.38
Consumer fees revenue per transaction (€)	1.02	0.76	-25.6	-0.26

Merchant to Acquirer	2014	2018	VAR. (%)	Delta
Fees paid by merchants to acquirers (€mn)	22,098	21,761	-1.5	-337
Merchant fees revenue as a % of total value (%)	1.02	0.84	-17.6	-0.18
Merchant fees revenue per transaction (€)	0.48	0.34	-29.4	-0.14

Ecosystem Analysis	Network															
	Issuers ***				From Issuers				From Acquirers				Acquirers ****			
	2014	2018	VAR. (%)	Delta	2014	2018	VAR. (%)	Delta	2014	2018	VAR. (%)	Delta	2014	2018	VAR. (%)	Delta
Total net revenue (€mn)	57,990	59,658	2.9	1,667	1,473	2,015	36.8	542	667	1,206	80.8	539	9,561	13,823	44.6	4,262
Net revenue as a % of total transation value	2.72	2.01	-26.0	-0.71	0.0690	0.0700	1.4	0.0010	0.0340	0.0497	46.3	0.0157	0.44	0.53	21.0	0.09
Net revenue per transaction (€)	1.24	0.83	-33.7	-0.42	0.0325	0.0287	-11.8	-0.0038	0.0148	0.0173	17.5	0.0026	0.21	0.30	44.6	0.09

* Includes domestic network fees which have been estimated using a discount factor
*** Net revenue for issuers = Consumer fees + Interchange - Network fees
**** Net revenue for acquirers = Merchant fees - Interchange - Network fees

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