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### Summary

In this paper the evaluation process for the borrower's ability to return consumer credit is studied in the system of loan defaults risk minimization, and the ways of borrower estimation scoring model improvement are considered taking into account international experience.

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## THE FUTURE OF CLEARING HOUSES

*This paper provides details on the past development of clearing and settlement, the present situation, the activities of clearing houses, the integration processes and the possible future of Automated Clearing Houses focussing on EU.*

*Key words: Automated Clearing House, Clearing and settlement, Payment system, ACH, PEACH, SEPA, RTGS*

**Introduction.** Although given less focus over the past year owing to the effects of the world economic crisis and the many new rules as consequences, the standardization of clearing and settlement remains one of the most important financial policies of the EU. After these developments, the ACHs' activities and services will dramatically change in the Euro Zone. Given the new regulatory and self-regulatory environments (e.g. SEPA, Basel, CRD, national authorities), and banks' powers and traditions, it is one of the most interesting community achievements of the European Union.

**Resolution of the last researches and publications.** The future of the clearing and settlement in the point of SEPA is in the focus of the national SEPA associations, ACHs, central banks and the relevant EU bodies, look like European Central Bank. There are more active research and public activity by the euro zone countries' economists. The new researches shared in the SEPA conferences at first, and with time delay some of them are published in written form. In the references I highlighted the next authors / published articles: R. Boer, T. Booijsink, J. Schokkenkamp [1], M. Heike [2], K. Kemppainen [3], T. Padoa-Schioppa [5], G. Schrevel [6].

**Problem definition.** The effect of the Single European Payment Area will reach not only Euro Zone payment systems but the non Euro Zone European Union countries as well. Predominantly the non Euro Zone countries belong to the small economies of the EU. So based on the financial activity and the

payment volumes field they are not competitive with the leader, already Euro Zone countries. It is obviously true for the clearing and settlements systems, which will be already automated, and will be fully standardized by the SEPA. The full standardization will encourage a new competition among all of the ACHs, and between some of the largest banks. The result of the competition depends on the ownership structure, and the level of commitment of the big owners. The final, in high volume used payment channels will be different than the current ones, and the new, much more effective structure will fundamentally reorganize the present clearing and settlement system.

### Results.

#### *Historical overview*

Bank account services were introduced to wider retail audiences in the 1950s and 1960s in the United States and Western Europe, and in the late 1980s and in the 1990s in Eastern Europe.

This development gained momentum in a period when the application of computing in administrative systems had begun on a mass-scale, but telecommunication services and generally accepted, internationally consolidated message standards were not yet supporting the mass-scale transmission and processing of data.

In America and Western Europe, automated clearing houses (ACHs) enabled the retail payment of wages and salaries to be cleared between banks. The execution of the operational tasks of banks participating in the settlement system was made easier by the possibility for employers (customers of such banks) to submit their orders on permanent data car-

riers directly to the clearing houses rather than with the intermediation of their banks. Such transfers were therefore called *direct credit*.

Based on a similar principle, the *direct debit* service was developed to enable regular expenses related to daily sustenance to be paid from the bank accounts credited, as part of which, obviously, a far greater number of transactions are carried out than in credit transfers. It is simpler to charge an account holder's regular overheads against the funds credited to their current account than to pay the same bills either by cheque or in cash.

In countries where holding bank accounts and the use of cheques had not become widespread before the appearance of automated clearing houses, i.e. where citizens became bank account holders at a relatively late stage, direct debit was adopted fast. Direct debits were originated by public utility providers, insurance companies, banks or any other corporate customers of the bank by forwarding their direct debit orders directly to the clearing house, which cleared the debits between banks against the appropriate accounts.

Today it is rare for clearing houses to accept orders by banks' customers directly. Technological development has enabled banks to receive any number of orders from their customers electronically, through telecommunication networks. At the current level of development of telecommunication networks and IT systems, it is not particularly difficult for individual banks to receive orders and process their data content. Consequently, the vast majority of orders today are submitted to clearing houses by banks, and clearing results are also forwarded to banks. Nevertheless, clearing houses have retained their basic function of clearing interbank payments related to transactions in the real economy.

Most clearing houses were established on a national basis. In large and federal states (e.g. the US, Germany), there were several clearing houses. In most European countries, however, a single clearing house was sufficient for the interbank clearing of customers' credit transfer and direct debit orders.

Generally, it is the clearing houses themselves that have regulated the mechanism of credit transfers and direct debits between banks, i.e. they have established the rules for payment instruments. Such rules, with deviations as appropriate, are applied by each bank even when payment takes place between two of its own customers, that is, in the case of in-house payment transactions as well. As they have been established in different currency areas, there is no consolidated rule to govern the operations of clearing houses; clearing procedures, payment instruments, financial messages and the contents of

such messages have been developed by each clearing house separately.

#### *Classification of applied clearing systems*

Consolidated payment schemes require mechanisms that can ensure the appropriate clearing and settlement of orders between the participants in payment traffic. An overview of the clearing map of today's European Union shows several solutions for the clearing of credit transfers and direct debits.

In general, the operation of multilateral clearing and settlement infrastructures requires the following components:

- procedures specified in business regulations and contracts (the system of rules),
- uninterrupted service to participating banks, customer service,
- a central clearing engine, meaning the central technological platform for clearing,
- data transmission and network solutions,
- development and maintenance of the technology,
- procedures for the management of financial risks,
- financial settlement process.

Certain countries outside the Euro Zone use the same system for small and large-value credit transfers, which is also the RTGS system of such countries. However, it is typical for most countries to have separate systems for clearing and RTGS.

Bilateral clearing models feature only some of the components listed above. This type of model does not require the existence of a clearing house; at the most, it only requires a consolidated system of rules, and perhaps an organization to develop and enforce them. Bilateral clearing is an efficient component in the mutual relationships of a small number of banks. Therefore, in countries where such a model prevails, the majority of banks are correspondents of the few clearing banks.

Most European countries operate multilateral clearing systems. Clearing systems are not to be confused with clearing houses. A clearing system is not an institution, but an agreement of the parties involved in it concerning the execution of payments among themselves according to a set of specific procedures. In principle, a clearing house may own several clearing systems, since its fundamental tasks include the definition of rules, the provision of access for participating banks, and preparations for financial settlement. The management of settlement risk may also be one of the tasks.

A clearing and settlement system may have more than one operator. Central banks, which provide financial settlement to the systems, or enterprises in charge of financial messaging, are operators of spe-

cific key components of the clearing and settlement system just like the clearing houses themselves.

Although clearing houses often operate the IT clearing platform and the communication that enables messaging, and often also develop system components, such responsibilities do not necessarily constitute clearing houses' functions. In several countries of the European Union, commercial banks have outsourced the operation of the clearing system to central banks. It is also not uncommon for the operation of the communication and data processing components of the system to be undertaken by specialized institutions (e.g. SWIFT for Euro1/Step1, or SIA for the Step2 system).

In most cases, clearing systems handling payment traffic on a mass scale were created by the commercial banks of the countries concerned. These countries also create the rules for system operations. It is also fairly common for central banks to participate in clearing houses.

#### ***The volume of international traffic – differing financial cultures***

Prior to the turn of the millennium, the national economies of European countries had created their own clearing and settlement methods for domestic interbank clearing. In these countries, the range of payment instruments used by enterprises and the public, their relative weight in the entire payment traffic, the legal environment of payment instruments, the rules of execution, the legal background and the standards applied were extremely variable and are still largely different today.

Traditionally, the execution of international payments has essentially relied on two mechanisms: correspondent banking services and international card systems (previously also Eurocheque and the Eurocheque card). International card systems are not covered in this paper. It is sufficient to note that these relatively well-regulated instruments enable cash advances and purchases to be made nearly all over the world subject to terms similar to those applicable domestically (excluding costs). At the same time, there is room for improvement in many countries with respect to the acceptance network of international cards. One important reason for this problem is the neglect of international cards, as it is cheaper for businesses to accept domestic cards. Other countries, such as Hungary, do not use a domestic card system, leaving businesses with no other option but to accept international cards.

Until the 1970s, correspondent banking primarily meant correspondence by telex messages using bilateral coding. Following the establishment of glob-

al financial messaging society SWIFT<sup>1</sup>, this method was gradually replaced by communication between computers, with bilateral coding retained. SWIFT message standards brought great progress by making correspondence unambiguous and suitable for machine processing. However, the task of SWIFT is to standardise existing messages in order to clarify and facilitate communication between participants. It is not supposed to develop business schemes for any payment instruments. As part of a UNCITRAL<sup>2</sup> initiative, the UN drafted a model law in 1992 concerning international credit transfers<sup>3</sup>. However, the vast majority of UN Member States did not transpose this law into their national legislation and it is, consequently, not in general use in banks.

Despite the modernization of correspondence, international credit transfers have remained a highly manual activity. This is largely due to two factors: firstly, uncertainties about the extent of the bank costs incurred across the intermediation chain, and secondly, because of the method of cost allocation. As regards the time required for the execution of credit transfers, international conventions do not specify any deadline for end-to-end settlement.

#### ***The development of clearing in the European Union***

The Euro was introduced in 1999, by states, which were at the centre of economic integration within the EU. The Monetary Union aims to improve the efficiency of the single internal market, in addition to reducing exchange risk and the cost of financial transactions. States in the Euro Zone have waived the right to pursue independent monetary policies and have agreed to subordinate their fiscal policies to the Maastricht standards, i.e. to balance the management of their public finances. The single currency area is especially advantageous for the small emerging economies that are parties to it because, in theory, it makes their GDP growth potential higher in the long term in comparison with their own currencies.

Among the advantages, the objective of reducing the costs of financial transactions is of particular interest. The introduction of the Euro and the establishment of a single money market eliminated the substantial costs of currency exchange. In the field of payment transactions, however, consolidation has been taking longer than was hoped at the beginning (1992). Payment traffic in the countries of the Euro Zone has yet to reach the level that could be expected of a single currency area.

<sup>1</sup> Society for Worldwide Interbank Financial Telecommunication

<sup>2</sup> United Nations Commission on International Trade Law

<sup>3</sup> Model Law on International Credit Transfers (1992)

Despite preparations for the Euro having started in 1992, the full homogenization of payment traffic was not possible until either the introduction of the Euro as account money in 1999, or until the Euro bank notes and coins were put into circulation in 2002.

The establishment of the WGPS (Working Group on EU Payment Systems) in 1992 marked the formal start of cooperation between the central banks of EU Member States in the field of payments. In the paper "Issues of Common Concern to EC Central Banks in the Field of Payment Systems," the Working Group proposed a number of measures, focussing primarily on the consolidation of large-value payments. Based on that paper, each Member State developed an RTGS<sup>4</sup> system. These were organized into the TARGET<sup>5</sup> network as of the day the Euro was introduced.

Starting in 2007, this system was replaced by TARGET2: a system that is built on a standardized IT platform and is more harmonized than its predecessor in every aspect (membership criteria, uptime, pricing, etc.) Despite its standard platform, TARGET2 in legal terms continues to be a complex system comprised of national RTGS systems, and the clearing and settlement mechanism of the ECB. The clearing systems are owned by national central banks and the ECB. These manage accounts for their own banks (the ECB for international institutions) and perform business functions in the system. The IT platform has been developed and is operated by three central banks (Deutsche Bundesbank, Banca d'Italia, Banque de France).

The primary functions of TARGET2 are to support the operation of the money market and clear large-value and urgent payment orders. Given the small number of large-value orders, the unit cost of the system is higher by several orders of magnitude than that of systems clearing small single orders on a mass scale. The latter are preferred by banks for the purpose of executing orders from their retail and corporate customers.

A great advantage of TARGET2 over TARGET1 is that payment and securities clearing systems, which rely on TARGET2 with regard to financial settlement, are able to arrange settlement in a way that direct participants are no longer required to hold accounts with the local central banks. For instance, it is sufficient for a large bank participating in the systems of a dozen countries to hold a single account in TARGET2, while previously it would have to hold accounts with the central bank of each member state. This facilitates direct connections to foreign systems and banks' liquidity management.

<sup>4</sup> Real Time Gross Settlement

<sup>5</sup> Trans-European Automated Real-Time Gross Settlement Express Transfer System

### *Payments in the EU*

Despite economies becoming intertwined, European economic integration has so far failed to alter the fact that, within payment systems, about 99 % of credit transfers are executed on domestic accounts and only one in every hundred credit transfers links two countries. For that reason, several banks have expressed their doubts that such a low volume of traffic would justify fundamental changes to domestic payment systems.

As part of preparations for the introduction of the Euro, Directive 97/5/EC was adopted to provide a general legal framework for credit transfers of up to ECU 50000 until November 2009. The Directive specifies a maximum lead time for the execution of credit transfers; and defines the principles of cost allocation, the rights, obligations and responsibilities of the counterparties, and the method of providing information to customers.

As the Directive had failed to bring genuine progress in the segment of single credit transfers of relatively small value, legislation was adopted on the eve of the introduction of the Euro, which, as a legal expression of strong political pressure, marks the beginning of the standardization process in European payments and clearing. Regulation № 2560/2001/EC requires that, within a Member State, the charges for credit transfers of up to EUR 50000 should be the same as those of Euro payments.

Under pressure from the demands of this Regulation, banks have two options. They can either increase the charges for domestic credit transfers and spread the costs of cross-border payments over all of their transactions, or, yielding to political pressure, develop structures and payment instruments that render all payment transactions domestic in the European market. The former course of action is hampered by the resistance of customers, and by discounts tailored to large corporations: in other words, competition. Moreover, in several countries such as Austria and the Netherlands, domestic orders for bank account transactions have traditionally been free of charge, preventing banks in these countries from charging excess costs to customers.

Pressure has proved to be effective. In June 2002, the European Payments Council (EPC) was established with the objective of creating the Single Euro Payment Area (SEPA). This was intended to be a single region within which citizens, businesses and other actors of the economy can execute Euro payment transactions subject to the same terms, rights and obligations, irrespective of their place of residence, business location, or national borders.

The EPC is a self-regulatory organization established by three European bank associations, in which the banking communities of SEPA countries are rep-

resented in proportion to the volume of their payment traffic. Under the decision-making body of the EPC, committees and working groups draft proposals on business and standards for the Council to adopt.

The rules adopted by the EPC are implemented in practice through a contractual statement, in which banks using SEPA credit transfers and SEPA direct debits undertake to comply with the rules as a civil liability.

The EPC has also undertaken the enforcement of payment schemes and processes. It acts as the owner of the schemes and also plays a role in the settlement of disputes between intermediaries participating in payment traffic.

#### ***The SEPA programme***

As the first step of its activity, the EPC created the Credeuro and ICP business rules for credit transfers. These rules are built on existing international payments, and they impose stricter-than-usual regulations on the terms of execution.

Banks adhering to the Credeuro Convention undertook to settle single credit transfers of up to EUR 12500 (today EUR 50000) in a maximum of T+3 days. Credeuro also enables the end-to-end automation of orders. This requires each order to include the BIC (SWIFT bank ID) and IBAN (international bank account number) codes, which identify the account of the beneficiary. In addition, it should also be possible to forward a reference of up to 4×35 characters. Another criterion is the forwarding of the charging option code. This code can take one of the following values: OUR, BEN or SHA. With OUR, the originator bears all costs; with BEN, the beneficiary bears all costs; and with SHA, each counterparty bears the costs incurred by its own service provider. The ICP Convention requires participants in payment traffic to use this last charging option.

The next step of the SEPA programme involves the development of SEPA payment schemes. SEPA payment schemes (credit transfer and direct debit) are regulated with the same thoroughness as their domestic counterparts. Not only do the SEPA payment schemes constitute new business rules, they are also different from previous payment instruments in technological terms. The UNIFI ISO 20022 (XML) standard has been implemented in practice for the first time, providing adequate foundations for the design of schemes for financial messaging.

Another important characteristic of SEPA payment schemes is that each scheme is separated from the supporting infrastructure, i.e. from clearing houses and clearing systems. In most countries, payment instruments were previously specified by the regulations of clearing houses. SEPA credit transfer is available for settlement within the same bank, through banks' associated accounts, or through the use of any clearing system. Once the

SEPA has become fully implemented, the disentangling of infrastructure and payment schemes will create competition among clearing houses.

Naturally, the SEPA is not only a programme, but, as its name indicates, it is also a specific geographical area that includes the countries of the Euro Zone as well as the remaining EU Member States, the EEA countries and Switzerland.

The connections between the SEPA schemes and the SEPA clearing and settlement mechanisms (CSM) as well as the competence levels of the EPC are illustrated in the figure below:

#### ***Clearing and settlement of SEPA payments***

In addition to the development of the payment schemes, the EPC also provides a framework for the activities of clearing houses. The most important requirement of the EPC for clearing and settlement mechanisms (CSM) is that they should ensure the SEPA-wide availability of all recipients of credit transfers and direct debits, as well as full compliance with the rules of each payment scheme.

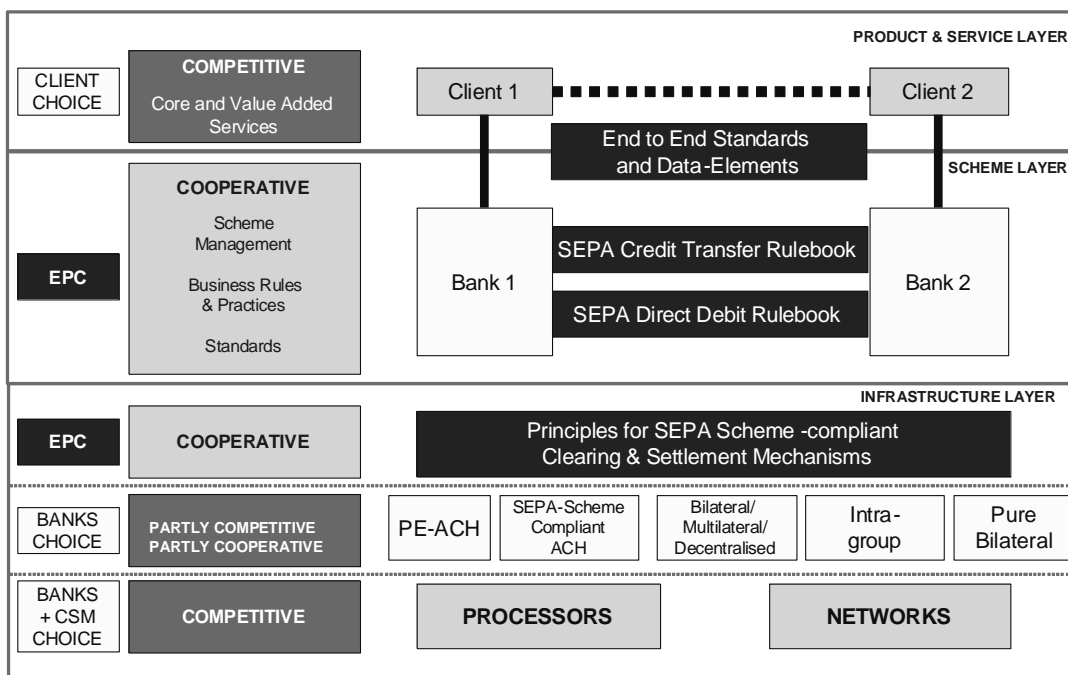
There are two ways to achieve this. One involves the use of a system that provides pan-European coverage (currently the STEP2 system of EBA Clearing S. A.), and the other consists of an interlinked network of clearing houses and banks, which is capable of providing full coverage.

The EPC has also provided more detailed definitions for the models of clearing and settlement,<sup>6</sup> which are the following:

- Pan-European Clearing House (PE-ACH),
- Clearing house supporting SEPA payment schemes,
- Multilateral clearing and settlement mechanism (without clearing houses),
- Bilateral clearing and settlement mechanism (including bilateral account management: in other words, correspondent banking relationships),
- Intra-group clearing and settlement,
- Clearing and settlement within the same bank.

As a pan-European clearing house may be capable of connecting all payment service providers that engage in SEPA payments, this solution is clearly preferred by the EPC. The EPC also does not rule out the possibility of achieving SEPA geographical coverage by linking clearing and settlement systems. The implementation of the SEPA payment schemes and the displacement of old payment instruments are greater priorities in international and domestic payment traffic than the consolidation of clearing houses.

<sup>6</sup>EPC170/05 CSM Framework



Source: EPC

Figure 1 – Levels of activity supporting the operation of the SEPA payment schemes

The years to come, therefore, will enable the free evolution of competition among the clearing systems, clearing houses and data processors. As a result, the survival or growth of these institutions is to be expected.

However, such service providers do not operate in a regular market. Clearing houses – and most processors – are owned by European banks. These banks are also users of services in the same infrastructures.

In the short term, it is probably the pan-European clearing house(s) and some networks of other clearing houses and banks that will be in charge of clearing SEPA instruments in the SEPA area. In order for this to be achieved in the shortest possible time, the EPC has called on the actors involved in clearing to find the appropriate balance on the issue of cooperation and competition.

Today, the first priorities of the EPC are the implementation of the SEPA payment schemes and migration to the new schemes. The banks forming the EPC are aware that the consolidation of clearing houses is inevitable in the longer term and that the Euro Zone will make do with fewer clearing systems. However, for the time being (until migration to the SEPA schemes is completed), they do not urge any reduction in the number of clearing houses.

That will change in later stages. Starting in 2013–2014, with SEPA migration completed for the most part, the clearing market will also be transformed. It remains to be seen what the European clearing map will look like in the future.

*The future of European Clearing Houses*

The European clearing map has just entered the transitory period. An attempt at any forecast of future development may be made by exploring the changes that have already occurred, the processes known, and the interests of the banks determining these processes.

The STEP2 system of EBA Clearing S.A. is known to be the only pan-European clearing house today. It is the only system capable of connecting the banks of all SEPA countries. However, a major flaw of the STEP2 system is that the traffic it drives has so far remained relatively modest. Luxembourg is the only SEPA Member State to have channelled its clearing into the system. Although it has attracted the majority of international traffic between large banks, the system would only achieve a real breakthrough if entire banking communities were migrated.

The plans of the other clearing systems are largely influenced by the shareholders of the organizations operating them and the interests specific to participating institutions.

In countries where central banks are responsible for the technical operation of the clearing system, but the system itself is managed by the banks participating in clearing (e.g. Belgium); the banking community is inclined to migrate its traffic, at the first opportunity (in 2010 at the earliest), to a pan-European platform or the clearing system of another country. For such communities, abandoning their own platforms and joining a partner with a great potential for econo-

mies of scale may be the way to reduce operational costs and improve their competitiveness.

By contrast, where the central bank not only operates the clearing system but also runs it as a clearing house, as in the case of Deutsche Bundesbank, it is to be expected that the central bank will remain a service provider. The primary motivation of central banks is to ensure that a large number of small local banks can become reachable Europe-wide at competitive rates, without becoming dependent on large local banks. From the perspective of central banks, the increasing prevalence of large banks as intermediaries is not desirable in terms of either competition or financial stability. It is to be noted that in Germany, the role of the central bank's system is only auxiliary to bilateral relationships and the clearing operations of smaller communities. It is also limited to clearing the segment of the traffic which the other solutions are not capable of handling effectively.

In a large number of European countries, central banks have traditionally kept clear of automated clearing houses that process orders of small value. Where such clearing houses were formed as club-like organizations of banks, and are owned by banks, changes have taken place in accordance with the economic philosophy prevailing in recent years. The not-for-profit character of clearing houses and their focus on clearing activities have been eroded. Although they continue to be owned mostly by banks, a growing number of shareholders are not banks. Activities are becoming diversified and now include new elements such as e-invoicing and Electronic Bill Presentment and Payment (EBPP), electronic signature authentication, a variety of data warehouse services, the takeover of subordinated banking activities, services to facilitate e-trade, card processing, credit reference services, etc. The separation of customer and shareholder roles, as well as diversification, motivate organizations to grow. It is not surprising that such clearing houses are important drivers of change. Their primary objective may be to merge with other clearing houses or to take full control of the traffic in certain other countries.

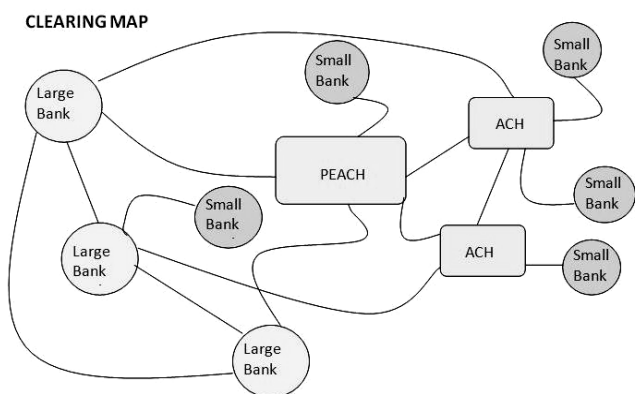
Despite strong competition among clearing houses, organizations of this type have no other choice but to cooperate closely with other clearing systems and clearing houses. The EACHA<sup>7</sup> has developed protocols for interoperability. The bilateral relationships of the European clearing houses participating in the project are based on a common standard and are similar to the TARGET1 system in particular. This type of relationship may, in principle, evolve into an efficient model, since a network of such

relationships does not require the same kind of centralization, in operational terms, as TARGET2. At the same time, the direct connection of clearing houses cannot be a long-term solution for several reasons. On the one hand, these clearing houses do not as yet operate in every European country, which prevents them from covering the SEPA area completely. On the other hand, the banking communities of uncovered countries may either choose the pan-European clearing house, or settle their traffic bilaterally.

Clearing houses built on a national basis have certain major advantages over the pan-European clearing house. They do not form an elite club,<sup>8</sup> and they have inherited a wide customer base and a significant volume of traffic. If they adapt successfully to the SEPA environment, they have a potential for growth. In today's European market, there are two clearing houses which are not pan-European yet have strong international ambitions: the German-Dutch Equens and the British VocaLink.

As the clearing houses do not necessarily perform the tasks of data transmission and processing, some processors also need to be part of the picture. Among them it is worth to mention SIA, a processing and data transmission company established by Italian banks (it operates the pan-European STEP2 platform), and SWIFT, a global service provider owned by banks. SWIFT is traditionally engaged in data transmission, and is also the operator of the Euro1/STEP1 platform. SWIFT, not being a clearing house itself, can provide a service which competes with clearing houses primarily in the field of bilateral clearing.

Based on the facts mentioned above, a SEPA-based European clearing map of the future can be outlined as follows:



Source: L. Kovács

Figure 2 – Topology of clearing in the European Union

<sup>7</sup>European Automated Clearing House Association

<sup>8</sup>Direct participants in STEP2 are mostly large banks.

This map does not indicate the connecting lines along which the vast majority of traffic will be handled.

The decade preceding 2007 was characterised by trust in the regulations aimed at ensuring financial stability and in the system of supervisory institutions. Nothing, therefore, disturbed interbank lending. Individual payment service providers were making efforts to optimize their clearing costs. Large banks secured charges in strong deviation from infrastructures, which made access to the system expensive for institutions handling smaller volumes of traffic. In turn, these large banks attracted smaller banks, as intermediation allowed them to achieve lower rates for clearing their own payments than they could have done by obtaining direct membership of a clearing house. A model was emerging in which large banks managed accounts for smaller ones, and traffic between large banks was cleared through the PE-ACH.

Today's financial crisis and unification of payment schemes by implementation of SEPA will set new directions. Consolidation in banking sector may strengthen the strategic approach of large bank groups. A large PE-ACH is in the centre of this model. However the vast of payment traffic is cleared and settled bilaterally between large banks, who still keep intermediation role for the for institutions handling smaller volumes of traffic.

The vision of large European ACHs counts with the network of collaborating clearing houses applying EACHA frameworks. According to professional expectations the European payment volume provides ground of operation for 4-6 large, independent ACHs.

For smaller ACH the key importance is if and when the national character of the bank sectors will disappear during the unification of European markets. SEPA implementation and access to Euro Zone together can finalize such unification. In that case supporting the application of AOS<sup>9</sup> solutions is the major interest of these ACHs. However upon the current evolvement in the Euro Zone we cannot disclose a scenario resulted in disintegration, which would fundamentally change the ways of the ACHs' future development.

A comparison of the European model with the system of clearing houses in the US clearly shows that the European market cannot accommodate a dozen local clearing houses for long. At the same time, a greater number of institutions could survive, as the benefits of competition counterbalance the higher costs of passiveness resulting from monop-

olization. Nevertheless, the European system could be more versatile, flexible and innovative in the future than its government-dominated American counterpart. However, Europe should make sure that competition, which facilitates innovation, is retained in the future as well.

**Summary.** The programme of the Single Euro Payment Area (SEPA) is setting a new standard in clearing. In the SEPA, clearing and settlement infrastructures are regulated separately from payment schemes: it is not the clearing system (there being a number of systems operated by competing clearing houses) that defines payments schemes but the EPC, an independent pan-European organization responsible for the development of standardized pan-European schemes for Euro payments. This change is creating direct competition between clearing mechanisms. Inevitably, the development and general adoption of the SEPA payment schemes will lead to the linking and perhaps even the merger of clearing systems, and the development of a new network of clearing relationships that is more transparent and is also expected to be more efficient.

It remains to be determined what infrastructure and structure of clearing membership is needed and can be developed in order to achieve the economies of scale resulting from the size of the European market, and to fulfil the vision of the Lisbon Programme concerning competitiveness and innovation. Can the desired conditions be provided by competition itself, or is a purposeful policy required to facilitate the development of an efficient structure? The demand by financial intermediaries for clearing services will change in the aftermath of financial integration, to which supply needs to adjust itself. The perspective of consolidated clearing houses intensifies competition in the market, putting players under pressure to innovate.

Monitoring the development of clearing solutions is also a task for public policy. In terms of clearing, regulators are supposed to ensure that payment services are provided in an efficient and secure manner; and that customers of payment service providers should create a reasonable distribution of payment instruments through rational choice, resulting in the reduced role of cash and the wide use of effective payment solutions. Although the modernization of clearing is in the interest of the entire banking system, development will not give a competitive edge to individual banks. As a result, credit institutions are not directly motivated to initiate or actively support the development of clearing infrastructure.

<sup>9</sup>Additional Optional Services



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*Анотація*

У даній роботі наводяться результати дослідження історичного розвитку клірингу, розкриваються особливості поточного функціонування клірингових палат, а також аналізується вплив інтеграційних процесів у ЄС на майбутній розвиток Автоматизованих Клірингових Палат.

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**ПРОБЛЕМИ СТВОРЕННЯ І ВИКОРИСТАННЯ ЕЛЕКТРОННИХ ІНФОРМАЦІЙНИХ РЕСУРСІВ ДЛЯ ПОТРЕБ АНАЛІТИКІВ І НАУКОВЦІВ**

*У статті проведено аналіз, класифікацію доступних для вітчизняних аналітиків та науковців електронних інформаційних ресурсів, досліджено їх ступінь розвитку та множини проблеми функціонування. Запропоновано комплекс заходів щодо розвитку вітчизняних електронних інформаційних ресурсів, що підвищуватиме якість досліджень науковців, прийнятих на їх основі управлінських рішень та сприятиме сталому економічному зростанню країни.*

*Ключові слова: електронні інформаційні ресурси, плагіат, класифікація електронних інформаційних ресурсів.*

**Постановка проблеми.** Останнім часом доступність інформації стає все більш важливою характеристикою сучасного суспільства. Проблема вдосконалення доступу до інформаційних ресурсів є усвідомленою на всіх рівнях їх формування і управління ними як в Україні, так і за кордоном. Сьогодні слід чітко осягнути залежність рівня розвитку науки та освіти від рівня впровадження інформаційно-комунікаційних технологій та формування інформаційної культури. Дійсно, наука та освіта як ніякі інші сфери людської діяльності потребують оперативної, своєчасної та достовірної інформації. Вченому, досліднику, викладачеві, студенту, професіоналу потрібні потужні інформаційні ресурси як вітчизняні, так і світові: швидкий, зручний, багатоас-

пектний доступ до світової наукової інформації через бази даних, наукову періодику, наукову літературу.

Розвиток електронних інформаційних ресурсів (ЕІР) сприяє підвищенню якості досліджень науковців та аналітиків за рахунок більшої доступності, прискорення пошуку необхідної інформації. Крім того, підвищенню рівня професійності наукових досліджень, як вважає С. Козьменко [1], сприятиме також їх повна відкритість за рахунок розміщення в електронному вигляді в мережі Інтернет, зважаючи на більшу публічність праць науковців та аналітиків, можливості їх широкого обговорення та аналізу.

Як відомо, стан інформаційного забезпечення вітчизняної науки та освіти далекий від ідеального, чи хоча б достатнього. Сучасна економічна ситуація в нашій країні не сприяє повноцінному комплектуванню бібліотек в достатньому обсязі

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