EUROPEAN COMMISSION
Competition DG

Services
Financial Services (Banking and Insurance)

INTERIM REPORT I
PAYMENT CARDS

Sector Inquiry under Article 17 Regulation 1/2003 on retail banking

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Executive Summary

A. Purpose of the Commission's sector inquiries

Competitive and efficient financial services markets are vital for the success of the European economy, in serving businesses and consumers efficiently to help deliver strong economic growth and sustain high levels of employment. The drive to deliver an efficient and competitive financial services industry in Europe can therefore make an important contribution to achieving the Lisbon goals.

The Financial Services Action Plan (FSAP) has made a significant contribution to developing the framework to support financial services integration in Europe. Following the FSAP, in its recent White Paper *Financial services policy 2005-2010*[1], the Commission set out its future strategy. The strategy has five priorities:

- to dynamically consolidate progress and ensure sound implementation and enforcement of existing rules;
- to drive through better regulation principles in all policy making;
- to enhance supervisory convergence;
- to create more competition between service providers, especially those active in retail markets; and
- to expand the EU's external influence in globalising capital markets.

The Commission's sector inquiries into financial services — specifically into retail banking and business insurance — are a central part of this post-FSAP agenda. The retail banking inquiry will make a significant contribution here, particularly to the second and fourth priorities.

The aims of the sector inquiry into retail banking are to:

- improve the Commission's market knowledge of retail banking, notably to provide an empirical basis for implementing the post-FSAP strategy for retail financial services;
- give all stakeholders concrete information about potential market failures, enabling them to resolve these problems where possible;
- identify issues that require investigation and possibly remedy under the European competition rules (Articles 81 and 82); and
- provide a framework for National Competition Authorities (NCAs) and the Commission, to ensure that the many ongoing competition procedures are coherent.

In its inquiry into retail banking, the Commission is looking at the markets for core retail banking services, particularly (1) current accounts and related services, and (2) payment cards. This interim report into competition in payment cards is complementary to the work on current accounts and related services. The findings from both aspects of the inquiry will be considered together, allowing the Commission to broaden and deepen its understanding of competition in EU retail banking. The final report on the sector inquiry into retail banking, covering current accounts (and related services) and payment cards, will be published by the end of 2006.

Legislation has been proposed to create a Single Euro Payment Area (SEPA) in the EU, to make cross-border payments in euros in the EU as easy and affordable as domestic payments. This alone could save the EU economy between €50 and €100 billion per year.[2]

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[1] Available at http://europa.eu.int/comm/internal_market/finances/docs/white_paper/white_paper_en.pdf.

[2] See "Time to Move Up A Gear" - The European Commission's 2006 Annual Progress Report on Growth and Jobs. Available at: http://europa.eu.int/growthandjobs/pdf/2006_annual_report_full_en.pdf.

The European payment cards industry is large and handles a significant part of retail sales in Europe. Total sales volumes with point-of-sale card transactions in the EU in 2005 were more than €1350 billion. It is estimated that businesses in the EU paid more than €25 billion in fees in 2005.[3] It is estimated that cards alone account for up to 25% of retail banking profits. However, the payment cards industry shows evidence of continuing fragmentation and the inquiry has found striking differences in the levels of prices and profitability across Member States.

The findings of the inquiry into core retail banking, and in particular payment card systems, will provide valuable evidence to shape the future development of the Single Euro Payment Area (SEPA) project. In particular, the inquiry aims to show how differing forms of organisation, structure and governance of payment systems in the EU can produce differing competitive outcomes. The evidence gathered for the inquiry suggests that the characteristics of some payment systems lead to significantly higher prices for firms and consumers in some Member States. As work continues to develop the appropriate principles and structures to support SEPA and its Payment Cards Framework (PCF), significant consideration should be given to the findings of the Commission's retail banking inquiry.

Format of the interim report

The interim report into payment cards is structured as follows:

- Section A sets out the context of the inquiry and its methodology, outlines some structural and product features of the industry and describes relevant economic theories;
- Section B examines financial aspects of the payment cards industry, particularly revenue sources and overall profitability;
- Section C examines the structure and governance of the industry and highlights potential barriers to competition;
- Section D examines non-price factors for competition in card payments; and
- Section E summarises the report's findings.

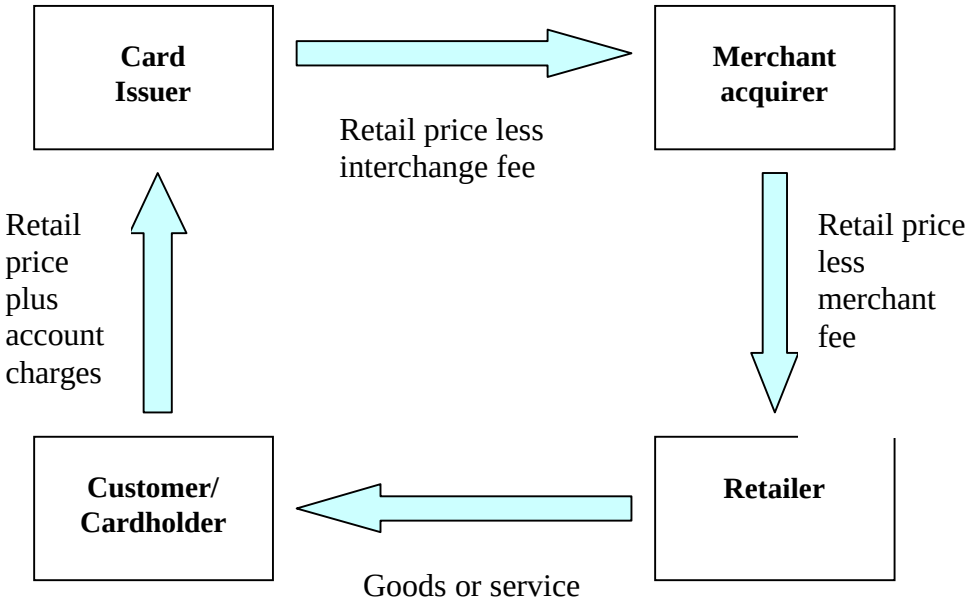
This interim report is a summary of the Commission's findings on competition in payment cards. The analysis is based on an extensive market survey conducted by the Commission throughout the second half of 2005. Thus, the Commission's inquiry has been able to draw on a rich and detailed evidence base. It is hoped that this evidence base will enable the Commission, together with market participants and authorities, to reach clear and robust conclusions about competition in payment cards in the EU.

However, this interim report is only the first stage in the process. The Commission is keen to engage in a dialogue with market participants and authorities about the report's findings and appropriate ways forward. Therefore, the Commission highlights five sets of issues for consultation and welcomes the views and perspectives of all stakeholders on this interim report.

[3] Estimate derived from Payment Cards Report, RBR, 2005, London.

B. Interim findings on competition in payment cards

Card payment systems enable consumers to use and businesses (merchants) to accept plastic cards as a method of payment. When a cardholder uses a card to purchase a good or service, the bank that issued the card, the issuer, debits the retail price from the cardholder's account. The issuer then pays the bank that acts for the merchant, the acquirer, the retail price less an interchange fee. Finally, the acquirer pays the merchant the retail price less a merchant fee.



Overall findings

The preliminary results of the inquiry show a picture of market fragmentation. While consumers clearly reap benefits from card payment networks in the EU, businesses do less so and largely foot the bill, particularly in the case of credit cards. Some — but not all — networks offer consumers a means for easy and convenient cross-border payments. This is clearly positive. But businesses, in particular small firms, largely do not benefit from market integration in card payments. This means that in a sector which is key for the European economy, the retail sector, potentially great opportunities for more economic efficiency are foregone for the time being. The inquiry suggests that building a true Single Euro Payments Area (SEPA), one that offers tangible benefits to business and consumers and contributes significantly to growth and competitiveness in this sector, still requires considerable work to be done.

It must be recognised that fragmentation in payment markets, and in card payment markets in particular, is partly the result of historical evolution. Fragmentation is due to the way in which payment systems were created and built up in the EU Member States — through coordination and cooperation between banks at national level. While bearing this in mind, however, change appears necessary to move forward towards a SEPA.

Lessons for building SEPA could also be learnt by looking at efficient payment services provided by existing domestic card networks. Such networks offer in some respects a good value proposition to customers and often charge lower fees to cardholders and business than the large international networks (MasterCard and Visa). A challenge remains in creating efficient cross-border functionalities as a pre-requisite for SEPA. The future choice of SEPA payment schemes by banks is a key issue for the further debate on SEPA.

The interim findings of the payment cards inquiry are divided into two parts:

- financial analysis of the industry; and
- potential barriers to competition

Financial analysis of the industry

Profitability

On the issue of **profitability** the main findings of the inquiry are:

- **Profitability in card issuing is high and has been sustained over time.** The credit card business is particularly profitable, with a weighted average profit-to-cost ratio of 65% for issuing. The average profit-to-cost ratio for debit card issuing is also high at 47%. High profitability is often correlated with high fees charged to merchants and cardholders. The evidence also suggests that even in the absence of an interchange fee, other revenues alone would in many cases generate a healthy profit for issuers.

- **Profitability is higher for credit cards than for debit cards.** In both issuing and acquiring activity, credit cards are more profitable than debit cards.

- **Even without interchange fees, card issuing remains profitable.** The evidence suggests that card issuing would generate positive profits in 20 out of 25 countries even without interchange fee income.

- **Profitability in card acquiring varies, though is quite satisfactory overall.** Credit card acquirers across the EU have a 15% profit-to-cost ratio as a weighted average, while debit card acquirers average around 5%.

- **Profitability is far higher for card issuers than for acquirers.** For both debit and credit cards, issuing is significantly more profitable than acquiring. Although this general finding was to be anticipated, the difference in relative profitability is striking. A range of explanations are possible, including the supposition that card issuers may have market power relative to acquirers.

Acquiring banks' revenues: fees paid by businesses

The merchant fee is the price per transaction that a business (or 'merchant') pays to the acquirer for accepting cards as a method of payment. The results of the inquiry show that **merchant fees vary considerably across the European Union**. These differences remain significant when several factors that may affect merchant fees (such as different risk levels) are controlled for. This may indicate that the market for card payment services is not working effectively in many Member States, to the detriment of businesses and consumers. There is evidence of price dispersion at five levels:

- **Businesses in some countries pay a far higher merchant fee on average than others.** This pattern is particularly pronounced. Merchants in Hungary, the Czech Republic and Portugal have to pay an average fee of between 2.5% and 3.1% of the total transaction value to accept a MasterCard/Visa credit card. This is 3 to 4 times higher than in Sweden, Finland and Italy.

- **Businesses pay a far higher merchant fee on average to accept credit than debit cards.** For example, a merchant in the UK pays almost five times as high a fee on average for accepting a MasterCard credit card as compared to a MasterCard debit card.

- **Businesses pay a far higher merchant fee on average to accept cards issued in the international networks than cards issued in the domestic networks.** Typically, businesses pay 30-40% lower fees on average for domestic debit card usage than for MasterCard (Maestro)/Visa debit.

- **International payment systems make smaller businesses pay more than larger ones. This does not seem justified solely by transaction volumes.** Smaller firms typically pay between 60% and 70% higher fees on average for MasterCard and Visa credit and debit card transactions than larger businesses. In domestic card payment systems, however, the price difference between smaller and larger merchants is only 7% on average.

- **Businesses in some sectors pay much higher merchant fees on average than in others:** For instance, florists, restaurants and car rental firms pay a merchant fee twice that of fuel companies and wholesale trade firms.

The acquiring banks' practice of charging businesses the same level of merchant fee for accepting cards issued by different networks is known as 'blending'. Acquirers often apply blending to competing products, such as MasterCard and Visa, in both domestic and international card payment systems. The inquiry has found that the **blending of prices may weaken inter-network price competition, which in turn may lead to businesses paying higher acquirer fees**. **Blending appears to be widespread across the EU25.**

Issuers' revenues: financial transfers from acquiring banks and fees paid by cardholders

The interchange fee is the fee that an acquiring bank pays per transaction to the issuing bank. It is used as a mechanism to transfer revenues from the acquiring bank to the card issuing bank. The results of the inquiry show that **interchange fees vary considerably across the EU**. This may indicate that the market for card payment services is not working effectively in some Member States. The levels of price dispersion are similar to those for the merchant fee:

- **Acquirers in some Member States pay far higher interchange fees on average than in others.** This is true for international credit and debit and domestic card transactions. For instance, acquiring banks in Poland pay 8 times as much for a Visa debit card transaction than in the UK. Similarly, the interchange fee for a €50 domestic debit card transaction varies from no fee or less than 10 euro cents in Finland, Denmark, Luxembourg, the Netherlands, Ireland and Belgium to more than 60 euro cents in one particular country.

- **Acquirers pay higher interchange fees on average for international credit and debit card transactions than for domestic debit card transactions.** For a 50 euro transaction, for example, an acquiring bank in one EU country would pay on average 39 euro cents on a MasterCard credit card, 27 euro cents on a Visa debit card and zero on a domestic debit card.

- **Many acquirers pay a higher interchange fee on average for domestic MasterCard/Visa transactions than for corresponding cross-border transactions**. A transaction is considered to be cross-border when the merchant is located in a different country to the cardholder. In about half of the EU-25, acquiring banks pay considerably more for a domestic MasterCard and/or Visa credit card transaction than for a cross-border one; in some cases up to twice the cross-border fee. In these countries, the MasterCard and/or Visa cross-border rates appear to be used as a minimum benchmark when setting the domestic interchange fee.

Cardholder fees are the fees a cardholder pays to the issuing bank for a payment card. The results of the inquiry show that **there is no significant negative relationship between the fee per card and the credit card interchange fee at country and network level.** The empirical evidence shows that if the interchange fee increases by 1 Euro only 25 cents are passed on to consumers in lower fees. This result challenges the hypothesis advanced by some industry participants and the economic literature that an increase in interchange fees exactly equals a decrease in cardholder fees.

Overall, the inquiry has not confirmed the possible justifications for interchange fees which rely on economic efficiency arguments.

Potential barriers to competition

The investigation has identified **a number of potential barriers to competition** in the market for card payment services. These barriers are of a structural, technical or behavioural nature:

Structural barriers

- **The vertical integration of card payment systems may impede new entrants, in particular non-banks, from competing with the incumbent in one segment of the market**. In some instances vendors of terminals have to compete with an incumbent that not only owns the domestic card payment system but also provides the technical and financial services. Systems in Spain and in Portugal, for example, are highly integrated. In Austria and in the Netherlands, however, the market for processing and acquiring services, respectively, has been opened up after the de-integration of the systems. This has led to lower merchant fees in the Netherlands.

- **Joint ventures between local banks to acquire merchants may remove the competitive pressure on merchant fee levels because merchants only have one offer for the network concerned**. Such joint ventures exist for instance in many EU countries for acquiring MasterCard and Visa.

Technical barriers

- **Diverging technical standards across the EU may hinder acquirers, processors and terminal vendors from operating efficiently on a pan-European scale**. There appears to be significant scope for efficient convergence of technical standards in the payment cards industry.

Behavioural barriers

- **Agreement on preferential interchange fees between local banks and high fallback fees for foreign banks may raise the costs for foreign banks wishing to enter the market**. This seems to be the situation in at least Portugal and Austria.

- **Bilateral clearing arrangements between local banks could make market entry more difficult**. New entrants depend on sponsoring banks, who have little incentive to sponsor potential competitors. This seems to have been the situation in the UK. Similar structures are found in Ireland and Finland.

- **Some governance arrangements within card payment systems risk distorting conditions for competition between members,** in particular between new entrants and the incumbent banks. For instance, in some networks associate members have to communicate business-sensitive information to the principal members without reciprocal information sharing. In other systems, decision-making on issues affecting intra-system competition, such as fees, membership rules and technical specifications, is reserved to the principal members.

- **Some payment system membership requirements may hinder non-banks from domestic acquiring and new entrants from cross-border acquiring**. Rules which may constitute barriers include requirements to be a financial institution and to have a local establishment. About half of the domestic card payment systems in the EU require issuers and acquirers to be financial institutions. Some systems also require banks to establish a physical presence. In other systems, however, processors may act as acquirers in the domestic debit card system. Similarly, other systems do not require banks to have a local presence to join them.

- **High joining fees for card payment systems and their structure may discourage new entry and expanded card issuing.** The high variation of joining fees across the EU for similar card payment systems may also indicate that the level of fees is not objectively justified. For instance, the joining fee varies from zero in some systems to a fee of over €6 million in one country. Joining fees are particularly high in some, but not all, small countries, so the size of the country by itself does not seem to justify the high level.

- **Other network rules may also prevent or make entry more difficult.** For instance, the prohibition on cooperative agreements with competing networks or non-banks, **co-branding,** may hinder domestic debit card payment systems from entering into competition with MasterCard and Visa or retailers or other operators from entering into competition with the incumbent card issuer. Similarly, the prohibition on merchants charging customers for paying by card, **surcharging**, may hinder the development of alternative non-cash payment instruments, as the true costs are hidden from consumers via cross-subsidisation.

C. Possible remedies

On the basis of the interim findings, the table below sets out possible remedies. The remedies may be advocacy, antitrust measures and/or regulation.

Issue	Possible remedy	Details
High cardholder fees	Advocacy	Making information on price differentials transparent could help strengthen the demand side.
High merchant fees	Advocacy	Making information on price differentials transparent could significantly strengthen the demand side.
High interchange fees	(1) Advocacy (2) Antitrust (3) Regulatory	(1) Making information on fee differentials transparent may create some limited pressure on networks to lower fees. (2) But effective remedies might require appropriate antitrust or regulatory actions.
"On us" interchange fees	Antitrust	Could be examined under competition rules.

Vertical integration	(1) Advocacy (2) Regulatory	A differentiated and careful approach is needed to remove distortions but preserve efficiencies. Advocacy and discussion with networks should be the preferred approach to address existing situations. For a future SEPA, separation of scheme ownership and other activities could be considered.
Joint ventures (JVs) between acquirers	(1) Advocacy (2) Antitrust (3) Regulatory	The case for separating such JVs could be considered.
Financial institution requirements	Regulatory	Is addressed in the newly proposed payments directive. Issue for SEPA.
Local establishment requirements	Regulatory	Could be removed. Issue for SEPA.
Excessive joining fees	(1) Antitrust (2) Regulatory	Could be examined under competition rules or could be an issue for regulation.
Prohibition of co-branding with non-banks	Antitrust	Could be examined under competition rules.
Bilateral clearing arrangements	Advocacy	Creation of multi-lateral clearing facilities is difficult to obtain through competition or regulatory remedies.
Governance issues	(1) Self-Regulatory (2) Regulatory	Could be addressed through regulation or self-regulation by setting some basic requirements for scheme governance and member/stakeholder participation.
Technical barriers (standards)	(1) Self-regulatory (2) Regulatory	It may be worthwhile giving self-regulation bodies some limited time to set interoperable standards, but regulation should be considered if this approach does not work. Basic requirement for SEPA.
Blending of merchant fees	Advocacy	No apparent antitrust remedy. Making information on blending practices transparent could strengthen the demand side.
Prohibition of co-branding	Antitrust	Could be examined under competition rules.
Imperfect price signals on payment instruments	Regulatory	Need to explore how to incentivise banks to introduce transaction pricing that leads consumers to choose the most efficient payment instrument. Issue for SEPA.

D. Issues for consultation

The Commission is keen to engage in dialogue with market participants and authorities about the report's findings and appropriate ways forward. Therefore, the Commission has singled out five sets of issues for consultation, and welcomes the views and perspectives of all stakeholders on this interim report. This will enable all stakeholders to develop a consensus on the key findings of the report and on possible barriers to competition. In the course of this discussion, all parties can then agree on the appropriate way forward.

The Commission has identified five sets of issues for consultation on its payment cards report:

- financial analysis of the industry
- market structures, governance and behaviour
- future market developments
- potential solutions to market barriers
- lessons for SEPA

Financial analysis of the industry

1. Are high merchant fees a competitiveness issue for the EU economy?

2. Are there compelling justifications for the comparatively high level of merchant fees observed in some parts of the EU25?

3. In view of the apparent profitability of card issuing, is there a generally applicable justification for substantial revenue transfers through interchange fees in card payment systems?

4. Are the high profits observed due to innovation or do they arise from some kind of market power in a two-sided industry?

5. What pricing practices, rules and legal provisions distort price signals to consumers and the choice of the most efficient payment instrument?

6. Would cost-based pricing promote the use of efficient payment instruments and how could such pricing be implemented?

7. Do currently existing pricing practices have a substantial negative effect on cross-border card usage by consumers?

Market structures, governance and behaviour

8. What market structures work well in payment cards?

9. What market structures do not appear to work well / deliver efficient outcomes?

10. What governance arrangements can facilitate competition within and between card payment systems?

11. What governance arrangements can incentivise card payment schemes to respond to the needs and demands of users (consumers and merchants)?

12. What governance arrangements can allow minority participants or minority members to receive appropriate information and participate appropriately in decision-making?

13. What access conditions and fees are indispensable?

14. To what extent is separation between scheme, infrastructures and financial activities desirable to facilitate competition and efficiency?

Future market developments

15. Are significant structural changes to be anticipated in the payment cards industry?

16. What are the anticipated impacts on the industry of innovation and technological change?

Potential solutions to market barriers

17. How can structural barriers to competition, which may arise for instance from the integration of different functions within a payment system or from joint acquiring ventures, be tackled?

18. Are there compelling justifications for the identified possible behavioural barriers to competition?

19. How much need and scope is there for harmonising technical standards in the payment cards industry? How large are the potential benefits and costs of harmonisation?

Lessons for SEPA

20. What lessons (best practice) for the design of SEPA schemes can be learnt from existing national and international payment systems?

21. How could competition between schemes in SEPA be strengthened?

22. Which structural and behavioural barriers to effective competition between banks and payment service providers should be removed to achieve SEPA?

23. What governance requirements should SEPA schemes meet?

24. By what means can interoperable communication protocols, security and other technical standards be achieved and certification procedures be limited to the minimum necessary?

25. Do the removal of barriers to competition, the observance of pro-competitive governance and the creation of interoperable standards require (further) regulation?

Procedure for consultation on the interim report

The consultation on the interim report opened on 12 April 2006. Comments on the consultation are requested by 21 June 2006. Comments received after this deadline will not be considered.

Format for replies: The Commission asks all respondents to the consultation to provide their response by e-mail. Comments received may be published on the Commission's website. Respondents should therefore take care not to include confidential information they do not wish to be disclosed.

All responses received during the consultation will be studied by the Commission and taken into account in developing its further analysis and findings.

The final report of the sector inquiry into retail banking, covering current accounts (and related services) and payment cards, will be published by the end of 2006.

Glossary

Automated teller machine (ATM): point where consumers can use plastic cards for withdrawing money.

Cardholder: the holder of the card, who uses it as a payment instrument.

Card acquirer (or acquiring institution): credit institution or other undertaking, and member of a card scheme that has a contractual relation with a merchant.

Card brand: the logo of a particular payment card that has been licensed for use in a given territory.

Cardholder fee: the one-off or recurrent fee (or a set of fees) paid by a typical cardholder for the ownership and/or use of a classic/standard debit and/or credit payment card (where no special conditions apply), as well for other ancillary services (e.g. account statement information).

Card issuer (or issuing institution): credit institution, and member of a card scheme, that has a contractual relation with a cardholder for the provision and use of a card of that card scheme. In a closed system, the card issuer is the scheme owner, while in open systems several credit institutions act as card issuers.

Card scheme owner: defines standards, rules, specifications and access policies and governs the card scheme.

Four-party system (or open card payment system): the stakeholders involved are 1) the issuer, 2) the acquirer (may be the same as or different from the issuer), 3) the cardholder and 4) the merchant (in the case of ATM transactions it is usually the acquirer that offers its services via the ATM). Simply put, it can be said that "the parties involved are the cardholder, the merchant and their banks". Examples are Visa, MasterCard, and several national schemes.

Interchange fee: fee paid by an acquiring institution to an issuing institution for each payment card transaction at the point of sale of a merchant. In certain networks, this may be positive in others it is zero.

International card system: has an international presence (issuers and acquirers operating in several countries). The fact that the cards issued in one country can be used in another country makes these systems international. Examples are Visa, MasterCard, American Express and Diners.

Merchant: the entity that accepts payments by means of cards.

Merchant service charge (MSC) (or merchant fee or merchant discount rate): fee paid for each transaction by a merchant to an acquirer, who processes the merchant's transaction through the network and obtains the funds from the cardholder's bank (issuing institution). The transaction is considered to be executed when the corresponding funds, equal to the price of the sold item, are debited from the consumer's account and, after deducting the merchant service charge, are credited to the merchant's account.

National payment card system (or national/domestic payment card network/scheme): usually operates within a single country; i.e. the issuer and the acquirer are within the same country.

"On-us" transactions (as opposed to **"off-us"** transactions): in a narrow sense, on-us transactions are payment card transactions where the issuing bank and the acquiring bank are identical. This situation is prevalent in closed payment card systems. In a wider sense on-us transactions occur where the issuing bank and the acquiring bank are separate entities but

pertain to a common group of banks. This situation typically arises where issuing banks set up a joint venture which acquires merchants. Transactions between this acquirer and its shareholders are often labelled "on-us" transactions, although strictly speaking issuing and acquiring banks are separate entities.

Payment card: card that allows the cardholder to make payments for goods and services at POS (point of sale) terminals or remotely (mail order, telephone order, internet) —card-not-present transactions, respectively. It may be one of the following:

- **Debit card:** a card that allows the cardholder to charge purchases directly and individually to a current account at a deposit-taking institution (serves as an access device to funds stored in bank accounts). It is recognized that debit cards may also be closely linked to other products offered by banks.
- **Credit card:** a card that allows the cardholder to make purchases up to a certain credit amount, which can then be settled in full by the end of a specified period or only in part, with the remaining balance taken as extended credit and being charged interest; credit cards may be linked to a current account at a deposit-taking bank, but also may be linked to an account that has been set up specifically for the use of the credit card. In this report **deferred debit card**, which is defined as card that allows the cardholder to make purchases but does not offer extended credit (the full amount of the debt incurred has to be settled by end of a specified period), is treated as a credit card.

Payment card system (or payment card scheme or payment card network): technical and commercial infrastructure set up to serve one or more particular card brands and which provides the organisation, framework and rules necessary for the brand to function.

Point of sale (POS): point where consumers can use plastic cards for payment transactions at a merchant outlet (often a payment terminal).

Three-party system (or closed card payment system): the stakeholders involved are: 1) the card issuer and acquirer (it is the card scheme itself that fulfils both functions), 2) the cardholder and 3) the merchant. Examples are Diners, American Express and some national schemes.

Section A

Industry Background and Outline of the Inquiry

I - Organisation of POS Card Payment Systems

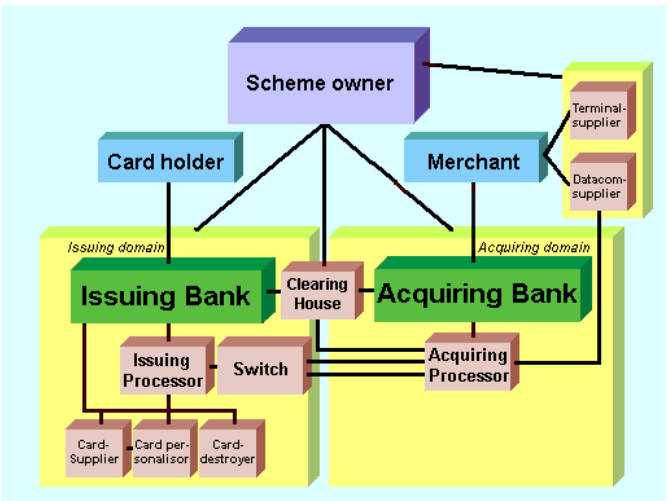
This chapter sets out the general organisation of POS card payment systems (physical POS transactions). We explain the operation of a typical POS payment card transaction and analyse which players provide what kind of services in order for such a transaction to be completed. These technical explanations will provide the basis for our further analysis of the economics of the card payments industry and of the vertical integration and the governance of POS card payment systems. We also look at the pricing of services in a POS card payment system.

POS card payment systems enable consumers to use plastic cards for payment transactions at the point of sale (POS), which is — most often — a payment terminal in a merchant outlet. These POS systems are to be distinguished from ATM card payment systems, which enable consumers to use plastic cards for withdrawing money from automated teller machines ("ATM" or "cash machines"). In practice, POS and ATM systems may be combined so that consumers can use one plastic card both for payment at POS terminals and for withdrawing cash at ATMs, as well as for other ATM services such as printing of statements, balance reporting, credit transfers, etc. This sector inquiry concentrated on POS card payment systems and all subsequent observations therefore cover POS systems only. Where observations exceptionally relate to ATM systems as well, this will be spelled out explicitly.

1. Players in a POS card payment system

POS card payment systems involve a wide range of services and service providers. The graph below gives a structural overview of a de-integrated POS system where the roles of scheme ownership, network operation and financial services are attributed to different entities.

Graph 1



The above graph shows three main groups of players: (i) cardholders and merchants (ii) scheme owner (iii) issuers and acquirers. Cardholders and merchants engage in a payment transaction through the intermediary of banks and scheme owners. The **cardholder** receives payment services and credit services from the entity that issued the card (the **issuer**). The **merchant** receives payment services from the entity that deals with the merchant (the **acquirer**). Acquirers may also be issuers.

When the cardholder uses the card to buy from the merchant, the merchant receives from the acquirer the retail price less a **merchant service charge**. The issuer pays the acquirer the

retail price minus or plus any **interchange fee**[4]. This interchange fee is determined by the card association members of, for instance, MasterCard and Visa. As well as the interchange fee from the acquirer, the issuer receives from the customer the payment, any annual fee, any interest payment on debt outstanding, late payment fees, etc., and might conversely give the customer rebates, loyalty rewards and the like.

Issuers issue cards to cardholders and acquirers recruit merchants for payment card acceptance. Payment card issuing is the business of distributing payment cards to consumers on own account and risk while payment card acquiring is the business of contracting merchants for payment card acceptance on own account and risk. Both activities involve certain financial risks with regard to the settlement of a payment card transaction. An acquirer in particular risks losing money on chargeback claims of cardholders. An acquiring bank may be faced with chargeback claims up to several months after it has credited the merchant. If the merchant goes bankrupt in the meantime and if cardholders claim back their money, the acquiring bank may bear the financial costs of the chargeback claim vis-à-vis the issuing bank.

Typically, scheme owners reserve issuing and acquiring to credit institutions or entities controlled by credit institutions. Acquiring typically involves the marketing of card acceptance to merchants and therefore requires sales staff. Acquirers also provide customer service to merchants (e.g.: they defend them against chargeback claims of cardholders, check claims that money has not been transferred, etc.).

An issuing processor opens and manages the cardholder's account on behalf of the issuer, books card transactions on these accounts, authorises card transactions on behalf of the issuing bank, sometimes arranges the clearing and settlement, provides cardholder statements and sometimes operates a cardholder call centre (for lost and stolen cards) and sometimes also handles chargeback claims of cardholders. An acquirer processor opens and manages the merchant's account on behalf of the acquirer, forwards authorisation requests to a switch (or switches authorisation requests directly to the issuer or issuing processor) and sometimes also supplies voice authorisation centres, books transactions on merchant accounts, charges merchant discount rates to merchants and produces merchant statements. Many acquirers also rent out POS terminals to merchants.

Issuing and acquiring processing is often done by the issuers and acquirers themselves.

The scheme owner is responsible for: (i) granting licenses (and membership status) to independent financial institutions for the use of a card logo and for performing issuing and acquiring services within the network; it may also (ii) certify non-financial institutions for performing technical activities such as clearing and processing within the system; it usually (iii) sets the network rules and the technical (message) standards; and it (iv) implements these network rules and standards by executing audits at member banks and certificate holders and by organising arbitration in the case of settlement disputes.

The graph shows other players who may or may not participate in a POS payment card system, depending on the degree of vertical integration of that system. In a largely de-integrated system, there is scope for competition between non-bank entities that (i) produce payment terminals, (ii) rent out terminals, including maintenance services, (iii) switch transactions between banks, (iv) process transactions on behalf of the issuing bank and/or the acquiring bank, and (v) produce, personalise and destroy payment cards. In many European POS card payment systems, these technical services are concentrated in the hands of a single "network service provider". In the Dutch debit card system PIN, for instance, the switching, processing and clearing is done by the inter-bank association Interpay, while in the Danish Dankort debit card system the inter-bank association PBS processes, clears and settles card transactions and even

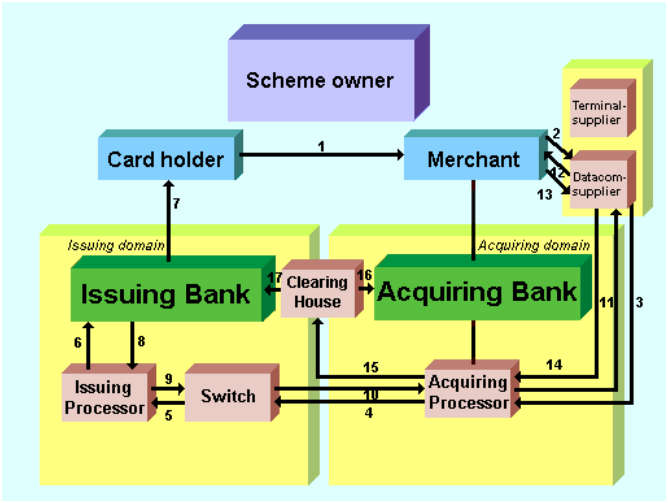
[4] In POS systems, interchange fees are typically paid by acquirers to issuers, but in principle they could go either way and there are systems where no such fees are charged.

acquires merchants for Dankort acceptance. In some systems, these technical services are provided by the scheme owner, who then not only sets the rules and standards but is also involved in the operational aspects of the payment card system.

2. Operation of a POS card payment system

The operation of a POS payment card system depends naturally on the individual structure of each payment card system. The graph below gives a rough illustration of a typical transaction within a highly de-integrated POS payment card system.

Graph 2



The numbered arrows in the graph are explained below:

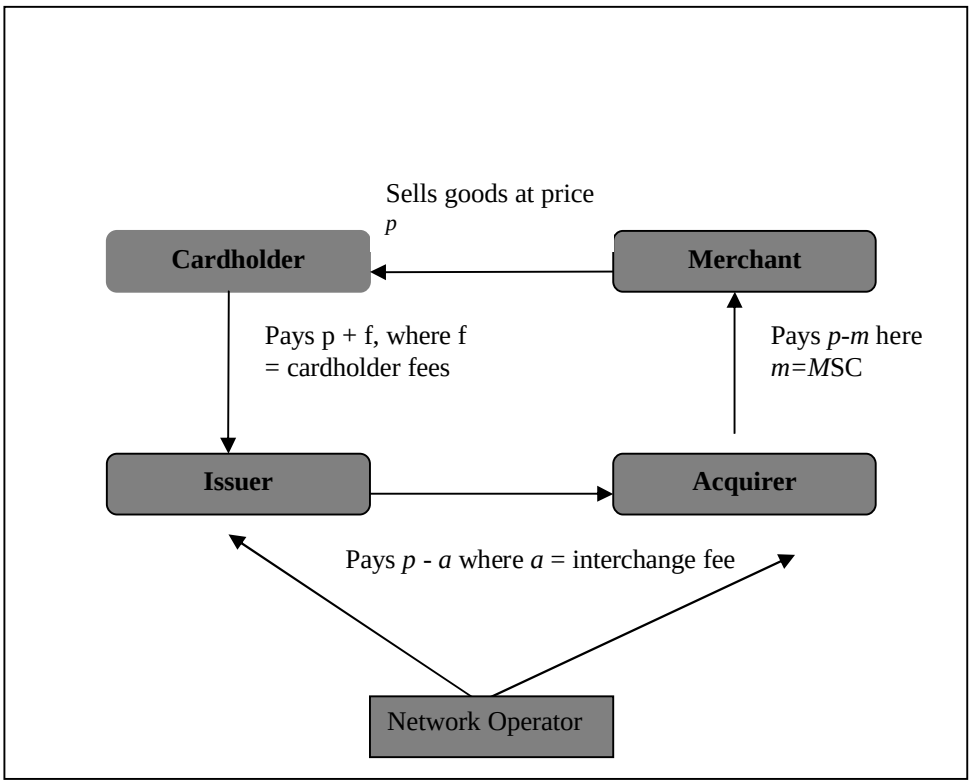
(1) The cardholder uses his payment card at a POS terminal of a merchant.
(2) The card transaction goes from the POS terminal via the network of a datacoms provider to ...
(3) the acquiring processor.
(4) The acquiring processor sends an authorisation request to the switch.
(5) The switch routes this request to an issuing processor operating on behalf of the issuing bank.
(6) The issuing processor authorises the transaction after verifying (online or offline) whether sufficient funds are available on the cardholder's current bank account to execute the transaction or after having checked a so-called black list containing stolen and lost cards.
(7) Issuing banks may (sometimes) immediately debit the cardholder's account.
(8) The authorisation response (approval/refusal) goes from the issuing bank to the issuing processor.
(9) The issuing processor routes the authorisation response to the switch.
(10) The switch routes the authorisation response to the acquiring processor.
(11) The acquiring processor routes the authorisation response via the datacoms provider
(12) to the POS terminal at the merchant outlet.
(13) The POS terminal sends an acceptance acknowledgment via the datacoms provider to
(14) the acquiring processor.
(15) The acquiring processor forwards this message to a "clearing house", which sends information on all successful transactions in batched form (a package of several messages) to the acquiring banks for payment to the merchant's account and to the issuing banks for debiting from the cardholder's account.

After clearing, a transaction is settled. As clearing and settlement may occur bilaterally between pairs of banks, or multilaterally if a POS system uses a common multilateral settlement platform which credits and debits member banks on specific accounts on the basis of clearing messages.

3. Fees paid in a POS card payment system

What is considered here is essentially the technical execution of a POS transaction. Subsequently, we will analyse the commercial aspects of a POS transaction. The flow of fees during a POS transaction is depicted in the graph below.

Graph 3



When a cardholder uses his/her card to buy at a merchant outlet, the merchant receives from the acquirer the retail price less the merchant discount rate or merchant service charge (MSC). The issuer pays the acquirer the retail price minus an interchange fee[5]. In addition, the issuer moreover receives annual cardholder fees, interest payments on any debt outstanding, late payment fees, etc., and might conversely give the customer rebates, loyalty rewards and the like.

We thus see that there are two consumer groups that may be charged the costs of services provided in a POS system. The question as to what extent — from an efficiency viewpoint — issuing and acquiring banks should subsidise card usage by charging a zero (or even negative) fee to cardholders, while recouping the corresponding costs from merchants through interchange fees, has been widely debated in the academic literature on payment cards and more generally on what are termed "two-sided" markets. The main elements of this discussion are summarised in the next chapter.

4 Conclusion and analysis

A POS card payment system may involve a large number of service providers and there is wide scope for competition between banks and non-bank entities within such a system. Issuing banks provide services to cardholders and acquiring banks provide services to merchants. Other service providers involved in the technical aspects of the cards business are: processors, switches, terminal producers, card producers and telecom providers. These technical

[5] In practice, interchange fees go from acquirer to issuer, but in principle they could go either way or be zero.

services are needed by banks in order to provide their financial services relating to card issuing and/or merchant acquiring.

As far as pricing is concerned, banks charge cardholder fees, interest, money exchange fees etc. to cardholders and charge a “merchant service charge” (also referred to as merchant discount rates or merchant fees) to merchants. In some systems, an acquiring bank may also be required to pay an “interchange fee” to the issuing bank, which is a fee per card transaction. The scheme owner finally charges membership and licensing fees to both types of banks.

II. Economics of the Payment Cards Industry

1. Survey of seminal economic literature on two-sided industries

Rochet and Tirole[6] (2005) have recently proposed a formal definition of two-sided industries: "A market [an industry] is two-sided if the platform can affect the volume of transaction by charging more to one side of the market and reducing the price paid by the other by an equal amount; in other words, the price structure matters and platforms must design it so as to bring both sides on board". To satisfy this definition, "the relationship between end-users must be fraught with residual externalities" that customers cannot sort out themselves.

Payment card systems would be "two-sided industries" because they have the following characteristics.

Firstly, payment card systems would not only serve two distinct groups of customers (cardholders and merchants) but would also have a joint demand, in the sense that they provide a service only if both cardholders and merchants jointly agreed to use a card for a transaction. The demand on one side of the market would thus likely vanish if there were no demand on the other — regardless of the price[7].

Secondly, payment card systems would have network externalities, in particular what Evans and Schmalensee (2005) call indirect externalities. These indirect network effects would arise because more cardholders in the system make payment card systems more valuable for merchants and more merchants make payment card systems more valuable for cardholders[8].

Recent evidence provided by Rysman (2004) shows a regional correlation between consumer usage and merchant acceptance for the four major payment card systems (American Express, Discover, MasterCard and Visa). This correlation suggests the existence of a positive feedback loop between consumer usage and merchant acceptance[9].

Besides indirect externalities, Rochet (2003) considers that payment cards would also exhibit usage externalities, which he considers fundamental since they affect the costs and benefits of both parties to the transaction, even though they are not reflected in the fees. For example, when a consumer uses a card, this may benefit the merchant in that the latter does not incur the cost of handling and holding the cash until it can be deposited in a bank. Similarly, when a merchant decides to accept a card for a transaction, this may benefit card users because they do not incur the cost of finding an ATM and withdrawing money (assuming they pay cash).

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[6] Rochet, J.-C. and J. Tirole, 2005, "Two-Sided Markets: an Overview", IDEI Working Paper.

[7] There are many references in the literature to the so-called chicken-and-egg problem (who comes first — the cardholders or the merchants?). See, for instance, Caillaud, B. and B. Jullien, 2003, "Chicken & Eggs: Competition among Intermediaries Services", Rand Journal of Economics, vol. 34, No 2 (Summer), pp. 309-328.

[8] See Evans, D. and R. Schmalensee, 2005, "The Industrial Organization of Markets with Two-Sided Platforms", NBER WP. Evans provides the following numerical example as an illustration of indirect network externalities. Consider a payment card system with 10 acquirers and 10 issuers, which would lead to 100 transactions. It is assumed that the market players have preferences such that the 10th (or marginal) acquirer/issuer has 1 Euro benefit per transaction, the 9th has 2 Euro, and so on, up to the 1st acquirer/issuer, which has 10 Euro benefit per transaction. It is straightforward to show that the per-transaction benefit received by the average acquirer is 5.5 Euro per transaction. The 10th acquirer gets only a 1*10 Euro from the overall transactions it engages in. But its decision to join the payment card system has benefited each of the 10 issuers. The 10th issuer only benefit as much as the 10th acquirer but everyone else benefits more. The 10 transactions generated by the last acquirer produce benefits on the issuer side averaging 5.5 Euro per transaction, for a total benefit of 55 Euro. That is, the indirect benefits to issuers are more than 5 times the direct benefits to the 10th acquirer. See Evans, D., 2002, "The Antitrust Economics of Two-sided Markets", AEI-Brookings Joint Center for Regulatory Studies.

[9] As the author himself notes, this correlation does not establish any causality between consumer usage and merchant acceptance. See M. Rysman, 2004, "An Empirical Analysis of Payment Card Usage", Mimeo, Boston University.

In contrast with the "indirect externalities", which become less and less important as the payment card systems mature, as already suggested by Katz (2001, op. cit.), Rochet considers that these fundamental externalities remain important even in mature payment card systems[10].

Thirdly, payment card systems may, due to the existence of externalities between end-users, affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount: in other words, the price structure matters[11]. The parameter via which platforms may affect the volume of transactions is the interchange fee. Raising the interchange fee would raise the merchant service charge but would lower cardholder fees.

2. What makes payment card systems different?

Network externalities and complementarities between services offered to cardholders/issuers and merchants/acquirers are thus two important features of payment card systems. In this respect, POS payment card systems are significantly different from ATM (Automated Teller Machine) networks, because the latter is a one-sided market[12]. The complementarities arise both on the cost side — there may be economies of scale by having one firm produce multiple products — and on the demand side — there may be advantages in pricing complementary products together, mainly because this makes it possible to increase (and internalise) indirect network effects. In adopting a particular pricing strategy to cover both sides of the market, a payment card system would have to choose not only a price level but also a price structure for its service[13].

In this regard, Rochet and Tirole (2003, op. cit.) consider that "this theory is a cross between network economics, which emphasises such externalities, and the literature on (monopoly or competitive) multi-product pricing, which stresses cross-elasticities[14]".

There would be another factor that distinguishes payment cards from many industries, though certainly not all: the large fixed cost associated with establishing a viable payment network, which should lead to economies of scale above a certain output[15].

3. Economic modelling of payment card systems – a survey

The potential complexity regarding the role of various prices — cardholder fees, merchant service charges and prices between customers and merchants — has led to several recent formal analyses of payment card systems. Those analyses have mainly focused on the incentives for payment card systems when they choose interchange fees and have considered whether such fees promote a socially optimal choice of payment instruments.

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[10] Rochet, J.-C., 2003, "The Theory of Interchange Fees: A synthesis of recent contributions", Review of Network Economics, Vol. 2, Issue 2.

[11] See Rochet, J.-C. and J. Tirole, 2002, "Cooperation among competitors: some economics of payment card associations", Rand Journal of Economics, vol. 33, No 4, Winter, pp. 549-570, and Rochet, J.-C. and J. Tirole, 2003, "Platform Competition in Two-Sided Markets", Journal of the European Economic Association, vol. 1, No 4, pp. 990-1029.

[12] See Rochet, J-C. and J. Tirole, 2002, op. cit., for details.

[13] See Rochet, J.-C. and J. Tirole, 2005, op. cit., for a formal discussion.

[14] According to these authors, however, both from the positive and the normative viewpoint, two-sided markets differ from the text-book treatment of multi-product oligopoly, because the strong complementarities generate externalities that are not internalised by end-consumers, unlike the cases considered in the multi-product literature (the same consumer buys the razor and the razor blade).

[15] Modern payment card systems may require large investments in communications and computing facilities in order to make card transactions convenient to cardholders and merchants and to minimise fraud. For a discussion of these issues, see, for instance, Evans, D., 2002, "The Antitrust Economics of Two-Sided Markets", Joint Center AIB-Brookings Joint Center for Regulatory Studies.

Baxter[16] (1983) provided the first formal analysis of interchange fees in a payment card system. His analysis relies on three underlying assumptions: issuers and acquirers are perfectly competitive and make no profit, merchants do not accept cards for any strategic purpose (in particular, they do not accept cards to attract customers from rival merchants who do not accept cards), and, for working out the interchange fee under his analysis, it is implicitly assumed there is no variation in the benefits that merchants get from accepting cards.

Schmalensee[17] (2002) relaxes the assumptions that issuers and acquirers are perfectly competitive and make no profit and that there is no variation in the benefits that merchants get from accepting cards. He emphasises the need to balance cardholder and merchant demand by setting an appropriate fee structure, although he does not derive cardholder and merchant demand from first principles. He shows that the privately and socially optimal interchange fees may coincide.

Rochet and Tirole[18] (2002) also relax the assumptions that issuers and acquirers are perfectly competitive and make no profit and that merchants do not accept cards for any strategic purpose. They provide the first fully fledged model of an imperfectly competitive payment card industry, allowing a comparison between privately and socially optimal interchange fees. They explicitly model why competing merchants accept cards, and in so doing take account of the market interaction between consumers and merchants that arises. These authors are able to consider the full welfare effects of different interchange fees, allowing for the effects on cash-paying consumers as well.

Finally, Wright[19] (2004) takes into account the heterogeneity of both consumers and merchants, and the imperfect competition between issuers and between acquirers. Unlike with Rochet and Tirole's model, in which merchants are homogenous and acquirers perfectly competitive, the socially optimal interchange fee involves a trade-off between giving consumers the right price signal for using cards and giving merchants the right price signal to accept cards. Privately optimal interchange fees may be too high, notably if merchant fees increase along with interchange fees but issuers do not pass the additional interchange fee revenue back to cardholders. In this case, high interchange fees are a way to transfer profits to that side of the scheme where they are least likely to be competed away, resulting in a restriction on output.

4. Effects of interchange fees

Rochet and Tirole (2005, op. cit., p. 11) establish that the choice of an interchange fee has no real economic effect (i.e. is neutral) if the following conditions are jointly satisfied: first, issuers and acquirers pass the corresponding charge (or benefits) on to the cardholder and the merchant; second, the merchant can charge two different prices for goods or services depending on whether the consumer pays by cash or by card; in other words, the payment system does not impose a no-surcharge-rule as a condition for the merchant to be affiliated with the system; third, the merchant and the consumer incur no transaction cost associated with a system of double prices for each item. If one of these conditions is not observed, the interchange fee may no longer be neutral[20].

[16] Baxter, W.F., 1983, "Bank Interchange of Transactional Paper: Legal and Economic Perspectives," Journal of Law and Economics, 26, pp.541-588.
[17] Schmalensee, R. (2002) "Payment Systems and Interchange Fees," Journal of Industrial Economics, 50, pp. 103-122.
[18] See Rochet, J.-C. and J. Tirole, 2002, op. cit.
[19] Wright, J. 2004, "The determinants of optimal interchange fees in payment systems", Journal of Industrial Economics, Volume LII, pp.1-26.
[20] For a more general model of the neutrality of interchange fees, see also Gans, J. and S. King, 2003, "The Neutrality of Interchange Fees in Payment Systems", Topics in Economic Analysis and Policy, Vol.3, No 1.

The first condition seems to imply that the effect of a particular interchange fee depends on the market structure of acquiring and issuing and on the direct interactions between cardholders and merchants. For example, Carlton and Frankel (1995) demonstrate that if issuing, acquiring and merchant-level interaction are perfectly competitive then the interchange fee may have no impact on cardholder or merchant behaviour. This is because under perfect competition any change to the interchange fee is simply passed through all prices, including the prices paid by customers to merchants. These price changes offset each other so that altering the interchange fee has no real economic effect. Importantly, however, Wright (2004, *op. cit.*) shows that privately optimal interchange fees may be too high, particularly if merchant fees increase with interchange fees but issuers do not pass the additional interchange fee revenue back to cardholders. In this case, high interchange fees are a way to transfer profits to the side of the scheme where they are least likely to be competed away, resulting in a restriction on output.

The second condition seems to imply that when a no-surcharge rule is effective, interchange fees can be used to have card users subsidised by those who do not use one (see Rochet and Tirole, 2002, op. cit., and Chakravorti and To[21], 2002). The reason would be that a rise in the interchange fee may lead to higher merchant service charges and, where surcharging is not possible, merchants may recover those charges from *all* customers and not simply those choosing to use a credit card. Rochet and Tirole, 2002, op. cit., in particular, demonstrate that even though this may increase merchant resistance to adopting card services a countervailing pressure arising from network effects may outweigh this resistance, leading to excessive card usage from a social perspective[22].

The existence of "transaction costs" (third condition) seems to explain why even when surcharging is possible, thus allowing merchants to behave as a multi-product business and to charge prices contingent on the payment instrument used, very few merchants are tempted to do so (see Rochet and Tirole, 2003, op. cit.). According to the authors, "transaction costs" include the costs of drawing up a contact on how to pass through charges to the other side of the market and the costs of monitoring the actual transaction.

5. Competition between payment card systems

The payment card industry is characterised by the existence of a few large players, which, according to Evans and Schmalensee (2005, op. cit.), is due to the existence of network effects and scale economies in the industry.

A particular feature of this industry would be that competition between payment card systems may take place only on one side of the industry. Providing low fees or transfers to one side of the industry helps to obtain a critical mass of customers on this side, which in turn, due to network effects, encourages participation by the non-benefiting group on the other side[23].

Competitive prices in a payment card system may however depend on the extent of "multihoming" on the other side of the market. Multihoming in the context of payment card systems describes a situation where most merchants accept cards from several payment card systems and many cardholders carry several cards.

Rochet and Tirole (2004, op. cit.) consider that multihoming is an important countervailing force to the market power of card payment systems. For example, if payment

[21] Chakravorti, S. and T. To (2003), "A Theory of Credit Cards," Mimeo, Federal Reserve Bank of Chicago.

[22] A merchant may have an intrinsic strategic interest in accepting payment cards in addition to the intrinsic benefits of receiving card payment rather than cash. Accepting card payment will increase the merchant's sales at the expense of other merchants. This strategic interest can be exploited by acquirers with market power, or by issuers through an interchange fee, as shown by Rochet and Tirole. The additional surplus that acquirers are able to extract will therefore lead to higher consumer prices.

[23] See Caillaud, B. and B. Jullien, 2003, op. cit.

card system A reduces its interchange fee and this decrease is partially passed on in the MSC paid by the merchant, the latter may be more tempted to turn down a costlier competitor of A where a large proportion of this competitor's cardholders also carry cards issued by A. For this reason, Rochet and Tirole (2004, op. cit.) claim that multihoming intensifies price competition between payment card systems.

However, multihoming will not play this countervailing role on the market if acquirers charge the same fees to merchants for accepting credit and debit cards issued by different networks ("blending"). Moreover, even where blending is not practised, it should also be noted that multihoming will be widespread only if the fixed costs of joining a payment card system are absent or low.

6. Competition among means of payment

Modern economies have several types of payment instrument at their disposal, e.g. cash, debit and credit cards and e-purse cards. Since banks are likely to offer simultaneously all types of payment instrument to their clients (cardholders and merchants), it is therefore relevant to analyse the role of the prices and associated costs of these payment instruments from the viewpoint of the bank's overall profitability and from a welfare perspective. In particular, it is of interest in the context of the sector inquiry to assess whether (1) credit or debit cards are relatively less costly than other means of payment and (2) the prices of these means of payment do in fact reflect their associated costs. If credit and debit cards are less costly than other means of payment offered by the same institution, but their prices do not reflect this difference in costs, this might imply that credit and debit cards are cross-subsidising other means of payment. Moving towards a more efficient means of payment would therefore reduce the importance of the role played by the interchange fee as a cross-subsidising factor among different payment instruments. If this is the case, one may also ask whether the merchant side is currently not relatively overpriced.

There is some empirical literature on competition among means of payment. Guibourg and Segendorf (2004)[24] estimate the private costs incurred by banks to provide different payment services and investigate to what extent the price structure reflects the cost structure. This study uses data on the prices, which are mainly of a two-part tariff nature and include MSCs, and costs (fixed and variable) of each payment instrument offered by the four largest Swedish banks, which together account for 92% of the card and credit transfer market and 96% of the cash distribution market. The data are from 2002.

The main hypotheses to be tested are whether (i) transaction fees equal average variable costs (used as a proxy for marginal costs), (ii) relative prices reflect relative costs for some payment services considered as substitutes, and (iii) there are cross-subsidies among the payment instruments.

Several important findings were made by the authors. Firstly, there are considerable differences in costs between payment instruments. Paper-based payments are more costly to process than electronic payments and debit card payments are less costly than credit card payments and cash withdrawals. Secondly, the hypothesis that transaction fees equal variable costs is refuted for several types of payment instruments, notably as regards the acquiring of credit and charge cards, credit transfers and ATM withdrawals. Thirdly, almost no information about these relative costs is passed on to consumers through price mechanisms. In the POS market, relative prices give no information to support a cost-efficient choice between debit cards, credit cards and ATM withdrawals. Here, the debit card has a large cost advantage not

[24] Guibourg and Segendorf, 2002, "Do prices reflect cost? A study of the price and cost structure of retail payment services in the Swedish banking sector".

reflected in private variable fees[25]. Fourthly, and most important, all means of payment except for cash distribution gives rise to net revenues for the banks, where the most net revenue is generated by card payments (acquiring and issuing).

Therefore, the non-transparent price structure of payment instruments (with few exceptions consumers do not pay any variable fee and receive insufficient price signals to make their choice) requires cross-subsidising between them. If banks were to move towards a more cost-based price setting strategy, this would result in the introduction of transaction fees for ATM withdrawals, with a consequent decrease in the fees for acquiring services. The reason why banks do not implement more cost-based pricing strategies is because they are locked into a prisoner's-dilemma type of situation. While every bank would gain from a joint shift to cost-based pricing, it may be very costly for a bank that goes it alone[26].

From a welfare perspective, and given that user demand is price-elastic, a pricing strategy based on variable costs would lead to greater use of debit cards, less use of credit cards and cash, and more use of electronic credit transfers and direct debits. Such a change in the choice of payment instruments would lower costs for the banks involved. Banks could reduce total production costs and probably increase overall profitability by adopting more cost-based pricing strategies that would re-orient demand towards less costly payment services.

A follow-up of this study was conducted by Hans Brits and Carlo Winder (2005) in order to quantify the social costs of certain payment instruments (cash, debit card, e-purse and credit card) in the Netherlands[27]. The cost data used in the study came from four major banks, with a joint market share of about 90% in the Netherlands, and the Netherlands's central clearing organisation, Interpay, and were for 2002. As well as the hypotheses tested in the study of Guibourg and Segendorf (2004), it also considers the break-even transaction amounts, i.e. those amounts for which the costs of two payment instruments are equal, and provides a breakdown of costs among the market participants.

Several important conclusions may be drawn from this study. Firstly, and confirming the results obtained for Sweden, the lowest average costs per transaction were, in ascending order, on e-purse payments, debit card payments, credit card payments and cash payments. The credit card is less attractive than the debit card, irrespective of the transaction amount, as the credit card's variable costs both for the execution of the transfer itself and in relation to the size of the purchase are larger. The e-purse is cheaper for any transaction amount. Cash is more economical for purchases below a certain threshold. Secondly, the costs related to cash payment are largely incurred in the retail sector, whereas a relatively large share of the costs relating to electronic POS payments is borne by the banking industry.

Following Guibourg and Segendorf, the authors conclude that the current tariff structure of payment instruments in the Netherlands does not provide sufficient incentives to stimulate the use of the most efficient payment instrument[28]. Due to the non-transparency of tariff structures, large-scale cross-subsidisation is likely to be present in the Netherlands as well. The authors also claim that the reason why banks do not implement a more cost-based pricing strategy is because they are locked into a prisoner's-dilemma type of situation.

[25] Interestingly, the results also show that the pricing for private costumers appears to reflect costs less than the pricing of payment services for corporate costumers.

[26] Consumers may also incur a transaction cost when switching from one type of means of payment to another, which may difficult the implementation of such a strategy by banks.

[27] Brits H. and C. Winder, 2005, Payments are no free lunch, De Nederlandsche Bank, Occasional Studies, vol. 3.

[28] Interestingly, results show that pricing for private costumers appears to reflect costs less than the pricing of payment services for corporate costumers in the Netherlands as well. Cardholders are confronted with costs in the form of annual fees for e.g. debit cards, while merchants factor their costs into the prices of services.

It is interesting to note that similar results were found in a recent replication of this study in Belgium (Guy Quaden, 2005)[29]. Similar policy implications as regards the role of correct price signals for the choice of the most efficient means of payment can thus also be drawn for Belgium.

Finally, Bolt, Humphrey and Uittenbogaard (2005)[30] use the experience of Norway and the Netherlands over 19990-2004 to try to determine what the incremental effects of transaction pricing may be on the use of debit cards versus withdrawing cash from an ATM and on the use of electronic giro transactions (credit transfers and direct debits) in preference to paper transfers. Specifically, the study compares the use of payment instruments per person in Norway, in response to the prices charged and the availability of terminals, and the level of actual consumption with the example of the Netherlands, which also adopted electronic payment but did not price.

The cases of Norway and the Netherlands are interesting because the first country priced its payment services and the second one did not. In fact, Norwegian market players coordinated the timing of when the direct pricing of consumer payments would start, but not the level of prices to be charged. The result was to eliminate the bank practice of recouping payment costs through payment float — debiting consumer accounts prior to the value date for bill payment or delaying crediting to accounts.

They contrast the rapid adoption of electronic payments in Norway over 1990-2004 with the experience of the Netherlands, which also rapidly adopted electronic payment but did not impose per-transaction prices on consumers. If the incremental effect of direct pricing is large, holding constant within the cross-country influences affecting the adoption of electronic payments, then the potential social benefit can also be large.

Results show that the effect of terminal availability on relative debit card and ATM use exceeds that of pricing. Even so, pricing has a significant effect in influencing payment choice, though not as much as expected, because consumers mainly look at the convenience, safety and other non-price attributes of different payment instruments.

The overall conclusion is that while terminal availability appears to have a stronger effect on the relative use of payment instruments than direct per-transaction pricing, the shift to electronic payments could be boosted where pricing is combined with terminal availability. Given that electronic payments are considerably cheaper than their paper-based alternatives (including cash), banks and merchants have an interest in shifting users to electronic payments to save costs.

Naturally, this would reduce the importance of the role played by the interchange fee as a cross-subsidising factor among different payment instruments. It also seems from this that currently the merchant side is relatively overpriced where debit card payments are concerned, and that the use of electronic payments can be further stimulated by reducing merchant service charges (and directly charging cardholders).

[29] Quaden, G., 2005, Coûts, avantages et inconvénients des différents moyens de payement, Banque Nationale de Belgique. In Belgium, debit cards are less costly than credit cards, credit cards are less costly than cash and cash is less costly than Proton (e-purse). More precisely, cash and debit cards are have the same costs for transactions below 10.24 euros but above this amount the debit card is the cheaper means of payment.

[30] Bolt, Humphrey and Uittenbogaard, 2005, The Effect of Transaction Pricing on the Adoption of Electronic Payments: a cross-country comparison.

III. Data and Methodology

1. Data issues

DG Competition has collected information from two main sources. Information on acquiring and issuing was collected through a questionnaire sent out in July 2005 to a representative sample of 203 acquirers and issuers. Data on payment card networks was obtained from a questionnaire sent out in August 2005 to 26 domestic and international payment card systems. Following this initial request, DG Competition sent out an additional questionnaire to payment card networks in December 2005. The geographical scope of both questionnaires was the EU-25. In addition, DG Competition also had at its disposal surveys of consumers' and merchants' behaviour and a range of further market studies[31].

As regards the type of products and services covered by the questionnaires, it should be noted that the questions put to acquirers and issuers addressed only debit and credit cards (deferred debit cards were treated as credit cards)[32]. Moreover, they focused only on transactions made at physical points of sale (POS) and did not cover ATM transactions. In contrast, the questionnaire sent to payment card systems covered a wide range of rules and activities developed by these institutions as well as the relevant price and cost data.

Prior to the questionnaires, DG Competition held consultations with stakeholders such as industry associations and consumer groups. It is also important to point out that the questionnaires were previously "road-tested" with a small group of market players to make them operational and iron out errors, so that respondents would not expend unnecessary resources in gathering and supplying the information. To further facilitate the process, all questionnaires were distributed in electronic format. Finally, DG Competition communicated with the addressees and provided detailed answers to any outstanding questions.

The information was collected at institution and country level. If the selected issuer or acquirer was a parent company, data were gathered separately for each member (subsidiary) entity if these entities followed different pricing policies[33]. Moreover, where institutions were active in more than one EU Member State, the information was obtained separately for each country of operation. Finally, information was collected separately for each payment card system. Similarly, payment card systems provided information separately for each country if they had activities in different EU countries.

The information was mainly collected on a yearly basis and over the period 2000-2004. Some data, however, were collected on a quarterly basis. A significant amount of the requested information concerned financial aspects (e.g. prices and costs). In order to harmonise the financial data, respondents were asked to convert their data into euro currency. To this end, DG Competition provided a table with the average annual ECB exchange rates for the reference year to convert the requested annual data and with the average quarterly ECB exchange rates for the reference quarters to convert the requested quarterly data.

For the same questions, different respondents provided data expressed both in euros and as a percentage of another variable. For instance, some institutions reported prices in euros per transaction while others reported them as a percentage of the transaction volume. In order to

[31] It includes, for example, the ABR report on payment cards. DG Competition also consulted seminal economic literature on the payment card industry.

[32] Store cards (cards issued by non-banking institutions for use for payment in specified stores) were explicitly excluded from the scope of the questionnaire.

[33] If the questionnaire was sent to a subsidiary entity, the entity was instructed to forward it to the parent company.

have a meaningful comparison across institutions and Member States, these figures were converted into euros or percentages as appropriate.

Some of the requested data required an allocation of revenues and costs based on accounting data. This allocation was made by the respondents themselves. Finally, some data were collected in nominal terms while others were collected as weighted averages. When weighted averages were requested, the questionnaire provided the relevant weights.

The response rate was close to 95% for the questionnaire addressed to acquirers and issuers and virtually 100% for that addressed to payment card systems.

2. Methodology

The data set covering acquirers and issuers has been collected and assembled by DG Competition and DG JRC, ISPRA (VA), Italy. Once assembled, the final database was submitted to statistical tests in order to identify possible "outliers" (i.e. extreme observations) that could have created a significant bias in the analysis. Figures diverging significantly from the mean of the overall and country samples were thus identified. In many cases, DG Competition had to contact the respondents again to check the correctness of the reported figures. A significant number of initially detected outliers were thus corrected. However, in cases where no evident explanation for an outlier was found, it was simply dropped from the data set.

The final data set is "unbalanced", because some respondents reported figures only for a few years and not over the entire time period. There are significantly more observations reported for later years (2004). Where relevant, both for economic and statistical reasons, only a "balanced" data set was considered in the analysis. Moreover, some respondents did not provide data on all questions of the questionnaire. The cited reasons related to technical limitations and a data reporting model making it impossible to provide data with the required detail. Consequently, a high response rate for the overall questionnaire did not necessarily imply that all questions were addressed in an equal and full manner.

The analysis carried out in this inquiry used both descriptive statistics and econometric techniques. Descriptive statistics included simple and weighted averages, minimum and maximum values, and standard deviations. These statistics were computed mainly at country level using both a cross-sectional (i.e. at a single point in time) and a time-series analysis. The cross-sectional analysis usually used the last year of the period (2004). The econometric techniques included the standard ordinary least-squares estimator and some sophisticated panel-data techniques such as the between-effects estimator, the fixed-effects estimator and the random-effects estimator. The econometric exercise aimed to identify the main determinants of some of the prices in this type of industry and it was performed by DG JRC, ISPRA (VA), Italy.

3. Sampling

3.1 Technique

The selection of addressees was possible only for credit and debit cards. For debit and credit cards, separate selection was done for issuing and, to some extent, acquiring to avoid a possible bias. The selection of issuing institutions was primarily based on total cardholder expenditure volume for each respective institution. Where, for various reasons, cardholder expenditure volumes were not available, a proxy in the form of the number of cards issued by each respective institution was used. Later, the report provides a justification for using this kind of proxy.

After separate selection of issuing and acquiring institutions for both debit and credit cards, the lists of institutions obtained were merged. A detailed verification of the final list was

then performed. In some exceptional cases, when a previously unknown fact came to light (e.g. merger of two selected undertakings), the institution was removed from the list.

The selection or sampling was performed on a list of banks submitted by the two biggest (at EU level) international payment networks: MasterCard and Visa. The financial data for both networks was merged to create a single list. In the cases of Austria and Belgium, the necessary data on cardholder expenditure volume were available only for groups of members jointly holding licences for the payment card networks. Here, a proxy in the form of the number of cards issued was used instead; however, these figures were available only for MasterCard members. The correlation analysis performed revealed that, although positive, the correlation between the number of cards issued for MasterCard and cardholder expenditure volume on these cards was nonetheless not overly significant, amounting only to 67%. However, the subsequent correlation analysis comparing the number of cards issued for the MasterCard network and total cardholder expenditure volume, i.e. the volume registered on both respective networks, yielded an astonishing 89%, leaving practically no doubt that the selected proxy worked.

Two different techniques were used to select institutions active in issuing and acquiring. These techniques were the same for both debit and credit cards.

The main selection was from issuing undertakings due to the nature of the issuing business. In fact, the evidence shows that there are many more issuing than acquiring institutions across the European Union. This is partly due to the rule in the past, enforced by certain payment card networks, that an institution had to be an issuer before it could apply for an acquiring licence, and partly due to the fact that issuing is considered to be an intrinsically more profitable business than acquiring.

The data set comprised a list of issuing institutions sorted by countries. The sampling was done on a per-country basis, as a random selection could have led to the under-representation of some EU countries in the sample (particularly small ones).

First, the total number of issuers per country was computed to assess whether sampling for a given country was needed. In countries with fewer than 8 issuing institutions, no additional selection was done. Their selection was automatic. For other countries, the principle of proportionality was applied to ensure that the country size was represented in the final sample, i.e. the number of institutions to be sampled was reduced in proportion.

Second, issuers were sorted within the country in descending order according to their share of the total cardholder expenditure volume of all issuers in the country. If random sampling had been applied to the whole dataset, the largest player(s) with significant market share might not have been included in the sample. In an attempt to avoid this while nonetheless preserving an element of randomness, the following technique was used. The issuing undertakings with a share of 50% were included in the sample automatically. However, selection was random for the rest of issuers in the data set. The remaining issuers were split into 3 groups according to the 33rd and 67th percentiles, using the cardholder expenditure volume. From each group, an equal number of institutions were randomly selected, with the combined total equal to the proportionally reduced number to be sampled (see previous paragraph).

Third, the list of selected banks in the sample was extended to include the largest acquiring institutions which for some reason were not active in issuing (e.g. in Germany, Austria, etc.). Nonetheless, given that the majority of acquirers in general are also issuers, additional detailed sampling for acquiring was not needed. If this had been done, the result could have been a sample as big as the original pool.

Next, the procedure was repeated for institutions active in debit cards. Prior to selection, the list of issuers of debit cards was compared to that of issuers of credit cards, and it was found

that the lists differed significantly, particularly in certain countries where the biggest issuer of debit cards was not engaged in credit card business. Therefore, additional sampling was needed.

Finally, the samples for debit and credit cards were merged to create the final sample of addressees. This list was thoroughly verified and finalised. The final list contained 232 institutions.

3.2 Main drawbacks of the technique

The technique, as it stands, has a number of statistical defects, which were carefully assessed prior to sampling. These are as follows:

1) Large institutions are intrinsically over-represented (does not meet the criterion of equal representativeness of different-size banks in the sample).

Explanation and justification: There is a double bias towards large institutions. Firstly the bias was created when the 50% criterion was introduced, and secondly it was reinforced when the list was extended to include the largest acquiring institutions. This bias represented a conscious sacrifice of degrees of freedom for the sake of including the most important players. Despite the fact that the questionnaire was intended to address a representative sample, the influence of the biggest European players cannot be ignored. Moreover, there may be a higher risk with competition problems arising among the biggest players (with important market shares) rather than among small ones.

2) There is a strong bias towards MasterCard and Visa network members.

Explanation and justification: This bias was allowed given that the majority of MasterCard and Visa networks are also members of other networks, namely national domestic schemes, American Express and Diners Club. This bias can thus be considered to be of no particular pertinence and will therefore not affect statistical representativeness in any significant way.

4. Data patterns

For merchant service charges, the final data set contained information from 147 acquiring institutions operating in the 25 EU countries. This resulted in a total of 1 142 unique bank/network/year combinations. The number of combinations increases significantly if the data are disaggregated at merchant level (17 000 unique merchant/bank/network/year combinations).

The distribution of the total combinations over the period 2000-2004 varies significantly. On average, the number of observations in 2004 is more than double of that in 2000. The distribution of the observations across the EU-25 Member States also varies considerably. For example, in 2004 (the period with the highest number of observations) Poland has 1 bank/network/year and 60 merchant/bank/network/year combinations, respectively, while Spain has 28 and 3 731. Poland and Spain are thus, respectively, the worst and the best represented countries in the sample. Finally, the two most important international payment networks (MasterCard and Visa) accounted for significantly more observations compared to both other international payment networks (American Express and Diners Club) and national payment networks.

Section B

Financial Aspects of the Industry

IV. Interchange Fees

In this chapter, we analyse an important driver of pricing in the card payments industry: so-called "interchange fees". These fees are paid between banks and determine to a large extent the final prices paid by merchants for payment card acceptance. The setting of interchange fees and fee levels are important issues for competition in the European payment cards industry, because it appears that:

- there is significant dispersion in the level of interchange fees across EU Member States;
- interchange fees can help to determine the level of other important fees in the market: notably acquiring banks' fees to businesses;
- interchange fees can permit a significant transfer of revenue from acquiring banks to card issuing banks; and
- major players in the payment cards industry and recent academic research argue that the interchange fee is an efficient and necessary instrument for allocating costs and revenues in a POS card system.

We subsequently:

- examine the rationale for using interchange fees in a card payment system;
- analyse how interchange fees are set in the international and domestic systems;
- compare interchange fees in the two large international systems (MasterCard and Visa) with regard to fee structures, nominal levels and weighted average levels; and
- compare interchange fees in national systems with regard to nominal levels and fee structures.

1. Purpose of interchange fees

1.1 Academic explanations

As explained in chapter 2, most economic analyses of payment card systems have focused on the incentives for payment card systems when they choose interchange fees. Several studies have considered whether such fees promote a socially optimal choice of payment instruments.

Rochet and Tirole[34] (2002) compare privately and socially optimal interchange fee levels. They consider the full welfare effects of different interchange fees, also allowing for the effects on cash-paying consumers. Wright (2004) finds that privately optimal interchange fees may be too high, notably if merchant fees increase with interchange fees but issuers do not pass the additional interchange fee revenue back to cardholders. Where this rebate is not provided, high interchange fees may have the effect of transferring profits to the side of the scheme where they are least likely to be competed away, resulting in a restriction on output.

To summarise therefore, two competing assessments can be distilled from the economic literature on interchange fees in payment card systems: either that their effect is neutral and provides efficient incentives for card issuers to expand output; or that high interchange fees offer a means of transferring rent (which cannot be competed away) from acquiring to issuing banks.

[34] See Rochet, J.-C. and J. Tirole, 2002, op. cit.

1.2 Industry explanations

The Commission asked international and domestic payment card networks to explain the economic function that interchange fees fulfil in their networks. The networks were also asked to provide the market context (for instance, in terms of the mix of different payment means, the maturity of the payment card segment, or regulation) explaining why interchange fees were used or not.[35]

One of the **international payment card systems** believes that in the absence of POS interchange fees paid by acquirers to issuers, issuers would have to recoup all of their costs from cardholders and this would lead to a level of card issuing "not optimal" for the system as a whole. The other system identifies an imbalance between issuing and acquiring costs necessitating a transfer of revenues from acquirers to issuers. The common feature of the MasterCard and Visa replies seems to be that both networks assume that issuing banks would not gain sufficient revenue from issuing MasterCard/Visa cards in the absence of POS interchange fees. (This assumption is challenged empirically in chapter 7 of this report.) On the basis of this assumption, MasterCard and Visa assert that total system output would fall if card issuers were not subsidised through a transfer of revenues from acquirers.

Domestic payment card networks often did not explain why POS interchange fees are used in their system, but referred to a declaration of banks represented on the European Payments Council. This declaration stated that interchange fees *"have proven to be necessary enablers for the operation and development of the cards business and for sound cooperation between competing banks"*. Amongst those domestic networks that commented on the purpose of POS interchange fees, opinions diverge as to the character of such interchange fees. Some view interchange fees as "*remuneration*" for services provided by issuing banks to acquiring banks, which appears similar to the purpose of interchange fees in an ATM system. Such networks accordingly often set interchange fees on the basis of the costs of the services that the participating banks provide to each other. Other networks, however, reject the idea that POS interchange fees could be "a price" and argued that POS interchange fees are "*a tool"* to shift costs and revenues in a way that is neutral in terms of the overall costs and revenues incurred/charged by the banks in the system. One scheme owner argues that its interchange fees are set to foster "the contribution of the [..] system in *reducing* payments via means typically costing more or that are less efficient for the banking system, such as *cash or cheques*." This implies that the level of interchange fees might be set to encourage greater use of 'efficient' payment means.

To summarise, a substantial number of networks maintain the "traditional" view that POS interchange fees remunerate services that banks provide to each other within the network and compensate for corresponding costs. This is reflected in the fee-setting practice of a number of networks. Other networks appear to have adopted views advanced more recently by academic authors.

2. Setting of interchange fees

2.1 International schemes

In the international MasterCard and Visa systems, member banks or representatives of member banks usually set the POS interchange fees. In at least one of these systems, however, a mixed methodology for setting domestic interchange fees was observed: in country A, domestic interchange fees are set by a local board of member banks ("multilateral interchange fees"), in

[35] 16 networks replied to the question as to the purpose of POS interchange fees and three indicated a specific purpose for ATM interchange fees. Where networks specifically commented on the purpose of ATM interchange fees, the reasons diverged from the reasons given for POS interchange fees.

country B by the management of the scheme owner, and in country C between pairs of banks in bilateral agreements ("bilateral interchange fee agreements"). In the other international system, the second option is not used.

As already noted in the Commission Decision on Visa cross-border interchange fees[36], at least one of the international systems has created an order of precedence for cross-border and domestic interchange fees (a "fallback" interchange fee system). First, bilaterally agreed fees always take precedence over multilateral interchange fees set by a board of member banks. This holds both for cross-border and for domestic fees. Second, where banks neither bilaterally nor multilaterally agree on the level of domestic interchange fees, multilaterally set cross-border interchange fees will apply by default to domestic payment card transactions as well.

Three points merit attention in this context:

- The effect of the "fallback" interchange fee system appears to be that in the absence of an agreement between member banks, there will always be an interchange fee that acquirers pay to issuers, whether a multilaterally agreed default rate at local level or a multilaterally agreed cross-border fee; this excludes the possibility that acquirers pay no interchange fees to issuers.
- At domestic level, local member banks of an international system may charge each other preferentially low fees (on the basis of bilateral agreements) while applying higher fallback rates (set by a local board of banks) to foreign banks or other "outsiders" that attempt to compete with them.
- Where local boards of banks multilaterally set domestic interchange fees in the international systems, they appear to view cross-border interchange fees as a minimum benchmark for setting these domestic fees.

2.2 Domestic schemes

From the replies received, there appear to be four different means of setting interchange fees (where interchange fees are set at all). First, the scheme's management sets interchange fees without the intervention of member banks. Second, member banks bilaterally agree on interchange fees. Third, member banks multilaterally agree on interchange fees. Fourth, member banks multilaterally agree on a fee paid by merchants to processors, who collect this fee and then transfer it to the appropriate issuing bank without the involvement of an acquiring bank. The last system is unique to one Member State (Germany).

3. Level of interchange fees

3.1 Level of interchange fees: cross-border interchange fees

This section describes the interchange fee structure and compares cross-border interchange fees on a nominal and weighted average basis. It will be shown that weighted averages provide a more meaningful comparison of the general level of interchange fees applied in a network.

3.1.1 Fee structure

a) Distinction between MC/Visa cross-border and domestic fees

As already noted in the Commission Decision on Visa cross-border interchange fees[37], at least one of the international systems distinguishes between domestic, intra-regional and inter-

[36] Commission Decision of 27 July 2002, OJ L 318/17 of 22 November 2002, pt. 9.
[37] Commission Decision of 27 July 2002, OJ L 318/17 of 22 November 2002, pt. 9.

regional interchange fees. Domestic interchange fees are defined as transactions in the same country in which the card is issued. Intra-regional interchange fees (hereafter referred to as "cross-border interchange fees") apply to transactions that are completed at a merchant outlet outside the country (but within the geographical region) in which the card is issued. Inter-regional interchange fees apply to transactions between Europe and Asia or the US; these fees will be disregarded in what follows.

b) Distinctions within MC/Visa cross-border interchange fees

Cross-border interchange fees may differ according to the method of processing (on-line, off-line, card present/not present etc.) and the type of card used (consumer or commercial cards; magnetic stripe card or chip card, etc.). Specific cross-border interchange fees for individual merchant segments are the exception: only one of the international systems has a specific interchange fee rate for cross-border transactions in the airline sector.

3.1.2 Comparison of nominal fees (MC/Visa, 2005)

a) Credit cards

As is apparent from the Visa website[38], Visa Europe's cross-border (intra-regional) interchange fee scale has many different categories for consumer credit cards alone. Interchange fees range from 0.65% for consumer transactions processed with the EMV chip up to 1.05% for non-electronic transactions. MasterCard's intra-European interchange fee[39] scale has ten different categories for consumer credit cards alone. Interchange fees range from 0.8% for consumer chip transactions up to the higher base rate of 1.3% (standard consumer) and 1.9% (World Signia) on consumer transactions. Unlike Visa, MasterCard also publishes its cross-border interchange fees for commercial card rates, which range from 1.2% to 1.90%.

b) Debit cards

Interchange fees for transactions with credit cards are denoted for both networks in terms of a percentage of the transaction value, while interchange fees for transactions with debit cards are denoted differently for each network. Visa applies a fixed fee per transaction, whereas MasterCard opts for a percentage of the transaction value. Visa Europe's Intra-regional Interchange Fees for Debit Cards range from €0.27 to €0.30 for non-electronic transactions. MasterCard's Intra-European Interchange Fees for Debit Cards operate on a percentage basis, ranging from 0.50% for chip transactions up to 1.15% for e-commerce transactions.

A comparative analysis of the effect that the two different charging mechanisms have on a network's revenue stream is given below in the next section. The analysis shows how, for average transaction values, both pricing formulas produce similar interchange fee levels.

3.1.3. Comparison of weighted average fees (MC/Visa)

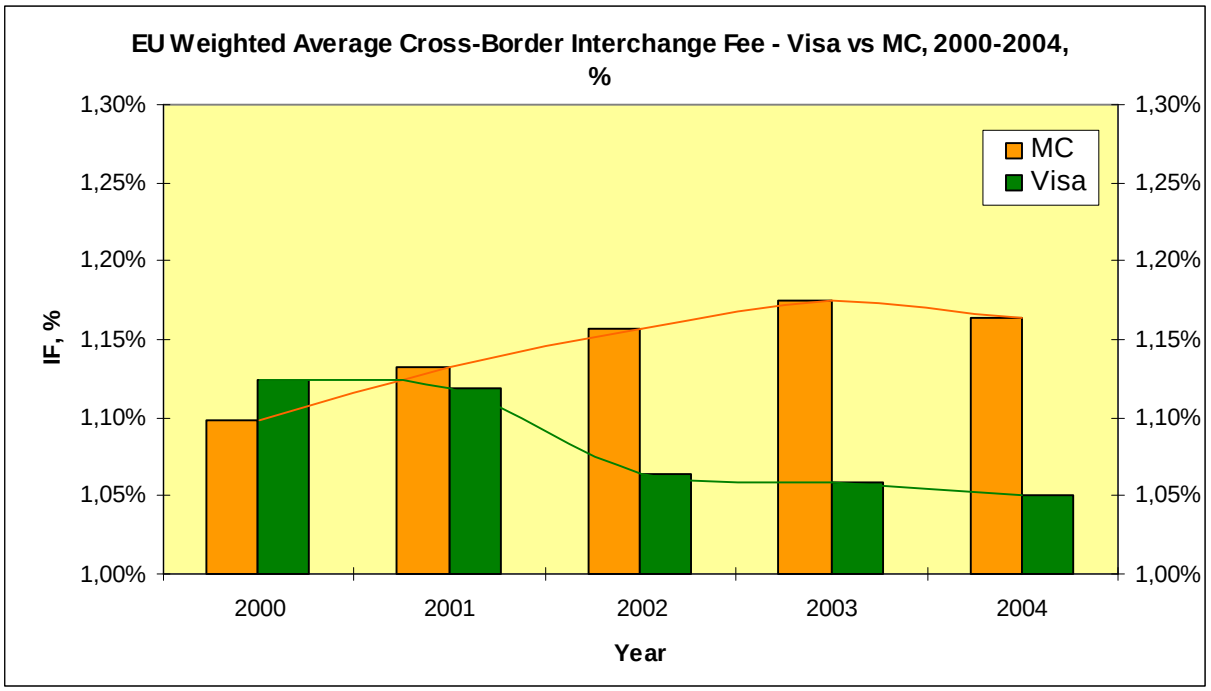
A comparison of interchange fees based on nominal rates alone does not yield results that fully represent the levels of interchange fees applied in the market. Focusing solely on nominal fee (or fee-tier) levels would not take into account the frequency with which different tiers are applied in practice, i.e. the respective merchant sales volumes for each tier. Therefore, a weighting exercise was carried out. Weights were calculated according to the respective turnovers for each respective interchange fee tier per EU-25 Member State (see methodological details in Annex 1).

[38] http://www.visaeurope.com/acceptingvisa/interchange.html.
[39] http://www.mastercardintl.com/corporate/mif_information.html.

a) Credit cards

Average cross-border fees across the EU for credit cards are shown below in Graph 4.

Graph 4



The comparison highlights two important findings:

Before 2001, Visa acquirers appeared to be paying on average somewhat higher interchange fees for cross-border transactions than MasterCard acquirers. As of 2001, MasterCard interchange fees started to exceed Visa interchange fees and continued to do so up to 2004, the end point of the analysis. In general terms, over 2000-2004 MasterCard acquirers seemed to pay on average 6% higher interchange fees on credit card transactions across the EU-25.

Credit card fee rates for the two networks seemed to be more or less similar until 2001, but from 2002 the two rates started diverging strongly. In 2000-2001, the absolute difference in interchange fees paid by MasterCard and Visa acquirers amounted to about 1-2%. By 2002, however, the average difference between the two fee levels already amounted to about 10%. Throughout the whole period from 2000 to 2004, MasterCard cross-border interchange fees kept rising (up to 2004, when they fell only insignificantly), while Visa rates followed a steady falling trend.

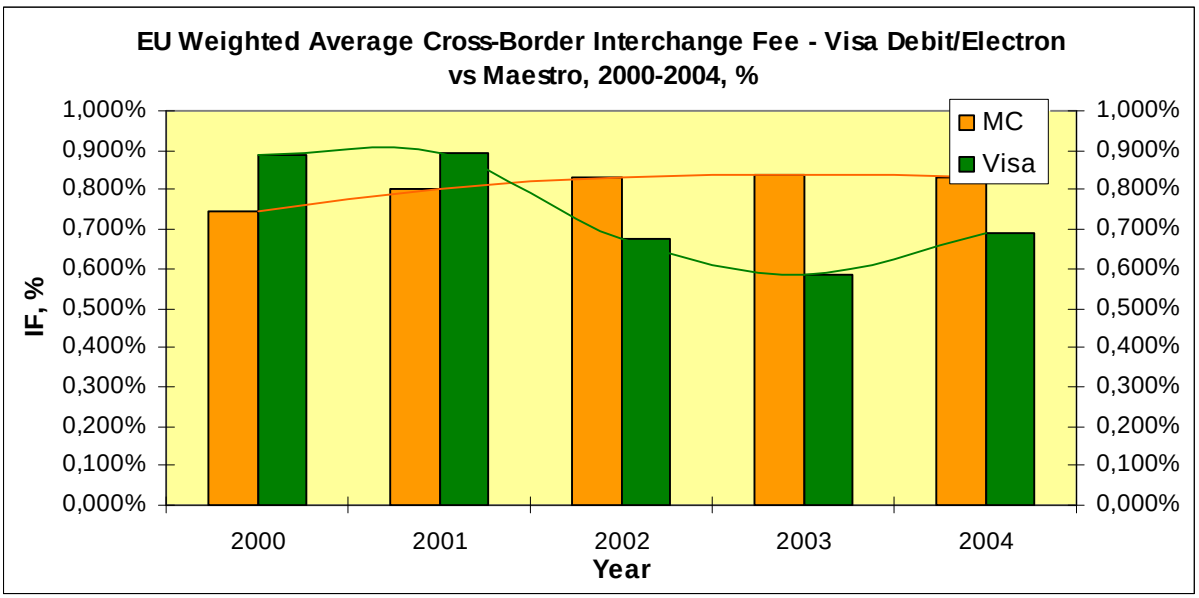
One of the most likely explanations for falling Visa rates is the adoption by the European Commission in 2002 of the Visa Decision[40]. This decision fixed the underlying cost components for consumer card interchange fees and obliged Visa to conduct an in-depth cost study to justify the level of each of the costs. Moreover, the Decision set an annual ceiling on the interchange fee rates for each subsequent year up to 2007. This appears to have had the effect of reducing Visa cross-border interchange rates. MasterCard cross-border rates remained unregulated, which allowed the network to keep interchange fees significantly above the rates of Visa.

[40] OJ Press Release of 24/07/2002, reference IP/02/1138.

b) Debit cards

Average cross-border fees across the EU for debit cards are shown below in Graph 5. [41]

Graph 5



The patterns observed in cross-border interchange fees for debit cards mimic to some extent the patterns observed in cross-border fees for credit cards. Over 2000-2001, the average weighted interchange fees paid for debit card transactions proved to be somewhat higher for Visa debit, whereas from 2002 Maestro cross-border rates started exceeding those of Visa debit. The comparison shows that:

Visa debit card interchange fee rates were rising up to 2002. However, the average fell significantly — by about 25% — following the 2002 Visa Decision. In 2004, however, Visa EU-25 weighted average interchange fees rose again somewhat, possibly due, among other things, to more extensive use of "more expensive" interchange fee tiers, i.e. higher turnovers in these tiers, with consequently a higher average fee level.

Maestro rates continued rising up to 2004, when there was a slight drop. **Over the whole period, MasterCard acquirers paid on average 12% higher interchange fees on debit cards than Visa acquirers.** Furthermore, due to the sharp fall in Visa cross-border debit interchange fees in 2002, the spread between the two networks' fees widened in 2002-2003. In 2004, however, due to slight drop in Maestro fees and a rise in Visa debit card fees, the gap somewhat narrowed.

Analysis of the fee structure for transactions with MC/Visa debit cards: Visa acquirers pay a fixed per-transaction fee, while MasterCard levies a percentage of the transaction value. It may happen that one fee mechanism can generate higher returns than another. A fee structure analysis shows that for an average transaction value (ATV) below 49 euros, the Visa fee mechanism generates higher interchange revenues than the MasterCard fee mechanism, while the converse is true for an ATV above 49 euros (see Annex 2). For actual transaction values,

[41] The level of the weighted average cross-border interchange fee charged for Maestro and Visa Electron transactions may be subject to an upward bias created by the level of interchange fee reported by a Danish acquirer. The Danish interchange fee was substantially higher than that in other countries. However, since this applies in an equal manner to both the MasterCard (Maestro) and Visa (Visa debit) networks, the relationship and perceived differences in the level of the weighted average cross-border interchange fees between the two networks still holds true. Furthermore, this does not affect the overall trend in fees across networks over the time period examined.

however, it appears that both fee mechanisms generate similar fee revenues, with Maestro slightly above Visa debit. This is shown below in Table 1.

Table 1

	2000	2001	2002	2003	2004
Maestro average transaction value	€ 49	€ 56	€ 51	€ 50	€ 50
Maestro rate (%)	0,55%	0,55%	0,55%	0,55%	0,55%
Maestro fee per transaction	€ 0,270	€ 0,308	€ 0,281	€ 0,275	€ 0,275
Visa debit fee per transaction	€ 0,27	€ 0,27	€ 0,27	€ 0,27	€ 0,27
Difference in fee	-€ 0,001	€ 0,038	€ 0,011	€ 0,005	€ 0,005

3.2 Level of interchange fees: domestic interchange fees for credit cards

3.2.1 Fee structure

MasterCard and Visa domestic interchange fees differ according to the method of processing and card types. Unlike cross-border interchange fees, specific rates for merchant segments are common for domestic interchange fees across the EU. This distinction according to merchant segment is most evident in two Member States, where member banks in both networks even have different interchange fees for individual merchants. Merchant-specific interchange fees are more common for Visa cards (in 24 of the EU-25 countries) than for MasterCard cards (in 10 of the EU-25 countries). Petrol stations and airlines regularly have specific rates.

3.2.2 Comparison of nominal fees for credit card transactions (MC/Visa)

The analysis of domestic interchange fees for MasterCard and Visa credit and charge cards shows that the fee levels tend to remain static over time. Country divergences as regards domestic interchange fees (nominal rates) in the MasterCard and Visa systems are considerable, both for credit and debit cards. Taking the minimum rates as a benchmark, the nominal rates of Visa debit card interchange fees in 2004 diverged across the EU by as much as 220%. Similarly, domestic interchange fees for Maestro cards diverged by 280% across the EU. The picture is similar for credit and charge cards. The level of domestic interchange fees for Visa cards diverged by as much as 323% across the EU and by 329% for MasterCard cards.

In most Central European countries, the nominal rates for MasterCard and Visa credit and debit cards are set at identical levels. In many of these countries, banks do not appear to have specific product features for individual card brands or distinguish between credit and debit fees.

As noted previously, domestic interchange fees in the MasterCard and Visa systems regularly distinguish between merchant segments.

Three important conclusions can be drawn from the comparison of MasterCard and Visa domestic interchange fee rates.

First, there are considerable differences between interchange fees from one merchant segment to another. Acquirers in the same country may pay roughly half the interchange fee for credit card payments at a petrol station than for a credit card payment to an airline.

Second, country-specific differences in a given merchant segment are considerable as well. For instance, Portuguese acquirers bear roughly 165% more interchange fee costs for a credit card transaction at a petrol station than their German counterparts.

Third, merchant-specific fees within one and the same country and the same merchant segment also differ to some extent between MasterCard and Visa.

Fourth, according to an industry expert, some large merchants in specific sectors (for example, the petrol and food sectors) may benefit from special interchange fee rebates. Thus, while the same interchange fee rate applies to all transactions of merchants in the same sector, some merchants may have part of the interchange fee retained by the acquirer to be later transferred back to the merchant, thus *de facto* reducing the actual merchant fee.

3.2.3 Comparison of weighted average fees for credit card transactions (MC/Visa)

a) EU-wide comparisons

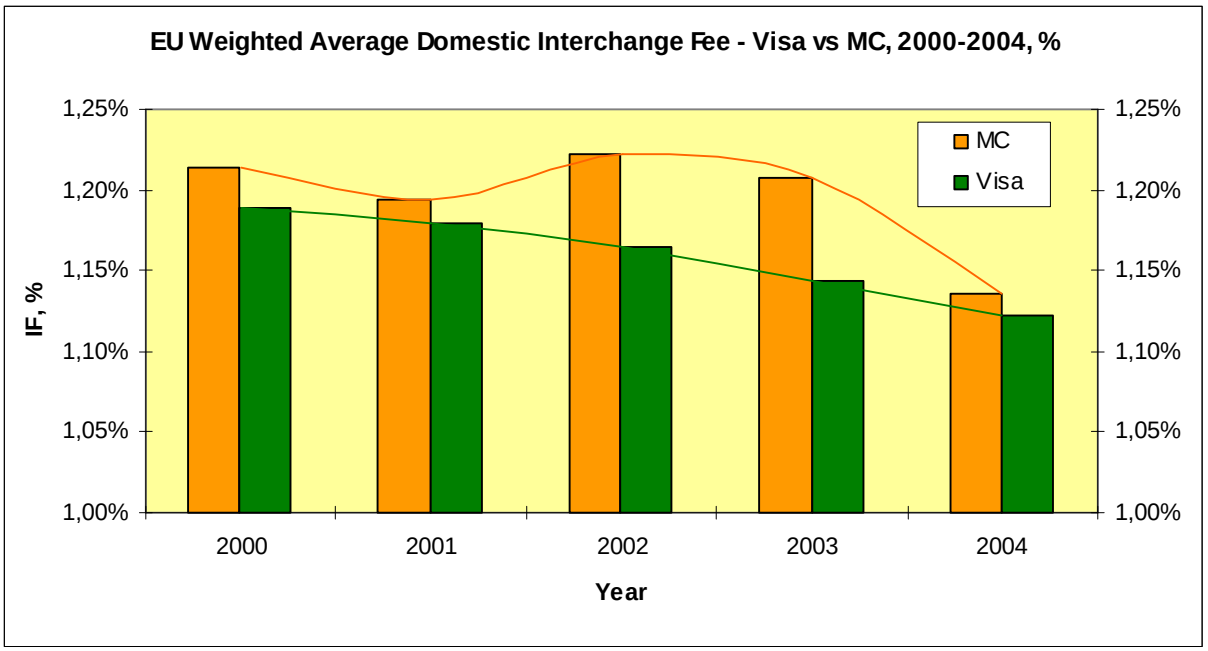
Interchange fees on credit card transactions have been compared for MasterCard and Visa, weighted by tiers of domestic turnovers and averaged out across the EU–25. The comparison has led to the following observations (see Graph 6[42]):

Since 2000, **Visa domestic weighted average interchange fees have fallen gradually**, while MasterCard interchange fees show no distinct trend, making it difficult to draw any precise conclusions. By 2004 (over the 5-year horizon), Visa domestic interchange fees had fallen by around 5.7%, while MasterCard fees fell by 6.5%

The weighted average domestic fee level was on average somewhat higher in the MasterCard network. Over 2000-2004, MasterCard charged on average 3% higher domestic interchange fees on credit cards than the Visa network.

Domestic interchange fees appeared to be converging up to 2001. In, 2002, they diverged significantly (by 5%), but from then on they started converging again, reaching very close values by 2004 with a reported difference of about 1%. While Visa domestic interchange fees were dropping throughout the whole period, the trend in MasterCard weighted average domestic interchange fees was unclear.

Graph 6

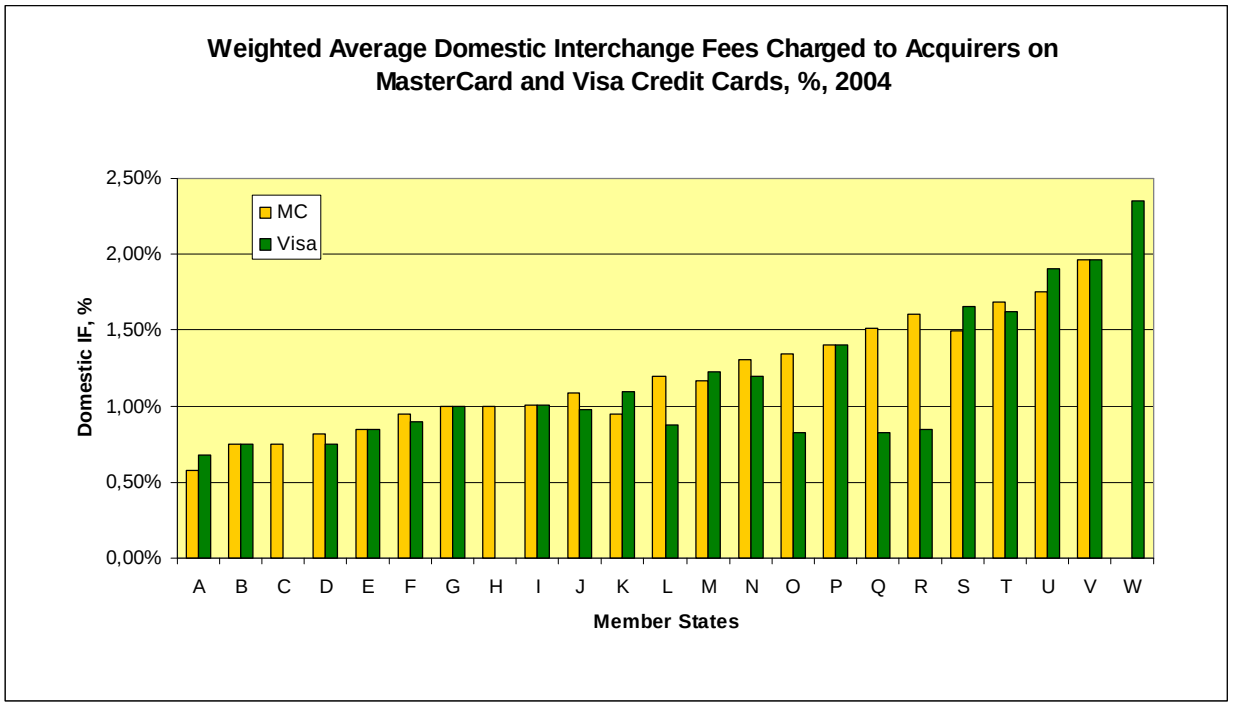


[42] In order to preserve consistency and comparability of numbers, the average weighted interchange fee has been calculated only for countries with a complete series of observations over the 2000-2004 period and also a full set of observations for both the MasterCard and Visa networks. Therefore, the average values presented in this graph may somewhat diverge from the average values calculated from the individual country levels in Graph 7 (year 2004 only), as the latter may include more country observations than were used for the calculation of the average levels in Graph 6.

b) Member State averages

The inquiry revealed significant variations in the weighted average of domestic interchange fees across the EU-25 Member States (see Graph 7[43]). The difference between the highest (above 1.5%) and the lowest weighted average fees for credit cards in 2004 was about 250%[44].

Graph 7



A separate time series analysis (2000-2004) revealed no significant variation in the weighted average domestic interchange fee in the majority of EU-25 countries in both the MasterCard and Visa networks. Germany, Spain, Ireland, Slovakia and the UK were among the countries with a moderate variation in the respective weighted average interchange fee levels. In Italy and Sweden, on the other hand, quite significant changes in the weighted domestic interchange fees were reported only for the MasterCard network and only for 2004.

In the majority of countries, however, the variation in domestic interchange fees between the MasterCard and Visa networks was quite limited, with only four countries (country 1, 2, 3, 4) having substantially higher interchange rates for MasterCard. Excluding these countries, the average variance between domestic interchange fees charged on credit cards in the MasterCard and Visa networks amounts to 6%.

A series of cross-checks was performed on the four outliers above with significantly differing weighted average domestic interchange fees in the MasterCard and Visa networks. The objective was to look for a persistent pattern between discrepancies in the fee levels and differences in the market presence[45] of the two networks in question. The result of these checks revealed that in two of these countries (1 and 2), where the weighted average domestic fee was significantly higher in the MasterCard network than in the Visa network, MasterCard had a

[43] The numbers given in this graph do not necessarily correspond to the officially announced domestic interchange fee level in a given country due to the existence of bilaterally agreed "on-us" fees. Thus, the levels depicted in the graph represent the weighted average levels of **all** fees applicable in a country (including the "on-us" fees).

[44] For some countries, the level of interchange fees is reported only for one network. However, this does not imply that the other network is not active in the respective geographical market.

[45] The data on market shares were calculated based on figures from the RBR Reports on Payment Cards, Western Europe 2006 and Central and Eastern Europe 2006.

much weaker market presence, measured in terms of the numbers of cards issued in the two markets. In country 1, MasterCard had about 4 times fewer cards issued than Visa, which is equivalent to 20% of the joint MasterCard-Visa issuing market[46]. In country 2, MasterCard again had a minority of less than 40% of the joint MasterCard-Visa market in terms of cards issued.

In country 3, on the other hand, the substantial difference seen between the interchange fees charged in the MasterCard and Visa networks seems not to correspond to the above logic. In fact, the MasterCard network not only has a much higher weighted average interchange fee, it also has more than 60% of all cards issued on the joint MasterCard-Visa issuing market.

Finally, similar checks were carried out on the acquiring side, by looking at market shares based on the number of outlets accepting cards, to see whether a lower interchange fee has been used by networks to increase the market penetration rate[47]. The results were inconclusive, however (i.e. no single pattern has been identified). In fact, in 95% of Member States, the MasterCard and Visa brands had almost equal acceptance (about 50% share of the joint network), which implied that most outlets (i.e. merchants) had opted for joint MasterCard-Visa acceptance instead of choosing a single network. The pattern was identical for countries with equal and very different individual MasterCard and Visa shares in terms of cards issued. The only exception was country 4, where MasterCard acceptance in outlets was almost three times higher than for Visa (in 2004: 75% versus 25%). At the same time, MasterCard had on average a higher interchange fee than Visa in Slovenia, although the difference was not substantial.

3.3 Level of interchange fees: domestic interchange fees for debit cards

This section surveys interchange fee levels in domestic debit card systems.

3.3.1 Not all domestic systems have interchange fees

It should first be noted that POS interchange fee agreements between banks in open payment card systems are not an intrinsic feature of these systems. The table below shows the EU countries where banks cooperate in payment card systems without charging one another interchange fees for POS transactions.

Table 2

	FIN	LX	DK	NL
Name	Pankkikortti	Bancomat	Dankort	PIN

46 The joint MasterCard-Visa issuing market does not include any market share held by other payment networks, such as Diners Club, Amex and JCB. Thus, the calculated market shares of MasterCard and Visa always add up to 100%, irrespective of the presence of other networks in the market. This approach is adopted because of network-specific characteristics, which imply that four-party networks such as MasterCard and Visa are intrinsically different from three-party networks (Diners Club, Amex and JCB) and therefore need to be analysed separately. While MasterCard and Visa clearly take notice of the pricing and market shares of the three-party networks, they still mostly compete with each other. Accordingly, the analysis often refers to the artificial "joint MasterCard-Visa market".

47 The data on the number of outlets accepting cards in each corresponding network were calculated based on figures from the RBR Reports on Payment Cards, Western Europe 2006 and Central and Eastern Europe 2006.

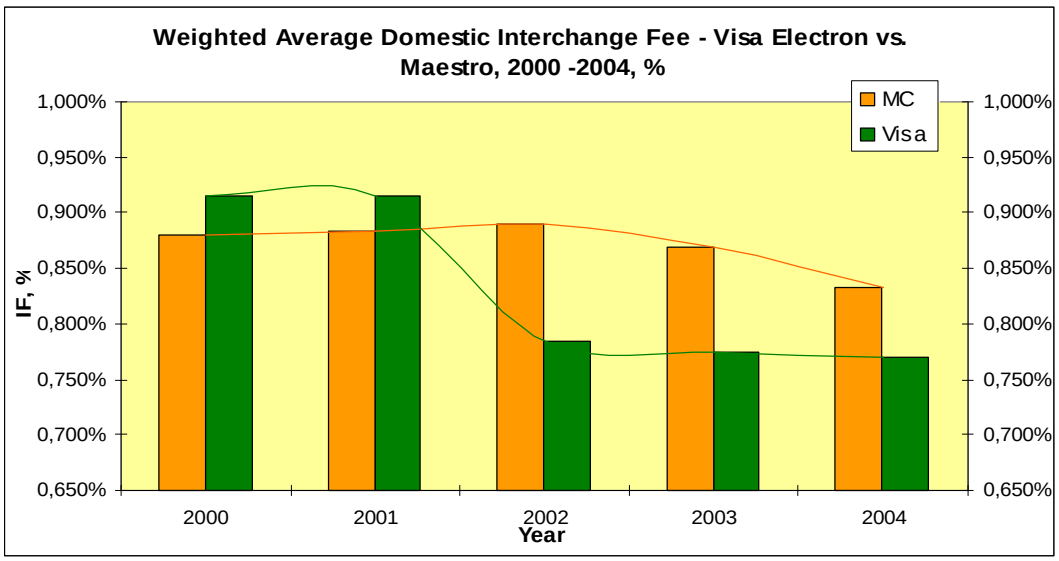
3.3.2 Comparison of weighted average fees (MC/Visa)

a) EU-wide comparisons

The analysis of the weighted average domestic interchange fee for debit card transactions across the EU-25[48] (see Graph 8) reveals that up to 2002 Visa seemed to have on average a higher interchange fee for debit cards than MasterCard. As of 2002, however, the weighted domestic interchange fee on Maestro transactions started to exceed the fee for Visa debit, the average difference over the following three years being about 11%. Interestingly, there were almost no changes in either the Maestro or the Visa debit weighted average domestic fee levels up to 2002, coincidentally the year of the Visa Decision, when suddenly the Visa debit average interchange fee fell sharply, thus leading to a difference of more than 13% between the weighted average debit interchange fees in the two networks. In contrast, the Maestro weighted average interchange fee started falling only as of 2003 and at a much more moderate rate.

As the graph shows, the general trend in both networks appears to be a falling one. Having said this, it needs to be added that over the whole 2000-2004 period Visa has seen a much more pronounced fall in the weighted average domestic debit interchange fee than MasterCard (16% vs 5%).

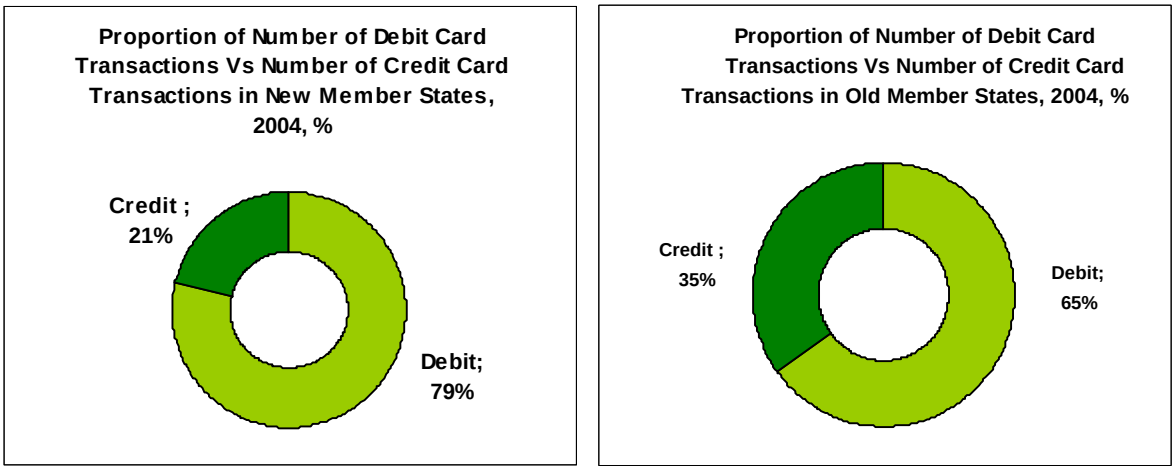
Graph 8



Domestic debit card transactions account for the largest and economically most significant share of card payments in Europe (see Graph 9). Historically, debit cards were often the first type of payment card to be introduced and hence customised debit card networks have evolved in a number of Member States. These networks still carry the majority of card transactions in many countries. In addition, MasterCard and Visa also offer domestic debit cards. These products do not have large market shares in all countries, but have been introduced as standard debit cards mainly in the new Member States of Eastern Europe, which had historically not built up national card networks.

[48] In order to ensure consistency and comparability of numbers, the average weighted interchange fee has been calculated only for countries with a complete series of observations over the 2000-2004 period and with a full set of observations for both Maestro and Visa debit. Therefore, the average values presented in this graph may somewhat diverge from the average values calculated from the individual country levels in Graph 10 (year 2004 only), as the latter may include more country observations than were used for the calculation of the average levels in Graph 8.

Graph 9



Source: RBR Report, 2006 (based on overall number of transaction volume).

In examining domestic debit card payments, this inquiry therefore looks at traditional domestic debit card systems as well as MasterCard and Visa debit card products.

b) Member State averages

It should first be noted that in some countries where Maestro and Visa debit branded cards are issued, these cards may not be relevant for domestic payments. Thus, domestic interchange fees may not be set for such cards. In some old Member States[49] with established domestic debit systems, domestic debit cards are co-branded with an international debit card logo (e.g. Maestro or Visa debit) to allow mostly for cross-border operability. Furthermore, it is often the case that when a domestic transaction occurs at a local point of sale, it is the domestic debit interchange fee rather than the Maestro or Visa debit domestic interchange fee rate which is paid by an acquirer to an issuer. This is because these transactions are processed under the domestic debit scheme. Where Maestro and Visa debit interchange fee rates are not relevant, these countries are excluded from the analysis.[50]

In other countries such as Sweden, there is no domestic debit card network, so Maestro and/or Visa debit interchange fees are of particular importance to the overall cost of card acquiring in the country. Similarly, a number of new Member States (e.g. Czech Republic, Estonia, and Latvia) have no national domestic debit network either, while in Hungary the share of cards issued under a domestic card network logo is negligible. For this reason, Maestro and/or Visa debit remain *de facto* the most widely used debit card brands in these countries.

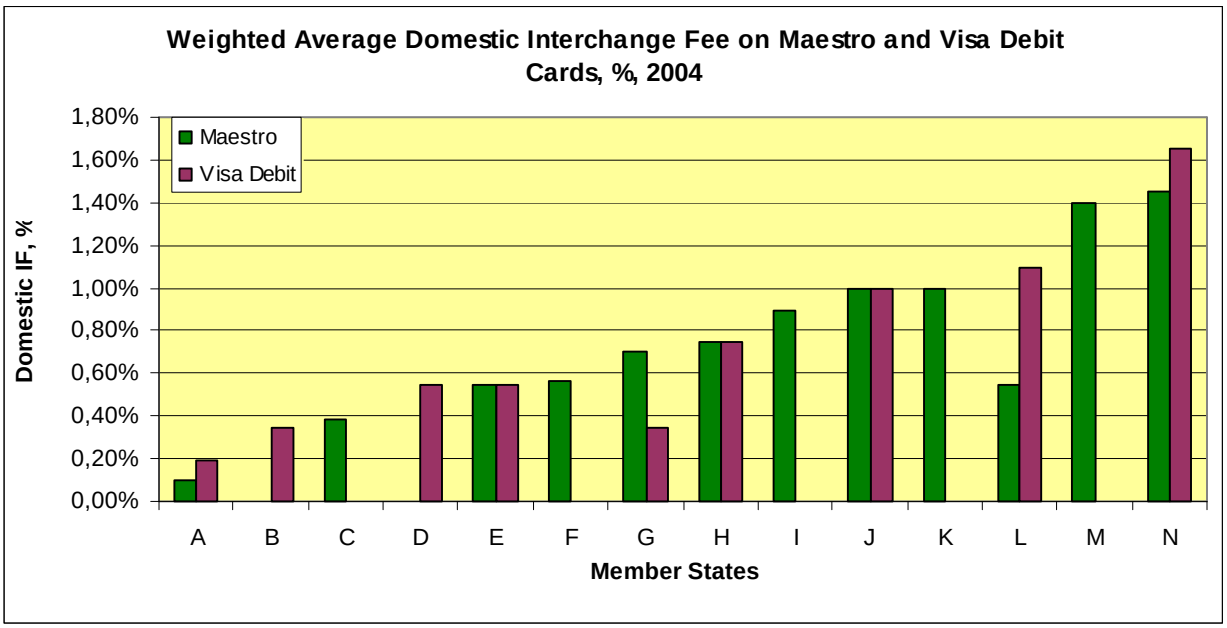
The results of the inquiry revealed significant variation between weighted average domestic interchange fees on debit cards in the two major international networks, i.e. MasterCard and Visa. The data for the weighted average interchange fees on domestic debit transactions in the two largest international networks are summarised in Graph 10[51]. The fees are ranked according to the maximum value in any of the two networks.

[49] For instance in the Netherlands (PIN domestic network) or Belgium (Bancontact domestic network).

[50] To provide a full picture, the analysis includes countries with insignificant (though non-zero) Maestro and Visa debit card shares, for example Italy and Denmark (less than 10% in terms of cards issued).

[51] The numbers reported in this graph do not necessarily correspond to the officially announced domestic interchange fee level in a given country due to existence of bilaterally agreed "on-us" fees. Thus, the levels depicted in the graph represent the weighted average levels of **all** fees applicable in a country (including the "on-us" fees).

Graph 10



The highest weighted average interchange fees on debit card transactions are observed in some of the new Member States. The difference between the highest and lowest weighted average domestic interchange fees on Maestro cards was 1.3 percentage points (around 1300% absolute difference), compared to 1.5 percentage points on Visa debit cards (about 800% absolute difference). If the lowest interchange fee value is excluded from the sample to avoid possible bias, the absolute difference becomes 300% in Maestro and 400% in Visa debit.

As with credit cards, debit card interchange fees are characterised by a somewhat low degree of inter-network variation. In fact, according to the available data, only in two countries were the fees for Visa debit cards significantly higher than the fees for Maestro, while in one country the situation was reversed.

3.3.3 Comparison of fee levels in domestic card networks (debit and credit cards)

While most credit card transactions in the EU are transactions with MasterCard or Visa branded payment cards, the bulk of domestic debit transactions run on domestic debit networks. Most domestic card networks offer debit cards only, with a few exceptions. These networks are country-specific, i.e. operate only within a single country, and for the most part lack interoperability among each other. In many countries, the networks were historically run by a consortium or an association of local banks, which sometimes jointly owned the network. The table below lists the major domestic payment cards issued in the EU-25 and the scheme owners.

Table 3

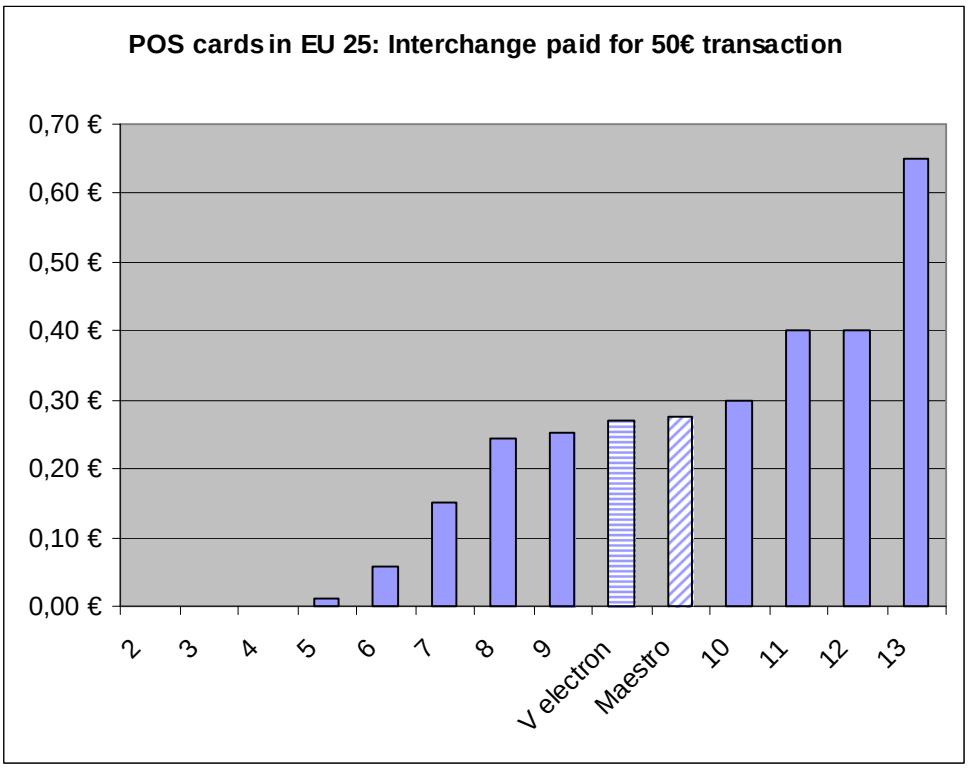
Main domestic POS payment cards (2004)		
Country	**Card brand**	**Scheme owner**
BE	Bancontact/Mr. Cash	Banksys
DE	EC Cash	Zentraler Kreditausschuss
FI	Pankkikortti	Finnish Bankers' Association
DK	Dankort	Dankort AS
FR	Carte Bleue	Groupement de Cartes Bancaires
NL	PIN	Currence
HU	GiroBancard	GiroBancard Ltd. (OTP Bank)
IT	Pagobancomat	Cogeban
IT	Moneta	Setefi Spa
LU	Bancomat	Groupement Bancomat
PT	Multibanco	SIBS

SI	Karanta	Ljubljanska bank, SKB bank and Abanka
SI	Activa	Banka koper, Nova KBM and Banka Celje
SI	BA	N/A
IE	Laser	Laser
LV	Unikarte	N/A

The interchange fee patterns in these domestic debit networks are quite different and diverse, both in terms of fee structure and level of fees. Some systems use flat-rate interchange fees while others use a percentage and some use a combination of both. However, in contrast to MasterCard and Visa, most national debit card systems do not use different interchange fee "tiers" distinguishing between types of card or types of transaction.

A comparison of nominal flat-rate fees, *ad valorem* fees and combined (i.e.: *ad valorem* and flat rate) fees necessitates a simulation. Two simulations are provided below for a small (€5) and a medium-sized (€50) transaction value. The value of €50 is a good proxy for an average debit card transaction in Europe.

Graph 11



When analysing the above graph, it is important to note that card brands 10, 11 and 13 have comparatively low domestic volumes. The other domestic payment cards 1 to 9 and 12 are the most important debit card in their respective countries.

It appears that the level of interchange fees for eight domestic debit cards in the EU-25 is below those for Maestro and Visa debit cards while four domestic debit cards are above (though three of these four cards are unimportant in terms of transaction volumes). Similar results emerge when a €5 transaction is used as the basis for comparison. However, it is notable that for small transactions payment cards with a flat fee are more expensive than cards with an *ad valorem* fee.

3.3.4. Preferential interchange fees in domestic card networks

A specific issue relevant for competition within the MasterCard and Visa systems is the co-existence of bilaterally and multilaterally agreed interchange fees. The former are often referred to in the industry as "on-us" fees. Strictly speaking, "on-us" transactions are transactions where one bank is both the issuer and the acquirer. However, in countries where an inter-bank association acquires, for instance, Maestro or MasterCard transactions, local banks that are co-shareholders of this inter-bank association may be able to offer lower fees to the association. This means that parties to these "on us" agreements can offer lower merchant fees and thereby prevent new competitors form entering a market.

An informal complainant alleged that that the structure and level of domestic interchange fees in the Visa system in Portugal were discriminating against foreign acquirers. The incumbent acquirer, UNICRE, could agree preferential "on us" interchange fees with domestic issuing banks while foreign acquirers could not obtain equally low fees and had to pay the higher fallback rates. UNICRE is co-owned by Portuguese issuing banks.

In Belgium, similar allegations have been raised against Bank Card Company, a joint venture of Belgian banks. It is claimed that after Citigroup entered the market, local banks and Bank Card Company agreed preferential rates while continuing to charge the higher fallback rate to Citigroup.

An informal complainant furthermore alleged that in Austria domestic issuers have agreed with the incumbent acquirer, Europay Austria, to set low interchange fees in specific cases for MasterCard (e.g.: petrol station interchange fees) and Maestro transactions (e.g.: food and retail interchange fees). Similar arrangements apply between Visa Austria and its shareholder banks. Europay Austria as well as Visa Austria are co-owned by Austrian issuing banks. The complainant pointed out that this co-existence of preferential ("on us") interchange fees and general fallback interchange fees created market entry barriers for foreign banks.

"On us" rates also appear to be used in Spain. Industry reports mentioned Spain as difficult to enter for central acquirers as they have to compete with banks that benefit from low "on us" interchange fee agreements. France would be difficult to enter for central acquirers for the same reason.

4. Conclusion and analysis

Interchange Fees – the facts

The divergence of interchange fees in national card payment systems is considerable. The structure of national interchange fees is also very heterogeneous, as some systems set flat interchange rates while others charge a percentage per card transaction or a combination of flat rates and a percentage.

Turning to Visa and MasterCard, the level of *domestic* interchange fees diverges considerably from one EU Member State to another, even though country-specific differences in these systems are less pronounced in relative terms than in the national card payment systems. In 2004, the nominal rates diverged more than 200% for debit cards and more than 300% for credit cards, and weighted averages diverged up to 250% across the EU for credit cards and up to 400% for debit cards. Within a single country, the relative difference between MasterCard and Visa fees is typically very limited, with the exception of three Member States. As to the structure of domestic interchange fees, it is interesting to note that both MasterCard and Visa have different levels of domestic interchange fees according to merchant segments. Visa banks have set merchant-specific rates in 24 out of 25 EU Member States and MasterCard banks in 10

out of 25. Most commonly, specific interchange fees are to be found in the petrol and airline sectors. In the same merchant segment and the same card system, the nominal level of domestic interchange fees diverges as much as 165% across the EU. The structure of domestic interchange fees also varies from one country to another. A transaction with the same card type and brand may be e.g. a flat rate in country A and a percentage in country B or a combination of both in country C. Visa and MasterCard sector-specific interchange fees for domestic payments typically diverge to some extent, with MasterCard fees typically above Visa's.

Interchange fees for *cross-border* payments with international *debit cards* diverge with regard to their *structure*. It is interesting to observe that one of the international systems uses a flat fee for debit cards while the other system uses a percentage. This has implications for the overall amount of interchange fees paid per card transaction, as a flat fee will yield higher revenues where transaction values are low while the opposite will be true if transaction values are high. Thus, if average transaction values with debit cards drop in the long run, Visa issuers would obtain higher revenues than MasterCard issuers due to the structure of their cross-border fees.

As to cross-border interchange fees, the fees for debit card transactions in the Visa system slightly exceeded those of MasterCard until 2001, when this trend reversed. Between 2001 and 2004, MasterCard weighted average cross-border interchange fees remained stable and significantly above the Visa cross-border interchange rate, which fell in the same time period. This trend is even more pronounced with cross-border interchange fees for credit cards.

Interchange Fees – analysis

In a POS system, agreements on interchange fees lead to a transfer of revenues from acquirers to issuers and thereby distort price competition between acquiring banks. Interchange fees also have an effect similar to a tax on each payment with a card at a merchant outlet. The Commission has in the past considered that multilaterally set interchange fees in the Visa system restrict competition between banks for providing services to cardholders and to merchants, as they largely determine the fees charged to both consumer groups. Visa interchange fees were allowed only after Visa committed itself to set interchange fees on the basis of objective costs incurred by issuers for providing concrete services to merchants and to allow member banks to disclose these fees to merchants (cf. the Commission's Visa Decision of 24 July 2002, OJ L 318/17 of 22.11.2002). In subsequent years, national competition authorities such as the UK Office of Fair Trading, the Spanish Tribunal for the Defence of Competition and the Italian Central Bank have concluded that interchange fee agreements infringe competition law, but that they could be allowed if the fees were set on the basis of costs incurred by issuing banks for providing card-related services.

The Commission's sector inquiry provides indications that interchange fees are not intrinsic to the operation of card payment systems, as several national systems operate without an interchange fee mechanism. The use of interchange fees may, however, serve several purposes. From a competition viewpoint, it would appear important to what extent interchange fees are *de facto* (also) used as tool to extract rents from merchants. In this context, some of the preliminary findings in this report, in particular those showing strong country divergences in interchange fees and between merchant segments, may provide indications that the setting of interchange fees could possibly be a matter of market power in some EU Member States.

Moreover, there are indications that the setting of interchange fees in the international systems may possibly have the object and/or effect of creating market entry barriers to competition between local and foreign member banks. Both MasterCard and Visa allow the parallel existence of multilaterally set ("fallback") and bilaterally set ("on us") interchange fees. While multilateral fees apply to all domestic payments in a given country (irrespective of the bank's

identity), bilaterally agreed fees only apply between the parties to the agreement. Therefore, in countries where local banks wish to set low interchange fees specifically for certain merchant segments (e.g.: food retail sector, petrol sector), they have a basic choice. They can either set these rates by multilateral decision in a local board or they can go through the more burdensome route of setting the same rates in several bilateral agreements between each issuer and each acquirer in a given country. Under the network rules of MasterCard and Visa, only in EU Member States where local banks set merchant-specific rates multilaterally in a local board are foreign banks able to benefit from such preferential rates. If, on the contrary, the same rates are set in a bundle of identical bilateral interchange fee agreements, the foreign bank pays higher fallback rates.

A comparison of the absolute levels of MasterCard and Visa *domestic interchange fees* suggests that the relatively high level of some merchant-specific rates as opposed to others may have historical reasons and/or may be a question of market power.

Turning to the analysis of *cross-border interchange fees*, the evolution of MasterCard and Visa fees between 2001 and 2004 raises the question why the weighted average of MasterCard cross-border interchange fees for credit cards increased from 2002 even though Visa's weighted average interchange fees for cross-border payments decreased from that year onwards. In other words, does inter-system competition between MasterCard and Visa act as a disciplining market force on bodies setting interchange fees in these networks? The development of MasterCard cross-border interchange fees would rather suggest that inter-system competition did not restrain MasterCard from maintaining higher cross-border interchange fees than those of Visa over more than three years (2002 to 2004). Market forces may therefore be insufficient to "penalise" card systems with relatively high interchange fees, at least as far as fees for cross-border payments are concerned.

V. Merchant Charges

In this chapter we will analyse the fees paid by merchants for accepting payment cards ("merchant service charges" or "merchant discount rates"). We will set out the commercial factors driving banks in setting merchant service charges, the way these fees are negotiated with merchants and the extent of "blending": a business practice of charging the same fees for different card brands. We will then benchmark average fee levels charged to small versus large merchants, both for credit and debit cards and in both a static and a dynamic analysis. We will furthermore analyse to what extent merchant service charges are lower in countries where regulators or national competition authorities have intervened in the setting of these fees.

1. Structure of merchant service charges

1.1 Description of merchant service charges

A merchant service charge (MSC) is the price that a merchant has to pay per transaction to the acquirer, which processes the merchant's transaction through the network and obtains the funds from the cardholder's bank (issuing bank). The transaction is considered to be executed when the transaction amount is debited from the consumer's account and, after deduction of the MSC, is credited to the merchant's account. Most of the cost of using the card is believed to be borne by the merchants[52] and thus, ultimately, by the consumers. There is rarely a difference between the price paid by consumers who use payment cards and that paid by other consumers who use alternative means of payment, such as cash (i.e. the rare practice of surcharging). Indeed, certain payment card networks have explicit rules which prohibit surcharging consumers who use payment cards (see Chapter XIII, section 2). More fundamentally, empirical studies[53] suggest that in practice merchants are reluctant to surcharge customers who use cards, even where this is permitted[54].

By charging the merchant, an acquiring bank is believed to pass on the cost of the interchange fee it pays to an issuing bank. It is widely believed that the interchange fee accounts for a substantial part of the merchant service charge. The remaining part is believed to cover other acquiring costs as well as a profit margin.

Some acquiring costs are not normally included in the MSC fee. For example, the majority of acquirers stated that, when leasing a terminal to the merchant, the charge for the lease typically does not constitute part of the MSC fee. A few acquirers claimed to charge terminal fees as a component of the MSC.

Different acquiring institutions may have different business or pricing policies. For example, some acquirers claim that they do not extract significant (if any) profit from their acquiring business and offer it as a supplementary service to existing clients. Others, on the contrary, see acquiring as a profitable activity and by running it together with issuing enjoy synergies and substantial profits (see Chapter VIII for a detailed profitability analysis of issuing

[52] For instance Guibourg and Segendorf, Do Prices Reflect Costs? A study of the price- and cost structure of retail payment services in the Swedish banking sector 2002, Sveriges Riksbank Working Paper Series No 172 October 2004.

[53] Cf market studies for the Commission (http://europa.eu.int/comm/competition/antitrust/cases/29373/studies/) and by the Office of Fair Trading, UK Payment Systems, An OFT market study of clearing systems and review of plastic card networks of May 2003. One of the reasons is that merchants fear their competitors will not start surcharging, which in turn might lead to a loss of customers and turnover. In other words, merchants face a "prisoner's dilemma", because they have to assess the potential reaction of their competitors. If all merchants start to surcharge, no loss of turnover has to be feared. However, no merchant can predict that his competitors will start surcharging. This deters merchants from surcharging even when it is permitted by a card system's rules.

[54] *Ibid.*

and acquiring). All this inevitably affects the way the MSC is negotiated between acquirers and merchants.

However, it should not be taken for granted that the MSC is always a negotiable fee. Across the EU-25, various acquirers tend to opt for different pricing methods, sometimes, for example, negotiating individually only with bigger clients.

1.2 Merchant service charges for different categories of merchants

1.2.1 Merchant service charges: small vs large merchants

Anecdotal evidence based on statements from some market players points to different prices for merchants of differing size. This evidence suggests that smaller merchants, i.e. SMEs, tend to get less favourable deals in terms of merchant service charges than larger merchants. This section, therefore, looks at the empirical evidence derived from the replies of the responding acquirers.

The following analysis is subject to certain limitations as it assesses solely the "size" parameter of a merchant. It does not take into account other merchant-specific characteristics such as, for example, the better risk rating associated typically with larger merchants, which, where of relevance for the analysis, may lead to somewhat biased results. This analysis is not a substitute for a more detailed econometric analysis of the factors affecting the level of MSC, conducted in a later section of this report, but is meant rather to provide an idea and indication of the level of the MSC for different types of merchants.

Furthermore, the very fact of having different pricing for smaller merchants versus larger merchants may not constitute "discriminatory" treatment in itself. It may be justified to some extent by the fact that larger merchants bring higher transaction volumes and therefore may significantly scale down the fixed costs. The lower price may therefore reflect the lower costs incurred with larger merchants.

What this analysis will be able to determine with confidence is (A) whether the prices for different sizes of merchants differ, leaving scope for either a possible discriminatory interpretation or for the argument that acquiring is a "scale" business, and (B) how the relative difference in pricing evolves over time across different payment card networks.

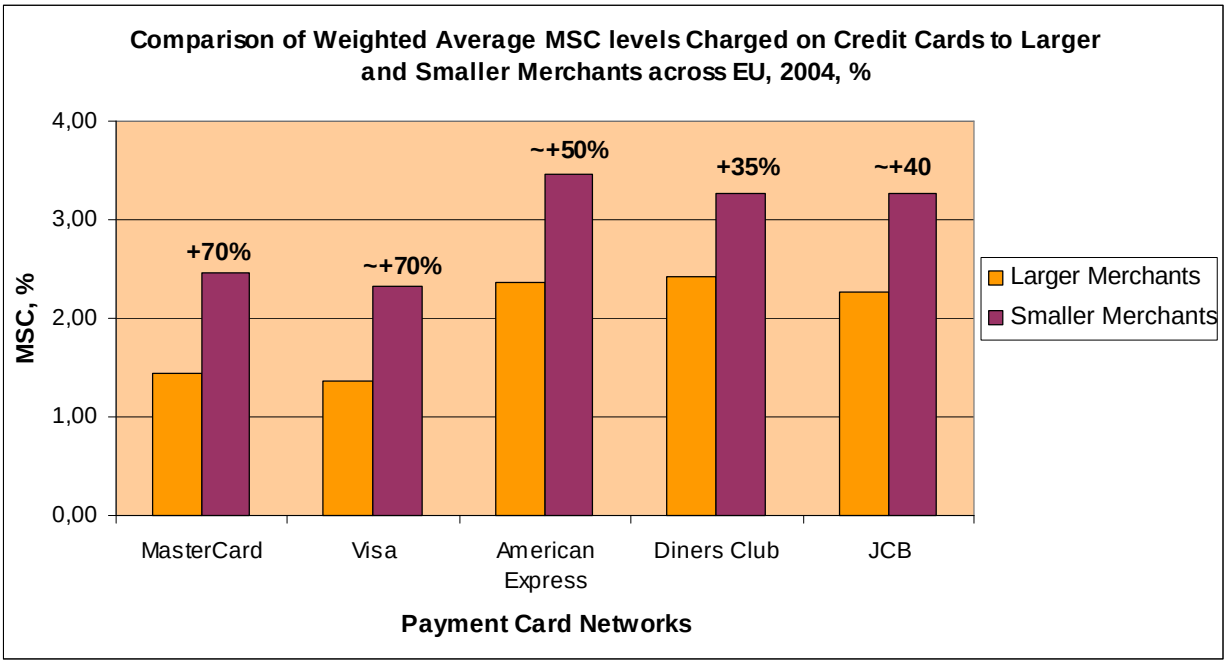
a) Credit cards

As the replies of the respondents indicate (see Graph 12), in 2004 all payment card networks charged on average much higher MSC rates for credit cards to smaller merchants (as compared to larger merchants). Whereas absolute MSC levels were higher in the Amex, Diners Club and JCB networks, the relative difference in MSC rates between the two groups of merchants ("smaller" and "larger" merchants) was considerably higher in the MasterCard and Visa networks (around 70% in both networks). If this difference is solely explained by the "scale" factor, it would imply that larger merchants incur half the fixed costs of smaller merchants[55]. Interestingly, in the Amex, Diners Club and JCB networks this relative difference in MSC levels was almost half that for MasterCard and Visa (35-50%)[56].

[55] It needs to be noted, however, that large merchants may also coincidentally represent sectors that may benefit from lower interchange fees, such as petrol and food retail chains, which consequently may explain the lower merchant service charges. For the analysis to be precise, the comparison of small and large merchants should be done within the same sector, i.e. for the same level of interchange. In the present analysis, however, due to data limitations, this factor has not been controlled for.

[56] This, among other things, may also be explained by the fact that, for instance, the Amex card differs significantly from the MasterCard or Visa card, and even more so in terms of market segment (Amex seems to offer mostly corporate cards to large international companies with travelling staff, e.g. T&E companies, while MasterCard and Visa have a much wider market coverage). Amex acquirers may therefore have market power when negotiating

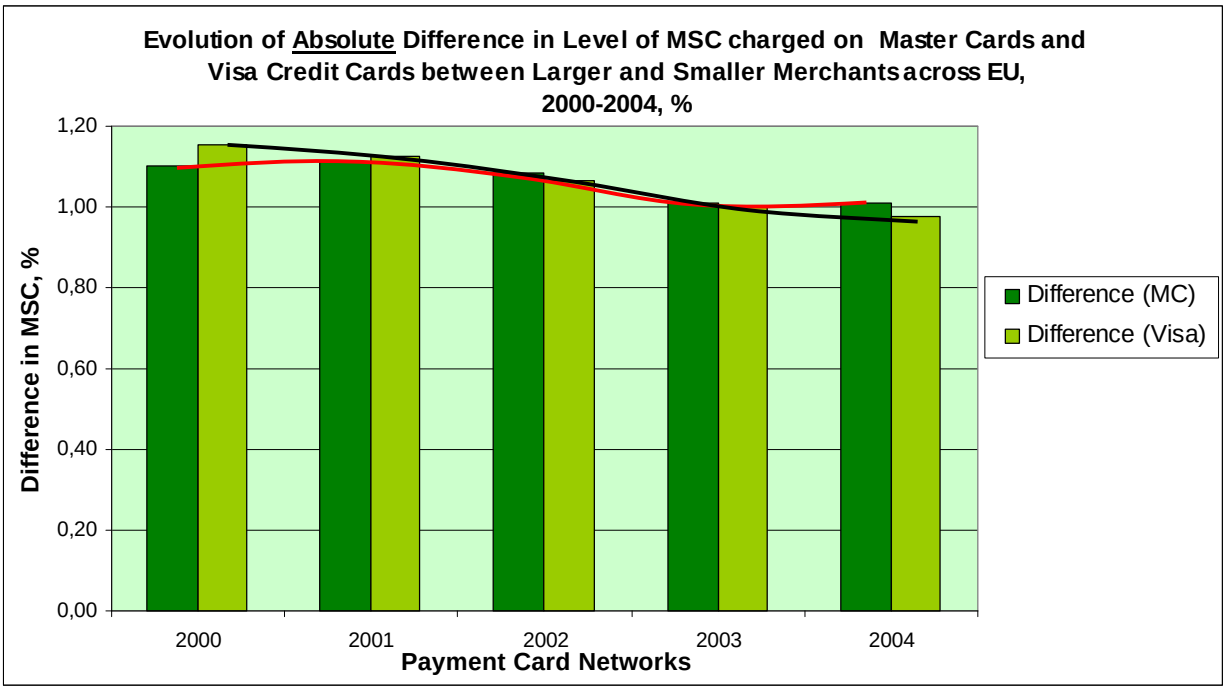
Graph 12



As regards the evolution of the difference in the level of MSC between the two groups of merchants, it can be noted that the absolute difference in MSC level (see Graph 13) fell significantly in both the MasterCard and Visa networks over the period 2000 – 2004 (with the exception of a rise for MasterCard in 2001). However, since this difference is absolute rather than relative, and given the drop in the overall MSC level in both networks over the period examined (see section 3 of this chapter), it may give a distorted picture (the absolute level of the MSC may be getting smaller along with the difference, thus providing no measurement of possible "discrimination" between the two groups of merchants). Therefore, instead of focusing on absolute differences, the analysis needs to look at the relative differences in order take into account possible changes in absolute MSC levels.

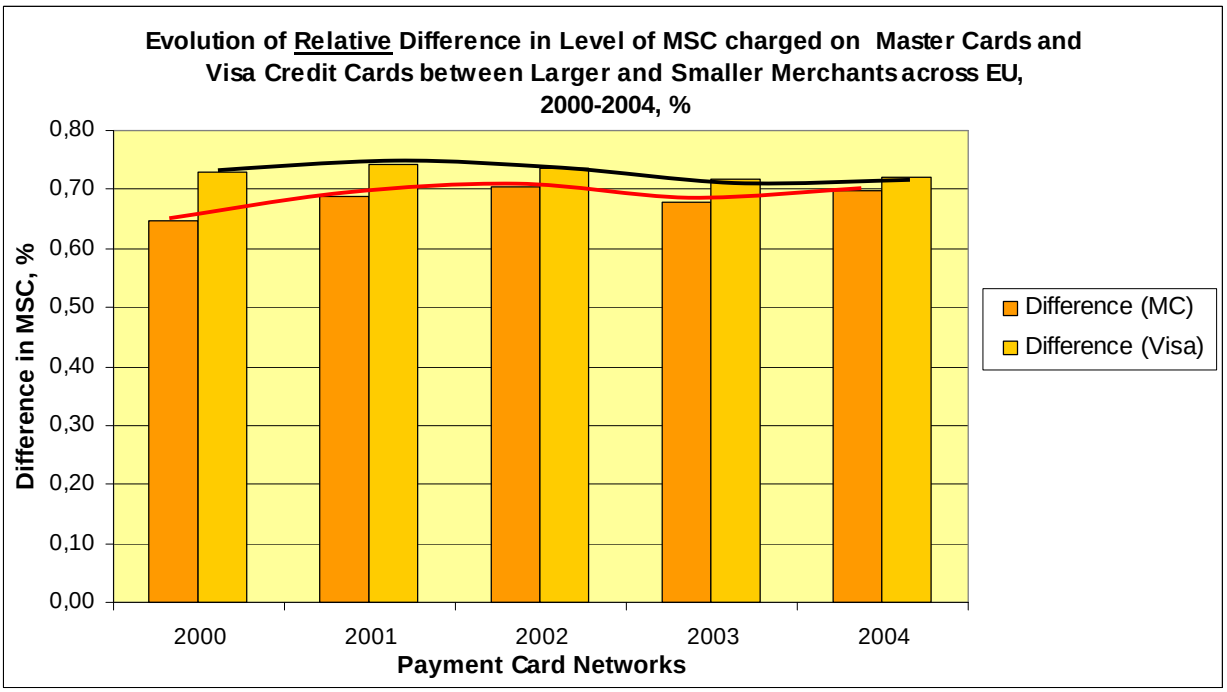
with merchants in a particular segment and may offer them less profitable deals than those offered by MasterCard and Visa acquirers. This may therefore result in relatively higher MSC rates charged to such merchants for Amex cards and therefore a lower price difference between small and large merchants in this network.

Graph 13



As predicted (see Graph 14), unlike the absolute differences in MSC levels between smaller and larger merchants, the relative differences did not change significantly over 2000-2004. On the contrary, and particularly in the Visa network, the difference between MSC levels charged to smaller and larger merchants stayed fairly flat throughout the whole period. In 2004 as compared to 2000, the relative MSC difference for Visa increased from 65% to 70%, while the relative difference for MasterCard slightly fell from 73% to 72%, suggesting that both the main international networks seem to be giving larger merchants similar relative discounts on MSC as compared to smaller merchants.

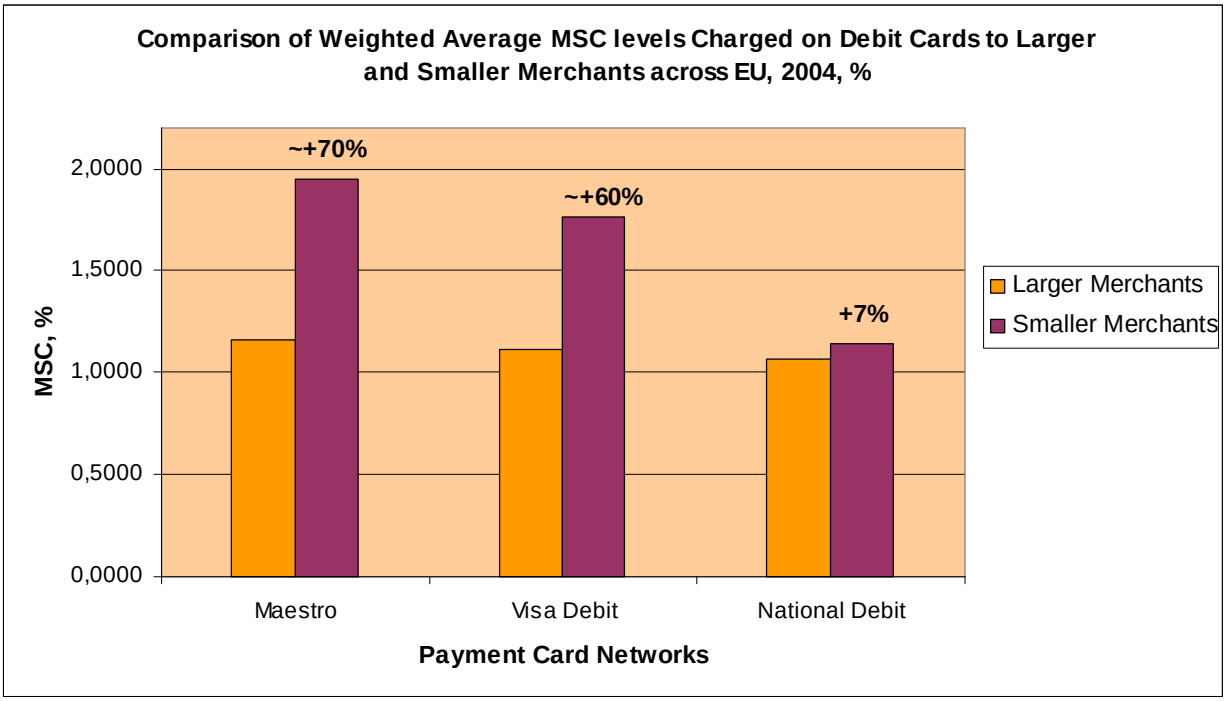
Graph 14



b) Debit Cards

When, however, the MSC levels charged to smaller and larger merchants for debit card transactions are analysed, it can be observed that smaller merchants receive much less favourable treatment from the largest international networks (MasterCard and Visa) in terms of fee rates. In the national debit card networks, which carry the bulk of payment card volumes (national debit transactions sometimes account for about 80% of the total domestic card transaction volume in a given country), smaller merchants on average have to pay only 7% higher MSC rates as compared to larger merchants. The difference in the fees charged to small and large merchants is about 10 times smaller in national debit networks than in the MasterCard and Visa networks (both for debit and credit cards)[57]. If the explanation for the different treatment of larger versus smaller merchants is only the scale factor, it should also apply to the national debit networks. As the difference in national debit networks is much smaller, however, it may be asked whether small merchants pay a "premium" for the use of the MasterCard and Visa networks and what justification there is for this. This question could usefully be studied in more detail.

Graph 15

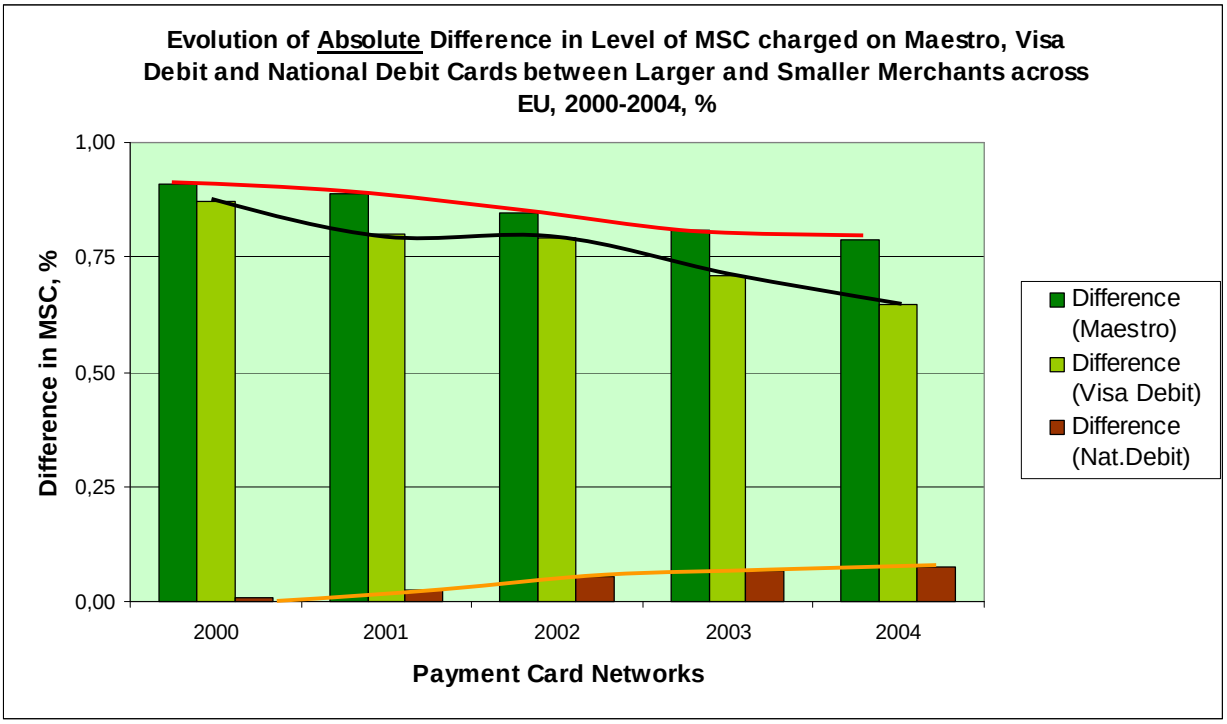


The evolution of absolute differences in MSC charged to different groups of merchants reveals that the difference in absolute terms is falling for both Maestro and Visa debit cards, while it is rising for national debit cards. As previously, an analysis of relative differences is

[57] These figures for the MSC in national (domestic) networks, however, do not cover other per-transaction fees that merchants in some countries may end up paying to local processors. These per-transaction processing fees may differ for small and large merchants, given their different transaction volumes and hence different "scale" factors. MasterCard and Visa MSC rates, however, seem to be "final" prices paid per transaction and therefore already include processing fees. Thus, once adjusted for the possible supplementary per-transaction processing fee, the price difference for small and large merchants in national networks may be somewhat greater.
Where the processing fee is already incorporated in the final MSC paid in national networks, the somewhat lower price difference for small and large merchants may also be explained by the fact that national processors tend to handle the entire volume of payments, including credit transfers and direct debits. This significantly raises the overall scale of the processing and therefore may, to some extent, weaken the incentive of processors (and therefore acquirers — if the fee is passed on through acquirers) to reward larger merchants for higher volumes. This therefore may, among other things, limit the price difference for larger and smaller merchants.

needed in order to determine, irrespective of the trend in the absolute MSC levels, whether the difference did actually change across time.

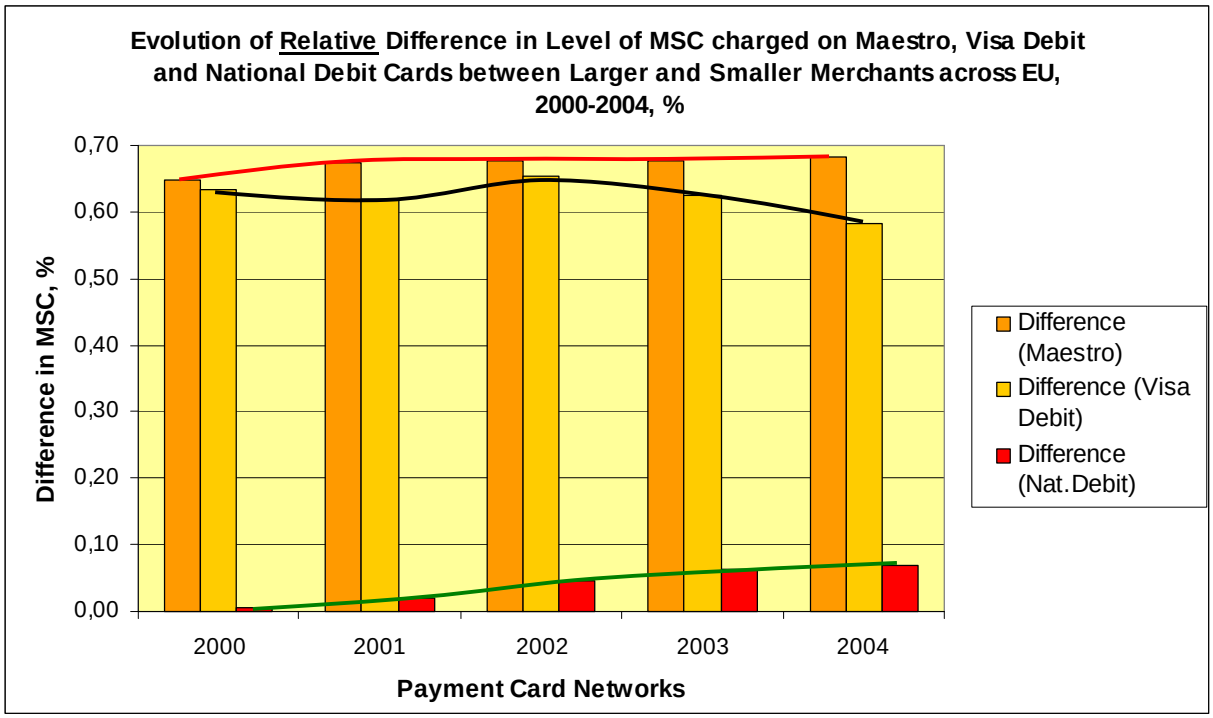
Graph 16



As with the relative differences for credit cards, the relative differences in MSC levels charged to small and large merchants for debit card transactions stayed rather flat over time, i.e. with no significant fluctuations (see Graph 17).

As noted above, while these differences are quite similar in the Maestro and Visa debit international networks, they are significantly lower in national debit networks (about 10 times lower in 2004).

Graph 17



1.2.2 Merchant service charges: various merchant sectors

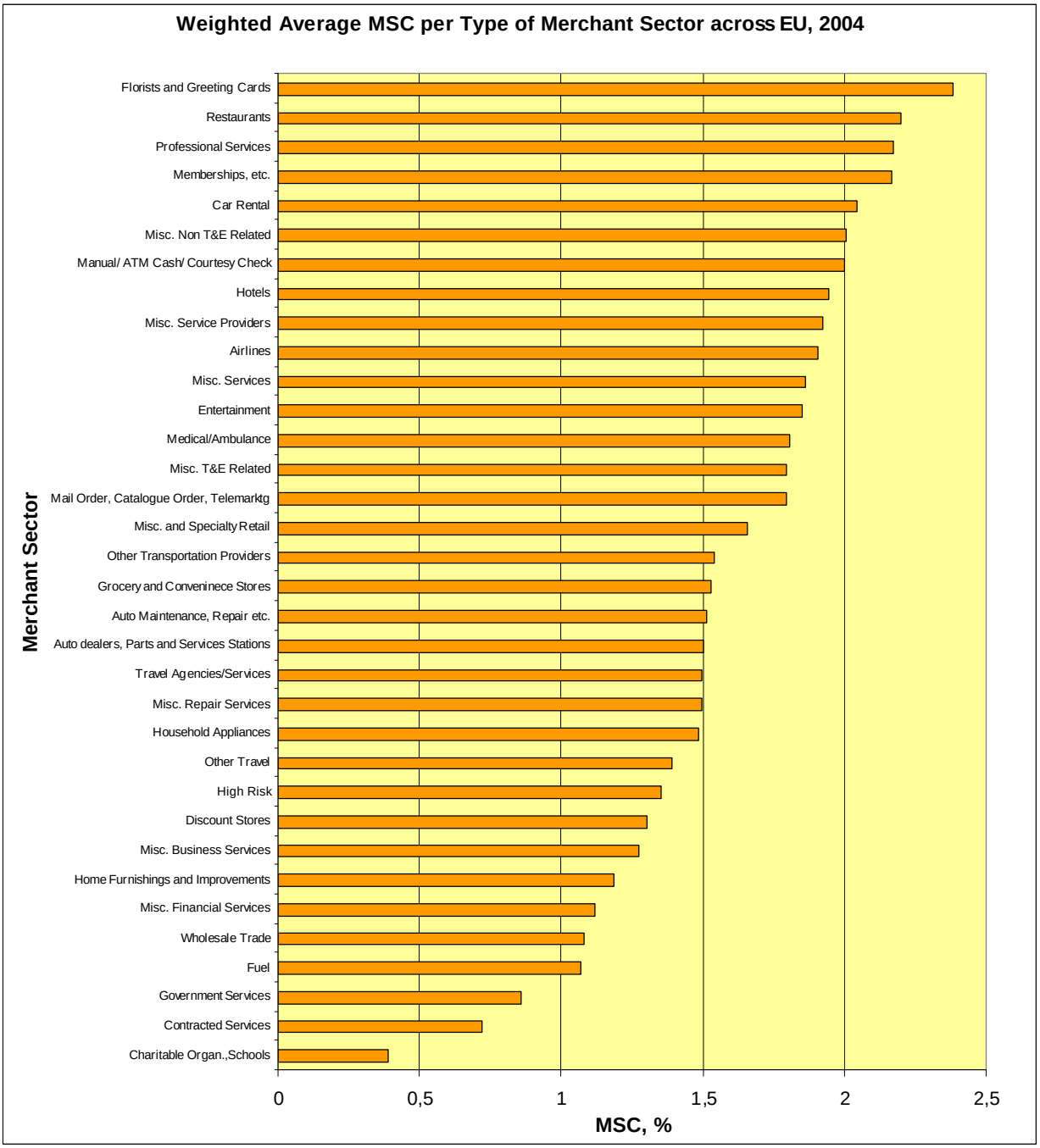
The data obtained from respondents indicate that there is great variation in the MSC levels charged across different sectors in the EU-25 (see Graph 18). The total weighted average MSC range across all networks and across all merchant sectors amounts to 2.5 percentage points, whereas the individual ranges in each separate network (MasterCard, Visa and National Debit) are within 2-3 percentage points.

Table 4

Max, Min and Range Weighted Average Values of MSC across Merchant Sectors and per Payment Card Network, 2004, %

	Master Card	Maestro	Visa	Visa Debit	National Debit
Max	3,31%	2,45%	2,95%	2,79%	3,00%
Min	0,35%	0,43%	0,87%	0,13%	0,29%
Range	2,97%	2,01%	2,08%	2,66%	2,71%

Graph 18



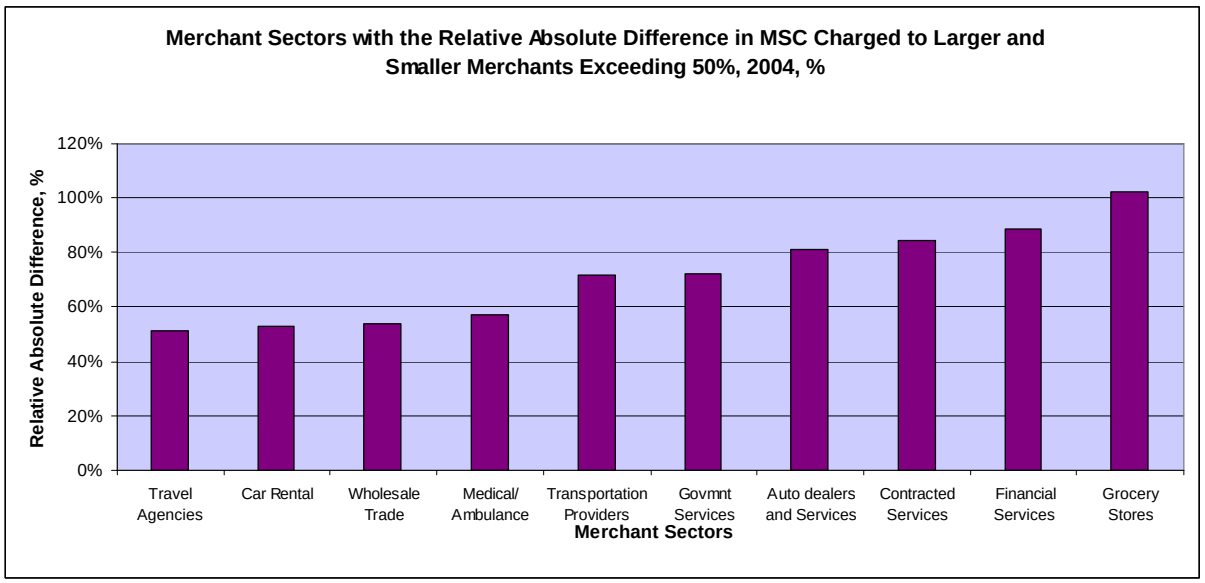
When analysed across all networks, the highest average MSCs are charged in such sectors as Car Rentals, Restaurants, Hotels, Memberships and Service Providers. The lowest average MSCs, on the other hand, are charged for example to Charitable Organisations and Schools, Fuel Companies, Governmental Services and Wholesale Trade Companies. Interestingly, when analysed per network, the results remain mostly the same. In most of the networks, high average MSC rates are charged to Restaurants and Memberships, while low rates are reported for Travel Companies and Wholesale Trade Companies. In contrast, in sectors such as Car Rentals, Auto Dealers, Financial Services and Mail and Catalogue Orders, merchants are charged on average widely varying levels of MSC depending on the network.

In order to get a complete picture, a separate sector analysis was performed for larger and smaller merchants, which interestingly revealed a number of discrepancies between the two groups. This analysis covered the two largest international networks (MasterCard and Visa) and

the national debit networks. While the range in the MSC charged in the various sectors was just slightly higher for larger merchants (2.4 versus 2.3 percentage points), the lists of sectors with the lowest and highest fees looked quite different. Thus, for larger merchants, the lowest average fees (below or close to 1%) were reported in Charitable Organisations, Financial Services, Fuel Companies and Providers of Transport, whereas for smaller merchants the lowest fees were in Contracted Services and Governmental Services. The sectors where the average MSC rates were the highest for larger merchants were Memberships, Hotels, Airlines and Contracted Services, while for smaller merchants the list was headed by Car Rentals, Restaurants, Grocery Stores and Travel Agencies.

As can be seen from Graph 19, which shows all the sectors where the average MSC charged to smaller and larger merchants differed by more than 50% in 2004, the relative difference in MSC is more than 80% in some sectors: Auto Dealers, Contracted Services, Financial Services and Grocery Stores,. This may indicate, among other things, that smaller merchants not only in general get less favourable price treatment than larger merchants, but that this price treatment can also differ by merchant sector.

Graph 19



1.3 Blended merchant service charges

The analysis of the replies from acquirers revealed that blending is a frequent phenomenon across the EU-25. Generally speaking, blending refers to the situation where the same MSC rate is offered to merchants accepting cards issued in two or more different networks. This implies that, facing the same price, the merchant is not inclined to prefer one of these networks, provided that other parameters such as, for example, market share are the same. This in turn can have direct implications for inter-network competition, as price competition essentially ceases to exist. The potential outcome of blending may be higher rates than the merchant needs to pay for acquiring services, given that there is no pressure driving down these charges through inter-network competition[58].

Furthermore, blending would tend to nullify the effect of "multihoming", which, according to some claims in the academic literature[59], is an important countervailing force to the market power of card payment networks. According to this theory, the very fact that many cardholders simultaneously own payment cards issued by competing networks leads to more intensified competition between the networks, assuming that merchants are sufficiently well informed. Thus, when choosing a network for card acceptance, the merchant, other things being equal (e.g. the degree of acceptance), would opt for the network with the lowest fees. When, however, the merchant faces a single blended rate for card transactions in both (or all) networks, he again becomes indifferent to the choice of network. Inter-network competition arising from multihoming is then cancelled out. As explained previously, this may directly harm merchants as it can lead to higher merchant service charges.

Blending seems to be quite widespread across the EU-25. According to respondents, blending usually occurs between MasterCard and Visa card products. In other words, blending occurs between networks with similar levels of interchange fees, and therefore with similar cost components for the MSC. Due to substantial differences in interchange fees, there is no blending between MSC rates charged on debit and credit cards. Furthermore, it seems to be the case that MasterCard and Visa MSC rates are never blended with MSCs for domestic networks, whether credit or debit networks.

For the purpose of the analysis, blending by domestic acquirers has been examined separately from blending by foreign subsidiaries[60]. The aim here is to see if there is any difference in the pricing models of domestic versus foreign market participants.

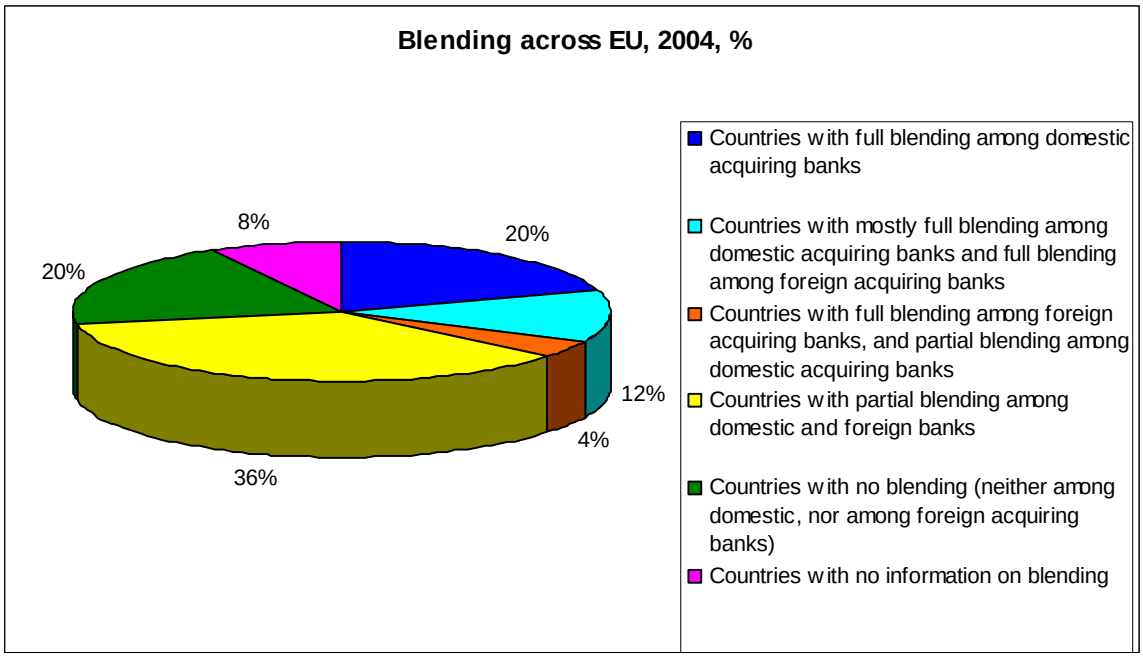
The data analysis shows (see Graph 20) that almost three in four Member States (72%) have some form of blending of MSC rates. Furthermore, one fifth (Belgium, Denmark, Hungary, Ireland, etc.) seem to have full blending in the market: all of the responding acquirers indicated that they blend MasterCard and Visa MSC rates to 100% of their client base.

[58] Blending may also be driven, among other things, by efficiency considerations, if the price difference charged in the two networks is negligible (as this reduces accounting and reporting requirements). On the other hand, there also needs to be some guarantee that once the acquiring cost difference (for example, the interchange fee difference) between transactions in the two networks becomes significant, this is passed on in timely fashion to the merchant in the form of an unblended merchant fee. As blending may create a "locked in vicious circle" effect, it may therefore still need to be analysed from a competition perspective.

[59] Rochet and Tirole (2004, op. cit.), Evans and Schmalensee (2005, op. cit.), see Chapter II on the Economics of the Payment Cards Industry.

[60] Foreign subsidiaries, as opposed to purely domestic acquirers, are financial institutions that are involved in domestic acquiring activity but are owned by foreign financial groups or other non-domestic institutions, which have established their commercial presence in a given local market by opening a subsidiary (i.e. "foreign subsidiary").

Graph 20



In three member states, Spain, Sweden and Malta, the majority of domestic acquirers and all foreign subsidiaries reported full blending. In Germany, all foreign subsidiaries reported full blending, while the majority of domestic acquirers reported no MSC blending to large merchants (top 25%) and full blending to small and medium-sized merchants (bottom 25%). In nine countries (Czech Republic, Estonia, Greece, Italy, Latvia, Netherlands, Poland, Slovakia and the UK), domestic and foreign acquirers reported, to some extent, partial blending.

In some of these countries, particular groups of merchants are treated differently. Thus in the UK, Spain and Italy, some domestic acquirers do not blend MSC rates to large merchants, but blend MSCs for more than 80% of their SME clientele. This may be perceived as a comparative disadvantage for small merchants, who do not benefit from price competition to the same extent as big players.

In contrast, Dutch and Slovak acquirers reported that they practiced blending less frequently for smaller merchants than for larger ones.

The replies of the respondents reveal that there is for the most part (in 80% of countries) no single policy for blending within a Member State. Thus, in the same country (e.g. Spain, Italy and UK), there can be as many as three different patterns of blending: acquirers who practice no blending at all (A), acquirers that practice partial blending for specific groups of merchants (B), and finally acquirers that offer blended rates to 100% of their client base (C).

Interestingly, a separate analysis of large multinational banks with foreign subsidiaries across the EU-25 showed that these banks either have an identical blending pattern across all EU-25 countries (A), or, instead, have quite varying strategies in each country of acquiring (B). In the latter case, they for the most part try to replicate the prevailing blending pattern of domestic banks (going for no blending when domestic banks opt to have none, or instead offering full blending when the majority of domestic banks choose to have this).

2. Countries with no merchant service charges or highly regulated merchant service charges

As stated previously, acquiring institutions are believed to use MSCs mainly in order to pass on to merchants the cost of the interchange fee they pay to issuing institutions for each card transaction. It is also alleged by most market players that interchange fee payments account for the substantial bulk of total acquiring costs.

However, in Chapter V on Interchange Fees, it is noted that some domestic debit networks can exist without an interchange fee mechanism while nonetheless securing sufficient transaction volumes and wide card acceptance (e.g: Netherlands, Finland, and Denmark).

Accordingly, to ensure an exhaustive MSC analysis, it would be interesting to see whether acquirers in the countries with no interchange fee mechanism still charge an MSC fee to merchants. In this case, this fee does not recoup the interchange fee costs but rather serves as a means to cover the minor residual or "other" acquiring costs[61] as well as to extract rents from the payment card mechanism.

The reported data show that only one of the three EU-25 Member States with no interchange fee mechanism for domestic debit networks in 2004 had no MSC fee, namely Denmark. In the Netherlands and Finland, acquirers did charge merchants an MSC, albeit at a much lower rate than in countries with an interchange fee mechanism for national debit schemes (e.g. Portugal, Italy, etc.). According to the available data, Finland had the lower MSC levels of the two.

Denmark, on the other hand, is a Member State with a highly regulated payment card sector. Current national law prohibits acquirers from charging any *ad valorem* merchant service fee for card acceptance in the domestic debit network (Dankort), so there is therefore an ex-officio zero-fee cap. As most of the market players indicate, there was significant pressure from the industry to have this regulation lifted (at least partially) to allow for some MSC. This led to the introduction of a positive MSC in January 2005, which however has since been abolished again (March 2005)[62].

3. Levels of merchant service charges

3.1 Credit cards (MC/Visa)

3.1.1 EU-25 comparison

As the results of the inquiry show (see Graph 21[63]), over the period from 2000 to 2004 weighted average MSC rates on credit card transactions gradually fell across the EU-25 in all international payment card networks, i.e. MasterCard, Visa, Diners Club, American Express and JCB. It is also clear from the results that the level of the MasterCard and Visa weighted average MSC charged on credit cards was much lower than the corresponding level charged in Amex, Diners Club and JCB. Over the whole period, the lowest weighted average MSC fee was charged in the Visa network (average of 1.8%), while the highest was seen with American Express (average of 3.14%).

[61] Based on information from market players, "other acquiring costs" are believed to constitute only a minor portion of acquiring costs.

[62] The MSC has been replaced by a fixed annual fee paid by a merchant to an acquirer.

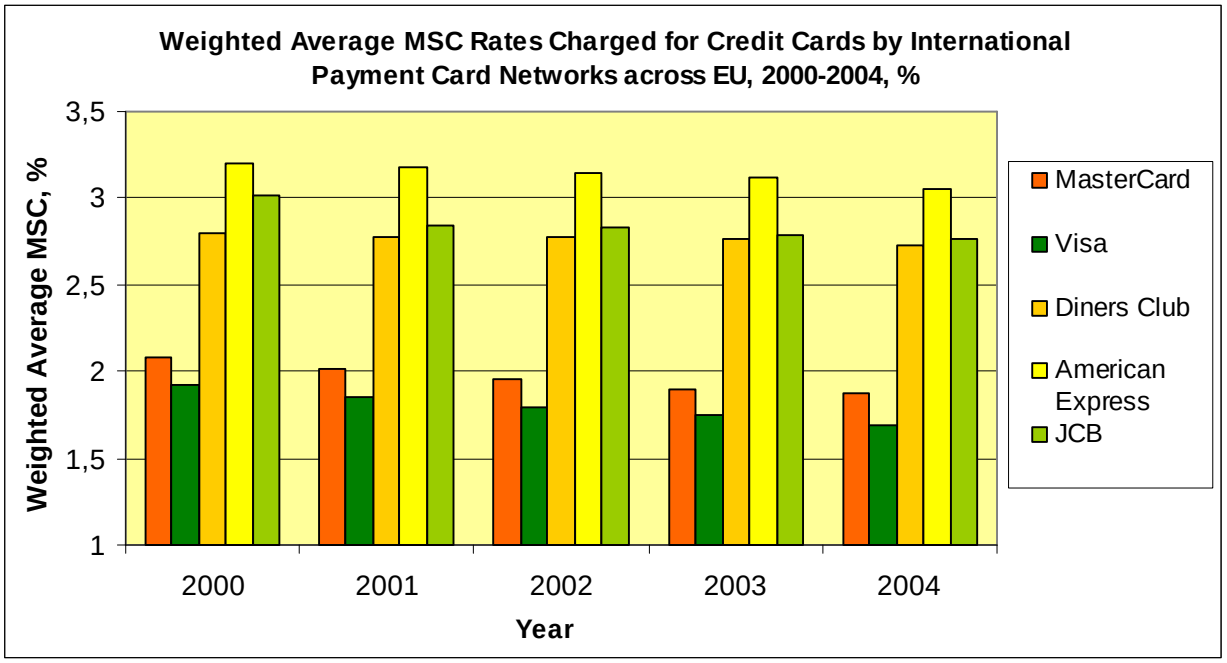
[63] The level of the average MSC on MasterCard and Visa credit transactions presented in this graph may somewhat diverge from the average MSC value calculated from individual country levels in Graph 22 (year 2004 only), as the latter may include more country observations than were used for the calculation of the average levels in the time series of Graph 21 (since it included only available observations, while from some countries no complete time series for MSC levels were reported by responding acquirers).

Over the 2000-2004 period, the weighted average MSC rate in the Visa system was on average 9% lower than the corresponding MasterCard rate, the difference growing each year.

Interestingly, when trends in weighted average domestic interchange fees charged on MasterCard and Visa and the corresponding weighted average MSC levels are compared, it may be seen that both trends are falling on average. Given that, as noted above, the interchange fee may account for a substantial part of the MSC (for details, see a subsequent section of the report), such similarities in trend may be expected.

There is, however, a slight mismatch in trends as far as MasterCard rates are concerned. Thus in 2002, the MasterCard weighted average domestic interchange fee rose by about 2.4%, whereas the corresponding MasterCard MSC level did not increase. This phenomenon has not been further examined, but one possible explanation among others could be that prices are sticky.

Graph 21

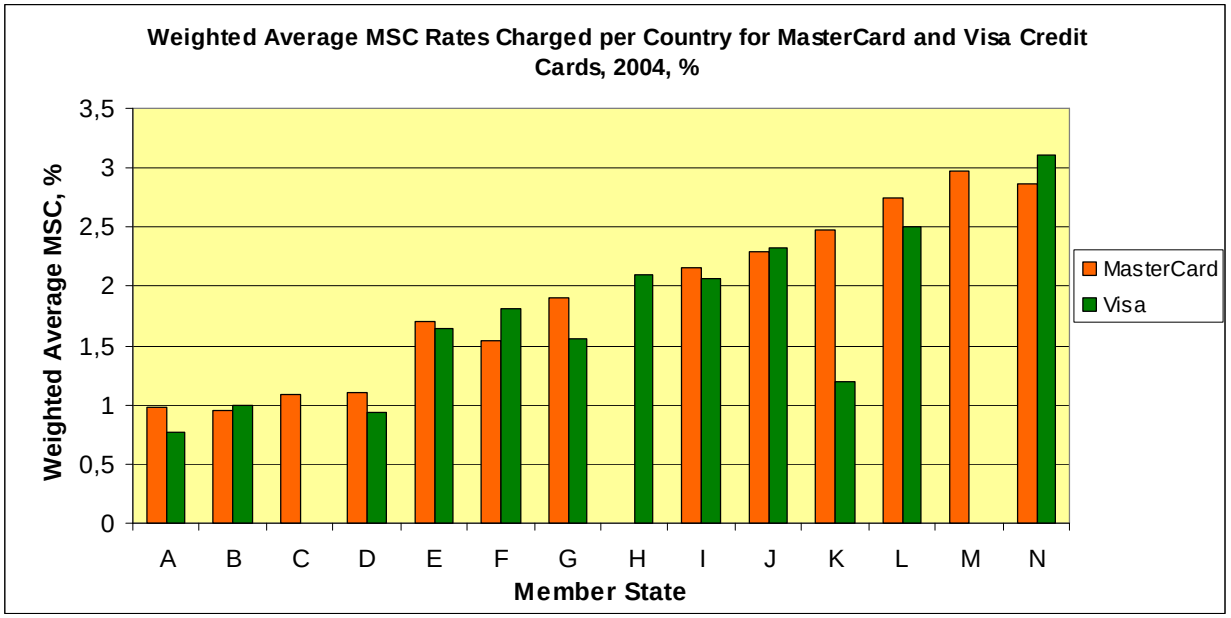


3.1.2 Country analysis

The country-specific analysis of the weighted average MSC credit card rates (see Graph 22) revealed a substantial variation in MSC rates across the Member States. In the Visa network, the fees varied from a low of 0.77% up to 3.10%, the difference being around 300%. In the MasterCard network, the lowest weighted average MSC was reported to be 0.95%, while the highest was 2.98%, a difference of more than 200%.

Despite some exceptions, most of the countries with relatively high MSC rates for one of the two main international networks had quite high rates for the other one. In general, the MSC levels in the two networks were quite similar within one country for most EU-25 Member States, with an average absolute difference, adjusting for the outlier, of about 11%. In the country outlier, on the other hand, the difference between the weighted average MasterCard and Visa MSC rates was reported to be more than 100%. Not surprisingly, no acquirers in this country reported blending of MasterCard and Visa MSC rates to their merchants.

Graph 22



3.2 Debit cards

3.2.1 EU-25 comparison

As with the trend in the weighted average MSC charged to merchants on credit card transactions, the weighted average MSC levels across all debit card payment networks decreased over the 2000-2004 period (see Graph 23[64]).

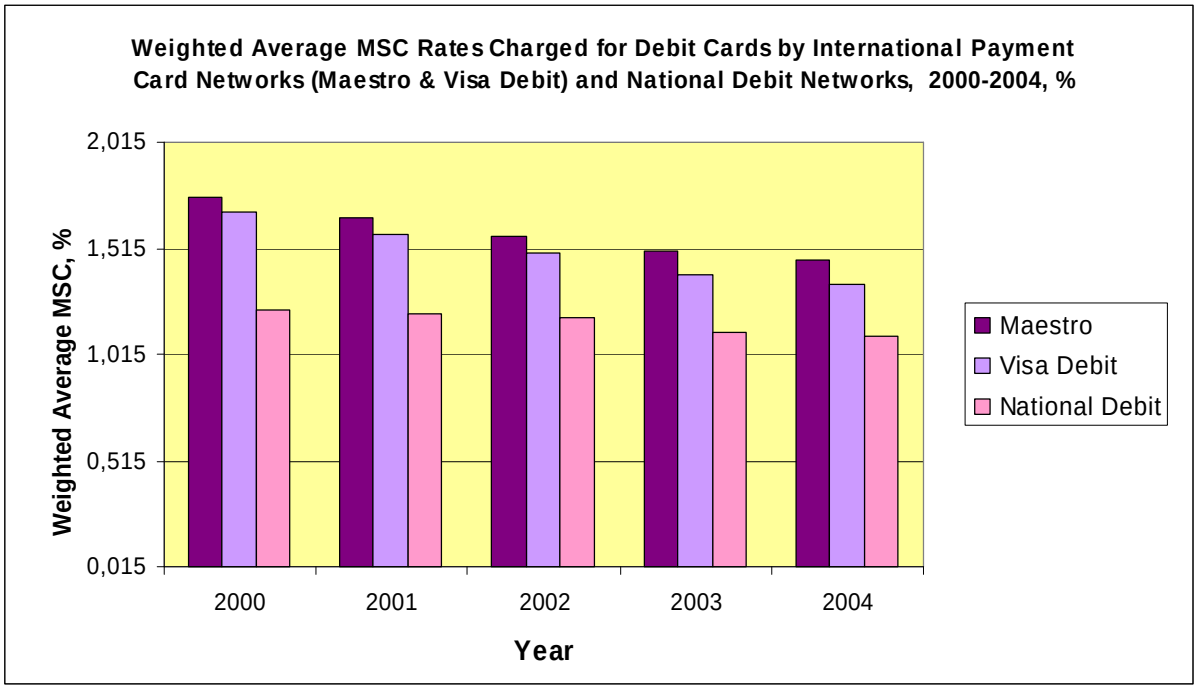
The lowest average MSC level was reported in national debit networks, the highest for Maestro cards (MasterCard network) (1.17% vs 1.60%).

Across the EU-25 and over the 2000-2004 period, the weighted average MSC rate charged in national debit networks was on average 30% lower than the corresponding Visa debit MSC rate, and almost 40% lower than the corresponding Maestro MSC rate. In contrast, the average difference between the weighted average MSC rates charged on Maestro and Visa debit transactions was quite limited and amounted to only about 6%, which is even lower than the corresponding difference between the weighted average MSC rates charged on credit cards by the two networks. This may, among other things, explain the use of blended Maestro/Visa debit and MasterCard/Visa MSC rates in some of the EU-25 Member States.

Finally, as with other debit networks, the trend in weighted average domestic debit MSC levels also fell, though to a lesser degree than with the Maestro and Visa debit networks (10% decrease over 5 years as compared to 17% and 20% for Maestro and Visa debit, respectively).

[64] The level of the average MSC on Maestro and Visa Debit transactions as presented in this graph may somewhat diverge from the average MSC value calculated from individual country levels in Graph 24 (year 2004 only), as the latter may include more country observations than were used for the calculation of the average levels in the time series of Graph 23 (since it included only available observations, while from some countries no complete time series for MSC levels were reported by responding acquirers).

Graph 23



3.2.2 Country analysis

a) Maestro and Visa Debit

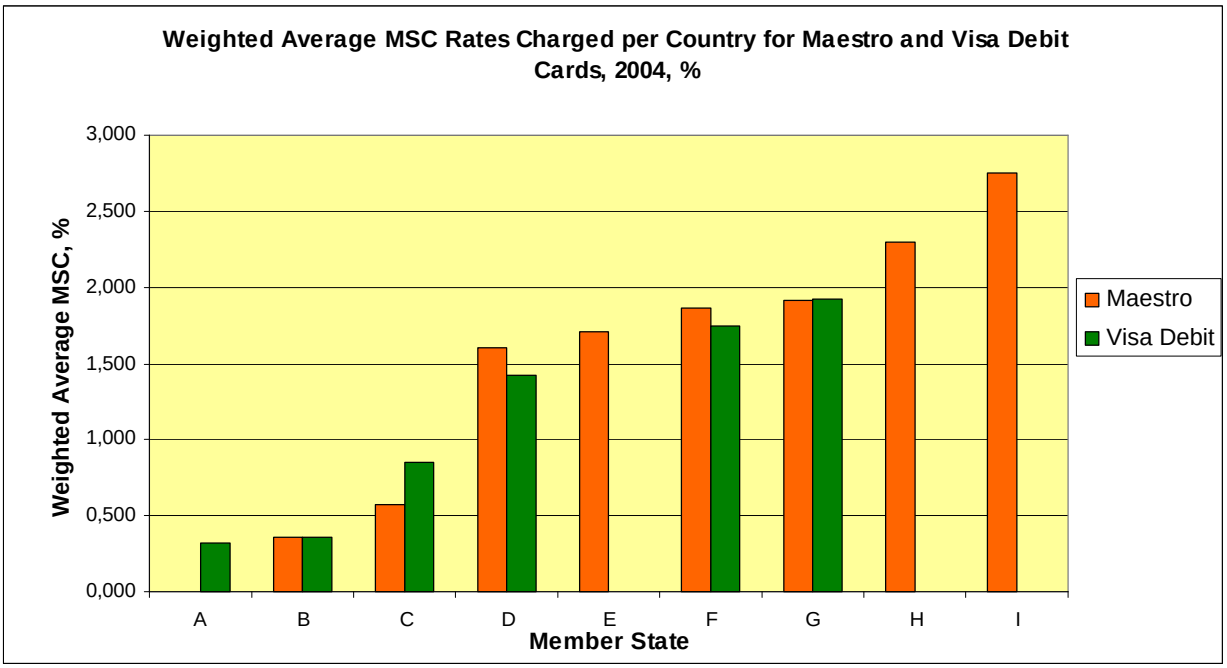
As with weighted average MSC levels on credit cards, the weighted average MSC charged on debit cards (see Graph 24) showed considerable variation across the Member States. Here, the analysis looked only at countries where domestic Maestro and Visa debit transactions were possible and/or relevant. Countries with Maestro or Visa-Electron co-branded debit cards, where in fact the transactions are processed in domestic debit networks rather than in either of the two international debit networks, as is the case for example in Belgium and Netherlands, were omitted from the analysis. Moreover, it needs to be noted that due to data limitations only a few countries were included in the analysis.

According to the data, the weighted average MSC fees in the Visa network varied from a low of 0.32% up to roughly 1.9%, the difference being around 500%. In the MasterCard network, the lowest weighted average MSC was reported to be 0.36%[65], while the highest was above 2%, which is 6.5 times higher. In general, the variation in weighted average MSC rates charged on debit cards was higher than the variation in MSC levels for credit cards.

As in the credit card analysis, the analysis of MSC levels charged on debit cards revealed on average similar MSC levels across the two largest international networks, with one country being an outlier (about 50% difference). Accordingly, while the average absolute difference between Maestro and Visa debit weighted average MSC levels, without adjusting for the outlier, amounted to 13%, with the corresponding adjustment, it came to only about 5%.

[65] For some countries, no cross-reference to Visa levels was possible, as the set of countries with available MSC levels for the two networks differed somewhat in each case. Generally speaking, the maxima and minima found in this analysis should be treated as "local" rather than "global", given that no entire set of data was available. Nonetheless, the variation noted will, if anything, be increased by adding countries to the analysis.

Graph 24



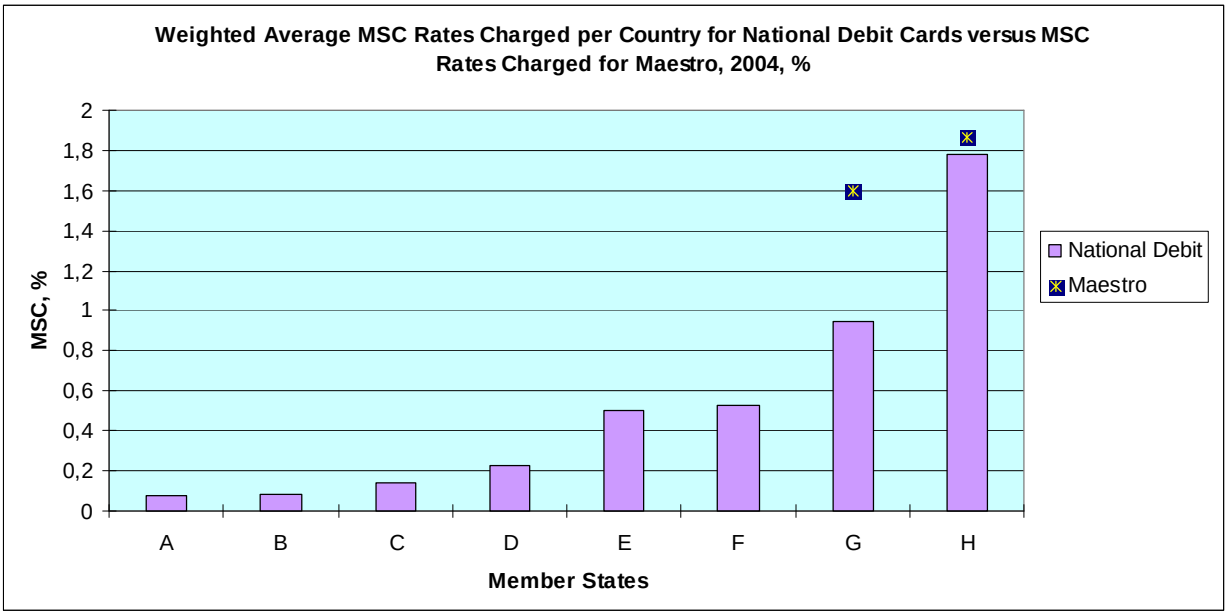
b) National debit networks

While the variation in average MSC fees across the EU-25 between Maestro and Visa debit cards was not pronounced, the MSC fees charged in national debit networks differed significantly from the MSC charged in international networks across the EU-25.

As can be seen from Graph 25, which compares weighted average MSC levels on Maestro and national debit cards across a group of EU-25 countries, Maestro MSC rates tended to exceed (in some cases – significantly) those for national debit cards (one country being an outlier). For example, in the case of one country, the weighted average MSC rate in the domestic debit network in 2004 was almost half the corresponding rate in the Maestro network. Nonetheless, such a difference cannot be interpreted simply by looking at the absolute values. Instead, a cross-analysis of MSC level versus interchange level within a particular network is needed.

For comparison purposes, countries where domestic Maestro is not relevant and/or significant (i.e. Finland, Ireland, Netherlands, Belgium and France) were also included in the analysis in order to demonstrate that the respective weighted average MSC levels are much lower in the corresponding domestic debit networks as compared to the Maestro network.

Graph 25



4. Conclusion and analysis

Merchant service charges – the facts

Country discrepancies in merchant fees are strong, both in the national and international systems.

Weighted average merchant rates for national payment cards varied between 0.075% and 1.1975% in 2004, which is a discrepancy of nearly 1500%. Weighted average merchant rates charged for accepting international credit cards varied between 0.77% and 3.10% (approx. 300%) in one system and between 0.95% and 2.98% (200%) in the other. Similarly, strong variances have been reported for international debit cards, with rates ranging from 0.32% to 1.92% (500%) in one system and from 0.36% to 2.75% (650%) in the other.

Smaller merchants typically pay higher rates than larger merchants, with discrepancies of 70% for MasterCard and Visa cards, 50% for American Express, 40% for JCB and 35% for Diners Club.

72% of the acquiring banks surveyed charge more or less identical fees to merchants for accepting MasterCard and Visa cards ("blending").

Across the EU-25, merchant discount rates for accepting payment cards vary strongly from one merchant segment to the other. The highest average rates are charged to sectors such as car rentals, restaurants and hotels while the lowest fees are charged to charitable organisations, government services, the fuel sector and the wholesale trade.

Merchant service charges - analysis

It is interesting for a competition analysis to explore why small merchants on average pay 70% more for payment card acceptance than large merchants. In theory, this could be explained by lower costs for signing up merchants with higher transaction volumes. However, a comparison of price differentials between large and small merchants in the international schemes (MC/Visa: 70%, Amex 50%, JCB 40%, Diners 35%) with those in domestic systems (7% on average) indicates that scale is possibly not the main reason. It could be that smaller merchants pay a "premium" for accepting MasterCard and Visa cards. If that were true, the

differentiation of prices according to the size of the merchant could be a measure for the exercise of market power by banks within a given system.

It would appear that merchants paying the highest average rates for MasterCard and Visa card acceptance (florists, restaurants, professional services, car rental, hotels) are typically those active in the T&E sector, where travellers expect to pay with cards, while merchants paying lower fees are typically to be found in segments with low profit margins (charitable organisations, contracted services, government services, wholesale trade etc). An outlier is the fuel sector, which yields high margins but nevertheless pays comparatively low fees for card acceptance.

VI. Cardholder fees

1. Introduction

This chapter will provide a descriptive comparison of the fees paid by cardholders for credit and debit cards in the EU-25 Member States over the period 2000-2004. The object of this exercise is two-fold. Firstly, it aims to assess to what extent the fees actually paid by cardholders differ across countries and networks. This may in turn permit an assessment of how the prices of relatively comparable services differ across countries. Significant differences might be the result of lack of competition and market integration. Secondly, it aims to test a simple theoretical prediction from mainstream economic theory, namely that increasing the level of the interchange fee would, *ceteris paribus*, raise merchant service charges but would lower cardholder fees through the interchange fee mechanism. This negative relationship between the level of cardholder fees and the level of interchange fee is also cited by card networks, who claim that without the interchange fees paid by acquirers to issuers, issuers would have to recoup all their costs from cardholders, so cardholder fees would be higher if the interchange fee decreases and lower if it increases. It is thus important to assess how cardholder fees are correlated with the interchange fee and whether any increase in the interchange fee over time is passed on in lower cardholder fees.

Cardholders have a contractual relationship with the card issuer. By charging the cardholder, an issuing bank is believed not only to cover the costs of the service provided, e.g. transaction processing and billing, but also to earn a profit margin. However, issuers usually do not charge a single fee but several fees to cardholders. For instance, issuers may charge annual fees such as a fee per card and also transaction fees. Furthermore, issuers may use payment cards as a way to attract costumers to purchase other products, such as current accounts and credit, which may imply that cardholder fees are not determined in a fully autonomous manner. According to an industry expert consulted by DG Competition, debit cards in particular may be an accessory product of current accounts. All these factors imply that different issuing institutions may have different pricing policies and, consequently, a comparison of cardholder fees across countries needs to be undertaken carefully.

Accordingly, in order to carry out a meaningful comparison of cardholder fees across countries, respondents were requested to provide data not on a single fee but on a list of fees paid by a "typical cardholder", who may hold either a "consumer" or a "business" standard/classic card. A "typical cardholder" is one offered the standard conditions with no special rules or rebates. A standard or classic card is the card most widely issued by issuing institutions, thus excluding the categories of gold, platinum, affinity or any other special cards. The requested information was also broken down by network. Since cardholder fees are not the only source of revenue of issuing institutions, it is important to establish a link between the level of cardholder fees and the network because the level of cardholder fees may be indirectly influenced by the level of interchange fee, as claimed by industry participants.

We will compare four relevant cardholder fees. These fees are: (1) the fee per card, which is an annual fee given in euros; (2) the card issuance fee, which is a fee charged only when the card is issued, also given in euros; (3) the fee per transaction, which is charged both as a percentage or in a (euro) amount per transaction and (4) the account statement and billing information fee, which again is an annual fee given in euros[66]. These four fees were requested for a "typical cardholder" with standard/classical credit and debit cards, for each year over the period 2000-2004. These fees were selected for our analysis because they contribute

[66] Converted into an annual figure.

significantly to the revenues of the issuing institutions. At the same time, respondents reported more data on these fees than on others such as penalty fees.

Among these four fees, the annual fee per card is the most widely used in the EU-25 Member States. In fact, our sample contains more than 600 responses reporting positive values for this fee. This compares with 320 for the issuance fee, 200 for the account statement and billing information fee and 100 for the fee per transaction. The fact that issuers use these fees differently seems to corroborate the idea that pricing is very heterogeneous in the issuing business.

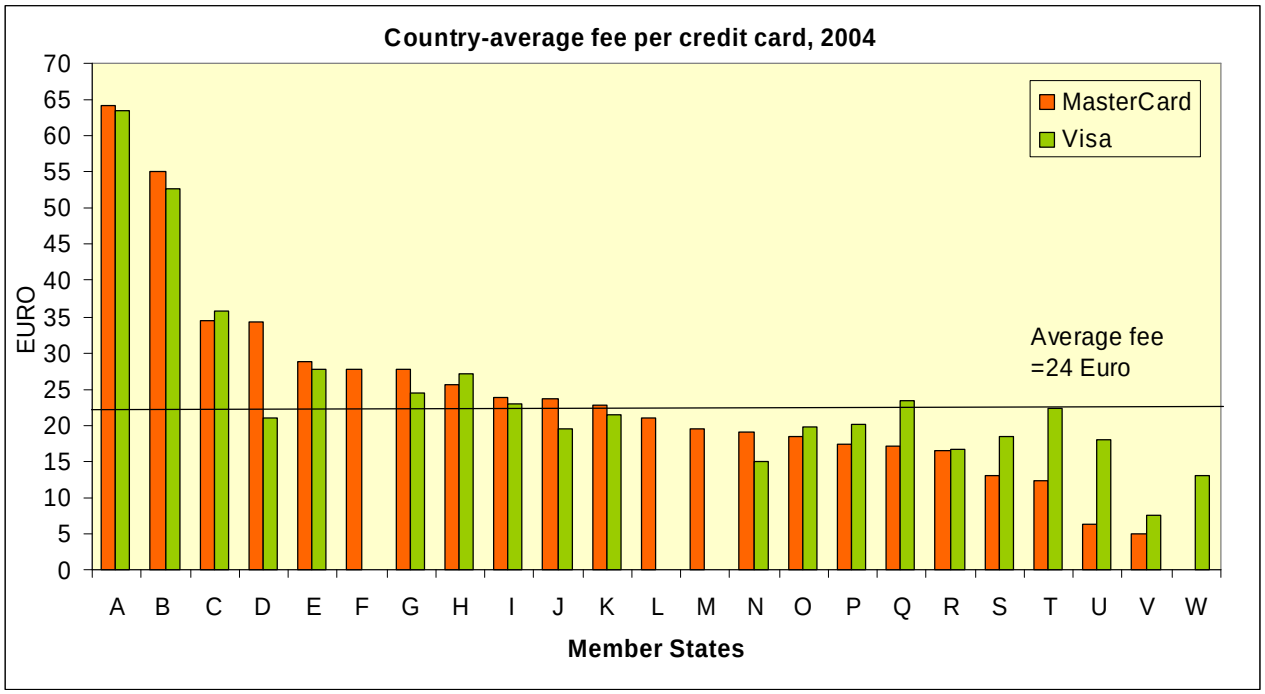
2. Credit cards

2.1 Fee per card

Looking at the simple average of the fee per card actually paid in 2004 by a typical cardholder holding a classical or standard credit card in 23 Member States[67], the results show that Diners Club is the network where cardholders pay the highest fee (57 euros). American Express charges on average 47 euros at EU level. Cardholders in the two most important international networks pay relatively the same amount of fee per card annually: 24 euros for MasterCard and 24 euros for Visa. It should be noted that the computed averages for Diners and American Express are based on a rather limited number of responses: 37 for American Express and 17 for Diners Club. In contrast, the computed averages for both MasterCard and Visa are based on a relatively high and equivalent number of observations: 157 for MasterCard and 180 for Visa.

We compared the annual average fee across countries in 2004 between the two major networks. Graph 26 shows the country annual average for 23 EU Member States in 2004.

Graph 26



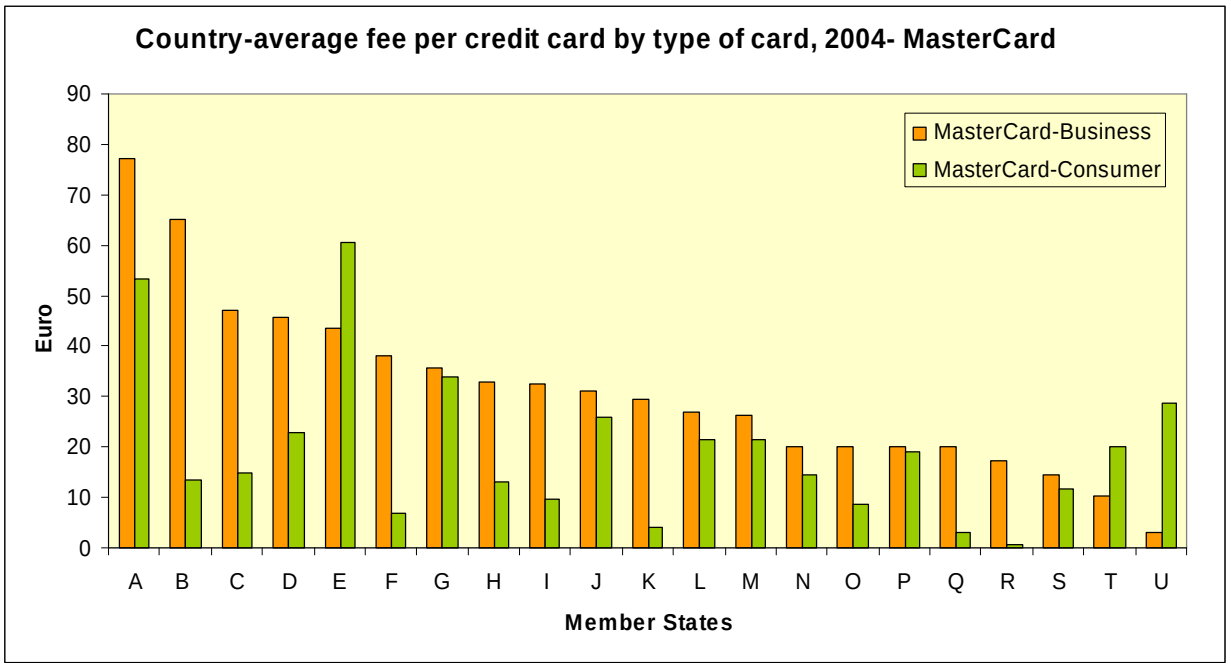
Analysis of this graph shows that the average fee incurred by a typical cardholder for the two main credit card brands is relatively similar within the countries for which data are available. However, the average fee for both networks varies significantly across countries.

[67] Two countries were excluded due to data unavailability.

Given that the average at EU level for MasterCard and Visa is 23 and 24 euros, respectively, an important number of countries have values clearly above these figures. In contrast, countries U and V are below the average values for the two networks.

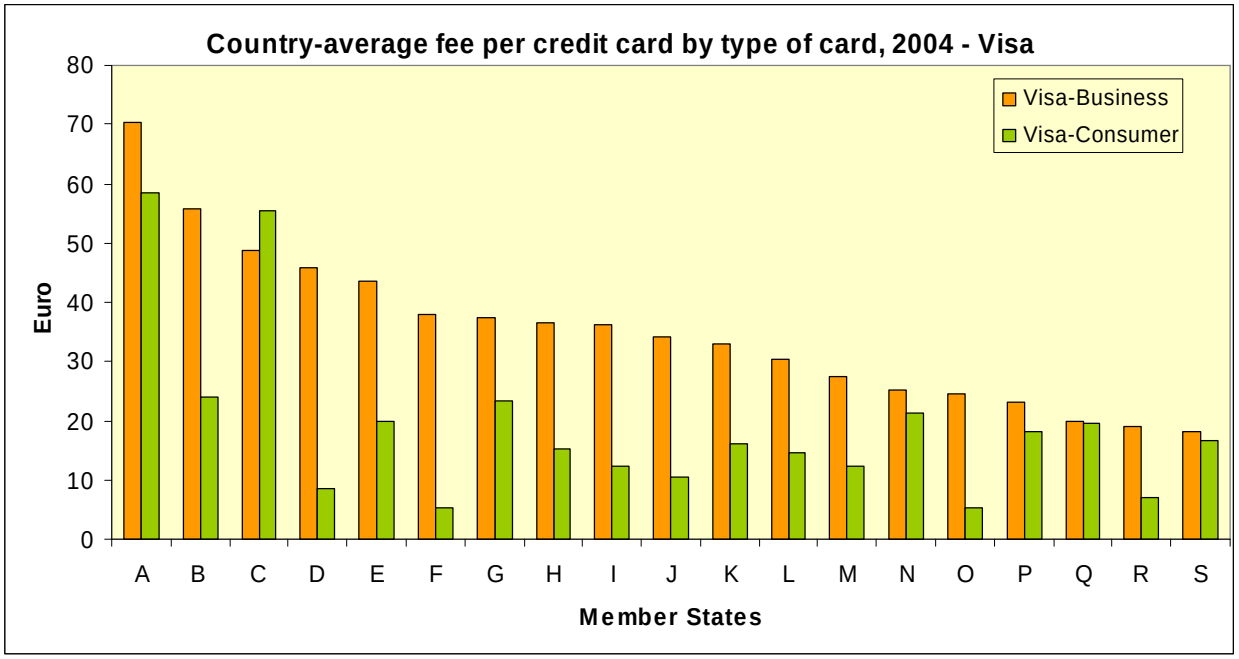
These figures aggregate the fees charged to a typical "consumer" and "business" cardholder holding a standard or classic credit card. However, the fees charged to a typical "consumer" cardholder may differ significantly from those charged to a typical "business" cardholder. In fact, the annual volume of transactions generated by each class of cardholder may be significantly different and the general commercial interest that governs the relationship between the issuing institution and its clients (in a broad sense) may also be different. It is therefore interesting to split the data into fees paid by "consumer" and "business" cardholders and to assess if these classes of cardholders are charged differently.

Graph 27



It can be observed that in 18 of the 21 countries with data on both types of cardholders, a "typical" business cardholder pays more for a standard/classic credit card than a "typical" consumer in the MasterCard network. Graph 28 gives the same information for the Visa network.

Graph 28

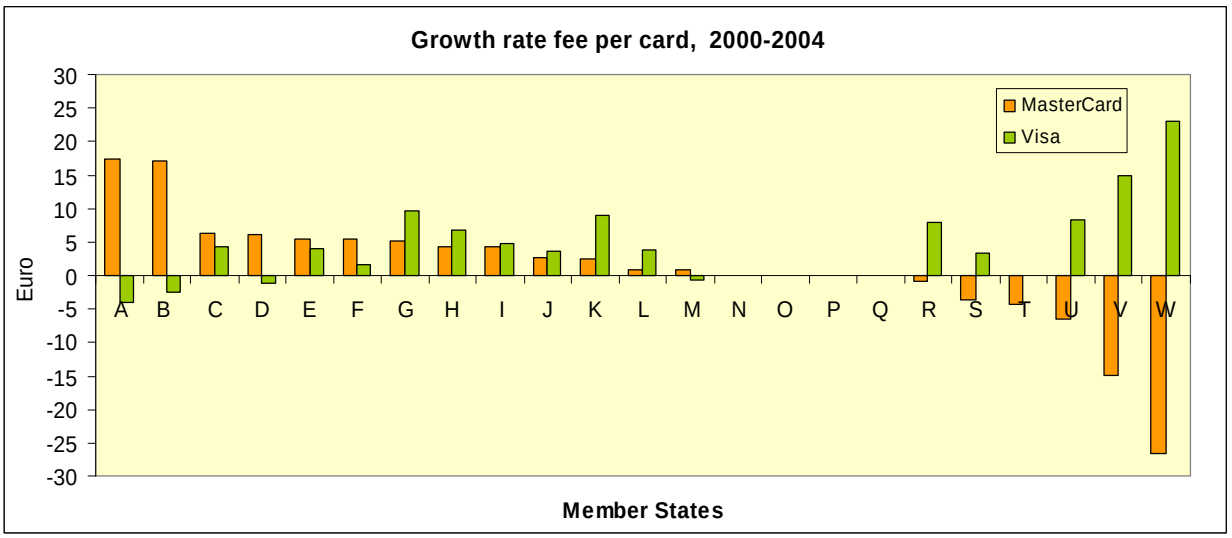


It can be observed that in 17 of the 19 countries with data on both types of cardholders, a "typical" business cardholder pays more for a standard/classic credit card than a "typical" consumer in the Visa network.

These findings are corroborated by the average card fee at EU level. In fact, a typical "business" cardholder pays 32 euros for a standard/classic card while a typical "consumer" cardholder pays 19 euros in the MasterCard network. Similarly, a typical "business" cardholder pays 34 euros for a standard/classic card while a typical "consumer" cardholder pays 18 euros in the Visa network.

It is also interesting to note that the aggregate fee has evolved differently over time across the countries considered [68]

Graph 29



[68] It should be noted that for assessing how the fee per card evolved over the period 2000-2004 across countries, only the issuers that provided data over the entire period were considered.

In some countries, the fee per card remained fairly unchanged from 2000 onwards. Overall, the average rate of growth was about 5% over the period.

2.1.1 Correlation between "fee per card" and "interchange fee"

Industry participants and mainstream economic theory suggest that increasing the level of the interchange fee would, *ceteris paribus*, raise merchant service charges but would lower cardholder fees through the interchange fee mechanism. That is, in the absence of interchange fees paid by acquirers to issuers, issuers would have to recoup all their costs from cardholders, with the result that cardholder fees are higher if the interchange fee decreases and lower if it increases.

It is therefore relevant to assess whether there is a strong negative correlation between the average fee per card and the level of interchange fee for a given country and network. In order to establish this correlation, we computed a simple correlation coefficient between the country-average fee per card and the level of the interchange fee for the MasterCard and Visa networks over the period 2004-2004.

Table 5- Correlation coefficients between "fee per card" and "interchange fee"

Years	Visa	MasterCard
2000	0.11	-0.27
2001	0.15	0.20
2002	0.18	-0. 05
2003	-0.13	0.13
2004	0.11	0.05

Results suggest that there is not a strong negative relationship between the level of the cardholder fee and the level of the interchange fee. This pattern is common to both networks and relatively consistent over time. The fact that the low correlation values remained relatively unchanged over time may imply that a possible increase (decrease) in the interchange fee during this period does not seem to have been passed on in lower (higher) cardholder fees. These simple correlation coefficients do not control for other factors that may affect the fee per card level. However, an econometric estimation controlling for other variables that may affect the fee per card level shows that if the interchange fee increases by 1 Euro only 25 cents are passed on to consumers in lower fees[69]. This result challenges the hypothesis advanced by some industry participants and the economic literature that an increase in interchange fees exactly equals a decrease in cardholder fees.

These results confirm the findings described in the chapter on profitability and may cast doubt on the relevance of the arguments put forward by industry participants and the economic literature as regards the role played by the interchange fee in this industry.

2.2 Card issuance fee

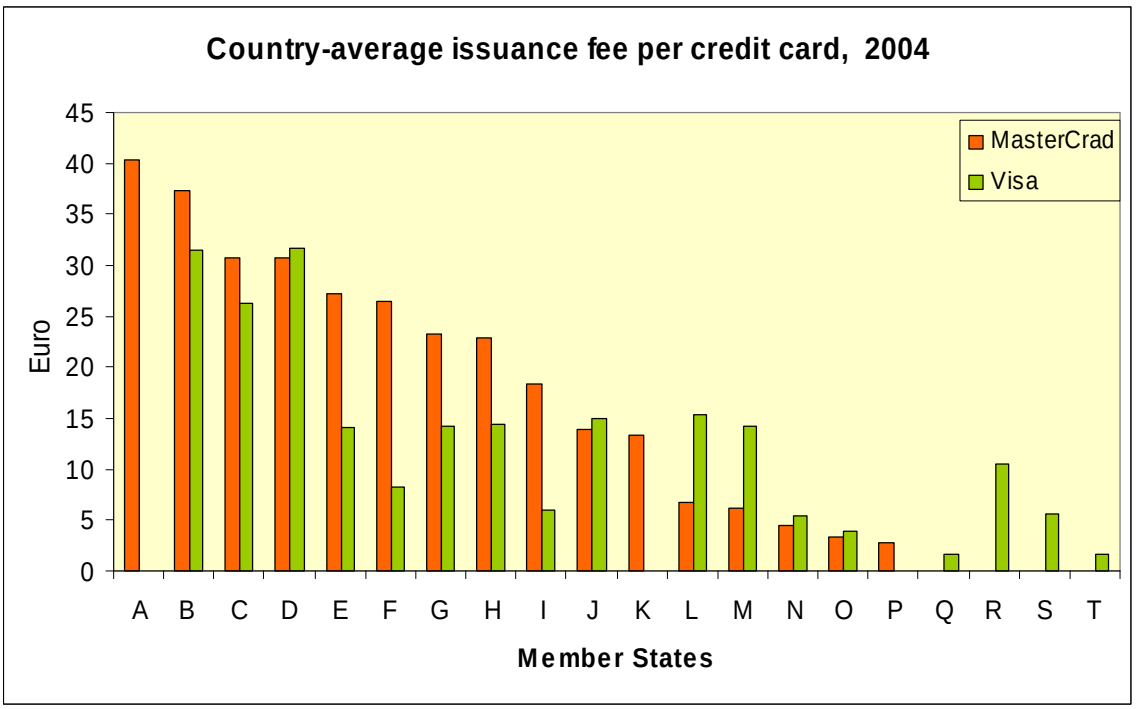
The second most widely used fee charged to cardholders in the EU-25 Member States is the card issuance fee[70]. An analysis of the data shows that this fee is not applied in 5 Member States.

[69] See annex 5 for more details.
[70] It should be noted that the issuance fee is not weighted by the validity period of the card.

In the remaining 20 countries, however, it is interesting to observe that that this fee is, on average, higher for cardholders holding credit cards issued in the MasterCard and Visa networks (14 euros for both) than for those with cards issued by American Express and Diners Club (11 and 5 euros, respectively).

Looking at the card issuance fee paid by a typical cardholder for MasterCard and Visa in 2004, it is possible to conclude that there are, on average, significant differences across the 20 countries.

Graph 30



It can be ascertained from Graph 30 that certain countries are clearly above the EU average of 14 euros for both networks.

Finally, it is important to point out that the country annual average fees for the issuance of credit cards have remained largely unchanged since 2000. This also means, as for the fee per card, that any change in the interchange fee does not seem to have been passed on in the cardholder issuance fees.

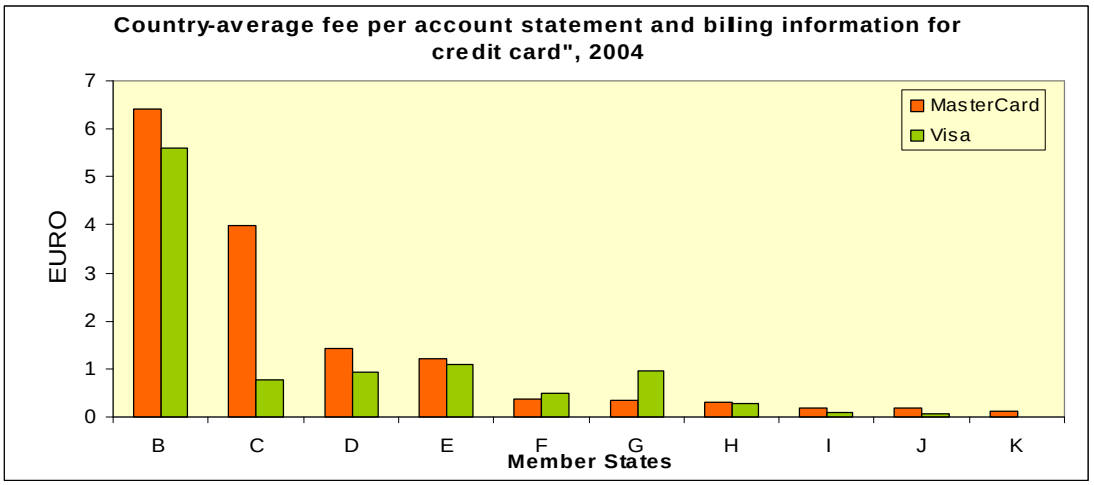
2.3 Account statement and billing information fee

The third annual fee analysed is the fee for account statements and billing information. An analysis of the data shows that, in contrast with the first two fees, no account statement and billing information fee is charged in the majority of Member States.

Looking at the respondents reporting positive values, the average fee is relatively similar across the different networks: 0.17 euros for American Express, 0.28 euros for Diners Club, 0.92 euros for MasterCard and 0.64 euros for Visa.

Graph 31 shows how much MasterCard and Visa cardholders are charged in the 10 countries where respondents reported positive figures.

Graph 31



The only outstanding result in Graph 31 is observed in country B. In fact, country B is clearly the country that has the highest account statement fee for both MasterCard and Visa cards. Finally, it is also interesting to note that, on average, "business" and "consumer" cardholders pay relatively the same fee in these 10 countries. As regards the evolution of this fee over time, it may be noted that the annualised fee for credit cards has remained largely unchanged since 2000.

2.4 Fee per transaction

Finally, we have analysed the fee per transaction, defined either in euros or as a percentage. In 19 of the 25 countries, respondents claim that they do not charge their cardholders for each transaction they make, irrespective of the network.

For the remaining 6 countries, it is of interest to assess how the fee per transaction varies among them and by network[71]. Among those where a fee per transaction is charged as a percentage of the transaction volume, this fee varies from 0.1% to 0.7% in the MasterCard network and from 0.5% to 0.7% in the Visa network. As regards those where the fee is expressed in euros, the limited number of (positive) observations for this fee makes any result difficult to interpret.

3. Debit cards

3.1 Fee per card

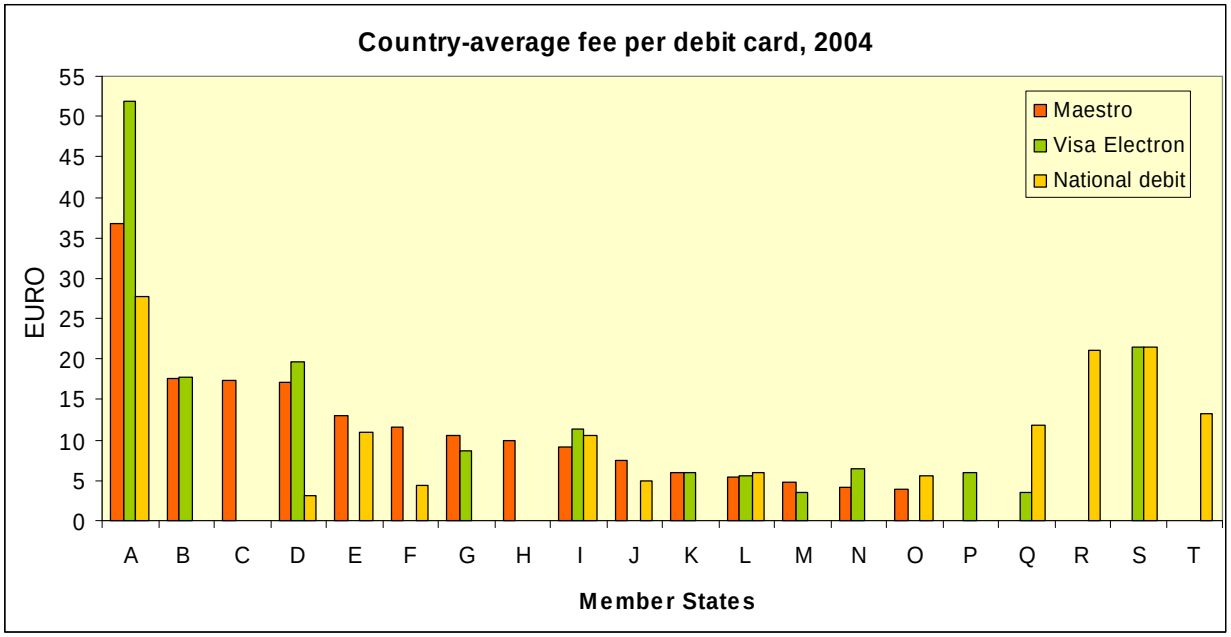
As with the analysis carried out for credit cards, the fees paid by cardholders for debit cards in the EU Member states are compared here for 2004. For the purpose of this analysis, the fees charged for debit cards in the MasterCard, Visa and national debit networks in 20 EU countries are compared.[72].

Simple statistics show that, on average, the fee per card is significantly lower for debit than for credit cards. Indeed, the fee per card debit cards is on average 10 euros for MasterCard (Maestro) (as against 24 euros for credit cards) and 11 euros under the Visa brand (Visa Electron) (as against 23 euros for credit cards).

This pattern is quite consistent across countries, as demonstrated in Graph 32, which shows the country-average card fee in 2004 for 20 EU countries.

[71] Only MasterCard and Visa are analysed, due to data unavailability.
[72] It should be noted that for some countries the sample is only for one network.

Graph 32



Comparing country-average fees in 2004 for credit and debit cards (i.e. comparing Graph 26 with Graph 32), it can be ascertained that, with the exception of three countries the fee per card is higher for credit than for debit.

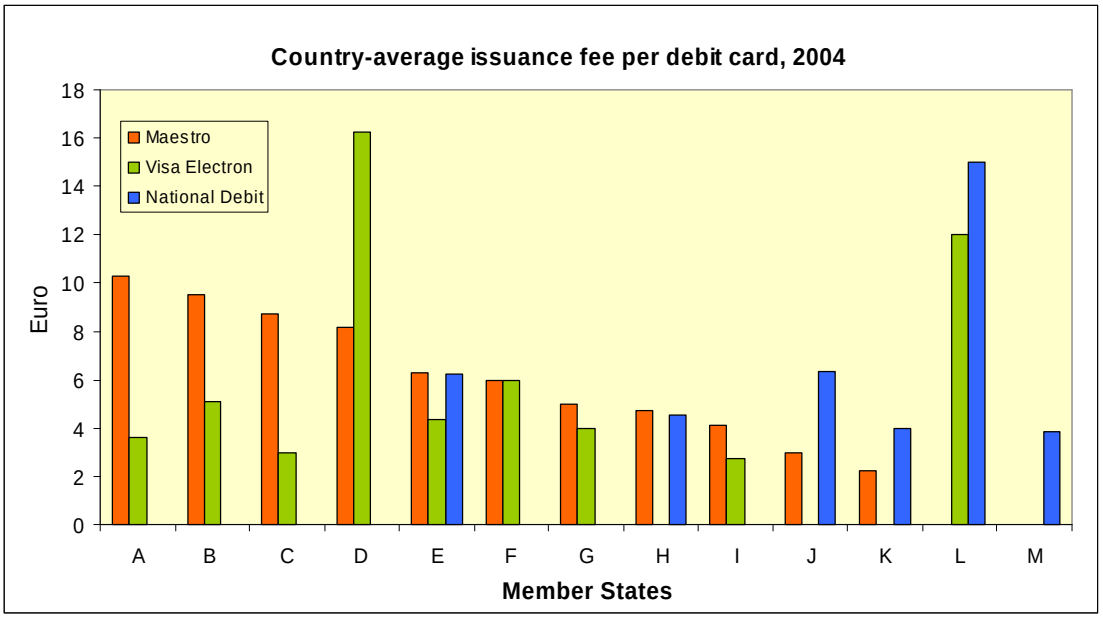
Graph 32 shows that, as for credit cards, the fees paid in the two international networks are quite similar within countries for which data are available. However, there are important differences in the level of the fees across countries.

Another interesting finding emerges from a comparison between the fees in international networks (MasterCard and Visa) and those for national debit networks. The average fee per card in the national schemes amounts to 9 euros (as against 10 and 11 euros for MasterCard and Visa, respectively). On average, the fee per card is significantly lower in national debit schemes than in the international debit networks.

3.2 Card issuance fee

An analysis of the data shows that this fee is not applied in most EU Member States. In the remaining 13 countries where this fee is applied, it is interesting to note that cardholders pay an issuance fee of more than 6 euros.

Graph 33

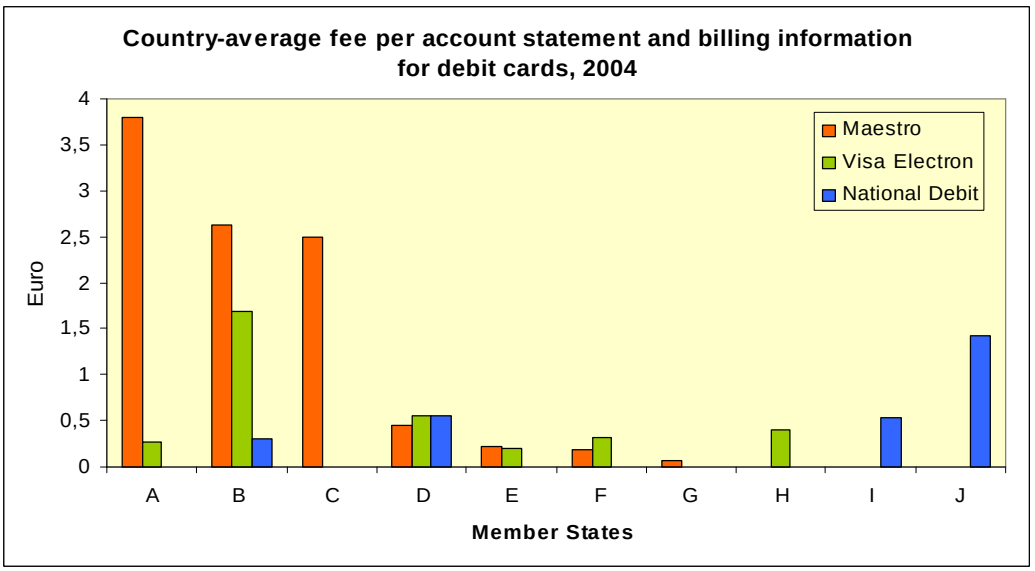


It is also worth noting that the country-average issuance fees for debit cards have remained largely unchanged since 2000.

3.3 Account statement and billing information fee

An analysis of the data shows that no fee for account statements and billing information is charged to cardholders in most Member States. Graph 34 shows the country-average fee for debit cards in 2004.

Graph 34



In 8 out of 18 countries where data were available, cardholders are not charged for account statement and billing information.

3.4 Fee per transaction

In 17 of the 25 countries, respondents claimed that they do not charge their cardholders for each transaction they make, irrespective of the network. For the remaining 8 countries, results show that, for those where a transaction fee is charged as a percentage of the transaction volume, the fees vary from 0.1 % to 0.75%.

4. Conclusion

This chapter compared four relevant cardholder fees: (1) the fee per card, which is an annual fee given in euros; (2) the card issuance fee, which is a fee charged only when the card is issued, again given in euros; (3) the fee per transaction, which is charged as percentage or as a euro amount per transaction; and (4) the account statement and billing information fee, which is an annual fee also given in euros. These four fees were requested for a "typical cardholder" with standard/classical credit and debit cards, for each year over the period 2000-2004.

The annual fee per card seems to be not only the most widely used fee charged to cardholders in the EU-25 Member States but also one of most important elements in the revenue generated by cardholder fees for issuers of both credit and debit cards.

The average fee per credit card charged to cardholders in the MasterCard and Visa networks is 23 euros. It is also worth noting that a typical "business" cardholder pays on average significantly more than a "consumer" cardholder for a standard/classic credit card in both networks. While the fees charged in these two networks are remarkably similar within a country, they vary significantly across countries. Several countries have fees above the average value of 23 euros for both networks. The average fee for debit cards is 10, 11, and 9 euros for the MasterCard, Visa and national debit networks, respectively.

The average credit card issuance fee charged to cardholders in the MasterCard and Visa networks is 14 euros. The average debit card issuance fee is 6 euros.

No account statement and billing information fee or fee per transaction is charged in most Member States. The average account statement fee for credit cards is 0.92 euros for MasterCard and 0.64 euros for Visa. The corresponding figures for debit cards are 0.32 euros for Maestro, 0.20 euros for Visa Electron and 0.10 euros for national debit networks. Fees per transaction are only marginal, for both credit and debit cards.

All in all, the differences in the fees charged to consumers for card issuing are significant and might be the result of a lack of competition and market integration. Importantly, the analysis reveals no strong negative relationship between the level of the fee per card and the level of interchange fee at either country or network level. The empirical evidence suggests that if the interchange fee increases 1 Euro only 25 cents are passed on in lower cardholder fees. Such result challenges the hypothesis advanced by some industry participants and the economic literature of a perfect inverse relationship between card fees and interchange fees.

Finally, all the four fees are on average more than double for credit cards than for debit cards.

VII. Profitability

1. Introduction

The profitability of a business may provide important information for a competition analysis. On one hand, the existence of significant economic profits may be the reward for taking risks and for innovating and/or it may be the reward for superior efficiency and better management. On the other hand, high profits may also be the result of having and exerting market power, in particular if profit margins remain high over a long time period in a relatively mature market. The sector inquiry therefore analysed to what extent issuing and acquiring are profitable and how profits developed during the period from 2000 to 2004. The second purpose of our profit analysis was to assess to what extent the profitability of the issuing business depends on revenues generated by interchange fees.

In the following chapter we therefore analyse:

The profitability of acquiring banks (for the entire EU-25 and per country).

The profitability of issuing banks (for the entire EU-25 and per country).

The profitability of issuing and acquiring banks analysed together, with special consideration given to interchange fees.

The impact of interchange fees on the profitability of payment card issuing.

The analysis is set out in two chapters, one for credit and one for debit cards.

2. Profitability trends

This chapter provides a descriptive comparison of profitability trends for issuing and acquiring businesses in credit and debit cards for all EU-25 Member States. This analysis covers the period 2000-2004. Looking at profitability may yield important information for competition analysis. In fact, while the existence of significant rents may be the reward for taking risks and innovating, superior efficiency or better management, they could also be the result of having and exerting market power. High and persistent rents in relatively mature markets where some prices, such as interchange fees, are determined collectively may suggest the latter. These findings, together with other evidence obtained by this inquiry, may reveal whether a firm or a group of firms is exercising market power to the detriment of consumers in a particular market.

Taking advantage of the detailed data set available, this chapter also aims at examining further the role played by the interchange fee in a "two-sided" industry. As described in the chapter on the economics of the payment card industry, mainstream economic theory claims that the interchange fee keeps "both sides of the industry on board" and corrects market failures linked to the existence of externalities. Roughly speaking, an "optimum" level of interchange fee is needed because price mechanisms fail to internalise the existing externalities. The practical consequence is that the issuing business needs to be "subsidised" by the acquiring business in order to bring sufficient cardholders into the system[73]. This type of justification for the existence of interchange fees is also put forward by the payment card systems. For instance, one international network believes that in the absence of the POS interchange fees paid by acquirers to issuers, issuers would have to recoup all of their costs from cardholders and this would lead to a level of card issuing that is "not optimal" for the system as a whole. In the same

[73] Rochet and Tirole, 2002, op. cit., argue that the interchange fee is also needed to compensate for the pricing distortions introduced by the exercise of issuer market power, i.e. subsidising issuers with market power would induce them to reduce their prices.

vein, another international network argues that interchange fees are a mechanism for redressing the imbalance between issuers' and acquirers' costs and revenues in delivering a payment card[74]. Yet another strand of economic literature suggests that privately optimal interchange fees may be too high, notably if merchant fees increase with interchange fees but issuers do not pass the additional interchange fee revenue back to cardholders. In this case, high interchange fees are a way to transfer rents to the side of the scheme where they are least likely to be competed away (see Wright, 2004, op. cit. and Bergman, 2005, op. cit.). Assessing the extent to which the profitability of issuing business depends on the revenues generated by the current level of interchange fees may provide further insight into the accuracy of the two different theoretical predictions and also the pertinence of the arguments put forward by the payment card systems.

The measurement of the profitability of a specific activity is typically subject to problems related to the allocation of costs that are common to other activities. This could be also relevant in our case, because acquirers and issuers (which may be multi-product firms) may also carry out other activities[75]. However, it is worth noting that the allocation of revenues and costs, based on accounting data, was made by the respondents. Thus, the measurement of profitability has to be considered reliable because it was made by those who best know their own business. Consequently, the computation of key cost and revenue parameters by the respondents themselves reduces significantly the degree of uncertainty as to their true level. Moreover, the revenues and costs are not separated by the different payment systems in which acquirers and issuers participate, further decreasing this uncertainty.

For the purpose of the inquiry, both issuing and acquiring institutions were requested to report their total revenues and total costs associated with the issuing and acquiring of credit and debit cards. The questionnaire provided a breakdown of the most relevant parameters for total revenues and total costs. In the acquiring business, total revenues are given by merchant service charges, terminal processing fees, currency conversion fees, and "other type of incomes"; total costs, in turn, include interchange fees, transaction processing costs, and "other type of costs". In the issuing business, total revenues are given by interest charged, interchange fees, cardholder fees, currency conversion fees, income from co-branding, and "other type of incomes"; total costs include costs for the provision of a free funding period, card production and transaction processing costs, billing, fraud, credit losses, costs related to rebates, staff costs and "other type of costs". The parameter "other type of income/cost" aims to capture any other relevant type of income or cost in the acquiring and issuing of cards, as perceived by the respondents, which does not fall under the other categories. Costs related to the depreciation of assets, for instance, could be included in this category.

2.1 Credit cards

2.1.1 Acquiring business

a) EU-25 comparison

In order to investigate the magnitude and evolution of profitability in the acquiring of credit cards in the EU-25 Member States over the period 2000-2004, we make use of a simple profit-to-cost ratio. The operational profit-to-cost ratio before taxes (hereafter "profit ratio") in the acquiring of credit cards by acquirer *B* in country *A* at time *t* is given by: $\frac{Income^{A}_{Bt} - Cost^{A}_{Bt}}{Cost^{A}_{Bt}} x100$. This measure will be used throughout this chapter.

[74] See the chapter on interchange fees.

[75] According to an industry expert consulted by DG Competition, some institutions may have difficulties in isolating the debit card business from other activities since debit cards may be an accessory product of current accounts.

Of the 83 respondents that reported figures for the acquiring of credit cards in 2004, 52 reported a positive and 31 a negative profit ratio. Graph 35 shows the distribution of profit ratios in the acquiring of credit cards for 2004 for all respondents (at EU-25 level).

Graph 35 - Distribution of profit ratios in the acquiring of credit cards, 2004

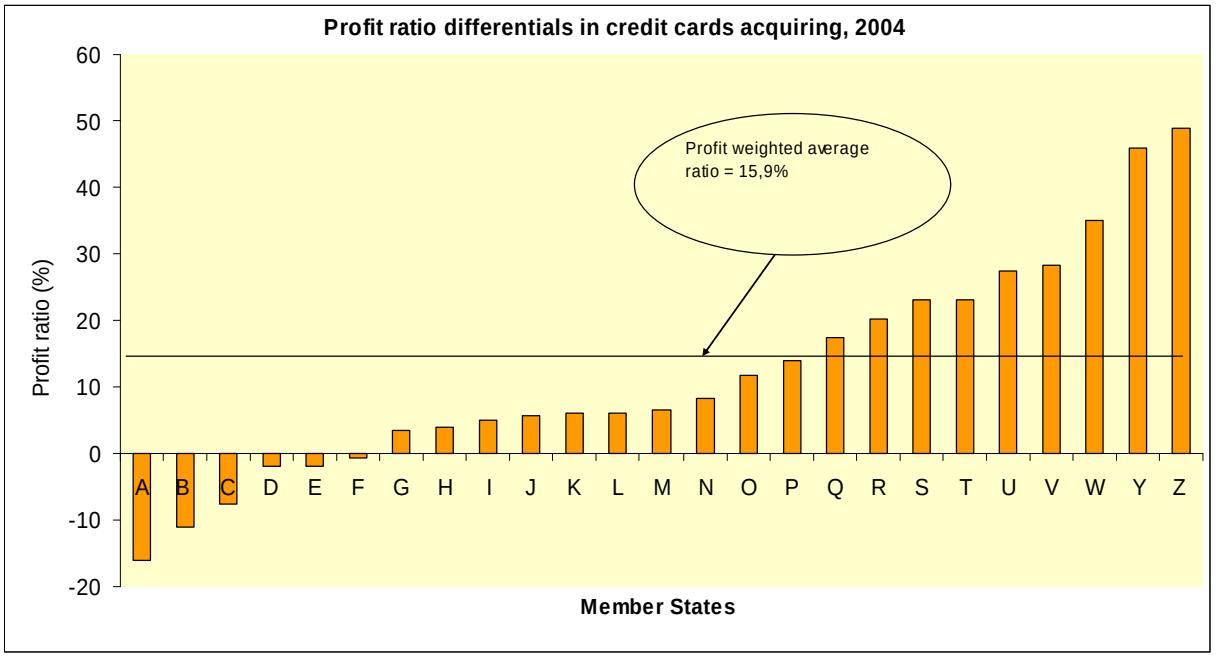
The distribution in Graph 35 reveals that 42 out of 83 acquirers reported profit ratios higher than 8.3% (median value). Of these, 21 acquirers reported figures between 8.3% and 25.7%, while the remaining 21 acquirers reported figures above 25.7%. If one also takes into consideration that the weighted profit ratio of all respondents for 2004 is 15.9%, it seems possible to conclude that the acquiring business for credit cards is relatively profitable at EU-25 level.

b) Country analysis

However, the analysis of profitability at an aggregated level may mask substantial differences across Member States. Therefore, the analysis of profitability at country level may provide further insight into the distribution of profit ratios across countries. Crucially, competition analysis needs to take into account the situation at the level of geographical markets.

In order to avoid giving equal weight to both small and large acquirers in the determination of the overall country profit ratio, this ratio is a weighted average of all the acquirers in the country in question (the weight is given by the total income of acquirers).

Graph 36



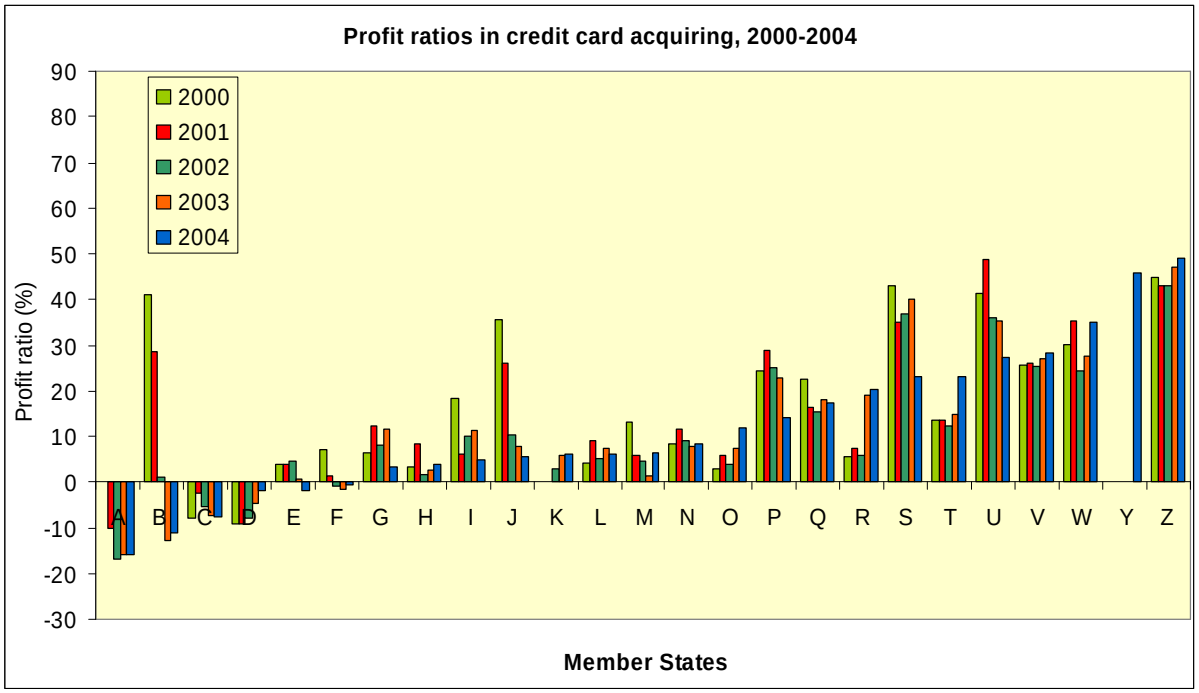
It can be ascertained that the acquiring of credit cards was profitable in 19 of the 25 EU countries in 2004. The profit ratios vary from -16% to 62%. It can also be observed that 9 countries are above the EU-25 weighted profit ratio (15.9%).

Some of these profit ratios are based on a limited number of observations, which means that results may not be entirely representative of profit ratios for a given country. Additionally, we have no way of assessing whether results are driven by some "outliers" in the sample. In cases where the sole observations in the sample were for large and specialised acquiring institutions, the problem is less important. In contrast, in countries where only a limited number of non-specialised acquiring institutions provided figures — estimated figures, in some cases — the results need to be analysed with more caution.

For countries with a significant number of responses, we can assess the variability of profit ratios within the country and to what extent the results are driven by "outliers" in the sample. While the profit ratios of acquirers in some markets are homogenous, respondents in a few countries reported diverging profit ratios. When looking in detail at the data, we discover that differences in the profit ratios within a country are mainly due to differences in their cost structures. These discrepancies arise because some acquirers incur, among other things, significantly higher average transaction processing costs and staff costs than others (see also below for further details on the cost structure of issuing institutions).

A static analysis based on a single year may, however, neglect an important issue, which is the stage of the business cycle in each market. It is thus important to address this issue by looking at the way profit ratios evolved during the period 2000-2004 in each country. Graph 37 reports the weighted profit ratios by country over the period 2000-2004.

Graph 37



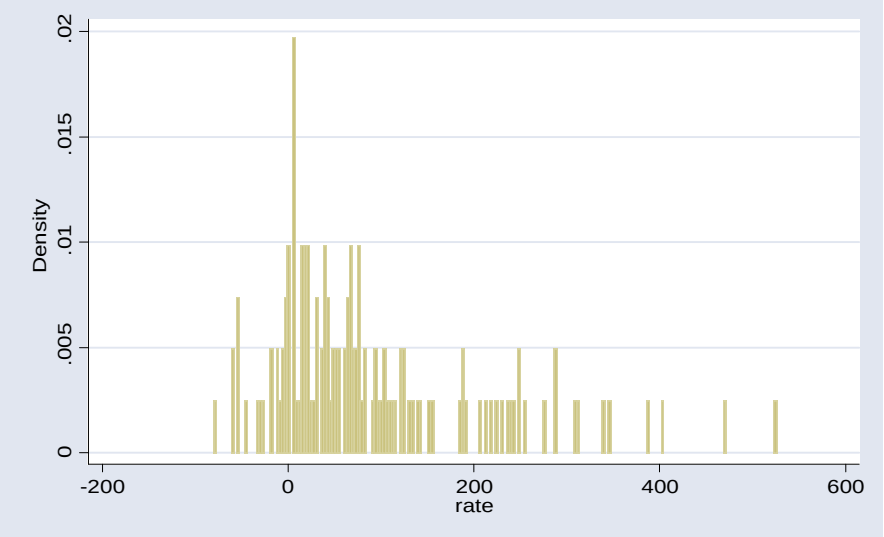
The analysis of this graph shows that profit patterns were relatively consistent over this period in a large number of countries. The results suggest that, in the majority of countries, the magnitude of profit ratios is not related to the different stages of the business cycle in each market but rather follows a medium-term trend.

2.1.2 Issuing business

a) EU-25 comparison

Of the 136 respondents reporting figures for the issuing of credit cards in 2004, only 20 issuer institutions reported a negative profit rate. The weighted profit ratio average is 65%. Graph 38 shows the distribution of profit ratios for all respondents in 2004. The distribution reveals that 68 out of 136 issuers reported profit ratios higher than the median value (61.4%) of the sample. Of this group, 34 issuers reported figures between 61.4% and 131.8%, while the remaining 34 issuers reported figures above 131.8%. As regards the issuers whose reporting figures were below the median value, it is interesting to note that 34 issuers reported profit ratios between -50% and 14.7% while the remaining 34 issuers reported figures between 14.7% and 61. 4%.

Graph 38 - Distribution of profit ratios in the issuing of credit cards, 2004

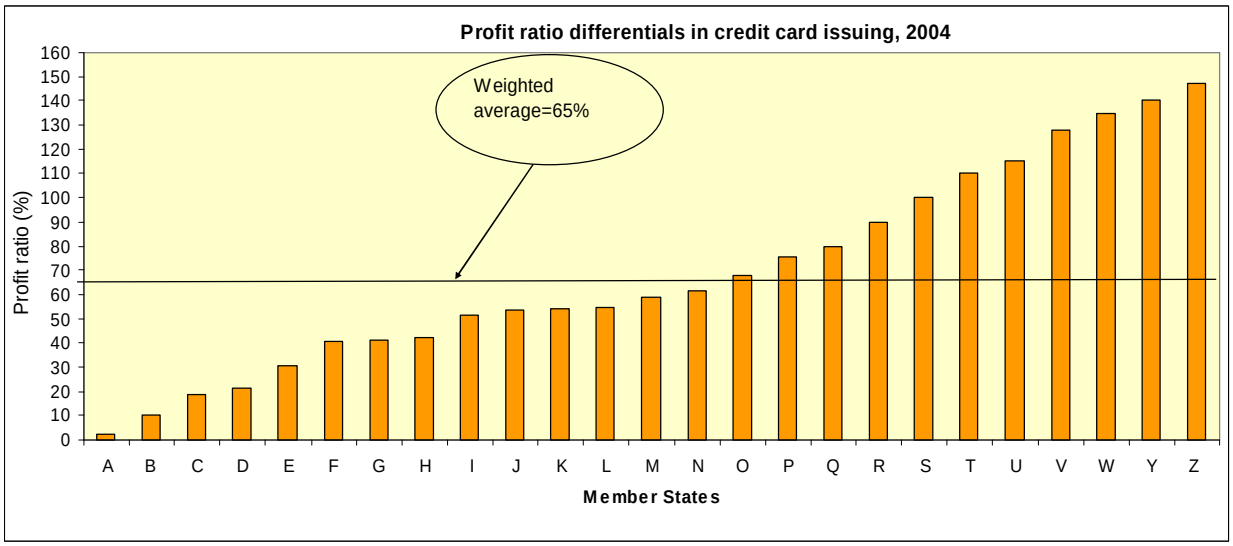


In the light of these results, it is clear that the credit card issuing business was very profitable in all 25 Member States in 2004.

b) Country analysis

As with the acquiring business, we have also carried out an analysis of the profitability of the issuing of credit cards at country level for 2004. Again, in order to avoid giving equal weight to small and large issuers in the determination of the overall profit ratio, the country profit ratio is a weighted average of all the issuers in the country in question (the weight is given by the total income of issuers). Graph 39 shows this weighted profit average ratio for all Member States for 2004.

Graph 39



Going by the results depicted in Graph 39, the income generated by the issuing of credit cards is higher than the associated costs in all 25 Member States. The weighted average profit ratios vary from 3% to 147%. The EU-25 weighted average is 65%, with 11 countries above this figure.

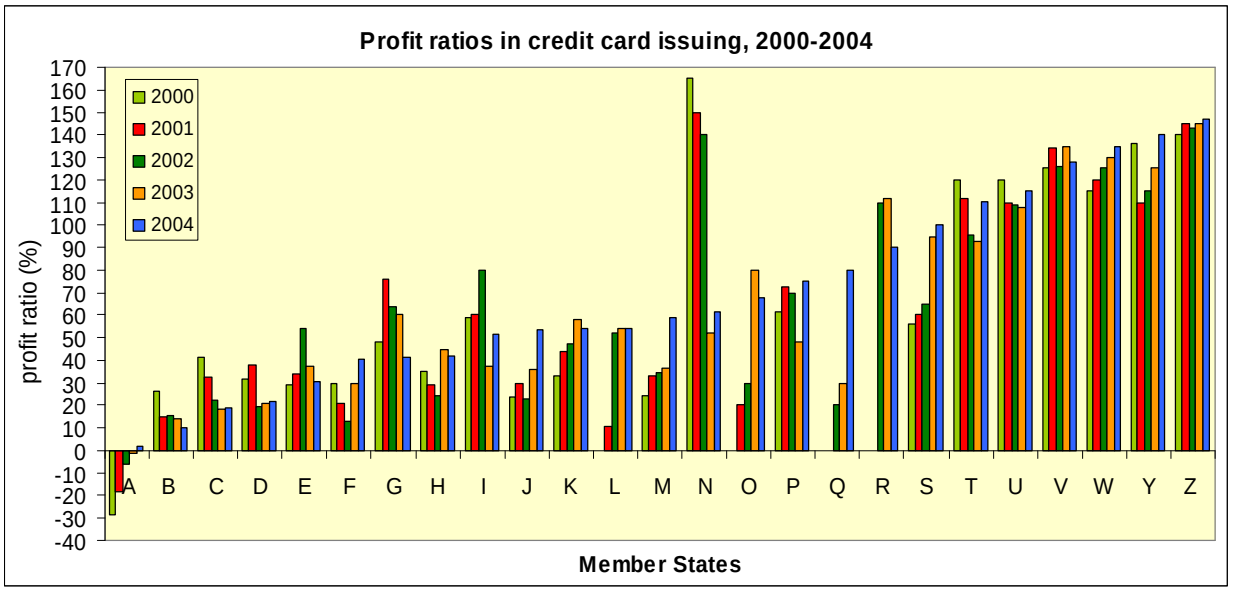
As with acquiring, some of these profit ratios are based on only a limited number of observations, which means that results may not be entirely representative of profitability for a

given country. Additionally, we have no way of assessing in such cases whether the results are driven by some "outliers" in the sample. However, with the exception of two countries, the number of observations per country is clearly higher for issuing than for acquiring, which makes it interesting to assess the degree of variability of profit ratios within a country, i.e. whether profits in each country are evenly distributed among issuers.

Taking as examples the four countries with a high number of observations and displaying a weighted average profit ratio above the EU-25 average, we can observe a fairly similar pattern as regards profit ratios: while almost all issuers reported positive profit ratios, there are some discrepancies in the profit ratios of some top issuing institutions. Looking in detail at the data, it is possible to conclude that the differences in cost structures may explain to a large extent the discrepancies in profit ratios among top issuing institutions. Therefore, the differences observed in the profit ratios of some top issuing institutions in the same country seem mainly to reflect a different level of efficiency and not a fierce competition on prices.

As with the acquiring of credit cards, it is necessary to analyse further the dynamics of the profit ratios at country level over the period 2000-2004 in order to detect the influence of different stages of the business cycle in each country. Graph 40 shows the country weighted profit ratios in the issuing of credit cards during the period 2000-2004.

Graph 40



From the analysis of this graph, it is apparent that profit patterns were relatively consistent over this period in almost all countries[76]. More importantly, these results suggest that, as for the acquiring business, the magnitude of profit ratios is not related to the different stages of the business cycle in each market but rather follows a medium-term trend.

All in all, the issuing of credit cards seems to be highly profitable in the large majority of the EU-25 Member States. The persistence of high profit ratios over a relatively long period of time suggests that this might be the result of having and exerting market power.

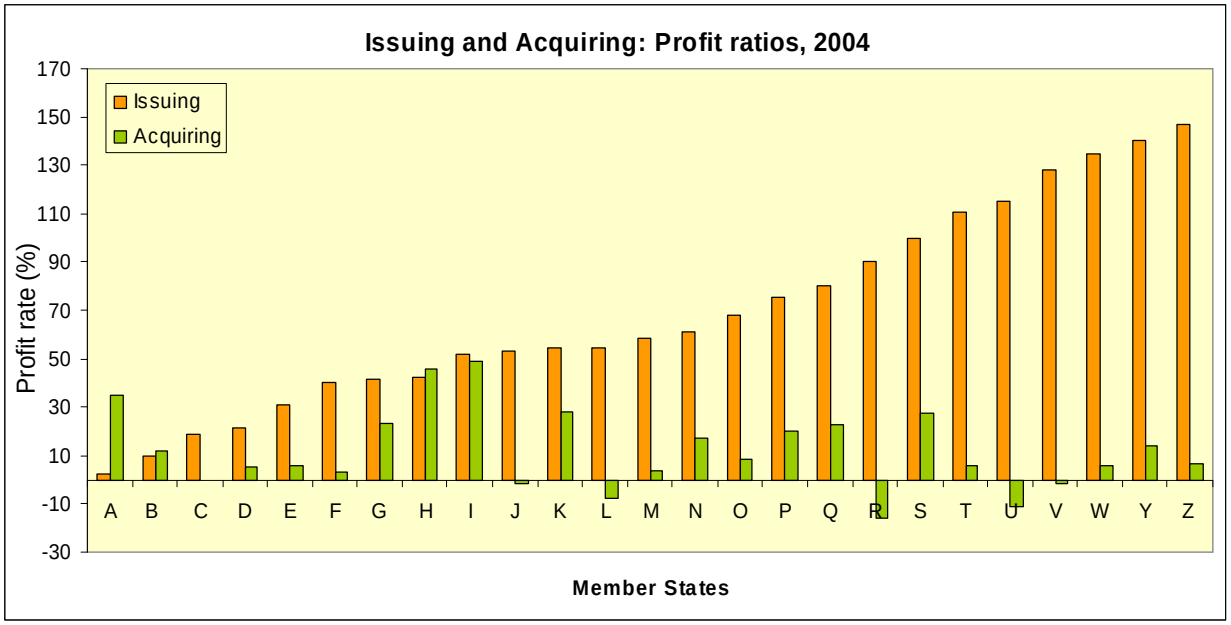
2.1.3 Taken issuing and acquiring businesses together

According to the mainstream theory on two-sided markets, the fact that benefits may arise jointly on the two sides of the industry means that there may be no meaningful economic relationship between benefits and costs on either side of the market considered by itself. Thus, it

[76] The significant increase in the weighted profit ratio of country Q in 2004 is due to the inclusion of two important issuers in the sample only in this period.

is relevant to analyse the profitability patterns of both acquiring and issuing together, and to explore the findings in the light of this theory. Graph 41 shows the weighted average profit ratios of acquiring and issuing credit card businesses for all EU Member States for 2004.

Graph 41



An important conclusion that emerges from the analysis of this graph is that the issuing business is clearly more profitable than the acquiring business in almost all countries. In some countries the issuing business is 50 times more profitable than acquiring.

How is it possible to explain the different profitability on issuing and acquiring for countries with both a relatively similar economic size and a similar level of interchange fee? In order to better understand the functioning of the credit card payment system as a whole, it is interesting to compare two similar institutions (1 and 2) in two different countries (G and O). These two institutions have a similar annual number of transactions in the acquiring and issuing business. However, one should bear in mind that the revenues and costs of these institutions for issuing and acquiring relate to all the payment systems in which they participate.

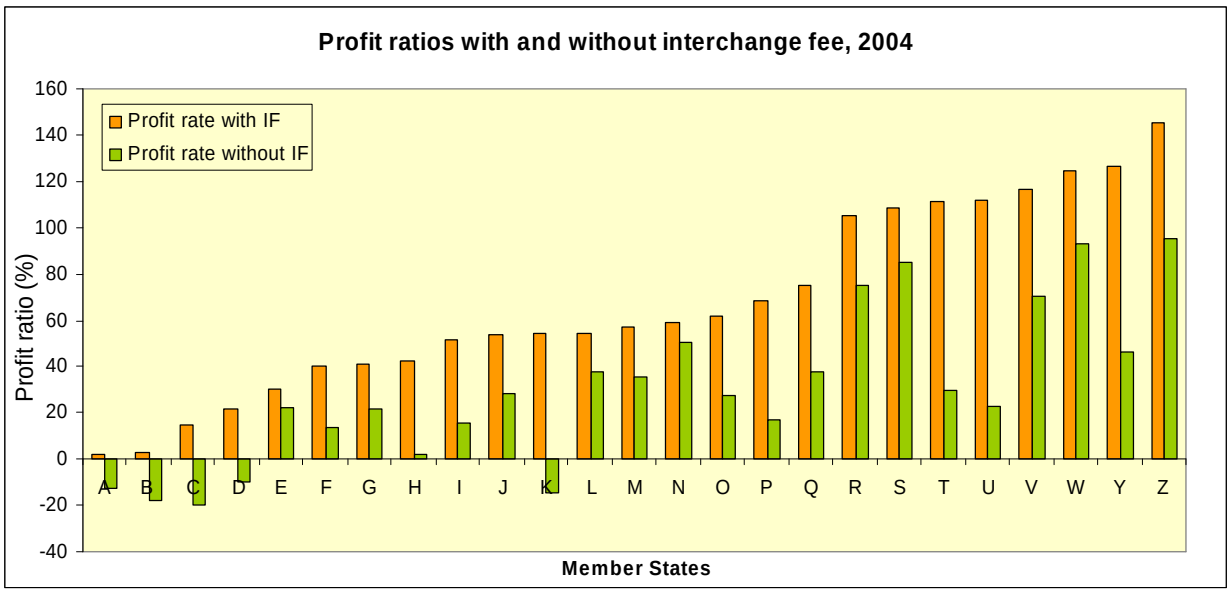
These two institutions have very similar incomes from the acquiring business because, given that the MSC is the principal source of revenue, institutions 1 and 2 are charging a similar average merchant service charge per transaction. However, institution 2 incurs a higher cost for processing, which erodes its profit margin (the average interchange fee paid is relatively similar for both institutions). When one looks at the issuing side, the picture changes dramatically. As a matter of fact, while both institutions incur more or less the same costs and receive more or less the same average interchange fee per transaction, institution 2 receives much high cardholder fees. In conclusion, cost inefficiencies explain why institution 2 has lower profits than institution 1 in the acquiring business. Similarly, the level of cardholder fees explains why institution 2 is much more profitable than institution 1 on the issuing side. If one generalises this example to all institutions in both countries, the figures shown in Graph 41 are consistent with this.

2.1.4 Profitability vs interchange fee

Of the 136 institutions reporting data for the credit card issuing business for 2004, 118 also reported data on the total revenue obtained through interchange fees. It should be noted that 100 of these 118 reported positive profit ratios. In order to quantify the importance of the interchange fee in the total income of the issuing institutions, we have carried out an additional exercise. We compared the total income of these 100 issuers, i.e. including the part generated by interchange fees, with the income that the same issuers would obtain if the interchange fees were taken out from their total revenue (which is equivalent to having a zero interchange fee).

This exercise reveals that if that part of total income due to interchange fees were to be taken out, 62 of the 100 institutions reporting positive ratio profits would nevertheless remain profitable[77]. These findings may partly be explained by the likelihood that the income from cardholder fees and interest may make issuing profitable anyway. Graph 42 shows the country weighted average profit ratio for the 118 issuers, both when that part of revenue due to interchange fees is included in total revenue and when it is excluded.

Graph 42



The fact that a high number of issuing institutions remain profitable in the extreme situation of a "zero" interchange fee is relevant. From our exercise, it can be concluded that in 20 of the 25 countries, the interchange fee significantly adds to the positive level of profits in the credit card issuing business that would be obtained anyway with zero interchange fees.

This exercise seems to partially invalidate one of the main results of the theoretical models described in the chapter on the economic literature, which suggest that a positive "optimum" level of interchange fee is needed because price market mechanisms fail to internalise the existing externalities, with the result that total system output would suffer if issuing were not subsidised through the transfer of revenues from acquirers. Naturally, the aim of this exercise is not to argue in favour of a "zero" interchange fee but, in the light of the results, it is legitimate to question the "optimality" of the current level of interchange fees in several countries. Our findings seem to confirm some recent theoretical predictions of the two-sided market literature, which suggest that privately optimal interchange fees may be too high, notably if merchant fees increase with interchange fees but issuers do not pass the additional interchange fee revenue back to cardholders. In this case, high interchange fees are a way to

[77] Naturally, it is straightforward to conclude that the number of profitable issuing institutions would be even greater for a reduced interchange income than for a zero income.

transfer profits to the side of the scheme where they are least likely to be competed away (Wright, op. cit. 2004).

Similarly, these results also seem to cast substantial doubt on the justifications for the existence of interchange fees put forward by the payment card systems. For instance, one international network believes that in the absence of POS interchange fees paid by acquirers to issuers, issuers would have to recoup all of their costs from cardholders and this would lead to a level of card issuing that is "not optimal" for the system as a whole. This statement seems to be largely refuted by our results. The justification put forward by another international network, which considers that the interchange fee provides for a transfer of revenue between issuers and acquirers to achieve the optimal delivery of services by both acquirers and issuers to merchants and cardholders, is also not supported by our results. For instance, looking at country U in Graph 41, it can be seen that the issuing of credit cards is much more profitable than acquiring (which is even negative). Moreover, Graph 42 shows that issuing credit cards in country *U* would still be profitable even with a zero interchange fee. In such a context, the role of interchange fees as a "mechanism to redress the imbalance between issuers' and acquirers' costs and revenues in delivering a payment card service" is not readily understandable.

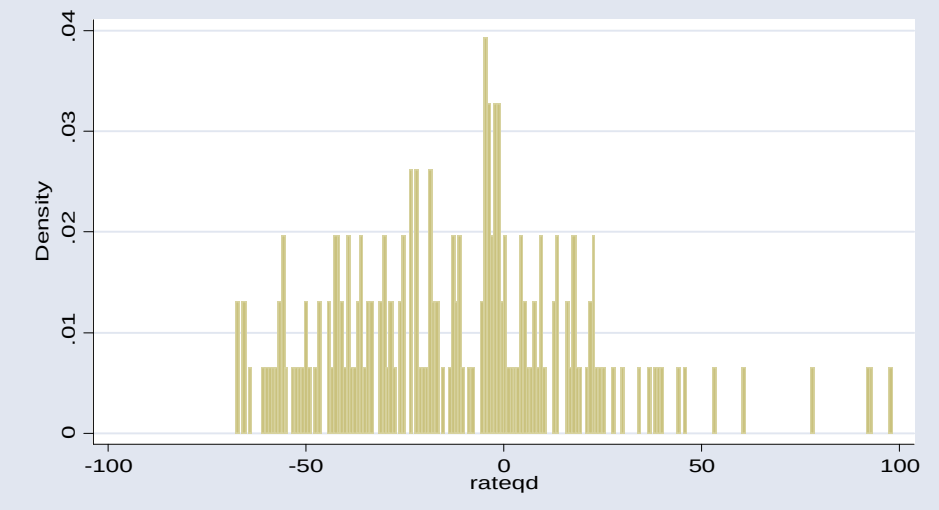
2.2 Debit cards

2.2.1 Acquiring business

a) EU-25 comparison

Of the 53 respondents that reported figures for the acquiring of debit cards in 2004, 30 reported a positive and 21 a negative profit ratio. Graph 43 shows the distribution of profit ratios in the acquiring of debit cards for 2004 for all respondents in 19 countries[78].

Graph 43 - Distribution of profit ratios in acquiring of debit cards, 2004



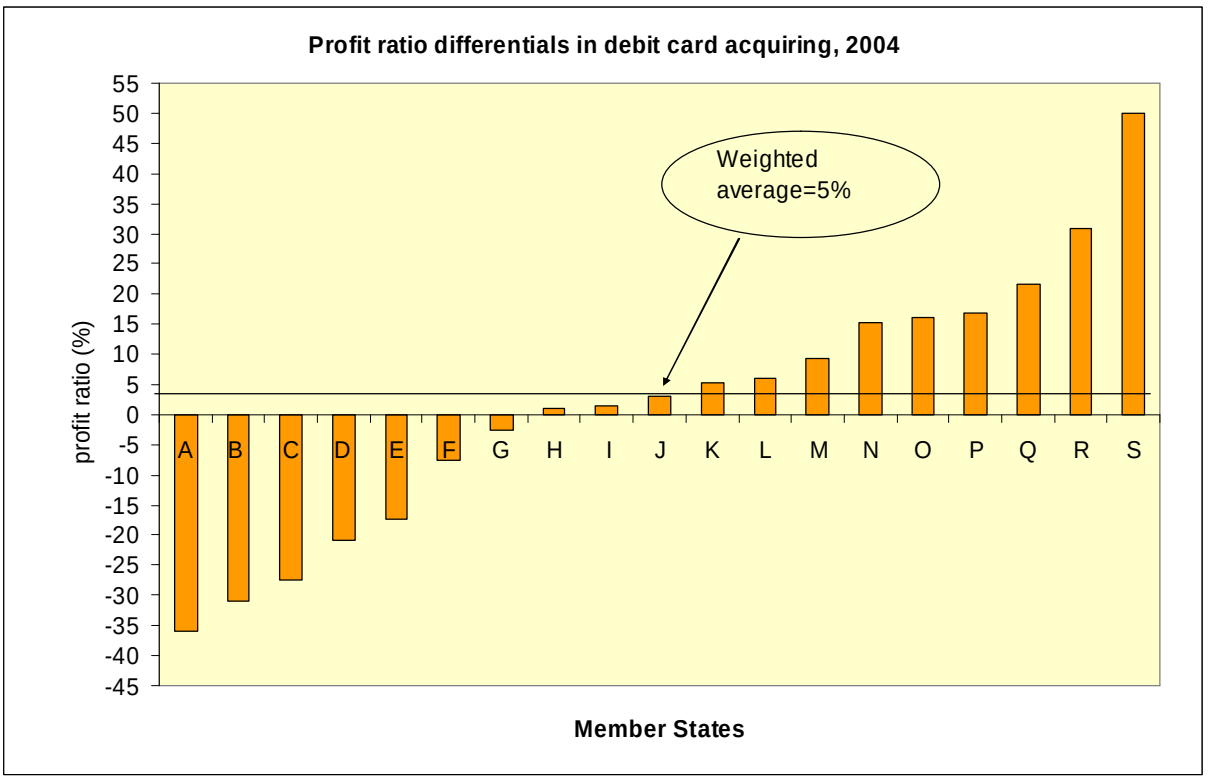
The distribution in Graph 43 reveals that reported profit ratios tend to be concentrated around zero (the median value is -3%). The overall weighted average profit ratio is 5% (weights are given by the total income of acquirers), which suggests that the acquiring of debit cards is on average significantly less profitable than the acquiring of credit cards at EU level.

[78] Six countries were excluded from the analysis of debit card acquiring because of data unavailability.

b) Country analysis

Turning now to the analysis of profitability at country level, Graph 44 shows the country weighted profit ratios in the acquiring of debit cards for 2004.

Graph 44



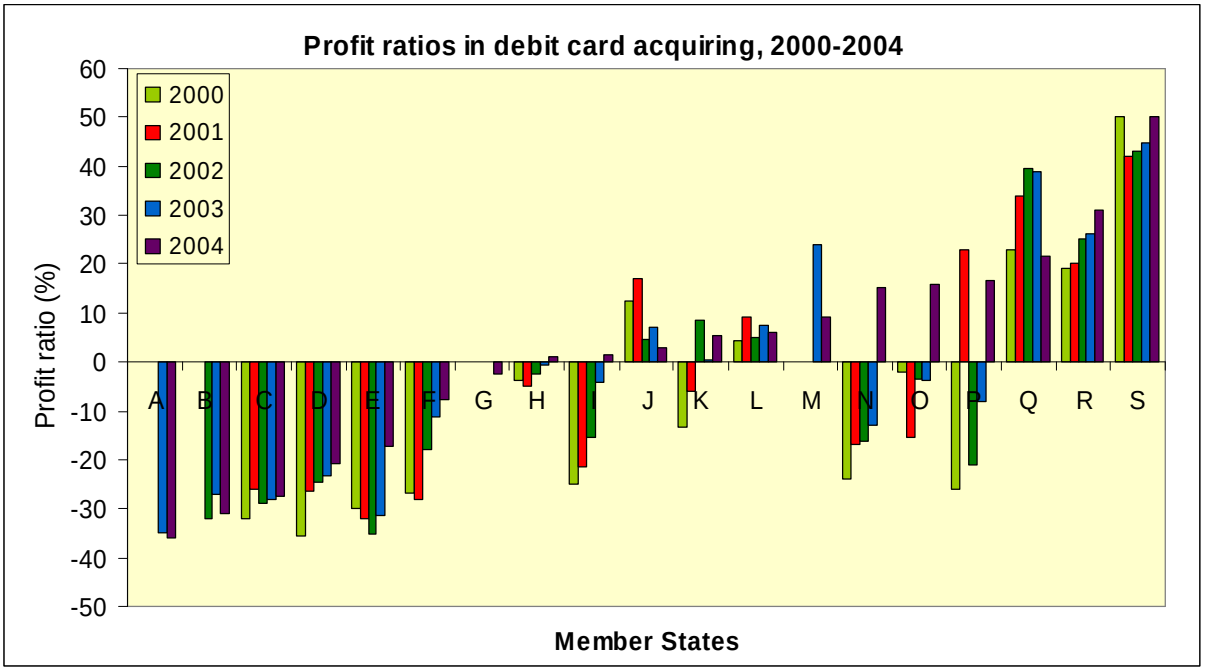
Graph 44 shows a strong variation on the weighted profit ratio across countries. The weighted country profit ratio varies from -32% to 35%. The acquiring of debit cards is only profitable in 12 out of 19 countries in the EU in 2004.

As with the analysis of credit cards, some of these profit ratios are based on only a limited number of observations, which again means that results may not be entirely representative of profitability for a given country. In certain cases, the sole observations in the sample are representative of the country, given that they are from large and specialised acquiring institutions. However, some caution is necessary in cases where the country figure is based only on a small acquirer.

For countries with a significant number of observations, we can assess the profit ratio variability within a country. In country *D*, for instance, we can conclude that acquiring is unprofitable because all 13 acquiring institutions reported negative profit ratios. In contrast, all 4 institutions in country *S* reported positive figures — the two biggest institutions reporting profit ratios of around 50% — which seems to prove that the acquiring of debit cards in country *S* is a profitable business. It is interesting to note that a similar pattern for these countries is found above for the acquiring of credit credits.

Graph 45 reports the weighted profit average ratios by country over the period 2000-2004. From the analysis of this graph, we can conclude that profit patterns remain consistent in at least a certain number of countries over this period of time. Accordingly, the magnitude of profit ratios in the acquiring of debit cards seems to follow a medium-term trend in these countries.

Graph 45



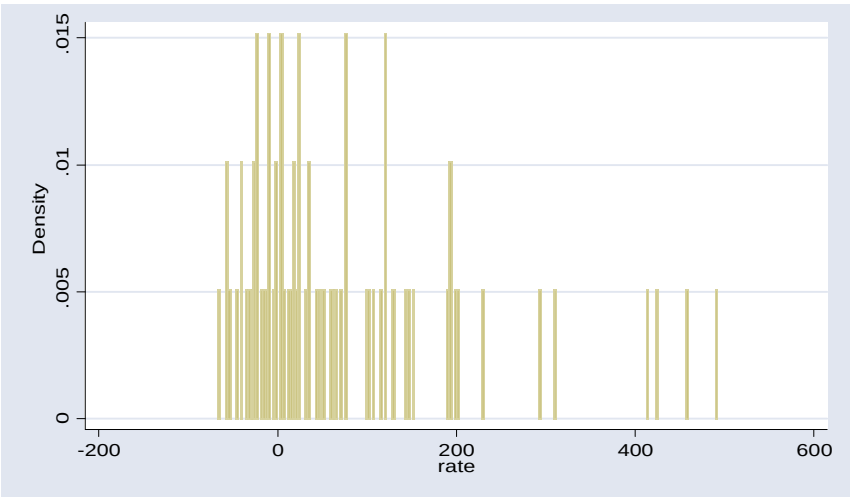
For other countries, the results are somewhat more difficult to interpret. Some of these results are explained by the fact that some of the respondents are not represented in the sample over the entire period.

2.2.2 Issuing business

a) EU-25 comparison

Four countries were excluded from the analysis due to data unavailability. Of the 71 respondents reporting figures for the issuing of debit cards in 2004, 21 reported a negative profit ratio. Seventeen issuer institutions reported a profit ratio below -10%, 18 reported a profit ratio between -10% and 33%, 18 between 33% and 120% and 18 above 120%. Graph 46 shows the distribution of profit ratios in the issuing of debit cards for all respondents in 2004.

Graph 46 - Distribution of profit ratios in the issuing of debit cards, 2004



If one also takes into consideration that the weighted profit ratio of all respondents for 2004 is 47% (weights are given by the total income of debit card issuers), it seems reasonable to conclude that the debit card issuing business is profitable at EU-21 level. As for credit cards,

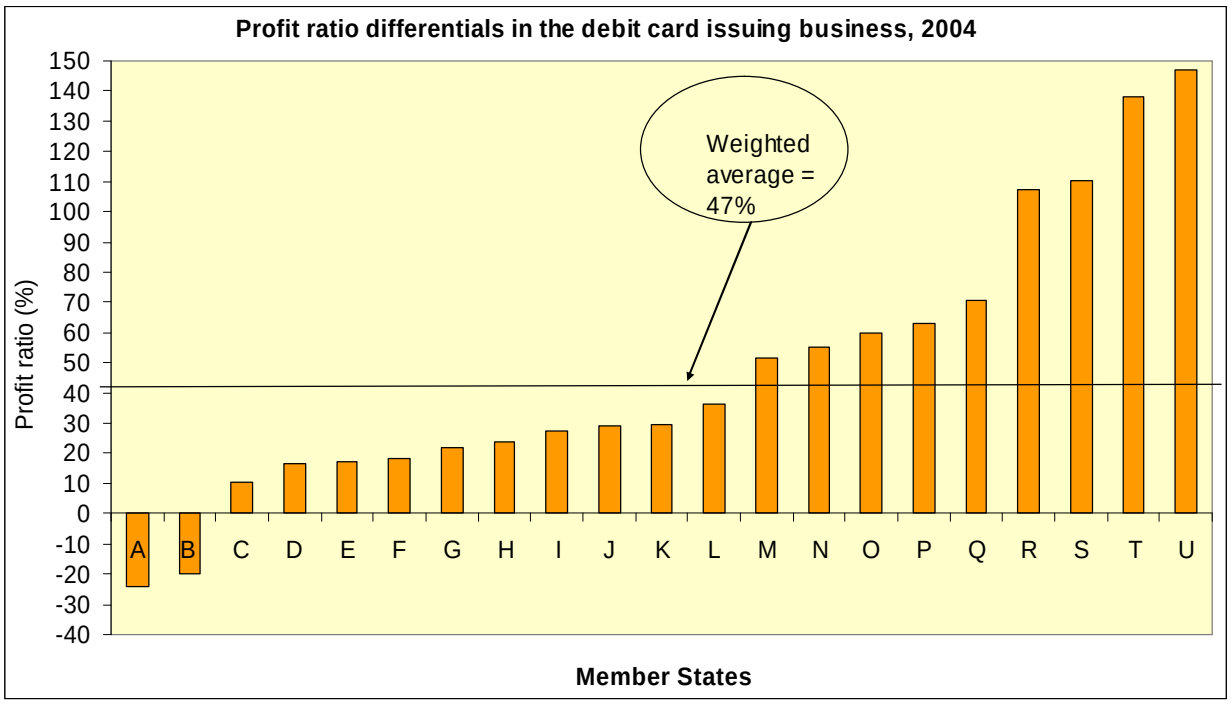
these simple statistics show that issuing for debit cards is significantly more profitable than acquiring.

Interestingly, the weighted profit average ratio for the issuing of debit cards in the EU-21 is lower than that for the issuing of credit cards in the EU-25 countries (65%). In order to draw a more meaningful conclusion about the level of profitability in these industries, we compared the profit ratios of issuers that issue both credit and debit cards. Using the figures reported by 54 issuers which issue both credit and debit cards, we obtain for 2004 a weighted profit ratio of 43% for debit cards and a weighted profit ratio of 63% for credit cards. This seems to prove that the issuing of credit cards is on average more profitable than the issuing of debit cards.

b) Country analysis

As with acquiring, we also carried out an analysis of the profitability of issuing at country level for 2004. Again, in order to avoid giving equal weight to small and big acquirers in the determination of the overall country profit ratio, the country profit ratio is a weighted average for all issuers of debit cards in the country in question (the weight is given by the total income of debit card issuers). Graph 47 shows this weighted profit average ratio for 21 Member States for 2004.

Graph 47

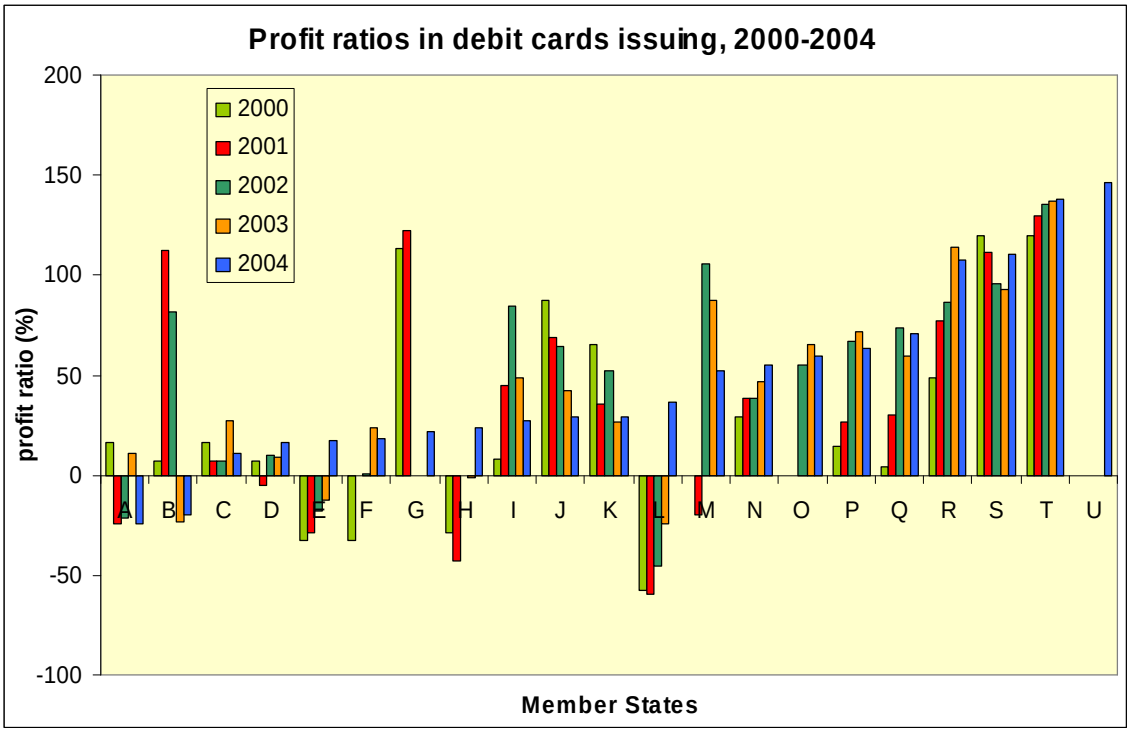


As shown in Graph 47, the income generated by the issuing of credit cards is higher than the associated costs in 19 out of 21 Member States. The country weighted average profit ratios vary from -20% to more than 140%.

It is interesting to note that all 6 respondents in country *T* reported positive rates. Looking at the two largest issuing institutions in this country, their profit ratios are 150% and 140%, respectively. This is clear evidence that issuing debit cards in country *T* is a very profitable activity. In some countries, issuing institutions are somewhat more heterogeneous. Looking in detail at the data, it is possible to conclude, again, that differences in cost structures may to a large extent explain the discrepancies in profit ratios among issuing institutions.

Moreover, Graph 48 confirms that the pattern displayed by Graph 47 for 2004 is consistent over the period 2000-2004 in a number of countries.

Graph 48

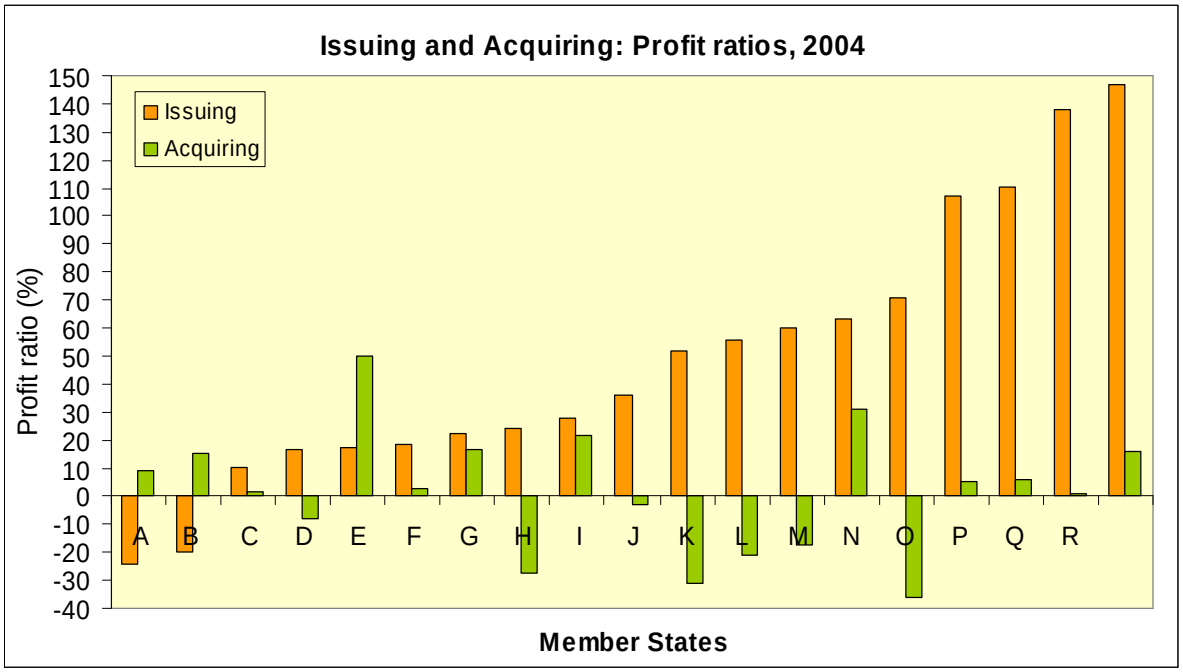


It seems unquestionable that for countries *S* and *T*, the existence and persistence of a very high profit ratio over a relatively long period of time seems to follow a medium-term trend. Unfortunately, it is not possible to draw any conclusion regarding country *U* because the sample does not contain observations for the entire period.

2.2.3 Taken issuing and acquiring businesses together

An analysis of Graph 49, which gives a comparison of weighted average profit ratios for the issuing and acquiring of debit cards across countries, shows that, as for the credit card analysis, issuing is clearly more profitable than acquiring in almost all countries.

Graph 49



The reason why issuing is several times more profitable than acquiring in some countries, e.g. country *S*, is again the role played by the interchange and cardholder fees. In fact, while the level of the MSC charged by an acquirer in country *S* to merchants is very high, the amount of interchange fee per transaction, which is transferred to the issuing side, erodes its profit margin. This also confirms the results in the chapter on merchant service charges, where it is shown that this country had the highest weighted average interchange fee as a proportion of the weighted average merchant service charge in 2004. As regards the debit card issuing industry in country *S*, one can observe that the two largest issuers receive revenue from the interchange fee that is 5 times higher that the cost associated with the transactions carried out. Additionally, these issuers also receive a considerable amount in cardholder fees. Consequently, the issuing of debit cards is very profitable in this country.

3. Conclusion and analysis

The issuing of credit cards is very profitable. On a pan-EU scale, credit card issuers had a weighted average profit-to-cost ratio of 65% in 2004 while debit card issuers had a weighted average profit ratio of 47%. In most EU Member States, the weighted average profit ratios remained fairly stable over the period 2000 to 2004. It therefore appears that in most countries the magnitude of profit ratios is not related to different stages of the business cycle in each market but rather follows a medium-term trend.

Interchange fees appear to magnify these profits. It appears that 62% of all banks surveyed would still make profits with credit card issuing even if they did not receive any interchange fee revenues at all. In 23 EU Member States, at least one bank participating in the survey was able to make a profit from issuing credit cards without interchange fees.

The weighted profit-to-cost ratio of all respondents for credit card acquiring was 15.9% in 2004, and for debit card acquirers 5%. In a large number of EU Member States, profit ratios remained fairly stable over the period 2000 to 2004.

The reason why issuing is several times more profitable than acquiring in the majority of countries is the role played by the interchange fee as a cost and revenue element in the payment card system.

While the profit ratios of acquirers and issuers in some markets are homogeneous, banks in a few countries reported strongly diverging profit ratios. The individual balance sheets of acquiring and issuing banks showed that this is mainly due to the strongly varying cost structure of acquirers and issuers in these countries.

Finally, it was found that two institutions with a similar size in two different countries where the level of interchange fee is similar may display different profitability ratios. Cost inefficiencies seem to explain the different profitability on acquiring while the level of cardholder fees seems to explain the different profitability on issuing.

The analysis of profit ratios in POS payment card systems may provide valuable information for a competition analysis. In this respect, it is worth noting the following observations.

First, the high and persistent profit ratios found by this inquiry in relatively mature markets, together with other evidence collected on entry barriers, suggest the existence and exercise of market power in these markets.

Second, the question whether card issuers can offer payment cards at affordable prices to consumers in the absence of interchange revenues is of relevance for a competition analysis of interchange fee agreements. If the transfer of revenues were necessary for the operation of a payment card system, then interchange fee agreements may not be caught by Article 81(1) EC, even if the fees determine the prices charged by an acquirer to merchants. However, the above findings on the profitability of payment card issuing cast doubt on the assumption that in the absence of interchange fees, issuers could not recoup their costs from cardholders.

This observation does not exclude, however, that the use of interchange fees may lead to the more efficient operation of a POS system. However, it does seems to confirm some recent theoretical predictions in the literature on two-sided markets suggesting that privately optimal interchange fees may be too high, notably if merchant fees increase with interchange fees but issuers do not pass the additional interchange fee revenue back to cardholders. In this case, high interchange fees are a way to transfer rents to the side of the scheme where they are least likely to be competed away.

Finally, the cost structure of acquirers may provide valuable information on the reasons for high market concentrations. If fixed costs rather than variable costs were the reason for the low profit margins of banks in a given country, the need for scale may be the principal reason why there are only a few acquirers in this market. In this respect, while fixed costs may be of importance for some individual banks, it would appear in general that the costs of acquirers are determined by interchange fees, which are variable costs. This cost structure for most of the acquirers surveyed raises the question whether reasons other than scale may be responsible for the high concentration of the acquiring business in some countries, such as the existence of interchange fees.

Section C

Organization of the Industry

VIII. Concentration of Acquiring and Issuing Businesses

This chapter aims to analyse the degree of concentration on the acquiring and issuing sides of the payment card markets across the EU-25. It is interesting to see whether acquiring is really as competitive as some of the literature claims it to be, and if not, whether there are any particular reasons for the level of concentration in certain Member States.

1. Acquiring

The concentration of acquiring activity is assessed in terms of how many institutions offer payment card acquiring services in a given Member State. The degree of concentration is assessed separately for each payment card network. The analysis, therefore, looks separately into international credit, international debit and national networks.

It needs to be noted, however, that a concentration analysis says nothing by itself about possible coordination in the market. Moreover, it says nothing about whether a monopoly acquirer, should one be identified, extracts significant rents through exercising its market power. What this analysis also does not assess is a set of other nonetheless important factors, such as, for example, whether acquiring is vertically integrated, whether all acquirers jointly own a processor, or whether the scheme (i.e. "set of rules") is managed by an association of acquiring banks, even though each bank has an "independent" acquiring licence. All these conditions may affect competition amongst market players. Furthermore, some merchants, particularly larger ones, that choose to accept international payment cards (among others) are just as likely to be acquired by cross-border acquirers. Under these conditions, cross-border acquirers may join in for the competition for these merchants with domestic acquirers. The analysis, nonetheless, does not look at overall concentration in acquiring but rather limits itself to domestic concentration (i.e. excluding the aspect of cross-border acquiring).

1.1 Acquiring in international payment networks: credit cards

An analysis of the level of concentration yields some interesting results. Graph 50 shows the level of concentration in the acquiring of credit cards for one of the international networks, measured in terms of the Herfindahl-Hirschman Index (HHI), as well as the number of acquirers across the EU-25 Member States for 2004. An HHI of up to 2000 is assumed to raise no substantial competition concerns.

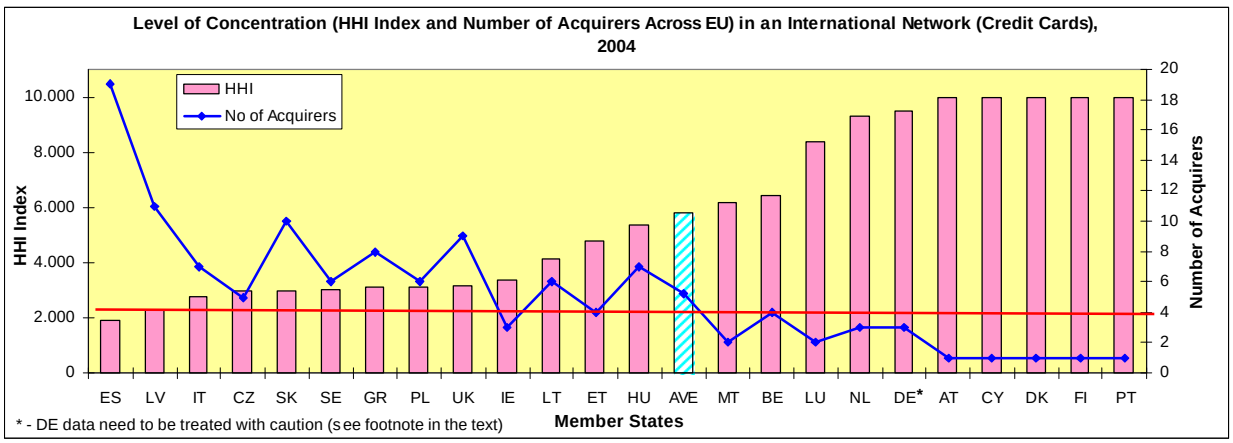
The graphical analysis shows that acquiring is quite concentrated across the EU-25. Spain is the only country where the level of concentration is below 2000. In five Member States, namely Austria, Cyprus, Denmark, Finland and Portugal, acquiring for MasterCard credit card transactions is performed by a single institution. Furthermore, three others (Luxembourg, Netherlands, Germany[79]) have an HHI higher than 8000, meaning that acquiring is very concentrated, albeit not in the hands of a sole acquirer. In some countries, one player may have around 90% of the total acquiring volume for the MasterCard credit card transactions of the country. The average HHI across the EU-25 is about 5800.

The number of acquiring institutions per Member State allows us to assess, in addition to the concentration index, whether a high concentration signalled by high HHI is caused by a low

[79] These numbers rely solely on data provided by the network. The network reported the aggregate acquiring turnover under the name of a licensing company. This aggregate turnover may in fact represent the cumulative acquiring turnover of at least 3 network licensees. The individual turnover data of these licensees were not supplied by the network and therefore are not considered in the analysis. Cross-border acquirers are not accounted for either. For these reasons, the level of concentration shown in the graph 50 may in fact significantly overestimate the true one. For the sake of consistency, however, it was decided to present the network's reported numbers 'as is' (with no adjustments).

number of acquirers as such, or rather by big market shares held by a few/single players in the market. As the graph shows, apart from a few spikes, a high concentration goes hand in hand with a small number of acquirers in a particular Member State. Spain, for example, has a low concentration but also the highest number of banks (19) performing acquiring in the network considered, which is in line with this first explanation. Spikes are also seen, on the other hand, in countries where the level of concentration remains quite high despite a large number of acquirers. Examples include Slovakia, the UK, and Hungary. However, this can be explained by the second argument that a large number of banks can still result in a high concentration where market share is unequally distributed among acquirers.

Graph 50



A simplified analysis of the dynamics in the level of the HHI across the EU-25 (see graph 51) reveals that across the EU-25 there are countries with both falling and rising levels of concentration over the period from 2000 to 2004. Rather than focusing on the direction of change, the analysis starts with an assessment of the absolute changes. For the sake of simplification, countries with an absolute change of 10% or less are considered to be countries with insignificant variation in the level of concentration and are therefore are not analysed in detail. In contrast, countries with absolute variations exceeding the 10% threshold are scrutinised further. Thus, it turns out that the majority of the countries with significant changes in the degree of concentration over the period examined are new Member States, i.e. the Czech Republic, Hungary, Latvia, Lithuania, Malta, Poland and Slovakia. Since these countries are characterised by quite immature and unstable payment card markets, these changes may be explained by market adjustments. No consistent pattern of change is noticeable across these countries.

Among countries with significant variation in the level of concentration, the following three old Member States stand out: Greece, Ireland and Luxembourg. A detailed analysis of the cause of such significant changes in the acquiring concentration has been performed in order to understand the underlying reasons in each of these geographical markets.

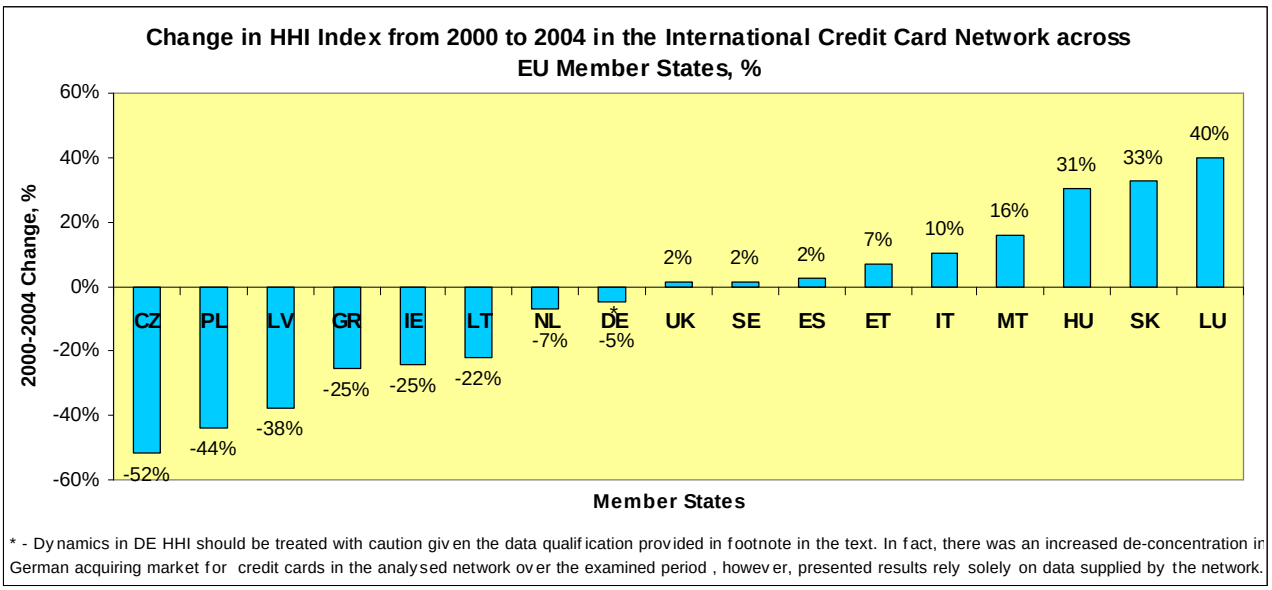
In Greece, a 25% decrease in the HHI can mostly be explained by the fact that, as of 2000, more acquirers joined the acquiring market for the credit cards of the network considered, therefore raising the total number of acquirers. Simultaneously, the share of the biggest player fell over the same period, further pushing down the concentration index.

In Ireland, however, a 25% drop in the HHI was due to slightly different reasons. Even though the overall number of acquirers went down, the downward pressure on the index was caused by a significant “reshuffling” of the market shares of the three biggest banks. The biggest acquirer in 2000 had lost by 2004 a significant part of its market share to its competitors. This

brought down the concentration, as the strong market position of the main acquirer had been weakened by the increased shares of the other two competitors.

In Luxembourg, on the other hand, the concentration index increased by an astonishing 40%. In fact, this was the highest relative growth in the concentration index across the whole EU-25 (ahead of Slovakia with 33%). A detailed analysis suggests that the increased concentration was mostly due to the fact that from 2000 the main acquirer had been constantly expanding its market share for credit cards, while the share of its main competitor had been gradually falling.

Graph 51

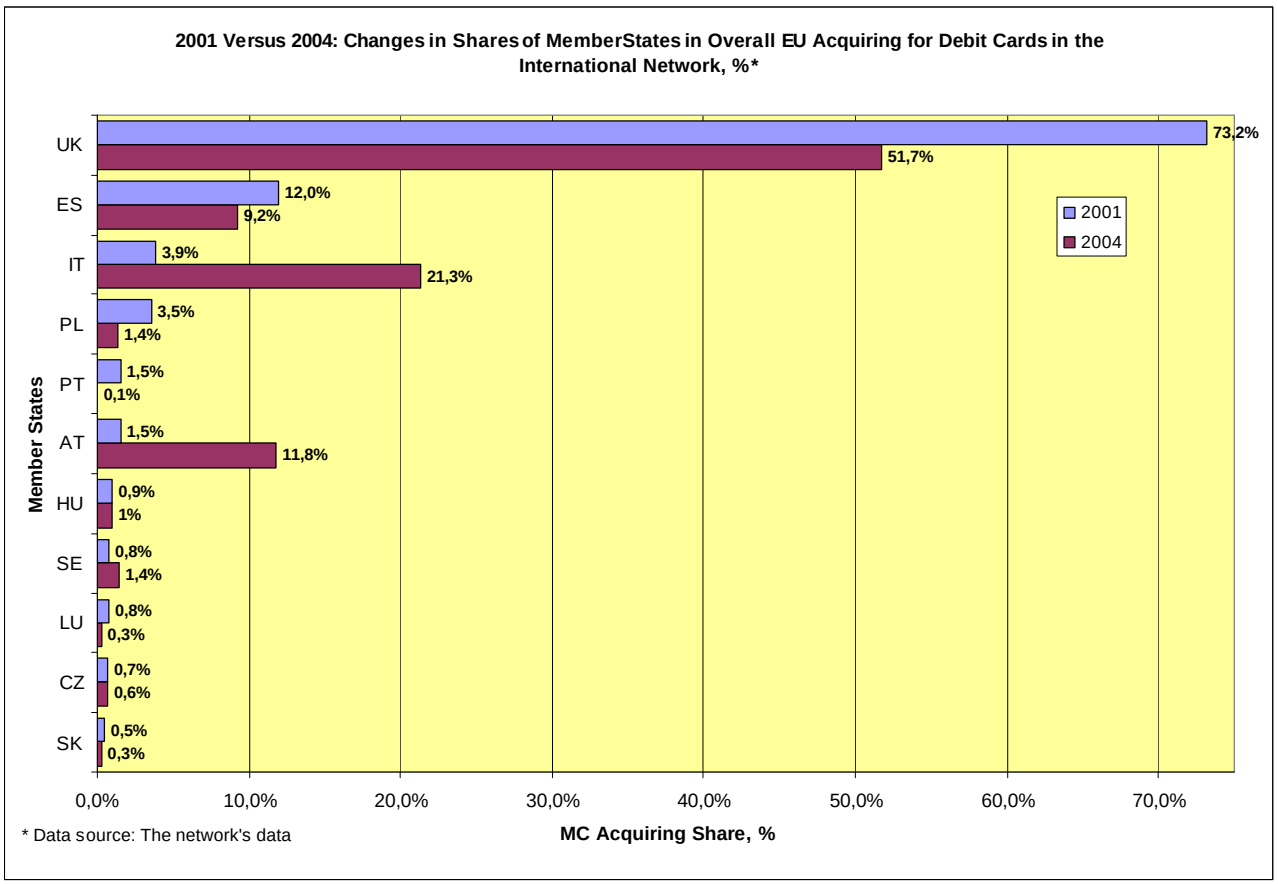


* - Dynamics in DE HHI should be treated with caution given the data qualification provided in footnote in the text. In fact, there was an increased de-concentration in German acquiring market for credit cards in the analysed network over the examined period , however, presented results rely solely on data supplied by the network.

1.2 Acquiring in international payment networks: debit cards

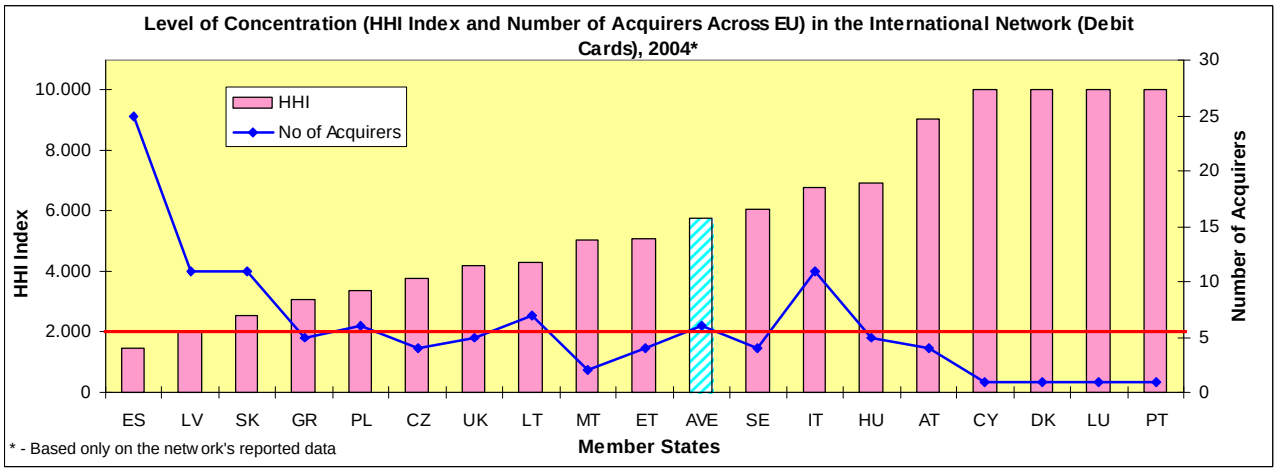
According to data supplied by one of the international networks, the total merchant sales volume, i.e. acquiring volume, on debit cards in the EU-25 had increased by more than 400% by 2004. In 2001, the UK alone accounted for more than 70% of this volume. By 2004, however, its relative share had fallen substantially to about 52% (30% drop) (see Graph 52). In 2001, more than 85% of the total acquiring turnover on debit cards in the network in question was generated just in the UK and Spain. By 2004, however, the share of Spain had fallen (by about 20%), while that of other Member States had increased significantly. Thus, the share of acquiring volume generated in Italy grew from a moderate 4% in 2001 to 21% in 2004, corresponding to a relative growth of more than 450%. Similarly, the relative share of the Austrian acquiring volume on debit cards in the network grew from 1.5% to 12%, amounting to almost 700% growth in relative terms. As a result, the combined share of the UK, Italy and Austria in 2004 accounted for about 85% of the total acquiring volume for the debit cards of the network in the EU-25.

Graph 52



The analysis of the level of concentration across the EU-25 in the acquiring of debit cards in the network considered (see Graph 53) suggests that, as with the acquiring of credit cards, the acquiring of debit cards is characterised by a high degree of concentration. Only Spain (HHI of 1464) and Latvia (HHI of 2018) are below or slightly above an HHI of 2000. The same group of countries as for credit cards (with the exception of Luxembourg and Finland) report a single acquirer for debit cards, namely Cyprus, Denmark, Luxembourg and Portugal.

Graph 53[80]



[80] This graph does not include acquiring volumes on co-branded cards if another facility (not that of the network considered) was used for transactions. Thus, no volumes are reported for some countries.

The analysis of the dynamics in the HHI shows that 5 of the 18 countries analysed, which also happen to be countries with a single acquirer, show no changes in terms of their respective levels of concentration over the 2000-2004 period (i.e. Austria, Cyprus, Denmark, Luxembourg and Portugal) (see Graph 54).

As previously, Member States with a significant variation (more than 10%) were analysed further. Thus, as with the acquiring of credit cards, most of the countries with a substantial variation over the period examined were new Member States (Estonia, Hungary, Latvia, Lithuania, Poland) with quite "immature" acquiring markets and therefore possibly unstable acquiring. As before, no particular pattern can be identified (both increasing and decreasing concentrations are equally reported).

Among the old Member States, a substantial variation in concentration levels was observed in four countries: Greece, Spain, Sweden and the UK.

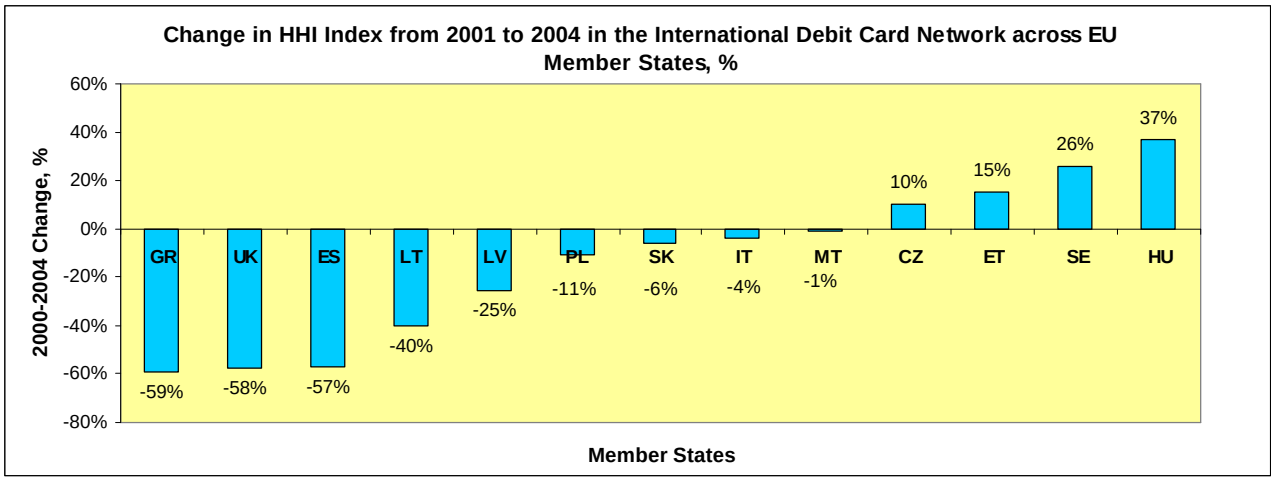
In Greece, despite a fall in the number of acquirers for the network's debit transactions, the HHI concentration index went down by almost 60%. That was mostly due to the fact that the biggest acquirer in 2001, which acquired most transactions back then, subsequently lost a significant portion of its market share to its competitors in the following years. In fact, this acquirer was no longer the market share leader by 2004. Therefore, the concentration index was brought down mostly through the redistribution of acquiring market shares among the existing acquiring institutions.

A similar situation was observed in Spain, where the HHI also dropped by almost 60%. Here, in 2001 two acquirers jointly owned more than 80% of the total acquiring market for international debit card transactions in the network. By 2004, however, their joint share had dropped significantly, with other acquirers gaining an increasingly higher share of the acquiring market.

In the UK, a similar drop of almost 60% in the concentration index was caused primarily by two things. First, the overall number of acquirers for debit card transactions in the network increased over the 2001-2004 period. At the same time, the market share leader of 2001 had lost a substantial part of its market by 2004. On the other hand, two other acquirers had very much strengthened their position.

The level of concentration had actually grown in Sweden by 2004. This was mainly due to the fact that the total number of acquirers fell over the period examined. Furthermore, the market leader had expanded its market share in the acquiring of debit card transactions in the network considered.

Graph 54



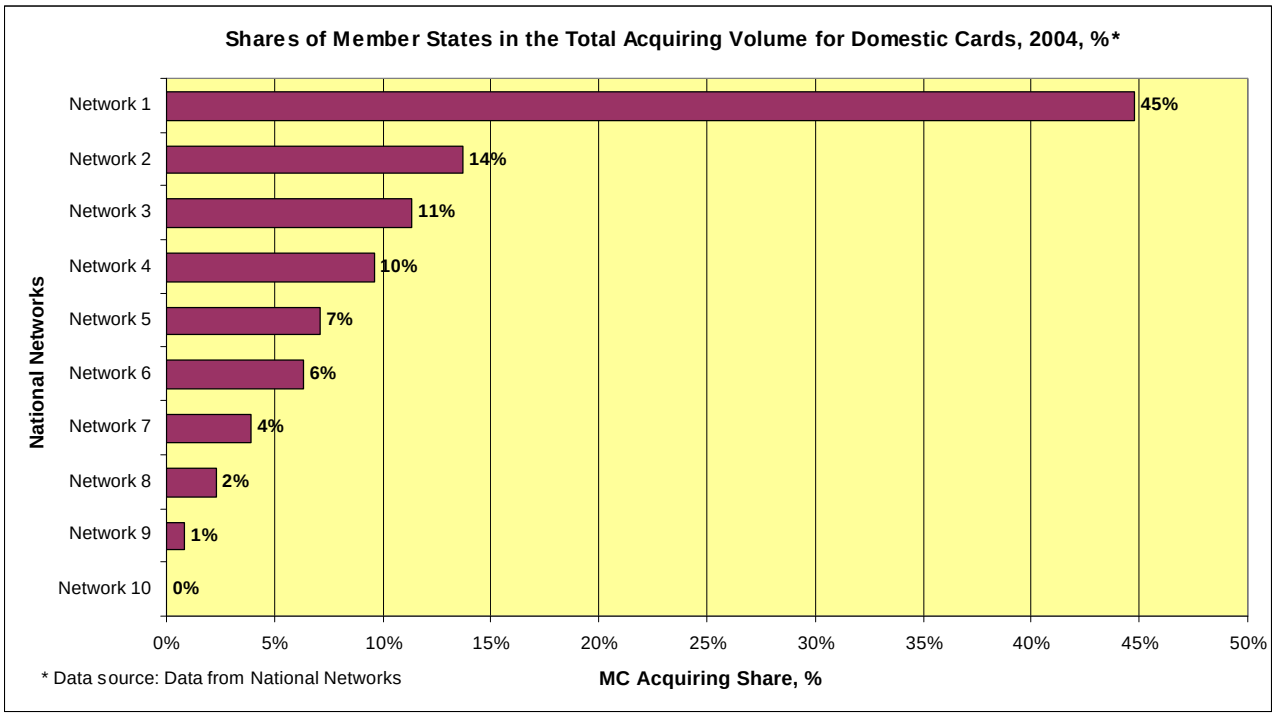
1.3 Acquiring in national payment networks

A similar analysis of the level of concentration has been performed for national networks. Only Member States with operating national networks with available transaction volume data have been considered. The analysis does not cover, among others, such national networks as Aurore (Cetelem, France), Moneta (Setefi, Italy), and Activa (KoperBanka, Slovenia). Nor does it look into Spanish networks, such as ServiRed, Sistema 4B and Euro 6000, because most of the cards issued in these networks are co-branded with international payment networks and are therefore analysed above.

Finally, many of the domestic debit cards issued in the national networks tend to be co-branded with international network brands, such as Maestro and Visa debit (in rare cases, for example in Finland, the domestic debit card Pankkikortti is co-branded with an international credit card logo such as MasterCard and Visa). Therefore, some of the volume reported for the national network may actually include turnover data reported by international card networks (such as MasterCard and Visa), leading to a possible double-counting of the market size as well as to the potential overstatement of the relative shares of each individual national network. This parameter has not been controlled for, and may therefore lead to a possible bias in the results.

The analysis looked into ten national (domestic) networks (see Graph 55). The joint acquiring turnover on these networks increased by about 50% in relative terms over the period considered. This cumulative turnover was more than four times higher than the turnover generated on one of the international debit networks in the same period. This result would be even more striking if the turnover generated in the Spanish national networks (ServiRed, Sistema 4B and Euro 6000) had been included.

Graph 55



As the next graph shows (Graph 56), most national networks are characterised by a very high level of concentration. In fact, 4 of the 10 networks analysed, according to the reported data, had a single acquirer in 2004 (Belgian Bancontact, Danish Dankort, Maltese Cashlink and Dutch Currence (PIN)). It needs to be noted, however, that following an investigation by the Dutch competition authority, Interpay (the operator of Currence (PIN) network) had to begin gradually transferring merchant contracts to individual Dutch banks in 2004, thus meaning there

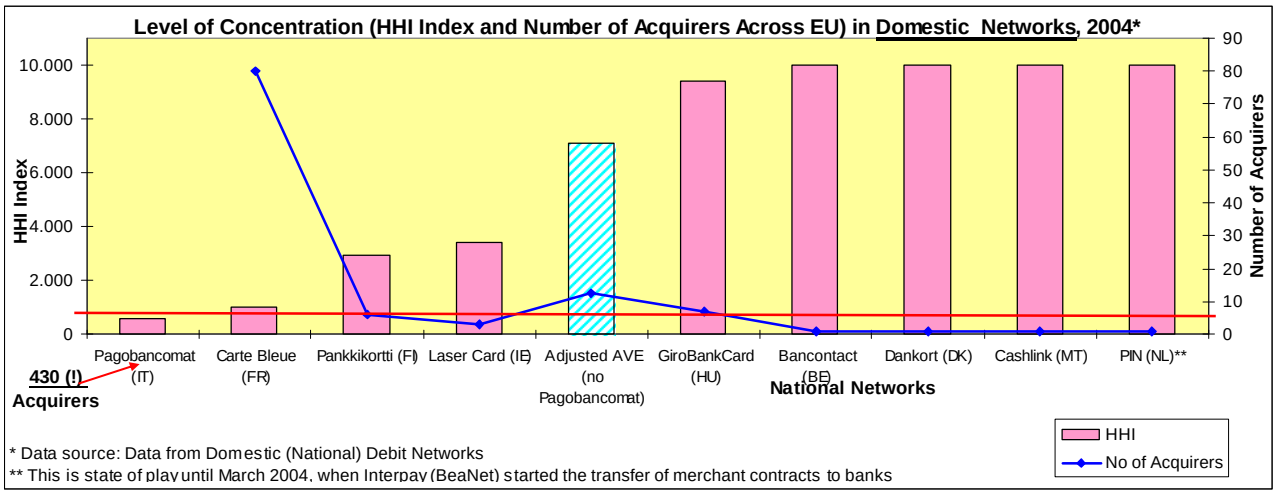
was no longer a single acquirer for domestic cards. In Germany, competition exists at the level of "network service provider", who assumes many of the functions performed by acquirers in other networks. Consequently, a single *de jure* acquirer in Germany (ZKA) does not lead to a *de facto* concentration in acquiring[81].

Hungarian GiroBankCard also reported a high level of concentration (HHI of more than 9000), owing to the fact that the bulk of acquiring turnover is handled by a single bank, K&H Bank.

The lowest level of concentration is found in the Italian national network Cogeban (Pagobancomat), with an HHI below 600. This low HHI was primarily due to an extremely high number of acquirers in the market (about 430) as well as the fact that no single acquirer has a large share of the market.

The second lowest level of concentration is observed in the French national network Groupement de Cartes Bancaires, with an HHI slightly above 1000. In 2004, there were about 80 active members in the network, though only four, generated over 50% of the overall acquiring turnover of CB.

Graph 56



Given the low level of concentration in Italy, its HHI has not been taken into account in calculating the average level of concentration and average number of acquirers in national networks across the EU-25. Were it to be included, this could create a significant bias in the overall result and therefore lead to misjudgment of the average level of concentration across the whole EU-25. Thus, excluding Italy, the average level of concentration in the EU-25 in 2004 was about 7100, which exceeded by about 24% the corresponding average level of concentration in the international networks considered (both debit and credit). The average number of acquirers, again adjusted to exclude the Italian Pagobancomat, was 13. When also adjusted for the relatively high number of French acquirers (80), the average figure fell to mere 3 acquirers per national network.

This result means that concentration in national networks remains very high across Member States. Nonetheless, as pointed out earlier in this section, this analysis alone is sufficient to determine whether single acquirers in these markets abuse their market power in an attempt to extract excessive rents, among other things to provide issuers with substantial gains through the interchange fee mechanism. What needs to be analysed further is whether a high level of domestic concentration actually leads to higher prices, i.e. for the MSC, that is to say,

[81] Due to the peculiarities of the German acquiring market, it is not included in Graph 56, as it could have given the misleading impression of an overly concentrated market (HHI of 10000 due to single *de jure* acquirer).

whether the level of concentration in a given country positively correlates with the level of the MSC charged in that country.

1.4 Analysis of the correlation between the HHI level, the number of acquirers and the MSC level

An analysis has been performed to determine the correlation between the level of the concentration index (HHI) and that of the weighted average MSC as well as between the number of acquirers in a given country and the MSC level.

Table 6 summarises the results of the correlation analysis. The analysis did not lead to any conclusive results. Even though the correlation between the HHI level and the level of the weighted average MSC in both international and national networks seemed to be positive (meaning that higher concentrations on average lead to higher levels of MSC), the absolute level of the correlation coefficient did not exceed 50%[82], with the highest correlation coefficient being recorded in national networks. Nevertheless, it needs to be borne in mind that this correlation analysis does not control for other variables that may affect the MSC level. These other variables may include interventions of national competition authorities, the average cost of acquiring in the country, etc.

Table 6

Degree of Correlation between level of HHI, number of acquirers and level of MSC across the EU-25, 2004, %

	International Credit Network	International Debit Network	National Network
Corrrelation b/w HHI index and Level of W/A **MSC**	22,3%	-0,5%	41,8%
Corrrelation b/w No of Acquirers and Level of W/A **MSC**	-9,4%	-17,4%	2,9%

2. Issuing

The analysis of the level of concentration on the issuing side of the payment card market yielded no evidence of excessive concentration across the EU-25 Member States. Generally, issuing is characterised by a high number of market players of varying size. No cases of a single issuer have been reported.

3. Conclusion and analysis

The economic literature seems to claim that the structure of two-sided markets leads to an outcome where acquiring is competitive and issuing is not. Evidence on market structures across the EU-25, however, seems to contradict this view. Acquiring, whether due to historical or other reasons, seems to be quite concentrated across many EU-25 Member States. Issuing, on the other hand, is much less concentrated.

The business of acquiring credit cards in the international networks appears highly concentrated. Looking at one of the international systems, where acquiring for credit cards has nearly doubled in the period from 2000 to 2004, it appears that the EU average concentration index — HHI — is quite high, reaching 5800 in 2004. This is almost three times the threshold of 2000 above which competition concerns start to arise. In this international system, the acquiring of credit card transactions is performed by a single institution in five Member States, while in three other Member States the HHI is higher than 8000, with one institution often having more than 90% of the total acquiring volume. A dynamic analysis of this market concentration in the

[82] The absence of a correlation does not prove the statistical independence of two sets of numbers, but a correlation coefficient approaching unity does indicate a strong statistical dependence.

period from 2000 to 2004 shows that in 10 EU Member States, the variation in the HHI was above 10%. Seven of these countries are new Member States.

The business of acquiring debit cards in the international systems appears equally highly concentrated. Looking at one of the international systems, where this business expanded by more than 400% between 2000 and 2004, the average HHI exceeded the threshold of 2000 in 16 Member States. Five of the 18 countries analysed in the time series (2000 to 2004) showed no change in the concentration index at all. As with credit cards, the Member States with significant changes (above 10%) in the concentration index were mainly new Member States.

Turning to national card payment systems, ten systems were analysed. The joint acquiring volume of these national systems grew by 50% between 2000 and 2004. The majority of national networks are characterised by a very high level of concentration in the acquiring business. The adjusted average level of concentration in these ten systems was about 7100 in 2004, which exceeds the corresponding level in the one international system considered by 24%.

A correlation analysis comparing HHI levels and the average levels of merchant service charges (MSCs) does not lead to conclusive results. Even though the correlation is positive for both the national systems and the one international system considered, the absolute level of the correlation coefficient does not exceed 50%. However, this correlation analysis does not control for other variables which may affect the level of the merchant rates.

IX. Integration of Card Payment Systems

1. Different degrees of vertical integration of card payment systems in the EU

In the EU-25, a wide range of different card payment systems with a varying degree of vertical integration can be observed. According to the degree of vertical integration, the various services described above may either be reserved to one or a few entities or be subject to competition among banks and non-bank institutions. The Commission has analysed the most important POS card payment systems within the EU.

The industry generally distinguishes between "*open*" or "*four-party*" card payment systems and "*closed*" or "*three-party*" card payment systems, where the scheme owner also engages in the financial aspects of the payment card business by issuing cards and acquiring merchants. This is the case for American Express, Citibank (Diners Club) and JCB, which (mainly) issue and acquire cards themselves. These systems are also referred to as "proprietary" systems, as the scheme owner typically is the proprietor of the technical network used for routing, switching, clearing and processing the transactions. The industry also calls them "T&E card" systems as these systems predominantly target cardholders who use cards in the travel and entertainment (T&E) industry.

This typological distinction between open and closed systems may, however, be too rigid to capture the full complexity of the payment cards business in the EU-25, as the boundaries between "typical" open and "typical" closed card payment systems are fluid and may change over time. So-called "open" systems, for instance, have a varying degree of "openness", as a scheme owner may decide to outsource issuing to individual banks but keep merchant acquiring "in-house". Likewise, formerly "closed" systems such as American Express and JCB may wish to expand their activity by entering into joint ventures with local banks or by licensing banks to issue their cards.

For a competition analysis, it may therefore be more appropriate to categorise POS card payment systems by their varying degrees of vertical integration as opposed to adopting a rather rigid classification into "closed" and "open" systems. The categorisation used here distinguishes those features of a card payment system that could be opened up to competition.

We propose the following categorisation. Systems where the entity owning the card brand essentially does not engage in any activity other than setting the parameters for access to the network and the technical standards operate at level "1". Here, scheme ownership is *legally* separated from network ownership and the financial business of issuing and acquiring. Where a scheme owner engages in further — technical or financial — parts of the cards business, further integration levels are reached as follows:

+ 1 level : scheme owner switches authorisation requests itself

+ 1 level: scheme owner authorises and processes transactions

+ 1 level : scheme owner clears and/or settles transactions

+ 1 level: scheme owner acquires merchants

+ 1 level : scheme owner sells and/or rents POS equipment

Thus, the minimum integration level is "1" while the maximum is "6". Within this framework, the most important domestic POS card payment systems in the EU, i.e.: systems that operate exclusively on a domestic basis, could be classified as follows:

Table 7

										6
										5
							4	4	4	4
						3	3	3	3	3
					2	2	2	2	2	2
1	1	1	1	1	1	1	1	1	1	1
IE	NL	DK	FI -	DE	FR	ES	ES	ES	PT	BE

It should be noted that in the Netherlands and Denmark the separation of scheme ownership and network operator is only formal as most of the banks that co-own the scheme also appear to co-own the network operator. Taking this into account, it may be more appropriate to assign an integration level of 4 to these schemes.

The international card payment systems MasterCard, Visa, Diners Club, American Express and JCB are more complex. Broadly speaking they could be classified as follows:

Table 8

		5	5	5
		4	4	4
3	3	3	3	3
2	2	2	2	2
1	1	1	1	1
MC	VISA	JCB	Amex	Diners

MasterCard and Visa are not only the scheme owners, they also clear and settle transactions (virtually all cross-border and some domestic payment card transactions), and they sometimes also authorise transactions if an issuing bank cannot be reached for technical reasons (so-called “stand-in” authorisations). Moreover, in some EU Member States MasterCard and Visa also process transactions on behalf of local member banks. Thus, the precise level of integration of both systems may vary from one EU Member State to another. Amex, Diners and JCB are vertically integrated to a higher degree than Visa and MasterCard as they typically do issuing and acquiring themselves.

The above tables provide a rough illustration of the significant structural differences between card payment systems and the possible scope for more competition within them. While domestic systems such as those in Ireland, the Netherlands, Denmark, Finland, France and Germany have legally separated scheme ownership from the technical and financial aspects of the payment cards business, other systems such as those in Belgium, Spain and Portugal have not yet taken this step and remain vertically integrated to a higher degree.

This comparison is only the first step in a complex analysis and no quick conclusions should be drawn from the above tables. Even systems with an integration degree of “1” may be difficult to penetrate for foreign banks (and non-bank service providers), because the separation of the card scheme from the technical/financial aspects of the payment cards business *alone* may not be sufficient to allow for real competition. This may be the case because other barriers to competition exist or because a scheme’s principal members may be able to adopt measures to reduce or eliminate the scope for competition.

Despite these caveats, the separation of scheme ownership, network operation and the financial aspects of the payment cards business, i.e. issuing and acquiring, may be a first important step towards more competition within a POS card payment system.

Case study: Partial de-integration of the MasterCard system in Austria

The evolution from a fully vertically integrated payment card system to a more competitive system may occur gradually, as exemplified by the MasterCard system in Austria. Here, the local banks set up an inter-bank company to create a domestic debit card system in 1980, which migrated to the Maestro platform in 1998. The banks decided to split the network operation from the financial aspects of the business. While their joint venture, Europay Austria, was to continue acquiring merchants, its processing activities were outsourced to another 100% subsidiary company of the banks, APSS. In November 2005, the banks finally relinquished all their shares in APSS. It is reported that the banks have entirely sold the processing business to an independent international card processor, First Data. Such sale of the processing business to an independent party turns the formal separation of the financial and the technical aspects into a real one. It provides a basis for competition between card processors in Austria, as APSS is now an independent processor who could compete with other international processors such as the Italian/Belgian/Dutch processor SinSys. The separation of processing and acquiring appears to be an important first step from a competition perspective, but Europay Austria still acquires virtually all domestic MasterCard and Maestro transactions, sells (and thereby controls) POS terminals to merchants and also remains the owner of specifications for communication standards.

The extent to which a card system is vertically integrated matters from a competition viewpoint, particularly with respect to the financial aspects of the cards business. These relate to the guarantees given by banks to both cardholders and merchants that a transaction will be settled if all formal requirements[83] are fulfilled. For issuing banks, the risk calls for, amongst other things, the careful assessment of a cardholder's creditworthiness and for acquiring banks it entails, amongst other things, the evaluation of fraud risks at merchant outlets[84]. Where inter-bank associations issue cards and/or acquire merchants on behalf of shareholder banks, the price for these financial services is not subject to competition between these banks. Examples include Banksys in Belgium and many inter-bank associations for acquiring merchants in the MasterCard and Visa systems (see the next section).

2. Joint ventures for acquiring services

A closer look at the international card payment systems MasterCard and Visa shows that in many EU countries member banks of these "open" systems concentrate financial acquiring in the hands of a joint venture. Merchants may therefore face one single offer instead of many offers from competing banks. The table below shows the eight EU countries where MasterCard and/or Visa member banks have set up joint ventures for acquiring merchants.

[83] For example, the collection of a signature on a receipt for the acceptance of a POS transaction.

[84] As well as the risk of incurring chargeback losses if a merchant goes bankrupt after a transaction is contested by a cardholder.

Table 9

Acquiring done by inter-bank associations	MasterCard	VISA	National system
Austria	X	X	
Belgium	X	X	X
Denmark	X	X	X
Germany	X	X	
Finland	X	X	
Italy	X	X	
The Netherlands	X	X	*(until 2004)*
Portugal	X	X	

In Austria, Maestro debit card transactions and MasterCard credit card transactions are acquired by a joint venture of Austrian commercial and savings banks called Europay Austria. Likewise, Visa's member banks in Austria concentrate credit card acquiring in the hands of a joint venture, Visa Austria.

In Belgium, member banks of the Bancontact/Mr. Cash system have set up Banksys to run the network and to acquire merchants. Banksys is the only acquirer for Bancontact/Mr Cash debit cards in Belgium and is co-owned by Belgian banks. It is the result of a merger between the Bancontact and Mr. Cash systems in 1989. Belgian banks moreover concentrate acquiring for MasterCard and Visa transactions in the hands of another joint venture, Bank Card Company (BCC). This joint venture has been acquiring Visa transactions since 1982 and MasterCard transactions since 1993 (merger with Eurocard Belgium). BCC is the largest acquirer for MasterCard and Visa in Belgium.

In Denmark, the joint venture PBS acquires merchants for all international payment cards, i.e. Maestro, MasterCard, Visa and Visa electron, as well as JCB. PBS is co-owned by Danish banks and its acquiring activity dates back to the 1970s.

In Germany, the inter-bank associations Concardis, B + S Card Service GmbH and Card Process GmbH acquire merchant contracts for MasterCard and Visa.

In Finland, banks have concentrated merchant acquiring for international payment cards in the hands of Luottokunta. Luottokunta is co-owned by some Finnish banks and, to a smaller extent, by individual merchants. Luottokunta acquires the Maestro, MasterCard, Visa, Visa electron and OK cards. Its acquiring activity for the Visa brand dates back to 1980, for MasterCard to 2004.

In Italy, banks have set up a joint venture called CartaSi for acquiring merchants. Its acquiring activity for MasterCard dates back to 1985 and for Visa to 1988. Until 2003, a committee of CartaSi recommended merchant fees and trading conditions, which the banks had to apply in the absence of explicit consent from CartaSi to do otherwise. The activity of the committee, however, had to be discontinued after a ruling of the Italian central bank, which held that the activity of the committee was illegal under Italian law. Today, merchant fees are determined by the individual CartaSi member banks that have a banking relationship with the merchant.

In the Netherlands, PaySquare BV is a joint venture of Dutch banks for acquiring merchants for MasterCard and Visa credit card acceptance. PaySquare BV was founded in 2004 through a legal separation from Interpay Nederland BV. However, PaySquare remains a 100% subsidiary of Interpay, which in turn is fully owned by Dutch banks. Paysquare's predecessor Interpay started acquiring MasterCard/Eurocard transactions in 1980 and Visa transactions in 2002.

In Portugal, banks co-own UNICRE, the sole acquirer for MasterCard and Visa merchant contracts in Portugal. UNICRE has been acquiring Visa since 1980 and MasterCard since 1974. UNICRE benefited from a legal monopoly between June 1985 and May 1991. After the legal monopoly was lifted in 1991, UNICRE remained *de facto* the sole acquirer for MasterCard and Visa.

Joint ventures and market access

In EU Member States and networks where inter-bank associations (joint ventures) acquire merchants, market access for foreign banks may be particularly burdensome. Local issuing banks may agree on preferential ("on us") interchange fees with the incumbent acquirer (an inter-bank association in which they have financial interests) but charge higher, multilaterally agreed interchange fees to any foreign acquirers attempting to compete with the incumbent. Informal complaints against Europay Austria in Austria and UNICRE in Portugal suggest that this may be a problem for competition within the MasterCard and Visa payment card systems.

Portugal: An informal complaint by an acquirer alleges that that the structure and level of domestic interchange fees in the Portuguese Visa system discriminated against foreign acquirers, as UNICRE had no problem agreeing preferential tariffs with its shareholder banks while foreign acquirers could not obtain equally low fees.

Austria: An acquirer claimed that local issuing banks agreed with their joint venture Europay Austria that any use of a POS terminal by acquirers other than Europay would be subject to high fees. Moreover, while multilateral "fallback" interchange fees were applied to foreign acquirers, domestic issuing banks conceded to their joint venture Europay Austria preferential ("on us") interchange fees for MasterCard/Maestro debit card transactions in a specific merchant segment (or even vis-à-vis individual merchants), making it more difficult for foreign acquirers to make a competitive offer to such merchants.

3. Implications of clearing arrangements

Some card payment systems do not have a multilateral clearing platform. Banks then have to arrange clearing (and chargebacks) bilaterally. This *"peer-to-peer clearing"* may raise the cost of market entry for foreign banks. A central acquirer expressly mentioned peer-to-peer clearing in the UK Switch scheme as one reason why its attempt to penetrate the UK Switch scheme in 2003 failed. Peer-to-peer clearing also exists in the national debit card system of Ireland.

A similar but slightly different structural issue arises in Finland (Pankkikortti), operated by the Finnish Bankers' Association (FBA). In addition to joining the bank card cooperation agreement, a new entrant would have to enter into bilateral cooperation agreements with the local banks to join the PMJ. PMJ is that part of the Finnish inter-bank payment system used for transmitting domestic bank card transactions. Clearing and settlement is subsequently done through the Bank of Finland's checking account system[85].

The bilateral agreements are administered by the FBA. In addition to meeting the formal conditions, a new entrant would have to find a sponsor bank and test its system on a bilateral basis against every other member's system. There are no rules on how to obtain a sponsor bank, but this is done on a voluntary basis. If this is not possible, the FBA appoints one according to a rotation scheme. There are also no rules governing when the testing is to be done and with which bank. According to the FBA, the entrant bank suggests a time schedule, which is subject to approval by the Banking Technology Committee of the FBA. The entrant bank is informed that the process takes about 9-12 months.

[85] Publication by the FBA, "Banking Technology in Finland", 2004, p. 20.

As in the UK and Ireland, new entrants in Finland can also gain access to payment system cooperation indirectly through another clearing bank, either as users of another clearing bank's services, with their own bank number and own account number for their customers, or, as customers of a clearing bank, without an own bank number.

The Commission's sector inquiry provided indications that multilateral clearing platforms may be competition-enhancing within domestic card payment systems, as they facilitate market entry for foreign banks. In systems with bilateral clearing arrangements, foreign banks may have difficulties in gaining access to clearing facilities as this depends on the willingness of all local banks to enter into bilateral clearing arrangements or on the goodwill of a "sponsor". The existence of sponsorship alone may not be sufficient to allow market entry if local banks have no commercial interest in sponsoring a potential competitor. In order to promote cross-border competition, card payment systems should be invited to set objective and verifiable rules that grant new entrants a right of access to sponsorship by one of the incumbent banks, or — if this is technically feasible — set up a multilateral clearing platform. Similar concerns may arise where membership in a card payment scheme as such relies on being sponsored by a principal member, normally an incumbent in the market.

4. Membership requirements to buy processing services

In systems where scheme owners also provide processing services, member banks may be required to buy processing services in order to obtain a license for issuing a certain card or acquiring merchants for a certain card brand.

One of the international schemes relies on an exclusivity arrangement with member banks regarding its clearing services for domestic debit card transactions. In one case, for seven years after migrating the national scheme to the international scheme, the member banks are obliged to use the processing facilities of the international network for domestic payment card transactions as well. Only after these seven years will members be free again to use third party providers for processing services with regard to that card brand. It remains to be seen whether banks agreed to this exclusivity arrangement in return for investment by the international scheme in the processing facilities of the former national scheme.

5. Analysis

Card payment systems reserve the issuing of cards and acquiring of merchants to financial institutions. Some of these schemes also require banks to be supervised by the local central bank, thereby *de facto* requiring the physical presence of foreign banks. This requirement is sometimes also mirrored by the rules of a national central bank, which reserves certain financial activities of entities in payment systems to banks under its supervision. These requirements limit the provision of cross-border services by banks without a physical presence.

While the supervision by central banks may be an efficient tool to guarantee the financial reliability of players acting in card payment systems, it could be worthwhile to explore whether an objective requirement for a certain rating by international rating agencies may also be sufficient to ensure the financial stability of these systems. This would open up EU card payment systems to non-bank acquirers (such as First Data, Total Systems etc.). Network rules requiring issuing banks to be registered with a national central bank may have the effect of a local establishment requirement. This may inhibit market access in that issuers that do not wish to set up a physical presence prior to issuing cards are forced to do so nevertheless.

6. Conclusion and analysis

Vertical integration and joint ventures - facts

The structure of national POS card systems in the European Union is heterogeneous. We compared the degree of vertical integration using a scale from 1 to 6 with 1 being the lowest degree. This classification is only a starting point for a complex assessment, as the separation of scheme ownership from the technical/financial aspects of the business may not be sufficient alone to realise the full potential of competition in a card payment system.

On a scale from 1 to 6, five national systems had the lowest degree of 1, one system was classified as degree 2, one reached a degree of 3 and three a degree of 4. Finally, one system had the highest integration of 6. The situation in the two large international systems MasterCard and Visa differs from one country to another. In general, these systems have an integration degree of 3, but in some EU countries their transactions are routed through the network of a local network operator that also acquires all merchants in the country, which would correspond to an integration degree of 5.

In eight EU Member States member banks of national and international payment card systems provide acquiring services through joint ventures. Merchants therefore face one single offer instead of many competing offers.

Vertical integration and joint ventures – analysis

From a competition viewpoint, it appears worthwhile to explore whether the vertical integration of POS card systems rules out potential competition between technical and financial service providers. In particular, the question arises whether the existence of joint ventures excludes potential competition between shareholder banks. The sector inquiry provided some indications that the existence of joint ventures may also be a structural issue leading to various entry problems for foreign acquiring banks. It appears, for instance, that the shareholder banks of joint ventures concede "their" acquirer the privilege of low interchange fees (at least for certain merchant segments) while outsiders must pay higher interchange fees. This can effectively prevent a foreign acquirer from making a competitive offer to local merchants. Central acquirers informally told the Commission that this was the situation in several EU Member States.

For a competition analysis, however, it is important to note that vertical integration may also be the source of efficiencies as it may avoid the problem of double marginalisation.

In this context, the vertical separation of the PIN debit card system in the Netherlands may provide interesting insights.

In the Netherlands, the scheme owner Interpay previously licensed banks to issue debit cards, processed, switched and routed the transactions and also signed up merchants for debit card acceptance. Thus, the cooperation of the shareholder banks in the joint venture included both the technical and financial aspects of the cards business. In April 2004, the Dutch competition authority NMa adopted a decision declaring that the shareholder banks of Interpay infringed national competition law by extending their cooperation beyond the technical aspects of the cards business and by jointly selling acquiring services to Dutch merchants. After the initiation of competition proceedings and a recommendation of the Dutch Central Bank, the shareholders of Interpay decided to cease selling acquiring services collectively and took over merchant contracts from Interpay for a transitional period.

Thus, the system was separated at downstream level, where banks starting selling acquiring services to merchants in a competitive way. As a consequence, 12% of Dutch merchants entered into negotiations with an acquiring bank for better prices, resulting in average cost savings of 7.4% (according to an NMa study) for those contracts that were re-negotiated.

The Dutch Interpay case provides an interesting example that, where potential competition at the downstream level of a card scheme is foreclosed due to vertical integration, there may be scope for price reductions if the system is de-integrated.

Access to clearing facilities - analysis

Access to clearing facilities is a pre-condition for banks to enter a new market. The need to find a local "sponsor" for access to a clearing system based on bilateral clearing arrangements may inhibit market access. The possibility of sponsorship may not be sufficient to allow market entry where local banks have no commercial interest in sponsoring a potential competitor. In order to promote cross-border competition, card payment systems should be invited to set objective and verifiable rules that grant new entrants a right of access to sponsorship by one of the incumbent banks, or — if technically feasible — set up a multilateral clearing platform. Similar concerns may arise where membership in a card payment scheme as such relies on being sponsored by a principal member, normally an incumbent in the market.

X. Governance in Card Payment Systems

In this chapter, we will address the governance of card payment systems in the EU. From a competitive viewpoint, governance issues may be at the root of restrictive network rules in some card networks. Particular attention will be paid to systems that distinguish classes of member banks in a way that reserves decision-making powers to a small number of banks.

1. Classes of membership in card payment systems

The concept of membership is typical for so-called "open" card payment systems, but it is also to be found in systems commonly considered to be "closed", such as Aurore in France. It essentially means that banks wishing to make use of a payment card infrastructure must become members of the very organisation that is to provide services to them. Systems with a membership structure sometimes choose to further distinguish members according to classes of membership. The most common distinction is between "principal" and "affiliate" members. Some schemes distinguish between banks with access to clearing facilities and other "sponsored" banks or between simple members and shareholder-members.

1.1 International systems

Visa has over 21 000 member banks worldwide and over 5000 members in Europe. MasterCard reports approximately 25 300 member banks worldwide. Both systems distinguish several classes of membership for banks. The most important two classes of membership are termed Principal and Affiliate/Associate Members. Principal Members participate in the decision-making process for the card scheme. Affiliate/Associate Members must be "sponsored" for associate membership by a Principal. The Associate can then carry out all the functions of a Principal under its written agreement with the sponsoring Principal. One system furthermore has a specific status for banks who solicit cardholders on behalf of a Principal or Associate Member.

1.2 Domestic payment card schemes

Some domestic card payment systems have a distinction between Principal and Associate Members, but, unlike with MasterCard and Visa, the number of Principal Members is small and limited to the incumbents in a certain national market.

One system distinguishes two types of members: Principal Members and Regular Members. Only these two categories of members are entitled to issue cards and acquire merchants within the system. Only the second category is open to new members. Principal Members are the large founding banks. Regular members are all other members, which have to be "sponsored" by a Principal Member.

One Spanish system has four classes of membership: (i) Principal Member, (ii) Associated Member (iii) Investor Member and (iv) Participant Member. Principal Members are defined as those which subscribe to the capital of the company and enjoy all voting rights. Associated Members are those which have only the minimum participation in the capital of the company and do not have voting rights on the governing bodies of the system, though are indirectly represented by their sponsoring Principals.

Three schemes have different membership classes only in terms of scheme ownership, i.e. shareholder banks may vote on the shareholder board and have certain control rights as opposed to banks which simply use the system's services without becoming shareholders. This is the case for the Portuguese payment card system and for two Spanish systems.

One system stated that all relevant groups of licensees, including national, regional and local banks, are represented on the board of directors as well as on a specially appointed ”Dankort-committee”, and thereby take part in decision-making.

Other schemes distinguish classes of membership according to the *functional role* played in the system:

- The Dutch PIN system distinguishes (i) institutions and (ii) certificate holders. Only credit institutions are eligible for “institution” status, which in turn is necessary for issuing and acquiring in this scheme. Certificate holders in contrast do not need to be credit institutions and are certified to provide support functions to banks. Within both groups, the PIN scheme further distinguishes between “roles” played by banks entities such as the role of card issuing or of merchant acquiring.
- The Belgian scheme owner Banksys distinguishes four classes of members: (i) card issuers (ii) ATM acquirers (iii) POS acquirers and (iv) collectors.

Other schemes have two classes of members: banks with access to clearing facilities and others (“sponsored” banks):

- Until 2002, the UK Switch scheme used to distinguish between *full members*, *Nominated Group Companies* (company that is sponsored by a full member to be part of the scheme, where this company is either the holding company of the full member or is controlled by it), and *Card Issuer Associates* (companies other than Group Companies that are sponsored by full members);
- Similarly, another system with bilateral clearing distinguishes between members with access to clearing facilities and “sponsored banks”, which have access to the clearing infrastructure through a Principal Member (see above).

Finally, seven domestic card systems have one single, common class of members. This is the case for Pankkikortti (FIN), Giro Bankcard (HU), Bancomat/Pagobancomat (IT), Moneta (IT), Bancomat (LUX), EC-Cash Karte (DE) and Automatia (FI).

2. Reasons for distinguishing between classes of membership

2.1 Reasons quoted for distinguishing between Principal and Affiliate Members

MasterCard argues that the eligibility criteria for Principal and Affiliate Members are exactly the same, as all financial institutions may apply to become principal or affiliate members. Affiliate status was introduced to encourage participation by small or new financial institutions in the scheme in a way that does not involve excessive undertakings and risks, either for the financial institutions concerned or for the MasterCard scheme as a whole.

Visa states that it designed different membership categories to introduce flexibility in order to accommodate the different ways of providing card payment services in different regional and local markets. The categories corresponded to members’ needs, enabling them to use agents and rules to serve particular markets.

One national system introduced several classes of membership to deal with one single entity rather than with a number of individual banks in a market.

Another national system similarly argues that it has created two categories of members to avoid the decision-making difficulties in a system with many different entities.

2.2 Reasons quoted for distinguishing between different members according to roles played

PIN B.V. argued that the different roles played by entities in the system led it to define different kinds of membership.

2.3 Reasons quoted for the difference between clearing banks and others

The Switch scheme explained that the different classes of membership had been used until 2002 because the system had no centralised processing system and clearing was therefore arranged bilaterally between member banks.

The other national system believes that, through sponsorship, smaller banks may gain access to the clearing and settlement system without the need for complicated and costly bilateral settlement arrangements. Were this sponsorship not in place, small credit institutions wishing to issue a low volume of cards or those without a clearing or settlement system would not be in a position to join the scheme. The 'sponsorship' process ensured that the scheme was open to all credit institutions regardless of their size. Not all banks would have the infrastructure or the market share to assume the obligations incumbent on Principal Members. Therefore, a more limited form of membership (Affiliate) was offered. Affiliates paid lower membership fees and gained access to the bilateral payment infrastructure put in place by the Principal Members amongst themselves.

2.4 Reasons quoted for distinguishing between members according to ownership status

For ServiRed (ES), the category of Affiliate Members has two objectives: (i) to facilitate the inclusion of banks owned by other banks that were already full members of ServiRed; (ii) to include financial institutions that did not want to have voting rights in the company and had representation agreements within ServiRed with a Principal Member.

System B quotes historical reasons for distinguishing between shareholder and non-shareholder members. It holds that shareholders and non-shareholder member banks have the same rights in its system and are both represented on an “operational committee” dealing with subjects such as security, chargebacks, operating regulations, etc.

Multibanco (PT) argues that it created different categories of membership to facilitate access by institutions wishing to invest in the scheme owner’s capital and also to provide more flexible access to institutions with an ‘asymmetric profile’, i.e. solely issuers or acquirers.

3. Implications of different classes of membership

3.1 Collection of business-sensitive data

a) MasterCard and Visa

One international system noted that affiliate members typically have to supply detailed information on their business activity to principal members. It stated that principal members in certain cases needed to approve the activities of affiliates. As to the instances where associate and participant members have to request prior approval from principal members, this system assumed that principal members would wish to be aware of, or even approve, activities such as “the introduction of a new card programme or if an Associate itself wished to sponsor a Participant Member”. The other system stated that affiliates did not have to share business or card-related information with principal members.

b) Domestic systems

In one particular national system, affiliate member banks have to report data on POS transaction volumes and ATM withdrawal volumes to Principal Members, who supply information for calculating POS and ATM interchange fees. The Principal Members collect data from Affiliate member banks they "sponsor", such as the data necessary for the calculation of interchange fees and other regulating mechanisms.

The Principal Members also transmit to the Administrator any requests by regular members for approvals of any new card design or changes to such designs.

A Spanish system similarly reported that Associate Members must communicate, via their representing Principal member, all the data on their business activity.

All member banks in another Spanish system share among themselves business statistics on a monthly basis.

In contrast, several other national systems told the Commission that member banks have no duty to report to the scheme owner or to other banks. This is the case, for example, with Interpay, Switch, Multibanco and EC Cash Karte.

3.2 Decision-making on issues affecting intra-system competition

In one particular national system, there are differences in the role played by the two classes of members (Principal and Affiliate) in decision-making, including decisions that may affect the way in which members compete in carrying out their activities. All members participate with the right of discussion and vote in the General Assembly. However, only the Principal Members sit on the Board of Directors, which is the body that defines the general policy of the system and takes all the important decisions. Regular members do not participate in taking certain decisions in the system; they are informed afterwards of the decisions taken by the Board of Directors. In particular, regular members do not participate in decisions regarding:

1. the admission or exclusion of members;
2. the adoption of sanctions against members which do not respect the rules;
3. the adoption of the different categories and levels of fees in the system, such as interchange fees and other regulating mechanisms (including those designed to stimulate acquiring);
4. the adoption of decisions regarding the use of brands in the system;
5. the adoption of the security measures, the technical rules and specifications, and other rules for the functioning of the system;
6. the adoption of all the compulsory rules regarding issuing and acquiring;
7. the adoption of rules on the interoperability and universality of the system;
8. the validation of agreements between the members and other payment card networks and/or the opening of points of access to the system, including the validation of cards issued abroad which can be used in the system
9. the validation of the layouts of cards before they can be issued and all their modifications;
10. the adoption of decisions concerning the common budget for the sharing of common expenses between members;

The Principal Members are obliged to provide regular members with information on the rules and on the decisions taken by the General Assembly and the Board of Directors.

This contrasts with other systems such as EC Cash Karte in Germany, where the scheme rules do not provide for different classes of membership or for obligatory reporting on business activities to the scheme owner or other banks. In the EC Cash Karte system, the rules are negotiated between representatives of the national bank associations ("Spitzenverbände

deutscher Kreditinstitute") in their common umbrella association ZKA ("Zentraler Kreditausschuss"). Individual banks therefore do not have a privileged position in the decision-making body.

3.3 Supervisory and sanctioning powers

Within one particular national system, the Principal Members have a number of supervisory and sanctioning powers vis-à-vis regular members. The Board of Directors of System A has the following supervisory powers:

1. The layout of cards and any modifications have to be validated by the Board of Directors, which has to make sure that they respect the rules and, in particular, that they do not include any reference to a partner of, or partnership agreement entered into, by the issuer. References to the logos of other national or international networks (except international card logos) on cards have to be approved by the Board of Directors.

2. Agreements by members with other networks regarding cards or access to the system, such as the opening of ATMs or POS to non-system cards, have to be submitted and validated by the Board of Directors, which will ensure that all necessary measures to protect the brand and the security and the integrity of the system have been taken.

The Board of Directors is the competent body to impose sanctions in the system. The Board of Directors can impose sanctions on members for non-respect of the rules. Sanctions can even extend to the expulsion of a member from the system.

Unlike in this national system, the supervision of banks and technical service providers in the German EC Cash card system focuses more on ex-ante control than on continuous supervision by a board composed of certain bank representatives. Processors (Netzbetreiber) have to obtain certification in order to participate in the system. Such certification is performed by the ZKA, the central association of all inter-bank associations in Germany. In this system, therefore, certification is withdrawn by this central association rather than a board composed of representatives of some selected banks. No prior authorisation is required for issuing banks to issue a new card bearing the EC Cash card logo and co-branding is not regulated in the network rules. Consequently, there also no sanctions whatsoever if issuers were to co-brand EC cash logos with merchant logos on the same card.

3.4 Membership applications

In one particular national system, the Principal Members transmit to the scheme owner membership applications on behalf of new applicant members. New membership is moreover limited to the class of "regular member", i.e. there is no possibility of becoming a Principal Member with the associated rights and powers.

4. Analysis

Various schemes distinguish between different classes of membership, although to varying degrees. From a competition point of view, the only arrangements relevant here are those that create some risk of distorting the conditions under which individual member institutions compete with each other or under which potential new members can compete with the incumbent ones.

Most of the membership arrangements reviewed do not seem to raise concerns from that angle, in particular where these arrangements concern the functional role played by different members (membership arrangements linked to clearing arrangements are discussed above). However, the distinction between principal and secondary ("associate", "affiliate" or "regular") members, if combined with materially different co-decision and participation rights, requires further assessment. This distinction is made by the large international networks (MasterCard and

Visa) and may find some explanation in the very large number of members that make up both networks (even though it could be imagined that efficient decision-making processes could be organised even in such large schemes without distinguishing between principal and secondary members). However, only one domestic card network makes a distinction of this kind. That system is analysed further.

Networks naturally appear keen to collect data on transaction volumes from members for statistical purposes and in order to collect transaction-related fees.

However, the collection of business-sensitive data through principal member banks as "intermediaries" leads to a one-sided information exchange, as secondary members have to share business-sensitive information with principal members. The information-collecting bank may therefore gain a competitive advantage over the reporting bank. As the information-collecting bank is typically a bank with voting rights on the scheme's board, such a one-sided exchange of information may reinforce the concern that decisions might be taken that limit competition. Again, the quality and amount of data that principal members collect from the secondary members attached to them appears more significant within one particular network than in other networks.

On the other hand, the collection of business-sensitive data by scheme owners through member banks is necessary neither for statistical purposes nor for the calculation of transaction fees.

As exemplified by other systems (e.g. PIN, SIBS-Multibanco), member banks can provide this information directly to a scheme owner. Also, both MasterCard and Visa collect data on transaction volumes directly from member banks, not through principal members. The possibility of collecting business-sensitive data directly from member banks raises the question whether the exchange of such data between principal and secondary member banks serves purposes other than the calculation of fees by the scheme owner or the verification of the financial soundness of affiliates. Considering that all banks within the EU are under the supervision of a financial supervisor, it is also questionable whether the duty of affiliates to report to principals provides stronger guarantees for the financial stability of an affiliate than already provided by the yearly screening of a bank by a financial market supervisor.

5. Conclusion

Governance issues may be at the root of possible restrictions on competition. Certain card networks differentiate between primary and secondary members. While there may be reasons for such differentiation at least in large international networks, this may lead to restrictions on competition where domestic card networks reserve far-reaching decision-making powers exclusively to a limited group of local incumbent banks. In one country, the local card network has reserved to the incumbent banks the power to determine many essential parameters of competition. Here, the risk of competitive distortions and restrictions can arise.

The exchange of business-sensitive information between member banks of a payment card system for statistical or other purposes gives rise to competition concerns, as these banks are typically also competitors. This raises the question as to what extent such information exchange between competing banks could be avoided through alternative arrangements. To the extent that affiliates are subject to supervisory control by a central bank, this alone could suffice to provide sufficient guarantees to principal members with regard to the financial stability of an affiliate. Independent auditors could provide additional control if needed.

XI. Membership Conditions and Fees

1. Selected membership conditions

1.1 Financial institution requirement

International and domestic card payment systems alike reserve the financial aspects of the payment cards business, i.e. the issuing of cards and acquiring of merchants, to credit institutions.

One of the international systems restricts membership to financial institutions that are organised under the commercial banking laws of its own country and licensed to accept demand deposits or which are controlled by another such organisation. The other system likewise reserves membership to financial institutions, which are defined as entities authorised to engage in financial transactions under the laws of the country where they principally engage in business. The concept of "financial institution" in the latter case is somewhat wider than that of "credit institution" within the meaning of Article 1 of Directive 2001/12 of 20 March 2000, as it also includes entities that do not take deposits, but which substantially conduct all of their business by executing "financial transactions". It likewise allows non-credit institutions to apply for membership if banks are "directly or indirectly" controlling such entities.

With the exception of one domestic system, all card systems surveyed stated that they reserve merchant acquiring to credit institutions. In Germany, however, network service providers ("Netzbetreiber") may in practice act as acquirers in the domestic debit card system "EC Karte". By providing collection services (i.e.: the payment does not go via the merchant's bank), the processor takes on the settlement risk vis-à-vis the merchant. Thus, there is no network rule preventing *Netzbetreiber* from handling the financial aspects of the payment business, something that the New Legal Framework should facilitate.

If the proposed New Legal Framework Directive enters into force, payment service providers like the German network service providers could gain access to the acquiring business in other POS systems, as well.

1.2 Local establishment requirement

International card payment systems allow banks to operate cross-border without establishing a physical presence in the country where they issue cards and/or acquire merchants:

- In one of the international systems, member banks in principle can issue cards outside their home country provided that the associated activities are carried out in the member's home country. Where principal members have a branch in another EU Member State, they can moreover apply to the system to obtain a "branch license". If they establish a subsidiary, the subsidiary needs to join the system as separate entity. Most importantly, both principal and associate members may apply for central and cross-border issuing and/or acquiring licenses, which enable these banks to offer their services without having a physical presence in the "host" Member State.
- In the other international system, banks may not acquire merchants outside the area of use of their license, but may either ask for an extension of this area of use or apply for a so-called "Central Acquiring license", which then enables them to acquire merchants centrally or cross-border in countries outside the country where they are established.

In domestic card payment systems, physical presence may be a prerequisite to operate in the scheme, as scheme owners require supervision by the national central bank as a condition for joining the scheme. Some domestic payment card schemes and seemingly also central banks

legally or *de facto* require financial institutions to have a physical presence in order to participate in the domestic payment card systems of their country.

- One national system only admits credit institutions that *"carry out retail banking in respect of accounts domiciled in [country A] to participate in the [..] Scheme"*. Thus, issuing debit cards to consumers appears not to be possible for banks without a physical presence in this country, as they need to provide current accounts in this country prior to issuing and/or acquiring. This scheme requirement contrasts with the international schemes, which allow banks to issue debit cards (and acquire debit card transactions) outside their home country and without being formally required to provide bank accounts in the country where the cardholder is established. Banks must, however, respect "local requirements" and local legislation in the destination country, which may differ from those of their home country.
- In another Member State, the central bank apparently reserves participation in any payment system to credit institutions that are registered with it. This requirement would need to be further investigated as it may imply a local establishment requirement contrary to internal market rules. It may impede competition by excluding foreign banks from issuing cards and acquiring card transactions in a cross-border manner, i.e.: without a physical presence in the country.
- Similarly, in another national system, the scheme owner stated that only banks supervised by the national central bank may be admitted to the system.

Other systems do not require banks to establish a physical presence prior to joining their system. One national system reported that it admits any banks certified by any of the central banks of the European Union. Another national system also reported that it did not require the physical presence of a financial institution in their country and that some members indeed were foreign banks.

2. Joining fees

As explained above, networks can be either open for membership to independent financial institutions ("open systems") or not ("closed systems"). About a fourth of the addressees of the survey do not operate a membership-based network. In most open systems, either the scheme owners and/or the network operators charge some sort of fee for an institution to join the system ("joining fee"), which can be one-off or recurring.

2.1 Factors determining joining fees

On the basis of the replies from the open systems, the joining fees seem to vary depending on a number of factors, underlined below.

In some systems, the joining fee varies depending on the type of membership. For instance, one of the international networks applies different joining fees depending on whether members are Principal or Participant Members, as do one of the other international networks (Principal or Affiliate Members) and two of the national networks (Members or Associate Members and Principal or Associated Members, respectively).

In other systems, the joining fee depends on the type of services used by the members. In one of the national schemes, for example, shareholder members and non-shareholder members pay a fee in accordance with the services they use.

The joining fee may also vary depending on the activities of the members, i.e. whether they are issuers and/or acquirers. For instance, one of the national systems charges different joining fees to members depending on whether they are participating as both an acquirer and issuer or as an issuer only. Similarly, the formula used to calculate the fee varies in the

Bancontact scheme in Belgium depending on whether members are issuers or collectors, i.e. the banks managing the merchants' bank accounts. Then again, some systems are only open to issuers and are closed to acquirers, such as one of the networks in Italy.

The joining fee for some international payment networks increases with the assets of the member. For instance, this is the case with the joining fee for the Principal Members of one of the international networks and for Principal and Affiliate Members in one of the other international networks. Similarly, in addition to a flat-rate fee, those wanting to join the PagoBancomat system in Italy pay a fee proportionate to market participation.

In some domestic payment systems, the joining fee is linked to some sort of shareholder capital obligation. For instance, the joining fee for one of the national payment systems is set as the "*smallest shareholder value*". The minimum joining fee for a Principal Member in another national system is the subscription and payment of 350 shares and for an Associated Member 100 shares. A third national system does not require a minimum shareholder value but tries to ensure that "*any share in the share capital of [that system] is in proportion with the issuing volume of the entity*".

The Bancontact scheme in Belgium is the only scheme which links the size of the joining fee to the number of ATM and/or POS terminals in the network. In addition, the joining fee is calculated on the basis of the number of cards that the new member will issue over the first five years or the number of cards issued by all members at the time of member entry, depending on whether the new member is an issuer or a collector.

Calculating the joining fee on the basis of the projected number of cards to be issued during a certain period is a practice used by several schemes. For instance, the fee to join one of the national systems as an issuer increases in five steps depending on the number of cards projected to be issued during the first three years.

In Denmark and Finland, financial institutions that wish to join the domestic card payment systems have to pay a fee to join the inter-bank agreements administered by the respective bankers' associations. In Finland, these are the bank card cooperation agreement and the agreements for the inter-bank networks PMJ and POPS. In Denmark, institutions also have to pay a licensing fee and a fee to join PBS A/S for the processing and clearing of Dankort-transactions. Similarly, to use the inter-bank service system in France, the e-rsb ("réseau des services aux banques"), every new member of the CB system has to pay a joining fee.

Finally, some payment systems also require an international licence. For instance, in addition to a flat-rate joining fee, the UK network Switch/Maestro requires a Maestro licence. Similarly, members of one of the Italian networks must *de facto* be Visa Participant/MasterCard Affiliate Members.

2.2 Level of joining fees

Depending on the level of the joining fee, the open domestic payment systems can in principle be divided into three categories (see Annex 3: "*Total joining fees for open domestic payment systems in € '000*").

In the first category, there is no joining fee or the fee is less than €15 000. The following systems belong to this category: Zentraler Kreditausschuss (no fee) in Germany, one system (no fee), a second system (no fee) and a third system (€2 000) in Italy, one system (€5 123) in Spain, Giro Bankcard (€5 960) in Hungary, Switch/Maestro (€10 000) in UK, one system (€12 400) in one Member State and another system (€14 501) in Spain.

The joining fee for systems in the second category ranges from €30 000 to €150 000, with most systems charging about €50 000, such as the GCB in France, the PIN scheme in the Netherlands and one system in Spain (€50 753). The joining fee for non-shareholder members in

another Spanish system ranges from €30 000 to €62 000. In one system in one Member State, the joining fee for acquirers is €30 000. Depending on whether the issuers subscribe to a basic or a complete package of services, they pay €130 000 and €150 000, respectively.

In the third group, the joining fee amounts to between €1.1 million and €1.9 million. The total fee to join the Danish scheme Dankort is €1.14 million and to join the Belgian Bancontact scheme €1.18 million. The access fee for entering the bank card system in Finland, Pankkikortti, is €0.7 million and for the PMJ and POPS together €1.2 million, i.e. a total of €1.9 million.

One national system constitutes a category of its own. A member participating as an acquirer and issuer may pay up to €6.7 million in joining fees. As noted above, the joining fee for an issuer increases in five steps depending on the number of cards projected to be issued during the first three years. The fees are approximately (i) €0.63 million for 0-60 000 cards, (ii) €1.27 million for 60 001-125 000 cards, (iii) €1.9 million for 250 001-500 000 cards and €6.35 million for more than 500 000 cards. The acquirer fee is a flat-rate fee of €317 435 and that for an Associate Member €126 975 (see Annex 4: "*Structure of joining fees in one card system (Country A) - Total joining fee per total number of cards projected to be issued during the first three years*").

Calculated per card projected to be issued, the joining fee of this scheme appears to be set so as to discourage issuers from increasing their volume (see Annex 4: "*Structure of joining fees in one card system (Country A) – Joining fee per card projected to be issued during the first three years*").

Indeed, the steps in this national scheme are set in such way that the fee per card issued increases between each step, though it effectively decreases within a step as it is a flat rate. Thus, the fee per card issued increases initially by 100% on moving from step one to two, by 50% from two to three, by 67% from three to four and by 100% from four to five. This means for instance that when it reaches a volume of 120 000 cards in step two the issuer obtains the same fee per card as for a volume of 60 000 cards in step one (i.e. approx. €10.58/card issued). Similarly, to obtain the same fee per card in step three as at the end of step two, the issuer has to increase its volume from 60 000 to 187 500 (i.e. approx. €10.16/card issued), in step four compared with the end of step three from 250 000 to 417 000 (i.e. approx. €7.62/card issued) and in step five compared with the end of step four from 500 000 to 1 million cards (i.e. approx. €6.35/card issued).

As regards the joining fees for the open international payment systems, as mentioned above, the joining fee for two of the international payment systems increases with the assets of the member. For instance, one of the international payment systems charges their Principal Members €7 for every million euros of assets, with a minimum fee of €108 500 and a maximum of €542 300. Participant Members pay a flat rate fee of €10 850. The joining fee for the other international payment system increases in three steps for both Principal Members (PM) and Affiliate Members (AM) depending on whether their total assets amount to less than €50 billion, between €50 billion and €100 billion, or more than €100 billion. This results in a joining fee for PMs of €30 000, €90 000 and €150 000, respectively, i.e. between €0.60 and €1.50 per million euros of assets. Similarly, the joining fee for AMs amounts to €15 000, €45 000 and €75 000, respectively, i.e. between €0.3 and €0.75 per million euros of assets. In addition, both PMs and AMs pay a one-time application fee of €10 000 and €20 000, respectively.

3. Double membership in card payment systems

Most of the domestic and international card payment systems do not formally exclude double membership in competing card payment systems. Out of all domestic schemes surveyed, only the domestic systems in one Member State reported that they exclude parallel membership of banks in more than one of the domestic systems. None of the domestic schemes prohibits

member banks from becoming a member of the international systems and *vice versa*. Double membership of banks in one domestic and one or two of the international schemes is thus very common in the EU.

The international schemes are flexible enough to co-exist with and even take over domestic schemes. A "take-over" implies that the international card logo replaces the domestic one after a period of co-branding. Member banks often retain some autonomy to set specific scheme rules and interchange fees, which then co-exist with the network rules and interchange fees of the international scheme.

4. Conclusion and analysis

Financial institution requirement

Most card payment systems reserve card issuing and merchant acquiring to credit institutions or entities controlled by credit institutions. This financial institution requirement may inhibit processors from entering the acquiring business and from competing with banks. In at least one national system, merchant service providers offer acquiring services to merchants without de-stabilising effects on the system. The financial institution requirement may be subject to change when the proposed directive on the New Legal Framework is finally adopted.

Physical establishment requirement

Some systems also require credit institutions to be registered with the national central bank before participating in their payment system. This may have historical reasons, but amounts to a physical establishment requirement and may inhibit cross-border competition. To the extent that these rules are based on legislation or decisions by the national central bank, the requirement may moreover be in contradiction with the freedom of services and internal market banking directives.

Exclusivity agreements

To the extent that scheme owners enter into exclusivity agreements with member banks for the sale of processing services, potential competition with other processors may be inhibited.

Joining fees

The existence of fees for joining a POS card system is not a matter for concern as such. However, competition concerns can arise where the joining fees charged may hamper or even hinder effective intra-system competition by dissuading entrants or raising their costs significantly. From this angle, it is remarkable that the joining fee in the open domestic payment systems varies from no fee in Germany and some systems in Italy to a fee exceeding €6 million in one particular country. Moreover, not only the level of a joining fee but also the structure of that fee, i.e. the way it is set up to change with increased volumes, may discourage new or incremental card issuing and constitute a barrier to entry. This is an issue with one national payment system. It is also noteworthy that the highest category of joining fees is found in relatively small countries, such as Denmark, Belgium and Finland, where levels are up to twenty times greater than the next highest category. Given the low joining fee in one small Member State, the size of the country does not seem to be the only determining factor. Finally, it is interesting to note that, compared to the level of joining fees in the open domestic payment systems, those for the open international ones are in the middle range. It is also interesting to note that the joining fee for the Principal Members of one international payment system is approximately three times as high as that for one of the other international payment systems, whereas Affiliate Members of the latter pay almost seven times as much, relatively, compared with the Participant Members of the former.

XII. Cross-Border Competition

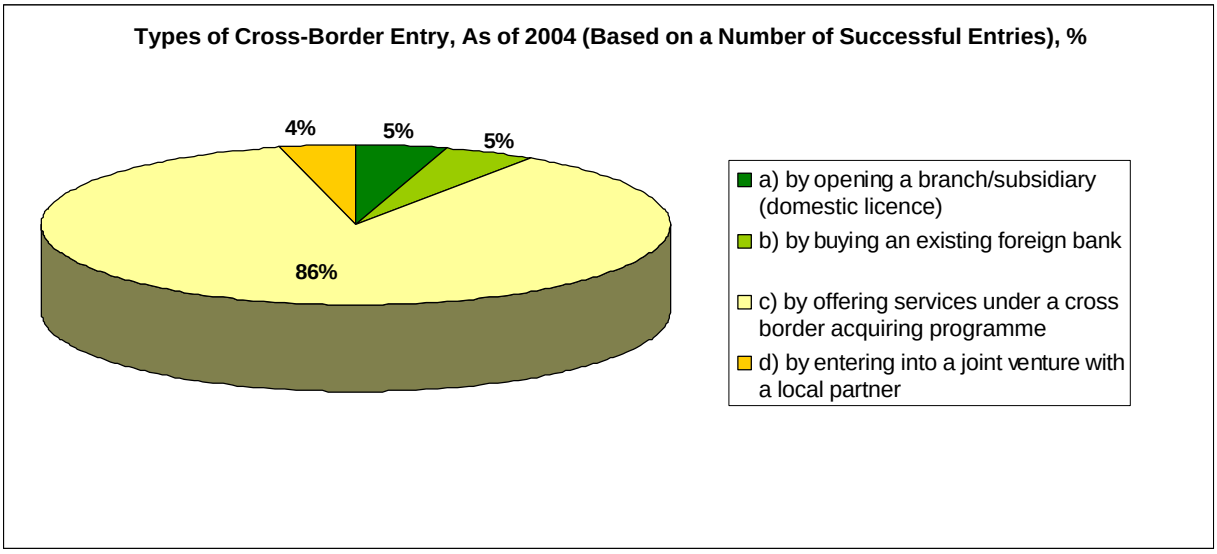
In the following section, we will analyse competition in the cross-border provision of acquiring services. We will focus in particular on factors that determine the main trends in cross-border acquiring, and will also look at factors that may impede and/or reinforce cross-border acquiring in some countries. Furthermore, we will take a closer look at merchant characteristics that are typically relevant to cross-border acquiring and see whether these characteristics determine the nature of competition among cross-border acquirers.

Finally, the cross-border acquiring of merchants appears to be currently limited almost solely to the international networks MasterCard and Visa. We will analyse possible reasons as to why the provision of cross-border services is virtually non-existent in national systems and look into barriers that may impede cross-border services in the international systems.

1. Entry into foreign acquiring markets

Only about 9% (14 out of 159) of the acquirers participating in the inquiry made an attempt (whether successful or not) to enter a cross-border market. Attempts to enter were made by directly opening branches/subsidiaries in another country (A), through the purchase of an existing foreign bank (B), by offering services under a cross-border acquiring programme (C) or, finally, through a joint venture with a local acquirer (D). One of the respondents also indicated an attempt at entry by purchasing a local company with an ownership interest in a local acquiring undertaking; however the entry proved to be unsuccessful. The graph below summarises the results.

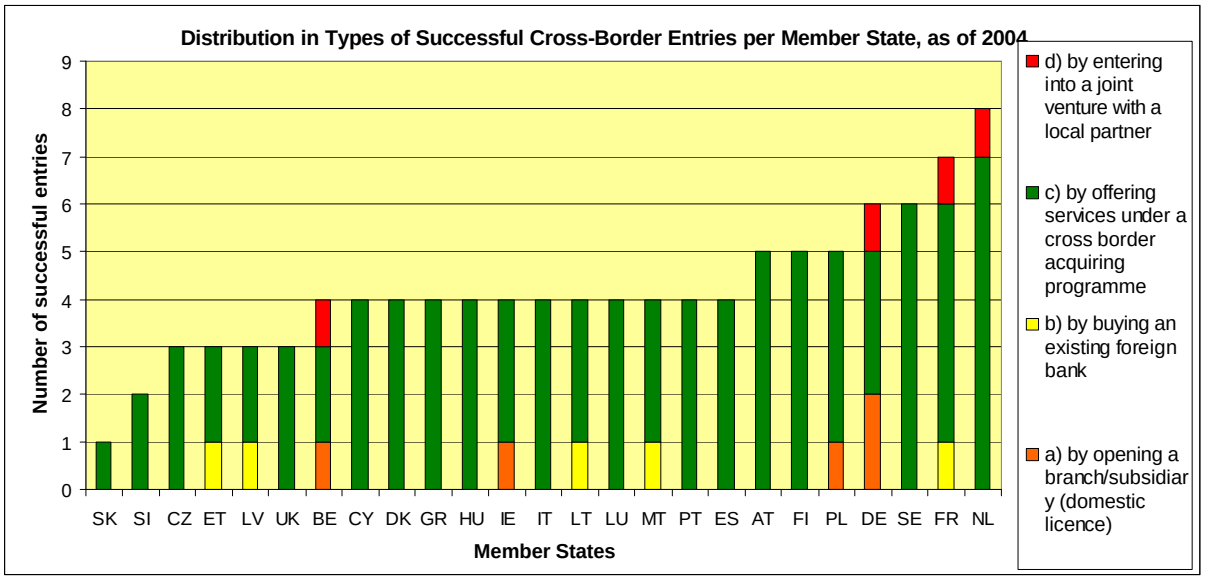
Graph 57



The most popular type of cross-border entry (86% of all cases) was the offer of acquiring services under a cross-border licence. Each of the other three options was equally rarely used (4-5% of the total). The replies indicate that the "licence" option was the most efficient for countries with relatively easy access, while the other options were tried, often as a "second-best remedy", in countries with some impediments to entry. Among countries with barriers to cross-border entry, the respondents mentioned, among others, Germany, the Netherlands, France and Finland, while the countries described as most open and therefore easy to access were the United Kingdom and Sweden.

The analysis of the type of the entry per country suggests that in a number of new Member States (e.g. Estonia, Latvia, Lithuania, and Malta) as well as in France, the respondents, in addition to a cross-border acquiring licence, would also opt for the purchase of an existing bank. In the case of the Netherlands, France, Germany and Belgium, the respondents indicated that they would prefer to try to establish a joint venture with a domestic acquirer. The evidence suggests that an acquirer willing to enter a foreign country where it faces an obstacle to cross-border entry would need to supplement the usual "licence" option with another means of cross-border entry. Apart from the countries already mentioned, respondents experienced particular difficulties entering Austria, the Czech Republic, Denmark, Estonia, Ireland (joining the domestic debit network) and Spain. In Estonia, France, Ireland and Spain, as well as to some extent in the Czech Republic, agreements between incumbents were cited as the most important impediment to cross-border entry.

Graph 58



Dates of entry are quite evenly distributed over the period 1990-2004 in the old EU-15 Member States, while entry into new Member States has intensified following their accession to the EU. However, some large new EU-25 Member States, like Poland and Hungary, share the pattern of the old Member States, with no particular spikes following May 2004.

Before moving on to the detailed analysis of trends and patterns in cross-border entry, it needs to be noted that the purchase of a local acquirer does not necessarily mean that the entrant will focus on merchant acquiring in that country. Instead, merchant acquiring is more often perceived as a by-product of a general strategy to establish a commercial presence in a foreign country. Banks may see acquiring as part of a "complete service package" but not necessarily the main service that they offer to their corporate clients[86]. In the subsequent analysis, therefore, it may prove to be difficult to isolate the business case of an acquirer's entry into a foreign country from the business case of a bank's overall market entry. Indeed, many of the respondents did not claim to have attempted entry in merchant acquiring despite the recent or not-so-recent acquisition of a foreign bank. In such cases, acquiring activity was obviously not considered to be the main rationale for the acquisition. These respondents were therefore quite unlikely to have made an ex-ante assessment of a foreign market's acquiring opportunities and barriers.

[86] Based on replies from acquirers, as well as on the RBR Report on Payment Cards Western Europe, 2006. It needs to be noted, however, that some particularly large acquirers may see acquiring as their core activity and therefore might indeed have considered foreign entry for just acquiring business reasons.

The option of offering services through a cross-border acquiring licence (a.k.a. central acquiring licence) is, on the contrary, taken up solely where the bank is keen to expand its acquiring business. Consequently, the latter case is given a slightly stronger emphasis in the analysis below.

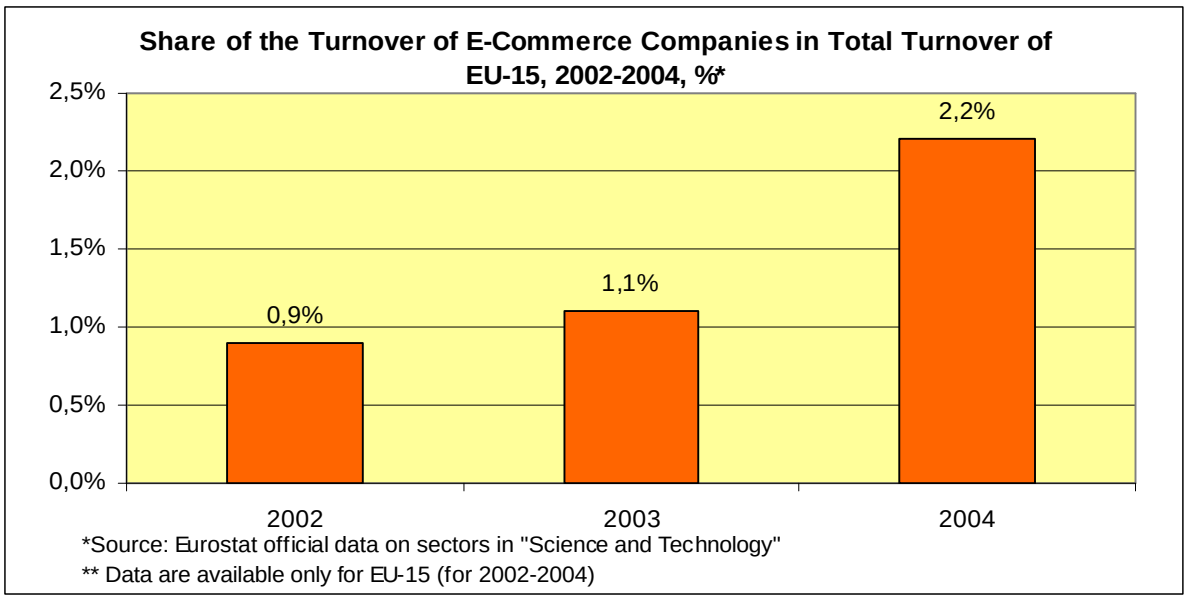
2. Central or cross-border acquiring under licence: historical development, current state of play and sectoral bias

Cross-border acquiring refers to the acquiring of transactions from merchants located in a country other than the country in which the acquiring bank is physically established. It also includes "central acquiring" (MasterCard terminology). Cross-border acquiring licences are currently issued only by the international payment networks.

In the past, both MasterCard and Visa allowed cross-border acquiring only for specific merchant categories, including international airlines, car rentals and hotels. In addition, both MasterCard and Visa limited cross-country acquiring to international merchants, which were defined as merchants operating in at least two countries in the EU region[87]. The latter rule was lifted by both networks in 1999. Since 2001, both MasterCard and Visa have allowed cross-border acquiring for other categories of merchants.

Currently, according to some responding acquirers that hold a cross-border licence for both MasterCard and Visa, cross-border acquiring mainly targets the e-commerce industry, i.e. various groups of merchants offering goods and services through the Internet. The most active among those are car rentals, hotels, travel agencies, internet shops (including mail order and catalogue orders) and, finally, internet entertainment. According to those respondents, most of the future growth in cross-border acquiring is foreseen in these sectors, particularly given the steady growth of e-commerce in the EU.

Graph 59



[87] The Visa EU region comprises 34 European countries: Andorra, Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Gibraltar, Greece, Greenland, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the UK.

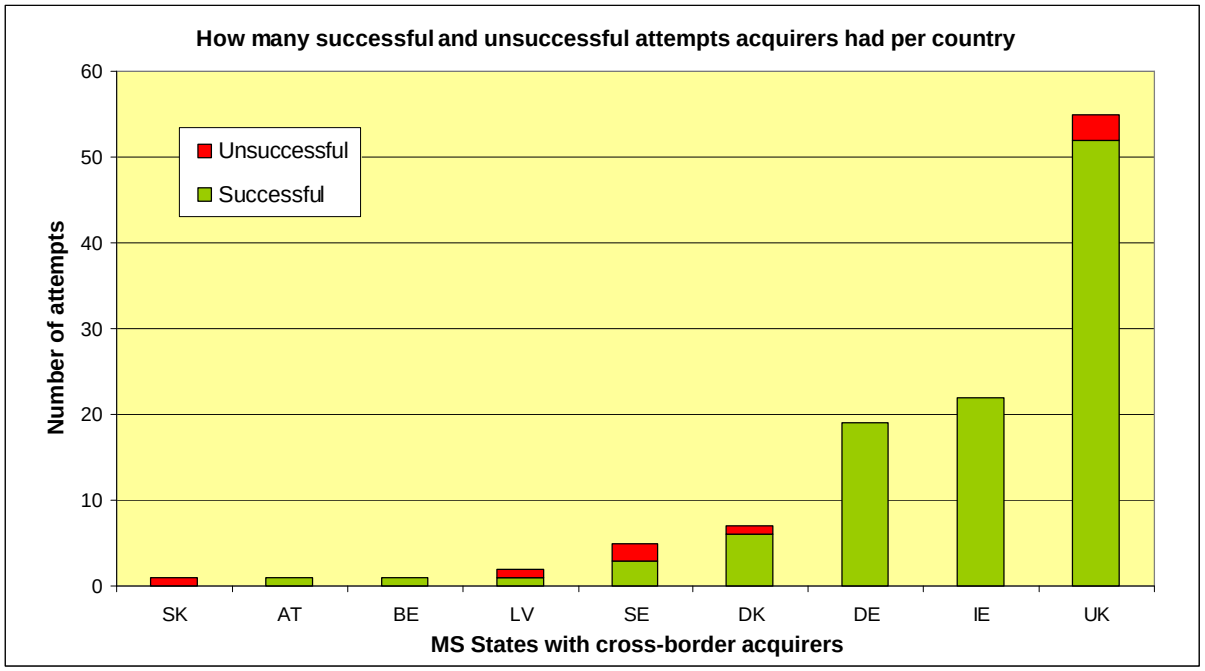
3. Country analysis of acquirers involved in cross-border acquiring

As indicated above, only 9% of all acquirers that participated in the inquiry have ever attempted cross-border entry. Of these, the most "active" in the cross-border acquiring business have been British banks, with Irish and German banks in second place. The high rate for the UK might be explained by a number of factors, including having (A) a developed credit card culture and (B) a high interest in expanding international activity, partly because of an already developed overseas business and because of the large size of the banks.

As the data suggest, most of the acquirers that tried cross-border entry are from the EU-15, with the exception of one Latvian and one Slovakian bank. Further detailed examination of the Latvian and Slovakian banks revealed, however, that both of them belong to large EU-15 banking groups. The evident lack of interest on the part of acquirers in the new Member States and their broadly domestic focus may be explained by the still incomplete saturation of the local credit card market (existing domestic opportunities), the generally relatively small size of the acquirers and their lack of technical expertise. Furthermore, as with the Latvian and Slovakian banks mentioned, many of the central and eastern European banks seem to be owned by an acquirer in the EU-15. Where there is an acquiring business interest in a particular geographical market across the EU-25, it would appear that it is usually the Western European headquarters bank, rather than its much smaller Eastern European subsidiary, that goes cross-border. Moreover, many of these large Western European banks may already be active in a cross-border acquiring programme.

The country-specific analysis of successful versus unsuccessful attempts at cross-border entry reveals that UK banks were also the most persistent in terms of number of attempts made (52). About 6% of these attempts, however, proved to be unsuccessful, with Ireland, France and Spain being mentioned as the most difficult countries to access. On the other hand, Scandinavian banks pointed to the Austrian, Danish and Finnish markets as being the most difficult to enter. This result, however, needs to be treated with caution as it does not give by any means a full geographical picture of existing cross-border obstacles, due to the apparent strong geographical bias in the pattern of cross-border entering by certain acquirers. In fact, one of the Scandinavian respondents indicated that it actually left a market because of the geographical distance factor (this appears particularly relevant for medium-sized banks). Another acquirer reported no failed attempts at cross-border entry despite some hurdles faced in Spain and Portugal.

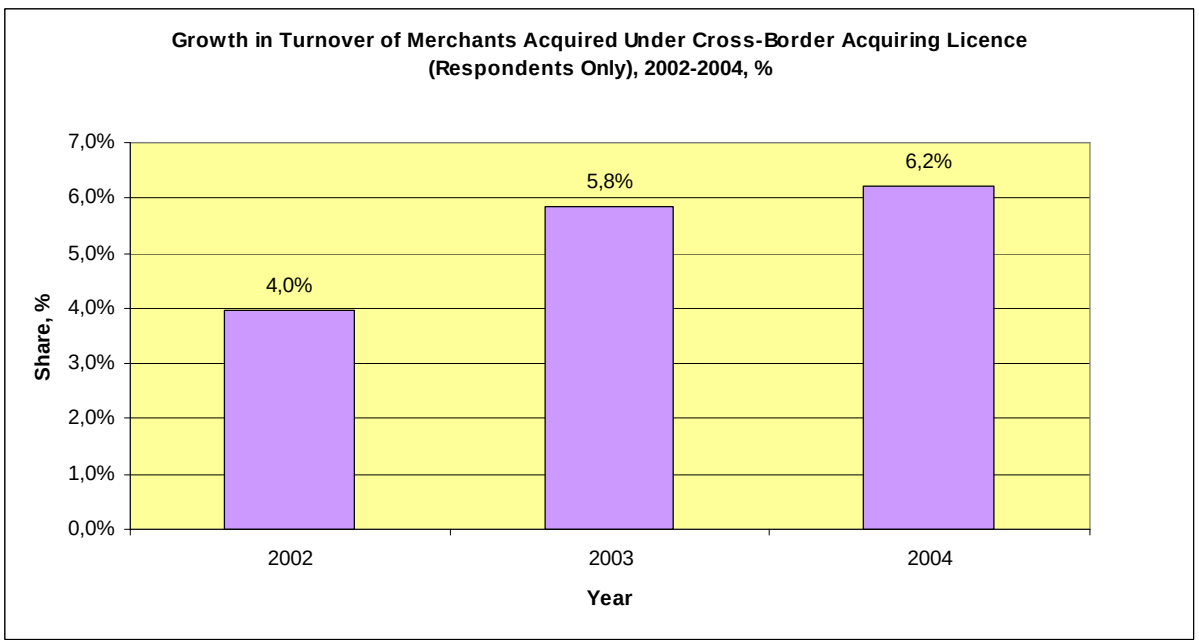
Graph 60



4. Analysis of merchants acquired cross-border: country-level and general trends

In 2004, merchants acquired cross-border were responsible for 6% of the total card turnover of the acquirers involved in cross-border activity. Furthermore, this followed an upward trend over the period 2002-2004, with the share of cross-border acquiring turnover increasing by more than 50%. Most of this growth was due to the rapid development of the e-commerce sector as well as the further expansion of gasoline companies.

Graph 61

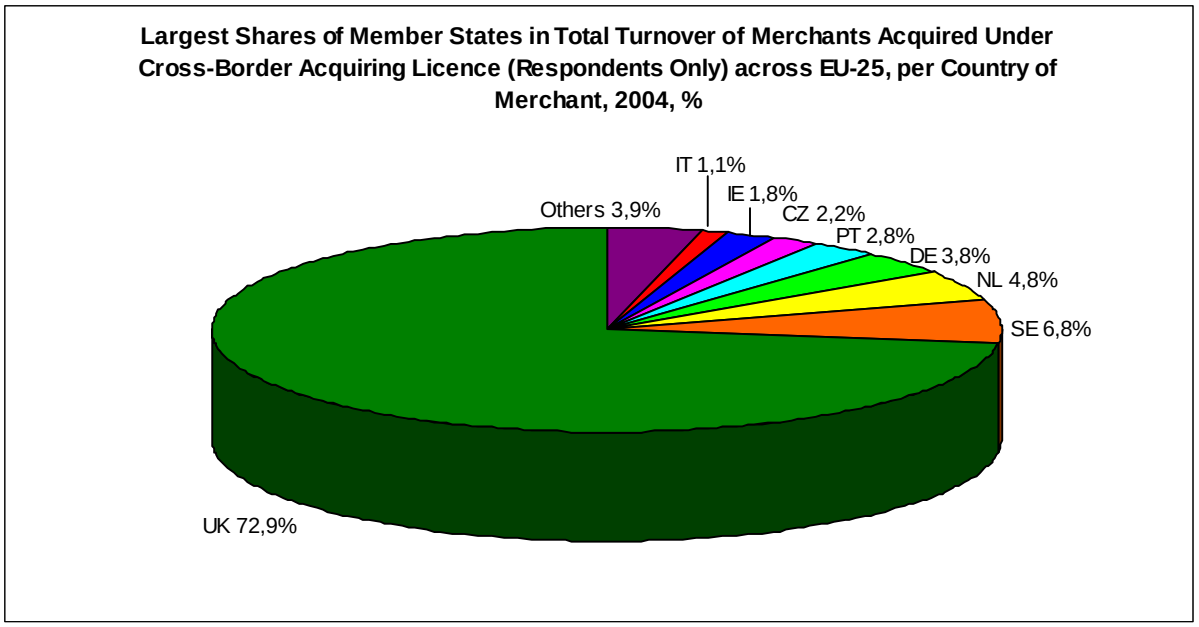


The statistics on the number of merchant contracts acquired cross-border (all networks combined)[88] shows that the bulk of these contracts are signed with merchants located in Italy, the UK and the Czech Republic, all three jointly responsible for more than 80% of the total number of merchant contracts in the cross-border acquiring business. Most of the new Member States have a small number of contracts, indicating a low merchant participation rate in cross-border acquiring, possibly due to the relative lack of interest among foreign acquirers in approaching these markets (e.g. lower credit card volumes, relatively higher risk of default, etc.).

The picture significantly alters once the share in the turnover of cross-border merchants is analysed. The data indicate that despite being only second in terms of number of merchant contracts, the UK has a strong share with 73% of overall cross-border acquiring turnover. The UK is followed by Sweden (7%), the Netherlands (5%) and Germany (4%). Other countries make only a minor contribution to overall cross-border acquiring turnover.

Interestingly, Italy, with 37% of all merchant contracts in cross-border acquiring, has only slightly more than 1% in terms of turnover. That primarily means that Italian cross-border contracts (per network) and therefore merchants tend to be of a much smaller size or alternatively tend to have much less active card usage than merchants in the UK or Sweden. Indeed, the reported data on contracts reveal that annual card turnover is on average 100 times higher on a UK contract and 400 times higher on a Swedish contract than that on an Italian merchant contract.

Graph 62



[88] For the purpose of the analysis, all contracts with merchants in different networks were added together. The discrepancies in the format for reporting by different respondents did not allow for network-specific analysis. Furthermore, the analysis of merchants rather than contracts was not possible either, given the sharing between networks. Since various networks, particularly MasterCard and Visa, for the most part share the same client base, an aggregation through simple summation does not yield the total number of merchants, but rather the total number of contracts (the same merchant can have two contracts with two different networks). Nonetheless, the number of contracts parameter was kept in the analysis, given that it provides a valuable indication for acquiring market trends and characteristics.

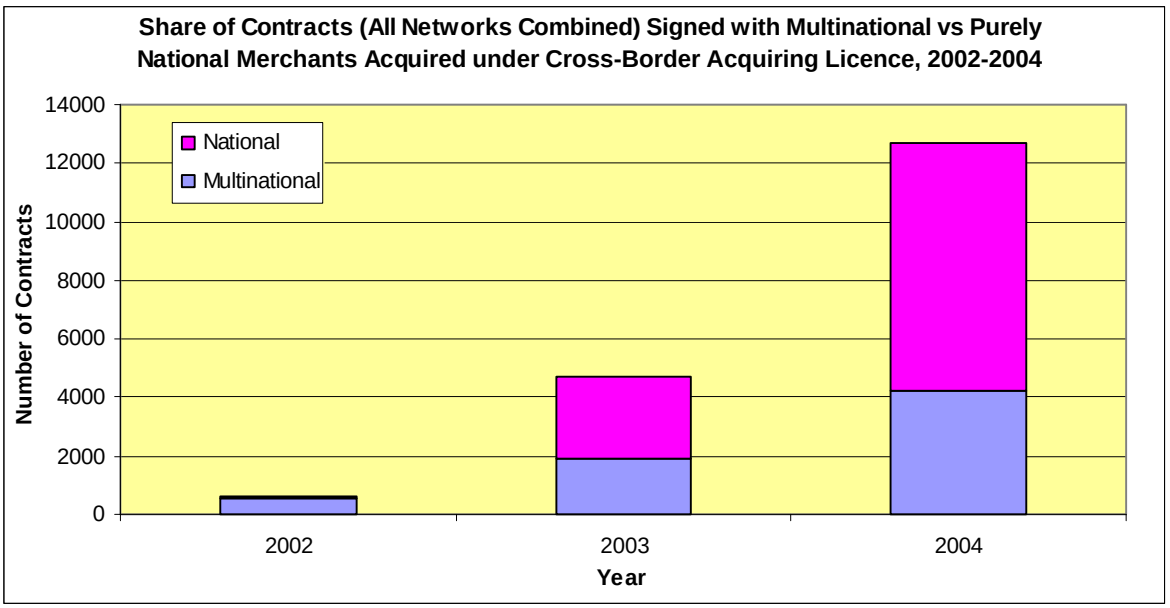
5. Merchants acquired cross-border: national vs multinational merchants

The analysis also looked into the characteristics of merchants contracted by cross-border acquirers. More specifically, an attempt was made to explore whether the majority of these merchants represent large multinational companies, with points of sale located in several EU countries, or whether there is also a significant share of merchants active purely at national level, with points of sale located in only one EU country. The results of this investigation may have implications for the definition of the relevant market and consequently for the size of market shares held by cross-border acquirers. It needs to be seen whether cross-border acquiring has a largely different client base compared with domestic acquiring activity and therefore cannot be analysed in terms of the same market.

Furthermore, from a purely practical viewpoint, it is useful to see whether purely national merchants can benefit from cross-border acquiring competition, particularly in countries with a high domestic concentration of acquirers.

From the replies of the respondents, it is evident that not only do national merchants participate in cross-border acquiring but, in 2002-2004, there was a rise in the number of contracts signed with these merchants. Thus, in 2002, the share of contracts signed with national merchants accounted for only about 15% of all cross-border acquiring contracts, whereas in 2004 this share was roughly 70%. This development implies that cross-border and domestic acquirers may compete for the same clients and may therefore intensify competition. It also suggests that cross-border acquirers offer for some national merchants better deals than domestic acquirers.

Graph 63

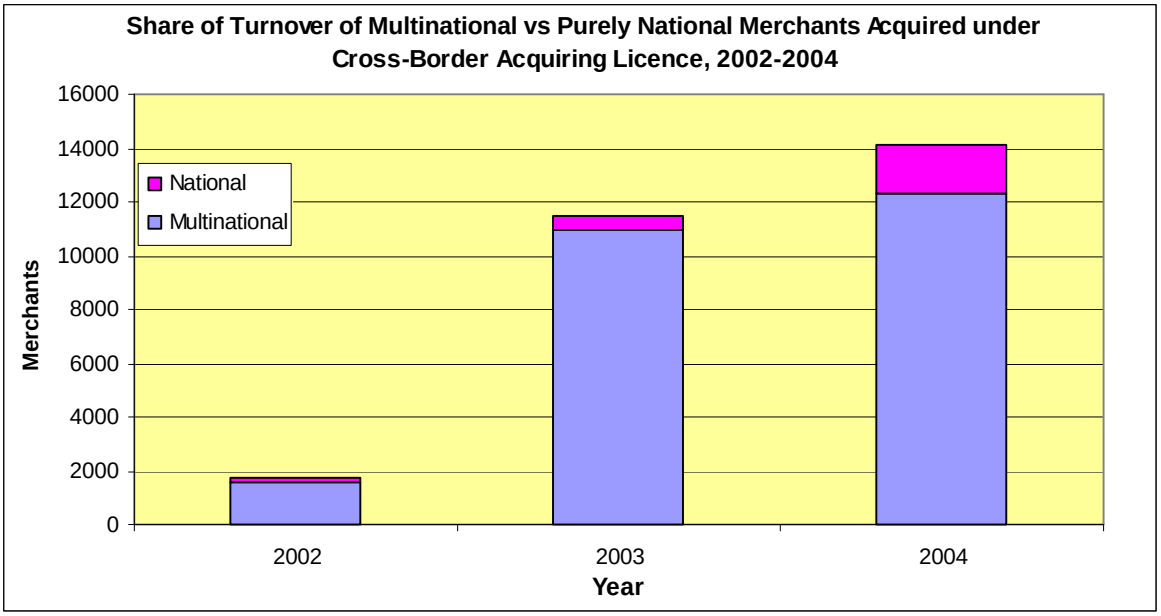


However, despite the significant share of national merchants in the absolute numbers of contracts signed, the corresponding card turnover still remains quite limited. The share of turnover on contracts signed with national merchants constituted only 9% of total cross-border acquiring turnover in 2002. Nevertheless, despite its modest absolute value, this share seems to have risen over the 2002-2004 period, reaching 13% by 2004.

Such a strong contrast between the number of contracts and card turnover only confirms the supposition that national merchants tend to be of smaller size than multinational companies. While adding significantly to the number of contracts, these merchants contribute only marginally to total cross-border turnover. The participation of such national merchants may,

nevertheless, indicate a growing awareness of different acquiring opportunities. At least a limited number of merchants appear to obtain better deals from foreign suppliers. Albeit at a still low level, one can observe a certain lessening domestic bias.

Graph 64



6. Factors boosting central acquiring or cross-border acquiring: country examples

6.1 Sweden

Interestingly, existing limitations in national law may force otherwise domestic companies to seek registration abroad, particularly in low-tax or tax-free areas. For example, the Swedish state monopoly on gambling has forced a number of privately owned companies to register in Malta, Cyprus, Gibraltar, etc. These companies are still owned by Swedish citizens who remain loyal to their national country's banks in terms of acquiring services. These clients, due to their particular nature, are nonetheless registered as foreign "national" (as opposed to "international") merchants, as they are physically registered (or established) in only one other state apart from the domestic country (here: Sweden). Such factors could artificially boost the figures for the cross-border acquiring of national merchants.

Another interesting phenomenon, also typical of Sweden, is related to the existence of the Oresund bridge connecting the Swedish city Malmö and the Danish capital Copenhagen. Due to wage differences between the two countries, a substantial number of Swedish citizens work in Denmark while continuing to live in Sweden. Furthermore, the acceptance of foreign (here: Swedish) cards is relatively expensive in terms of the cross-border MSC in Denmark[89]. The MSC rates are however around 50% lower if the same transactions are acquired by Swedish undertakings.

[89] Danish legislation prohibits per transaction MSCs for domestic debit and credit cards, as well as the surcharging of consumers who use payment cards in outlets. Charges for foreign cards (cards issued outside Denmark) are allowed, however.

Understandably, Danish outlets choose to have an acquiring relationship with a Swedish bank, on top of their Danish acquirer[90], to serve the cards issued in Sweden. These outlets are also national (i.e. located in just one country other than Sweden).

6.2 Germany

German cross-border acquirers claim that Germany is a country with a developed debit card culture, but its credit card culture is for the most part underdeveloped (particularly in contrast to the UK). At the same time, German acquirers see significant business opportunities in the rapidly developing e-commerce business, which might however easily be forgone in a country with an insufficiently developed credit card culture: e-commerce works extensively and almost exclusively with credit cards. Therefore, German acquirers have started looking for foreign merchants in the e-commerce and other sectors, thus offering credit card acceptance cross-border.

However, in this instance acquirers do not target foreign merchants directly, but instead seek a business relationship with local payment service providers and/or merchants' associations which are active in, for instance, the UK acquiring market. The payment service providers are domestic companies that are not financial institutions and therefore cannot obtain an acquiring licence from a payment card network. Instead, they sign up merchants for acquiring services offered by their "sponsoring" partner. These payment service providers typically search for the best deal both domestically and cross-border, and do not have a strong domestic bias.

There is, however, an obstacle in the form of a requirement imposed by one network. This requirement states that such payment service providers need to register each "sponsoring" acquiring bank with which it establishes a business relationship. That essentially results in higher fees for every additional acquirer the payment service provider chooses. Foreign acquirers claim that this may weaken their competitive position with respect to the domestic UK banks, as a payment service provider will opt for fewer "sponsoring" banks.

7. Factors impeding the development of cross-border acquiring

The replies and comments provided by the respondents signal that cross-border acquiring is not developing as fast as it could. Indeed, as noted previously, the acquirers responding reported that their share of turnover from cross-border acquiring amounted to 6% of total card turnover in 2004, which, even though growing, is unlikely to be important enough to place strong competitive constraints on domestic acquirers. This result seems to be in line with findings published in the European Card Review[91]. A number of reasons may account for this slow growth.

The main reason appears to be the existence of barriers to entry into domestic card acquiring markets. Statements by acquirers suggest that many merchants often prefer to have an acquiring relationship with a single bank. Owing to the fact that debit card transactions in Western Europe[92] on average constitute about 60% the total card transaction volume, while credit and charge card transactions account for only 40% (with strong regional differences: in many countries the debit card transaction volume is significantly higher), merchants are particularly motivated to accept debit cards. However domestic card networks may be

[90] Due to certain difficulties for Swedish banks to enter the Danish domestic debit card market, a Danish merchant would need to have a Danish acquirer as well in order to accept domestic debit cards.
[91] European Card Review, September/October 2005 Issue, ECR Publishing Partnership LLP 2005, ISN 1360-6069, "Flaws in Central Acquiring", pp.12-17.
[92] Payment Cards, Western Europe 2006, Retail Banking Research Ltd, International Review, p.18. Western Europe covers 17 European countries: UK, France, Germany, Spain, Netherlands, Italy, Sweden, Belgium, Finland, Denmark, Portugal, Austria, Ireland, Greece, Switzerland, Turkey, Norway.

particularly difficult to access for foreign entrants, due to a number of technical, administrative and financial reasons.

7.1 Technical standards: communication protocols, security standards and certification

Domestic systems tend to be technically closed networks and for the most part lack interoperability. The co-existence of different technical rules and standards within the major card payment systems and between the national debit systems may inhibit the cross-border competition of merchant acquirers and processors in the EU. In addition, there are also different communication protocols for domestic credit card transactions within the Master Card and Visa systems[93].

a) Overview of approval, licensing and compliance requirements

In most EU countries, in particular the old Member States, national proprietary communication protocols have been developed for communication between the EFT (electronic funds transfer) POS terminals and the front-end hosts of the acquirer/processor on the one hand[94] and between the front-end hosts of the acquirer and the front-end systems of the authorisation centre or centres of the banks on the other[95]. This is mostly the case for the national debit card systems. In addition, different security concepts also exist. In some countries, security standards cover only the security of the hardware against attacks from outside (to obtain the encryption keys for instance). In other countries, for instance Germany, Austria and Switzerland, terminal and host software security is required. There may be also differences in the national protocols between the national debit systems and the international credit card systems. Moreover, in some countries these protocols may incorporate message types for private-label cards not issued by banks. Overall, there are a number of nationally different standards and security concepts, many of which are not public-domain but confidential. Where they are confidential, an acquirer or a terminal manufacturer who intends to enter a market has to contact the responsible entity and may have to sign a non-disclosure agreement before receiving the necessary information. Licence fees are often levied as well.

The owners of the specifications are in some cases national banking organisations, such as the ZKA in Germany, or national processing centres owned by local banks or banking associations (such as Banksys, PBS, Europay Austria, or Groupement des Cartes Bancaires) or other bodies. In many cases, the specifications for the communication protocols are based on ISO 8583. On that basis, different message types are prescribed in detailed specifications. There are also communication protocols developed without reference to any international standard, such as the British APACs protocol, derivates of which are in use in some other countries. Different specifications for communication protocols exist in some countries with respect to national debit cards and MasterCard/Visa credit cards.

Applicants will sometimes have to state the purpose for which they wish to obtain the specifications and, in addition, may have to report later on how many terminals are running under their licence. An ongoing licence fee may be charged on the number of terminals used. In some instances, the licensor of such a protocol may be a competitor of the applicant for the specification. Processors and POS terminal manufacturers/vendors also need to obtain technical certification from national certification bodies. In some countries, the certification bodies are

[93] The following is based on information from an industry expert consulted by DG Competition.

[94] Communication protocols literally represent the "language" between the terminal and the front-end system of the acquirer or processor, i.e. the sequence of information for handshaking, encryption and decryption, message details and conclusion of the transaction, including acceptance by the recipient.

[95] This may include the protocol for the transfer of transaction batches at the end of the day from the acquirer to the processing centres of the different banks/banking groups of the merchant.

owned or controlled by local bank associations. In addition to the general acceptance test, merchant service providers often have to undergo so-called "integration tests" with the local processors/ acquirers in order to make sure that the terminals run smoothly and can handle all message types which the processor/acquirer has set up in his system.

b) Analysis

These technical approval, licensing and compliance requirements, which differ from country to country, hamper potential cross-border competition by merchant acquirers, who require access to, and need to comply with, an array of different communication protocols and security standards. In addition, certification requirements, again different from country to country, also affect potential cross-border competition by processors and terminal manufacturers. These requirements can be explained by the historic evolution of domestic payment systems and may well serve each domestic system well. However, they can be considered an important obstacle to effective cross-border competition, in comparison with a situation with no technical barriers.

While the harmonisation of all national communication protocols, including the protocols for transmitting transaction batches to the banks/merchant acquirers and the security concepts, would remove such barriers, a number of less dramatic steps could be considered as an intermediate solution.

A first step could consist in making message specifications and security concepts transparent and open for any interested entrant[96].

In addition, the bodies setting standard specifications and carrying out certification should be independent from any national merchant acquirer or bank association. These activities should not be performed by entities competing with the would-be entrant, whether at the level of acquiring or in the sale and installation of terminals. Certification could be offered by alternative certification laboratories to grant choice and ensure objectivity.

There is scope for rationalising certification processes, for instance by combining the certification for different card networks[97].

Fees charged for obtaining licences and going through the certification processes should not be prohibitive.

Ultimately, common protocols for all card types along with independent certifying agencies which issue type-approvals for terminals and front-end host systems would significantly facilitate cross-border competition. This could include a common security concept. There will still be some need for terminal manufacturers and processors to carry out integration tests with acquirers, but that should be limited to specific functionalities actually used by merchants.

It could be left up to industry self-regulation, possibly through bodies such as the European Payments Council (EPC), to define how and within what time intervals a migration to

[96] In the case of Germany, for example, the national ec-cash debit system uses the "ZVT protocol" (ZVT stands for "Zahlungsverkehrsterminal"). The protocol specification is in the public domain and may be obtained free of charge from Security Research Consulting GmbH (www.src-gmbh.de), acting on behalf of the ZKA. SRC is also in charge of the security concept for the ec-cash system and the German domestic electronic purse "Geldkarte" (both the hardware and the software).

[97] There are examples of successful standard setting within international bank associations. MasterCard and Visa each have a worldwide common protocol and security concept, which means that a terminal manufacturer already receives type approvals. In addition, the two card organisations have set up EMVCo., a company with the task of establishing joint standards for the EMV chips on their cards and the communication between the chip and the terminal.

common standards should be achieved. This would require the creation of a standard-setting organisation empowered to impose such standards and rules.[98] Whether there is ultimately a need for intervention by regulators or supervisors remains an open issue that cannot be examined here.

7.2 Membership requirements and fees

High joining fees may also dissuade membership in some domestic debit card networks and make entry unprofitable, particularly in small markets (for a detailed analysis of joining fees, see the chapter on the integration, governance and membership of card payment systems). For example in Denmark, in order to become a Dankort A/S[99] member, a new entrant would need not only to obtain a licence from Dankort A/S, but also to join the financial clearing and inter-bank agreements, following the endorsement of the Danish Bankers' Association, as well to join the PBS A/S, which is co-owned by Danish banks (among others), for processing and clearing. In total, the entrance fees come to around EUR 1.14 million, which a new foreign entrant with a low cross-border volume may regard as a substantial and risky investment, should the client base not grow accordingly following entry. A similar situation is observed in Finland, where the domestic debit card network is co-owned by the Finish Banking Association, i.e. by incumbent Finnish banks. A new entrant would need to pay an entry fee of EUR 700 000.

Specific requirements, such as local establishment requirements in some countries (for details, see the chapter on the integration, governance and membership of card payment systems), may also inhibit market entry for the cross-border provision of services.

7.3 Interchange fee arrangements

A further practice that can substantially inhibit or even prevent cross-border acquiring may be the obligation on foreign acquirers to pay the fallback interchange fee in the target country. Such fallback interchange rates create an obstacle to entry where local incumbent acquirers (often joint ventures created by domestic banks and sometimes the sole providers of acquiring services in a network) are able to agree favourable "on us" interchange rates with domestic card issuers. These "on us" interchange rates are presumably considered sufficient by domestic banks; however, the fact that a higher fallback interchange rate is imposed on a foreign acquirer may substantially raise the latter's cost, compared with that of incumbents, and limit its ability to offer competitive merchant fees. A more detailed description of such "on us" arrangements is included in the section on interchange fees above.

"On us" arrangements between financial institutions, which may restrict competition, must be distinguished from specific cases in which a domestic acquirer also issues cards and therefore is able to offer merchants reduced "on us" merchant fees. Merchant acquirers that issue cards are naturally not obliged to pay interchange fees on transactions made by their own cardholders and can therefore offer substantially lower merchant fees. If the merchant opts for a cross-border acquirer, he risks losing that advantage. However, this consequence seems to be due as much to the structure of a domestic market as to the increased efficiency in handling both issuing and acquiring.

[98] There are examples of successful standard setting within international bank associations. MasterCard and Visa each have a worldwide common protocol and security concept, which means that a terminal manufacturer already receives type approvals. In addition, the two card organisations have set up EMVCo., a company with the task of establishing joint standards for the EMV chips on their cards and the communication between the chip and the terminal.

[99] Dankort A/S is a Danish domestic debit network.

8. Conclusion and analysis

Cross-border competition: facts

The provision of cross-border services to merchants is not developing as fast as it could. Only very few banks acquire merchants cross-border in the MasterCard and Visa systems. 9% of banks surveyed attempted cross-border entry, with the British banks being the most active. While Italian banks were able to secure more contracts cross-border than their British counterparts, the British lead in terms of turnover. Ireland, Spain and France were mentioned as the most difficult markets to enter.

Most acquirers (86%) have entered foreign markets under a cross-border acquiring licence from an international network. Very few (about 10%) have opted for opening a cross-border branch or buying a foreign bank.

Cross-border acquiring is most often offered by EU-15 banks, whereas acquirers from new Member States seem to refrain from cross-border acquiring owing to incomplete saturation of the local credit card market (existing domestic opportunities), the generally relatively small size of such acquirers, and their lack of technical expertise.

Recent growth in cross-border acquiring (2.2 percentage point increase in the share of total acquiring turnover over 2 years) has resulted from the rapid development of the e-commerce sector and the expansion of gasoline companies. Most future growth is foreseen in sectors offering services and/or goods via the internet.

Merchants acquired cross-border tend to be large multinational companies. In 2004, the share of such merchants came to almost 90% of total turnover generated in cross-border acquiring. Nonetheless, the share of purely national merchants in cross-border acquiring seems to be rising.

Cross-border competition: analysis

The preliminary results of the sector inquiry indicate that there are essentially three types of possible market entry barriers for banks wishing to compete cross-border. These barriers are of a structural, behavioural and technical nature.

a) Structural barriers

Vertical integration of card payment systems gives rise to structural barriers that may impede new entrants, in particular non-banks, from competing with the incumbent in one segment of the market. In one EU Member State, for instance, a vendor of terminals has to compete with the scheme owner, who also provides all technical and financial services to member banks. This contrasts with the example of other EU Member States where the business of processing transactions has been opened up following the structural de-integration of the system.

Furthermore, the lack of multilateral clearing platforms may create entry barriers for foreign banks seeking access to clearing facilities. In systems with bilateral clearing arrangements, foreign banks depend on the goodwill of a local bank to “sponsor” its participation in the clearing of card transactions. New entrants thereby depend on incumbent banks for market access. It would appear that the absence of a multilateral clearing platform has impeded market access for foreign banks in at least one EU Member State. In two more Member States, schemes reported the existence of similar sponsorship arrangements for access to clearing.

b) Technical barriers

Technical barriers are diverging technical standards for message protocols and security requirements in national and international schemes. This hinders processors and terminal vendors from operating on a pan-European scale, thereby inflating input costs for banks and ultimately for merchants, and at the same time serves as a barrier to entry for cross-border acquirers.

c) Behavioural barriers

National networks sometimes require foreign banks to be registered with the local central bank before entering their scheme. It appears that this practice excludes the provision of cross-border payment services without a local presence, which in turn may create higher entry costs. In contrast, the large international systems, MasterCard and Visa, allow for cross-border issuing and acquiring services to be provided under pan-European licenses.

Double standards for domestic interchange fees, with one set of low fees applying to incumbent banks while higher fees apply to foreign banks, may also create entry barriers. Acquirers have informally complained to the Commission that this situation exists in at least two countries and impedes their access to the market for acquiring MasterCard/Visa transactions.

Some governance arrangements within card payment systems risk distorting the conditions for competition between member banks**,** in particular between new entrants and incumbent banks. For instance, in some networks associate members have to communicate business-sensitive information to the principal members without reciprocal information-sharing. In other systems, decision-making on issues affecting intra-system competition, such as fees, membership rules and technical specifications, is reserved to the principal members.

Some payment-system membership requirements may hinder non-banks from domestic acquiring and new entrants from cross-border acquiring. Rules that may constitute barriers include requirements to be a financial institution and to have a local establishment. About half of the domestic card payment systems in the EU require issuers and acquirers to be financial institutions. Some systems also require banks to establish a physical presence. In other systems, however, other payment service providers may act as acquirers in the domestic debit card system. Similarly, other systems do not require banks to have a local presence to join their systems.

High joining fees for card payment systems and their structure may discourage new entry and expanded card issuing. The high variation in joining fees across the EU for similar card payment systems may also indicate that the level of fees is not objectively justified. For instance, the joining fee varies from zero in some systems to a fee exceeding €6 million in one country. Joining fees are particularly high in some, but not all, small countries. These fee levels do not seem justified solely by the size of the country.

Other network rules may also prevent or make entry more difficult. For instance, the prohibition on cooperative agreements with competing networks or non-banks, “co-branding”, may hinder domestic debit card payment systems from entering into competition with MasterCard and Visa, or retailers or other operators from entering into competition with the incumbent card issuer.

Section D

Other Important Characteristics of the Industry

XIII. Network Rules Other Than Those on Interchange Fees

In this chapter, we will address the rules of card payment networks other than those governing the payment of interchange fees. We will concentrate on two types of rules: restrictions on banks co-branding different card logos on the same payment card and restrictions on merchants passing on the costs of payment card acceptance in a transparent way.

1. Co-branding

1.1 Rules and practices

Depending on the set-up of the different schemes, i.e. whether they operate on the basis of membership, licences or neither, the rules and concept of "co-branding" vary.

About a third of the addressees of the questionnaire claimed not to have any rules regulating or limiting co-branding. Networks based on membership and licences usually have their co-branding rules laid down in the membership rules or licence agreements, respectively, which are sometimes negotiated on a case-by-case basis. If they are a national payment network, they are also bound by the co-branding rules of an international payment network when co-branding their cards with the latter, as are national payment schemes that neither have members nor licensees.

Most schemes use the term "co-branding" in a broad sense for the co-existence of their own logo together with another logo on the face of the card. One international payment scheme and some other networks further distinguish between "co-branding", i.e. a cooperative agreement between an issuer and a non-member co-branding partner, and "co-badging", which involves the application of the mark of a national payment scheme on the face of a card together with the logo of the international payment scheme.

The co-branded logo can be that of another network run by a financial institution (or "bank") and/or by a non-bank organisation, such as retailers. The co-branded network can further be national or international. It can cover debit and/or credit functions. There can also be more than one co-brand partner for one and the same card, e.g. the regulations of one of the international payment schemes allow a maximum of three.

On the basis of the replies, most schemes seem to allow co-branding with networks that are not deemed competitors, at both national and international level.

In principle, a national debit payment system does not seem to be considered a competitor of an international credit payment system[100]. Nor does a national debit payment seem to be considered a competitor of an international debit payment system. This is sometimes, but not always, because of the geographic coverage of the respective schemes. In many countries, the rules of the national scheme apply while a card is used in a domestic context, but once the card is used cross-border, the rules of the international network apply. In some countries, however, both the national and the international debit card scheme may cover domestic payments. Most national payment schemes offer international payment card functions, e.g. for MasterCard and/or Visa. Likewise, the regulations of one of the international payment schemes explicitly allow co-badging with any national scheme as long as the scheme is not deemed a competitor.

[100] According to Mr Naumann, a card payment expert, national payment systems might be considered to compete with international payment systems in the future following the initiative of the Berlin Group (http://www.berlin-group.org).

However, most schemes seem to prohibit, either explicitly or implicitly, co-branding with networks deemed to be competitors, at both international and national level.

Hence the rules of two of the international payment schemes explicitly prohibit the use of brands deemed to be competitors by the decision-making forum.

At national level, the same principle seems to apply but often implicitly. In Spain, for instance, the logos of the three national schemes, i.e., Sistema 4B, ServiRed and Euro 6000, may not co-exist on the same card, although the systems are claimed to be fully interoperable. This appears to follow from the unique membership rule, according to which a financial institution cannot be a member of two systems at the same time.

Although exceptional, there are a couple of examples of co-branding between competing networks at both international and national level. In Italy, for instance, national networks allow co-branding with each other.

Co-branding with non-banks seems to be generally accepted by the international payment networks. For instance, according to one of the international payment networks, their franchises are free to enter into co-brand agreements with non-members. According to the rules of another international network, issuers wishing to co-brand with non-banks must submit a request to the network to issue a co-branded programme together with a business plan, which is subject to the approval of that network. Two of the other international payment networks have similar rules. As most national payment system co-brand their cards with an international payment function, they are bound by the rules of the international networks on co-branding with non-banks. In practice, most national payment schemes allow co-branding with non-banks, e.g. Euro 6000 in Spain and Pankkikortti in Finland.

However, two national payment schemes prohibit co-branding with non-banks, both through the design rules for the cards. For instance, according to the regulations of a network in one country, a card of that network may not be co-branded, i.e. neither the design of the card nor its text may be associated with any activity or organisation outside the issuing bank. Unlike the first scheme, the second scheme does not prohibit cooperation agreements with non-banks as such. However, like the first scheme, it prohibits any reference, in any form, to such cooperation on the card.

1.2 Analysis

The prohibition on co-branding with networks deemed to be competitors and with non-banks might limit not only actual but also potential competition between networks and between banks and non-banks, respectively.

For instance, the risk of being deemed a competitor and thus loosing the right to offer international payment functions might hinder national debit schemes from entering into competition with MasterCard and Visa for the processing of cross-border debit card transactions. Similarly, the prohibition on co-branding in two national payment schemes might reduce the choice of cardholders and thus their possibility to put pressure on the member/licensed banks to compete with better prices and conditions.

Finally, by prohibiting co-branding with non-banks, national payment schemes might prevent retailers from competing with banks in the market for card issuing. In countries where such co-branding is permitted (for instance, the United Kingdom and Germany), it can be observed that co-branded cards are used as a vehicle for market entry by new issuers or for the competitive expansion of card issuing by existing issuers. In systems where such co-branding is prohibited this route towards more intense competition with the incumbent card issuers may be foreclosed.

2. Surcharging and no-discrimination rule

2.1 Rules and practices

A merchant can pass the cost of accepting cards as a method of payment to the customers either by charging a fee for the use of the card, surcharging, or by including the fees in the product/service prices but granting a discount to customers paying in cash, cash discounts. Most networks refer to a clause prohibiting such surcharges and/or cash discounts as a "*no discrimination clause*", i.e. the merchants are prohibited from applying higher prices and/or less favourable conditions to card transactions than to cash transactions. Some networks also refer to the practice of charging different prices depending on the method of payment as "*dual pricing*".

About half of the 25 addressees of the inquiry explicitly allow surcharging and/or discounts for cash, or claim not to have any rules regulating and/or limiting such practices. National payment networks with no rules on surcharging may nevertheless be bound by those of the international payment networks when co-branding their cards with international payment card functions.

For instance, the Switch/MasterCard network in the UK allows surcharging provided the charge is advertised to the cardholder in advance and bears a reasonable relationship to the retailer's cost in accepting cards. Likewise, retailers in Finland may charge their customers a processing fee for the use of the national debit card, Pankkikortti. As from 1 January 2005, merchants accepting the cards of one of the international networks in the European Economic Area have the option of surcharging. Two of the other international networks also permit surcharging. According to the membership rules of both the latter networks, however, merchants may not discriminate between cards of these networks and other cards.

Most networks do not seem to monitor the incidence or levels of surcharging and/or discounting. However, from 1 September 2004 and 29 September 2005, one of the international payment networks recorded 68 cases where cardholders complained about surcharging. The general view of the networks seems to be that surcharging is not widespread, except in certain niche segments, such as travel agencies, taxis, airlines, concert-/theatre-going and sports ticketing, which are often linked to e-commerce. To the extent surcharging is applied, a fixed amount seems to be the practice. In the Netherlands for instance, merchants seem to charge a fee of between 10 and 15 euro cents for transactions under 10 euros. Only one of the international payment card networks claimed to know of both fixed and *ad valorem* surcharges.

The remaining addressees of the inquiry explicitly prohibit or discourage surcharging and/or cash discounts. Although not party to the contracts between acquirers and retailers, most networks prohibiting surcharging and/or cash discounts in their network assume that a provision to this effect is included in these contracts. In Germany, the prohibition against surcharging stems from the framework agreement between issuers and merchants governing access to the electronic cash card system.

Under the rules of one of the international networks, for instance, merchants must not add any surcharges to a transaction, unless local law expressly requires merchants to be permitted to impose such surcharges. In Denmark, merchants are not allowed to surcharge for the use of Dankort-labelled cards under national law. There is no such prohibition for surcharging international cards issued outside Denmark. In Belgium, surcharging by merchants is allowed but not recommended. Similarly, the rules of one of the national schemes require that acquirers use "*all reasonable efforts to ensure that their retailers do not charge more than their normal cash price*".

Possible sanctions for breach of the surcharge prohibition range from commercial pressure on the merchant to comply to pecuniary penalties and/or warnings with possible termination of contract., In Belgium, for instance, surcharging merchants are subject to higher

merchant service charges under an oral agreement concluded in 1998 between Banksys, the banks and the Belgian Ministry of Economic Affairs. In Denmark, non-compliance with the prohibition may be sanctioned by fines under the Danish Act on Certain Payment Instruments. The rules of both one of the international payment schemes and one national scheme contain a "*dispute resolution mechanism*", via which consumers can have their issuer seek, directly or via the networks, a refund of the value of the surcharge from the retailer.

2.2 Analysis

From a competition point of view, the surcharge prohibition restricts the freedom of merchants to pass on to cardholders the cost of accepting cards as a method of payment. However, in its decision of 7 August 2001 (Commission's Visa Decision)[101], the Commission gave a "negative clearance" to the Visa surcharge prohibition, i.e. the "no discrimination rule", on the grounds of lack of appreciable effects[102]. This conclusion was based on studies commissioned by the Commission on the effects of lifting the surcharge prohibition in Sweden and in the Netherlands. These studies found that only relatively few merchants made use of their possibility to surcharge, merchant service fees had not significantly fallen and price competition between merchants had not been affected by the abolition of the rule.

The inquiry indicates that surcharging still does not appear to be widespread, despite half of the networks explicitly allowing such practices or having no rules limiting them. This raises the question whether merchants choose not to impose surcharges even where allowed, as found in the Commission's Visa Decision, or whether, as suggested in some literature, other factors may explain the behaviour of merchants, such as the lack of merchant information or the prohibition of surcharging through means other than the network rules[103]. Thus, further investigation seems necessary to determine the extent to which merchants surcharge and the underlying reasons for doing so, in particular since most networks do not seem to collect this information.

The findings of such an investigation could also contribute to the ongoing debate on the advantages and disadvantages of the surcharge prohibition from a public interest point of view. In some of the literature in this field, the surcharge prohibition has been considered necessary as it prevents merchants from passing on the interchange fee to cardholders, the idea being to stimulate the diffusion of cards[104]. It has been argued that if the prohibition is lifted and price discrimination does not cost merchants anything, the interchange fee no longer affects the level of payment card services[105]. Then again, others have argued that there is less need to use the interchange fee for this purpose in mature systems[106]. Concerns have also been raised that if surcharges are allowed merchants may overcharge for the use of cards, which will be difficult for consumers to verify[107]. Recently, it has also been suggested that the surcharging prohibition may constitute a barrier to entry for alternative non-cash payment instruments, such as mobile

[101] OJ L 293-24 of 10-11-2001.
[102] *Idem*, paragraphs 11-12 and 54-58.
[103] In his report "*Network Effects, Interchange Fees, and No-surcharge rules in the Australian Credit and Charge Card Industry*" (August 2001, pp. 1-66), Katz, L. Michael argues that 18 percent of the merchants who were aware that the no-surcharge rule had been abolished in the Netherlands surcharged. Similarly, he argues that one should not read too much into the low rate of surcharging in Sweden (5 percent of all merchants surveyed) given that "*in Sweden it is very common for acquiring banks to impose no-surcharge rules on merchants, even though the credit card networks are prohibited from having such rules"* (p. 43).
[104] See e.g., J-C. Rochet and J. Tirole, "*Cooperation among Competitors: Some Economics of Payment Card Associations*", RAND Journal of Economics, Vol. 33, No 4, Winter 2002, pp. 549-570 (p. 562).
[105] *Idem*, p. 566.
[106] See e.g., Vickers, J., "*Competition Policy and the Invisible Price: How to Set the Interchange Fee?*", 6 May 2005, p. 7-8.
[107] This concern was raised by Mr Naumann, a card payment expert, in a meeting with the Commission's services on 17 February 2006.

phones or e-money[108]. The surcharge prohibition is considered to hide the true costs for the consumers via cross-subsidisation and may result in non-optimal payment instrument selection and extraordinary high issuer returns[109]. The latter concern seems to be confirmed by the finding of the inquiry that the issuing market is highly lucrative[110].

3. Conclusion and analysis

The prohibition on cooperative agreements with competing networks or non-banks, i.e. co-branding, may hinder national debit card payment systems from entering into competition with MasterCard and Visa or impede retailers or other operators from entering into competition with the incumbent card issuer.

Similarly, the prohibition for merchants to charge customers for paying by card, i.e. surcharging, may hinder the development of alternative non-cash payment instruments, as the true costs are hidden to the consumers via cross-subsidisation.

[108] See e.g. H. Leinonen, "Negative Effects of Current Non-Transparent Card Payment Fee Mechanisms (Surcharge Prohibition, Multilateral Interchange Fees and Bonus Points)", Bank of Finland, 20 December 2005, pp. 1-6 (p. 5), not yet published.
[109] *Idem*, p. 1.
[110] See Chapter VII on the profitability of card issuing and merchant acquiring.

XIV. Non-Price Competition Variables for Credit and Debit Cards

In this chapter, we will set out how acquirers compete for merchants on the quality of their services. The main factors in non-price competition will be assessed for each type of factor both for the EU-25 as a whole and in country comparisons.

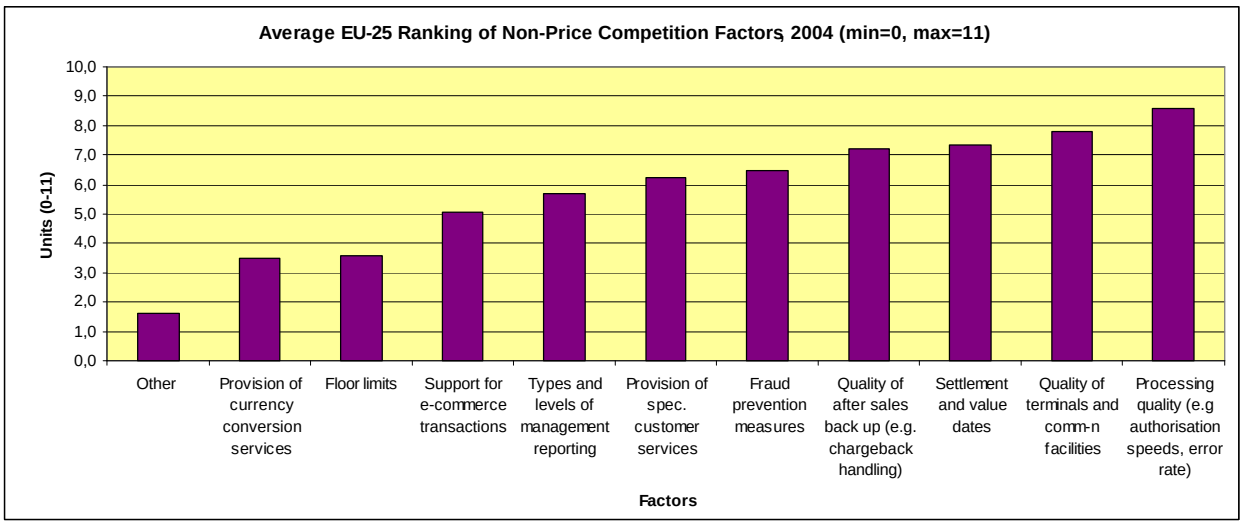
Since merchant charges are highly dependent on the level of the interchange fee, and the interchange fee is mostly identical for acquirers within the same country (with some exceptions in the case of bilaterally negotiated domestic interchange fees), the acquiring banks compete on price generally in terms of the margin they set above this fee. Furthermore, the acquirers may also choose to compete on non-price factors. As some studies show[111], non-price competition may play a significant role in acquiring. Non-price competition may be beneficial for the merchants, as it may result in higher quality services provided by an acquirer, other things being equal (e.g. the same level of price). For example, acquirers may offer merchants better processing quality (including quicker authorisation), shorter settlement and value dates, more efficient fraud prevention control measures and, finally, a wider range of ancillary services.

1. Main factors in non-price competition

The acquirers surveyed were asked to rank a number of non-price factors using a scale from 0 to 11. An analysis of the responses shows (see Graph 65) that acquirers on average assign the highest rank to competition in processing quality and the quality of terminals. It may be observed that both of these non-price competition factors are mainly (if not uniquely) of a technical nature. Settlement and value dates are also rated quite highly, suggesting that acquirers compete actively in offering shorter settlement periods to their clients.

Interestingly, the provision of currency conversion services is not on average seen as an important competition factor. This may partly be explained by the fact that (A) currency conversion services are most often offered by the networks and (B) currency conversion is mostly needed for cross-border transactions, the volume of which remains limited across the EU-25.

Graph 65



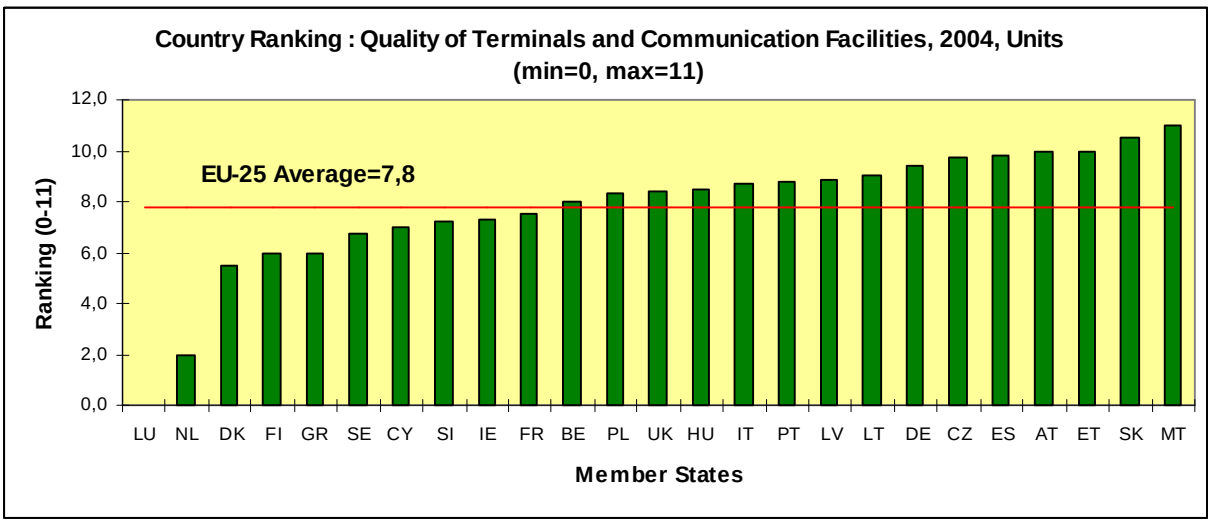
Furthermore, it may be seen from the country analysis that Scandinavian (Danish, Finnish and Swedish) acquirers generally compete much less than acquirers from other EU-25

[111] For example, RBR "Study on Bank Charges and Competition in the Internal Market", p.43.

countries in terms of the quality of terminals. This may be explained by, among other things, the fact that merchants in Scandinavian countries tend, with one small exception, to own their terminals instead of leasing them from acquirers. Thus, merchants in Finland have always owned their terminals, while in Sweden they generally buy terminals directly from suppliers, and in Denmark, where they have the option of either buying or leasing terminals, they tend to buy nonetheless[112].

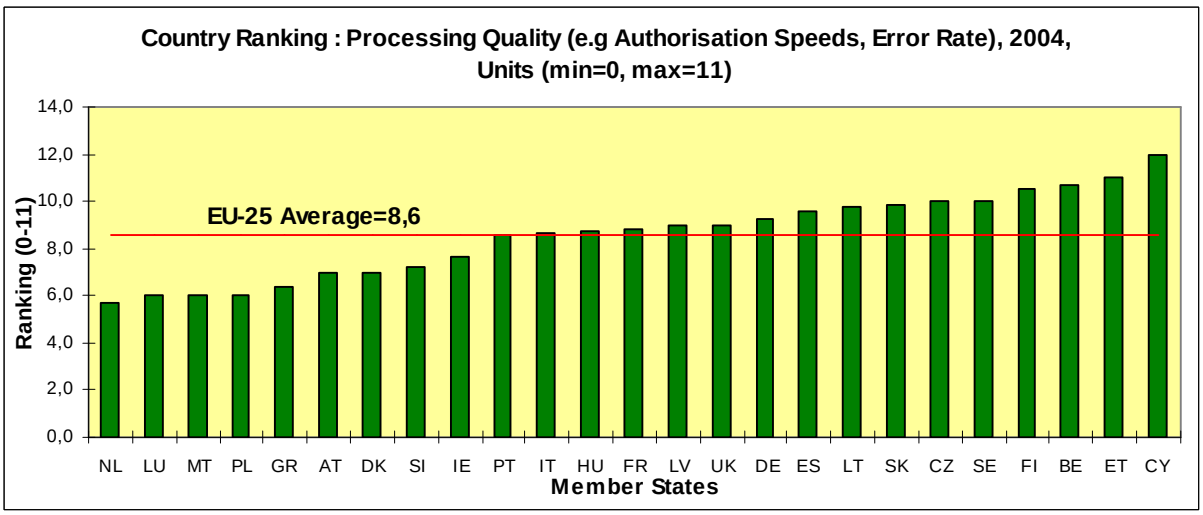
In contrast, acquiring institutions in the new Member States seem to compete a lot by endeavouring to offer better-quality terminals. Thus, acquirers in 8 of the 10 new Member States state that they compete in terms of the quality of terminals more actively than an average EU-25 acquirer.

Graph 66



Interestingly, even though there seems to be less interest within the Scandinavian countries in competing in terms of the quality of terminals, both Swedish and Finnish acquirers compete quite intensely in terms of processing quality (speed of authorisation and level of errors).

Graph 67



[112] Based on replies from acquiring banks and data provided in the RBR Reports on Payment Cards, Western Europe 2006 (section on "Provision of Terminals and Services").

2. Non-price competition in old vs new Member States

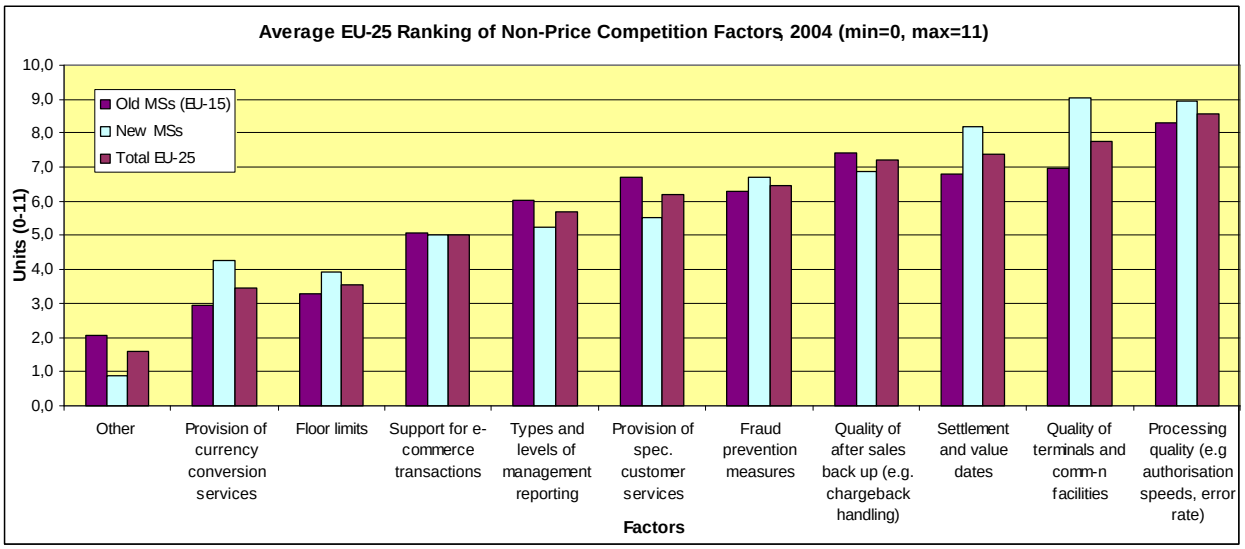
Given the substantial differences in the level of economic development between old and new Member States, a separate analysis was conducted for each group of countries to isolate the group-specific effects. Subsequently, both results were cross-checked against the global EU-25 average (See Graph 68). This identified a number of differences in the behaviour of acquirers in the old and new Member States with regard to non-price competition.

Thus, in relative terms, acquirers in the old Member States tend to compete more than those in the new Member States on the quality and diversity of the customer relationship, such as after-sales back-up and the provision of specialised customer services, including individual relationship managers for their clients. The level of management reporting also appears more important for acquirers in the old Member States. Technical standards on the other hand, even though important in absolute terms across the EU-25 as a whole, are less important in the old Member States.

In contrast, acquirers in the new Member States seem to compete relatively less than those in the old Member States in terms of the quality of their client relationships and more on technical parameters. Furthermore, acquirers from new Member States tend to compete relatively more actively by offering higher floor limits for card transactions and by providing a currency conversion service. Moreover, acquirers from new Member States tend to compete more intensely on the level and quality of fraud prevention measures.

Intuitively, these observations may be explained by the fact that acquirers initially start competing on so-called "first-degree non-price competition factors", i.e. those which are essential in order to provide an acquiring service in the first place. These factors are mostly of a technical nature. When these factors are satisfied to a certain extent (i.e. to a certain level of quality), the competition in "second-degree non-price factors", such as relationship quality, may gain importance. Given that new Member States joined the payment card acquiring market largely only in the second half of the nineties, there may still be opportunities for first-degree non-price competition. In contrast, acquirers in the old Member States might have reached a sufficient level of technical standard and may have started exploring other possibilities to compete, such as through the quality of their client management. Furthermore, a lag in technical development in new Member States may also result in a higher fraud rate in card transactions and, therefore, greater opportunities for acquirers to compete in terms of the quality of fraud prevention measures.

Graph 68



Apart from these factors, the following additional elements in non-price competition were mentioned by respondents (per country): brand marketing support (level of marketing co-spending) (Belgium); proven track record, strong financial position of the acquiring institution (Cyprus); sales personnel expertise (Finland); service set-up timing (Italy); premium value proposition (discounts for high spending to loyal cardholder base) (Luxembourg); multi-branding (possibilities for co-branding) (Netherlands); value-added services (Poland); acceptance of various types of cards at the terminal (global acceptance by terminals) (Portugal); confidence in the customer and bank relationship (Sweden); communication of changes, e.g. card scheme rules and compliance programmes (UK).

3. Non-price competition for large vs small firms

From the replies of the respondents, it is evident that acquirers (particularly large ones) may compete somewhat differently when targeting different types of clients. For example, it is claimed that, in competing for big corporate merchants, processing quality is more important than the quality of terminals and communication facilities. The opposite holds true for smaller merchants. As the replies show, large merchants, unlike smaller ones, tend to have their own terminals instead of renting them from an acquiring institution. In this case, acquirers cannot compete in terms of the quality of terminals. For these large merchants, however, it is very important to keep authorisation times short and the level of errors low, thus leaving room for competition on the quality of processing. For smaller merchants, who tend to rent terminals, both the quality of terminals and processing quality are important.

Furthermore, larger merchants tend to place greater value on the quality of management reporting and the provision of specialised services. The necessary degree of detail in the management reporting may help them to identify and target their customers correctly in their marketing campaigns and other sales strategies. The provision of specialised services, through an individual relationship manager, may be needed to ensure more efficient and prompt communication between merchant and acquirer, given the complex internal organisational structure of a corporate merchant. For smaller merchants, however, these factors are only of a secondary nature, as they tend to have simpler corporate structures and often less sophisticated marketing techniques.

4. Conclusion and analysis

Since merchant service charges are largely determined by the level of interchange fees, residual competition between acquirers occurs on the margins above the interchange fee as well as on non-price-related aspects of their services. These non-price-related aspects include the quality of acquiring services as well as a good customer relationship. In the new Member States the first aspect seems to be more important than the second, while in the old Member States a good customer relationship is becoming increasingly important. Acquirers report that in competing for larger merchants, the processing quality is more important than the quality of terminals and communication facilities. The opposite holds true for smaller merchants.

XV. Interest-Free Periods and Float in POS Card Transactions

1. Introduction

Banks may delay the settlement of a card transaction on the current bank account of a customer by days or even weeks. To the extent that cardholders are not charged interest for this time period ("free funding period"), an issuing bank incurs costs. It has been argued that these costs should be co-financed by merchants through an interchange fee as cardholders make greater use of cards in their shops if they benefit from a free funding period. From a competition viewpoint it is therefore interesting to examine the extent to which banks indeed incur costs by delaying the settlement of a card transaction.

In this chapter we will therefore analyse:

- the number of days that lapse on average between the moment a POS card transaction is authorised at a terminal and the moment the money is finally deducted from a cardholder's bank account;
- the extent to which card issuing banks delay the transfer of funds to the merchant bank in order to earn a return on the transfer amount and to recoup part of their costs for funding delayed payment by cardholders.

For the chapter below, we will use the following definitions:

Free funding period	The time delay (measured in days) between the time a POS transaction is authorised and the time the issuing bank debits the cardholder's bank current account;
Transfer period	The time delay (measured in days) between the time a POS transaction is authorised and the time the issuing bank transfers the corresponding funds to the acquiring bank; and
Net float	The sum of the 'transfer period' minus the 'free funding period' (measured in days).

From the perspective of the issuing bank, net float occurs if there is a divergence between the time it debits the cardholder and the time it transfers money to the acquirer. Net float may be positive, zero or negative. It is:

1. negative if the bank debits the cardholder after the transfer
2. positive if the bank debits the cardholder before the transfer
3. zero if the bank debits the cardholder the same day the transfer occurs.

Where the net float duration is positive, the issuing bank has the opportunity to earn a return on the transfer amount. Where the net float duration is negative, the issuing bank is required to advance the transfer amount, which will create a cost for the issuing bank.

In the next section, we will analyse the results of data from 114 banking groups across the entire European Union. The averages given are simple arithmetical averages.

2. Analysis of free funding period and net float per card brand

The graph below sets out the average free funding periods (also referred to as "grace periods") for payment card transactions with the main card brands in the EU: VISA, MasterCard, VISA Electron, as well as some selected domestic debit cards such as EC Cash (Germany), Multibanco (Portugal), Karanta (Slovenia) and Laser (Ireland).

Graph 69

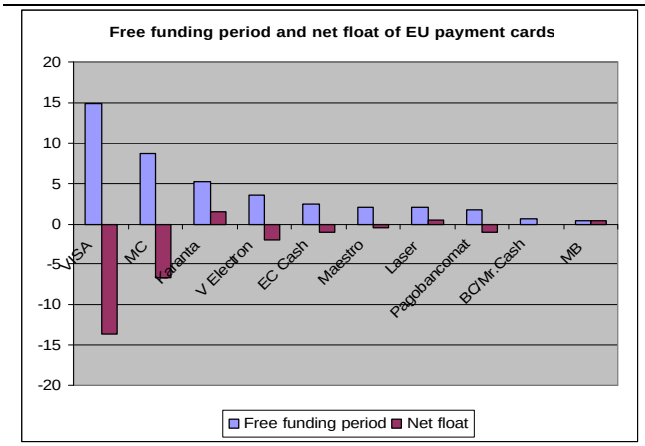


Diagram X

Grace periods and net float of Payment Cards in number of days after POS transaction (2004)

Brand	Grace period	Net float	Brand	Grace period	Net float
VISA	**14,87**	**-13,62**	Maestro	**2,03**	**-0,53**
MC	**8,74**	**-6,68**	Laser	**2**	**0,5**
Karanta	**5,2**	**1,42**	PagoBancomat	**1,8**	**-1**
V Electron	**3,58**	**-2,03**	BC/Mr.Cash	**0,6**	**0**
EC Cash	**2,4**	**-1**	MB	**0,33**	**0,33**

These data show that:

1. On a pan-European scale, VISA cards have an average free funding period of 14.87 days and the net float financed by issuing banks is -13.62 days on average. This compares to an average free funding period of 8.74 days for MasterCard branded cards, where the net float is -6.68 days.
2. Banks finance a small part of the costs of issuing debit cards through positive float.
3. Exceptionally, banks may achieve positive net floats even with *credit* cards.

3. Analysis of free funding period and net float per Member State

Below, we set out average free funding periods, transfer periods and net floats in a country per country comparison. For this analysis, data from VISA, VISA Electron, MasterCard and Maestro have been averaged together. Subsequently, we benchmark the results of international systems against other payment card systems in the EU.

Finally, we take a closer look at individual VISA and MasterCard card brands in some selected EU Member States in order to see to what extent issuing banks distinguish in practice between individual brands in terms of free funding periods and net floats. The final comparison aims at establishing, amongst other things, whether certain card brands such as VISA typically carry an appreciable free funding period.

3.1 EU-25 overview

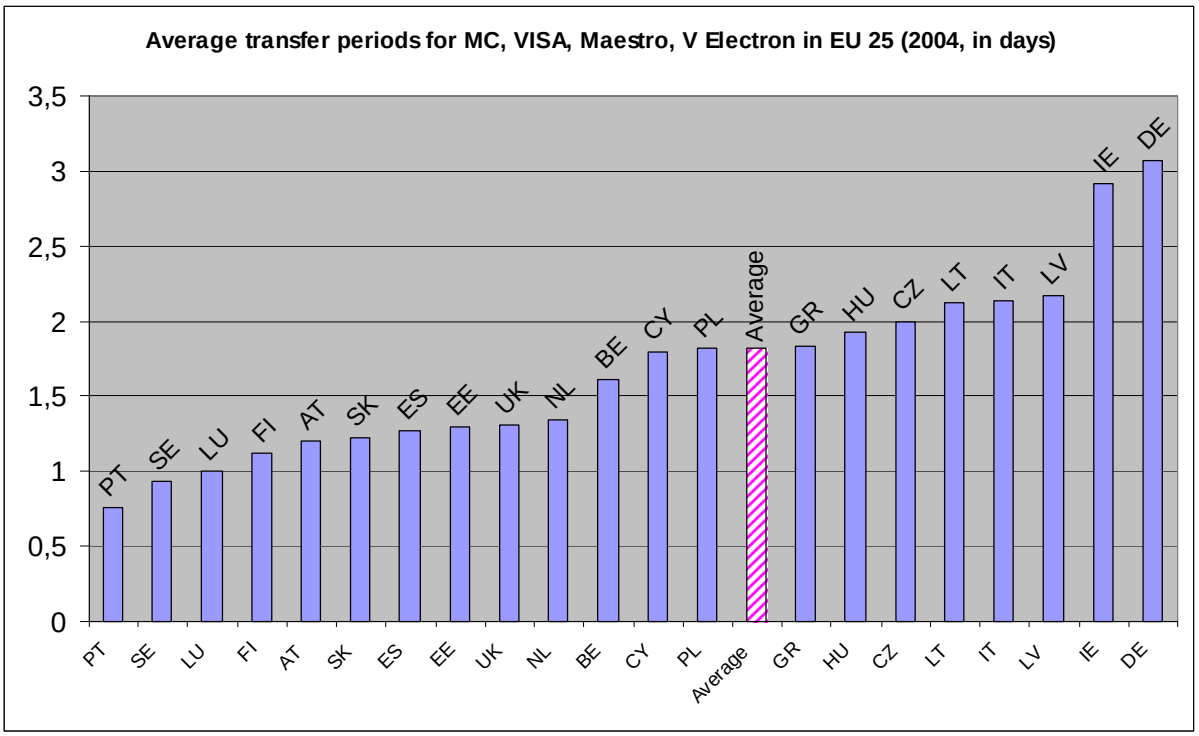
3.1.1 Average transfer periods in the EU-25

On a pan-EU scale, there are some divergences between the transfer periods for international cards. These range from a minimum of 0.76 days (Portugal) to 3.07 days (Germany). In most EU countries, transactions with one of the international cards are debited on the second day after the transaction. A comparison with domestic cards shows a similar picture. Here as well, there are differences on a pan-EU scale ranging from zero days (NL) to 8.9 days

(Slovenia). In most instances, however, transactions with domestic cards are settled the day after the transaction or on the subsequent day.

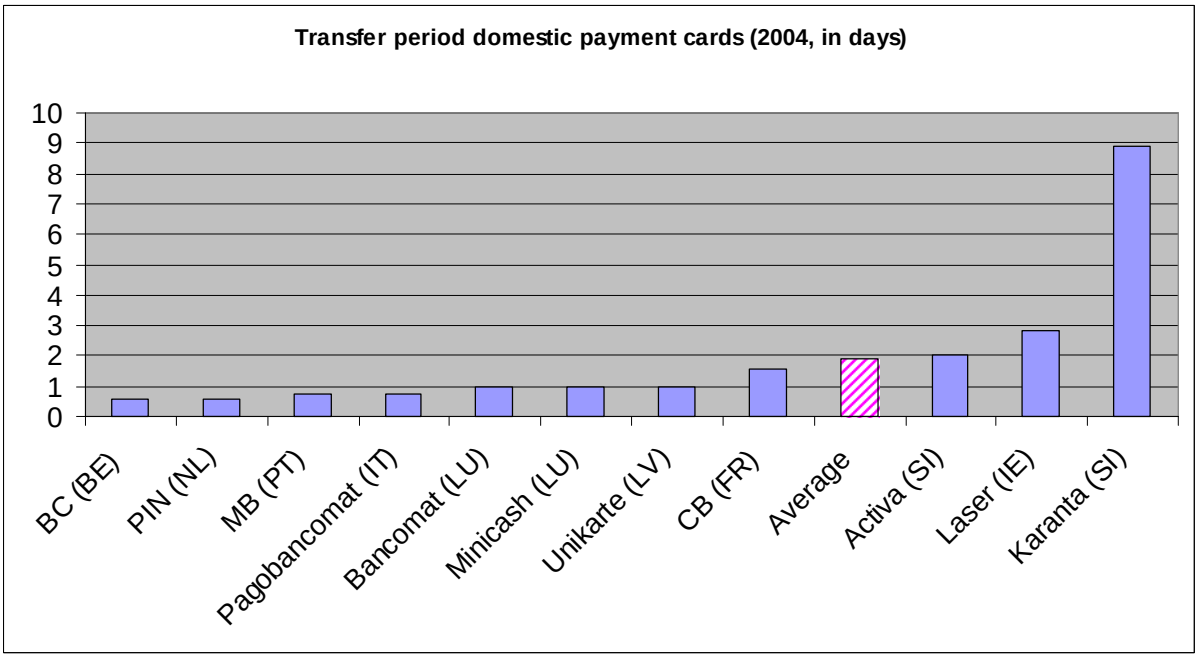
a) International cards[113]

Graph 70



b) Domestic cards

Graph 71



[113] Data on French card transactions are shown in the graph for domestic cards since domestic payments with a Carte Bleue (CB) card co-branded with a VISA or MasterCard logo count as pure CB transactions.

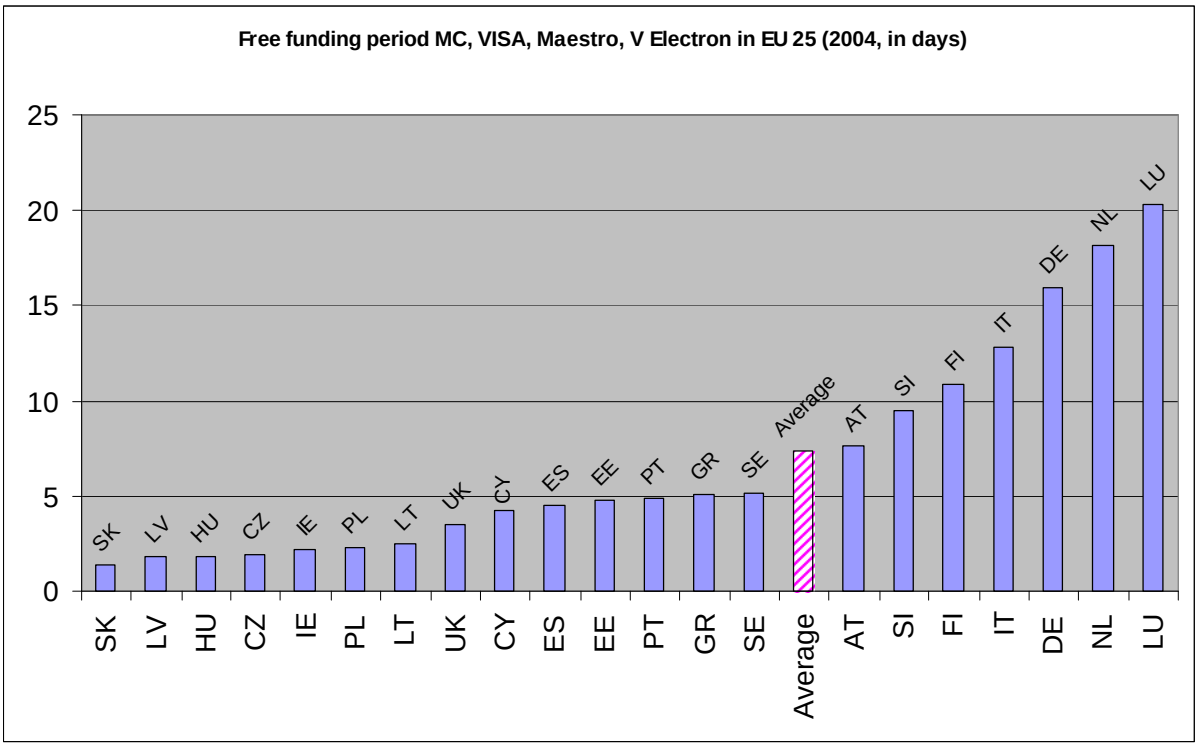
3.1.2 Average free funding period in the EU-25

In contrast with transfer periods, the differences between EU Member States are much more pronounced when it comes to the average length of free funding periods granted by issuing banks to their cardholders. Here, a comparison of all international cards (taken together) shows periods ranging between 1.36 days (SK) and 20.33 days (LU). It appears that free funding periods for international cards are particularly short in the Central European countries while they are long in Western Europe (the Netherlands: 18.17, Germany: 15.93, Italy: 12.82 days).

The comparison of these results with free funding periods for domestic cards shows that the average pan-EU free funding period on domestic cards (3.90 days) is nearly half the length of the average pan-EU free funding period for international cards (7.39 days). On a country by country basis, divergences between domestic systems are marked, with periods ranging from 0.6 days (BE) to 8.13 (SI).

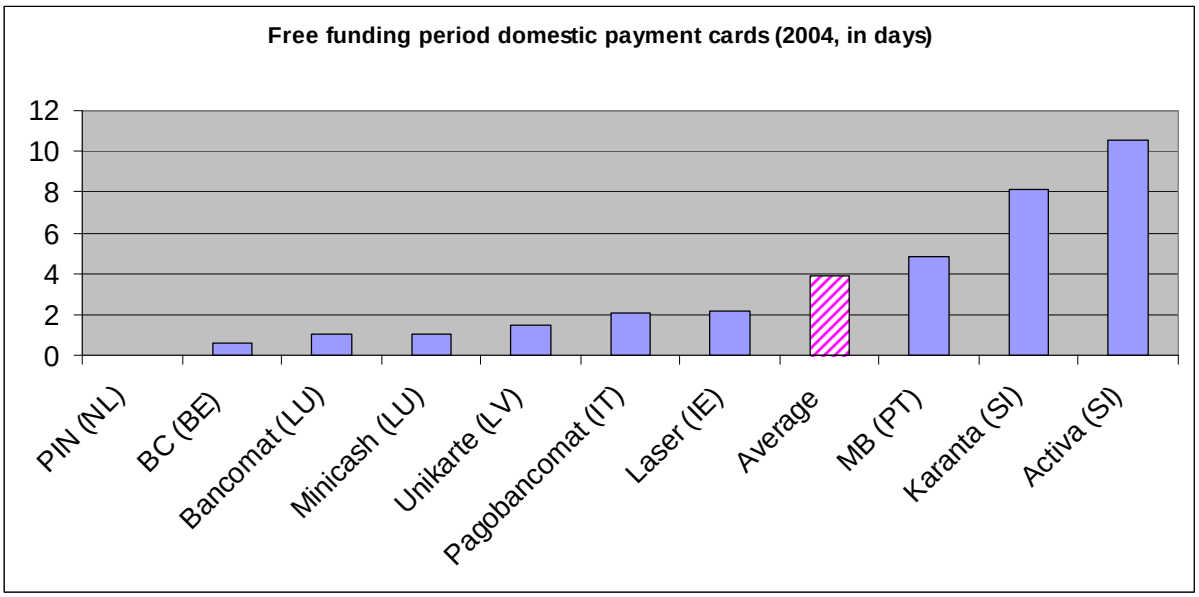
a) International cards

Graph 72



b) Domestic cards

Graph 73



3.1.3 Average net float in the EU-25

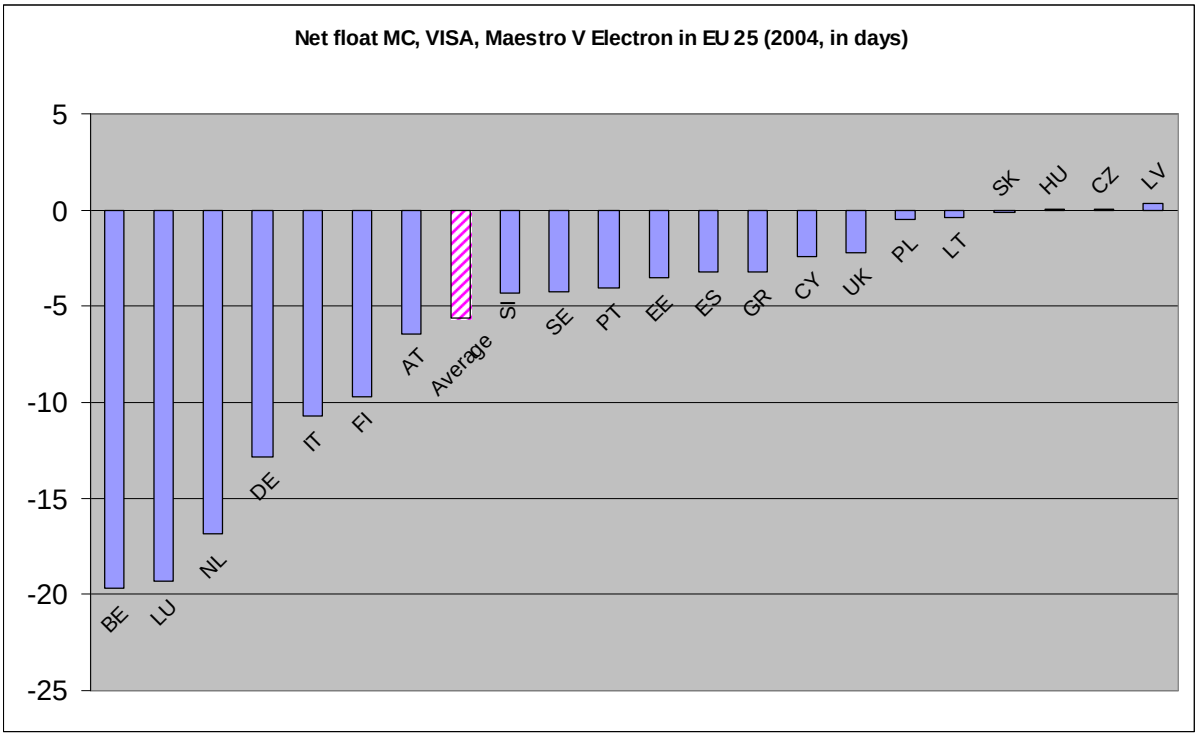
The net float is the difference between the length of the free funding period and the transfer period. Owing to the considerable divergences in free funding periods across Member States, there is a significant variation in the average net float for international cards. Latvia has the highest positive figure with 0.34; whereas Belgium has the largest negative float with -19.65 days. On average, EU banks bear -5.57 days net float for each transaction with an international card in the EU.

There are also clear differences compared to domestic payment cards. Here, the average net float is -1.99 days; less than half of the negative net float for international cards. Country-specific figures for domestic cards range from + 0.77 days (SI) up to –9.42 days (FR) net float.[114]

[114] Data on France, however, must be treated with care for two reasons. First, some banks assigned data for Visa and MC transactions to the domestic card Carte Bleue (CB), as there are no domestic Visa and MC transactions in France for technical reasons. All Visa and MasterCard transactions are therefore analysed as CB transactions. Second, the average-9.42 net float also includes the float for the "Carte Bleue débit immediate", i.e. direct debit cards.

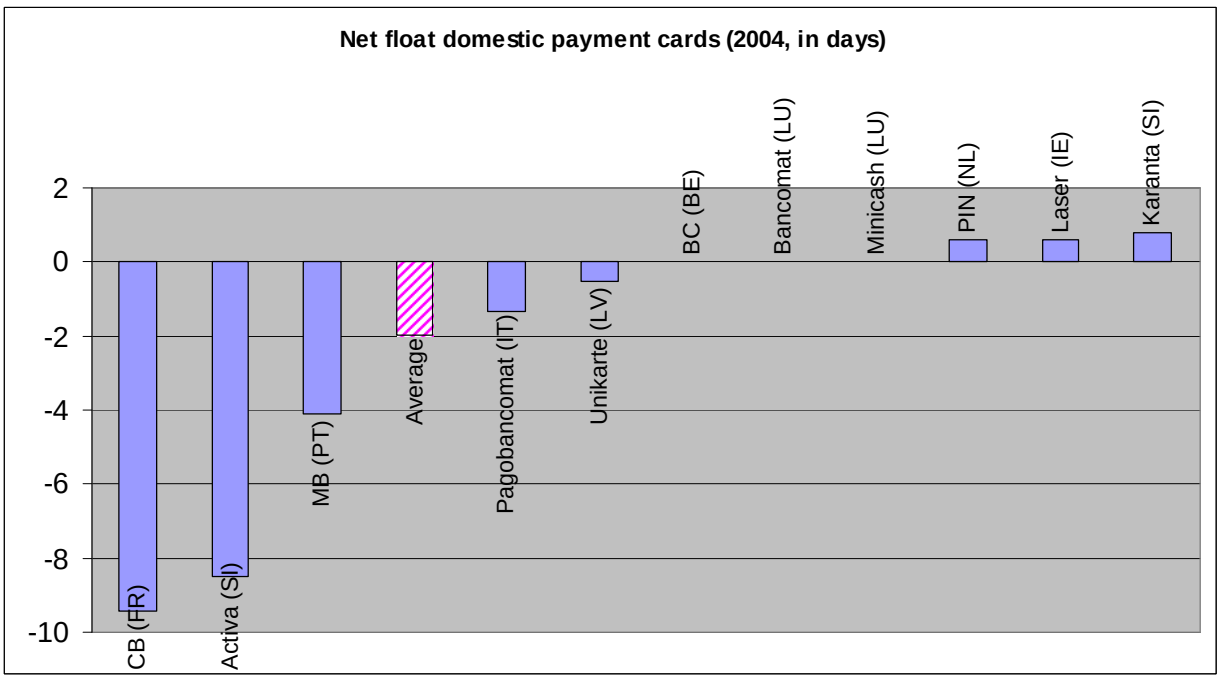
a) International cards

Graph 74



b) Domestic cards

Graph 75



3.2 In some EU countries banks appear to treat all card brands like one single card

It would appear that many banks in Central and Eastern European Member States treat MasterCard, VISA, Visa Electron and Maestro equally with regard to the transfer period, the free funding period and net float. In other words, there often appear to be no appreciable differences in the technical product characteristics of various card brands regarding these features. The table below illustrates this.

Table 10

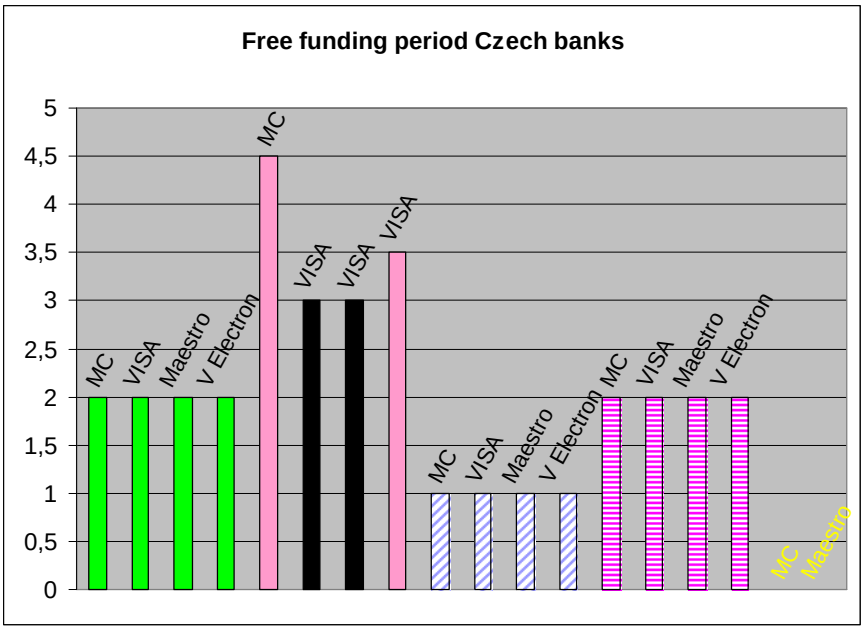
Do the majority of banks surveyed distinguish between MC/Maestro, VISA/V Electron for free funding period ?							
Country	YES	NO	Not clear[115]	Country	YES	NO	Not clear
AT	X			IT	X		
BE	X			**LT**		**X**	
CZ		**X**		LU	X		
CY		**X**		LV	X		
DE	X			NL			X
EE		**X**		PL	X		
ES			X	PT	X		
FI	X			SE			X
FR			X	SI	X		
GR		**X**		**SK**		**X**	
HU		**X**		UK			X
IE			X				

The data show that banks in eight Member States do not distinguish between card brands in terms of the free funding period. This group includes five Central and Eastern European countries along with Cyprus, Greece and the UK. We set out the results for the Czech Republic, the UK and Germany below as benchmarks to illustrate these differences.

Country comparison: Czech Republic, UK, Germany

The first graph shows the free funding periods for international cards in the Czech Republic.

Graph 76



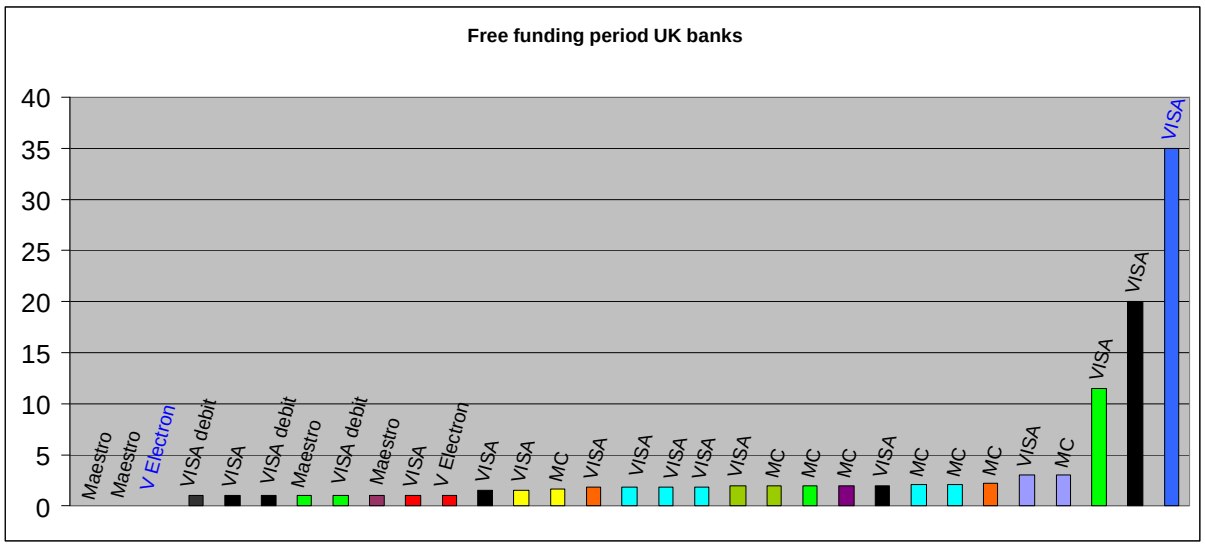
Seven banks in the Czech Republic submitted data. Five of these banks issue more than one international card. Four reported identical free funding periods for VISA and MasterCard, while three banks treated VISA, VISA Electron, MasterCard and Maestro as one single brand with

[115] Where insufficient data samples were received or where results were not clear, the third option "not clear" was ticked.

regard to the free funding period. On the basis of the data received, it would appear that the average free funding period for international cards in the Czech Republic was 1.9 days in 2004.

In the UK the picture is more complex as 13 banking groups (in total 30 data sets) submitted data. This is illustrated in the graph below.

Graph 77

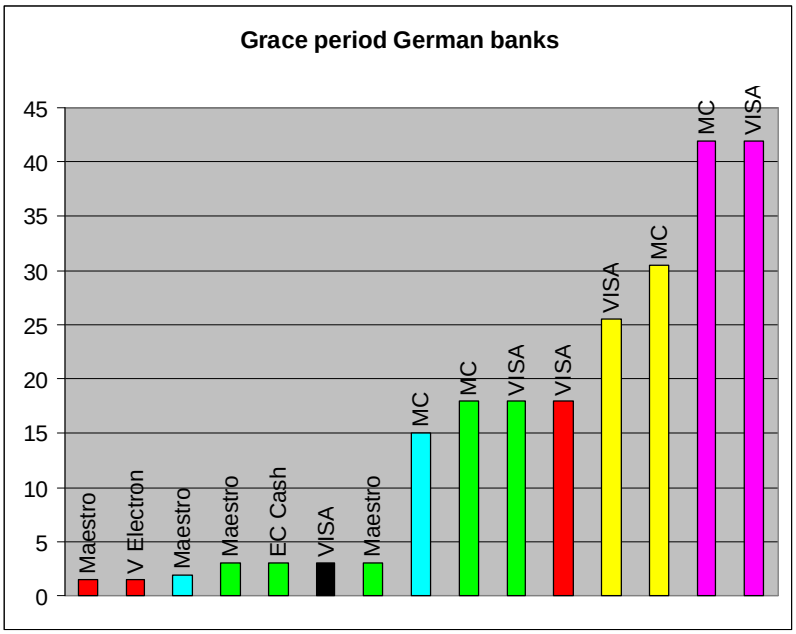


Ten of the 13 UK banking groups indicated free funding periods of less than five days for VISA and MasterCard branded cards. Of the 12 banks issuing VISA cards, nine reported free funding periods of less than three days while only three banks would wait between 11 and 35 days before debiting the cardholder for a VISA transaction. None of the seven banks issuing MasterCard branded cards reported free funding periods longer than three days. The average free funding period for all international cards in the UK was 3.5 days in 2004. Due to these rather short free funding periods for MasterCard and Visa branded cards, the (arithmetical) average net float for a VISA Electron transaction / Maestro transaction (nil to one day) is not much different from the average net float of a MasterCard transaction (-0.5 days) or a VISA transaction (-4.7 days).

These results need further clarification as they could be interpreted in two contrasting ways. Either most UK banks issue VISA and MasterCard branded cards as debit cards; or they issue the cards as charge/credit cards but with most of their cardholders foregoing the benefit of the free funding period. This is, because according to the terms of business of many credit card issuing banks a cardholder benefits form an interest free period only if the entire debt is paid at the end of the free funding period. If, however, the cardholder allows the period to lapse and makes use of an additional credit facility, the issuing bank is entitled to charge interests for the use of this credit facility retroactively from day 1.

In contrast to the UK, German banks reported the greatest differences between VISA Electron / Maestro branded cards on the one hand and VISA and MasterCard branded cards on the other. This is illustrated in the graph below.

Graph 78



Of the seven banking groups surveyed in Germany, all indicated very short free funding periods for Maestro and VISA Electron branded cards. With the exception of one bank, however, all banks granted a considerable free funding period of 15 days minimum on VISA and MasterCard branded cards. As in other examples, VISA and MasterCard branded cards often carry identical free funding periods. The average free funding period for all international cards in Germany was 15 days in 2004. This compares to an average of 1.9 days in the Czech Republic and 3.5 days in the UK.

4. Conclusion and analysis

On a pan-EU scale, the free funding period for international cards varies according to the card brand. MasterCard branded (credit and charge) cards carry roughly half of the free funding period of VISA (credit and charge) cards. VISA and MasterCard cards in turn both typically carry longer free funding periods than VISA Electron and Maestro branded cards

Contrary to this general trend, banks in eight EU Member States (in particular Central and Eastern European countries) appear to treat all international card brands equally in terms of free funding periods.

The average free funding period for national payment cards (Bancontact/Mr. Cash, PIN, Bancomat, Pagobancomat etc.) is only half as long as that of international payment cards (VISA, VISA electron, MasterCard, Maestro).

Hardly any bank surveyed delayed the transfer of money to the merchant's bank long enough to recoup the entirety of its costs for funding delayed payment. In national schemes, banks delayed the transfer of funds to the merchant's bank by between zero days (NL) up to 8.9 days (SI) and in the international schemes (all brands) they delayed the transfer by between 0.76 days (PT) and 3.07 days (DE). This compares to average free funding periods ranging, for national cards, between 0.6 days (BE) and 8.13 days (SI) and, for international cards (all brands), between 1.36 days (SK) and 20.33 days (LU).

Section E

Summary and Analysis

XVI. Summary and Analysis of the Findings

The analysis of the payment card networks covered financial, structural and behavioural variables. The financial variables largely included prices and rates of profitability at two different sides of the industry. This chapter will look at some of the main findings of the financial analysis in a wider context and try to establish some possible links and correlations. Moreover, we will summarise the different barriers to competition identified in the report.

1. Financial analysis

Price differentials for businesses (merchant fees) and consumers (cardholder fees) may result from market fragmentation

The differentials in the prices charged to businesses for card acceptance and to consumers for card issuing are significant. The size of these price differentials indicates the potential scale for price reductions in parts of the EU 25. It is likely that lack of competition and market integration, and in particular barriers to market entry, contribute to high prices. The static cost alone of market fragmentation and lacking competitiveness of markets is therefore probably significant.

Prices for businesses (merchant fees) appear to be determined to a significant extent by interchange

Results of the analysis suggest that on average countries with higher interchange fees have also higher levels of merchant fees. This means that interchange fee to a large extent is passed on to merchants through higher fees. Econometric estimations confirm this point, showing that the interchange fee accounts on average for a percentage of the merchant fees that vary from 40% to 70%, depending on the econometric method used.

High interchange fees do not appear to lead to lower prices for consumers (cardholder fees)

There is no compelling evidence that a reduction (increase) in interchange fee led to higher (lower) level of cardholder fees. The analysis provides no strong negative relationship between the levels of the two fees at a country level, meaning that, for example, an increase in cardholder fees is not necessarily reflected to the same extent in a lower interchange fee.

Moreover, domestic networks, which on average have 70% lower interchange fees have also slightly lower cardholder fees than those of international debit networks (Maestro and Visa debit) (9 Euros versus 10 and 11 euros respectively). This suggests that issuers in international debit networks get consistently higher revenues than issuers in domestic networks.

High interchange fees result in higher profitability of card issuers

There seems to be a consistent pattern showing that in countries with higher interchange fees issuers enjoy also higher level of profitability. This suggests that higher interchange fee does not necessarily account for higher costs of issuing, or otherwise it would not result in higher profits.

Do interchange fees facilitate the issuing of payment cards by redressing the imbalance between issuers' and acquirers' costs and revenues?

It is argued that in the absence of an interchange fee, card issuing, on a stand-alone basis, would not be a profitable activity and therefore would not deliver the "optimal" number of cards in the network. Therefore, interchange fee would be needed to transfer part of the revenues generated on the acquiring side in order to reimburse issuing for bearing greater costs.

If interchange fee were a mere cost redistribution mechanism to render issuing viable it would suffice to make issuing earn a marginal positive profit. However, as the evidence shows,

the weighted average profit-to-cost ratio of acquiring in 2004 amounted to just about 16%, while that of issuing in the same year was more than four times higher at 65%. The question, therefore, could be raised whether this "redistribution of revenues" does not lead to an imbalance in itself by artificially making one activity very profitable, while rendering an intrinsically profitable activity a just "marginal" one.

Furthermore, the cost transfer mechanism would be needed only under condition that issuing on a stand-alone basis could not generate sufficient revenues to recuperate costs. The results of the profitability analysis, however, indicate that in the hypothetical situation of no interchange fee, issuers in the majority of the EU-25 Member States would *ceteris paribus* still enjoy positive profits. Only in 5 out of 25 countries issuing would be a non-profitable activity.

Do interchange fees allow banks organised in card networks to extract economic rents?

Interchange might alternatively be analysed as a means to transfer rents collected by acquirers facing possibly an "inelastic" merchant demand to the issuing side. The fact that interchange to a large extent is passed through to merchants, together with the lack of a strong correlation between the level of cardholder fees and that of interchange fees, seems to be in line with possible extraction of rents and their transfer from the acquiring to the issuing side. This may particularly be pertinent for countries where a single acquirer is owned by a group of large issuing banks.

High interchange fees combined with high merchant charges and high cardholder fees in some countries may be the result of rigid market structures

An explanation for the existence of high fees on both sides of the industry in a particular payment card network may be the presence of joint ventures in acquiring and their structural links to issuers in that country. Such a joint venture is not only the single acquirer for a given network but is also co-owned by the issuing banks. In this context member banks of this payment network may have a strong incentive to set high level of interchange. While a higher interchange fee means that the acquirer incurs higher costs and, ultimately, lower profits, the issuer banks which own this acquirer will simultaneously receive higher revenues in the form of the interchange. Merchant charges increase with higher interchange fee. High interchange fees may thus be a way to transfer rents collected by the single acquirer; facing a possibly "inelastic" merchant demand, to its co-owners on the issuing side.

2. Barriers to competition

The investigation has identified a number of potential barriers to competition in the market for card payment services. These are barriers that decreases or eliminates the competition (1) between banks and non-banks (2.1.) and (2) between different card payment systems (2.2.). The investigation has also identified potential distortion of competition between different means of payment (2.3.). All the barriers have the effect of impeding or making market entry more difficult, both domestic and cross-border. Most of them result from the strategic behaviour of the market players

2.1. Barriers to competition between banks and non-banks

Barriers for acquirers or other service providers

The inquiry has identified a number of potential barriers to competition between acquirers and other service providers.

Acquirers might for instance find it difficult to enter into competition with the incumbent in countries where the incumbent not only owns the domestic card payment system but also provides the technical and financial services (vertical foreclosure), or, where members of the

system are required to buy their processing services from the scheme owner. Similarly, membership requirements to be a financial institution may hinder other payment service providers from entering into competition with acquirers.

Acquirers might also face higher costs in countries where a local establishment is required to become a member of the domestic card payment system, or, where joint ventures between local banks have agreed on preferential interchange fees between them and high fall back fees for foreign banks. Such joint ventures between acquirers may also remove the competitive pressure on merchant fee levels because merchants only face one offer for that network. Finally, diverging technical standards, often on a national basis, may hinder acquirers, processors and terminal vendors from operating efficiently on a pan-European scale.

Barriers for issuers

The inquiry has identified in particular two potential barriers to competition between issuers. High joining fees of card payment systems and their structure may discourage issuers to enter the market or expand card issuing. Similarly, the prohibition on co-operative agreements with non-banks, co-branding, may hinder retailers or other operators from entering into competition with the incumbent card issuer.

Governance arrangements that may risk reducing competition between banks within a card payment system

The inquiry has found that the way card payment systems are organised and operated (governance arrangements) may reduce the scope for competition between the members. This could be the case when decision making on issues affecting intra-system competition, such as fees, membership rules and technical specifications, is reserved to a closed group of members, often the incumbent banks. The one-way requirement for some members to share sensitive business information could also put them at a competitive disadvantage.

2.2. Barriers to competition between different card payment systems

Practices which may reduce competition between card payment systems

The inquiry has identified three potential inter-system competition barriers. Acquirers' practice of charging businesses the same level of merchant fees for accepting cards issued by different networks, blending, may weaken inter-network price competition. This may ultimately lead to businesses paying higher acquiring fees. The prohibition for merchants to charge customers for paying by card, surcharging, may have similar effects as the true costs are hidden to the consumers via cross-subsidisation. The inquiry also found that the risk of loosing the right to co-brand its domestic cards with international functionalities may hinder domestic debit card payment systems from entering into competition with MasterCard and Visa.

Are fees and profitability higher in markets where there are barriers to competition?

The inquiry has shown that the situation differs in every country. The assessment has therefore to be made on a country by country basis.

Despite the presence of barriers to competition, fees and profitability may be low for other reasons, such as regulatory intervention (e.g., Denmark and France) or countervailing demand power (e.g., Finland). Some potential barriers, such as vertical integration of card payment systems, may not always lead to higher prices if efficiencies gained are passed on in lower fees. However, in at least two countries (Portugal and Spain) the high degree of vertical integration may be a contributing factor to the high level of fees and profitability.

Domestic card payment networks appear generally to work quite efficiently and at low cost, mainly for historical reasons. In those systems possible entry barriers do not always seem to materialise in high prices (e.g., Finland, Belgium and Ireland).

In international payment card systems, such as MasterCard and Visa, however, the situation may be somewhat different. In these systems members generally seem to charge higher fees, in particular to businesses. Blending also seems to be widespread between competing MasterCard and Visa card products. In most countries where members of MasterCard and/or Visa have set up joint ventures for acquiring, interchange fees for credit card transactions are high (e.g., Austria, the Netherlands and Portugal) or higher than average(e.g., Belgium and Germany).

2.3. Distortion of competition between different means of payment

The choice of the most efficient means of payment (amongst credit cards, debit cards, cash, cheques, money transfer, direct debit or other) appears distorted as users (consumers) do not receive relevant price signals. In particular, payment service providers do not price the use of different means of payment according to underlying cost. The use of some means of payment is being cross-subsidised by revenue from other sources. There is evidence that suggests that revenue from card acceptance (merchant fees) is one major source of such cross-subsidising.

Annexes

ANNEX 1

Methodology for calculating weighted average interchange fees

For the purpose of the inquiry, both issuing and acquiring institutions were requested to report the level of interchange fee (by tier) as well as the respective turnovers to which each reported interchange rate applied. In order to ensure full comparability, all the computations below rely on data obtained from the responding acquirers. This is for a number of reasons:

Firstly, there are generally much fewer acquirers in the market than issuers, so they also tend to be bigger in size and therefore possibly have a better overview of the overall domestic interchange fee level. Moreover, the sample of respondents was such that it covered a higher percentage of acquirers than issuers. Accordingly, data from acquiring institutions should have a higher coverage of the market than those from issuing institutions, and should therefore be more accurate at country level.

Secondly, some national issuers may have to liaise with foreign acquirers (i.e. acquirers with a cross-border acquiring licence), which have to apply the existing default domestic interchange fee applicable to any domestic transaction in the country in question. On the other hand, domestic acquirers often seem to pay the "on-us" interchange fee, which may significantly differ from the default domestic interchange rate paid by a foreign acquiring bank. As a result, the weighted average fee submitted by issuers (interchange received) may significantly differ from the weighted average interchange fee reported by acquirers (interchange paid). This means that the fee of domestic acquirers rather than issuers (which would also include the interchange received from foreign banks) tends to give a more accurate estimate of the true domestic interchange fee.

Thirdly, some banks, particular smaller saving banks, tend to opt for cooperative issuing. This makes the individual splitting of transaction volumes and the respective amounts of interchange fee received somewhat arbitrary, possibly leading to a certain imprecision in their replies.

Finally, some issuers receive the so-called "net interchange fee" after the corresponding payment to a processor. Thus, the interchange fee income that an issuer receives is reduced by the amount of the processing fee withheld by the processor. According to some market players, this may be the case for some issuers where processing is done by an institution jointly owned (or controlled) by a number of incumbent market players (in issuing or acquiring). In this case, the interchange data submitted by issuers may again be somewhat inaccurate.

The data used in the analysis are subject to a number of limitations in the methodology used. These limitations can be described as follows:

The replies of the respondents show that financial institutions do not always know precisely the amounts of interchange received or paid under different interchange fee tiers, sometimes finding it particularly difficult to perform the necessary split for debit and credit card transactions within a particular network, or to determine the weighted average interchange fee they receive or pay over a given period of time. Further investigation may be needed to arrive at a conclusive judgment as to possible reasons.

It needs to be noted, however, that a possible bias in the sample towards "larger" players, described in the chapter on sampling techniques, may have an impact on the level of weighted average fees across the EU-25. In fact, larger acquirers may have a "use" (denoted in terms of respective turnovers) of interchange fee tiers which is somewhat different from the "use" of smaller acquirers. Thus, for example, a larger player may have a higher acquiring turnover on commercial cards (due to the higher percentage of commercial clients in the merchant client base), which are charged a significantly higher interchange fee. This may result in an upward bias in the EU-25

average weighted level of the interchange fee as presented in this analysis. Therefore, the results need to be treated with a certain degree of caution.

ANNEX 2

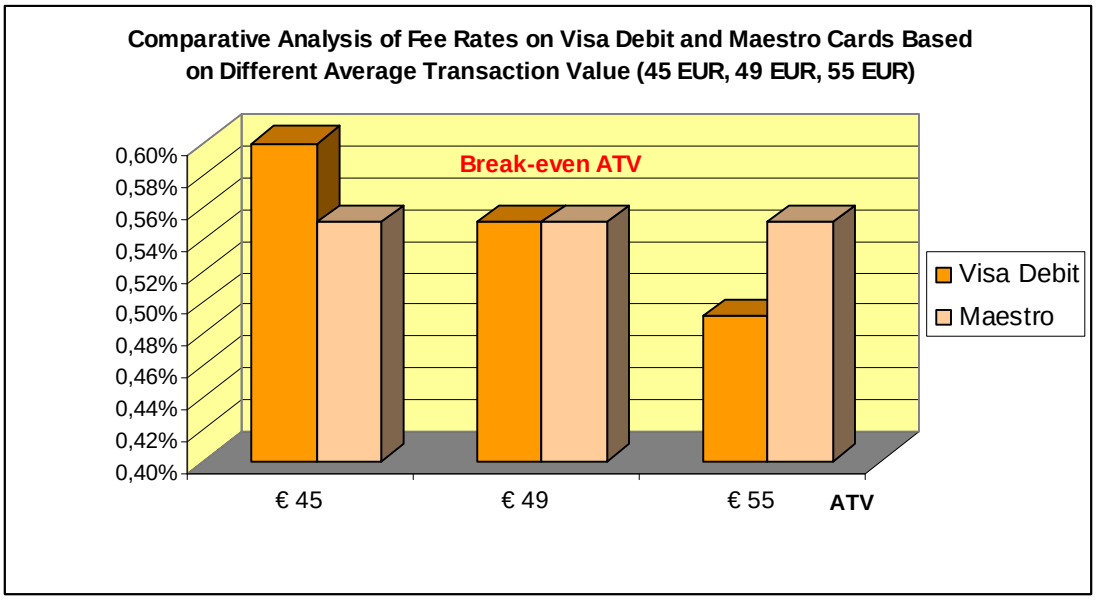
Analysis of fee structures for international debit card systems (MC/Visa)

a) Hypothetical analysis

First of all, the hypothetical analysis makes a series of assumptions. As discussed previously, both the Maestro and Visa debit schemes have multiple interchange fee tiers, while the comparison uses only one fee level per network. Accordingly, the best solution would be to compare the most "popular" interchange fees tiers in each respective network. According to MasterCard's replies, chip transactions (fee of 0.50%) and pin-verified transactions (fee of 0.55%) in 2004 accounted for the largest share of EU-25 turnover. According to Visa's replies, the majority of transactions were electronic (card-present) transactions with a fee of 0.27 euro cents per transaction.

Based on the fee level information, the break-even transaction value can be calculated. A payment transaction with this value will by definition generate equal interchange revenues in both schemes. When the average transaction value (ATV) happens to be above this break-even value, the "percentage" approach would yield more interchange than the "fixed per transaction" fee. The opposite holds true when the ATV is below the break-even value.

Applying simple arithmetical manipulations, the break-even ATV is (A) 54 euros (if the rate for chip transactions is applied in Maestro), or (B) 49 euros (if the rate for pin-verified transactions is used instead). The latter result is illustrated in the following graph:



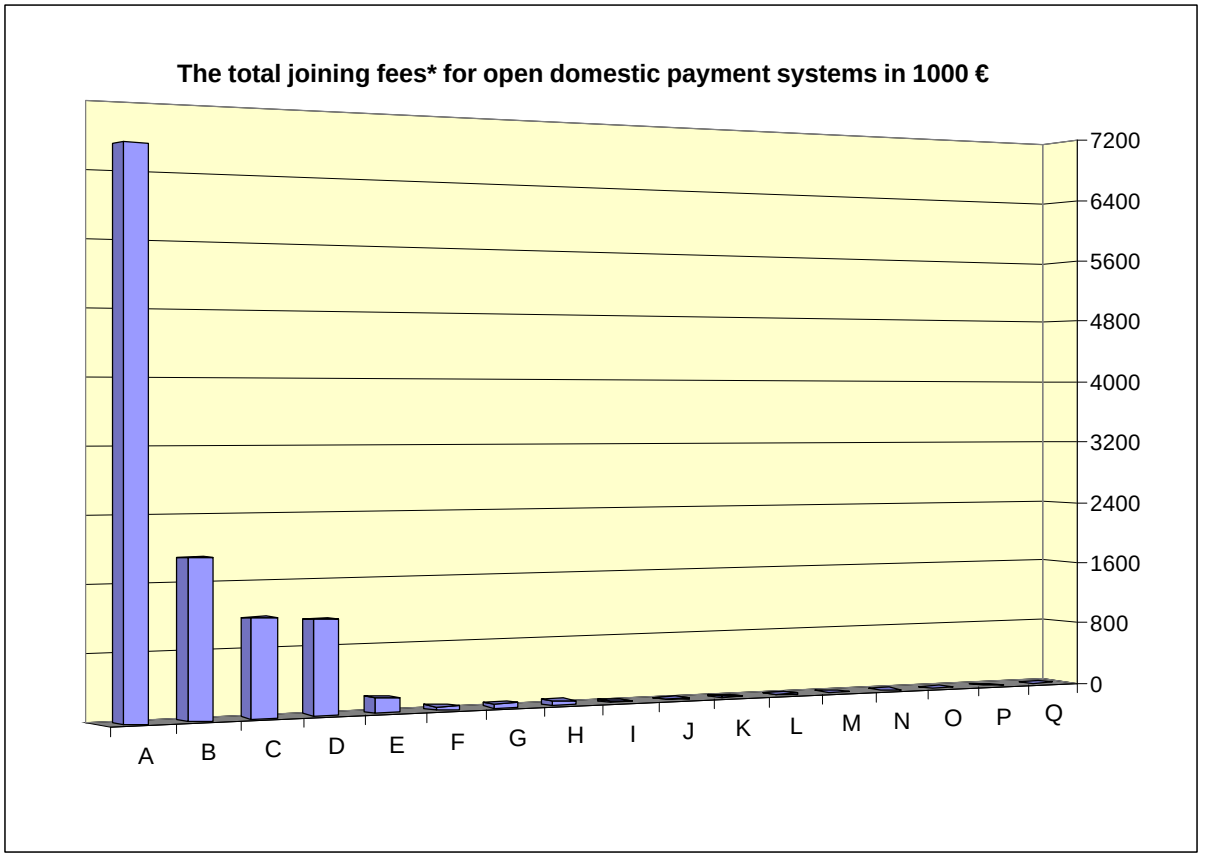
b) Empirical results

According to the actual data, the average transaction value for Maestro cards[116] was 49 euros (the break-even value) only in 2000 and from then onwards was above this amount. This means that as of 2001 the Maestro interchange fee structure led to net gains in terms of interchange revenues on debit cards compared to a structure using a fixed rate (see summary of the results in the main text).

[116] Following sound statistical techniques, and in order to avoid a possible bias in the results due to missing data, calculations of the average transaction value used only the "balanced" data. Thus, observations that did not have values for all reporting periods (2000-2004) were excluded from the analysis.

ANNEX 3

Joining fees for open domestic payment systems

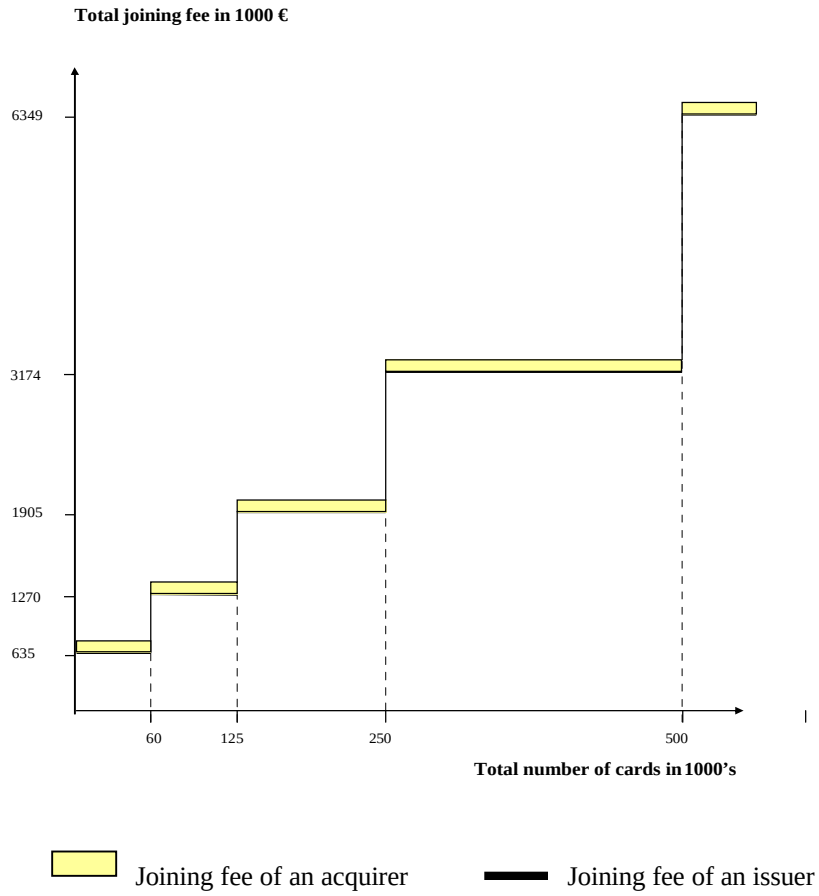


* Where different fees apply to issuers and acquirers, the "total joining fee" refers to the combination of these two fees. Similarly, when the joining fee varies depending on the type of membership and/or type of services, the "total joining fee" refers to the highest applicable fee.

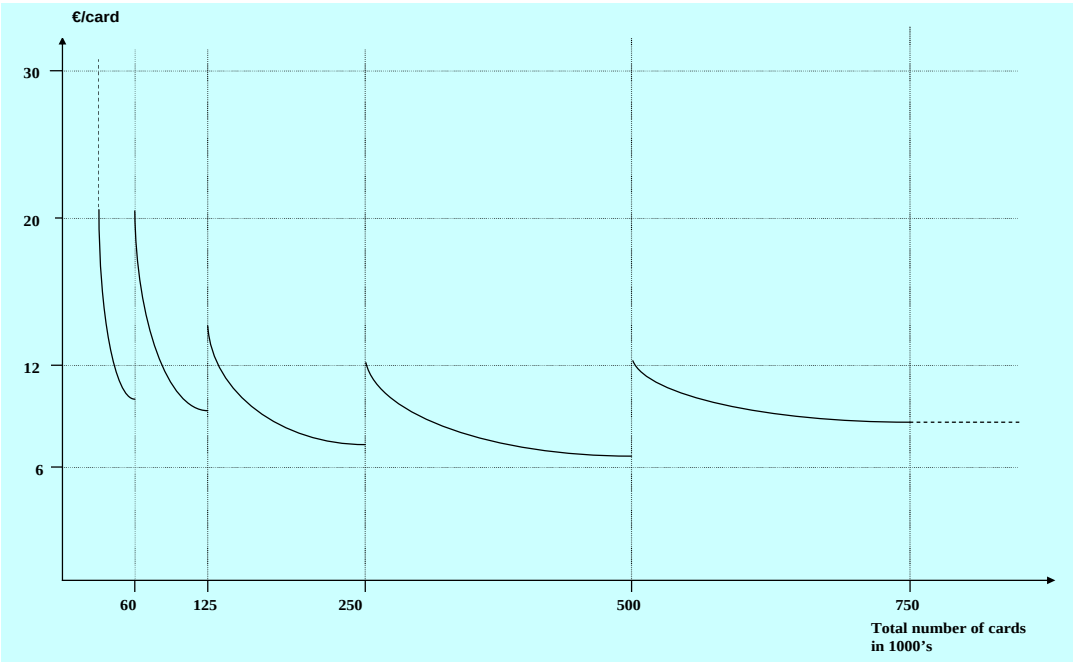
ANNEX 4

Structure of joining fees in one card system (Country A)

A) Total joining fee per total number of cards projected to be issued during the first three years



B) Joining fee per cards projected to be issued during the first three years



Annex 5 - Econometric Analyis

1 Outline

The flow of payments in an open card payment system has been described in Section I ("Organisation of POS Card Payment Systems") and is summarized in figure 1. The aim of this annex is to analyze in greater detail the determinants of the three depicted system fees (merchant service charge, interchange fee and cardholder fee) as well as the interrelation among them.

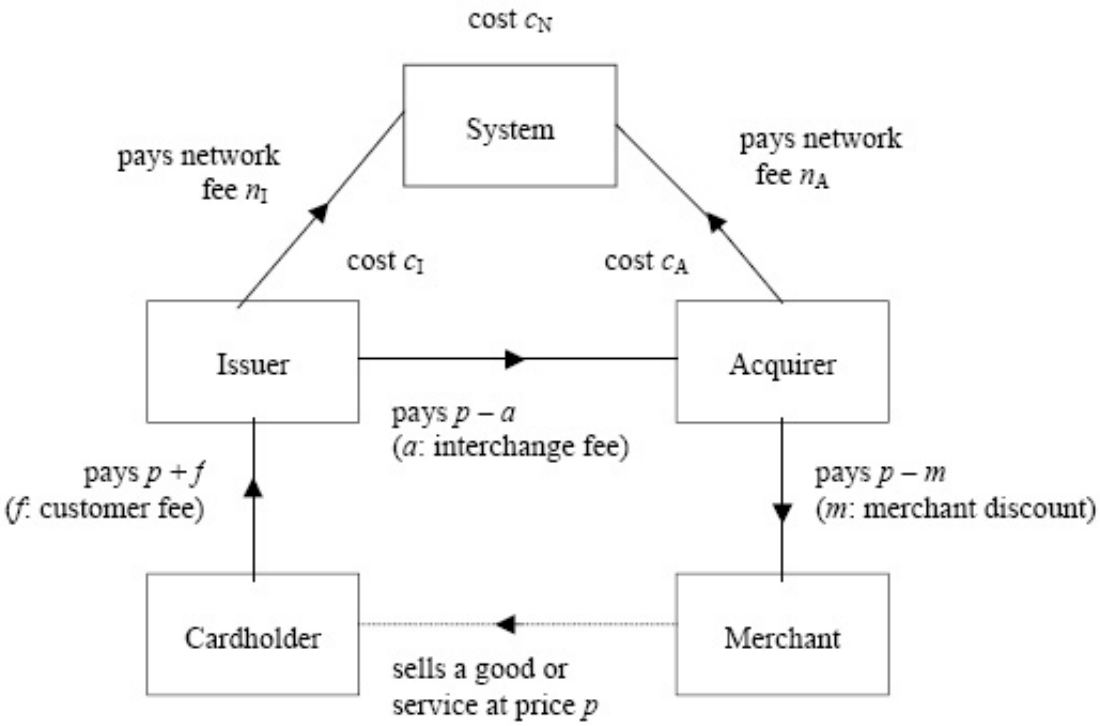


Figure 1: *Flow of payments (taken from Rochet and Tirole, 2003)*

Section 2 presents and describes some features of the utilized data set which are important for the understanding of the subsequent analysis. Section 3 uses several statistical and econometric techniques to reveal some details of the underlying relationships among the variables. Section 4 shortly summarizes the obtained findings.

2 The Data Set

In this section, the main properties of the given information are highlighted. As described in Section III ("Data and Methodology"), the data set has been collected and processed by the European Commission (DG COMP and DG JRC). All information stems from a questionnaire sent out to European banks in the second half of 2005. The final data includes 147 acquiring banks and 296 issuing banks operating in the 25 EU-countries and covers the years 2000-2004. In the following, the three main variables of the card payment system (merchant service charge, cardholder fee and interchange fee) are separately presented.

2.1 The Merchant Service Charge (MSC) Fee

The Merchant Service Charge (MSC) is a fee paid by merchants to the acquiring bank. This fee is merchant-, network- and bank-specific. In the questionnaire, weighted average MSC fees have been requested on an aggregate and merchant-specific level. On the aggregated level, attention is given to the top and bottom 10% and 25% of the client base as well as the total client base. On the merchant-specific level, data is given for the ten top and bottom merchants (based on their total turnover). The given information includes the merchant's sector, number of transactions, total turnover, risk profile, starting date of acquiring relationship, ratio of cross border transactions, predominant transaction type, and the profitability of the acquiring relationship.

The final database has been submitted to several statistical tests in order to identify possible mistakes made by respondents, for instance situations where banks have reported numbers in thousands instead of millions. In order to harmonize the data, respondents have been asked to check the correctness of the given figures in most of the cases in question. In few cases, where cross-checked information revealed that the observed values were due to pure mistakes, a transformation has been performed by accordingly adjusting the figures.

As mentioned, the data has been collected from 147 acquiring banks. Some banks provide services for more than one network (Visa, MasterCard, ...) which leads to a total of 2555 unique bank/network/year-combinations. The final data set is "unbalanced", because some respondents have reported figures only for a few years but not over the entire time period (2000-2004). There are significantly more observations reported for later years. Where relevant, both for economic and statistical reasons, only a "balanced" data set is considered in the analysis. Table 1 indicates exemplarily for how many of the 2555 combinations information has been given on the total average merchant service charge (MSC) fee.

As quoted earlier, the banks have also been asked to provide detailed information for up to twenty of their merchants. Table 2 shows exemplarily how many merchant-specific

Table 1: *Number of non-missing observations of the total average merchant service charge (MSC). The table shows the breakdown of the bank / network / year-combinations where information on the MSC fee is given.*

Country	2000	2001	2002	2003	2004	Total
Belgium	3	3	4	5	7	22
Cyprus	0	5	6	6	6	23
Czech Republic	10	12	12	13	21	68
Denmark	1	2	2	2	2	9
Estonia	1	6	6	6	6	25
Finland	5	5	5	5	5	25
France	0	1	3	6	7	17
Germany	9	9	9	9	12	48
Greece	2	5	6	8	11	32
Hungary	7	7	9	9	9	41
Ireland	4	5	5	10	10	34
Italy	14	14	15	21	25	89
Latvia	22	20	20	20	22	104
Lithuania	5	5	5	7	7	29
Luxembourg	0	0	1	4	4	9
Malta	6	6	6	6	6	30
Netherlands	3	3	4	7	9	26
Poland	0	1	1	1	1	4
Portugal	7	8	8	8	10	41
Slovakia	3	3	3	4	13	26
Slovenia	15	15	15	16	20	81
Spain	43	43	47	47	62	242
Sweden	2	2	7	10	10	31
United Kingdom	11	12	13	22	28	86
Total	173	192	212	252	313	1,142

values of the MSC fee can be used for the analysis. A detailed breakdown of the contained information per country and network is given in Section V ("Merchant Charges"). Table 3 depicts some descriptive statistics for the main merchant-specific variables provided by the acquiring banks (MSC, acquiring costs, log turnover, log number of transactions and log length of acquiring relationship) that will be used in the next section. Table 4 presents the pairwise correlation matrix (including the respective number of observations) between the variables in 2004.

2.2 The Cardholder Fee

All issuing banks have been asked to provide data on the overall average yearly cardholder fee excluding the annual percentage rate (APR) as well as the weighted APR level. The overall cardholder fee should include among others the following components: card issuance fee, fee per card, fee per transaction, fee per transaction over the credit limit and for late balance payment, replacement fee, cash withdrawal fee, currency conversion fee, account statement and billing information fee, copy of the account statement fee, penalty fee, emergency cash advance fee, foreign transaction fee as well as insurance fee. Moreover, the information has been asked for at several levels (e.g. corporate vs. consumer clients and separate data for the top and bottom 10% of the client base).

Table 2: *Number of non-missing observations on merchant-level. The table shows the breakdown of the information given on the merchant-specific MSC fee by country and year.*

Country	2000	2001	2002	2003	2004	Total
Austria					10	10
Belgium	41	47	92	118	131	429
Cyprus		41	55	57	57	210
Czech Republic	160	181	201	212	390	1,144
Denmark	30	30	30	30	40	160
Estonia	7	12	18	26	40	103
Finland	90	90	90	90	90	450
France	8	28	64	86	110	296
Germany	80	94	104	145	220	643
Greece				40	130	170
Hungary	60	60	80	80	100	380
Ireland	80	89	89	120	130	508
Italy	258	260	352	372	504	1,746
Latvia	243	257	272	275	380	1,427
Lithuania				68	197	265
Luxembourg			33	56	60	149
Malta	73	80	87	94	120	454
Netherlands	40	40	60	60	110	310
Poland			20	20	20	60
Portugal	126	140	139	140	180	725
Slovakia	21	36	47	74	235	413
Slovenia	171	184	197	217	340	1,109
Spain	611	618	651	700	1,151	3,731
Sweden	52	53	84	108	140	437
United Kingdom	213	218	222	452	502	1,607
Total	2,364	2,558	2,987	3,640	5,387	16,936

Table 3: *Descriptive statistics for the merchant-specific MSC, acquring costs, log turnover, log number of transactions and log length of acquiring relationship. All information has been provided by the acquiring banks and includes both credit and debit cards.*

	msc	acqcost	lturn	ltrans	lacqdays
N	16933	16640	12444	14081	16985
mean	1.583	1.183	-1.496	7.267	6.943
sd	1.207	1.379	5.307	5.104	1.245
skewness	0.458	2.678	-0.771	-0.037	-0.775
kurtosis	2.453	12.144	3.034	1.734	3.888
min	0.000	0.000	-18.521	-1.103	0.000
p5	0.000	0.117	-11.568	0.000	4.727
p25	0.600	0.270	-5.359	2.079	6.306
p50	1.454	0.749	-0.274	8.017	7.150
p75	2.500	1.699	2.372	11.556	7.785
p95	3.600	3.701	5.355	14.886	8.704
max	5.533	8.704	11.812	19.168	9.577

Table 4: *Pairwise correlations (and according number of observations) between the merchant-specific MSC, acquring costs, log turnover, log number of transactions and log length of acquiring relationship in 2004.*

	msc	acqcost	lturn	ltrans	lacqdays
msc	1.0000				
	5385				
acqcost	0.3436	1.0000			
	2377	3780			
lturn	-0.3334	-0.0680	1.0000		
	4182	2153	4723		
ltrans	-0.4040	-0.1183	0.9402	1.0000	
	4961	2560	4560	5545	
lacqdays	-0.0581	0.0056	0.4214	0.4243	1.0000
	4468	2291	3862	4618	5041

As mentioned before, the data set contains values from 296 issuing banks over the period 2000-2004. The information has been separately collected per network and type of customer (business, consumer or combined). Table 5 exemplarily depicts the number of non-missing observations of the overall cardholder fee by network and year. More information on the different components can be found in Section VI ("Cardholder Fees"). Table 6 presents some descriptive statistics of the main variables provided by the issuing banks.

Table 5: *Number of non-missing observations of the overall cardholder fee.*

Network	2000	2001	2002	2003	2004	Total
American Express	35	34	38	38	39	184
Diners Club	14	16	16	16	21	83
Maestro	87	97	115	118	123	540
MasterCard	126	159	178	189	206	858
National Debit	76	88	96	109	121	490
Visa	172	194	221	228	239	1,054
Visa/Electron	59	69	74	77	78	357
Total	569	657	738	775	827	3,566

Table 6: *Descriptive statistics for the log cardholder fee, log number of cards, log turnover, log number of transactions and log cost per transaction.*

	lcardfee	lnum	lturn	ltrans	lavtcost
N	3622	5508	5640	5582	7858
mean	3.111	10.087	3.583	13.082	-0.362
sd	0.972	2.898	2.768	2.848	2.012
skewness	-0.183	-0.534	-0.253	-0.273	-0.021
kurtosis	3.138	3.231	2.959	2.841	5.423
min	0.072	0.318	-4.962	4.035	-7.783
p5	1.361	4.963	-1.206	8.088	-3.922
p25	2.485	8.232	1.666	11.132	-1.483
p50	3.178	10.420	3.784	13.298	-0.261
p75	3.757	12.216	5.446	15.080	0.824
p95	4.638	14.375	7.893	17.565	2.502
max	5.897	16.637	12.015	20.787	9.883

2.3 The Interchange Fee

The interchange fee is defined as the fee paid by the merchant's bank (the acquirer) to the cardholder's bank (the issuer) whenever a cardholder uses a card to make a purchase at a merchant. This fee is set by the network and should be the same for all banks operating in the same country, network and tier. Both the acquiring and issuing banks have been asked to provide their relevant interchange fees for a list of all applicable tiers. To obtain a country-, network- and year-specific average of the interchange fee level, a two-step calculation has been performed by first weighting the given numbers for each bank and subsequently accordingly aggregating the values. Table 7 depicts the number of non-missing observations (in this case countries) of the constructed average interchange fee based on the information provided by the acquiring banks.

Table 7: *Number of non-missing observations (i.e. countries) of the interchange fee.*

Network	2000	2001	2002	2003	2004	Total
American Express	1	1	5	5	5	17
Diners Club	8	8	8	8	8	40
JCB	3	3	3	3	2	14
Maestro	13	13	14	14	14	68
MasterCard	18	18	19	22	22	99
National Debit	10	10	12	13	14	59
Visa	18	18	19	21	22	98
Visa/Electron	10	10	9	10	10	49
Total	81	81	89	96	97	444

3 Empirical Analysis

The aim of this section is to identify the main influence factors of the merchant service charge and the cardholder fee. The results will be helpful for a deeper understanding of the underlying structure of the European payment cards sector.

3.1 Determinants of the merchant service charge (MSC)

Table 8: *Factors relevant in determining the MSC.*

1	Interchange fee value
2	Merchant annual card turnover
3	Merchant average transaction value
4	Merchant sector
5	Overall profitability of the existing relationship with merchant
6	Merchant risk profile
7	Length of the established relationship with merchant
8	Newly acquired merchants (need to incentivise with a lower MSC rate)
9	Merchant ratio of cross-border/domestic transactions
10	Merchant ratio of chip&pin transactions/magnetic stripe transactions
11	Merchant ratio of card present/card not present transactions
12	Merchant ratio of "on-us" transactions/total transactions
13	Merchant ratio of transactions under special arrangements/total transactions
14	Other

In the questionnaire, the acquiring banks have been asked to give a ranking on fourteen factors potentially relevant for the determination of the merchant discount. Table 8 lists the factors and figure 2 present the median of the reported values for six different networks. It can be seen that the interchange fee is believed to play a prominent role in all cases.

Starting point of the econometric analysis is a very simple model relating the merchant-specific service charge to the average interchange fee observed for each country/network/year-combination:

$$MSC_{it} = \beta IF_{it} + \alpha_i + \varepsilon_{it} \tag{1}$$

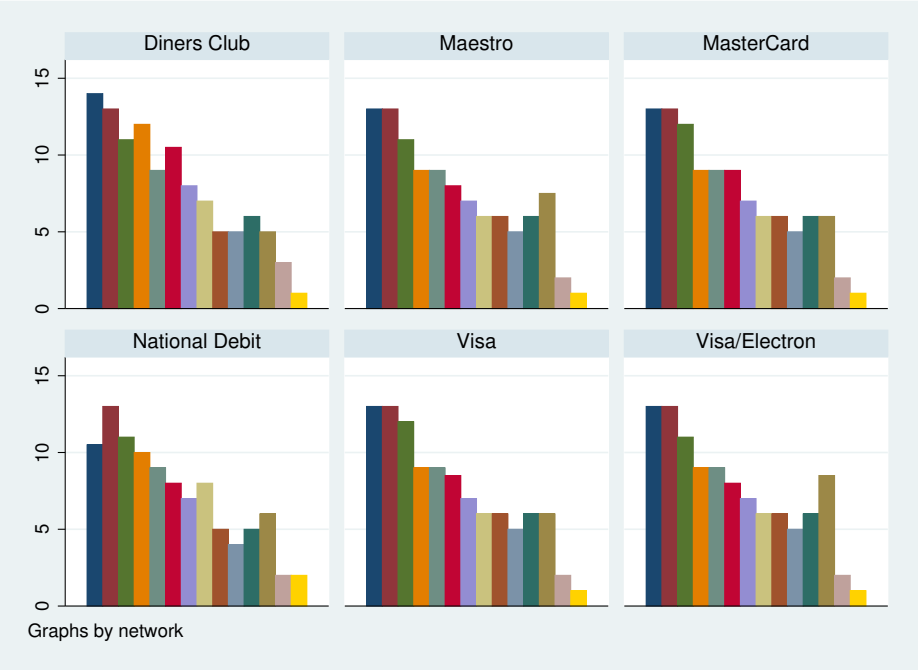


Figure 2: *Relevant factors for the MSC. The graph shows the median of the reported numbers assigned to the fourteen influence factors given in table 8 (from left to right).*

where MSC_{it} denotes the MSC for merchant i in year t and IF stands for the interchange fee, respectively. The disturbance term is specified as a one-way error component model with a merchant-specific effect α_i capturing (unobserved) heterogeneity among the merchants (see e.g. Hsiao (2003) for an introduction into panel specifications).

Several methods have been proposed for the estimation of panel data models with a large number of cross-sectional units observed over a rather short period of time (In our case, $N > 10000$ and $T = 5$). The estimated values of the static coefficients in equation (1) can be obtained by different estimators:

1. the *between effects (BE)* estimator, which exploits exclusively the between dimension of the date by regressing the individual averages of y on the individual averages of x
2. the *fixed effects (FE)* estimator, which exploits solely the within dimension of the data by a regression in deviations from individual averages
3. the standard *least squares (OLS)* estimator applied to the pooled data, which can be shown to be an (inefficient) average of the between and the within estimator
4. the *random effects (RE)* estimator, which is an efficient average of the between and the within estimator, while the weighting is based on the ratio of the variances of α and ε

Table 9 summarizes the outcome of the different specifications. The crucial point for the selection of the "correct" estimator is the relation between the regressors and the unobserved merchant-specific effect α_i. Under the assumption that the latter is independent from the explanatory variables, all four presented estimators are consistent (and RE estimation is efficient). However, if the assumption is violated, only FE estimation remains unbiased. One possibility to test for potential correlation is the so-called Hausman test (due to Hausman (1978)) which compares the FE and RE coefficients. The test statistic, which has in our case an asymptotic χ^2 distribution with one degree of freedom under the null hypothesis, provides a value of 147.59 and thus rejects the hypothesis of no correlation between α_i and the regressor. To get an idea about the degree and direction, we can determine the estimated $\widehat{\alpha}_i$ from the FE specification and calculate its correlation with IF, which yields a value of 0.2277.

Table 9: *Simple regression of the merchant service charge on the interchange fee*

	BE	OLS	RE	FE
$\widehat{\beta}$	.77290321	.76247717	.55098868	.40310137
(std. error)	(.024)	(.015)	(.015)	(.019)
N	10974	10974	10974	10974
R^2	.20322078	.19319846	.19319846	.05912022
F/χ^2	1053.1131	2627.3792	1321.2522	429.91733

Estimated equation: $MSC_{it} = \beta IF_{it} + \alpha_i + \varepsilon_{it}$

Looking at the coefficients, it can be stated that all four specifications indicate a significant positive relation between the observed interchange fee and the MSC imposed to the merchants. Even after controlling for any possible merchant-specific heterogeneity by applying the fixed effect specification, the outcome indicates that an increase of the interchange fee by one percentage point leads to a ceteris paribus rise of the MSC by 0.403 percentage points. Please note that values of the goodness-of-fit measure R^2 cannot directly compared across the specifications due to different reference points.

Next, we augment the model by including additional regressors to the specification. Of course, this can render the interpretation of the individual (ceteris paribus) coefficients more difficult due to possible correlation among the regressors. Along with the interchange fee, we include the (log) number of transactions per merchant and the (log) length of the relationship with the merchant (measured in days). Furthermore, we employ a set of dummy variables covering (i) the type of network, (ii) the country, (iii) the "class" of merchant (ranked according to turnover), and (iv) some of the biggest sectors reported:

$$MSC_{it} = \beta_1 IF_{it} + \beta_2 NT_{it} + \beta_3 LR_{it} + D^{Networks,Countries,Class,Sectors} + \alpha_i + \varepsilon_{it} \qquad (2)$$

Table 10 presents the estimated outcomes of equation (2) for the four panel specifications. The interchange fee is still positively significant in all models. The coefficient for the

Table 10: *Multiple regression for the MSC*

	BE	OLS	RE	FE
$\widehat{\beta}_1$	.87315396***	.82927885***	.393457***	.30349857***
$\widehat{\beta}_2$	-.04518783***	-.07441711***	-.01420988***	-.0022752
$\widehat{\beta}_3$	.07859081***	.06309719***	-.07991838***	-.10857692***
network 1	.09564037	.74980783***	.48606021**	0
network 2	-.86735703***	-.18239552	-.10454839	0
network 3	-.62246672***	0	0	0
network 4	-.49898811***	.46217772***	-.4447132**	0
network 5	-.40830187***	.57245412***	-.29192072*	0
network 6	-.49640657***	.52646371***	-.64805911***	0
network 7	0	.88230623***	-.03070683	0
network 8	-.3473766***	.6051512***	-.28020324*	0
country 1	-.24495963	-.16615414	-.41572208	0
country 2	-.20850695	0	0	0
country 3	0	0	0	0
country 4	.34888252	.45104022***	.37885688	0
country 5	0	0	0	0
country 6	0	0	0	0
country 7	0	0	0	0
country 8	0	.02259673	.15309617	0
country 9	-.31630602	-.31413163*	-.21630602	0
country 10	-.46504154*	-.5321146***	-.17823789	0
country 11	.39244052	.28823946	.6248232**	0
country 12	-.42539254	-.59907026***	-.39122976	0
country 13	.71189365**	.51591569***	.61796018**	0
country 14	.16326793	.09215031	.18327085	0
country 15	-.33194436	-.17056121	-.14934848	0
country 16	.01543751	-.25629664	.12764134	0
country 17	-.46668862	-.33959444*	-.68591272**	0
country 18	0	0	0	0
country 19	-.29925697	-.26447035	.29679524	0
country 20	-.68759825**	-.67679651***	-.65560751**	0
country 21	.50665609*	.33428285*	.4185632	0
country 22	.18640527	.290814*	.38245692	0
country 23	-.57175657*	-.72224895***	-.15058556	0
country 24	-.38228587	-.48583762***	-.3126193	0
country 25	-.56228627*	-.55500233***	-.62693515**	0
top 1-5	-.44454471***	-.33396332***	0	0
top 6-10	-.3850559***	-.30050174***	.09528156**	0
bottom 1-5	-.05306217	-.1038857***	.5344223***	0
bottom 6-10	0	0	.60809618***	0
hotels	-.01447567	.0236892	.01471112	0
restaurants	-.20140554**	-.37254305***	-.23358308***	0
fuel	-.4897021***	-.57963883***	-.545304***	0
medical	.08737762	-.01482477	.04818561	0
services	.12951243	-.02996049	.04715305	0
entertain	-.18357203	-.14556561*	-.23087407*	0
non te	.03017088	-.04517164	-.02312328	0
furnishing	-.33628398***	-.34442546***	-.40100251***	0
grocery	-.22176645***	-.25259155***	-.24123575***	0
retail	-.20280864***	-.19244168***	-.20194724***	0
N	7606	7606	7606	7606
R^2	.50201813	.50646382	.45231691	.18491623
F/χ^2	71.434806	180.46694	3704.7089	341.20911

Equation: $MSC_{it} = \beta_1 IF_{it} + \beta_2 NT_{it} + \beta_3 LR_{it} + Dummies + \alpha_i + \varepsilon_{it}$
A * (**, ***) indicates significance at the 10- (5-, 1-) percent level.

number of transactions is negative for BE and OLS, but insignificant for FE. This means that the number of transactions has no additional explanatory power after controlling for merchant-specific constants, the interchange fee and the length of the acquiring relationship. Most interestingly, the length of the relationship seems to have a positive impact when looking at the (cross-section) between dimension and a negative influence when exploiting the (time-series) within dimension. This outcome is an example of the mentioned interpretation difficulties due to correlation among the regressors, since in a simple regression of the MSC on the relationship length both the BE and OLS coefficients are negative. Again, the Hausman test statistic of 331.12 rejects the hypothesis of no correlation between α_i and the regressors. Comparing the outcome with the importance ranking from table 8 and figure 2 underlines the prominent role of the interchange fee in determining the merchant discount.

Turning to the dummy coefficients, it can be stated that most of them have the "expected" sign and dimension (for example, the MSC is significantly smaller for the fuel sector). Please note that in some cases for the different specifications different reference categories have been chosen, so the coefficients cannot always be compared between the models.

As mentioned, each bank has been asked to provide information for up to twenty of its merchants. More specifically, the questionnaire had place for ten "top"- and ten "bottom"-merchants. This enables us to perform two separate regressions to check for potential differences. Table 11 presents the outcome. It can be seen that e.g. the interchange fee seems to have a much higher impact on the MSC fees imposed to bottom-merchants.

Table 11: *Top- and bottom-merchants (dummies not reported)*

Top merchants	BE	OLS	RE	FE
$\widehat{\beta}_1$	.46500239***	.4320574***	.20027559***	.15664347***
$\widehat{\beta}_2$	-.09581948***	-.10574472***	-.02362238***	.01385911**
$\widehat{\beta}_3$	.05066206**	.01470583	-.07508595***	-.10683962***
N	4869	4869	4869	4869
R^2	.53179277	.49383133	.43543723	.17609152

Bottom merchants	BE	OLS	RE	FE
$\widehat{\beta}_1$	1.2858437***	1.3860239***	.80649688***	.64048402***
$\widehat{\beta}_2$	.031906	-.00236857	-.01942003**	-.03265385***
$\widehat{\beta}_3$	.08280047***	.08092105***	-.07667023***	-.12774553***
N	2737	2737	2737	2737
R^2	.44969019	.43460312	.37230625	.24499239

Equation: $MSC_{it} = \beta_1 IF_{it} + \beta_2 NT_{it} + \beta_3 LR_{it} + Dummies + \alpha_i + \varepsilon_{it}$
A * (**, ***) indicates significance at the 10- (5-, 1-) percent level.

The results presented so far have implicitly assumed equal coefficients for all countries, e.g. an identical influence of the interchange fee. However, this impact might be different across countries. To check for a possible variation, we also estimate the fixed effects specification of equation (2) separately for all countries. Due to low observation numbers, this is not feasible in all cases. Table 12 depicts the outcome for twelve out of the 25 countries.

It can be seen that the small number of observations render the results rather heterogeneous and insignificant in many cases. However, at least most of the significant outcomes have "sensible" values which support the previously reported findings. A test on the equality of coefficients performed e.g. for Portugal and Spain rejects the null for the number of transactions ($\chi^2 = 38.69$), but not for the interchange fee ($\chi^2 = 2.21$) and the length of the acquiring relationship ($\chi^2 = 0.11$).

The banks have also been asked to provide information on their total acquiring costs (separately for credit and debit cards). Dividing this number by the according number of transactions yields an estimate of the (average) acquiring cost per transaction. Table 13 presents the fixed effects regression of the MSC on the interchange fee and the log acquiring

Table 12: *Separate fixed effects (FE) estimations by country*

	Czech Rep.	France	Germany	Ireland	Italy	Latvia
$\widehat{\beta}_1$	-.10698992	-.67678189	.32441034	.270976***	.07529586	.12718054
$\widehat{\beta}_2$	-.04409008**	-.00272056	-.00348182	-.00282558	-.02033572**	.0284978***
$\widehat{\beta}_3$	-.07329631***	.00052521	-.01126775	-.06867792***	-.03387951***	-.04204641***
N	649	39	224	187	746	598
R^2	.14396534	.12365086	.02451866	.42268642	.07674998	.06256339

	Luxembourg	Netherlands	Portugal	Spain	Sweden	UK
$\widehat{\beta}_1$	.22190234	4.1641411*	.25523817**	.41542658***	-.36330367	.12534918
$\widehat{\beta}_2$	-.013647	.01609366	.07079604***	-.05200493***	-.09080173*	.02123589
$\widehat{\beta}_3$	-.02384383	-.12770752***	-.20369815**	-.17274944***	.03386972	-.08328436***
N	64	144	123	2342	259	696
R^2	.23760851	.17571161	.59744106	.41737638	.08608747	.07670906

Equation: $MSC_{it} = \beta_1 IF_{it} + \beta_2 NT_{it} + \beta_3 LR_{it} + \alpha_i + \varepsilon_{it}$
A * (**, ***) indicates significance at the 10- (5-, 1-) percent level.

cost for a few countries as well as for the entire data set. Again, the results are rather heterogeneous, but at least for the total data set both the interchange fee and the acquiring cost have a positive and significant coefficient.

Table 13: *FE regressions including the (log) average acquiring cost per transaction*

Variable	Italy	Latvia	Netherl.	Spain	UK	ALL
$\widehat{\beta}_1$	.04688179	.97060692***	-.95707901	-.21075702***	.29497963*	.09505329***
$\widehat{\beta}_2$	.06035161***	.10794588***	.22945624**	-.08205789	.08343701	.08210661***
N	1090	629	220	664	609	5064
R^2	.04130366	.35530023	.04481006	.06152969	.03142734	.03799807

Estimated equation: $MSC_{it} = \beta_1 IF_{it} + \beta_2 AC_{it} + \alpha_i + \varepsilon_{it}$
A * (**, ***) indicates significance at the 10- (5-, 1-) percent level.

Finally, we estimate several dynamic specifications to account for a potential misspecification due to persistency in the MSC. We include one or two lags of the dependent variable and use different ways of subsequently instrumenting them (see Anderson and Hsiao (1982), Arellano and Bond (1991), Arellano and Bover (1995), Blundell and Bond (1998) for an introduction to dynamic panel estimation):

$$MSC_{it} = \gamma_1 MSC_{i,t-1} + \gamma_2 MSC_{i,t-2} + \beta_1 IF_{it} + \beta_2 NT_{it} + \beta_3 LR_{it} + \alpha_i + \varepsilon_{it} \tag{3}$$

The outcome is presented in table 14. Although the time dimension is rather short (five years), the results are quite robust and strengthen the previous findings from the static models. It can be seen that the three system-GMM specifications (which combine the estimation of equation (3) in differences and levels) are correctly specified and yield a persistence parameter of around 0.4, while the second order lag of the MSC is insignificant. With all appropriate caution (due to the short time span), thus the estimated "short-term" elasticity of the interchange fee is around 0.33, while the "long-term" impact has a value of around 0.55 (calculated as $0.33/(1-0.4)$).

Table 14: *Dynamic panel estimation.*

	diff. GMM onestep	syst. GMM onestep	syst. GMM onestep	syst. GMM twostep
$\widehat{\gamma}_1$	.21111981***	.3796968***	.42394655***	.4448701***
$\widehat{\gamma}_2$			.01780563	.00831525
$\widehat{\beta}_1$	.0787261	.3601127***	.32089118***	.31230566***
$\widehat{\beta}_2$	-.24379026***	-.11599957***	-.12549109***	-.13714857***
$\widehat{\beta}_3$	.01980559**	-.06126702***	-.05204382***	-.05100201***
N	3431	5512	4129	4129
F	230.31169	1286.5359	847.94019	752.2851
sargan	9.3046945	5.5570116	18.430151	6.5290059
sarganp	.09751089	.69671573	.01822293	.58819212

Estimated equation: $MSC_{it} = \gamma_1 MSC_{i,t-1} + \gamma_2 MSC_{i,t-2} + \beta_1 IF_{it} + \beta_2 NT_{it} + \beta_3 LR_{it} + \alpha_i + \varepsilon_{it}$

3.2 Determinants of the cardholder fees

Starting point of the analysis is a simple regression of the (logarithmized) cardholder fee on the interchange fee:

$$CF_{it} = \beta IF_{it} + \alpha_i + \varepsilon_{it} \tag{4}$$

Table 15 presents the estimation output of equation 4. It can be seen that the BE coefficient is (insignificantly) positive, while FE estimation provides a significant negative coefficient (albeit the explanation power of the model is very low).

Table 15: *Simple regression of the (log) cardholder fee on the interchange fee*

	BE	OLS	RE	FE
$\widehat{\beta}$	.07103632	-.04168504	-.20312843***	-.25236066***
N	2491	2491	2491	2491
R^2	.00133273	.00048997	.00048997	.03136394
F/χ^2	.85675729	1.2201297	45.485862	59.772543

Estimated equation: $CF_{it} = \beta IF_{it} + \alpha_i + \varepsilon_{it}$

In other words, when looking at the cross-section dimension, no meaningful relation between the two variables can be stated. After accounting for any bank-specific heterogeneity by applying the FE model, a higher interchange fee is (ceteris paribus) linked with a lower cardholder fee. However, the coefficient is only around -0.25 which indicates that (holding everything else equal) an increase of 10% in the interchange fee leads to an estimated decrease of 2.5% in the cardholder fee. This result is in line with the statement that there is *no* perfect pass-through between the interchange fee and cardholder fee by the issuing banks. The Hausman test statistic comparing RE and FE yields a value of 15.31 and thus rejects

the hypothesis of an uncorrelated α_i. The outcome remains stable if the "fee per card" is used as dependent variable instead of the overall sum of cardholder fees.

Table 16 augments the specification by including dummies for the network, country and type of customer. While the country dummies are mostly insignificant, the table shows that the cardholder fee is significantly higher for business than for consumer cards. As in the last subsection, the coefficient of the interchange fee is implicitly assumed to be equal across countries. After including the dummies, the Hausman test statistic of 3.20 does *not* reject the RE model at the 5%-level.

Table 16: *Regression of the (log) cardholder fee on the interchange fee including dummies for country, network and type of customer.*

	BE	OLS	RE	FE
$\widehat{\beta}$	.04132768	-.10930721	-.24068241***	-.25236066***
network 1	-.59414385	-.68047544*	-.64576737	0
network 2	0	0	0	0
network 3	-1.7137806***	-1.8266705***	-1.9795711***	0
network 4	-.80689382	-.95881899***	-1.0253615*	0
network 5	-1.7104356***	-1.9408511***	-2.0936289***	0
network 6	-.94027455	-1.0669154***	-1.1894756*	0
network 7	-.7041747	-.86574801***	-.95227847*	0
network 8	-2.0626183***	-2.1756538***	-2.3445519***	0
country 1	-.26392005	-.14216618	-.15492683	0
country 2	-.61597568	-.56525727	-.54858478	0
country 3	0	.30056758	.38967265	0
country 4	-.02430117	.09435458	.00983889	0
country 5	-.45483659	-.42935686	-.47055747	0
country 6	.38298281	.22151401	.4418712	0
country 7	.10854508	.11416879	.11260617	0
country 8	.4257766	.50448068	.50958407	0
country 9	-.70128651	-.59077725*	-.60249746	0
country 10	-.52905916	-.36789727	-.38456498	0
country 11	.12034253	.23199559	.29641167	0
country 12	-.28348047	-.23438341	-.25096446	0
country 13	.17972529	.21100651	.18745847	0
country 14	-.76596519	-.66420236*	-.70261723	0
country 15	0	0	0	0
country 16	-.09765094	0	0	0
country 17	-.64798636	-.47217438	-.55081513	0
country 18	-.78703522	-.54604088	-.53035079	0
country 19	-.68581815	-.37964021	-.23199658	0
country 20	-.51658479	-.51174818	-.45733857	0
country 21	-.55127284	-.51260557	-.58426979	0
country 22	-.80187419	-.65400955*	-.66319566	0
country 23	-.93162287	-.76520213**	-.64772516	0
country 24	-.58615967	-.36505579	-.49402464	0
country 25	-.23845737	-.15410937	-.18185501	0
business	.39893844***	.40232093***	.39951251***	0
consumer	0	0	0	0
N	2491	2491	2491	2491
R^2	.46385416	.45815672	.4551852	.03136394
F/χ^2	16.519228	64.94897	584.52912	59.772543

Estimated equation: $CF_{it} = \beta IF_{it} + Dummies + \alpha_i + \varepsilon_{it}$
A * (**, ***) indicates significance at the 10- (5-, 1-) percent level.

4 Conclusions

In addition to the results presented in the last section, we have also tried to integrate the two sides of the market in a combined model by applying several simultaneous estimation methods. A crucial point for this approach is how to correctly match the two data sets provided by the acquiring and issuing banks. One solution is to confine the analysis to those banks operating both as acquirers and issuers. Doing so yields results broadly in line with the presented outcomes, albeit the much smaller number of observations leads to insignificant results in some cases.

This annex has tried to reveal some details of the interrelation between the merchant service charge, interchange fee and cardholder fee. From the performed statistical and econometric analysis, the following outcome can be stated: The interchange fee seems to be the most important influence factor for the merchant discount, regardless of the exact specification employed. This is in line with the ranking provided by the acquiring banks. The interchange fee also has a significant impact on the cardholder fee, albeit the elasticity is (in absolute terms) much smaller than -1 which indicates a non-perfect "pass-on" by the issuing banks.

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