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Promoting Integration of European Retail Payment Systems: Role of Competition, Cooperation and Regulation

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Abstract

The present retail payments clearing and settlement infrastructure in both the EU and the euro area is still very fragmented. Therefore, it is understandable that, in recent years, a debate on the sluggishness of the integration of the European retail payment systems has emerged. The present paper aims at contributing to this debate by drawing some policy lessons from the theory of network economics. This is justifiable on the grounds that the retail payment industry inherently has many characteristics in common with other network industries, like telecommunications. In the paper, special emphasis is devoted to the important competition-cooperation nexus in retail payment systems. The main message of the paper is that the fundamental role of payment system regulators is to provide *a level playing field* for different service providers. Moreover, compatibility and interoperability, e.g. in the form of commonly adopted standards, are key requirements for the payment system efficiency, as they facilitate the contestability of the market (*competition in the market*). Regarding dynamic efficiency, the regulators also need to ensure adequate incentives for innovation and investment (*competition for the market*). In addition to discussing policy issues at a general level, the paper analyses developments in the European retail payment systems as well as the roles and aims of different stakeholders in the current process of building the Single Euro Payments Area (SEPA).

1. Introduction

Since the introduction of euro banknotes and coins, citizens of the euro area have been able to make cash payments within and across all 12 countries from a single purse, using the single currency, as easily as with the previous national banknotes and coins. Yet what is now reality for cash payments is still largely a vision for cashless payments. In the area of large value payments, systems such as TARGET and Euro1 are already offering EU-wide services. In the area of retail payments, however, the situation is very different and the fragmentation of the payment landscape is clearly visible. The introduction of the euro as the single currency will be completed only after the Single Euro Payments Area (SEPA) becomes a reality, i.e. when individuals and corporations are able to make cashless payments in the euro area or in the EU as easily, efficiently and safely as they can make them today at the national level.

The SEPA goal is shared by all stakeholders: the banking industry, user communities and political authorities. An important step towards the SEPA was the Regulation 2560/2001 on cross-border payments in euro, adopted in December 2001.¹ The Regulation eliminated the difference of price between cross-border and national payments. After the adoption of the Regulation, the payment service provider sector (mainly the banking sector) activated and established a common decision-making body, the European Payments Council (EPC), to foster the development of the SEPA. In 2002, the EPC published a White Paper where measures and steps towards the SEPA were presented. This paper set a goal for the SEPA to be achieved by the end of 2010. Thereafter the EPC expressed its conviction that a critical mass of transactions will have migrated to the SEPA payment instruments by 2010. However, there are still diverging views on how and when this goal will be achieved and, despite encouraging progress in the preparatory work; the fruition of the SEPA appears to be a long way off. In particular, there is still no harmonisation of standards in cashless retail payments that remain predominantly based on national payment schemes and consequently national retail payment clearing and settlement infrastructures remain segmented by country.

In the SEPA debate, the key policy question has been how to facilitate the interoperability of the current national retail payment systems and/or to create pan-European system(s) in order to offer customers an efficient pan-European service level through out the EU. The underlying factor for the debate is that many national retail payment systems are already functioning efficiently; what have been lacking are efficient cross-border retail payment systems that can contribute to the process of deepening financial integration in the whole area. In this context, it has frequently been emphasised

¹ For the complete text of the Regulation, see Official Journal of the European Communities (2001).

that, in order to reap the full benefits of a common currency, further integration in retail payments area is inevitably needed. Some changes are consequently required even in the most efficient national systems of today as the whole process is dynamic and forward-looking in its nature. The proper ways and tools how to achieve these goals have, however, been disputed and rather divergent views have been presented by different stakeholder groups.

The aim of the present paper is to contribute to this debate and to try to shed light into the following questions: How to promote integration of European retail payment systems? Are there special factors in the area that should be taken into account? Can economic theory give some guidance? What kind of policy conclusions can be drawn? In answering these questions, we build our analysis on a framework adopted from the theory of network economics. We believe that the policy debate on the development of the European retail payment systems can be understood better by reviewing some lessons from the network economics. This is justified by the fact that the payment system industry inherently has many characteristics in common with network industries. In particular, the theory of network industries provides useful concepts and tools to analyse the interaction in *the competition-cooperation nexus* and regulation in retail payment systems.²

Our general analytical framework is the following: retail payment systems are analysed as networks and they are looked at as institutional and infrastructural arrangements for transaction, clearing and settlement processes.³ Given this framework, we review briefly academic literature on networks and regulation of networks and assess their applicability to retail payment systems. Based on that, we then evaluate the European developments and discuss the potential policy implications.

More specifically, the paper is organised as follows. In Chapter 2, we lay down the theoretical background for our analysis of challenges in European retail payment systems. We shortly introduce the basic concepts in network economics. We start by presenting the main network features, like externalities, compatibility, and switching costs etc., and discuss their implications, e.g. tipping, path dependence, the chicken-and-egg problem, on the market structure of the retail payment systems field. In Chapter 3, we first describe and then analyse the network implications in the European retail payment landscape. In particular, we stress the change of focus, from national separate retail payment areas to one single payment area in the EU, in payment system developments and related challenges after the introduction of euro as a common currency. In Chapter 4, we look more closely at the roles and recent acts of different stakeholders in facilitating the creation of the Single Payment Area in the EU. In this context, motives of end-users, service providers as well as authorities are analysed. We

² For a wider analysis on network characteristics of retail payment systems and their regulatory implications, see e.g. Kemppainen (2003, 2006)

³ For an interesting analysis of the UK retail payment market, see Gangulny & Milne (2002).

put emphasis especially on the potential roles of public authorities in enhancing the formation of the Single Payment Area. Finally, in Chapter 5 we summarise our main findings and draw some policy conclusions.

2. Payment systems as a network industry

In a very simplistic way, payment systems can be characterised as networks connecting a payer and a payee enabling (cashless) monetary transfers between them. According to the theory of network economics, a central feature of networks is that network goods or services exhibit *network externalities* (also called *network effects* by some authors).⁴ In a nutshell, this means that adding another customer adds value to the existing customers of the network. In this context, the telecommunication system has often been used as a demonstrative example. In fact, network effects and their implications on network industries have long been debated especially in telecommunication industry. The development of the systematic framework for their analysis was started in the mid 1980s by Katz & Shapiro (1985) and Farrell & Saloner (1986).⁵ It has been stressed that networks play an integral part also in financial markets and in payment systems. For example, McAndrews (1997) analyses network effects in payment systems and defines a network good or service as having two main characteristics:

- (i) *the value a person gets from the product increases as more people consume it*
- (ii) *the technique a firm chooses to produce the product will depend on the technique chosen by other firms.*

Both these characteristics can be identified in the retail payment service provision. Concerning point (i), the more widely a payment instrument is accepted (because it has so many users), the more benefits it brings to a consumer using it (*demand side externality*). Concerning point (ii), economies of scale in production of payment services foster industry's willingness for cooperation (common standards, joint network ownership) in providing these services (*supply side externality*). Naturally, both these characteristics cannot be observed in their pure forms in real life. However, for example, in the adoption process of payment cards and in mergers of ATM-networks they have clearly played a major role.⁶ In the following, some further key concepts related to network industries are briefly discussed.

⁴ This study uses both terms (network externality and network effect) in interchangeable way.

⁵ For a summary analysis of the basic structures of networks see e.g. Economides (1996).

⁶ See, e.g. Saloner & Shephard (1995) for an empirical analysis of network effects in ATM-markets.

2.1 Main concepts and characteristics in network economics

Complementarity and compatibility

In network markets, there are *complementarities* between users and/or products, which give rise to network externalities. These network externalities can be classified into two types: *direct and indirect externalities* (e.g. Katz and Shapiro 1985, Economides 1996). Direct network externalities are generated through the direct effects of the number of the agents consuming the same product, whereas indirect network externalities arise when the value of product increases as the number of the complementary goods or services increases (sometimes also referred to as the hardware-software paradigm). In retail payment systems complementarity plays an important role. For example, in credit card systems the complementarity is straightforward: as more people use credit cards, more merchants are induced to add terminals, since allowing customers a convenient means of payment will potentially increase their sales, and as more merchants permit card payment, the value to the customer of having a credit card increases too (McAndrews 1997).

Along with complementarity, *compatibility* between products is also essential for the existence of network externalities. In essence, for complementarities to be exploited, interaction channels are needed: it is necessary that products, users, or systems can interact. This means that complementary products or systems must operate on the same or compatible standard. According to Economides (1996), it is compatibility that makes complementarity actual and is thus crucial in network industries. In payment systems, compatibility can, in principle, be achieved by adherence to technical standards. However, it should be emphasised that “*technical compatibility*” does not necessarily mean that different systems or actors can truly interact. The interaction can be limited by exclusive rights that hinder the interaction. What is also needed is “*commercial compatibility*” that ensures that technically compatible products or systems really can interact because it is possible to limit the potential interoperability by specific operating rules or entry requirements to systems. In practice, compatibility at the system level is of crucial importance in enabling interoperability of systems, e.g. ATM-systems.

Economies of scale in production

It is often argued that payment systems are subject to economies of scale because of the significant investment in infrastructure needed to start the operation (large fixed costs) and a relatively small marginal cost for services produced over the existing infrastructure. Very large economies of scale in both retail and wholesale payment systems has been reported in Khiaonarong (2003), for example. As in the case of traditional industries, this supports the existence of large production units. This

argument is of relevance e.g. for electronic payment transfers processed by an automated clearing house where a sufficiently large volume of payments is a prerequisite for the establishment of such system.

Consumption externalities

A consumption externality can be defined as the utility increase that a user derives from consumption of a product as the number of other users who consume the same product increases. Some authors, e.g. Guibourg (1998), have labelled this as “demand side economies of scale”. In this context, consumers’ expectations about the future size of the network are a decisive factor in the actual size that the network achieves. This means that consumers' expectations are often self-fulfilling: the larger the network, the greater number of additional customers who would like to join it; and conversely, the smaller the network, the less attractive it is to new customers. In retail payment services, these consumption externalities are clearly present. Any payment system, like a giro system, is of no value for a customer if no other customer is participating in the system. In establishing new payment systems or instruments, consumers' expectations of the future size of the payment network are also crucial. In practice, the difficulty of achieving a critical mass of users tends to limit the adoption of new payment instruments.

Switching costs

In network industries, consumers and firms often have to face extra costs if they switch from one network to another. If high enough, these switching costs may effectively lock the user into the existing system and provide barriers that prevent them from entering into another network. Switching cost may lead to inefficiency by preventing users from adopting a new superior technology. They may also support monopolistic pricing practices.

According to Shy (2001), switching costs can be significant in many service industries including banking. From the customers' point of view, the costs associated with switching between banks (i.e. closing an account in one bank, and opening an account and switching the activities to a different bank) could be significant. Accordingly, some sort of lock-in effect may prevent customers from frequently switching among payment service providers. Also from the payment service providers' point of view, switching costs can be significant: e.g. upgrading or changing to a new payment system may require large investments in computer systems and training.

2.2 Basic market structure implications in network industries

The basic features in network industries described above bring along specific market structure implications that can typically be seen in many network industries. In the following, we will discuss them shortly.

Tipping

In network markets, market dynamics may lead to extreme outcomes where one network good or service provider dominates the market. Besen and Farrell (1994) label this phenomenon as "tipping".⁷ The existence of one dominant system can be explained by the economies of scale in production and positive demand side externalities. This "tipping" –phenomenon can also be seen in retail payment systems. At the national level, it is common that only one major retail payment system exists. In some cases, two or more systems may exist in parallel but they are often dedicated to different payment instruments (e.g. paper-based vs. electronic). However, enough heterogeneity in demand for different payment instruments may enable the existence of more than one retail payment system.

Excess inertia / excess momentum

Network markets may tend to get locked-in to obsolete standards or technologies. This *excess inertia* means that users tend to stick with an established technology even when total surplus would be greater were they to adopt a new but incompatible technology (Katz and Shapiro 1994). This can be explained, as pointed out by Farrell and Saloner (1986), by the fact that today's consumers may be reluctant to adopt a new technology if they must bear the cost of transition from one technology to the next, and if most of the benefits of switching will accrue to future users.

On the other hand, Katz and Shapiro (1994) argue that network markets may also exhibit the opposite of excess inertia, which they call "insufficient friction" (also referred to as *excess momentum*). The market may then be biased in favour of a new, superior, but incompatible technology. Katz and Shapiro call the reason as "stranding": today's buyers may ignore the costs they impose on yesterday's buyers by adopting a new and incompatible technology. Accordingly, those who previously bought the old technology are stranded. Both effects are also possible in retail payment service markets, but as in many network markets, excess inertia is normally the dominant characteristic. An example is the slow e-money adoption where the service providers have long waited for its start-up but customers have been reluctant to start to use it.

⁷ According to Besen and Farrell (1994), network markets are often "tippy". This means that the coexistence of incompatible products may be unstable, with a single winning standard dominating the market (*tipping*). The dominance of the VHS videocassette recorder technology and the virtual elimination of its Betamax rival is often used as an example.

Path dependence

In network markets *history matters*: network market equilibrium cannot be explained without reference to the pattern of technology adoption in the earlier periods.⁸ This means that the effects of decisions by early adopters on the decisions of later adopters are often significant in network markets. In payment systems, path dependence can be seen in the development of national payment systems and, especially, in the slow change of national payment habits. For example, the division of giro- and cheque countries in the European Union is still prevailing, and probably mostly due to historical reasons.

Critical mass and chicken-and-egg problem

Critical mass or installed base of network facilities plays a crucial role in the start up and growth of a network. The start up problem is often referred to as the *chicken-and-egg* problem: many consumers are not interested in purchasing the good because the installed base is too small, and the installed base is too small because an insufficiently small number of consumers have purchased the good.

Accordingly, the potential problem for the payment system development is that a new, more efficient payment system may not attract enough customers to validate its existence.

Underproduction

Network effects may also lead to possible *underproduction* of network goods or services. According to McAndrews (1997), the market production of network services may often be inefficiently low because using a network imposes a (positive) external effect on other users of network, an effect the users typically disregard in making their decisions. For example, when deciding whether to join a service network, consumers do not take into account the benefit to other users of that larger network. Accordingly, the equilibrium network size is smaller than the social optimum, when social benefits of joining a network exceed the private benefits. In the retail payment systems area, where economies of scale are also present at least in the electronic payments, some authors (e.g. Gowrisankaran and Stavins (2002)) have argued that the underproduction is a relevant problem and it should be influenced by actions of relevant authorities.

⁸ See e.g. Liebowitz & Margolis (1995).

3. Network implications on the European retail payment landscape

When looking at the potential network implications on the European retail payment landscape, the following background factors are useful to keep in mind. The payment systems in the European Union were originally created to meet domestic requirements. As a result, the current landscape of the European retail payment market is characterised by considerable fragmentation, diversity of standards and different levels of efficiency in national systems. The development efforts of retail payment systems were normally (and quite justifiably) directed to respond to needs of domestic payment traffic: the vast majority of retail payments were national. In fact, even today only 2-3 % of all retail payments are cross-border payments – a fact which may of course reflect the inconvenience of cross-border payments more than lack of potential demand. A fundamental question here is whether there is no demand for cross-border payment methods because there is inadequate supply of them, or is it *vice versa*. In any case, the situation has many characteristics of the traditional "chicken-and-egg" problem. Judged from the pan-European viewpoint, it can, however, be argued that the lack of efficient cross-border payment methods and systems should in no case act as an impediment to cross-border business transactions no matter how big or small these transactions would be. The borderless pan-European payment landscape is the sub-target of financial market integration process and the true Single Markets in the spirit of the Lisbon Agenda.

With the introduction of the Single Market concept in 1992 and even more concretely so with the introduction of the common currency, the euro, the focus of the relevant payment market has changed from national to euro area / EU. The Single Market in goods and services inevitably needs payment systems that also operate smoothly and efficiently in the whole context of the market. In the following, we will make a short review on the European developments.⁹

Viewed from historical perspective, cross-border retail payments and their pricing have attracted the attention of the EU policy-makers ever since the introduction of the Single Market –concept in 1992. Since then the development in the European retail payment markets has been monitored by the public authorities. According to the pricing surveys by the European Commission¹⁰, service providers had been very slow in making any progress in the cross-border retail payments field. The prices of cross-border payments had remained at high levels and their execution times a lot longer compared to domestic retail payments, even on the eve of introduction of the euro notes and coins. The reasons for this slow progress are many-faceted. On the one hand, payment service providers have emphasised that "there is no business case" to develop and invest in new cross-border retail payment

⁹ For a comprehensive analysis of financial market integration in the EU, see e.g. Koskenkylä (2004).

¹⁰ See the Commission's website: http://europa.eu.int/comm/internal_market/payments/crossborder/index_en.htm; Retail Banking Research (2005a, 2005b)

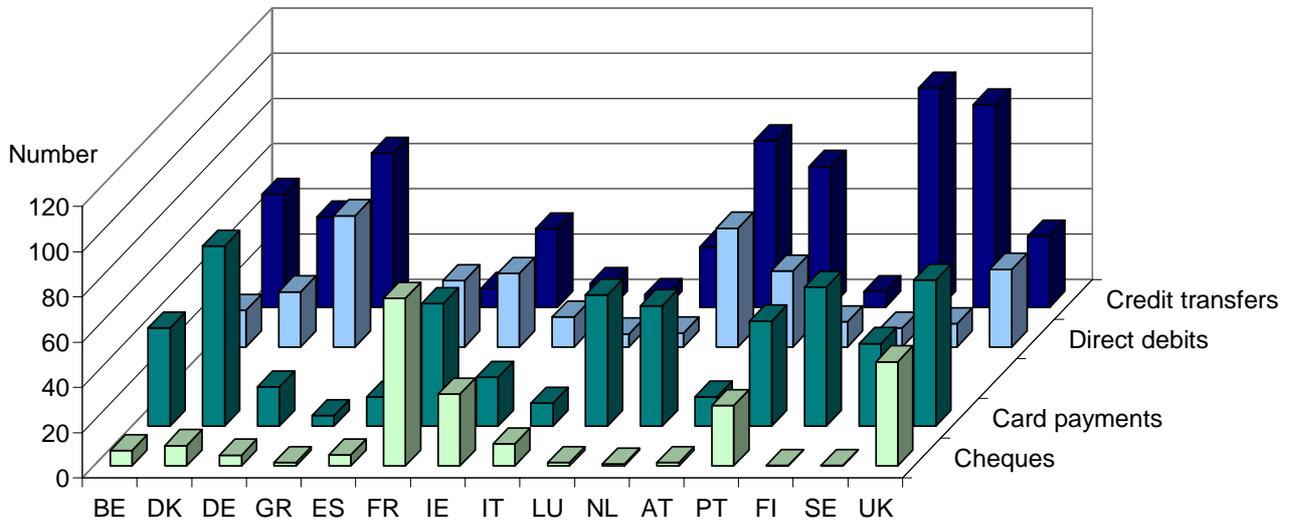
infrastructures because there is not sufficient demand for these services. On the other hand, the authorities and consumer associations have maintained that the high prices are the principal obstacle to activating and expanding the demand for these services.

A variety of infrastructural factors may also have delayed the development of efficient cross-border retail payment systems in Europe. One of the main factors is the existence of different national payments systems, which have developed within different historical contexts, with different governance, access, pricing and transparency traditions as well as different legislative environments. As a result, the retail payment infrastructure in the European Union is fragmented and it is still largely based on traditional national payment habits and characteristics. Figures 1-4 provide two illustrative snapshots of the situation.¹¹

¹¹ For a comprehensive analysis using this kind of framework, see Leinonen (2001).

Fig. 1.

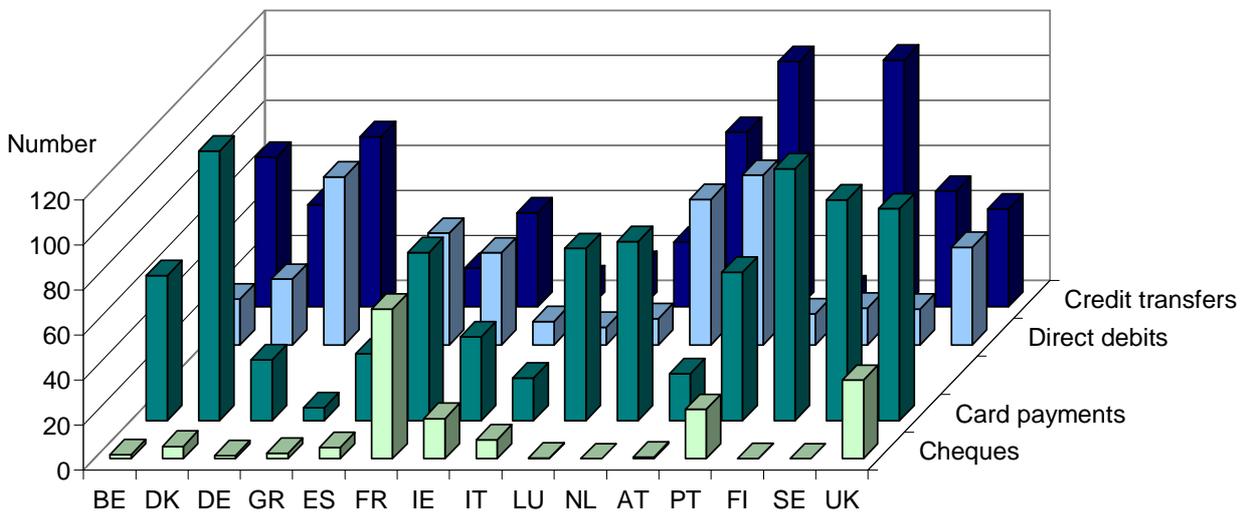
Number of cashless payments per inhabitant in EU15 countries, 2000



Data source: ECB Blue Books.

Fig. 2.

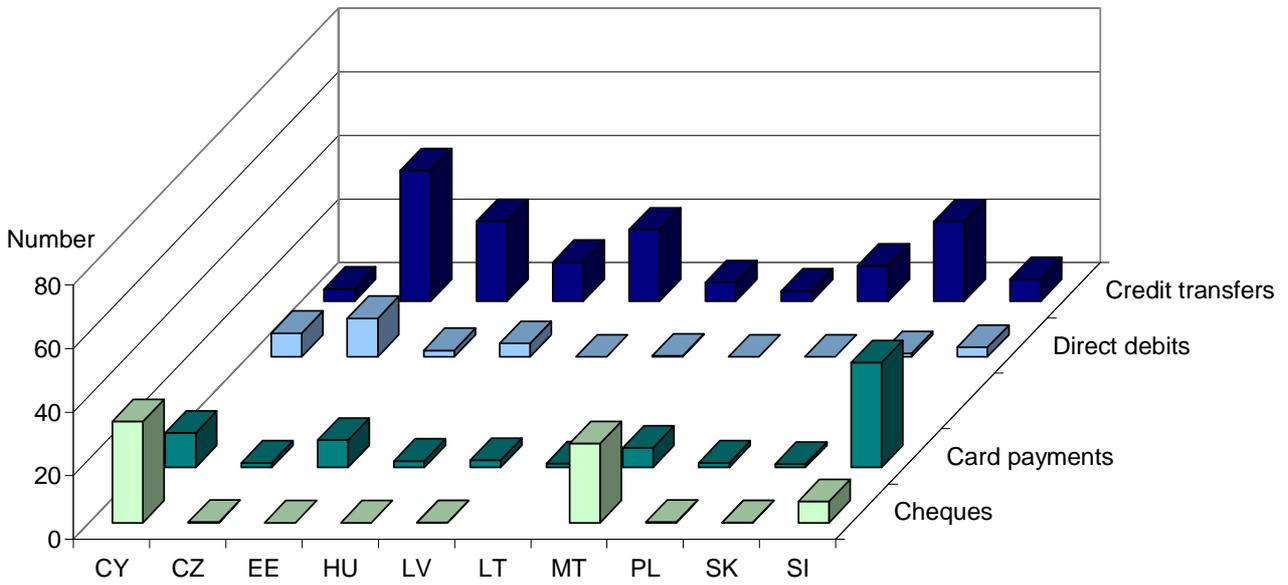
Number of cashless payments per inhabitant in EU15 countries, 2004



Data source: ECB Blue Books.

Fig. 3.

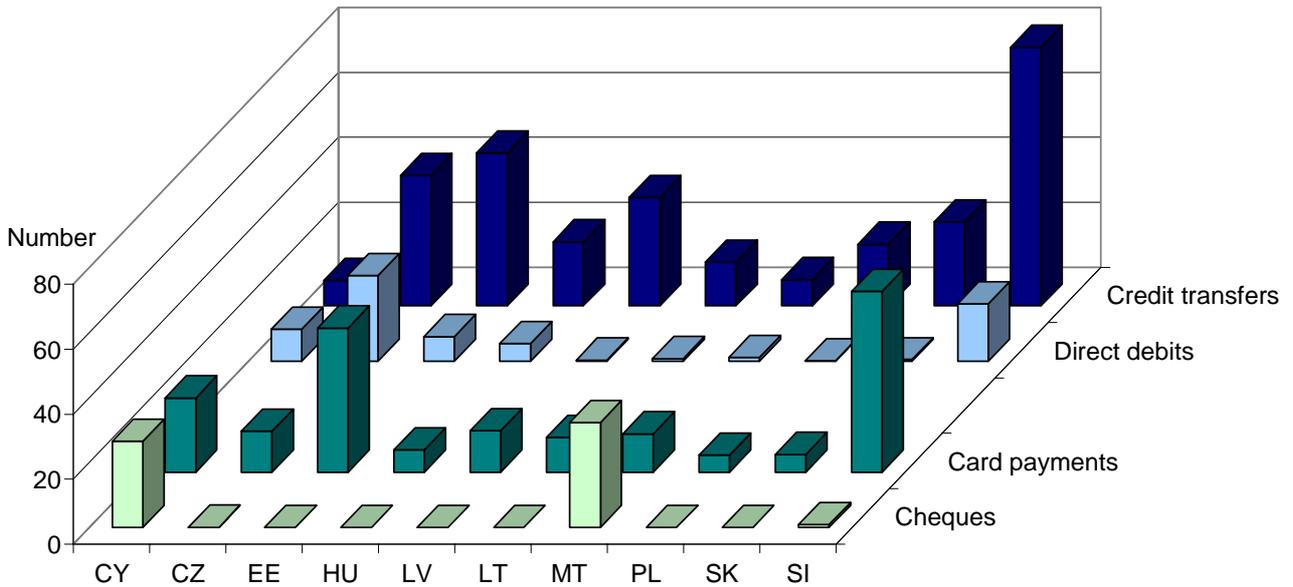
Number of cashless payments per inhabitant in new EU Member States, 2000



Data source: ECB Blue Books.

Fig. 4.

Number of cashless payments per inhabitant in new EU Member States, 2004



Data source: ECB Blue Books.

In Figures 1-4, the fragmented structure of retail payment methods in the EU countries can be clearly seen. The figures also illustrate the fact that payment habits are slow to change. In some countries, like France, the cheque continues to be an important payment method even though its relative share has been declining in recent years. In other countries, like Finland, credit transfers are dominating and cheques have virtually disappeared. Naturally the differences in payment methods used in different countries are reflected in the structure and organisation of payment systems in these countries. In the new Member States, the fragmentation of cashless payment methods is also present but in many cases the high use of credit transfers and card payments is noticeable.

Generally speaking, the development of payment system infrastructures in different countries is likely to have been influenced by some sort of *path dependence*¹² ("history matters") where the key ingredients are the structure of service providing sector, national payment traditions and legislative environment. Consequently, each national payment system has its own membership criteria, standards and practices that have evolved over time. Figures 1 and 2 provide an illustrative example of rather "strong" path dependence in the EU15 countries. In contrast, a nice example of the "weaker" path dependence for the new Member States can be seen in Figures 3 and 4: many of the new Member States have very rapidly been able to adopt the most efficient payment methods – probably partly so because of the lighter burden from the historical systems. In addition, another factor affecting the development of national payment systems is the observation that *payment habits are slow to change*. This applies especially to consumers, and, to a lesser extent, also to enterprises. It is obvious that these factors have affected the development of payment systems, but, only the coming years will tell, if the development of payment transfer technology, accelerating financial integration and deepening global financial linkages will change the picture.

Figures 1-4 support also the argument that the retail payment infrastructure in the EU consists of 25 *distinct payment areas* even though some convergence has taken place. In this context, it has been claimed that the present heterogeneity in the retail payments field can potentially hinder the development of efficient cross-border retail payment systems. The idea behind this argument is that the heterogeneity in demand for different payment instruments in different countries makes it more difficult to develop truly compatible payment systems or one common cross-border system because of different national needs. On the other hand, the formation of *Single Euro Payments Area / a Single Payment Area in the EU* may not necessarily mean that the national payment habits and methods should be totally harmonised; more important is that reliable and efficient cross-border retail payment methods and systems can be established. Even if, in the long run, the goal is to phase out the purely national and non-interoperable payment systems (at least regarding credit transfers, direct debits and

¹² The most well-known but nowadays also disputed, example in the context of efficiency and path dependence is the QWERTY-keyboard system.

card payments) and replace them with the common euro area wide systems which are defined in the context of the SEPA project, the national payment habits and preferences will of course be free to determine the market shares of the different payment methods available. However, it should also be recognised that changes cannot take place very rapidly because path dependence is quite strongly present in payment service business which is further supported by excess inertia and switching costs both on demand and supply sides.

When further examining the situation at the cross-country level, the following observations can be made. As stressed above, the current national/domestic retail payment systems are the results of development processes that have been strongly guided by "the national payment habits" and, therefore, the organisation and operating procedures of national retail payment systems differ from each other. In some countries, the degree of electronification in retail payments processing is high and the retail payment systems function (technically) efficiently¹³. In this context, one important factor contributing to the efficiency in national payment systems has been *standardisation*. Standards in retail payment systems have traditionally been set domestically by national authorities and banking associations. Accordingly, the standardisation process at the national levels has benefited from relatively small and homogeneous stakeholder groups. However, standardisation at the cross-border level has been more of a problem because of the greater number of different parties involved and strict adherence to heterogeneous domestic standards adopted in different payment methods. This has surely slowed down the development and implementation of international retail payment standards, which has, in turn, negatively affected the establishment of efficient cross-border retail payment systems.

Another factor affecting the slow development of cross-border retail payment systems in the EU is the low volume of cross-border retail payments. These payments account currently for 2-3 % of all retail payments in the EU. Whether this figure will increase in the future naturally depends on customers' needs, but also on the existence of efficient cross-border retail payments systems to execute payments reliably and cheaply. The establishment of such an infrastructure will require cooperative efforts by the service providing sector. However, as pointed out in the beginning of this section, the service providing sector may be unwilling to invest in these systems if it does not see it as a profitable business. Accordingly, a sort of chicken-and-egg problem may further delay the establishment of efficient cross-border payment systems.

¹³ Naturally, technical efficiency does not necessarily imply economic efficiency, e.g. if monopolistic pricing distorts users' decisions resulting in under- or overuse of the service.

Competition-cooperation nexus

In the European retail payment landscape and especially in the development of cross-border retail payment systems, the competition-cooperation nexus has been observable. The following quotation ECB (2001b)¹⁴ nicely reveals the challenges that the competition-cooperation nexus brings along:

"The lack of competition among banks explains the lack of progress with regard the price level of cross-border credit transfers, whereas the lack of co-operation on standards and infrastructures explains the lack of progress in reducing the cost of processing cross-border transfers."

Naturally, the quotation must be looked at in the light of the policy debate that was going on in that time concerning the Regulation of retail payment prices but it also clearly presents the competition-cooperation nexus in the provision of retail payment services. On the one hand, cooperation among service providers is needed on establishing standards and infrastructures in order to have a large enough customer base for their services ("*network effect*"). On the other hand, agreement on common standards (compatibility) increases competition and may thus reduce service providers' incentives for the increased compatibility ("*competition effect*"). Accordingly, the crucial question for policy-makers and regulators is to find measures that maximise social welfare in this type of environment.

The competition-cooperation nexus is directly connected to the stylised market structure in retail payment markets where the vertical structure of industry is common. Accordingly, the basic framework of retail payment industry can be generalised as follows:

Payment service providers compete directly in the provision of retail payments instruments and services to end-users but, at the same time, they also cooperate in shared payment networks.

In other words, it can also be said that there is "*upstream cooperation combined with downstream competition*"¹⁵. This poses several challenges to public authorities. On the one hand, viewed from the efficiency standpoint, it is desirable to facilitate the utilisation of economies of scale by means of allowing cooperation between market players. On the other hand, there is also a risk that such cooperative arrangements may be anti-competitive. From a competition policy point of view, it is possible that cooperation at one level may lead to collusive behaviour at another level. For payment system regulators, these are crucial concerns in assessing the trade-off between competition and cooperation. In this context, straightforward application of economic theory will need to be supplemented by taking into account all the industry-specific characteristics.

¹⁴ ECB (2001b): *Towards an Integrated Infrastructure for Credit Transfers in Euro*, page 4, November 2001.

¹⁵ McAndrews & Rob (1996)

In general, it has been argued that market competition is the way to promote efficiency in many traditional industries. In retail payment markets, a particular characteristic is, however, that competition among market participants needs to coexist with the mutual cooperation in payment system infrastructure arrangements. In this context, a key issue is whether the service providers are able to achieve an adequate balance between competition and cooperation to benefit market users. Therefore, public authorities should consider whether the market structure supports innovation and new market entrants, and whether existing access restrictions serve to promote or impede competition and contestability.¹⁶

In retail payment systems, cooperation is required among market participants in the context of their participation in payment system infrastructure arrangements. The main issue for regulators is then whether this cooperation supports market efficiency. The BIS (2003) report argues that established payment networks are a typical context in which this issue will arise. They have the potential to provide a stepping stone for innovation but they are also in a position to create entry barriers that impede competition and innovation. In protecting their own interests, members of established payment networks can create entry barriers either by imposing access restrictions or by more indirect means, for example by a choice of standards and rules that are inappropriate, difficult or costly for other payment initiatives to adopt.

A related question is whether competition between different systems or competition in one system is better for overall market efficiency. If excluded entrants to a particular system decided to establish their own system that was more efficient and they are also able to attract enough customers for the new system to survive, market efficiency could be fostered. However, the uncertainty in reaching the critical mass of users may make the establishment of the new system difficult. Also, the co-existence of multiple systems and standards may imply extra costs both for the users (imperfect compatibility) and the service providers (unutilised scale economies). This clearly points out the importance of market dynamics in network industries that strongly affects the market structure.

¹⁶ For a comprehensive analysis of public policy issues in payment systems. see BIS (2003).

4. Roles of different stakeholders in developing Single Payment Market

In principle, the key parties that are involved in the development process of retail payment systems can be grouped into three groups: (i) *End-users*, (ii) *Payment service providers*, and (iii) *Regulators*. In the following, their motives and roles are discussed. In addition, their recent acts are presented in the European context.

(i) *End-users*

In retail payments, customers (i.e. consumers and enterprises) are the end-users of the payment services. Accordingly, their behaviour (usage decisions) finally decides which payment instruments (and respective payment systems) survive in the long-run. Especially, their adoption patterns of new payment instruments play an important role in shaping the future payment systems. As in many other network industries, end-users' expectations about the future overall usage of different instruments affect the actual adoption of these instruments also in retail payment systems. Ideally, some sort of form for "coordination of expectations" would be important, because users need to form their expectations (and their respective decisions) on which technology will be widely used by other users. The practical problem is that very often the decision of which payment method is chosen depends on the present price and availability of usage points of the payment instruments. When the present users are few and the price is high, a new payment method has a lot of difficulties to achieve the critical mass needed to utilise potential economies of scale in its production and thereby validate its existence. In a practical context, the previous observation that "the payment habits are slow to change" is also relevant when new payment methods are introduced to customers. Accordingly, the adoption incentives of end-users¹⁷ surely play an important role in fostering efficiency of retail payment systems.

(ii) *Payment service providers*

The banking sector has traditionally been and still is the main payment service provider even though some new service providers are now emerging. As in any other industry, appropriate incentives for innovation ("need for the existence of a real business case" as many bankers have phrased it) are crucial when establishing payment infrastructure. Therefore, without sufficient innovation incentives, the development of efficient infrastructure is doomed to be slow. In the context of European cross-border retail payments, the banking sector has emphasised that the slow development of the systems was due to low demand for these payments and the consequent lack of a real business case. However,

¹⁷ It is worth noting that in recent SEPA discussions the importance of the end-users' needs have been emphasised.

after the adoption of the Regulation on Cross-border Payments in Euro (2560/2001), the banking sector "was forced" to act.¹⁸ As a direct reaction, the banking sector established the European Payments Council (EPC) in June 2002 to represent the industry and to support and lead the development of *the Single Euro Payments Area (SEPA)*. Moreover, the EPC also published a White Paper: *Euroland: Our Single Payment Area!*¹⁹ and it has continued its work towards SEPA by adopting Rule Books on credit transfers and direct debits as well as SEPA Cards Framework. The European banking sector has signalled that they are prepared to move forward the necessary harmonisation of payment systems and instruments, as much as possible through self-regulation. In their opinion, legislation and regulation should only be used where the harmonisation cannot be achieved by other means.

(iii) Regulators

In the EU/Euro Area, the main regulators in the payment service field are the European Commission and the European Central Bank (ECB)/ the European System of Central Banks (ESCB) along with the relevant competition authorities. Next, their respective, partly overlapping, roles are discussed.

The European Commission

When fulfilling its role in promoting the development of the Single Market, the European Commission has been active in facilitating financial market integration. Since the beginning of the 1990s, the Commission has been arguing that high costs for cross-border money transfers are inhibiting the Single Market development and financial market integration. In this context, the Commission has formulated the following objectives for the single payment area:

- to make the Internal Market the domestic market
- to promote efficient and secure payment means and systems
- to enhance customer protection and strengthen consumer confidence relating to all payment means
- to ensure competition on equal terms in a level playing field.

¹⁸ A theoretical analysis on the potential effects of the Regulation on cross-border payments in Euro can be found in Kempainen (2005).

¹⁹ European Payments Council (2002): "*Euroland: Our Single Payment Area!*", May 2002.
<http://www.europeanpaymentscouncil.org>.

In pursuing these goals, the Commission has assumed a more active role in recent years. The fact that the charges for cross-border retail credit transfers had remained high over the years prompted the European Parliament and the Council to adopt Regulation (EC) No 2560/2001 on Cross-border Payments in Euro in December 2001. The Regulation aims at facilitating the expansion of the "*Single Market*" concept to cover the money transfers and payment systems markets as well. The adoption of the Regulation was seen as the ultimate tool to foster the development of the market where, according to the Commission, "no substantial development efforts by market participants" were observed before that. In December 2005, the Commission adopted a proposal for a Directive, earlier known as *New Legal Framework (NLF) for Payments in the Internal Market*. This proposal for a Directive of the European Parliament and of the Council on payment services in the Internal Market should establish a modern and comprehensive set of rules for all payment services in the European Union and form a comprehensive legal basis for SEPA developments.²⁰ Parallel to this directive proposal, the Commission has also issued the so-called *SEPA Incentives Paper* (nowadays referred to as "Next steps") that analyses the current situation and identifies a number of areas and issues where supplementary action may be required to achieve the full economic potential of SEPA.²¹ Very recently, the Commission also launched a public consultation on the *Interim Report on Payment Cards and Payment Systems*. According to the Commissioner Kroes, the inquiries are an important first step in allowing the Commission to identify ways to improve competition in EU financial markets.²²

European Central Bank and the European System of Central Banks

The central banks' interest in the efficiency of payment systems is based on the Article 105(2) of the Treaty and the Article 22 of the Statute. According to these, *the European System of Central Banks shall promote the smooth operation of payment systems*. This also includes facilitating and ensuring the efficiency of payment systems. In addition to general efficiency, the central banks have also defined financial integration as one of their main objectives. In the beginning of 2005, the ECB and the national central banks agreed on a document of "Strategic intents of the Eurosystem". This document gives a high priority to unification of financial systems, and, by implication, the payment systems as well. The relevant phrase in the document is as follows: "*The Eurosystem shall aim to safeguard financial stability and promote European financial integration in cooperation with the established institutional structures.*" As such, this document did not mark any change in the ESCB

²⁰ For more information on the Directive proposal and the earlier initiatives, see the Commission's web page: http://europa.eu.int/comm/internal_market/en/finances/payment/area/index.htm

²¹ See the Commission's webpage: http://europa.eu.int/comm/internal_market/payments/sepa/index_en.htm

²² See, DG Competition's web page: http://europa.eu.int/comm/competition/antitrust/others/sector_inquiries/financial_services.

policy. But it confirmed that for the ECB and the Eurosystem as a whole, promoting financial integration is not only a means to an end, it is also a goal in itself.

In the area of retail payment systems, the Eurosystem has focused on the importance of providing efficiency and safety standards for retail payment instruments and euro retail payment systems with the aim of fostering the achievement of a single euro payment area. In principle, both the safety and efficiency targets are important, and in many cases, as in the large-value payment systems where potential for systemic risk is bigger than in retail payments, the safety requirement is the first one to be achieved. However, in retail payment systems as well, the same safety requirement is important as the central banks should also ensure that the public confidence in payment media is not put in danger in any circumstances.

The ECB/ESCB has communicated its policy stance on retail payment issues by publishing various reports and studies. The ECB has published two reports "*Improving Cross-Border Retail Payment Services – the Eurosystem's view* (September 1999) and "*Improving Cross-Border Retail Payment Services – Progress Report* (September 2000) in which it highlighted inefficiencies and set objectives for cross-border retail payments. Moreover, the ECB Monthly Bulletin article in February 2001 "*Towards a Uniform Service Level for Retail Payments in the Euro Area* examined the variety of issues in retail payments area. In November 2001, the ECB prepared a report "*Towards an Integrated Infrastructure for Credit Transfers in Euro*, in which it reviewed ways to remove obstacles that are the origin of the high costs of retail cross-border credit transfers and provided an overview of measures to improve the payment infrastructures. The ECB reports "*Towards a Single Euro Payments Area – Progress Reports* (ECB, 2003, 2004, 2006) assessed developments achieved in retail payment system field. In the reports, the Eurosystem's strong support for the banking sector's Single Euro Payments Area –project was emphasised. Moreover, the importance of the Eurosystem's own catalyst and overseer roles were strongly stressed. In the latest Progress report, the Eurosystem's vision for the SEPA was clearly stated: "a euro area in which all payments are domestic, where the current differentiation between national and cross-border payments no longer exists."²³

Altogether, one of the most essential future tasks for all the key parties, including both service providers and regulators, involved in the development of retail payment systems is to strengthen their cooperation so that efforts can be focused on the most relevant issues and overlapping development efforts can be avoided. On the regulatory side, the cooperation between the European Commission and the ECB/ESCB is crucial in order to avoid the situation where too extensive and overlapping regulation would act as an impediment to the development. Furthermore, the roles of competition

²³ See, ECB (2006) "*Towards a Single Euro Payments Area: Objectives and Deadlines – a Fourth Progress Report*", p. 4.

authorities and other regulators (including central banks as overseers of the payment systems) in the quest for the market contestability and payment systems efficiency are not totally clear both at the national as well as at the European level. This is likely to require further cooperation efforts, at least at the European level.²⁴

5. Conclusions

Given that the European retail payment systems display a very large degree of fragmentation and national idiosyncrasies, and that for the EU authorities and the central banks financial integration is of a very high priority, it is only natural to expect that the authorities seek ways to promote further integration in this field. Even though financial integration is now defined as a goal in itself, it should also be clear that well-functioning and integrated payment system is a necessary condition for the existence of a truly single market, both in financial services, and in other retail markets as well. This is of utmost importance for reaping the full benefits of the common currency. A successfully conducted and implemented integration process will lead to a situation where no "national payment borders" exist anymore and the most efficient and reliable payment methods and systems are adopted EU-wide. Furthermore, integrated and efficient retail payment market will contribute to the realisation of the Community's Lisbon agenda.

The Single Euro Payments Area project aims to contribute to the Lisbon agenda on its own part. Ideally, the SEPA-project is a market-driven process where the authorities ensure a level playing field for different service providers. Currently, there is a strong political commitment to SEPA-project but some practical difficulties have arisen due to the differences in national payment habits and systems. The evident path dependence in developing payment systems and other vested interests of payment service providers may make the process challenging, but the commitment of all the stakeholders to achieve the final goal will help to overcome the potential obstacles.

When examined from the general payment system policy point of view, the arguments reviewed in this paper reveal the complex and many-faceted nature of retail payments that has clear repercussions on the retail payment systems and their developments. The network characteristics present in retail payment systems should be recognised and taken into account by all stakeholders in the field. This implies, for instance, that the national differences we observe today do not necessarily reflect differences in national preferences of technological possibilities. Rather, as we pointed out above, they can also be explained to be just the result of historical development – the "path dependence" that is typical for network industries. This observation challenges one of the possible objections to

²⁴ A recent example of the increased authority cooperation is the joint statement from European Commission and the European Central Bank: "Single Euro Payments Area". See e.g. ECB's web page: http://www.ecb.int/press/pr/date/2006/html/pr060504_1.en.html

unification, the statement that the same payment system or fully interoperable payment systems with broad menu of common instruments could not suit all countries' needs.

The other objection raised by payment service providers, namely the lacking business case, is also likely to be based on too a narrow and limited view of the total impact of European integration. In general, the deepening economic integration process will inevitably increase cross-border trade. In particular, if we recognize the importance of the payment infrastructure for the contestable markets for retail goods and services, we may also predict that increased interoperability and/or unification of the payments systems facilitating more efficient payment services will lead to a significant growth of cross-border transactions. The current home country bias of payment traffic is, at least to some extent, a product of a fragmented payments infrastructure. Unified payment system infrastructure and common payment products can surely remove potential barriers for cross-border business as well as retail transactions.

All the above observations, along with the general characteristics of network markets, suggest that an optimal degree of efficiency and integration may not be achieved by markets themselves without some intervention by the authorities. The appropriate nature and scope of this intervention is a much more difficult question, however. In principle, the authorities have several options available for regulating the retail payments market.²⁵ They can **leave development to the market** and aim simply to foster a competitive environment and facilitate investment incentives in the field, e.g. by assuming a tolerant attitude towards payment system joint ventures and other types of cooperation. They can also **act as a catalyst or facilitator for development**, e.g. by participating in the development of payment standards and supporting the work of cooperative groups formed within the industry. As a stronger measure, they can **resort to specific regulation** to influence market development, e.g. enforcement of standards. Finally, as the ultimate measure, the authorities can **become 'operationally active'** by establishing their own systems for providing payment services. However, this last option should only be used when the authorities judge that reliable and efficient payment systems cannot be provided by the market.

A general conclusion we would like to draw from our review is that authorities must promote some form of coordination among market participants. Inevitably, compatibility and interoperability of different retail payment systems by means of common and open standards are needed to exploit the potential economies of scale. Moreover, the network structure of the industry (upstream cooperation combined with downstream competition) would ideally facilitate the efficiency gains. Therefore, the

²⁵ For an extensive analysis on the policies relating to the efficiency and safety of retail payments, especially from the viewpoint of central banks, see BIS (2003). For a comprehensive discussion on central bank oversight of payment and settlement systems, see BIS (2005).

authorities should not take too restrictive an attitude towards cooperation among payment service providers. Indeed, they probably should adopt a more active role as catalysts for the beneficial forms of cooperation and coordination.

However, the authorities also have a regulatory role to play. They must continuously monitor the market and ensure that cooperation among service providers does not lead to anti-competitive practices which would harm the end-users of payment systems. First and foremost, this involves monitoring and assessing access conditions to payment systems and memberships of organisations developing and operating them. The systems must be open and entry of new service providers must be possible without discriminatory fees or other unfair conditions. However, entry/access conditions must also be formulated so that payment systems and their operations themselves do not jeopardise the financial stability.

The other difficult part of entry/access regulation is of course to practice it so that it does not reduce incentives to innovate and develop new services or technological solutions. Innovators must be allowed to reap profits for their work. In other regulated industries, there have been very thorny cases, and it is only natural to expect that they emerge also in the area of payment systems in Europe. The problem is not only how to determine fair terms of access, but also to delineate the forms of permissible cooperation, in which the fair access requirements are imposed. The broader the range of activities where common organisations and joint ventures are permitted, the more difficult the questions of fair access become.

To sum up our main policy message, the following can be concluded. We note that the practical challenges for authorities and private operators alike should not be underestimated. Banks and other operators must prepare themselves for the technical changes and marketing tasks required by the harmonisation of payment products and the inevitable unification of the European payment systems. The authorities, for their part, must also develop new competencies. They must continuously monitor the markets and learn how to assess the developments in the market for payment services, and prepare to deal not only with difficult technical issues, but also with the even tougher questions of fair vs. unfair market practices etc. On the other hand, many of these challenges have already been with us for a long time at the national level. In the future we must deal with them at the European level, where the stakes are bigger, and transparency and peer pressure are more and more important considerations.

REFERENCES

- Besen, M. & J. Farrell (1994). 'Choosing how to compete: strategies and tactics in standardisation', *The Journal of Economic Perspectives*, Vol. 8(2) (Spring), pp. 117-31.
- BIS (1999). *Retail Payments in Selected Countries: a Comparative Study*, Report of the Working Group on Retail Payment Systems, Committee on Payment and Settlement Systems, CPSS Publication No. 33, Bank for International Settlements, September 1999.
- BIS (2000). *Clearing and Settlement Arrangements for Retail Payments in Selected Countries*, Report of the Working Group on Retail Payment Systems, Committee on Payment and Settlement Systems, CPSS Publication No. 40, Bank for International Settlements, September 2000.
- BIS (2003). *Policy Issues for Central Banks in Retail Payments*, Report of the Working Group on Retail Payment Systems, Committee on Payment and Settlement Systems, CPSS Publication No. 52, Bank for International Settlements, March 2003.
- BIS (2005). *Central Bank Oversight Payment and Settlement Systems*, Report of the Working Group on Retail Payment Systems, Committee on Payment and Settlement Systems, CPSS Publication No. 68, Bank for International Settlements, May 2005.
- ECB (1999). *Improving Cross-border Retail Payments: the Eurosystem's View*, September 1999
- ECB (2000). *Improving Cross-border Retail Payments: Progress Report*, September 2000.
- ECB (2001a). *Towards a Uniform Service Level for retail Payments in the Euro Area*, Monthly Bulletin, February 2001.
- ECB (2001b). *Towards an Integrated Infrastructure for Credit Transfers in Euro*, November 2001.
- ECB (2003). *Towards Single Euro Payment Area – Progress report*, June 2003.
- ECB (2005). *Payment and Securities Settlement Systems in the accession countries – Blue Book Addendum*, February 2005.
- ECB (2006). *Payment and Securities Settlement Systems in the European Union and in acceding countries – Blue Book Addendum*, March 2006.
- ECB (2004). *Towards Single Euro Payment Area – A Third Progress report*, December 2004.
- ECB (2006). *Towards Single Euro Payment Area – A Forth Progress report*, February 2006.
- European Payments Council (2002). *Euroland: Our Single Payment Area!*, White Paper, May 2002, <http://www.europeanpaymentscouncil.org>.
- Economides, N. (1996). 'The economics of networks', *International Journal of Industrial Organisation*, Vol. 14(6) (October), pp. 673-99.
- Farrell, J. & G. Saloner (1986). 'Installed base and compatibility: innovation, product preannouncements, and predation', *American Economic Review*, Vol. 76 (4), pp. 940-55.
- Gangulny B. & A. Milne (2002). 'Do We Need Public Policy Intervention in UK Retail Payment Systems and if so How?', mimeo, Version 1.4, May 2002, City University Business School, London.

- Gowrisankaran, G. & J. Stavins (2002). 'Network Externalities and Technology Adoption: Lessons from Electronic Payments', NBER Working Paper No. 8943, May 2002.
- Guibourg, G. (1998). 'Efficiency in the payment system – a network perspective', *Quarterly Review* 3, Sveriges Riksbank, pp. 5-24.
- Katz, M. & C. Shapiro (1985). 'Network externalities, competition and compatibility', *American Economic Review*, Vol. 75 (3), pp. 424-44.
- Katz, M & C. Shapiro (1994). 'Systems competition and network effects', *The Journal of Economic Perspectives*, Vol. 8(2), pp. 93-115.
- Kemppainen, K. (2003). 'Competition and Regulation in European Retail Payment Systems', Bank of Finland Discussion Papers 16/2003.
- Kemppainen, K. (2005). 'Assessing Effects of Price Regulation in European Retail Payment Systems', Bank of Finland Discussion Papers 19/2005.
- Kemppainen, K. (2006) 'Regulating Cross-border Retail Payment Systems: a Network Industry Problem', Ch. 11 in D.G. Mayes and G.E. Wood, *The Structure of Financial Regulation*, London, Routledge.
- Khiaonarong, T. (2003). 'Payment Systems Efficiency, Policy Approaches and the role of the Central Bank', Bank of Finland Discussion Paper 1/2003.
- Koskenkylä, H. (ed.) (2004). *Financial Integration*, Bank of Finland Studies, A:108, 2004.
- Leinonen, H. (2001) 'Developments in Retail Payment Systems', Bank of Finland Bulletin 2/2001, pp. 27-34.
- Liebowitz, S. & S. Margolis (1995). 'Path dependence, lock-in and history', *Journal of Law, Economics and Organization*, Vol.11, pp. 205-26.
- McAndrews, J. (1997). 'Network issues and payment systems', *Federal Reserve Bank of Philadelphia Business Review*, November/December 1997, pp. 15-25.
- McAndrews, J. & R. Rob (1996). 'Shared ownership and pricing in a network switch', *International Journal of Industrial Organisation*, Vol. 14 (6), pp. 727-45.
- Official Journal of the European Communities (2001). *Regulation (EC) No 2560/2001 of the European Parliament and of the Council of 19 December 2001 on Cross-border Payments in Euro*, L 344/13, 28.12.2001.
- Retail Banking Research (2005a) "*Regulation 2560/2001: Study of Competition for Cross-border Payment Services*", Final Report, Project No. MARKT/2004/11/F, prepared for the European Commission, Internal Market and Services Directorate-General, Retail Banking Research Ltd, London, September 2005.
- Retail Banking Research (2005b) "*Study of the Impact of Regulation 2560/2001 on Bank Charges for National Payments*", Final Report, Project No. MARKT/2004/11/F – LOT 2, prepared for the European Commission, Internal Market and Services Directorate-General, Retail Banking Research Ltd, London, September 2005.

Saloner, G. & A. Shephard (1995). 'Adoption of technologies with network effects: an empirical examination of the adoption of automated teller machines', *Rand Journal of Economics*, Vol. 26 (3) (Autumn), pp. 479-501.

Shy, O. (2001). *The Economics of Network Industries*, Cambridge, Cambridge University Press, UK.