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by Heiko Schmiedel

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In 2007 all ECB publications feature a motif taken from the €20 banknote.

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ABSTRACT

With the realisation of the Single Euro Payments Area (SEPA), there will be no difference in the euro area between national and cross-border retail payments. SEPA is aimed at fostering competition and innovation, and improving conditions for customers. This requires concerted efforts from various stakeholders, in particular the banking industry, to align national practices. The Eurosystem strongly supports the SEPA project. In its catalyst role, the European Central Bank (ECB) closely monitors and assesses the overall development of SEPA. Against this background, the ECB has carried out in cooperation with the banking industry a SEPA impact study with the aim of enriching its understanding of the potential economic consequences of SEPA. Based on the quantitative and qualitative expectations of major pan-European banks, the study finds that the overall financial impact for the banking industry varies according to different scenarios of the SEPA project. The coexistence of national and SEPA retail payment schemes is expected to lead to initial investments borne by the banks. In the longer term, banks expect to benefit from improved cost efficiency and economies of scale and scope. Furthermore, banks are expected to face downward pressure on their revenues as competition will increase across borders and as a result of new market entrants. The findings of the study confirm the view that a dual SEPA implementation phase should be as short as possible. In fact, a longer migration period would give rise to higher costs than a shorter period. It can furthermore be concluded that those institutions that embrace new technological developments, create new businesses and provide innovative services are likely to gain most from SEPA.

Key words: SEPA, European integration, payment systems

JEL classification: G21, L11, L22

I INTRODUCTION

Despite the introduction of the euro banknotes and coins in 2002, a true "domestic" and internal market for non-cash retail payments has so far not been achieved within the euro area.[1] At present, a number of well-functioning retail payment systems exist, mostly tailored to the individual circumstances of the respective national markets. Contrary to large-value payments, procedures, instruments and services offered to customers in the field of retail payments have not yet been harmonised. These shortcomings are being addressed in the context of the Single Euro Payments Area (SEPA) project. The Eurosystem in cooperation with the European Commission has defined a common vision for SEPA aimed at guiding the different initiatives of the banking industry and retail payment markets (European Central Bank, 2006). Accordingly, SEPA is viewed as an integrated market for payment services which is subject to effective competition and where there is no distinction between cross-border and national payments in the euro area.

The SEPA project is in ambition, size and complexity comparable to the changeover to the euro and therefore represents the logical major next step towards closer European integration. The integration of the European financial markets represents one of the Eurosystem's basic policy goals and is a key factor to foster further development and modernisation of the financial system. In essence, financial integration is achieved when three conditions are fulfilled: (1) singleness of the market, (2) market participants' equal access to the market and (3) market participants' equal treatment in the market. For the retail payment markets, this requires that customers are able to make and receive cashless payments throughout the euro area from a single account under the same basic conditions, regardless of their location. The euro area has already achieved a remarkable degree of financial integration. In this respect, removing the fragmentation of retail payment markets will contribute further to financial integration. SEPA, with its harmonisation and restructuring efforts, is an important driver in opening up the different national retail payment markets, allowing euro area-wide competition and fostering innovation in the euro area.

SEPA will bring substantial economic benefits and opportunities. Within SEPA, customers should be able to make and receive payments in euro throughout SEPA from and on a single bank account, using a single set of payment instruments, as easily and safely as in the national context today. This means especially that all payments within the euro area and in the common currency should become domestic, without any difference in user experience between national or intra-euro area payment transactions. The establishment of SEPA may also permit the different stakeholders to take opportunities and to benefit from potential economies of scale and scope, thereby increasing the overall economic efficiency of the payments industry. SEPA will also entail shifts in service levels and the development of new, added value products for customers.

Given the importance of financial integration, and SEPA in particular, the ECB is acting as a helping hand or "catalyst" for private sector initiatives and is monitoring the progress of SEPA. As a catalyst, the ECB is making special efforts to foster collective action in the private sector, i.e. by banks and payment service users, to address coordination problems which hamper financial integration. The ECB also provides guidance and expresses expectations so that the SEPA project does not become merely a short-term solution for euro cross-border payments only, but rather becomes an ongoing project which takes the euro area towards an advanced retail payment market. In addition, in October 2006 the ECOFIN Council invited the ECB to continue to closely monitor the overall development of SEPA.

1 However, to fully reap the benefits of the common currency and to achieve a level playing field, further ongoing initiatives involving relevant participants in the cash payment chain other than consumers, e.g. banks, merchants and cash-in-transit companies, aim to increase the convergence of cash supply services.

At present, limited information and estimations exist to measure and evaluate the economic opportunities and challenges of SEPA for the various stakeholders. With this study, the ECB attempts to enhance its understanding of the potential economic consequences of SEPA under different scenarios and during different stages of the SEPA project. Furthermore, the study seeks to provide a balanced picture of the expected SEPA economic impact on major European banking institutions. More specifically, this study addresses the following important questions:

– What is the expected overall economic impact of SEPA on banking institutions?

– How much does this impact differ according to the different SEPA scenarios for the banking industry?

– What are the potential financial consequences of SEPA for banks from a revenue and cost perspective?

– What is the distribution of potential cost and revenue changes according to the different payment instruments?

– What triggers these changes in banks' revenue and cost structures?

This study finds that the overall impact for the banking industry varies according to the different scenarios and stages of the SEPA project. In the short run, the coexistence of SEPA and national retail payment schemes is expected to lead to higher costs and a limited impact on the revenue side for the banking industry. In the longer term, when national schemes will have been replaced by SEPA schemes, the costs for banks are expected to decrease because of automation, potential economies of scale and scope, as well as innovations, e.g. electronic invoicing. The revenue side will also be affected as competition will increase. Moreover, it seems that the impact on costs and revenues will be determined by the approach chosen by the banks. Banks that take a forward-looking view and opt for additional services which will automate the payment process will create new business opportunities. The changes required in the initial phase of SEPA are certainly substantial and benefits can be reaped especially by those institutions that embrace new technological developments and provide innovative services.

The remainder of this study is structured as follows: Section 2 provides a review of recently published studies that attempt to assess the potential costs/benefits that might arise with SEPA. In particular, it highlights stylised facts from the literature and discusses differences among the various approaches proposed. It considers studies by the industry and by the academic community. Section 3 introduces the applied methodology and measurement issues of this SEPA economic impact study. It emphasises the importance of the time dimension and identifies different scenarios that appear to be important when gauging the economic effects of the SEPA project. Section 4 presents the results of the fact-finding exercise and discusses possible policy options and challenges. The final section contains a summary and conclusion.

2 REVIEW OF EXISTING SEPA IMPACT STUDIES

It is only recently that a limited number of industry and consultancy studies have been published addressing the potential impact of SEPA for different SEPA stakeholders. This section looks at a selection of these studies. Although the studies differ in several respects, they all attempt to quantify possible economic consequences of SEPA. These studies were either conducted or commissioned by independent consultancy companies. Most of the consultancy papers are survey- and interview-based studies covering a variety of aspects related to the potential impact of SEPA.

Accenture/PSE Consulting (2006) provide an examination of the expected impact of SEPA and the future landscape of the European payments industry over the next five years. Their methodology focuses on interviews with senior payments experts from major banks, commercial/interbank processors and local industry experts. According to Accenture/PSE Consulting (2006) the implementation of SEPA will cost Europe's major banks significantly more than previously anticipated. Extrapolating the respondents' views, they conclude that Europe's major large and medium-sized banks will need to invest a total of between €3 billion and €8 billion over the next five years.[2] SEPA-related investments may even exceed the previous highest estimate of €8 billion by TowerGroup (2005).[3] Moreover, Accenture/PSE Consulting state that in/out-sourcing strategies and joint-venture solutions will be key in SEPA. In view of the preparations to become SEPA compliant, the majority of respondents to their survey claimed that the scale and complexity of regulatory costs restrict and absorb immense IT resources that could alternatively be invested in product and business development. This trend is expected to continue in view of the SEPA implementation date by the end of 2010. It is likely that most of the banks and processors will only have interim solutions by 2008. However, overall the survey participants share the view that SEPA represents an opportunity for modernisation and provides standards needed for a fully fledged European-wide integrated payments area. According to three-quarters of the respondents, new business opportunities are expected in the corporate segment. The respondents also anticipate that consolidation of national payment processing is an inevitable consequence of SEPA. On average only seven of the existing 15 automated clearing houses in Europe are likely to survive beyond 2010.

Boston Consulting Group (2006) provides valuable perspectives on global payments and the potential economic impact of SEPA. While acknowledging the macroeconomic and political rationale behind the SEPA project, the report points out that at the micro level a number of challenges and difficulties exist for banks and corporates. The study concludes that there is a wide gap between investments that will be required for SEPA 2008 and SEPA 2010 and the related benefits. The initial investments to be SEPA compliant by 2008 will cost European banks and payment processors approximately €500 million. Banks are likely to bear most of these additional costs to replace and adapt their processing systems. With a view to the full migration to the SEPA standards, SEPA 2010 will require significant investments of about €5 billion. These investments will be necessary to bring processing systems and overall IT architecture into line with the SEPA standards, migrate cards, and adapt customer mandates and contracts. Together with the initial investments and increased pressure on margins for payment services, Boston Consulting Group (2006) states that there is scope for cost-saving potential along the transaction value chain for European banks by reducing labour-intensive

2 The following countries are included in the analysis: Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Latvia, the Netherlands, Norway, Spain, Sweden and the United Kingdom.

3 TowerGroup (2005) estimates the harmonisation costs for pan-European payment infrastructures. Although highly dependent on a number of uncertain elements, TowerGroup concludes that over the next six years, SEPA-related spending by the European banking industry on European payment system infrastructures will exceed €8 billion (USD 10 billion).

processing, e.g. in the areas of payment initiation and customer service.

The analysis undertaken by McKinsey (2005) provides insights into the SEPA impact on the payment business with respect to strategy, pricing structure, product mix, costs and revenues, and processing activities. The study considers the likely consequences for banks according to different hypothetical scenarios and market effects. The study reveals that SEPA-related changes in payments business revenues differ among payment products. Substantial investments will be necessary to adapt banks' back-office systems to process the SEPA-compliant instruments. Corporates will need to adapt the way they initiate their payments for banks and processors.

McKinsey (2005) recommends a change in the payment instrument mix by substituting cash and cheque payments in order to reduce the cost of payments. In particular, cash payments are criticised as being heavily subsidised in all markets. The majority of all direct payment costs are related to cash and there is a clear need for compensation from other payment service revenues.[4] The authors also point out that there is a considerable potential for further consolidation in the processing of payment transactions to reap economies of scale, e.g. improved cash handling and collection can reduce the cost of cash by up to 25% in some European countries.

If the fee levels for payments in general converged around the present European average, McKinsey (2005) expects that SEPA may lead to local distortions. For instance, in France and the Netherlands bank payment revenues could benefit from a convergence to an average EU-wide transaction fee, while in Italy and Spain banks would lose a share of their revenues. If the competitive pressure on corporate payments increases, this could partly lead to higher fees for consumers, e.g. in the Netherlands, Belgium and the UK. Banks throughout Europe heavily use profitable payment products to subsidise loss-making payment products. This may make them vulnerable to regulatory change or specialised competition. The authors indicate that increased competition by new players may break up existing cross-subsidising practices inherent in the current payments business. Specialised market entrants and new competitors may take over profitable parts of the market by offering new or improved products.

CapGemini, ABN Amro and the European Financial Management and Marketing Association (EFMA, 2006) study the worldwide payments business with a particular focus on the changes expected with the implementation of SEPA. In an attempt to quantify the SEPA impact on EU12 banks' revenues, the study concludes that it is likely that SEPA will entail and stimulate harmonisation and convergence of prices for payment services. However, the study does not further discuss if banks are able and willing to accept overall price levels that prevent them from recuperating their costs in the long term. A "race to the bottom" scenario for the prices of payment services does not seem to be a sustainable outcome in the long run.

Until 2010, payment revenues are estimated to increase in euro area countries from €31 billion to €47 billion. This represents an overall increase of 52%. In absolute values, for example, banks in the UK and Spain are estimated to increase their revenues the most, by €5 billion and €4.8 billion respectively. However, after 2010, revenues are likely to decline by between €18 billion and €29 billion. Annual growth in non-cash transaction volumes of 6.9% appears to be the key driver of the expected annual growth in payment revenues of 7.2%. However, other factors will also play an important role in generating revenues, e.g.

4 This finding is supported by McKinsey (2006). The provision of payment services is a loss-making business in general for the banks in the Netherlands. For example, banks in the Netherlands were exposed to a pre-tax loss on payment services of €23 million in 2005. Moreover, banks will continue to face downward pressure in the future, partly because of additional investments for the implementation of SEPA. The report also acknowledges that further substitution of cash and paper transfers by electronic payments may generate cost savings.

merchant service charges for cards, annual fees and float-linked revenues. It should also be mentioned that the total impact on payment revenues differs significantly across countries. There is no clear trend in revenues on consumer and corporate business.

According to EFMA (2006), there is the potential for euro area banks to reap additional revenues of €8 billion (an additional 18%) by 2010, but only if banks develop and adopt policies aimed at replacing cash with non-cash transactions.[5] With respect to the revenue composition, credit transfers and debit cards are likely to be the most important revenue drivers. However, overall the additional revenues may not offset the downward pressure on revenues due to increased competition within SEPA. The study suggests a number of measures to compensate for potential revenue losses. These measures mostly aim at replacing cash payments with cashless payment means. In particular, the adoption of improved pricing strategies can help banks to encourage the use of non-cash transactions and to preserve payment revenues. The report claims that current pricing practices do not reflect banks' internal costs and fail to provide enough incentives to use cost-efficient payment solutions. Unfortunately, an assessment of the cost impact of SEPA has not been considered in this study. Besides initial investments related to SEPA compliance, the study neglects important potential cost benefits of SEPA that might arise from modernisation and consolidation in the longer term, e.g. improved efficiency, cost savings, and economies of scale and scope in the payments business.

I-flex solutions/Financial Insights (2006) attempt to identify the impact of SEPA on payment operations and business strategy. Based on interviews with banking institutions across the EU25 countries, the majority (79%) of the respondent banks take a positive view of the SEPA project. About 74% of the surveyed banks consider that SEPA will create new business opportunities, e.g. through the expansion of business, new geographical reach, improved management of the finance supply chain for corporate customers, and additional business from value added services. Most of the surveyed banking institutions hope to generate substantial cost savings within SEPA and over time, chiefly through greater straight-through processing and cost efficiencies. According to I-flex solutions/Financial Insights (2006), early SEPA movers will be better positioned to take full advantage of an integrated, harmonised and open pan-European payments market. However, the success of each bank in this process is largely dependent on its starting conditions. Despite these opportunities, I-flex solutions/ Financial Insights (2006) estimates that from a bank's perspective the initial investments to become SEPA compliant amount to €5.4 billion (USD 7.2 billion) by 2010.

PSE Consulting (2006) surveyed the views with respect to SEPA among 75 senior European bankers and payment systems executives. According to PSE Consulting (2006), banks expect high costs of compliance and short-term threats, while opportunities are expected to materialise only later. Although with a high degree of uncertainty, banks anticipate high technology costs of SEPA implementation.

Most recently, Eurogroup, commissioned by the French banking community, made an attempt to determine the economic impact on SEPA stakeholders. Essentially, Eurogroup/Fédération Bancaire Française (2007) conclude that the size of the economic impact is directly related to the length of the transition period. They estimate initial investment costs borne by banks and payment systems to range between €9.1 billion and €11.9 billion for the euro area. These investments may pay off as of 2013.

A number of other contributions address additional important aspects of the potential effects of SEPA and payment-related issues

5 However, large variations in the potential revenue increase by cash substitution exist between countries. Revenues are expected to increase only little in Sweden (by 1%) and Poland (by 9%), while Italy is likely to benefit most through a 39% increase in revenues.

shaping the future European payments landscape. Guibourg and Segendorf (2004) find evidence that consumers are not offered sufficient price incentives in their choice of payment instrument. The paper points out that correct price signals would encourage customers to change their payment behaviour and to shift away from paper-based payment instruments to direct debits and electronic credit transfers. They also provide evidence of large cross-subsidisation between different payment services, mostly from acquiring card payments to cash distribution to the public. Garcia Swartz et al. (2004) find empirical support for the idea that the shift away from cash and cheque payments would improve economic welfare. This view is also supported by evidence found for the Dutch market. Brits and Winder (2005) argue that purchases above €11.63 are economically more cost-effective via debit cards than by cash or e-purse payments. There is more scope for a less-cash society rather than an entirely cashless society at least for the medium term. De Grauwe et al. (2006) also point out that the introduction of a cost-based pricing strategy would lead to a reduction of resource costs of €150-200 million in the Belgium and Dutch market. Extrapolating their results to the European level, they find that the cost reduction might add up to 0.14% of GDP.

Bolt and Humphrey (2006) provide empirical evidence that harmonisation and standardisation of retail payment instruments across the euro area are likely to result in economies of scale in payment services. A change in processing volume might help debit cards to cost effectively replace increasingly smaller-value cash transactions. Their findings reveal important potential benefits and scale effects that can be expected from the realisation of SEPA and greater cross-border consolidation. Moreover, Beijnen and Bolt (2007) investigate the existence and extent of economies of scale in the European payment processing industry. The authors find empirical support for the idea that substantial economies of scale are to be gained in the European payment processing industry. In particular, they find that a doubling of payment volume may raise total costs by only 22%. Therefore, the authors expect average costs to fall considerably, supporting further consolidation in the payment processing market in the near future.

The table below gives an overview of the estimated SEPA-related investment for all banks as available in the reviewed literature. At a European aggregate average level, SEPA-related investments for the banking industry seem to range between €5.2 billion and €7.7 billion. When interpreting these figures, note should be taken of the differing approaches, the underlying methodologies, the model assumptions and the number of countries included in the studies.

Table 1 Overview of selected SEPA impact studies

Study	Estimated SEPA investments in EUR billion	
	Low	High
Accenture/PSE Consulting (2006)	3	>8
Boston Consulting Group (2006)	0.5	5
Eurogroup/FBF (2007)	9.1	12
Iflex-solutions/Financial Insights (2006)	5.4	5.4
TowerGroup (2005)	8	8
Average	5.2	>7.7

Source: ECB illustration.

3 METHODOLOGY OF THE ECB'S SEPA ECONOMIC IMPACT STUDY

This section describes methodological issues and outlines the framework within which the SEPA impact assessment has been carried out in close cooperation with the participating banking institutions.

3.1 OBJECTIVES

Recently, the ECB launched a project to obtain a balanced picture of the economic effects of SEPA and of related opportunities. For this purpose, the ECB carried out a fact-finding exercise to assess the impact of SEPA on the payment revenue and cost structures of major SEPA stakeholders, in particular banking institutions, based on their own internal expectations. In order to quantify the expected impact of SEPA for an average and synthetic European banking institution, a questionnaire- and interview-based fact-finding exercise has been conducted to collect the necessary information. In close cooperation with the participating banks, a common fact-finding methodology has been developed. Representatives of eleven major European banks from different euro area countries volunteered to participate in the SEPA impact assessment. In order to protect the commercial interests of the participating banks, a confidentiality agreement has been signed between the ECB and the interviewed banks. In particular, it was agreed that the information gathered from the banks would be made public in an aggregated manner only. The banks also preferred not to disclose or have published in the study the names of their institutions. In order to ensure to the highest degree possible the comprehensiveness and comparability of the data and information provided by the participating banks, nine out of eleven participating banks were finally included in the quantitative SEPA assessment. Two banks provided exclusively qualitative information which was used to identify the relevant factors underlying the SEPA impact.

The study mainly focuses on pan-European banks. Taking into consideration that the SEPA-related investments might present a bigger challenge for smaller banks than for larger banking groups, the ECB made an attempt to extend the scope of the analysis and to include more banks. For this purpose, the ECB invited a group of smaller and medium-sized local banks to be involved in the exercise. As selection criteria for these banks to be included in the study, the ECB required the potential smaller-sized banks: (i) to have in place their own SEPA strategy for their local market and (ii) to have the capacity to assess the potential SEPA financial impact on the bank on an unconsolidated basis. However, given the limited responses from the selected banks, mainly due to the lack of the banks' internal resources and capacity, the ECB was finally not in the position to include the SEPA perspectives of those banks.

Almost all entities under consideration in this study followed the developed reporting scheme. However, on some occasions final reporting differences remained due to varying internal accounting practices, policies and business scope across entities. When interpreting the results, it is also important to note that the starting conditions of banks on the way to becoming SEPA compliant and country-specific characteristics in payment behaviour may differ across Europe.[6]

This study was carried out in three steps. In a first step, two panel group meetings were hosted by the ECB in Frankfurt. During this group discussion, the representatives of the banks and the ECB developed a common and detailed methodology to quantify the impact that SEPA is expected have on banks' revenues and costs. The development of the questionnaire benefited from the banks' experience as some of the participating banks had already done similar

6 This observation is also confirmed by a recent survey of pricing of banking services in Europe by Mercer Oliver Wyman (2005). Their study finds that different types of financial behaviour by customers are associated with different models of banking business and different pricing practices and policies for banking services in the European countries.

estimations and calculations for internal purposes. In the second step, bilateral interviews were held at the respective bank's headquarters and all necessary information from the participating banks was collected. During the collection and analysis phase, the ECB validated that the information provided by the banks was in line with the established common methodology. In the third step, the analysis and conclusions were presented to the participating banks. The banks were also invited to comment on the interim and final versions of the report.

For the data collection, the participating banks were invited to provide quantitative information and their estimation of the SEPA impact as follows:

- under four different scenarios;
- for different cost and revenue categories; and
- broken down by payment instrument.

The banks' questionnaire abstracts from net present value calculations. The figures provided by the banks reflect the expected additional, yearly average cost and revenue positions that might arise from the different SEPA scenarios. In addition to each of the SEPA impact estimations, the banks provided detailed qualitative information about the sources of and reasons for the expected changes. All figures and information were given from the bank's pan-European group perspective. Overall, it should be noted that every effort has been made to ensure that the data used in this study were accurate at the time of analysis. Possible remaining shortcomings are due to data differences or omissions by the reporting entities.

3.2 SEPA SCENARIOS

The following fact-finding methodology was developed together with the banks. The questionnaire was drawn up with the aim of obtaining a view of the potential cost and revenue impact of SEPA under four different scenarios. The first scenario is an extrapolation of the status quo. The other three scenarios are built upon each other. The potential cost and revenue impact of SEPA for all scenarios has been calculated and reported against the baseline scenario. The reference date for all calculations is the end of 2005. In addition, the banks were invited to provide detailed information on their current status quo, including their starting conditions and the structural characteristics of their local market. All calculations for the different scenarios assume a "normal" economic business cycle and market conditions.

- *"Baseline"*: the first scenario covers the baseline situation where banks have to take into consideration external factors, e.g. changes in technology and security. As the starting scenario, it reflects an extrapolation of the current status quo. According to this scenario, the banks were requested to provide information on the potential changes that might occur without SEPA in comparison to the situation at the end of 2005.

- *Coexistence of payment schemes*: the second scenario reflects a situation where the SEPA schemes and frameworks are being implemented. This phase is based on the assumption that the current rules and payment schemes will prevail and exist in parallel to the new SEPA schemes and products. In addition, it is assumed that no consolidation of IT platforms or infrastructure has been achieved. In this scenario, the banking institutions were asked to describe the expected changes on the revenue and cost sides if SEPA schemes and frameworks were to be implemented and coexist with the traditional domestic rules, procedures and frameworks.

- *"Ideal SEPA world"*: the third scenario builds on the first two scenarios. For the second scenario, the banks were asked to give the expected SEPA impact on costs and revenues when taking full advantage of

SEPA schemes and products and with the migration to SEPA having been completed. In addition, this third scenario assumes that internal consolidation of IT platforms and consolidation of infrastructure have been achieved. This situation reflects an almost "ideal SEPA world" with fully harmonised, standardised and compliant new SEPA schemes and frameworks.

– *"e-SEPA":* the fourth scenario aims to go beyond SEPA. If the previous phases are successfully completed, this fourth scenario is one of a future payments world which is fully electronic, paperless and with less cash (but not cashless). In this scenario, the banks were asked to provide their expectations about the potential development of their revenues and costs in the provision and production of payment services. For this scenario, the banks were also invited to detail their assumptions that go beyond those of the third scenario.

3.3 DATA AND MEASUREMENT ISSUES

According to the four identified SEPA scenarios, the participating banks were invited to report on their individual calculation and estimation of the SEPA impact on payment-related costs and revenues. The information on the expected impact on costs and revenues within SEPA was reported according to the cost and revenue categories as outlined in the following.

On the revenue side, the following three different types of data were collected:

– *Direct transaction-related revenue:* this comprises all revenues that are generated directly through the execution of a transaction. These revenues are further broken down by payment instrument (see below).

– *Distribution and maintenance revenue:* this includes all revenues that are generated through services and products that are not directly linked to transactions, but are necessary for their execution.

– *Balance-related revenue:* this refers to all income generated by the debit and credit balances for services and products that are necessary for effecting payments, e.g. interest margins on credit balances.

On the cost side, the following four categories were distinguished:

– *Direct processing and transaction-related cost:* this includes all costs incurred directly through the execution of a transaction. These costs are further broken down by payment instrument (see below).

– *Distribution and maintenance cost:* this includes all costs that arise as a result of services and products that are not directly linked to transactions, but are necessary for their execution.

– *IT system and development cost:* this comprises all costs that occur for the development, upgrading and updating of new technologies, software and hardware of payment systems. This includes all life-cycle investments and development costs related to new payment technologies and systems.

– *Overheads:* these cover all ongoing costs that are only indirectly allocated, but necessary, to the continued functioning and operating of the payments business and process, but that do not generate profits, e.g. support services.

When developing the method for collecting individual payment instrument data, consensus was reached to allocate the revenues and costs as described above to the most frequently used payment instruments in Europe. The terminology used herein is based on the glossary of the ECB's "Blue Book".

– *Cash payments:* these include all revenues and costs that arise from cash withdrawal or deposit, e.g. ATM cash withdrawals/ deposits, cash advances at POS terminals, as well as over-the-counter cash withdrawals/ deposits.

– *Direct debits:* all revenues and costs associated with direct debit transactions. Direct debits include all pre-authorised debits on the payer's bank account that are initiated by the beneficiary.

– *Credit transfers:* these cover all revenues and costs related to credit transfers. Credit transfers cover all payment orders and possibly sequences of payment orders made for the purpose of placing funds at the disposal of the beneficiary.

– *Card payments:* these cover all revenues and costs associated with card payments. Card payments cover all payment transactions performed with a card with a debit, credit or delayed debit function at a terminal or via other channels. E-money transactions and m-payment transactions are not included.

– *Priority payments:* these include all revenues and costs with respect to a credit transfer scheme with same-day settlement for payments that customers deem to be urgent.

– *Cheque payments:* these include all revenues and costs related to cheque payments. A cheque is viewed as a written order from one party (the drawer) to another (the drawee) requiring the drawee to pay a specific sum on demand to the drawer or to a third party specified by the drawer.

– *Additional optional/value added services:* these include all revenues and costs related to the provision of additional and enhanced services that go beyond the core services, e.g. invoicing services, reconciliation, e-signatures, etc.

– *Float and value dating:* this includes revenues accrued as a result of the use of a reference time by a payment service provider for the calculation of interest on the funds debited from or credited to a payment account.

– *Processing special cases:* these relate to the performance of all the actions required for handling special transfer orders, e.g. payment returns, revocation.

As the majority of banks preferred to provide the data as percentages rather than absolute figures, all cost and revenue figures are indexed and expressed in relative terms to the cost in the baseline scenario.

4 SEPA ECONOMIC IMPACT

The results of the SEPA economic impact assessment are presented in this section. In accordance with the structure of the questionnaire, the results are given by SEPA scenario and by payment instrument. To safeguard banks' commercial interests, the results reported in this study are given at a relatively high level of aggregation.

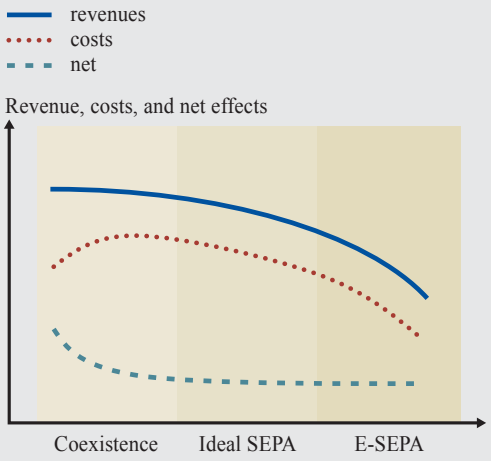
4.1 RESULTS BY SEPA SCENARIO

This study presents on average the expected SEPA impact on payment-related costs and revenues for the European banking sector. As shown in Chart 1, the average impact on an average European bank is expected to be limited. The expected effects arising from the realisation of SEPA vary according to the different stages and scenarios of SEPA.

Over time, two opposing effects – i.e. a competition effect and improved cost efficiency – are expected to determine the overall SEPA economic impact. At the beginning of SEPA, banks will have to offer the "old" payment instruments, as well as the "new" SEPA payment instruments. In the short run, this will lead to higher costs mainly due to the setting-up of the new schemes and their coexistence with the old schemes. During this dual phase, the impact on the revenue side of the total payments business seems to be relatively limited as cross-border competition is not expected to materialise in the short run. In the longer term, it is likely that banks' revenues and costs will be affected in different ways. On the one hand, although some banks expect new business opportunities, revenues might decrease because of growing cross-border competition which would squeeze margins. On the other hand, banks reported that there are substantial potential cost savings due to economies of scope and scale and a possible reduction of manual processes. The findings confirm that in the medium to long run, SEPA will allow banks to benefit from economies of scale and from new business opportunities in an integrated euro area market. Banks reported that they are undertaking the necessary changes in their internal systems and their services so that they and their customers will benefit from SEPA. Payment processing costs are expected to come down due to the economies of scale and higher competition that common standards and procedures will bring.

The following tables summarise the reported financial impact under the different SEPA scenarios. Due to varying internal accounting

Chart 1 Expected SEPA revenue impact versus cost saving potential



Source: ECB illustration.

Table 2 SEPA impact aggregate results for an average European bank including balance revenues

(percentages)

Impact	SEPA coexistence	Ideal SEPA world	E-SEPA
Revenue	-4.4	-7.6	-9.9
Cost	4.8	-1.3	-6.8
Net	-9.2	-6.3	-3.0

Source: ECB calculations on the basis of banks' responses to the fact-finding questionnaire.

Table 3 SEPA impact aggregate results for an average European bank excluding balance revenues

(percentages)

Impact	SEPA coexistence	Ideal SEPA world	E-SEPA
Revenue	-3.2	-5.3	-8.4
Cost	4.8	-1.3	-6.8
Net	-8.1	-4.0	-1.5

Source: ECB calculations on the basis of banks' responses to the fact-finding questionnaire.

practices and policies, some of the entities faced difficulties when reporting balance-related revenue. For this reason, Table 2 reports the SEPA impact aggregate results including balance-related revenues, while balance-related income is excluded in Table 3. As will be shown later, balance-related revenues are an important income source that is likely to be affected by SEPA.

In concrete terms, banks expect their revenues to decline by between 3% and 10% depending on the SEPA scenario under consideration. On the cost side, banks are likely to face high initial investments resulting in extra costs of about 5% in the SEPA coexistence scenario. Later, however, these initial investments are likely to pay off as full advantage is taken of SEPA harmonised and standardised schemes and products and when total migration has been completed. The improved cost efficiency is estimated to result in cost savings of 1% in the ideal SEPA and 7% in the e-SEPA world. In sum, the net effect compared with the baseline scenario, which reflects the aggregate effect on banks' revenues and costs, ranges from -9% in the dual phase to between -1.5% and -3% in the long-term e-SEPA scenario.

4.2 RESULTS BY PAYMENT INSTRUMENT

This section presents the findings of the SEPA economic impact on different cost and revenue categories broken down by different payment instruments. All cost and revenue figures are indexed and expressed in relative terms to the costs in the baseline scenario. Table 4 shows the revenue figures under the different SEPA scenarios. In general, it should be borne in mind that the starting conditions and characteristics of payment behaviour differ across Europe. In particular, the possible substitution effects between payment instruments might differ across countries. Therefore, some of the results need to be interpreted taking into account specific national characteristics.

PAYMENT-RELATED REVENUES

On the revenue side, cash payment revenues would not be directly affected by SEPA. However, the banks reported that cash is the "bleeder" in all markets. The cost related to the use of cash seems to outweigh the revenue arising from cash. Within SEPA, the banks would welcome a repositioning of cash whereby there would be an increased use of other more electronic payment means and better pricing models. In particular, the expectation is that a change in the mix of POS payment instruments will lead to increased volumes and revenues of direct debits and cards.

Furthermore, banks anticipate significant growth in the volume of *direct debits* for all SEPA scenarios, which would largely compensate for the downward pressure on prices due to increasing cross-border competition. The increase in the volume of direct debits would mainly be attributable to three factors. First, the volume of direct debits is expected to increase because of the opening-up of the euro payments market across borders. Second, banks might also be able to expand their market share for direct debits due to market consolidation and concentration, as well as overall organic growth in the payments business. Third, the use of direct debits is likely to increase because of a volume transfer from other payment means, e.g. from cheques. Revenues from *credit transfers* would remain

Table 4 SEPA revenue impact by payment instrument

SEPA revenue impact	Baseline	SEPA coexistence (% index)	Ideal SEPA world (% index)	E-SEPA world (% index)
1. Transaction revenue				
1.1 Transaction fees				
1.1.1 Cash	3.3	3.3	3.4	3.9
1.1.2 Direct debits	12.7	12.5	12.5	12.3
1.1.3 Credit transfers	19.3	19.0	17.3	15.0
1.1.4 Card payments	27.7	25.6	26.0	25.7
1.1.5 Cheque payments	3.1	3.0	2.8	2.2
1.1.6 Priority payments	1.5	1.5	1.3	1.1
1.1.7 Additional/value added services	2.1	2.2	2.2	2.5
1.2 Float and value dating	10.8	10.2	9.5	9.1
1.3 Processing special cases	7.1	7.1	7.1	7.1
2. Distribution and maintenance	14.6	14.5	14.5	14.6
3. Balance revenue	57.9	54.1	51.2	50.6
Total revenue	*159.8*	*152.7*	*147.7*	*144.1*
Total revenue (% change)		*-4.4*	*-7.6*	*-9.9*

Source: ECB calculations on the basis of banks' responses to the fact-finding questionnaire.

stable in the coexistence scenario. Like direct debits, credit transfers would partly benefit from a volume transfer from other payment means. However, this positive effect is likely to be offset by downward pressure on prices due to increased competition. This latter effect is expected to be stronger in the longer term.

In the *cards* business, the overall impact is not expected to be material. However, banks expressed their strong interest within SEPA to encourage customers to change their payment behaviour and to switch to less costly and more efficient payment means. Revenues on *cheque payments* would only be marginally impaired in the short run. However, banks expect a substantial decrease in commissions and fees in some markets in the ideal SEPA and e-SEPA scenarios. It is anticipated that in some markets cheque payments will be phased out in the long run. Although country- and market-specific, additional revenues and new business opportunities are expected from *additional/value added services* (e.g. e-invoicing, e&m-payments, e-identification, reporting and reconciliation) once SEPA has been fully implemented. In the bilateral interviews, some bank representatives indicated that the scope and application of additional/value added services tend to be currently underestimated and not yet fully reflected in the reported figures.

As mentioned above, banks' *balance-related revenues* are likely to face downward pressure as cross-border competition will increase within SEPA. One key reason mentioned during the interviews is that consumers are likely to adopt a more active cash management. Companies and private individuals will more easily be able to transfer funds across borders to accounts with higher interest rates. This trend is expected to continue in the near future as consumers will have better access to the internet and, for example, will make more use of internet banking. In addition, more easy and active cash management by customers may also have the result that balance-related income becomes more volatile and can therefore only be invested for shorter periods. Although this study does not attempt to investigate if the payments business is loss or profit making, it is interesting to observe that balance-related income is clearly an important revenue stream for the banks.

PAYMENT-RELATED COSTS

Table 5 shows the cost figures for the different SEPA scenarios. On the cost side, banks expect a substantial rise during the SEPA coexistence period. However, in the medium and long term banks may be able to benefit from these initial investments as cost savings and economies of scale and scope are likely to arise. In the short run, the additional costs for *direct debits* would

Table 5 SEPA cost impact results by payment instrument

SEPA cost impact	Baseline	SEPA coexistence (% index)	Ideal SEPA world (% index)	E-SEPA world (% index)
1. Transaction and processing				
1.1 Cash	14.7	15.0	14.6	14.0
1.2 Direct debits	5.4	5.8	5.5	4.6
1.3 Credit transfers	11.3	12.1	10.8	9.6
1.4 Card payments	12.9	13.1	13.3	13.3
1.5 Cheque payments	5.8	5.8	4.7	4.1
1.6 Priority payments	0.4	0.4	0.4	0.3
1.7 Additional/value added services	1.8	1.9	1.9	2.0
2. Distribution and maintenance	20.2	21.6	20.2	18.5
3. IT systems and development	10.4	12.0	10.7	10.5
4. Overheads	17.1	17.0	16.7	16.2
Total cost	*100.0*	*104.8*	*98.7*	*93.2*
Total cost (% change)		*4.8*	*-1.3*	*-6.8*

Source: ECB calculations on the basis of banks' responses to the fact-finding questionnaire.

mainly arise in three ways. First, substantial and costly adjustments will be necessary to manage the expected increase in the volume of direct debits. Second, significant administrative and commercial costs are linked to the SEPA direct debits. Third, the banks expect an initial increase in fraud management costs and net losses from fraud for this payment instrument at first. However, in an ideal SEPA and e-SEPA environment, the additional administrative costs linked to SEPA direct debits will likely diminish. The banks also expect efficiency gains in payment processing as service users will make more use of remote channels. Furthermore, significant cost savings might arise from the reduction of labour-intensive processes. The SEPA cost impact for *credit transfers* seems to be similar to that for direct debits. Distribution and production costs are expected to substantially increase due to the coexistence of the current and SEPA payment instruments. However, these additional costs are likely to be largely compensated for by the expected increased efficiency through the use of more remote channels and significant reductions in labour-intensive payment processes within the banks.

Although the overall impact for *cards* was not reported by the banks, some banks highlighted an increase of costs related to the issuance of new SEPA-compliant cards. The issuance of SEPA-compliant customer cards may not coincide with the natural card replacement cycle. Substantial distribution and production cost savings are likely to arise in some markets from the reduction or cessation of cheque payments. With respect to distribution costs, the banks reported an expected slight increase in marketing and communication costs during the coexistence period. These additional costs would be linked to informing and educating banks' clients about the new payment instruments and rules. However, these additional costs are expected to diminish in importance in the long run. Importantly, the banks will be exposed to higher IT system and development costs in the coexistence period to become SEPA compliant. Large one-off SEPA investments will be necessary to set up SEPA payment schemes in parallel with existing schemes. These costs may potentially be spread over several years. However, in the longer run in the ideal SEPA and e-SEPA environments these modernisation investments are expected to allow banks to achieve lower cost levels through increased cost efficiency and productivity gains.

4.3 FINANCIAL IMPACT OF THE PAYMENT SERVICES DIRECTIVE

As stated in a recent joint press release (European Central Bank, 2007), the ECB and

the European Commission regard the adoption of the Payment Services Directive (PSD) by the European Parliament as a decisive step towards the realisation of SEPA. The Directive will greatly facilitate the operational implementation of SEPA instruments by the banking industry, as well as their adoption by end-users, by harmonising the applicable legal framework. This will provide the foundation for a single "domestic" euro payments market. The Directive will also underpin consumer protection and enhance competition and innovation by establishing an appropriate prudential framework for new entrants to the retail payment market. This should encourage technological progress and the realisation of new product opportunities, such as e-invoicing, which can provide major benefits to the wider economy.

During the discussions, the participating banks made clear that SEPA and the PSD are both in their own right major initiatives, but overlap and enforce each other (e.g. with regard to execution times, by facilitating the SEPA direct debit, etc.). However, the scope and impact of the PSD goes far beyond SEPA, e.g. in terms of currencies, products and players. Overall, the banks shared the view that the PSD introduces rules with uncertain consequences on the payments business and their financial results. At the time of this analysis, the participating banks preferred not to commingle the pure SEPA impact analysis with a PSD analysis, as this might dilute the results and lead to unbalanced conclusions. The interviewed banks acknowledged that the main effects of the PSD stem from the extension of information obligations, shortening of transaction times, tightening of liability regulations for payment service providers, and more stringent processing of cancellations of transactions. However, at the current stage, the banks felt they were not yet well enough equipped to provide any precise estimate concerning the potential economic impact of the PSD.

5 CONCLUSION AND POLICY DISCUSSION

The SEPA project represents a major step towards closer European integration. SEPA will become a reality when all euro payments in the euro area are treated as domestic payments, and when the current differentiation between national and cross-border payments disappears. SEPA will bring substantial economic benefits and opportunities as it will foster competition and innovation, and improve conditions for customers. However, substantial efforts are required to align national banking industry practices and to change the habits of economic actors in all euro area countries.

At present, there is only limited knowledge and information available to quantify and assess the economic benefits and challenges of SEPA for different stakeholders. With this study, the ECB attempts to enhance its understanding of the potential economic consequences of SEPA for the banking industry. This report presents a comprehensive fact-finding study of the benefits and costs of SEPA for the banking community, as well as the outcome of a series of interviews with major European banking institutions on their own internal expectations and estimations of the potential economic consequences of SEPA.

From the study it can be concluded that the overall impact for the banking industry varies across the SEPA scenarios. Over time, two opposing effects will determine the benefits and challenges of SEPA. First, SEPA will increase competition in the banking industry as it removes the barriers that formerly protected national markets. Second, the SEPA project will ensure cost savings in payment processing and give rise to business opportunities. From the study it emerges that in the short run, i.e. during the coexistence of "old" and SEPA schemes, the banking industry expects SEPA to lead to initial investment costs and a relatively limited impact on the revenue side. In the long term, when national schemes will have been fully replaced by SEPA schemes, the costs for banks are expected to decrease because of potential economies of scale and scope and innovations, e.g. electronic invoicing. The revenue side will also be affected by increased cross-border competition and by new market entrants. The findings of this study support the view that a dual SEPA implementation phase should be as short as possible. In fact, a longer migration period would give rise to higher costs than a shorter period.

It seems that the impact on costs and revenues will be determined by the approach chosen by the banks. New and innovative products, new markets and new relationships could bring new sources of revenue for banks. Banks that take a forward-looking view and opt for additional services which will automate the payment process will create new business opportunities. The changes which are required in the initial phase of SEPA are substantial and benefits can be reaped especially by those institutions that embrace new technological developments and provide innovative services. A positive approach towards innovation will increase the benefits of SEPA for the involved stakeholders. A key factor for these developments is open and fair pan-European competition.

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