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Retail banking in European financial integration

Suomen Pankki

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JUKKA VESALA

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# Preface

A major part of the EC legislation creating the Single Market for banking services has been in force in the Community from 1 January 1993. One example of such legislation is the recognition of a single banking licence in all member states. The EEA agreement will extend practically all of this legislation to the EFTA countries other than Switzerland. The economic consequence of this is that the legal and administrative barriers to the free cross-border supply of banking services have now been by and large lifted, which paves the way to an increase in the level of banking competition and the associated welfare gains. Furthermore, the harmonization of the key elements of banking regulation — though still incomplete in important respects — is creating equal competitive conditions for all credit institutions in the Single Market area. Increasing foreign competition would increase the importance of domestic banks' competitiveness (especially their cost efficiency) and therefore put pressure on inefficient banks and banking systems to restructure.

Two caveats are worth mentioning. First, convergence in legal conditions does not necessarily mean economic integration. There are impediments to increases in foreign (and domestic) competition related to banking industry characteristics and banks' strategic countering of changes in their legal environment, which can sustain market segmentation, particularly in retail banking. Secondly, recent changes in banking market structures and competitive behaviour in Europe are not all related to progress in integration — though this has naturally been one of the major underlying forces. Other important forces are financial market liberalization and technological developments.

This volume surveys the related literature and draws on industrial economics with the aim of analysing the key micro-level economic issues concerning banking integration — thus broadening the current discussion. It also includes a large amount of descriptive information on the regulatory issues and recent structural changes in European banking markets as well as data for comparing the banking systems of the forthcoming EEA states. This should prove to be useful background material, in a compact form, for anyone requiring an extensive review or detailed information.

The study was prepared in the Bank of Finland Research Department. It contributes to an extensive research project on European financial integration "European Financial Market" being conducted by the Institute of International Economic Law (KATTI) of the University of Helsinki.

Helsinki, October 1993

Heikki Koskenkylä  
Head of Research Department

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# Glossary

B	Belgium
D	Denmark
F	France
G	Germany
I	Italy
Nl	the Netherlands
E	Spain
UK	the United Kingdom
A	Austria
Fin	Finland
N (or Nor)	Norway
S	Sweden
Swi	Switzerland
BIS	Bank for International Settlements
EC	European Community
ECU	European Currency Unit
EEA	European Economic Area
EFTA	European Free Trade Association
EMU	Economic and Monetary Union
UCITS	Undertakings for Collective Investments in Transferable Securities



# Introduction

The aim of this study is to survey the competitive and structural effects of European financial integration on banking in the forthcoming European Economic Area, where legal impediments to free cross-border provision of banking services will be largely abolished by the legal measures adopted in the EC. The Single Banking Market came into being in the EC on 1 January 1993, and will be extended to include the EFTA countries when the EEA Agreement enters into force, with the exception of Switzerland, where the agreement has been rejected in a national referendum. A further aim is to comment on the potential industry-specific efficiency and welfare gains and their distribution across countries, which are contingent on the expected competitive and structural consequences of banking integration. These gains constitute the basic economic motive behind the Internal Market Programme of the EC. Insurance firms and other non-bank financial institutions are excluded from the study.

By convention, we divide banking operations into wholesale, corporate and retail banking (see e.g. Dixon, 1991). Wholesale operations are defined to comprise interbank trade in marketable instruments — chiefly banks' certificates of deposit — which constitutes banks' liquidity management, i.e. the raising and investing funds. Corporate banking refers to all services provided to firms and retail banking to those provided to individuals and households. We focus mainly on retail banking, which is taken to include also medium-sized and small firms. This choice reflects the notion that the potential effects of integration are likely to be the largest in retail banking, since wholesale and corporate banking markets for large internationalized firms are already significantly competitive and integrated following the liberalization of capital movements and internationalization of banks in

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The opinions presented in this volume do not necessarily reflect those of the Bank of Finland.

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these fields. Large firms also face a wide range of possible methods of financing their operations, which contributes to the competitiveness of the wholesale and corporate banking markets. Moreover, retail banking has remained largely national business, and market structures and competitive environments vary markedly between European countries. Entry to retail banking markets also differs fundamentally from that to wholesale and corporate banking markets in regard to establishing market presence and setting up or gaining access to distribution networks. Retail banking markets cannot, however, be examined in isolation from other financial markets, but the competitive effects of plausible substitutes for retail services need to be accounted for, especially those provided by various specialized institutions operating in markets for commercial and consumer loans and depositors' funds.

The more detailed objectives of the study are as follows:

(1) To describe recent changes in the banks' legal environment resulting from the financial liberalization process that accelerated in most European countries during the 1980's and developments in common EC legislation since the White Paper of 1985. Regulation significantly affects the mode and degree of competition, as well as market structure in banking. Hence, any study that deals with these aspects must take as its starting point the legal (and administrative) constraints imposed upon banks.

(2) To describe selected European banking systems in the light of various industrial organization aspects in order to be able to assess their relative competitiveness with the onset of the Single European Banking Market.

An evaluation of the major differences between national banking industries and prevailing market conditions provides a benchmark for further analyses of the (country-specific) structural and competitive effects of integration, and their potential impact on welfare. The topics covered in the descriptive industry-level analyses are: institutional framework, resource consumption, level of banking technology, pricing of services and intermediation margins, competitive conditions and aspects of industry performance, operating efficiency and profitability. Most analyses include the following countries: Belgium, Denmark, France, Germany, Italy, the Netherlands, Spain, the United Kingdom, Finland, Norway, Sweden and Switzerland. Switzerland is included, since it represents a major force in European banking, although it has chosen at this stage to remain outside the EEA. Data limitations in some cases prevent the presentation of figures for all countries or hamper comprehensive international comparisons. In these cases unambiguous conclusions can only be made concerning developments

within respective banking industries. Overall, caution must be exercised when interpreting the data presented, since data on financial institutions are not subject to identical statistical procedures, definitions or accounting rules. The reported indicators are made as consistent as possible with each other (without making systematic use of bank-level data from corrected accounting balance sheets and income statements, or from banks' annual reports). We cover the period from 1983 to 1990 in the statistical descriptions, with some data extending up to the end of 1992. This period is selected so as to be able to examine the effects of the financial deregulation process that has significantly affected all countries except Germany, the United Kingdom and the Netherlands, where banking industries have traditionally been regulated only lightly compared with other European countries.

(3) To evaluate the reactions of banks to changes in their legal and competitive environment following financial integration, i.e. the anticipated supply-side responses in regard to the geographic and product range dimensions of their operations.

This question is addressed by applying three distinct methods. Firstly, recent structural changes in European retail banking markets are investigated with respect to national financial liberalization processes and advances in the Internal Market Programme since the White Paper with a view to eliciting future expectations of increasing competition among banks. Secondly, recent banking literature on this subject is reviewed. Finally, references to theoretical and empirical literature on industrial organization are made in order to assess the relevant aspects of production of banking services, market structure and banks' strategic reactions to intensified price (interest rate) competition. The latter aspect is emphasized, as it can be expected to dominate e.g. cost considerations since fairly constant returns to scale have been found to characterize universal retail banking operations in recent empirical studies.

(4) To introduce and evaluate factors that could constitute effective barriers to entry and cross-border provision of retail banking services in the Single European Banking Market.

Potential economic and strategic barriers, stemming from banking industry characteristics and incumbent banks' strategic actions to prevent entry respectively, are outlined with reference to the (new) industrial organization literature. We augment the presentation with statistical or other evidence whenever available. The goal is to assess in which segments of retail banking markets — classified according to different services and customer groups — competition is expected to increase. The issue can also be stated conversely: To what extent are

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national markets expected to remain segmented, whereby price and efficiency differences would be sustained within the Single Market area?

(5) To employ the concept of perfect contestability as a benchmark for ideal market organization.

Perfect contestability (see Baumol et al. 1982) provides the prerequisites for ideal market conditions, whose attainment through integration would yield the greatest welfare benefits through lower prices for banking services and the cost-efficient operation of the industry. Expected competitive changes are thus interpreted in terms of contestability. The concept of perfect contestability is more suited to banking than perfect competition as it recognizes the role of potential competition and does not discriminate between various market structures. The effectiveness of the barriers to free competition are crucial in regard to perfect contestability. Furthermore, the potential for various forms of sustainable collusive conduct in the Single Market that are detrimental to overall welfare are assessed with respect to theory and recent observations. We do not seek to present a comprehensive analysis of the welfare effects of banking integration, but rather to draw some rudimentary conclusions based on the facts presented and theoretical considerations.

Macroeconomic aspects, i.e. the impact of financial integration on other sectors of the economy and economic growth, are beyond the scope of the study; the treatment is purely at the industry level. Moreover, the focus will be on the implications of the creation of the internal market for banking, though it recognizes the impact of the planned progress toward Economic and Monetary Union in Europe (and the potential consequences if the process is hampered). The industry-level impact of EMU can be seen as complementing financial integration by diminishing or eliminating factors that distort competition and trade in financial services. However, the most significant legal changes will take place irrespective of EMU, and many of the industry-level economic factors are independent of it.

The study is organized into two largely separate parts. Chapters 1 and 2, which make up the first part, address legal and regulatory issues and present the country-specific descriptions. These chapters cover objectives (1) and (2) of the study. The second part, chapters 3, 4 and 5, deal with objectives (2)–(5), and thus adopt a more analytical approach.

Chapter 1 introduces some central economic aspects of financial intermediation and banking regulation taken from the theory of finance. The aim is to provide insight into the EC legal measures

concerning banking in the Single European Financial Market, which are then described. Chapter 2 describes in some detail the institutional structure and competitive conditions in the five largest European banking markets — France, Italy, Germany, the UK and Spain — together with those in Finland and Sweden. The main deregulatory steps are also reported. Developments in other countries are summarized. Chapter 3 assesses the supply-side issues that are the subject of the third objective of the study, and presents comparative descriptive analyses concerning capacity levels, operating efficiency and banking technology. Chapter 4 examines the mode and degree of competition and profitability in different banking systems, and then turns to the issues of economic and strategic barriers to entry, market contestability and collusion. Finally, Chapter 5 attempts to draw some overall conclusions and discusses the potential welfare effects of banking integration. Appendices 1–6 present a number of tables and figures comparing European banking systems.

Helsinki, October 1993  
Jukka Vesala

# 1 The economics of banking regulation and EC banking legislation

The first sections of this chapter outline briefly the economic grounds for the regulation of financial intermediaries by tracing out potential sources of market failure when their operations are left uncontrolled. In order to detect market failure the reasons for the existence of financial intermediaries and the economic services provided by them need first to be reviewed. It then becomes possible to rationalize and classify the adopted regulations and distinguish some potential pitfalls. From the macroeconomic perspective banking regulation is connected with the operation of the monetary policy to constrain money supply and thus price level and to reduce macroeconomic variability. These issues are not considered in detail as a microeconomic (banking industry level) viewpoint is adopted. This short survey of the recent literature on banking and finance provides insight to the legal framework for banking in the Single European Financial Market described in some detail in the following sections. The discussion on banking regulation in general terms also enables us to structure the presentation of the national deregulation processes in European banking markets in chapter two. The Internal Market Programme in regard to banking appears successful in abolishing legal barriers to market entry by means of establishing branches or providing services cross-border. However, certain legal distortions remain, which have the effect of curtailing market integration and directing the demand for and supply of banking services. Remaining differences in taxation of personal interest income are conceivably the most important of these factors. These issues are addressed shortly in the concluding section.

# 1.1 The economic grounds for banking regulation

## 1.1.1 Financial intermediation and asymmetric information — a brief review<sup>1</sup>

The existence of financial intermediaries is not trivial in theoretical sense, since in well functioning perfect financial markets the transfer of financial surpluses should occur directly between agents without financial intermediaries. Thus the starting point to explain financial intermediation is to question the assumptions required for the perfect functioning of financial markets and to seek its rationale among market imperfections. Transaction costs are one imperfection frequently used to motivate intermediation. Broadly taken costs in financial transactions arise from gathering information about supply and demand of funds needed to bring those who provide and require funds together, negotiating and drawing juridically valid financial contracts and supervising their fulfilment. Scale economies in the above activities, whose exploitation allows minimization of the transaction costs, are able to rationalize the existence of brokers, dealers and firms providing juridical services, as well as these activities in financial institutions. But the transaction costs argument has no power when one tries to explain the existence of financial intermediaries that buy financial assets from other agents and finance their acquisition by selling their own financial liabilities, of which ordinary bank lending and deposit taking is the most obvious example.

Therefore, recent research has turned to another financial market imperfection, namely the problem of incomplete and asymmetric information between agents who supply and demand funds. This problem arises when there is uncertainty, i.e. risk, associated with the outcomes of the project to be financed or with prevailing future market conditions. Another distinct source of uncertainty concerns agents', especially debtors', future actions to meet their obligations. Uncertainty by itself does not cause problems if information is equally distributed among all agents, the symmetric information case, or if it is possible to make the financial contract contingent on all possible future outcomes, the "perfect contract" case.

By contrast, asymmetric information generates a principal (creditor) — agent (debtor) problem and costs, so-called agency costs, that do not emerge in the above two cases (see e.g. Stiglitz 1987). The

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<sup>1</sup> E.g. Engedal 1990 and Vihriälä 1989 present extensive surveys.

problems caused by asymmetric information fall into two categories. Firstly, the agent may act against principal's interests in a way that can not be accounted for by the financial contract due to asymmetric information, e.g. the debtor may report lower than actual project yields in order to cut the amount of repayment. Problems of this kind are referred to as moral hazard. Secondly, asymmetric information concerning agent's or project's true characteristics causes adverse selection problems. As financial compensation (rate of interest on supplied funds) required by the creditor increases, only the projects that are more riskier (in a class of projects that have the same expected return but different probability distributions) earn positive returns in case of favourable outcomes, and become financed. Thus, safe projects are withdrawn from the market and the quality of the projects financed in terms of risk contained decreases when the cost of funds rises. Moral hazard or adverse selection may hamper significantly financial contracting or even prevent it totally so that markets for the claims in question will not be created at all. According to Jensen and Meckling (1976) the agency costs incur due to three general reasons: (1) The principal has to monitor the agent in order to reveal his true actions and actual outcomes of the project financed. These costs are labelled monitoring costs. (2) Bonding costs arise from actions the principal takes in order to force the agent act according to his interests. (3) Residual losses consist of all reductions in principal's welfare due to agent's failure to meet his obligations even though the principal has engaged in costly monitoring and bonding.

Overall, asymmetric information has been found to be the most profound rationalization for financial intermediaries. Financial intermediaries have been shown to have developed (at least partly) the way we observe them as a result of circumventing and diminishing the problems of asymmetric information and minimizing the associated agency costs corresponding to the above view of the agency theory.<sup>2</sup> By doing that, financial intermediaries reduce market imperfections and improve the allocation of resources, which under asymmetric information tends to be suboptimal. In this respect financial intermediation has real value and the services of the financial intermediaries are beneficial.

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<sup>2</sup> A list of major contributors includes Leland & Pyle 1977, Campbell & Kracaw 1980, Diamond & Dybvig 1983, Diamond 1984, Boyd & Prescott 1986 and Williamson 1986.

## 1.1.2 Economic services provided by banks

A general definition of a financial intermediary heretofore referred to as a bank is provided by Baltensberger and Dermine (1987): "A bank is a firm whose assets are financial claims issued by borrowers, such as individuals, firms or governments, and whose liabilities are sold as secondary claims to capital surplus units in various forms such as demand and time deposits, subordinated debt or equity shares". This definition can be extended to include also banks' off-balance sheet items representing recent financial innovations like insurance related services such as letter of credit. Accordingly, Diamond and Dybvig (1986) classify the main functions of banks according to banks' accounting balance sheets as asset services provided to borrowers, the issuers of bank assets, liability services to depositors, the holders of bank liabilities and finally, transformation services including all implicit services that provide a different pattern of returns than would be obtained by holding assets directly and trading them in competitive markets. These services are associated with both sides of the balance sheet.

The above functions can be interpreted to encompass four distinct "core" functions that allow us to identify the sources of market failure in banking: (1) payment management, (2) portfolio management, (3) risk-sharing and liquidity insurance, and (4) monitoring and signalling (see e.g. Baltensberger and Dermine 1987 and 1990, and Vives 1991a). Each of these functions is discussed in turn below. The industrial organization (IO) literature on banking has a quite distinct approach to banks' services, i.e. banks' output, than the one of the theory of finance. Banks' output is usually divided into payment and financial intermediation services (deposit and loan services) in the IO literature. An integration of the two approaches is somewhat imperious, but the latter services can be considered to contain (2), (3) and (4) of the above functions.<sup>3</sup>

By providing and managing a payment system banks facilitate and keep track of transactions that transfer wealth among individuals. A bank organizes efficiently the exchange of claims by pooling funds of different individuals and managing bookkeeping by crediting and debiting accounts. New payment technology, e.g. electronic funds transfers and point-of-sale terminals (EFT-POS) make the transfer even more efficient. This increase in the efficiency of exchange of wealth via banks constitutes a real value to the economy (see Fama 1980). Macroeconomic view on bank functions has focused on

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<sup>3</sup> See section 3.1.3 for references and issues in the output measurement in empirical banking studies applying the IO approach.

payment services due to the linkage between demand deposits and money supply. It can be argued that emergence of close substitutes for banks' payment and fund storing (deposit) services like credit cards and money market funds has reduced the role of banks in controlling money supply (see e.g. Diamond and Dybvig 1986). This view is clearly too narrow, since the other more complex services provided by banks contribute significantly to the functioning of the whole economy.

Portfolio management of banks by issuing deposits and using the proceeds to purchase financial claims allows depositors to acquire at low cost a well diversified portfolio of assets. Black (1970) argued that in unregulated and competitive environment banks would be forced to pay return on deposits equivalent to the return earned on portfolios that contain the same risk as bank's assets less a competitive management fee. Thus, there would be no clear distinction between banks and other institutions, like mutual funds, that provide portfolio management services. In banking environment of this kind, banks would issue a wide range of deposit contracts carrying different levels of risk (also riskless deposits) in order to meet individual preferences. Assuming that there are always perfect substitutes for the portfolio management services of any bank,<sup>4</sup> Fama (1980) shows that like any other pure financing decisions the portfolio management decisions of banks are be subject to the (weak form of the) Modigliani-Miller (1958) theorem of the irrelevance of pure financing decisions. Hence, Fama concludes that in spite of banks' central role in financing activities in the economy they are passive intermediaries who are not able to change the portfolio opportunities available to investors, and thus neither influence the real activities in the economy. These results are naturally affected if the deposit contracts do not completely reflect the riskiness of the loan portfolio, e.g. due to regulated banking. Recent banking literature concentrates on information asymmetries in financial markets and deals with the last two types of bank services claiming them to be the most important functions of banks and sources of real value to the economy.

Diamond and Dybvig (1983) were the first to formalize the role of banks in creating liquidity. They start from the fact that (long term) real investments are illiquid in the sense that the return on investment will generally be lower if the projects have to be terminated

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<sup>4</sup> This allows a more limited access of individuals to the capital market than that of banks. Further, the assumption of no transaction costs in securities trading (strong form of MM (1958)) is not needed as long as portfolio rearrangements among banks are costless (see Fama 1980).

prematurely. Therefore, liquidity insurance must be provided to risk averse individual investors, who do not a priori know their needs of liquid funds during the investment period.<sup>5</sup> A viable insurance contract should ensure a fair return on investment in the case when liquid funds are needed before maturity, but also offer a lower return than in the case when liquidity is not insured. Diamond and Dybvig show that this kind of contract, contingent on realized liquidity needs, is not possible to be written when ex post liquidity requirements are private information: "Investors' private risks are not insurable because they are not publicly verifiable". Thus, due to asymmetric information about liquidity needs, optimal risk sharing will not be achieved in competitive financial markets without financial intermediaries. Banks' liquidity transformation: investment of funds collected by liquid demand deposits (with fixed interest) in illiquid long term projects, can be shown to be the most efficient solution to this problem in terms of risk-sharing and resource allocation. Demand deposit contract allows investors to withdraw funds whenever necessary and still earn a fixed return greater than the one following an early termination of the real investment. Thus, this kind of contract is clearly beneficial to risk averse individuals.

Monitoring and signalling services of banks are connected to banks' information gathering in the lending process. Banks' information gathering consists of evaluating the borrower candidates and their projects to limit adverse selection and monitoring the borrower after the loan is granted to limit moral hazard. Diamond (1984), Fama (1985) and Williamson (1986) show how overall information costs can be reduced by delegating the evaluating and monitoring tasks to banks making bank loans financed by fixed claim deposits more cost efficient than public debt offerings.<sup>6</sup> The key issue

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<sup>5</sup> Diamond and Dybvig abstract from other information asymmetries in order to focus on the liquidity creation function of banks: ex ante and ex post information about investment projects and their outcomes are assumed public and complete. Thus, adverse selection and moral hazard problems are not present in their context.

<sup>6</sup> In Diamond's (1984) model there are benefits from the delegation of the monitoring task if savings in "direct" monitoring costs are greater than (the present value of) delegation costs which arise from providing incentives to the bank to monitor and enforce the loan contracts. The delegation cost include all costs incurred when the bank can not fulfil the fixed claim deposit contract, which may occur when outcomes of risky projects financed turn out poor. In Diamond's as well as in Williamson's (1986) model delegation of monitoring becomes viable, since increasing diversification of bank assets (assuming that individual project returns are i.i.d. distributed) as banks grow in size makes delegation costs approach zero per project monitored. Thus, sufficient diversification and size of bank's assets allow efficient delegation of monitoring and reduce the need of depositors to monitor banks (the probability that the bank is able to pay fixed interest on

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leading to delegation is that gathered information is not easily made public. As a consequence there would be either duplication of information costs or free-riding if some investors publish their information. This leads to inefficient as well as insufficient monitoring of borrowers, especially if there are several small investors. Furthermore, banks can be considered having technological economies of scale in monitoring and diversification based cost economies, which rationalize the delegation of the monitoring task.

Fama (1985) identified the signalling services of banks, which create further advantages of bank loans compared to publicly traded debt. Bank loans act as positive signals of creditworthiness of borrowers to other agents that need not undertake similar costly evaluations concerning their claims on the borrower.<sup>7</sup> Bank signals are considered credible, since banks need to consume costly resources when evaluating borrowers. Also the supply of public information, which is needed to issue debt on own account, is usually more costly than to allow a bank a direct access to the organization to gather information. This is especially true for individuals and small organizations. Thus, reduced information and contracting costs explain why individuals and small firms use bank loans instead of publicly offered debt, and are willing to pay higher interest rates on bank loans than the ones prevailing in open capital markets.

### 1.1.3 Market failure — the need for banking regulation

According to Fama (1980) there is no reason to regulate banks or banking competition with respect to payment services and portfolio management: a competitive outcome would be optimal. A possible market failure is associated with the last two classes of information-related functions of banks. More specifically, the fixed claim demand deposit contract allowing an early withdrawal of funds ensures optimal risk-sharing, but makes simultaneously a panic bank run possible (see Diamond and Dybvig 1983, Jacklin 1983 and Haubrich 1985). A panic

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deposits becomes high). Further, the information collected by the bank can be kept private, which circumvents the problems associated with making information public. Making bank's information public would also be hard, since "a bank can not credibly be expected to be unbiased in reporting of information about the performance of its loan portfolio" (see Diamond and Dybvig 1986).

<sup>7</sup> Fama (1985) argues that unused credit lines provide evidence of the significance these positive signals. He claims also that the sole purpose of purchasing credit lines for large corporations may be the signalling the credit worthiness of debt issued publicly, e.g. commercial papers.

run is shown to be a consequence of rational behaviour among depositors due to asymmetry of information between the bank and its depositors. If the liquidation value of bank's assets is perceived to be less than the value of the liquid deposits due to costs of liquidating banks' assets prematurely it is rational for depositors to withdraw their deposits if they expect other depositors to withdraw their funds, since banks serve withdrawal tenders sequentially until they run out of assets. A panic run is a "bad equilibrium" in Diamond and Dybvig's model<sup>8</sup>, which may result even if the bank is otherwise sound (it is able to handle a "normal amount of withdrawals" and pay interest on deposits). I.e. the existence of a panic run does not require any loss in the value of bank's assets when kept unliquidated until maturity.<sup>9</sup>

By contrast, bank's insolvency creates a possibility of a fundamental or information-based bank run when depositors have information about the returns of the bank and the value of its assets (see Jacklin & Bhattacharya 1988). Collective withdrawal of deposited funds results as depositors realize that the value of bank's assets is low enough to make the bank fail. In general, the reduction in asset values may be due to incomplete diversification of risk when individual investment projects have excessive shares in bank's assets or when bank's monitoring technology is limited.

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<sup>8</sup> Diamond and Dybvig's (1983) model contains two equilibria, the "good one" where the first-best solution (resource allocation) is achieved, and the "bad one" where expectations of a bank failure are self-fulfilling making the bank indeed fail. This reasoning involves a theoretical problem, since in equilibrium no runs should be observed as no one would deposit funds anticipating a bank run. To tackle this problem the authors suppose that the selection of the equilibrium depends on some publicly observable random variable (sunspot) occurring with a probability small enough to induce deposits. Postlewhite and Vives (1987) offer another view to runs where there is an unique equilibrium that *always* involves a positive probability of a bank run.

<sup>9</sup> A possibility of a bank run has an implication for the optimality of the demand deposit contract in terms of risk sharing (and resource allocation). Postlewhite and Vives (1987) argue that the standard demand deposit contract is not optimal when a positive probability of a bank run exists, since superior contracts could be designed contingent on withdrawals of funds carrying therefore some of the risk contained in the underlying investments. Such contracts would be, however, more costly to draw and monitor and could evoke moral hazard problems in monitoring the risky investments which reduces the willingness to deposit funds. Further, heterogeneous consumption and saving patterns among individuals may hamper the implementation of more complex contracts than the standard demand deposit contract. Diamond and Dybvig (1983) suggest that a contractual improvement could be achieved by allowing banks to suspend convertibility, i.e. halt withdrawals if they are too numerous at any point in time. However, they show that this contract works perfectly only when the normal volume of withdrawals is *a priori* known and not stochastic. In the general case of stochastic withdrawals these contracts are not optimal.

Bank runs constitute a market failure which is costly in terms of real resources, since there are considerable transaction costs associated with a premature liquidation of long term investments (production processes), and, more importantly, there is a loss of real value when otherwise profitable investments need to be interrupted when loans are called in. Furthermore, because of imperfect information about the solvency of other banks, a run on a single bank may cause a systemic failure where contagious bank runs stop the overall functioning of the payment system. The expansion of bank runs is triggered if depositors assume that the values of banks' assets are correlated with one another. Thus, the stability of the whole financial system is put in danger, and the negative externality<sup>10</sup> for the real sector of the economy may be huge. (See e.g. Baltensberger & Dermine 1987)

The possibility of a market failure in banking calls for government regulation in order to provide stability to the system and to avoid the negative consequences of bank runs. Regulation has been further motivated by the protection of depositors funds. Three methods of preventing bank runs arise from the theoretical literature (see e.g. Diamond and Dybvig 1986): (1) Deposit insurance, (2) borrowing from the government to cover unusually numerous withdrawals, i.e. "the discount window", and (3) suspension of convertibility of deposits. Suspension of convertibility is not theoretically preferred, since it interrupts bank's services and does not solve the problem; only defers it until the bank reopens. According to Diamond and Dybvig (1983) a government sponsored deposit insurance is the most effective, since there is a credibility problem associated with private insurance schemes as they are ultimately constrained in the scale of unconditional guarantees they can offer. A governmental discount window provides nearly identical services to the deposit insurance, but since it is fundamentally discretionary, it is judged less credible than the rule based deposit insurance<sup>11</sup> (see e.g. Chiappori et. al. 1991). Hence, Diamond and Dybvig conclude that deposit insurance provided by the government is probably the only feasible way to preclude runs, since any regulatory policy to prevent them must be such that

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<sup>10</sup> Also solvent banks need to interrupt their long-term investments, and the future cost of credit will rise (see Bernanke 1983). A widely used example of the magnitude of these externalities is the Depression of the 1930's taken that its major cause were the numerous bank runs in the US in that time (see e.g. Vives 1991b).

<sup>11</sup> "Demand deposit contracts with government deposit insurance achieve the unconstrained optimum as a unique Nash equilibrium if the government imposes an optimal tax to finance the deposit insurance", and thus attain optimal risk-sharing (see Diamond and Dybvig 1983).

preserves the basic functions and services of banks, especially the creation of liquidity.<sup>12</sup>

#### 1.1.4 Regulatory failure and proposed remedies

Theoretically banking regulation is a second-best solution when the first-best can not be attained as a competitive outcome. It is difficult to measure the welfare effects of regulation, since the introduction of regulation causes many kinds of inefficiencies and competitive distortions. Furthermore, the welfare losses resulting from a market failure are hard to measure.

There is a serious moral hazard problem associated with the deposit insurance and discount window facilities. When deposits are insured or when banks expect the government to back them up to prevent failures banks have an incentive to select risky assets with a high variance of return, since the downside risk is borne by the insurers (tax payers), but the benefits of the upside risk accrue to bank owners. Especially large banks may consider themselves too large to be allowed to fail, which accentuates the moral hazard problem. As a consequence, the quality of investments that become financed decreases regarding the risk they contain, too much risk in the economy will be shouldered by the government, and optimal level of monitoring will not be performed: neither banks will monitor sufficiently their borrowers nor depositors the solvency of banks as the deposit insurance covers the downside risk (see e.g. Vives 1991a and b).

There are various possible regulatory schemes that alleviate the moral hazard problem. Diamond and Dybvig (1986) claim that since the deposit insurance is justified so are these regulations which should also assure that profitable projects become financed, optimal amount of monitoring takes place in the economy, and the stability of the banking system is assured. Furthermore, when implementing a

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<sup>12</sup> For example, imposing a 100 % reserve requirement on banks which has been proposed to improve stability would prevent banks from performing liquidity services. As a consequence other institutions providing the liquidity (maturity) transformation service would emerge that also need to be controlled in order to achieve stability. Thus, this proposal would only pass on the problem (see Diamond and Dybvig 1986). A totally different approach is presented in Baltensberger and Dermine 1987, namely a complete privatisation of costs of a bank failure via an *ex post* penalty system to depositors. If such penalty system could be implemented, depositors would bear the consequences of a bank run instead of passing them to the government (tax payers), and therefore this system would be effective in preventing runs. The authors agree that creating such system would contain a lot of technical problems, and do not make any specific suggestions.

particular regulatory scheme its effects should be evaluated against these objectives, along with its impact on banking competition.

Firstly, banks can be restricted in selecting investment projects explicitly by narrowing the scope of their business activities. This kind of structural regulation comprises e.g. the functional separation of institutions (like that of commercial and investment banking), and various entry restrictions on domestic and foreign banking institutions. Secondly, banks' freedom in choosing their assets can be limited also implicitly by imposing prudential requirements such as minimum solvency and liquidity levels and restrictions on asset concentration and participation in non-banking firms. The prudential requirements fall into a class of conduct regulations that in addition include restrictions on banks' competitive behaviour. Banks' "competitive parameters" i.e. quantities or pricing of services produced have been regulated by imposing quotas on loans outstanding, ceilings on loan and deposit interest rates, and rules on the determination of banks' fees and commissions. In addition, limitations on branch establishment restrict banks' business volumes, and thus belong to this class of regulations. (See e.g. Gual & Neven 1992).

As an alternative to the above regulations, deposit insurance premiums levied on banks could be made variable depending on the riskiness of banks' loan portfolio<sup>13</sup> or banks could be supervised continually. Risk-sensitive insurance premiums are hard to implement, since bank loans do not have a secondary market making the quality of the loans difficult to assess. Thus, the above regulatory schemes have been adhered to in practice. Traditionally a mix of various measures has been used with significant inter-country differences (see chapter two). In general, regulation should be risk-based to effectively remedy moral hazard. Therefore, e.g. solvency requirements depending on the riskiness of banks' assets (as implemented by the BIS and EC capital adequacy rules) are preferred to fixed or arbitrary restrictions. The supervision of banks and associated information disclosure requirements are normally implemented along with imposed regulations.

Table 1.1. collects the methods of banking regulation presented in this section and regroups them under headings of structural regulations, restrictions on banks' competitive conduct (hereforth referred to as conduct regulations) and prudential regulations. This

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<sup>13</sup> Pecchenino (1992) presents a theoretical deposit insurance scheme in which insurance coverage and premiums are adjusted for banks' risks (and in which all failed banks are closed in order to remove the incentive for risk shifting, i.e. moral hazard).

categorization is somewhat arbitrary, and purely aimed to facilitate the following presentations.

A side-effect of guarding the stability of the banking system may be unnecessary protection of inefficient or badly managed banks. At worst, regulation favours regulated institutions and shields industry's monopoly rents, and thus results in welfare losses regarding the whole economy. Regulated pricing of banking services and entry restrictions create especially this possibility of regulatory capture. Thus, different regulatory schemes have differential effects on banking competition and industry evolution. For example, rate regulation suppresses price competition, and induces individual institutions compete through the quality and number of available services, and to cross-subsidize different services (see e.g. Vives 1991a). The competitive repercussions of regulations will be discussed later on in detail in chapters three and four.

Table 1.1. **Classification of the methods of banking regulation**

Structural regulations	Conduct regulations	Prudential regulations
Functional separation of institutions	Regulations of banks' deposit and lending rates	Deposit insurance
Entry restrictions	Regulations of fees and commissions	Discount window (Lender-of-last-resort)
Discriminatory rules against foreign banks (and investors)	Credit quotas	Minimum capital requirements
	Branching limitations	Solvency ratios
		Ownership restrictions
		Restrictions on asset concentration (large exposures)
		Information disclosure requirements

Sources: Diamond and Dybvig 1986, Gual and Neven 1992

## 1.2 Towards a Single Financial Market in Europe

The objective of transforming segmented national markets into a single EC wide internal market, where goods, services, capital and persons move freely, to attain welfare gains through increased market efficiency was stated in the Treaty of Rome of 1957. Thus, also financial services were included within the scope of this general objective. The Treaty acknowledged that the recognition of the right of unconstrained establishment and the coordination of legislation whenever necessary would be essential to achieve market integration (see e.g. Baltensberger and Dermine 1990). We start by presenting below the general legal prerequisites for the full integration of financial markets, and thus for the free provision of (or trade in) financial services. This will help us to interpret the advancement of the European financial integration and systematize the associated development of the EC legislation from the economic viewpoint. As apparent, these guidelines were in principle recognized already by the Treaty.

- (1) Freedom of establishment of branches for credit institutions, other financial institutions and insurance companies at indiscriminatory conditions compared to domestic institutions, since the attainment of local presence is necessary for the supply of certain financial services.
- (2) Freedom to provide services cross-border without establishment, which requires unrestricted capital movements (freedom for customers to purchase services wherever they want) and efficient cross-border payments systems, which operate following the principle of "fair practice" toward all market participants.
- (3) A common legal framework providing equal competitive conditions (a level playing field), e.g. with respect to prudential requirements, for all institutions operating in the Single Market.
- (4) A single currency.

The Internal Market Programme set out in the White Paper ("Completing the Internal Market") of 1985 can be considered as means to realize the first three conditions. Harmonization (according to

the adopted principle of minimum harmonization) of national financial legislations within the EC is especially required for the attainment of the third prerequisite, but harmonization has also other goals like ensuring market stability and consumer protection (see e.g. Hopt and Wymeersch 1991, sect.1 §1.—§4.). A single currency, which is incorporated in the EC plan for a Economic and Monetary Union agreed upon in the Maastricht Treaty of December 1991, is commonly seen as a final condition for the complete integration of the European financial markets.

The following sections describe the legal framework facing banking firms in the Single Market, presenting also certain rules that do not touch them directly but affect their competitive environment. Of financial institutions the Internal Market Programme is most advanced for banking firms so that from 1 January, 1993 e.g. the Second Banking Directive, and thus the single banking licence system, is in force. This means that the member states must have brought into force the laws, regulations and administrative provisions necessary to comply with the Directive by that date. By contrast, in regard to investment services and insurance firms a large part of the legislation has not yet been enacted or entered force.

The European Economic Area (EEA) Agreement (signed on 2 May, 1992) takes over almost all of the financial legislation (and other legislation concerning the creation of the Internal Market) adopted by the EC, and abolishes all remaining restrictions on capital movements. Thus, the free provision of banking services is extended to include also the EFTA countries excluding Switzerland, which rejected the Agreement in referendum. This will concern eventually also other financial services as the Agreement is most likely amended to incorporate future EC legislation in relation to the functioning of the Internal Market.<sup>14</sup> Furthermore, all the countries except Iceland have already applied for full EC membership. The Agreement contains some adaptations of the EC legislation, and on some issues transition periods have been granted for certain EFTA countries to implement provisions of the Agreement<sup>15</sup>.

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<sup>14</sup> "In order to guarantee the legal security and the homogeneity of the EEA, " the EEA Agreement states that the EEA Joint Committee shall amend the Agreement to permit the simultaneous application of new EC legislation to all EEA trade. If the Joint Committee decides not to amend the Agreement, the whole affected part of the Agreement will be suspended. Thus, there would be strong pressure to incorporate all future EC legislation concerning the Internal Market into the Agreement. (See e.g. Baldwin 1992)

<sup>15</sup> See Juel 1992 for a detailed presentation of the adaptations.

### 1.2.1 Cornerstones of the Internal Market Programme for banking services<sup>16</sup>

Commission's proposition of the White Paper to complete the Internal Market denoted substantial progress to slow evolution market integration since the Treaty of Rome. The incorporation of the White Paper into the Single European Act of 1986 affirmed EC's commitment to accomplish market integration by removing all persisting physical, technical and fiscal barriers to free trade in all industries by the end of 1992. Hence, the aim was to provide the widest possible opportunities for increased competition.<sup>17</sup> The associated change in the decision-making process from required unanimity to qualified majority for a large number of decisions speeded up the process significantly. In relation to banking (and other financial services) the White Paper set out the guidelines of mutual recognition and home country control. This "new approach" circumvented the need to fully harmonize divergent national banking regulations, which was previously adopted as the principle of integration, but was found very difficult to achieve. Thus, only minimal level harmonization of a set of basic laws and regulations is required to obtain the level playing field in legislative terms.

Before the White Paper the legal progress toward integrated financial markets was limited: The Freedom of Establishment Directive (73/183/EEC) provided equal treatment of domestic financial firms and subsidiaries of firms from other member states on part of national authorities. Also, subsidiaries of firms established in non-member countries were to be regarded in all respects as EC undertakings. However, the setting up a subsidiary does not actually represent free supply of banking services, as subsidiaries are separate legal entities and classified as banks of the countries in which they are established. The basic right to set up branches in other member states was established for Community banks in the First Banking Coordination Directive (77/80/EEC). It was also the first attempt to harmonize banking regulations, as it detailed the minimum

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<sup>16</sup> For the development of the EC banking legislation see e.g. Baldwin 1992, Gardener 1992 and 1991, Gual & Neven 1992, Juel 1992, Strievens 1992, Chiappori et.al. 1991, Dixon 1991, Hopt and Wymeersch 1991, ch. 1 and ch.2, Fitchew 1990, Vives 1991a and 1991b, Baltensberger & Dermine 1990 and 1987, Drazen 1990, Johnson 1990 and Steinherr & Gilibert 1989.

<sup>17</sup> The White Paper argued that to a large extent a common market already existed for goods and that it was important to foresee a similar development in services, in particular financial services, which play a very important role in the EC (see e.g. Fitchew 1990).

requirements banks had to meet in order to be authorized in other member states. Nevertheless, branches needed to be set up in accordance with host country regulations with an authorization from host country's authorities. These requirements translated into extra costs and time delays incurred by EC banks when they established branches in other member states,<sup>18</sup> and thus sustained legal barriers to free provision of banking services. These costs were especially burdensome if a bank operated in a number of member states. Furthermore, cross-border trade in banking services was seriously limited by restrictions on capital flows (see e.g. Baltensberger and Dermine 1990).

The First Banking Directive is largely amended by the Second Banking Coordination Directive (89/646/EEC). Thus, many of its provisions and transitional arrangements are not relevant any more, and not incorporated within the EEA Agreement. What mainly remains is the definition of a bank; in EC legislation referred to as a credit institution: "... an undertaking whose business is to receive deposits and other repayable funds from the public and to grant credit for its own account".

The Second Banking Directive sets out the principles of banking in the Single Financial Market. Firstly, it creates a framework for universal banking<sup>19</sup> by including within the business activities allowed for credit institutions all important activities of present universal banks

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<sup>18</sup> In addition to costs of administrative procedures foreign banks had to incur extra costs (compared to domestic institutions) primarily due to the following reasons: Foreign branches had to fulfil the prevailing domestic capital requirements and be backed by so called endowment capital rather than that by the capital of the parent institution in all countries except in the UK. Domestic solvency requirements were imposed on foreign branches, and the requirements varied markedly between the member states. A "comfort letter", i.e. a guarantee support form either the parent bank or domestic supervisory authorities, was required by e.g. Italy before an authorization was granted. Also branching of foreign banks was often limited, e.g. Spain restricted the number of branches a foreign bank to three. (See e.g. Canals 1993, Bisigano 1992 and Dixon 1991, ch. 3). In Finland and Sweden the establishment of branches was allowed for foreign banks in 1991 and 1990 respectively.

<sup>19</sup> The list of services credit institutions may engage in is provided in the Annex to the Second Banking Directive. The list contains: (1) deposit taking and other forms of borrowing, (2) lending, (3) financial leasing, (4) money transmission, (5) issuing and administering means of payments (credit cards, travellers' cheques and bankers' drafts), (6) guarantees and commitments, (7) trading for own or customer's account in a) money market instruments, b) foreign exchange, c) financial futures and options, d) exchange and interest rate instruments, e) securities, (8) participation in share issues and providing services related to such issues, (9) money broking, (10) portfolio management and advice, (11) safekeeping of securities, (12) credit reference services, and (13) safe custody services.

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(see section 3.3.2 for further discussion). Secondly, it establishes conditions for the free provision of banking services by adopting White Paper's guidelines of mutual recognition and home-country control. Mutual recognition implies that a credit institution authorized in any of the EEA countries (in its home country) will be automatically entitled to conduct businesses in any other EEA state. Thus, a credit institution obtains a single banking license which allows it to establish branches or supply services cross-border to all other EEA states without a prior authorization from the authorities of the particular country. Certain notification procedures are, however, prescribed. Mutual recognition is extended to all services allowed in the Directive. An individual EEA state may adhere to a more narrow range of activities when licensing banks, but it has to acknowledge the universal licences granted in other EEA states. I.e. to allow the establishment of branches by these banks, as well as the provision of all respective services. Home country control indicates that the EEA state that has granted the banking license to a certain credit institution is also responsible for supervising<sup>20</sup> its activities in all EEA states, where the credit institution is active. However, host-countries retain the controls related to the implementation of the monetary policy, e.g. reserve requirements. Home country's authorities are therefore liable for a sound management and financial structure of a credit institution that wishes to set up branches abroad.<sup>21</sup>

The Second Banking Directive stipulates that all requirements for branches of foreign banks to maintain separate endowment capital must be removed. This denotes an abolition of a significant barrier to entry (see footnote 18) as branching in a number of member states would have tied up large amounts of capital. All EFTA countries joining the EEA will adopt the two Banking Directives by the

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<sup>20</sup> Directive (83/350/EEC) (amended by 92/30/EEC) stipulates that if a credit institution directly or indirectly controls 25% or more of the equity capital of other credit institutions, these institutions must be supervised on consolidated basis by the authorities of the country where the head office is located. The Second Banking Directive as well as the supporting legislation stipulate that the supervisory authorities are allowed to request all the information needed for adequate supervision, also from branches in other EEA countries. The authorities are obliged to use the information delivered only for supervisory purposes.

<sup>21</sup> More specifically, the Second Banking Directive makes home country control contingent on (1) the harmonization of the minimum capital for the authorization and continuation of the banking business, (2) supervisory control of major shareholders and banks participation in the non-bank sector, (3) proper accounting and control mechanisms, and (4) legislation of own funds, harmonized solvency ratio and the protection of depositors. These requirements are detailed in the Second Banking Directive and accompanying directives presented more in detail in the following section.

enforcement of the EEA Agreement except Iceland, which has been granted a two year transition period.

The Second Banking Directive contains a problematic article 21 (5), which allows host countries to continue to apply legal rules they have adopted "in the interest of the general good" (see e.g. Hopt and Wymeersch 1991, p. 34–37). According to this principle host country's authorities may take measures against foreign branches if they consider their actions or services to be against the enforced domestic rules. These rules may not, however, put domestic and foreign institutions at discriminatory positions. For example, advertising of foreign institutions may not be restricted but it needs to be in accordance with the respective domestic legislation based on the principle of general good. Adhering to this principle may affect the evolution of the Single Banking Market (especially in retail banking); most severely if the introduction of new banking products in certain national markets is impeded. In these cases, domestic institutions would be shielded against new competition.

Directive on Capital Flows (88/361/EEC) lifted completely all remaining controls on capital flows in the Community, including those affecting bank accounts, financial loans and short-term monetary instruments. Thus, it supports significantly the progress by the Second Banking Directive. The member states had to comply with the Directive by 1990; except that Spain, Greece and Portugal were granted time to adjust until the end of 1992. As a result controls for payments relating to all banking activities, including retail banking, have been lifted permitting in principle full cross-border trade in banking services.

### 1.2.2 Minimum harmonization of banking legislation

The other directives that involve credit institutions are enacted to support the two Banking Directives. They harmonize basic prudential regulations and specify technical standards (e.g. accounting standards) in order to ensure equal competitive prospects for all credit institutions in the Single Market. As noted, legal harmonization is further motivated by ensuring consumer protection and market stability. The latter aspect is accentuated as the creation of the Single Market for banking services is expected to trigger a process of competitive deregulation, whereby national authorities in each state attempt to create competitive advantage for domestic banks, or at least, avoid putting them at a disadvantage. Competitive advantage would result if more modest prudential requirements than elsewhere in the Single Market area were employed lowering the regulatory cost burden of the

domestic banks. Competitive disadvantage would follow e.g. if domestic banks were not granted universal banking licences as defined in the Second Banking Directive.

Competitive deregulation would eventually lead to convergence of banking regulations which has already occurred to a significant extent due to national deregulation (see chapter 2), but it might result in excessive deregulation. Furthermore, in an integrated market major differences in banking regulations can not be tolerated due to important "cross-border externalities"<sup>22</sup> that cause investors in one country to be affected by regulations and disturbances in other countries. The following two sections present the major prudential measures stipulated by the Second Banking Directive and the supporting directives. These stipulations represent minimum harmonization in the sense that individual countries are in general allowed to apply more stringent rules. The first section describes the rules that have entered, and the second section those that have not entered into force on or by 1 January, 1993, respectively. Rulings on large exposures of credit institutions and deposit insurance belong to the latter category.

Consumer protection is a distinct field of harmonization with so far only few measures concerning explicitly the supply of banking services. Two non-binding recommendations that are also included within the EEA Agreement aim at improving customers' standing in effecting payments; main emphasis being on cross-border transactions, where the most important problems currently exist.<sup>23</sup> The Consumer

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<sup>22</sup> Chiappori et. al.(1991, section 6.4) assert that there are three kinds of important "cross-border externalities" in the Single Financial Market. (1) When banks have also foreign customers some of the effects of a domestic bank failure will be borne by foreign depositors or by those who are obliged to pay the deposit insurance. (2) A failure in one country could spread contagiously across all national markets. This problem becomes more severe when banks' exposures in other countries e.g. through the interbank market increase due to financial integration. (Foreign assets in portfolios of European banks have already increased markedly (see table p. 73)). (3) If a single currency is adopted banking failures may have repercussions on other countries also through the payments system. Then liquidity shortfalls are not necessarily restricted within single countries.

<sup>23</sup> These are Recommendations on Payment Systems and Relationship Between Card-Holders and Card-Issuers (88/317/EEC), and on Transparency of Charges of Cross-Border Transactions (90/67/EEC). In general, harmonization needs to be extended to cross-border payment systems and rulings governing the access to local payment systems in order to attain the conditions for full integration. Possibility to join existing local banking systems at indiscriminatory conditions is a prerequisite for conducting full scale ("mass") retail banking. Above recommendations can be taken to belong to EC's aspirations to enhance the efficiency and "fairness" of (cross-border) payment arrangements. A description of these recommendations is left to section 4.4, where a host of EC measures in this regard are reported in the context of evaluating potential barriers to entry and free movement of banking services in the Single Market.

Credit Directive (86/42/EEC) (amended by Directive (90/61/EEC) stipulates that credit agreements must be made in writing, and the consumer must receive a copy of the contract. The information presented must be sufficient to allow the consumer to make "an informed decision" in regard to essential terms of the contract; particularly the annual percentage rate of charge. The amending Directive of 1990 prescribes one single method of calculating the effective annual percentage rate of charge for consumer credits throughout the Community. This Directive is a part of the harmonization of the European consumer law based on the Single European Act, which expressly mentions consumer protection.<sup>24</sup>

#### 1.2.2.1 Directives on prudential regulations in force on 1 January 1993

The Second Banking Directive stipulates a minimum capital requirement of five million ECU to commence banking operations. Credit institutions' ownership control in non-financial firms is not restricted in the EC legislation, but their investments in these firms are limited. The Second Banking Directive stipulates that qualifying holdings involving more than 10% of the equity of a single non-financial firm may not exceed 15% of own funds of the credit institution. Further, the total amount of such holdings is restricted to 60% of own funds. In regard to acquisitions of credit institutions, the Second Banking Directive states only that the authorities of the state where the target institution is located must be notified when the acquired shareholdings exceed 10%, and whenever the holdings pass 20%, 33% or 50% respectively.

According to the Directive on Own Funds (89/299/EEC) (amended by Directive 92/16/EEC), the own funds of a credit institution are decomposed into (1) core capital which consists of the paid-up share capital or corresponding components of capital, and reserves accrued from yearly profits and losses, and (2) supplementary capital which includes subordinate loan capital, revaluation and value adjustment reserves, and commitments of members of credit associations. The Directive on Solvency Ratios (89/647/EEC) constrains the own funds of a credit institution to amount to at least eight per cent of its risk-

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<sup>24</sup> For a detailed discussion on consumer protection in the EC see Hopt and Wymeersch 1991 Part IV. Section 3 describes the Council Resolution of 1989 on Future Priorities for Relaunching Consumer Protection Policy.

weighted assets. Supplementary capital is restricted to the maximum of 100%, and subordinated debt to that of 50% of the core capital.

The capital adequacy requirements set out by the above two Directives are basically in line with the Bank for International Settlements (BIS) proposals; both have a similar division of assets into four risk categories and identical weights associated with them; 0, 20, 50 and 100% respectively<sup>25</sup>. Only some minor discrepancies between the calculation schemes exist, e.g. there is no limit in the EC system on published prudential reserves against losses (so-called funds for general banking risks) included within the core capital, but hidden reserves in the form of undervalued securities qualify only as supplementary capital. This stipulation is aimed to encourage credit institutions to disclose their provisioning against risks.<sup>26</sup> However, there is one major difference: BIS rules were aimed to concern only international banks while the EC rules pertain to all credit institutions. Small Finnish and Austrian banks are granted a two-year transition period in the EEA Agreement to fulfil the solvency requirement. However, the home country authorities must prevent these banks from establishing foreign branches until the demanded solvency is achieved.

The Directive on Annual Accounts of Credit Institutions (86/635/EEC) is based on EC's General Accounting Directives and provides detailed qualifications for the published accounts of credit institutions. The Directive on Publication of Annual Accounting Documents by Branches Established in Countries other than the Home Country (89/117/EEC) states that branches of a credit institution whose parent is located in another member state are not compelled to publish separate annual accounts on their own activities. Instead, the branches must supply the annual records of their parent institutions which cover also the activities of the individual branches. However, host country's authorities are permitted to request the established branches of foreign banks to supply additional information. Austria, Norway, and Sweden are allowed a transition period until 1 January, 1995; and Liechtenstein until 1 January, 1996 respectively, with respect to the implementation of the two Directives on annual accounts.

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<sup>25</sup> Cash in hand and loans to the central Governments of OECD countries carry a weight of 0%, Mortgage loans on residential houses have 50% risk weight, while all non-mortgage loans to private customers are weighted by 100%. Finland is granted an exception in the EEA Agreement: loans that are fully secured by shares in residential housing companies are subject to 50% weighting. Germany, Denmark, Greece, Iceland and Austria have a three-year transition period to apply a 50% weight to loans on office buildings, commercial premises and residential properties.

<sup>26</sup> See e.g. Gardener 1992 and Monthly Report of the Deutsche Bundesbank, May 1992 for more detailed information about the EC capital adequacy rules.

### 1.2.2.2 Rulings on large exposures and deposit guarantee schemes

It is seen necessary to stipulate the allowed concentration of exposures of credit institutions by legally binding rules to prevent differences in conditions for competition due to significantly varying national rules. High exposures would also put the solvency of a credit institution, and thus the stability of the banking system, at risk. To achieve this, the Recommendation on Large Exposures (87/62/EEC), included in the EEA Agreement, has been transformed into a Directive (92/121/EEC). Large exposures to a single client or to a group of connected clients are defined as those exceeding 10% of the own funds of the credit institution. The Directive stipulates that a single exposure may not exceed 25% of own funds. The limit is 20% if the client in question is the parent or subsidiary of the respective credit institution. The total amount of large exposures, is constrained to be less than 800 % of own funds. Credit institutions shall comply with the Directive by 1 January 1994, but adjustment periods have been granted, especially for small institutions (see Article 6).

Since Greece, and Portugal still do not have deposit insurance systems, and deposit protection varies significantly across countries (see table 1.2.), the Recommendation on Deposit Guarantee Schemes (87/63/EEC), included also in the EEA Agreement, has been turned into a Proposal for a Directive (92/C 163/05), which is expected to come into force on 1 January 1994.<sup>27</sup> It stipulates that one or more, private or governmental, deposit guarantee schemes must exist in all member states, and that all credit institutions authorized in that state must take part in a scheme. Further, the deposit insurance arrangement must cover the depositors of branches of the authorized institutions located in other member states. Thus, the principle of home country control is also applied to deposit insurance (see further discussion in section 1.3). The minimum cover per depositor (on his aggregate deposits) is set at ECU 15,000, but individual states are permitted to implement higher guarantee ceilings. Deposits to be included within the coverage are defined broadly<sup>28</sup>, including also deposits in foreign

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<sup>27</sup> See e.g. Financial Regulation Report (Supplement to Financial Times), May 1992, Monthly Report of the Deutsche Bundesbank, July 1992 and Annual Report of the Banking Federation of the European Community 1992 for more information and interpretations of the Proposal for a Directive on Deposit Guarantee Schemes.

<sup>28</sup> Deposits to be guaranteed are defined as credit balances which result from funds left in accounts or from temporary situations deriving from normal banking transactions and which the credit institution must repay under the legal and contractual conditions applicable, and claims for which negotiable certificates have been issued by a credit institution (Article 1).

currencies. However, Annex to the Proposal confines the types of depositors or deposits that may be excluded from guarantee, or granted a lower level of guarantee<sup>29</sup>; an issue whereby significant inter-country differences exist at the moment.

The Proposed minimum deposit guarantee leaves some risk to individual depositors, and therefore gives them incentives to evaluate and monitor banks' solvency, and induces them to place their funds with sound and prudently managed credit institutions. On the other hand, it guarantees protection to small unsophisticated depositors, who are not able to appraise properly the soundness of individual institutions. But since the coverage is not complete, the prudential solvency measures as stipulated by the Directives on Own Funds and Solvency Ratios are necessary to back up the deposit insurance system to prevent bank runs and a shift of funds from small institutions to large banks considered too big to fail.

In the US deposit insurance has played a major role in providing stability to the banking system, while in Europe its use has been more limited. Guarantee schemes were not introduced in most countries before the late 1970's, and they were primarily aimed to protect small depositors. However, the role of the deposit insurance is anticipated to increase, since the expected pro-competitive effect of integration would elevate its importance in sustaining stability (see e.g. Vives 1991b).

### 1.2.3 Treatment of credit institutions from third countries

In regard to credit institutions originating from third countries the EC legislation has adopted a reciprocity requirement<sup>30</sup>. This indicates that an establishment of a new credit institution whose parent(s) are located in third countries must be approved at the Community level. Third countries are evaluated against two sets of reciprocity criteria: (a) do EC institutions have comparable access to third country's markets to

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<sup>29</sup> These are deposits of (1) other financial institutions, (2) insurance companies, (3) the government and central, regional, local and municipal authorities administrative authorities, (4) undertakings for collective investment in transferable securities (UCITS), (5) pension retirement funds, (6) directors, managers, auditors or holders of at least 5% of the capital of the credit institution, and (7) close relatives and third parties acting on behalf of the depositors referred to at point (6). Additionally, deposits that may exempt insurance are non-nominative deposits, deposits for which the depositor has, on an individual basis, obtained from the credit institution rates and financial concessions which have helped to aggravate the financial situation of that credit institution. Debt securities issued by the credit institution may also be excluded.

<sup>30</sup> See directives (89/646/EEC), (90/618/EEC) and (90/919/EEC)

that granted by the Community to institutions from that third country, (b) does the third country grant national treatment and the same competitive opportunities that are available to national institutions. Branches of non-EC institutions are not required to publish separate annual accounts if the parent institution publishes accounts in accordance with the EC accounting rules. The EEA Agreement aims at convergence concerning the treatment of third country credit institutions, but allows for the moment certain national divergences (see Juel 1992).

#### 1.2.4 EC legislation concerning UCITS and investment firms

This section reviews the EC rules concerning UCITS and investment firms (defined below), since these institutions compete with credit institutions by providing substitutes to their deposit and securities trading services. Consequently, the adopted EC legislation has competitive repercussions upon credit institutions.

The Directive (85/611/EEC) (amended by Directive (88/220/EEC)) defines UCITS "as undertakings investing funds obtained from public in securities on the basis of risk spreading and with an open ended structure", thus encompassing under the same heading unit trusts, investment funds<sup>31</sup> and companies continuously issuing and redeeming their shares directly or through a subsidiary (referred to as SICAVES). The Directive is not applicable to closed-end funds or funds that invest not only in securities but also in other assets such as real estate. Most important restriction is, however, that the investments in short-term money market instruments may not exceed 10% of the portfolio value, which excludes money market funds from the Internal Market Programme as UCITS, as credit institutions, are subject to the principles of home country control and mutual recognition (and thus single licence) principles.<sup>32</sup> Commission has recommended an amendment of the Directive on UCITS (COM(92)37) to include also money market funds and so-called funds of UCITS investing in shares of other UCITS. No restrictions on money market instruments would

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<sup>31</sup> Unit trusts hold securities portfolios for the benefit of the holders of units in the trust fund. Investment funds are undivided portfolios of securities managed on a contractual basis. (See Hopt and Wymeersch 1991 Part VII, section 2, §1.)

<sup>32</sup> Marketing of UCITS in other member states is, however, subject to host state objection if the UCITS does not conform to locally applicable regulations. For more information see Hopt and Wymeersch 1991 Part VII, section 2, §3.

prevail provided that they are sufficiently liquid and frequently quoted. This amendment is important, since money market funds have rapidly expanded in many countries. This amended Directive is proposed to enter into force at 1 July 1994. The EFTA countries joining EEA must establish necessary national legal basis for bringing the Directive on UCITS into force simultaneously with the EEA Agreement. The existing UCITS are, however, granted a year to adjust their operations in line with the Directive (see Juel, p. 13).

Following a prolonged period, during which certain fundamental disagreements on the Proposal for Directive on Investment Services in the Securities Field (89/C 43/10) (amended by Proposal (90/C 42/06)) blocked progress, a breakthrough came in the middle of 1992. Formally the EC Council adopted a Common Position in December 1992. The scope of the proposed directive, i.e. included investment services, are listed in the Annex to the Proposal<sup>33</sup>. Consequently, investment firms are defined as firms providing these services. The Proposal follows by and large the enacted legislation concerning credit institutions. Mutual recognition and home country control would cover the services detailed in the Annex. Thus, investment firms would be entitled to establish branches or provide services without host country authorization or requirement of separate endowment capital, i.e. to obtain a single European licence. According to the Proposal, investment firms must be allowed indiscriminatory access to local markets and trading mechanisms and, e.g. stock exchange, clearing systems and financial futures and options markets. In addition, the Proposal includes minimum requirements for reporting to supervisory authorities, and detailed stipulations on the publication of trading information.

As the services of investment firms overlap those allowed for credit institutions, certain stipulations of the Proposal are extended to apply to credit institutions as well. These include the minimum requirements in order to obtain a (home country) authorization to conduct investment services and obligations to ensure credit institutions free access to local markets and trading mechanisms. The question of banks' direct access to these markets was one of the core

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<sup>33</sup> Investment services that are coming within the scope of the Directive include: (1) Brokerage in (a) transferable securities including units in UCITS, (b) money market instruments, (c) financial futures and options, and (c) exchange rate and interest rate instruments; (2) Dealing as principal, i.e. purchase and sale of the above instruments in own account; (3) Market making in the above instruments; (4) Portfolio management regarding the above instruments; (5) Arranging or offering underwriting services with respect to issues of transferable securities and distribution of such issues to the public. (6) Professional investment advice; and (7) Safekeeping and administration of any of the above instruments.

disputes hindering progress. The Common Position states that the member states currently applying laws that do not authorize banks to become members of these markets without having specialized subsidiaries could continue to apply such laws until the end of 1996<sup>34</sup>. The Directive is likely to be adopted during 1993, and its provisions to come into force by the end of 1995. (See e.g. Banking Federation of the European Community, Annual Report 1992, for more information on the Proposal)

The Proposal for the Directive on Investment Services is affiliated by a Proposal for a Directive on Capital Adequacy of Investment Firms and Credit Institutions (90/C 141/157) (amended by Proposal (92/C 13/07)) in order to provide a minimum level of harmonization of capital requirements to cover market risks as a precondition for the recognition of a single European licence. The minimum capital requirements are made contingent on the operations of the investment firms (see e.g. Hopt and Wymeersch 1991, Part VII, sect. §2.). Most significantly, the Commission has adopted the principle of functional regulation of the solvency of credit institutions and investments firms, according to which the capital adequacy of institutions providing identical services (e.g. securities trading services) must be calculated identically for these particular activities (see e.g. Schaefer 1992). Thus creating a level playing field for all market participants irrespective of their institutional form.<sup>35</sup> However, the capital requirements on the "trading book" activities of credit institutions may be calculated according the Directive on Solvency Ratios (89/647/EEC) as long as the "trading book" businesses do not normally exceed 5% of their total business volume, the positions do not normally exceed the amount of ECU 5 Million, or the "trading book" businesses never exceed 6% of their total business volume and positions never exceed the amount of ECU 20 Million. Otherwise the stipulations for investment firms as specified in the Annexes I-III to the Proposal apply to credit institutions' trading activities.

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<sup>34</sup> Spain, Greece and Portugal were allowed to extend the period until the end of 1999.

<sup>35</sup> Schaefer 1992 shows that the functional approach to capital regulations imposing the same capital standards to banks and specialized securities firms conducting the same trading services is inconsistent with theory of finance. The core of Schaefer's argument is the following: socially optimal regulation should be based on the trade-off between the expected systemic costs (externalities) of failure and the disbenefits of regulation due to higher "production costs" of financial services. Since the expected systemic costs of failure are clearly larger for banks e.g. due to the disruption of the payment system, the optimal capital ratio is consequently higher for banks taken that the effect of regulation on the production costs is the same for the both types of institutions. Thus, according to Schaefer, institutional instead of functional capital regulation should be employed.

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Own funds of credit institutions that engage in investment services as well as those of investments firms are defined according to the Directive on Own Funds (89/299/EEC) (with certain adaptations provided in Annex V to the Proposal). A detailed presentation of the derivation of the capital requirements is beyond the scope of this paper. Definitions of risks (associated with different instruments), position valuation methods and risk based weights used in calculating respective capital requirements are detailed in Annexes I-III<sup>36</sup>, while the Article 4 of the Proposal sets out the general principles. It is expected that the provisions of the proposed Directive will come into effect by the end of 1995.

### 1.2.5 Outline of the implications of "1992" for credit institutions

The adopted EC legislation appears successful in abolishing national legal and administrative barriers to the attainment of the conditions (1), (2) and (3) for the free movement of banking services listed at the beginning of this section. But, as noted, distortions could emerge if the principle of general good was adhered to. However, the Internal Market Programme with respect to banking was by no means complete in legislative terms on 1 January, 1993. Particularly in the conduct of cross-border retail payments subsequent progress is needed. Competitive deregulation is expected to complete the adoption of the universal banking system in all EEA states, since maintaining tighter restrictions on the range of activities than elsewhere would put domestic institutions at competitive disadvantage. The prudential solvency and exposure restrictions in the EC legislation represent to certain extent re-regulation, but the abstraction from any kinds of rate regulations enforces the shift towards price competition, which the abolition of practically all of these regulations in most European countries has already initiated. Naturally the most significant pro-competitive effect is the expected increase in cross-border competition. Furthermore, competitive pressures on part of UCITS can be expected to increase due to an increase in the investment opportunities available for them and freedom to conduct international operations.

The abolition of the major legal barriers to cross-border competition does not straightforwardly mean full economic integration

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<sup>36</sup> The stipulations are categorized according to risk classes: Annex I deals with position risk associated with various instruments, Annex II covers the settlement and counterparty risk and Annex III the foreign exchange risk.

and the realization of welfare gains attached to it; economic barriers to entry and incumbent firms' strategic responses (strategic barriers) can be as effective the legal ones in sustaining market segmentation. Chapter four covers this issue and chapter five attempts to draw overall conclusions about expected economic effects of the Internal Market Programme.

### 1.3 Major legal discrepancies remaining after 1 January 1993

As noted, certain legal discrepancies still remain within the Single Market area that potentially distort the establishment of credit institutions and emerging trade flows in banking services. The following are conceivably the most important: differences in (1) deposit protection schemes, (2) reserve requirements, and (3) taxation of personal interest income (withholding tax rates), and (4) legal and administrative problems associated with cross-border payment systems; particularly with retail payments. Items (1)–(3) are overviewed below without going much into details. The discussion on cross-border payments is concentrated in section 4.4.

As noted, the harmonization of the deposit guarantee schemes is not in place as from 1 January, 1993. Currently, the coverage provided by different national schemes varies markedly between different countries (see table 1.2.), the proposed minimum represents a median level protection. At least after the enforcement of the (Proposal for the) Directive on Deposit Guarantee Schemes, Portugal, Greece and Sweden<sup>37</sup> must set up a guarantee scheme, and Spain, Belgium, Luxembourg, Ireland and Austria raise the coverage up to the standard. France, the UK, Ireland and Belgium need to extend the protection to foreign exchange deposits. However, the protection can significantly deviate between countries also in the future as higher than stipulated protection is allowed in the proposed Directive. The organization of the deposit insurance may also vary across countries. For example, currently in Belgium, France, Germany and Italy deposit insurance schemes are privately administered by bankers' associations, while in the UK and Spain deposit insurance is managed by the

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<sup>37</sup> There is an implicit commitment to protect deposits up to 100% in Sweden, but explicit guarantee funds have not so far been established. The foundation of an explicit scheme is currently under preparation. (Source: Finnish Bankers' Association)

Central Bank. In Finland and Norway there are both governmental and privately administered guarantee funds.

The proposed application of the home country rules to deposit insurance can lead to competitive distortions within the Single Market if depositors in one country face different levels of guarantee. Naturally there are two possible cases for deviations: (1) banks with their head office in one member state (home state) set up branches in another state (host state), where the scheme(s) provides protection for a greater amount than the home state scheme. And (2) the host state scheme offers protection for a lesser amount than home state's scheme. The Proposal resolves the first case by stating that branches may voluntarily apply to join the host state scheme to supplement protection offered by their home country scheme. By contrast, the case (2) is left unresolved. Competitive distortions of the varying schemes are accentuated by the fact that banks may advertise freely their membership in particular guarantee systems. In fact, banks are obliged to provide their depositors with adequate information about the scheme they belong. Further competitive distortions may emerge if depositors question the credibility of certain private arrangements. However, competitive forces are expected compel the levels of protection to converge if lower levels prove to constitute significant competitive disadvantages.

Historically, minimum reserve requirements on banks' liabilities have been imposed for two distinct reasons: (1) to ensure the liquidity of banks and enhance stability of the banking system, and (2) to function as a monetary policy instrument controlling liquidity in the money market and constituting a constraint in the process of money creation. Since prudential measures and bank supervision have been implemented, the significance of the first purpose of the reserve requirements has diminished. In contrast, many central banks still regard the minimum reserve requirements as an integral part in their monetary management. Some countries, especially Italy, have adhered to high reserve requirements in order to realize seigniorage revenues (see table 1.3.). The perceived significance of the reserves is apparently decreasing, as the level of the requirements has generally declined over the recent years. (See e.g. Stevens 1991 and Drazen 1990)

Leaving aside the macroeconomic aspects, reserve requirements have a distorting effect on banking competition. They create a "regulatory gap" because of an existence of reserve-exempt offshore markets, such as the Euro-currency markets in wholesale banking, and because of less favourable terms for conducting retail banking businesses in states where reserve requirements are set higher than

elsewhere. More specifically, reserve requirements create a tax-like cost burden. Fama (1985) argues that in the wholesale market the cost burden of reserve requirements on CD's is mainly borne by bank borrowers, but in the deposit market, where banks can exercise more market power the cost of reserve requirements is paid largely by banks' depositors. However, in circumstances where all banks are subject to the same requirement the burden would fall totally on depositors even if markets were perfectly competitive. Thus increase in competition through establishment of branches by foreign banks would not alter the situation as host country rules apply to monetary policy instruments. By contrast, when banks operating in the same market face different requirements, the banks that are subject to higher requirements would have a competitive disadvantage due to higher costs which now cannot be passed on. This situation is emerging in the Single Banking Market where banks can freely supply services also cross-border. Maintaining high requirements would also have the effect of shrinking banking activities in the local market. Thus, market integration places limits to the operation and use of the reserve requirements, and is expected to cause convergence in the requirements due to competitive deregulation. (See e.g. Monthly Bulletin of the Deutsche Bundesbank, March 1990, Drazen 1990).

As noted, the convergence of the requirements has already taken place, e.g. Spain lowered the minimum requirement from 17% to 5% in 1990, while the reserves were made non-interest bearing. (The current requirement in Spain is 4.5%). The improvement of the competitive position of the Spanish banks was a clearly stated motive for the reduction. It should be noted that banks' cost burden can not be concluded directly from the required reserve ratios and corresponding remunerations depicted in table 1.3. The calculation of the reserve base as well as other stipulations (reserve accounting and maintenance periods, averaging and carryover provisions) vary between countries. Furthermore, one must take into account the benefits stemming from various central bank services banks obtain, e.g. the discount window, credit facilities and clearing services, in order to calculate the net cost burden.

All EEA states applied the same taxation rules in 1991 on interest earnings from abroad as to those on domestic earnings, and the withholding tax paid at the source of income was benefited in all countries except in Belgium and Iceland in home taxation. However, interest income earned above escapes taxation to a large extent due to monitoring difficulties. Furthermore, only five countries out of 12 EEA states imposed a withholding tax on interest paid to foreign residents. Thus, depositing funds abroad is in many cases a plausible way to

avoid taxation of which numerous deposits of German residents in Luxembourg represent a clear example. In general, significant differences in taxation<sup>38</sup> would have a major role in directing funds in the Single Market. Thus, the need to harmonize taxation rules and enhance monitoring is apparent. Significant discrepancies in national tax systems is one reason that hampers the process of harmonization; the Commission's proposal for a directive stipulating a minimum withholding tax of 15% has met severe difficulties (see Gustavsson and Herrala 1991).

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<sup>38</sup> See Gustavsson and Herrala tables 1.- 5. for country specific details prevailing in 1991.

Table 1.2.

### Deposit protection schemes in selected countries, May 1992

Country	Deposit protection cut-off		Coverage also extended to			
	In national currencies	In ECUs <sup>1</sup>	Deposits in foreign currencies	Interbank deposits	Domestic branches of foreign banks	Foreign branches of domestic banks
Belgium <sup>2</sup>	500000	11811	no	no	yes	yes
Denmark	250000	31577	yes	no	yes	yes
France	400000	57908	no	no	yes	no
Germany <sup>3</sup> (commercial banks)	30 % of own funds		yes	no	yes	yes
Greece <sup>4</sup>	--	--	--	--	--	--
Ireland	10000	13003	no	no	yes	no
Italy <sup>5</sup>	840000000	541547	yes	no	yes	yes
Luxembourg	500000	11811	yes	no	yes	no
Netherlands	40000	17266	yes	no	yes	no
Portugal <sup>4</sup>	--	--	--	--	--	--
Spain	1500000	11712	yes	no	yes	no
the UK <sup>6</sup>	15000	21412	no	no	yes	no
Austria	200000	13840	yes	no	yes	yes
Finland <sup>7</sup>	100 %		yes	no	yes	yes
Norway <sup>7</sup>	100 %		yes	no	yes	yes
Sweden <sup>8</sup>	(100%)					
Switzerland <sup>9</sup>	30000	16110	na	na	na	na
Canada	60000	39090	no	yes	na	no
Japan	10000000	61246	no	no	no	no
United States	100000	78740	yes	yes	yes	no

Sources: Monthly Report of the Deutsche Bundesbank (July 1992); Finnish Bankers' Association.

Notes:

<sup>1</sup> Converted on the basis of spot middle rates of 29 May, 1992

<sup>2</sup> Deposit protection is limited by the volume of the fund available

<sup>3</sup> Implies full coverage for most depositors, for savings banks and credit cooperatives protection through separate arrangements

<sup>4</sup> No explicit deposit protection, but an implicit guarantee commitment

<sup>5</sup> 100% for first 200 million, 80% for the following 800 million

<sup>6</sup> 75% of up to 20,000 of each deposit

<sup>7</sup> Separate funds for commercial, savings and cooperative (Finland) banks, and a state guarantee fund

<sup>8</sup> No explicit protection but an implicit commitment to full guarantee

<sup>9</sup> Deposit protection covers savings deposits and credit balances in wage and salary accounts

**Table 1.3. Minimum reserve requirements in selected European countries**

Country	Permanent reserve requirements for monetary policy purposes	Highest reserve ratios (%) for		Interest paid on reserves (%)
		Demand deposits	Other deposits	
Belgium	no			
Denmark	no			
France	yes	1.0	1.0	no
Germany <sup>1</sup>	yes	12.1	2.0	no
Greece	yes	9.0	9.0	partial remuneration
Ireland	yes	6.0	6.0	related to market
Italy <sup>2</sup>	yes	22.5	22.5	5.5-8.5
Netherlands	no			
Portugal	yes	17.0	17.0	partial remuneration
Spain	yes	4.5	4.5 <sup>3</sup>	no
the UK <sup>4</sup>	no		0.35	no
Finland <sup>5</sup>	yes	2.0	1.5	no
Sweden	yes	2.0	2.0	
Norway	no			
Switzerland	yes	2.5	0.5	no

Source: Bank of Finland

Notes: Information for Germany, Italy, and Sweden depicts the rulings in force in June 1993, for other countries in December 1992. See note 5 below for information concerning Finland.

<sup>1</sup> In Germany the requirement on other than demand deposits was lowered from the average of 4.5% to 2.0% in Feb. 1993.

<sup>2</sup> In Italy bank's incremental liabilities are subject to 25% reserve requirement. The reserves against CD's are remunerated an interest of 8.5% others that of 5.5%. Extra reserves earn 0.5% interest.

<sup>3</sup> Requirement on CD's is 3% in Spain.

<sup>4</sup> In the UK the cash reserve system does not serve monetary policy purposes. It is intended to ensure the financing of Bank of England's activities.

<sup>5</sup> In Finland the old cash reserve system was abolished on 1 June, 1993. In June 1993 an amendment to the Regulations for the Bank of Finland entered into force providing for a mandatory minimum reserve system. Deposit banks and branches of foreign credit institutions are required to hold 2.0% of their liquid deposits, 1.5% of other deposits, and 1.0% of other domestic liabilities as non-interest bearing minimum reserves at the Bank of Finland.

## 2 Institutional and regulatory framework in national banking markets

This chapter begins with an outline of the significant deregulatory process that has taken place in most European countries over the 1980s. We employ here the classification of regulatory measures into structural regulations, conduct regulations and prudential regulations made in section 1.1.4. When the process of banking deregulation is referred, it is generally meant the abolition of the first two types of regulations. The harmonization of the prudential regulations in the EC banking legislation were described in section 1.2.2. The ensuing sections give brief characterizations of the five largest banking systems in Europe, namely those of France, Italy, Germany, the UK and Spain; and additionally those of Finland and Sweden. The aim is to characterize institutions operating in the banking markets in the broad sense as delineated in the Banking Directives, and to describe substitutes to banks' deposit and loan services. Insurance companies and pension funds are excluded from the survey, but their importance as financial intermediaries is indicated in table A2.1. Hence, the goal is to give a rough picture of the competitive environment currently prevailing in national markets particularly in regard to retail banking. Appendices 1 and 2 facilitate comparisons across countries by presenting a number of comparative tables. Furthermore, changes in banking regulation are reported in more detail in order to provide background for the analyses carried out in the following two chapters.

### 2.1 Overview of the national banking deregulation in the 1980s<sup>1</sup>

The banking deregulation in the EC area began in the late 1970 which along with the liberalization of capital flows has significantly affected the evolution of the banking markets. The adopted EC legislation, primarily since the White Paper, and the anticipation of future

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<sup>1</sup> The specific sources of information are given in successive sections. Information for the EC-countries that are not considered here separately is obtained mainly from the Annex 2 to Gual & Neven (1992).

developments have significantly contributed to this process by triggering changes in national regulations; also in the EFTA states.

Firstly, regulations on banks' competitive conduct have been relaxed and largely eliminated having significant behavioural effects on the respective banking industries by enhancing price competition. The process has also facilitated the emergence of new financial instruments and institutions. Secondly, deregulation of structural rules has led to the adoption of the universal banking model as set up by the Second Banking Directive in all countries, except in Italy to some extent, already before the opening of the Single Market. Banking deregulation has affected significantly all countries except the UK, Germany and Netherlands where the banking industry has been traditionally only slightly regulated compared to other European countries.

Spain, France and Italy had the most regulated banking markets at the beginning of the 1980s in the group of the EC states under observation with stringent structural and conduct regulations. Rates and service fees were regulated and there were direct conditions on banks' assets and liabilities. Spain and Italy adhered to functional separations and stringent entry requirements, while France had somewhat less restrictive structural rules. Of the three countries Spain experienced the swiftest deregulatory process in the 1980s. It demolished most conduct rules, e.g. rate regulations and credit quotas, and market entry as well as the introduction of new banking products were rapidly eased. France relaxed all structural rules and also significantly conduct regulations, but explicit controls on demand deposit rates still remain. Italy has been the slowest to cancel regulations: Some structural regulations are still in force and conduct rules, albeit principally cancelled, have been temporarily reconstituted.

The UK lifted major structural and conduct restrictions that were mainly imposed on the activities of the building societies. However, a major change, the "Big Bang", took place in 1986 when banks were allowed to freely participate in the securities business. The Netherlands and Germany were significantly unregulated already at the beginning of the 1980s. However, the functional separation of commercial and investment banking is only gradually being withdrawn in the Netherlands. Belgium has lifted almost all structural restrictions but simultaneously slightly strengthened prevailing conduct rules, for example maximum interest is fixed on savings accounts, and legal provisions for imposing credit ceilings are still in place. In Denmark the major part of financial markets' controls were lifted at the beginning of the 1980s; somewhat earlier than in other Nordic countries.

In Finland, Norway and Sweden a large number of restrictive measures were rapidly removed over a few years around 1985 with Sweden being a few steps ahead of the other two countries. Stringent controls on banks lending were exercised via both rate regulations and quantitative controls in Norway and Sweden, while in Finland the former regulations were dominant. Financial innovations and the emergence of a "grey market" offering marked based investment opportunities rendered the credit controls gradually ineffective. As a result, banks were allowed to price freely their new credits, and the use of money market based reference rates extended. Deregulation has involved also controls on deposit rates, which have taken different forms in the three countries. In Finland implicit controls still pertain to deposit rates through rules of taxation. At the onset of the 1990s all major structural regulations, particularly the establishment of foreign institutions in the domestic market, have been eliminated in the three countries. Remaining exchange controls in Sweden, Norway and Finland were lifted in 1989, 1990 and 1991 respectively.

## 2.2 Institutional structure and deregulation in major EC banking industries

### 2.2.1 France<sup>2</sup>

In France an uniform legal framework for the conduct of banking operations is provided by the Banking Law of 1984. It defines a credit institution as an institution that carries out at least one of the three following operations: (1) collects deposits from the public, (2) grants loans and (3) issues or administrates means of payments. This broad definition ensures that all institutions in the business are subject to the same stipulations of the Law, e.g. solvency ratios, rendering no legal incentive for the development of specialized institutions. The Law imposes upper limits for credit institutions to engage in other than banking activities, e.g. insurance. The net income from these activities may not be greater than 10% of the global net income of a credit institution. The following institutions are not within the scope of the Banking Law, but are allowed to conduct banking operations and supply payment services: the Treasury, Banque de France, the Post

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<sup>2</sup> References to this section are Colmant (1990), De Boissieu 1990, Szymczak 1990, BIS Payment Systems in Eleven Developed Countries 1989 and 1991 and Payment Systems in EC Member States 1992.

Office, and the Caisse des Dépôts et Consignations (deposit and consignment office, which centralizes the deposits with the Caisses d'épargne, i.e. savings banks). Post Office's financial services, mainly the issuance of demand and sight deposits with Caisse Nationale d'Épargne (National Savings Bank), are a part of the postal administration. Post offices are not allowed to grant loans. Commission Bancaire (Banking Commission) containing representatives from the Bank of France and the Ministry of Finance has the powers of banking supervision.

The Banking Law classifies the credit institutions into four categories. (1) Commercial banks that perform all types of banking and associated operations like foreign exchange transactions and marketing of transferable securities and financial products. (2) Structured networks of banks, which comprise mutual and cooperative banks (e.g. Banques Populaires, Crédit Agricole and Crédit Mutuel), and savings banks. The banks belonging to this category operate in exclusive territories and have central bodies at the national level (e.g. Caisse Centrale des Banques Populaires and Caisse Nationale de Crédit Agricole) that supply administrative, technical and financial assistance. Thus, the banks belonging to the same network do not usually compete against each other. These banks are subject to special legislation, but their deposit taking and loan granting are not restricted. (3) Finance companies engage mainly in lending or securities trading according to the limits of their statuses. They are not generally allowed to take deposits from the public for terms of less than two years. (4) Specialized financial institutions carry out duties of public interest assigned by the state, and are not authorized to conduct operations not related to their assignments.

France has undertaken a significant deregulation of conduct mainly during the 1980s. The bank lending rates were deregulated already in 1967, but the controls on credit volumes persisted. They were removed partially in 1984 and totally cancelled in 1986. Since 1986, interest rates on time deposits with maturity over three months can freely follow market rates, and banks' service charges, various commissions and fees, are fully unrestricted. However, nominal rates on demand deposits are still laid down by rulings of the Committee on Banking regulations (see OECD Financial Statistics, Methodological Supplement 1992). This has been, one of the reasons for the rapid expansion of cash management systems, and especially money market funds and open-ended unit trusts and mutual funds, i.e. UCITS. The funds, invested in French UCITS were up to 50% of all funds invested in the EC countries in 1987 (see De Boissieu 1990). The competitive effect of UCITS is, however, weakened, since most UCITS are directly or indirectly managed by credit institutions. Establishment of

branches was liberalized at the beginning of the 1980s, which led to an intense competition over market shares via opening of new branches. The scope of the branch network appears to have matured by the end of the 1980s (see table A1.1a.). Since 1990 France follows the EC Directive on Solvency Ratios, which has meant adjustment to stronger requirements (see De Boissieu 1990, p. 222–224). As to structural regulations, the specialization within the banking system was ended in 1984 as universal banking operations were fully allowed. Remaining capital controls were cancelled partly in 1986, and full liberalization was achieved in 1990.

Banking industry is more concentrated in France than in other large EC states (see table A1.7.). Furthermore, commercial banking is dominated by the three largest banks, namely Banque Nationale de Paris (BNP), Crédit Lyonnais and Société Générale. Commercial banks control for more than half of the banking operations as measured by the public non-bank deposits (see table A1.1a.) followed by cooperative and mutual banks with a share of approximately 30 %. Crédit Agricole consisting of 90 regional autonomous banks and operating 9350 offices nationwide represented the largest depository institution in 1990. If one includes Crédit Agricole among largest banks, which is justified in regard to competitive aspects, the concentration ratios, CR3 and CR5 raise considerably upto 44.06% and 60.57% respectively (source: the Bankers' Almanac 1992) related to figures concerning individual banks (see table A1.7). Thus, the banking market structure is clearly oligopolistic in France.

Typical for the French banking sector is the significant state ownership, which has had the effect of hindering competition. By the Privatisation Law of 1986, 19 of the 38 commercial banks belonging to the public sector were privatised, but still two of the major commercial banks, namely BNP and Crédit Lyonnais remained in public ownership, as well as Crédit Agricole. With respect to the number of institutions banks under foreign control have a strong presence in France: In 1990 172 commercial banks out of 419 were foreign, of which 69 had their home base in other EC states. However, their market share in terms of total assets has been relatively smaller; 11.4% and 12.4% in 1987 and 1988 respectively (See Gual and Neven 1992 table 12). The large number of small commercial banks, the network banks and other financial institutions makes heterogeneity another distinctive feature of the French banking system. There are both diversified and specialized small institutions with and without branch networks, banks specializing solely in cash-management (banques de trésorerie), and banks dealing mainly with non-residents or in foreign currencies.

## 2.2.2 Italy<sup>3</sup>

The Italian banking sector consists of commercial, savings, cooperative and rural banks, which according to the Banking Law of 1936 (frequently amended) form the group of credit institutions authorized to receive deposits and grant credits for their own account. Credit institutions and the Postal Administration are the main providers of payment services. The Bank of Italy supervises the stability and competition in the banking system, as well as the activities of non-banks operating in the payment system.

The distinct feature is the still remaining significant specialization within the banking system. Short-term lending (up to 18 months) was allotted to commercial banks and the medium- and long-term lending (18 to 60 months and over 60 months) to special credit institutions in the Banking Law. The original reason for the division was to enhance stability through matching of the terms of assets and liabilities. The introduction of prudential measures, e.g. minimum capital requirements in 1986 and deposit insurance fund in 1987, has decreased the significance of specialization. More importantly, the recognition of an universal bank operating on all terms and conducting a wide range of banking businesses in the EC legislation has put pressure on the abolition of these regulations, as well as the elimination of specialization regulations in France and Spain where similar principles were originally followed. In 1987 restrictions were relaxed to some extent when all four categories of banks become subject to the same legislation and were allowed to grant medium- and long term loans up to a maximum of 30% of all loans. However, banks' medium- and long-term loan granting is still controlled by specific capital adequacy, deposit coverage and maturity matching rules (see Gual and Neven 1992), and special credit institutions are still largely excluded from the short-term credit market. Thus, to a substantial extent the structural division of the credit market remains.

There exists a strict separation between banks and industry in Italy as banks' equity participation in non-financial firms is banned. Bank ownership is not explicitly provisioned, but the Bank of Italy, which is in charge of the anti-trust policy, has overseen that non-financial companies do not exercise dominant influence over banks. In regard to other structural regulations, the establishment of open-ended mutual funds was allowed and their functioning regulated in 1983, and in

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<sup>3</sup> References to this section are Szegö and Szegö (1992), Bioni (1990), Bruni (1990), Gualandri (1990), Landi (1990), Gual & Neven (1992), BIS Payment Systems in Eleven Developed Countries 1989 and 1991 and Payment Systems in EC Member States 1992.

1988 the direct linking of money market mutual funds to banks' checking accounts was permitted. Open-ended mutual funds have developed briskly and compete directly with banks over household savings. Investment banking activities were allowed for commercial banks in 1977. In general, the applied structural regulations have left Italian banks less diversified than banks in other European countries.

The deregulation of conduct speeded up in the late 1980s although certain steps backwards were taken. There was an agreement on lending and borrowing rates until early 1980s. In 1983 the quantitative ceiling on bank loans<sup>4</sup>, and in 1987 the requirements of non-interest bearing deposits against foreign assets were abolished. Restrictions on the establishment of bank branches were partially relaxed in 1987, while the final liberalization took place in 1990. This resulted in a clear rise in the number of bank branches by 15.3 % between 1987 and 1990 (see table A1.1a.). This can be regarded as banks' reaction to increased competition, and aspiration to strengthen their position in the domestic market in order to meet anticipated competitive pressures from abroad (see Landi 1990). High reserve requirements (revert to table 1.3.) have been used in Italy to ensure financial stability and exercise monetary control, and most notably, as a fiscal policy tool to collect implicit inflation tax revenues (seigniorage) as high requirements widen the inflation tax base. As discussed in section 1.3, maintaining high requirements would be difficult for Italy due to competitive reasons and progress in the European monetary unification, which will not tolerate large asymmetries in fiscal policies.

Concentration in Italian banking is a bit higher than in other large EC states, except France (see table A1.7.). During the 1980's many mergers and acquisitions took place (see e.g. Bruni 1990 table 7.9), but they involved primarily small local banks. Currently large banks are considered too small and numerous to cope in international competition.<sup>5</sup> Thus, growth is seen as a dominant strategy for Italian banks. Italian economists have foreseen a polarisation of the Italian banking system in the near future into few diversified banking groups competing in the domestic and international markets, and many small banks specializing markedly by regions, clienteles or products.

The Italian banking market is the least internationalized in the EC area as measured by the market share of foreign institutions due to

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<sup>4</sup> Ceiling on bank loans was temporarily reintroduced in 1987.

<sup>5</sup> "The need for a higher degree of concentration has been felt and appears to enjoy general consensus. Today, more than previously the emphasis is on the integration of the larger institutions". See Bioni 1990. See also Landi 1990 and Gualandri 1990.

maintained restrictions on the activities of foreign banks. These controls were partially lifted in 1990, but some discriminatory rules still remained, e.g. ceilings on certain loans until the end of 1992. Another factor hampering private sectors' international operations have been capital controls that were not fully cancelled until in 1990. As a result the Italian banking sector had in 1985 approximately 70% less foreign assets compared to the European average (see Bruni 1990). As in France the state ownership in the banking system is important in Italy. There are six public so called charter banks, whose capital is held directly or indirectly by the government. The second largest bank, Banca Nazionale del Lavoro, is a member of this group.

### 2.2.3 Germany

The German Banking Law of 1961, revised in 1985, covers all enterprises conducting banking businesses: giro businesses, purchase and sale of securities and safe custody services, if "the scale of such businesses call for a commercially organized undertaking". Thus, the scope of the Law incorporates all firms executing payment transactions and the most part of the financial market. Or more specifically, as customarily classified according to the statistics held by the Bundesbank, universal banks, specialized banks, other specialized institutions and postal giro offices that conduct the postal banking services. Bank supervision is carried out by the Federal Banking Supervisory Office which is in conjunction with the Bundesbank. Historically Germany has had the least regulated banking market in Europe, without any significant structural or conduct regulations. However, the capital requirements have been high in European standards. The quantitative restrictions regarding equity, liquidity, investments, large-scale loans and loan concentration (see Rudolph 1990) aiming at protecting the functioning of the banking system have been in general less restrictive than the stipulations of the EC Directives. Thus for Germany, the adoption of the EC legislation denotes reregulation to certain extent.

The new accounting legislation for credit institutions, in force since January 1993, adjusts the German legislation in line with the relevant EC Directives (see Monthly Report of the Deutsche Bundesbank May 1992). The major revisions concern the undisclosed reserves through undervaluation of securities. According to new stipulations only those securities which are neither held as fixed assets nor included in a trading portfolio can be classified as loans and advances, and thus may be included in the basis for the calculation of

the undisclosed reserves of the supplementary capital. Undisclosed reserves may not exceed 4% of total assets. Published reserves can be built up unlimitedly in the form of the "fund for general banking risks" as written in the Directive on Own Funds. The revision of the capital standards affects significantly German banks as "hidden" value enclosed in the undisclosed reserves through undervaluation of securities was in Germany together with Spain and Italy among the highest in the EC in 1990 (see Gardener 1991 and 1992).

German universal banks conduct a full range of both commercial and investment banking services, but do not constitute a homogeneous sector of banks. According to respective legal statuses, universal banks are divided into commercial, savings banks and credit cooperatives, which each have separate banking associations and deposit protection schemes. Commercial banks are organized as limited liability companies and comprise also different subgroups. The first one comprises the largest commercial banks (Deutsche Bank, Dresdner Bank, Commerzbank and Bayerische Vereinsbank) that operate nationwide branch and own giro transfer networks. The second set consists of commercial banks concentrating strictly regionally or operating only a few branches nationwide, and the last consists of single banks, branches and subsidiaries of foreign banks and private bankers.

The 557 local savings banks, their 10 regional central institutions (Landesbanken / Girozentralen) and their central institution Deutsche Girozentrale formed the savings bank sector in 1991 (see table 2.1.). Almost all savings banks are publicly owned by local municipalities. Similarly the Landesbanken are owned by state or by the state savings banks association. The sector of credit cooperatives consisted of 2862 local cooperatives, three regional institutions (Zentralbanken) and their central institution, Deutsche Genossenschaftsbank in 1991. The credit cooperatives have the legal statuses of cooperative banks, whereas their central institutions are limited liability companies. Three regional institutions have been merged with Deutsche Genossenschaftsbank between 1987 and 1991 according to a plan to convert the sector into a two-tiered one. All savings banks and credit cooperatives are associated within single payment networks (giro organizations) respectively (see Monthly Bulletin of the Deutsche Bundesbank, July 1992).

The sector of specialized banks consists of private and public mortgage banks and special functions banks, which include e.g. the Reconstruction Loan Corporation (Kreditanstalt für Wiederaufbau), the Industrial Bank and Export Loan Banks, and from 1990 Deutsche Bundespost Postbank. Building and loan associations (Bausparkassen),

investment companies and securities clearing houses make up the group of other specialized institutions, which is not included in the Bundesbank's banking statistics. However, these institutions are not, excluding building and loan associations, direct competitors to universal or specialized banks. Most of the specialized banks and other institutions operate currently under specific laws.

Table 2.1. describes the banking market organization in Germany as available from the Bundesbank's statistics. The competitive structure is such that the three sectors of universal banks compete with one another in all services and market segments, and specialized banks put pressure on universal banks in specific niches. Local savings banks and credit cooperatives conduct their businesses within well-defined territories, and thus there is no competition within the respective groups of institutions.

The structure of the German banking market appears to be quite competitive. Concentration ratios, CR3 and CR5, are the lowest in Europe (see tables A1.1b. and A1.7.). The largest commercial banks do not play as significant role as e.g. in France, and the market is not dominated by universal banks as both mortgage banks and special functions banks have notable market shares as measured by the volume of business. Savings banks possess the most market power as a whole, but when compared to other regional and local institutions no strict dominance is observed. The role of the postal banking services is fairly small: their market share was 4.6% in 1990 in terms of the non-bank deposits (see table A1.1a.). Banking business in Germany is carried out mainly by domestic owned institutions: Branches of foreign banks and foreign majority-owned institutions (subsidiaries of foreign banks) managed only 4.2% of the volume of business in 1991 which is only 0.2 percentage points more than in 1987 although their number increased markedly between these years (see table 2.1.)

Table 2.1. **Institutional structure in German banking, 1987 and 1991**

	Number of banks		Volume of business (MDEM) <sup>1</sup>					
	1987	1991	1987	%	%	1991	%	%
<u>Universal banks</u>								
Commercial banks	306	339	955431	100	25.7	1432000	100	28.0
Big banks	6	4	399553	41.8	10.7	641255	44.8	12.5
Regional and other <sup>2</sup>	154	193	437887	45.8	11.8	643701	45.0	12.6
Branches of foreign banks	58	59	66192	6.9	1.8	81066	5.7	1.6
Private bankers <sup>2</sup>	88	83	51799	5.5	1.4	65978	4.5	1.3
Savings banks	598	568	1400694	100	37.6	1872369	100	36.5
Regional giroinstitutions <sup>3</sup>	12	11	617561	44.1	16.6	872439	46.6	17.0
Savings banks	586	557	783133	55.9	21.0	999930	53.4	19.5
Credit cooperatives	3480	2866	611080	100	16.4	770143	100	15.0
Regional institutions <sup>4</sup>	7	4	159944	26.2	4.3	194435	25.3	3.9
Credit cooperatives <sup>2</sup>	3473	2862	451136	73.8	12.1	575708	74.7	11.1
Sum	4384	3773	2967205		79.7	4074512		79.5
<u>Specialized banks</u>								
Mortgage banks	38	35	510098	100	13.7	627296	100	12.2
Private mortgage banks	27	27	328878	64.5	8.8	471650	75.2	9.2
Public mortgage banks	11	8	181220	35.5	4.9	155646	24.8	3.0
Banks with special functions <sup>5</sup>	16	16	245342		6.6	427720		8.3
Sum	54	51	755440		20.3	1055016		20.5
TOTAL	4438	3824	3722645		100	5129528		100
Banks whose majority is owned by foreign banks <sup>6</sup>	109	142	149348		4.0	216361		4.2

Source: Monthly Report of the Deutsche Bundesbank, August 1992. Excluding building and loan associations, postal giro offices and institutions in liquidation.

Notes:

<sup>1</sup> Includes balance sheet total plus endorsement liabilities on rediscounted bills, bills in circulation drawn by the bank, discounted and credited to borrowers, and bills sent for collection from banks' portfolio prior to maturity. Annual averages.

<sup>2</sup> Includes a part of former bank category: Instalment sales financing institutions (dissolved in Dec. 1986).

<sup>3</sup> Including Deutsche Girozentrale.

<sup>4</sup> Including Deutsche Genossenschaftsbank.

<sup>5</sup> From 1990 including Deutsche Bundespost Postbank.

<sup>6</sup> Separate presentation of independent institutions majority-owned by foreign banks included in categories: Regional and other commercial banks, private bankers and mortgage banks with branches of foreign banks added.

Typical for the German banking system are banks' numerous partnerships with and equity ownerships in other enterprises; both in non-financial and financial companies (see Größl 1990). Banks' ownership in non-financial firms has not been limited, only holdings exceeding 20% have been required to be reported. The qualified participation stipulations of the Second Banking Directive will bring about amendments to the German legislation. In Germany banks, especially the largest commercial banks, exercise significant control in non-financial companies through equity voting rights and supervisory board memberships. E.g. Deutsche Bank had in 1991 ownerships of more than 25% either directly or through holding companies in 76 non-financial companies including Daimler-Benz AG (28.19%) and Karstadt AG (25.01%) (source: Deutsche Bank, Annual Report for 1991). Large equity holdings in non-banks naturally have distorting effects on banking competition. In case of large companies, this effect is not too important, since they have close relationships with many banks and access to alternative finance. For small and medium sized companies the competitive distortions could be effective, if they are forced to transact chiefly with owner banks at unusual conditions. This would eventually decrease the standing of the company and thus also the value of the partnership, which alleviates possible competitive distortions. However, German banks have reduced their shareholdings in recent decade, one of the reasons being a desire to avoid the backing up of affiliated companies in possible future distresses.

Banks' partnerships with other banks and near-banks have been motivated by the ability to provide a wider range of services and to expand regionally without having to establish own branches. The former motive has induced banks' partnerships with specialized loan banks, e.g. mortgage banks and the latter partnerships with foreign banks. Partnerships with financial consulting firms, trust institutions and ADP-companies aim at improving customer service and achieving cost savings. All in all, these partnerships totalled between 1.2% and 2.2% of the balance sheet total of the large universal banks in 1987 (see Größl 1990).

## 2.2.4 The United Kingdom<sup>6</sup>

The UK banking market consists of authorized banks organized as public limited companies operating under the Banking Act of 1987, and of building societies ruled by the Building Societies Act of 1986. The state-owned National Savings Bank functions through the post offices, while the Post Office itself provides payment services related to postal orders and cash payments of state benefits to the public. Authorized banks divide into two distinct subgroups. Namely, clearing banks offering a wide range of banking services, and other authorized banks consisting of smaller deposit-taking banks, consortium banks, discount houses and foreign-owned banks. These institutions are generally specialists in certain areas e.g. bill finance, and some of them are subsidiaries of the clearing banks. Investment banks (merchant banks) fall also into this category. Their main business is providing corporate finance and investment management and financial advice services. The investment banks are mainly subsidiaries of the clearing banks, but the leading ones are independent entities (see Dixon 1991).

In 1990 there were 537 authorized banks, of which 330 were branches or subsidiaries of foreign-owned banks. Approximately 100 of these originated from other EC countries. Building societies are the most important source of finance for house-purchase in the UK. Their funding relies largely on short-notice accounts, but they are currently permitted to issue sterling and foreign currency CD's, negotiable bonds, euro-bonds and subordinated debt. Thus, building societies' lending, mainly mortgages, is of a much longer term than their borrowing. As a consequence, building societies are compelled to maintain a higher amount of assets in liquid form than the authorized banks. Investment trusts and unit trusts are classified as other financial institutions in the UK (in addition to insurance companies and pension funds). The majority of these trusts invest in securities, but so called authorized unit trusts are allowed to invest in land, buildings and property related securities, as well as in financial futures and options.

The UK banking market has been historically slightly regulated, as the German system, compared to other European countries. In 1986 authorized banks, both domestic and foreign, were allowed to engage in securities business allowing them to conduct universal banking. Most stringent structural and conduct regulations have pertained to

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<sup>6</sup> References to this section are OECD Financial Statistics Methodological Supplements 1988 and 1992, Payment Systems in EC Member States 1992, Llewellyn 1992a, Dixon 1991, Gardener 1991 and Mayer 1990.

building societies. By the 1986 Act building societies were allowed to engage in unsecured lending and to provide credit cards which led to an expansion of services provided especially by the largest societies. The interest rate recommendations for building societies were cancelled in 1984, and wholesale borrowing (as indicated above) was gradually permitted for the societies between 1980 and 1988. In 1989 new solvency ratios in accordance with BIS requirements were implemented. There are no constraints on banks' ownerships in non-financial firms in the UK (see Gual & Neven 1992).

The financial system in the UK is much more market based than those in other European countries, having similar characteristics as the US system. Thus, the UK system as a whole is less bank oriented as the capital market has been a more important source of funds for large enterprises. The UK lacks a significant group of specialized, commonly publicly owned, credit institutions that are typical for other European countries. Especially compared to Germany, there is much less banks' historical participation in the ownership and management of non-banks. Another distinct feature is that there does not exist a system of local banks and their central institutions operating in a common retail banking network in well-specified regions. As a result the number of banking institutions is much smaller in the UK than in France, Germany and Italy that have extensive local banking sectors (see table A1.1a.). Building societies bear a mutual status, but do not have a central institution, and are now allowed to change status into a public limited company.

In the UK banking market concentration is low in European standards as measured by CR3 and CR5 (see tables A1.1b. and A1.7.), but somewhat higher than in Germany. The banking market structure appears to be quite competitive as the market share of the largest banks is not excessive either. The role of building societies seems rather small in regard to total assets, 17.7% in 1990. However, when measured by domestic private non-bank deposits, their market share increases markedly to 42.7% (see table A1.1a.). The market share of the societies has recently decreased as some of the largest societies have been converted into public limited companies. With respect to loans to the private non-bank sector the respective market shares of authorized banks, building societies and other financial institutions excluding insurance companies and pension funds were 48.5%, 39.9% and 11.6% in 1987 respectively (see table A2.1.). Thus, building societies exercise significant market power in domestic retail banking markets, where they have concentrated their operations due to former regulations.

Authorized banks (foremost the clearing banks) conduct far more internationalized operations than building societies, and thus are much less dependent on the developments in the domestic markets. E.g. the overseas sector deposits amounted to 57% of total liabilities of authorized banks in 1990, while the corresponding figure for building societies was only 1%. In 1990 unit trusts' total funds amounted to approximately 10% of the total private non-bank deposits. Furthermore, most units (shares) in the trusts' assets are held by individuals. Thus, unit trusts constitute a significant factor in the competition over depositors' funds. Investment trusts' liabilities less bank borrowing amounted to 4 % of the total private non-bank deposits. (Source: Financial Statistics of the Central Statistical Office, Dec. 1991.)

In the UK the market share of branches and subsidiaries of foreign banks is the largest among European countries. As noted, in 1990 approximately 60% of all authorized banks were foreign majority-owned, and accounted for 57.20% of total assets of all authorized banks. London's traditional stance as a major international financial centre is naturally the main reason for this outcome.

### 2.2.5 Spain<sup>7</sup>

According to the Spanish Banking Law of 1988 credit institutions engage in borrowing funds and granting loans on their own account. The banking system, the system of credit institutions, consists of commercial banks, also called private banks, savings banks and credit cooperatives in Spain. Each of the three bank groups has their own deposit guarantee fund, which are financed by banks in proportion to their liabilities and by contributions from the Bank of Spain. Banking supervision is carried out jointly by the Ministry of Finance and the Bank of Spain.

Currently prevailing regulations do not give a competitive edge to any of the three groups of institutions, since savings banks and credit cooperatives are authorized to perform identical functions as the commercial banks. Company finance has been traditionally handled by commercial banks, but savings banks compete increasingly with commercial banks in this market. Still the loans granted to households,

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<sup>7</sup> References to this section are Carcía and Vilarino 1992, Revell 1991a, Caminal et. al. 1990, OECD Financial Statistics Methodological Supplement 1992 and 1988, Payment Systems in EC Member States 1992 and BIS Payment Systems in Eleven Developed Countries 1991 and 1989.

mainly mortgages, are more significant for the savings banks than the loans to enterprises. Thus, especially in retail banking savings banks represent a significant competitive threat to commercial banks. Furthermore, the savings banks have been able to strengthen their market position in the late 1980s (see table A1.1a.). Individual savings banks are grouped into two separate entities, namely the Confederation of Savings Banks (Cajas de Ahorro Confederadas) and the public Postal Savings Bank (Caja Postal de Ahorros). The former entity accounted for nearly 95% of all deposits in the savings bank sector in 1990. In 1991 the Postal Savings Bank became incorporated. It operates in addition to its own network of branches also through the post offices throughout the country. Recently, a wave of mergers has taken place among Spanish savings banks resulting in regional savings banks operating in country's autonomous regions. There are two large savings banks acting at the national level, and carrying out the same operations as the large commercial banks. Namely Caja de Madrid and "La Caixa". Agricultural and other credit cooperatives do not play a significant role in the Spanish banking system, their share in the non-bank deposits was only 4 % in 1990 (see table A1.1a.)

Other financial institutions operating in Spain are Official Credit Institutions: the Institute of Official Credit and the Official Credit Banks, e.g. the Mortgage Bank of Spain and Agricultural Credit Bank, and other bank-like institutions: mortgage loan, financial leasing and money market intermediary companies, and broker-dealers and agency brokers. The Official Institutions obtain their resources mainly from loans granted by the Government, while the deposits from private individuals are insignificant. The group of other bank-like institutions is not allowed to issue less than one-year maturity deposits. Thus, neither of these groups can be considered as a part of the banking system. Compared to other European countries, the relative weight of the banking industry is large in the Spanish financial market. In 1990 the share of banks in outstanding claims of the financial institutions on the private non-bank sector was 92.64% and 90.08% whether insurance companies and pension funds were included or not respectively (see table A2.1).

The Spanish banking system has undergone a very rapid liberalization process during 1980s from a heavily regulated system to close free-market business where most conduct and structural rules have been removed. Entry of domestic institutions was significantly restricted until 1988 shielding the incumbent institutions from competition. Interest rate and commissions regulations were lifted gradually between 1977 and 1987, and credit ceilings by 1990. Establishment of branches was freed totally in 1985 for commercial banks, but some restrictions remained for

savings banks until 1990. Nevertheless, the number of branches increased in the savings bank sector by approximately 15% between 1987 and 1990 (see table A1.1a.).

Spain has adhered to discretionary regulations against foreign banks in regard to establishment of branches and composition of their assets and liabilities. Only some of the regulations were lifted between 1986 and 1992. Thus, a significant change took place on January 1 1993 when the establishment and operations of foreign-owned banks were liberalized abolishing the discriminatory power of the Spanish authorities. Another significant change in regulations concerns the solvency requirements. Replacement of BIS standards by the EC standards denotes a strengthening of requirements to some extent, since in Spain, as in Germany and Italy, the importance of undisclosed (hidden) reserves through the undervaluation of securities has been higher than elsewhere (see Gardener 1991 and 1992).

In Spain, as in France and Italy, short-term and long-term lending were allotted to separate institutions, but the specialization rules were mainly cancelled already during the 1970's. Spain has exercised capital controls longest among the countries under observation: some deregulation occurred between 1988 and 1990, but final abolition of controls took place at the end of 1992. The reserve requirements of Spanish banks were lowered in March 1990 from 17% to 5%. At the same time the reserves were made non-interest bearing. The reduction was made as banks' costs due to high requirements clearly jeopardized the competitive position of Spanish banks as compared to banks from other countries (revert to section 1.3).

Spanish banking market has been characterized by relatively conservative banks and unsophisticated customers in European standards, but there has been a very rapid change in matters during the 1980s, especially in regard to the interbank market and payment technologies. Another traditional feature is the banks' significant ownership in the industry. The Spanish banking system experienced a deep crisis between 1975 and 1983(5), which interrupted the deregulatory process started in the mid-1970s, with industrial crisis and management problems stated as its main causes. Every second bank was seriously affected, and 33 banks failed between 1982 and 1983.

For 1990 the concentration measures, CR3 and CR5, are of an approximately same size for Spain as for the UK and Italy. However, in Spain concentration has increased significantly during the late 1980s. Two large commercial banks, Banco de Bilbao and Banco de Vizcaya merged in 1988, and in 1991 Banco Central Hispano-americano was created as a result of a merger between Banco Central and Banco Hispano Americano. Furthermore, nearly all large

institutions have managed to increase their market shares (see table A1.1b.). As in Italy, a clear aspiration toward larger units can be observed. The main reason is also the same: A widespread concern of domestic banks being too small to survive in the unified European market.

## 2.3 Institutional structure and deregulation in banking industries of Finland and Sweden

### 2.3.1 Finland

#### 2.3.1.1 Institutional and legal framework<sup>8</sup>

The banking and credit institutions excluding insurance institutions and securities broking firms operating in Finland include, as classified by the Finnish Bankers' Association, (1) deposit banks, (2) other credit institutions, (3) other financial companies, and (4) unit trusts (mutual funds) and investment trusts. The deposit banks comprise commercial, savings and cooperative banks whose operations are governed by the Deposit Bank Act (Talletuspankkilaki) that entered into force at the beginning of 1991, and by separate Acts according to respective company forms.

Five distinct deposit bank groups cover the most of the Finnish banking market and possess nationwide branch networks. These include, the three largest commercial banks Kansallis-Osake-Pankki (KOP), Suomen Yhdyspankki (SYP, the Union Bank of Finland Ltd) and state owned Postipankki Oy (Post Office Bank Ltd), which became a limited liability company in 1988. A former savings bank STS-Pankki (STS-Bank Ltd, incorporated in 1990) was merged with KOP in 1992. Cooperative banks and savings banks, and their respective central institutions, which have the legal statuses of commercial banks, OKO (Okobank Ltd) and SKOP (Skopbank Ltd), provide nationwide practically the same universal services as the largest commercial banks. Locally functioning individual cooperative and savings banks have a major role in particular in supplying banking services to the household sector and small and middle-sized firms. This sector of local banks has been subject to major structural changes

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<sup>8</sup> See Finnish Bankers' Association: Finnish Financial Markets (annual publications), Bank of Finland (BOF) publications: A:82 (1991), A:78 (1990), A:77(1990) and A:72(1989) (update information obtained from the BOF), and Kontkanen (1991).

over the recent few years. Especially among savings banks there has been a strong trend toward larger regional units.<sup>9</sup>

The Deposit Bank Act provides uniform competitive conditions for all deposit banks that continue to be the only institutions allowed to accept deposits by the public. Insurance activities are not allowed to deposit banks, but they may advertise insurance alternatives and intermediate standardized policies throughout their branch network. For the most part the new legislation is harmonized with the EC banking legislation. E.g. the new Deposit Bank Act allows financial leasing to be conducted directly through deposit banks instead of auxiliary finance companies which corresponds the stipulations of the Second Banking Directive. The required capital (solvency) ratio for all deposit banks is set at 8%, and the rules of calculation are basically in line with the EC Directives on Own Funds and Solvency Ratios, although lack full congruity.<sup>10</sup> The introduction of the new rules denoted a significant increase in the capital requirements, and profound alteration of their determination principles. However, since the negotiations of EEA Agreement, and also the EC banking legislation were immature when the Deposit Bank Act was written, it contains certain stipulations, in addition to the capital adequacy rulings, that are not fully in agreement with the EC banking legislation.<sup>11</sup> The new Credit

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<sup>9</sup> The largest savings bank Suomen Säästöpankki (Savings Banks Finland) operates nationwide since 1992.

<sup>10</sup> The major discrepancy concerns revaluation reserves (funds) which under Finnish legislation are included into banks' core capital, while the Directive on Own Funds classifies them as supplementary capital. According to the Deposit Bank Act 50% of valuation reserves for trading and investment assets, which are not recognized in bank accounting standards of most European countries, are also included into core capital. Thus, the Finnish rules are somewhat more advantageous to banks than the EC ones, especially for the Finnish cooperative and savings banks. Reserves against loan losses are handled in Finnish standards similarly as the item "Fund for General Banking Risks" in the Directive on Own Funds. According to the Deposit Bank Act, banks conducting international operations must fulfil the capital adequacy rules since 1 January 1993. Other banks are granted a five year transition period since the law enactment at the beginning of the 1991, which is in accordance with the EEA Agreement.

<sup>11</sup> The most distinct current deviation from the EC legislation is the omission of explicit stipulations on large exposures as originally set out in the EC Recommendation of 1987 in the Deposit Bank Act. The Second Banking Directive does not include restrictions on credit institutions' ownership in non-financial firms in regard to ownership and control with respect to equity capital and voting power, while regulations on the amount of these holdings of own funds are provided. The Deposit Bank Act, however, restricts the ownership control of Finnish banks in non-financial firms to 10% of the equity capital or voting rights. The restrictions regarding banks' investments in equity of non-financial firms (qualified participation) are in line with the EC stipulations. EC legislation does not

and Financial Institutions Act<sup>12</sup> merges the legislation concerning deposit banks and other financial institutions, i.e. the Deposit Bank Act and the Financial Services Act (Rahoitustoimintalaki), and conforms the Finnish legislation with the EC stipulations, e.g. it adopts the single license principle (mutual recognition) towards the credit institutions from other EEA states. Furthermore, credit institutions' ownership in insurance firms would not be restricted anymore. The new act will enter into force simultaneously with the EEA-Agreement.

The group of other credit institutions that specialize in granting long-term credit comprises mortgage banks and special credit institutions. The six mortgage banks specialize in granting long-term credits to the corporate sector, and do not engage in residential construction to a similar extent as in other European countries. All mortgage banks are subsidiaries of the deposit bank groupings, thus supplementing the financial services of their parent institutions. In the amended Mortgage Bank Act, the conversion of mortgage banks into a commercial banks became possible, which so far has led to the transformation of the Mortgage Bank of Finland Ltd into MB-Osakepankki (MB Corporate Bank Ltd) in 1989. The State has a majority shareholding in three of the four special credit institutions. The significance of the special credit institutions has been diminishing due to the liberalization of the financial markets in Finland.<sup>13</sup>

Other financial companies include finance and credit card companies. Rapid product development and adopted interest rate regulation promoted their establishment. The evolution of the money markets since 1987 and deregulation of the lending rates has slowed their growth.<sup>14</sup> The finance companies are also mainly subsidiaries of

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have regulations on credit institutions' real estate investments, which in the Deposit Bank Act are confined to 13 % of bank's total assets.

<sup>12</sup> Not and official translation. The Government proposal: HE 295/1992 vp. luotto- ja rahoituslaitoksia ja niiden toimintaa koskevaksi lainsäädännöksi.

<sup>13</sup> Special credit institutions were founded to serve specialized purposes at times when Finnish financial markets were undeveloped. Improved access to and evolution of the capital markets have diminished the role of the special credit institutions. The relative volume of their business has, however, grown due to an expansion in the range of their operations, also geographically (see table 2.2.).

<sup>14</sup> A proper money market was instituted, and the Bank of Finland started to quote the HELIBOR rates based on the average offer rates for CD's of the five largest banking groups in 1987. Market based funding has expanded its significance markedly for the deposit banks. The share of market-rate funding in commercial, cooperate and savings banks' domestic funding in 1990 was 40%, 23% and 19% respectively. Still, FIM

the deposit bank groups, and engage in businesses like leasing, factoring and hire-purchase. Also the credit card companies are typically subsidiaries of the deposit bank groupings. Additionally a cooperative Luottokunta handles credit card transactions and manages the cooperation with the international VISA and Eurocard systems. Also certain other international credit card chains conduct business in Finland. The Financial Services Act that came into force at the beginning of 1992 regulates the operations of mortgage banks, special credit institutions, finance and credit card companies.

Unit trusts (mutual funds) were allowed to be established by the Unit Trust Act of 1987. Unit trusts have so far been set up mainly by the deposit bank groups. The widening of the investment opportunities to all domestic and foreign securities that are "traded on stock exchanges or negotiated in recognized and regulated open markets" is to be governed in an amendment of the Unit Trust Act<sup>15</sup>, which will adjust to the EC legislation and come into force coincidentally with the EEA Agreement. Investment trusts (companies) engage in arranging risk capital for companies by assisting and subscribing their share issues. The owners of the investment trusts are the biggest banks and insurance companies along with miscellaneous companies and non-profit organizations.

Under the new Financial Supervision Act of May 1993 the supervision of financial markets and market participants is conducted since 1 October 1993 by a separate unit, Financial Supervision (Rahoitustarkastus) in connection with the Bank of Finland. The new unit combines the supervisory activities of Banking Supervision Office (Pankkitarkastusvirasto) and Bank of Finland. Banking Supervision ensured that banks operated in accordance with the law, while the Bank of Finland observed credit- and interest rate (price)- risks, foreign exchange exposures and exposures related to off-balance sheet activities.<sup>16</sup> The commencement of risk monitoring and supervision on part of the Bank of Finland was due to a general increase in banking risks following the financial liberalization.

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deposits by the domestic public continue to represent the most important source of funds for the deposit banks; their overall share has decreased from approximately 60% in 1985 to little over 40% at the end of 1990. (Source: Bank of Finland)

<sup>15</sup> Government proposal (HE 309/1992 vp.)

<sup>16</sup> The supervision of the Bank of Finland was mainly extended to 14 banks authorized to carry out foreign exchange transactions and international banking businesses. The monitoring reached to some extent also local banks authorized to operate in the foreign exchange market, other credit institutions, financial companies and insurance firms.

### 2.3.1.2 Deregulation of the Finnish banking industry<sup>17</sup>

In Finland the regulations on banks' average lending rates were lifted step-by-step between 1983 and 1986, and since then banks could freely price their new credits. However, the interest rates charged on a stock of loans tied to the Bank of Finland base rate can only be raised in proportion to changes in the base rate. The use of market based reference rates was liberated between 1987 and 1990. From 1990 banks could apply their own prime rates as a reference in all lending and deposit taking. In 1984 Bank of Finland dropped quotas on banks' central bank finance, which had the effect of curbing the growth in banks' lending.<sup>18</sup> In 1985 banks' fee cartel was dismantled, while the interest rates on demand and time deposits were subject to a cartel-like agreement until the end of 1988 as the interest income earned on certain deposit accounts was ruled tax exempt if at least two bank groups offered these deposits on similar conditions. From 1989 the tax exemption of interest earnings in determined by comparison to the base rate. Furthermore, since 1991 a withholding tax (in 1993 20%) is levied on taxable deposits and bonds. Currently deposits may not earn more than 2.5% p.a. to remain tax exempt. However, the ceiling for 24 month deposits is 4% and for 26 month deposits 5%. These changes in the rules of taxation, as well as the deregulation of lending rates, have significantly promoted price competition, and raised the average interest paid on deposits. However, recently competition in the deposit market has weakened following the fall in the market interest rates. Now, the tax exempt time deposits that are not subject to price competition seem to dominate.

The deregulation of capital movements and exchange rate controls started in 1980 when the forward market was liberalized. The foreign borrowing by households was allowed in 1991, which suspended all exchange controls in Finland. As to the structural regulations, establishment of representative offices and subsidiaries in Finland was permitted for foreign banks in 1979. The equity restriction of FIM 20 Million on foreign subsidiaries was removed in 1985. Foreign banks were not allowed to open branches in Finland earlier than in 1991.

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<sup>17</sup> Appendix to Brunila and Takala 1993 presents a detailed timetable of financial deregulation in Finland

<sup>18</sup> This meant a shift toward the use of interest rate instruments in executing monetary policy.

### 2.3.1.3 Characteristic features of the Finnish banking system

The Finnish banking market is highly concentrated, as the market share of the five dominant deposit bank groups (CR5') in regard to total assets and public deposits has been only few percentage points below 100% with respect to both total assets and deposits by the public. In terms of deposits the market share of the locally operating savings and cooperative banks is distinctly higher indicating stronger relative presence in retail banking markets. The overall market share of other five domestic commercial banks was insignificant at the end of 1991, as well as the five foreign owned banks that mainly engage in wholesale and investment banking (see table 2.2.). Deposit banks, i.e. the five controlling groups, have a dominant position among the Finnish financial institutions as apparent from table 2.2. Furthermore, banks' share of claims on the domestic private non-bank sector was around 85% and 69% excluding or including insurance companies and pension funds respectively (see table A2.1.).<sup>19</sup> The fact that the major part of other institutions operating in the Finnish financial market are subsidiaries of the five groups enhances further their position. Unit trusts have not so far advanced significant threat to banks in the competition over depositors' funds, and their expansion has been importantly curbed by the rash downswing in share prices since the end of 1989.<sup>20</sup> At the end of 1990 the total value of the 13 established trusts was only FIM 318 Million. However, their weight is expected to grow following the widening of their investment opportunities and the access of foreign UCITS to the Finnish market permitted in the EEA Agreement. Another distinct feature of the Finnish banking system is the high relative resource consumption in regard to branch networks, banking technology and human resources in European standards, and as most often cited, as compared to Sweden and Norway.

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<sup>19</sup> The share of direct finance was only approximately 9% in 1990 as measured by the share of claims on the non-bank public. Thus, the Finnish financial system relies importantly on financial institutions (mostly on the five deposit bank groups). (Source: Statistics Finland, Financial Market Statistics).

<sup>20</sup> A significant upturn took place at the end of 1992.

Table 2.2.

**Finnish deposit banks and other credit institutions, institutional structure and market shares, 1987, 1990 and 1991**

	Market shares			Deposits by the public, %		
	Total assets, %					
	1987	1990	1991	1987	1990	1991
Deposit banks						
KOP <sup>1</sup>	21.96	19.65	17.77	17.57	16.87	15.55
SYP <sup>1</sup>	21.41	16.79	17.31	18.06	16.69	17.04
PSP <sup>2</sup>	12.28	12.37	13.04	10.72	10.83	11.52
CR3	55.66	48.81	48.13	46.35	44.39	44.11
STS <sup>3</sup>		1.94	2.10		2.78	2.82
SKOP <sup>1</sup>	7.25	10.38	8.93	0.66	0.72	0.76
OKO <sup>1</sup>	5.20	6.24	6.09	0.60	0.60	0.76
CR5	68.11	65.43	63.15	47.61	47.89	47.69
Commercial Banks (incl. PSP)	68.88	68.64	69.09	48.04	49.16	49.16
Savings Banks	15.78	16.60	15.58	27.98	25.85	25.28
Cooperative Banks	14.24	14.16	14.39	23.96	24.93	25.49
Foreign banks <sup>4</sup>	1.10	0.60	0.93	0.02	0.06	0.07
TOTAL (MFIM)	452474	734004	770391	186502	260968	274953
	100	100	100	100	100	100
CR3'	66.40	67.03	62.77	71.26	68.97	69.33
CR5'	98.13	96.19	93.11	99.55	96.49	96.40
Deposit banks	452474	734004	770391			
	88.30	89.04	87.87			
Mortgage banks <sup>5</sup>	24033	24651	26336			
	4.70	2.99	3.00			
Special credit institutions <sup>6</sup>	36014	65617	80070			
	7.00	7.97	9.13			
TOTAL (MFIM)	512521	824272	876797			
	100	100	100			

Sources: Statistics Finland, Bank Statistics, Finnish Bankers' Association. Unconsolidated figures.

Notes: Deposits by the public excludes deposits by other financial institutions, the State and social security funds. CR3' and CR5': savings and cooperative banks and their central institutions are taken as individual banks. <sup>1</sup> Commercial bank. <sup>2</sup> Post Office Bank converted into a commercial bank in 1988. <sup>3</sup> Former savings bank, converted into a commercial bank in 1990. <sup>4</sup> Foreign owned banks operating in Finland at the end of 1991 were: Svenska Handelsbanken (Parent located in Sweden, a branch), Banque Indosuez (France, branch), Nordbanken (Sweden, branch), Midland Bank Plc (the UK, branch, closed operations during 1992), Citibank Oy (the US, subsidiary). <sup>5</sup> Mortgage banks operating in Finland at the end of 1991 were: Suomen Kiinteistöpankki Oy (Majority holder SKOP, Finnish Real Estate Bank Ltd), OKO Investointipankki (OKO, OKO Investment Bank Ltd), Suomen Teollisuuspankki Oy (SYP, Industrial Bank of Finland Ltd), PSP-Kuntapankki Oy (PSP, PSP-Municipality Bank Ltd), Suomen Hypoteekkiyhdistys (Various members, Finnish Mortgage Society), and Ålands Hypoteksbank Ab (Bank of Åland Ltd). <sup>7</sup> The special credit institutions at the end of 1991 were: Pohjoismaiden Investointipankki (Majority holders the Nordic countries, Nordic Investment Bank), Suomen Ventiliuotto Oy (State of Finland, Finnish Export Credit Ltd), Kehitysaluerahasto Oy (State of Finland, Regional Development Fund Ltd), and Teollistamisrahasto Oy (Savings bank group, Industrialization Fund of Finland Ltd).

A severe crisis has shadowed the Finnish banking market since 1991. The profitability of Finnish banks declined already in 1990, but the major drop into losses took place in 1991. Credit losses of Finnish banks surged in 1991 and further in '92 endangering the solvency of Finnish banks and posing a threat of a credit crunch. The climb of the credit losses is a reflection of a sharp increase in bank lending, whereby banks assumed too much credit risk, and a simultaneous deep recession in the Finnish economy. In the most frantic years 1987, '88 and '89 the annual increase in bank lending was in nominal terms of 19.1%, 31.1% and 15.2% and in real terms 14.7%, 24.9% and 8.2% respectively. The crisis puts heavy restructuring pressures upon the Finnish banking system, and mergers among the five groupings have been called for to cut costs and reduce capacity. Increasing competitive threat from abroad due to financial integration is also putting pressures upon banks' efficiency. During the crisis the savings bank sector has been most seriously affected. The takeover of SKOP by the Bank of Finland in fall 1991 and following arrangements have rendered SKOP and the largest savings bank, Suomen Säästöpankki, into the state ownership control.

## 2.3.2 Sweden

### 2.3.2.1 Institutional and legal framework

Sweden's credit institutions comprise according to the classification of the Sveriges Riksbank<sup>21</sup> (1) banks, (2) mortgage institutions and (3) finance companies leaving out insurance companies, national pension fund and securities trading companies. The share of the insurance companies and the pension fund in total claims on the private domestic non-bank sector was around 6% (see table A2.1.) at the end of 1990. At the end of 1992 the group of banks included only commercial and savings banks due to an universal merger and conversion of the entire Swedish cooperative bank-sector into a limited liability company, Sveriges Föreningsbank AB. Similarly a large share of the savings bank sector, including the largest independent savings bank Första Sparbanken and the sector's central institution, Sparbankernas Bank operate as a single commercial bank, Sparbanken

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<sup>21</sup> References for the institutional framework are Sveriges Riksbank, Sweden: Credit and Foreign Exchange 1991; Sveriges Riksbank, Quarterly Reviews 1991:2 and 1992:4; Statistiska Centralbyrån, Statistisk Årsbok '93 (1992) and Kapitalmarknaden del I. (August 1992). Svenska Bankföreningen (Swedish Bankers' Association), Bankerna och EG (Jan. 1992).

Sverige AB (SwedBank Ltd.), since 1 January 1993.<sup>22</sup> Thus, table 2.3. by depicting the market structure at the end of 1991 is somewhat outdated. However, the above mentioned changes do not represent drastic changes in competitive conditions, since as in Finland the groups of savings and cooperative banks have operated largely as single nationwide banking organizations, offering with the help of their central institutions practically the same range of services as the nationwide commercial banks.<sup>23</sup> However, the relative significance of commercial banks has considerably risen due to the reorganizations.

At the end of 1991 there were 17 commercial banks in the Sweden, of which 8 were privately owned companies. Of the three dominant commercial banks Nordbanken is to 77% Government owned, while Skandinaviska Enskilda (SE) Banken and Svenska Handelsbanken are in private ownership. The increase in the market share of Svenska Handelsbanken in 1991 is a consequence of an acquisition of Skånska Banken (see Sveriges Riksbank, Credit and Foreign Exchange 1991). The Swedish banking industry is highly concentrated; in regard to total assets the three largest commercial banks together accounted for approximately 57% of the market at the end of 1990, and the share of the savings bank group was 28%. Thus, the Swedish banking market is clearly dominated by these four "bank groups". With respect to domestic non-bank deposits the market share of the savings and also cooperative banks is markedly higher, displaying their more significant relative role in retail markets. Furthermore, market concentration in terms of CR3 and CR5 (CR3' and CR5') has increased sharply between 1987 and 1990, and a further growth is indicated since 1990. The rise in the dominance of a few large banks could have a negative impact on the competitiveness of the Swedish banking market.

The operations of banks are governed by the Banking Companies Act of 1987 in addition to separate laws according to the three categories. Only banks are entitled to accept deposits on account from enterprises, local and state authorities and households. New capital adequacy requirements in accordance with the BIS stipulations were introduced in 1990; an increase in the capital ratio up to 8% is required by the end of 1992. The capital standard was extended to apply to all credit institutions according to above groupings including also securities companies. This has denoted a marked increase in the capital

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<sup>22</sup> The drastic restructuring among savings and cooperative banks is described more in detail in section 3.3.3, where the recent developments among mutual (local) institutions in Europe are examined.

<sup>23</sup> CR3' and CR5' measures in table 2.3. incorporate this notion.

requirements. The Financial Supervisory Authority carries out the supervision of banking activities, and grants authorizations to conduct securities trading activities.<sup>24</sup>

Swedish mortgage institutions arrange long-term financing for households, businesses, agriculture and local governments. These intermediaries finance their operations mainly by issuing bonds. The group of mortgage institutions is broken down into four distinct groups of specialized institutions according to the respective recipient sector specified in the by-laws of the institution (see table 2.3.). These institutions have the legal statuses of either limited companies or associations. Most institutions of the former category are subsidiaries of banks, which reduces significantly their competitive impact on banks in the credit market. Some of the remaining institutions are fully or partly owned by the Government. The most prominent group of mortgage institutions is the group of housing intermediaries; it accounted for approximately 87% of the sector's total assets and 90% of total lending in 1991. At the end of 1991 the largest of the 11 housing intermediaries was Konungariket Sveriges Stadshypotekskassa with a share of 31% in the group's total assets. It had a status of an association; other housing intermediaries were limited companies. At the end of 1991 there were 6, 4 and 2 institutions in the categories of business, agricultural and local government intermediaries respectively. As the figures in table 2.3. indicate, mortgage institutions, especially housing intermediaries capture a large share of the Swedish credit market, rendering banks with a much smaller role than e.g. in Finland. In regard to the household sector the mortgage institutions even outweigh banks as in 1991 their long-term lending to the construction and renovation of private homes was 1.8 times as large as the total advances of banks to households. The lending by mortgage institutions has expanded rapidly due to deregulation of their activities; e.g. since 1988 these institutions are allowed to offer flexible maturity and interest rate conditions. Still most of the credits carry a fixed interest. Furthermore, in 1991 occurred a notable shift in favour of mortgage institutions as they were able to increase their lending significantly while that of banks somewhat contracted. (See Sveriges Riksbank, Credit and Foreign Exchange 1991).

Finance companies in Sweden comprised 152 limited companies in 1991, whose operations were rather heterogeneous. Financial leasing being the main activity, contributing to 43% of the total loan stock, followed by

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<sup>24</sup> At the end of 1991 20 largest banks were granted a securities authorization. The Riksbank privileges foreign exchange dealing, which by 1992 was allowed to all commercial banks (including now Föreningsbanken AB), and for seven largest savings banks (see Sveriges Riksbank, Credit and Foreign Exchange 1991).

conventional lending, 28%, including the most of the sector's advances to the household sector (which accounted for roughly 20% of the total lending of finance companies). Credit cards made up 4.2% of the total loan stock. Approximately one third of the finance companies are subsidiaries of banks, while most others are owned by the industrial or commercial sector. The operations of the finance companies are stipulated by the Finance Company Act of 1988, and supervised by the Financial Supervisory Authority. The overall role of the finance companies in the Swedish credit market is significantly smaller than that of banks and mortgage institutions (see table 2.3.). Mutual funds are since 1991 unrestricted in Sweden in regard to relative shares of various securities and interest rate instruments in their investment portfolios. The capital invested in mutual funds amounted to SEK 98.8 billion at the end of 1991, which is relatively much more than in Finland. However, the funds invested were approximately 14% higher a year earlier reflecting in part the fall in share prices and termination of certain funds. (See Sveriges Riksbank, Credit and Foreign Exchange 1991 and Quarterly Review 1992:4)

### 2.3.2.2 Deregulation of the Swedish banking industry<sup>25</sup>

In Sweden the interest rate regulation on bank deposits was abolished in 1978, and in 1983 the statutory powers of the Riksbank in regard to interest rate regulations were lifted and replaced by recommendations and penal interest. Finally, in 1985 the regulation of banks' lending rates was formally cancelled. In regard to quota-like controls banks' liquidity ratio requirements were lifted in 1983, in 1985 the limitations of lending of the intermediary institutions in the State and business sector ownership were abolished, and in 1985 the ceilings on banks' lending were nullified. As a result, a period of credit rationing was succeeded by a strong expansion including a greater element of risk, and intensified market share and price competition. The growth of lending in real terms reached approximately 11%, 11%, 24% and 18% in 1986, -87, -88 and 1989 respectively (see Koskenkylä 1992). Combined with a economic recession it has affected significantly the profitability of banks via surged credit losses. The situation turned into a severe crisis during 1991.

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<sup>25</sup> See Jonung (1986); Svenska Bankföreningen, Bankerna och EG; Sveriges Riksbank, Penning- & Valutapolitik (1991:1); and Sveriges Riksbank, Penning- & Valutapolitik (1990:3)

Table 2.3.

### Swedish credit institutions, institutional structure and market shares, 1987, 1990 and 1991

	Market shares			Deposits by the public <sup>5</sup> , %		
	Total Assets, %					
	1987	1990	1991	1987	1990	1991
<b>Banks</b>						
S-E Banken <sup>1</sup>	16.89	21.23	22.17			
Svenska Handelsbanken <sup>1</sup>	16.47	17.47	21.29			
Nordbanken <sup>1,3</sup>	14.48	18.54	16.45			
CR3	47.84	57.25	59.90			
Gotabank <sup>1</sup>	3.59	6.43	6.06			
Första Sparbanken <sup>2</sup>	3.61	3.76	3.95			
Sparbankernas Bank <sup>4</sup>	5.78	8.42	na			
CR5	57.23	72.10	na			
Commercial Banks	77.17	79.96	77.78	64.44	61.17	60.41
Savings Banks	18.11	16.17	16.17	27.46	28.97	29.17
Cooperative Banks	4.73	3.87	6.05	8.10	9.86	10.42
TOTAL (MSEK)	962928	1587596	1573680	450446	537189	563018
	100	100	100	100	100	100
CR3'	60.86	68.12	na			
CR5'	80.07	92.02	na			
	Total Assets			Total Lending <sup>5</sup>		
Banks	54.37	54.68	53.73	43.34	44.57	41.20
Mortgage Institutions	36.81	39.83	41.30	49.65	50.89	55.42
Housing Intermediaries	29.37	33.68	36.03	41.52	44.30	50.33
Business and Agricult. Intermediaries	6.31	5.65	5.28	6.53	5.81	5.09
Local Government <sup>6</sup> Intermediaries	1.12	0.50		1.60	0.78	
Finance Companies	8.82	5.49	4.97	7.01	4.54	3.38
TOTAL (MSEK)	1771145	2903317	2928820	1088946	1786525	1840479
	100	100	100	100	100	100

Sources: Statistics Sweden, Kapitalmarknaden del I and II; banks' annual reports. Unconsolidated figures. Notes: CR3' and CR5': savings and cooperative banks and their central institutions are taken as individual banks. <sup>1</sup> Commercial bank. <sup>2</sup> Savings bank, included in the figures for savings banks. <sup>3</sup> Nordbanken is a product of a merger of state-owned PK Banken and smaller provincial Nordbanken, state-controlled. <sup>4</sup> Central institution of the savings bank sector, a commercial bank. <sup>5</sup> Deposits by and lending to the domestic non-bank public (Inlåning från/ utlåning till svensk allmänhet) respectively; tables I:4 and I:7 in Kapitalmarknaden del I and table II:6 in del II. <sup>6</sup> Since 1991 included in Business and Agricultural Intermediaries.

Originally 12 foreign-owned banks operated in Sweden since the establishment of subsidiaries was freed in 1986, but their number has decreased to seven by the end of 1991. Their market share in terms of total assets was 1.6% at the end of 1990 (see table A1.7.). In 1990 it became possible for foreign banks to set up branches in Sweden, and simultaneously foreign ownership in domestic banks, housing intermediaries, finance companies and securities trading firms was freed. Also the overnight credit facilities of the Sveriges Riksbank, as well as the interbank clearing system were opened to foreign branches. Thus, discriminatory conditions toward foreign establishments have been removed in spirit of the EC guidelines. However, foreign banks had not set up branches in Sweden by the end of 1991. In 1989 principally all remaining exchange controls were abolished lifting all restrictions on capital movements.

### 3 Recent supply-side changes in European banking and related issues of market integration

This paper has so far been mainly descriptive. Now the treatment is altered by applying various elements of industrial organization (IO) to the issues of banking integration. This chapter begins this task by investigating the related supply-side issues. The analysis contains three interconnected elements. Firstly, theoretical aspects of the supply of banking services are introduced with reference to recent empirical evidence by employing two distinct approaches. (1) The production, or cost, approach emphasises the multi-product nature of banking firms, and examines the issues of the scale and scope economies and cost efficiency in the production of banking services. (2) The strategic approach broadens the viewpoint by recognizing the strategic contents of banks' supply decisions. Secondly, recent restructurings in the retail banking industries of the selected EEA states are delineated by taking up three distinct topics and associated trends: (1) The magnitude and nature of recent mergers & acquisitions activity and cooperation between banks, (2) alterations in the range of offered banking services, and (3) radical changes in the local banking sector, here referred to as mutual institutions, started in the second half of the 1980s. Finally, service capacities and resource consumption, operating efficiencies and prevailing payment technologies are explored in order to characterize supply conditions in national banking industries. These intercountry comparisons provide material for evaluating the potential industry specific efficiency gains from integration and their distribution across countries. The basic outcome is that significant heterogeneity in several respects exists among national industries, although some convergence over the observation period from 1983 to 1990 can be detected. Institutional and structural characteristics outlined in the previous chapter and in Appendices 1 and 2 provide background information for the discussion.

Three major "forces" have induced structural changes and affected the overall supply conditions in the European banking industries. (1) Banks' regulatory environment has significantly changed over the 1980s following national deregulation as described in the previous chapter. Deregulation has provided banks with more opportunities and generally enhanced competition by removing structural impediments. Moreover, the abolition of rate regulations has revised banks'

competitive strategies from competition in non-price (service quality) terms increasingly to price competition in countries where interest rate controls were adhered to; i.e. in Spain, Italy, Finland, Norway and Sweden, while in France and Belgium some explicit rate controls still remain. (2) Progress in the internal market programme for banking services since 1985 and the associated harmonization of the prudential standards has affected banking industries directly through changes in national banking legislations and indirectly through incumbent banks' anticipation of strengthening foreign competitive pressures in the Single Market. Finally, (3) technological advancements have reduced entry barriers in various market segments and affected significantly the production and distribution of banking, services, and facilitated product innovation. In addition, certain macroeconomic factors, foremost the development of inflation, interest rates and exchange rates, have affected the banking industry, but are left here unexplored. The study pertains to the above mentioned industry level "megatrends" and the country specific industry characteristics in interpreting recent observations.

## 3.1 Scale of banking operations in the Single Market — an overview

### 3.1.1. "Determinants" of optimal scale

The crucial supply-side question concerning banking integration is: How are banks expected to react to growth opportunities it provides in regard to both geographic and product range dimensions of their operations? I.e. one must explore various motives behind expansion and the feasibility of the different ways of realizing growth. The overall econometric evidence reviewed in section 3.2 indicates that universal retail banking is characterized by fairly constant economies of scale over the scales of most present banking institutions, and no clear evidence of scope economies is provided. Thus, the choice of the scale of operations appears indeterminate by the cost conditions, and the question of optimal size must be approached under a wider perspective in the new environment of the Single Market, where the legal barriers to cross-border expansion are largely lifted. At least the following further "determinants" of size can be identified:

- (1) Existence of scale economies in provision of certain banking services granting growth opportunities to specialized institutions.

- (2) The concept of critical size: certain operations or provision of specific (sophisticated) banking services require "sufficient" scale (see Revell 1991a). Furthermore, extending operations cross-border presupposes certain size.
- (3) Risk diversification opportunities through expanding operations European wide.
- (4) The favourable impact of size on reputation and familiarity, which promotes access to new markets.
- (5) The strategic role of size and scope of banking operations (see e.g. Conti and Maccarinelli 1992):
  - (5.1) Universal operations vs. business diversification
  - (5.2) Strategic choice between external and internal growth policies, so-called demand- or supply-led strategies
  - (5.3) Establishment or maintenance of control over previously protected markets (market niches) in order to earn monopoly rents.
  - (5.4) Entry blocking or deterrence via strategic expansion or cooperation (strategic barriers to entry).
  - (5.5) Early reaction to changes in the legal environment vs. "wait-and see" strategy.

The first four items are inherent in the following discussion of the economies of scale and scope in banking in broad terms. The fifth, the strategic component of size appears the most relevant factor behind the choice of the size of operations for universal banks under constant returns to scale. Thus, the restructurings taken place in European banking industries must be evaluated against the potentially complex strategic objectives of banks that are influenced by domestic deregulation and maturing integration. The key feature of the analysis is endogenous market structure. According to the theory of contestable markets market pressures would push the industry toward the most efficient structure in the long run equilibrium if there were no impediments to free provision of banking services in the Single Market (see Baumol et.al. 1982).<sup>1</sup> Nevertheless, the evolution of

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<sup>1</sup> This is in sharp contrast to traditional analyses based on the Structure-Conduct-Performance (SCP) – paradigm, whereby industry structure was not normally explained, but rather taken as an exogenously given factor. The theory of market contestability provides insight to market structure and competition by combining the concepts of barriers to entry and costs of multi-product firms. Market contestability is more thoroughly introduced in section 4.3.

market structures is not solely cost determined as the traditional view on integration presupposes. Instead, banks actively react to the threats and opportunities of integration with the aim of shaping industry's conditions favourable for themselves and reducing competitive pressures, which may be detrimental from the efficiency and welfare perspective. The strategic reaction is conceivably very important and receives also empirical support in the following discussions. The issue of production costs is, nevertheless, important, since the decline in non-price competition in favour of price competition is putting greater emphasis on cost efficiency and control.

The evaluation of the strategic aspects is allotted into this and the following chapter. This chapter addresses the first two overall strategy decisions of which areas and customers to target in light of recent European trends. Abraham and Lierman (1991) observe a recent shift from aggressive so-called demand-led strategies, which rely on external growth: mergers, acquisitions and various cooperation agreements, toward supply-led strategies, whereby growth policies are based on banks' existing internal resources. They argue that pressures to enhance cost efficiency due to intensified competition and a drop in the rate of growth of demand for various financial services are the main reasons for the change. This implies that overall one should be careful in anticipating future developments by banks' past reactions to growth opportunities.

The following two strategies arise from banks' incentives to soften emerging price competition and retain their market power by hindering entry in order to sustain the profitability of the "regulatory period". E.g. growing bigger by mergers or acquisitions can be seen as an attempt to deter entry of foreign competitors by acquisition. In Italy this goal has been clearly stated (see Landi 1990, Gualandri 1990 and Bruni 1990). Overall, these strategic objectives motivate banks to strengthen position at their home markets, and defend their current local customer base, which shows up as a recent increase in market concentration in most European countries (see table A1.7). Early reaction to changes in legal environment gains both theoretical and empirical support, as e.g. the consumer switching cost argument implies tough market share competition following the opening of new expansion opportunities. These issues of strategic conduct are further examined in chapter four. Motives for growth reflecting management's subjective preferences like power and prestige considerations (see e.g. Steinherr and Gilibert 1989), or establishment of the status of "too large to fail", are not further assessed.

### 3.1.2 Motives for and means of expanding banking operations cross-border

The traditional reason for the internationalization of banking firms has been to serve domestic clients who engage in international trade, are residents or have business interests in foreign countries: Banks have established presence in foreign money and capital markets in order to service domestic internationalized enterprises and to facilitate banks' own raising of funds. Thus, foreign entry has so far taken place mainly in wholesale and corporate banking markets, while the internationalization of the retail banking has been modest, but expected to increase in the Single Market. Foreign penetration into the former two markets has taken place via establishment of representative offices, subsidiaries and later on branches, and via cross-border take-overs and cooperation agreements. In these markets a single establishment is often sufficient for the provision of services. (See e.g. Heinkel and Levi 1992 and Canals 1993).

The above presentation of the "determinants" of the scale of retail banking operations neglects two clear strategic motives for cross-border expansion that exist to a much less extent in the wholesale and corporate banking markets that are already significantly competitive: (1) To exploit a competitive advantage, and (2) to take advantage of more profitable markets (market segments). The abolition of the legal entry barriers in the Single Market allows in principle more competitive banks to exploit their cost advantages and acquire significant market shares. Moreover, the considerable variation in efficiency, pricing and profitability across European banking industries as indicated by the subsequent descriptive analyses in this and the next chapter supports the existence of attractive entry opportunities. However, this issue remains inconclusive until the importance of the non-legal entry barriers are examined in the following chapter. An additional motivation for cross-border expansion that is conceivably more common to all banking businesses is (3) to take advantage of the market segments that have high growth potential. E.g. in France and Italy the personal debt levels are much lower than in the UK and Germany (see Lafferty Business Research 1990. See also Dixon 1991 and Canals 1993)

Given that a banking institution chooses to enter in a foreign retail banking market (it does not find economic or strategic entry barriers overwhelming) it has three alternatives to establish market presence (see e.g. Dixon 1991): (1) build a branch outlet in the target country, "the green fields approach", (2) acquire distribution capacity through a merger or an acquisition, and (3) gain access to established domestic

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distribution networks by developing business links with domestic institutions by means of cooperative agreements. However, the role of branch networks is diminishing also in the distribution of the retail banking services. Thus, a single branch (or a subsidiary) or provision of services cross-border by direct marketing from the home country constitute increasingly plausible alternatives to penetrate foreign retail markets. The investigation of the means of geographic expansion is continued in section 4.3 in light of the potential barriers to entry.

## 3.2 Production economies in banking — theoretical issues and empirical findings

### 3.2.1 Concepts of production economies in banking

When assessing the overall scale economies in banking one must take into account the multiproduct nature of banking firms; deposits are accepted to finance loans and deposits are used to make payments etc. The overall scale economies are defined as the elasticity of the multiproduct cost function with respect to a proportionate increase in all outputs,  $\varepsilon_{cy}$ . Overall economies or diseconomies of scale are present if  $\varepsilon_{cy}$  obtains a value less than or over unity respectively. Conclusively,  $\varepsilon_{cy} = 1$  signifies constant returns to scale.<sup>2</sup> Benston et.al. (1982), and Kim and Ben-Zion (1989) note that in case of branch banking a distinction must be made between overall economies of scale when output is increased within a given branch network, and when both network size and output are expanded. The former case equals the above definition of overall scale economies, but in order to derive a proper measure corresponding the latter case, the number of branches,  $B$ , must be added to banks' production function to account for the both channels of output expansion. If this distinction is not made the comparison of firm level findings between unit and branch banking is inappropriate, as well as the measure of scale economies for branch banking.

Analyzing scale economies is not adequate when cost conditions of multi-product firms are considered. A simultaneous production of

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<sup>2</sup> An alternative measure for overall scale economies can be derived from a multi-product generalization of average costs, Ray Average Costs (RAC). A proportionate  $t$ -fold increase in all outputs generates RAC of  $C(w,ty)/t$ , where  $C(w,y)$  represents the multi-product cost function. Declining Ray Average Costs (DRAC) indicate increasing returns to scale (see Baumol et.al. 1982, ch.3).

several outputs may contain significant cost complementarities which refer to the extent to which costs of producing individual outputs vary negatively with the production of other outputs. Cost complementarities are necessary for the existence of overall economies of scope (product mix economies),  $SC(y)$ , when a joint production of a certain combination of outputs is less costly than the sum of production costs of specialty firms producing each a single output. For multi-product firms the existence of both economies of scope (more specifically following Baumol et.al. 1982, trans-ray convexity) and overall scale economies (declining ray average costs) are sufficient conditions of natural monopoly, whereby a monopoly represents the least cost form of market structure. Thus, neither of the production economies alone result in natural monopoly (see Baumol et.al. 1982 ch. 7, and Gilligan et.al. 1984). (See Appendix 6 for exact definitions of  $\varepsilon_{cy}$  and  $SC(y)$ ).<sup>3</sup>

### 3.2.2 Sources of scale and scope economies in banking

In banking, as in other industries, the general reasons for scale economies are the more efficient use of specialized labour and capital, and the division of fixed costs over larger levels of output. A significant example is a decrease in unit cost of payment transactions when the set up costs of computerization are spread over larger volumes. There are, however, other sources of economies of scale specific to banking. These are related to (1) reserve holdings, (2) diversification of bank's assets, and (3) building public confidence (see Dowd 1992).

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<sup>3</sup> Scale and scope economies describe the situation when either the output scale or product mix are altered. Berger et.al. (1987) examine situations where both are changed simultaneously, and introduce more general cost concepts that allow the simultaneous change. Further, they develop a concept of competitive viability which permits the comparison of banks of different sizes and types, according to which "a bank is competitively viable only if no other set of firms with different scales and/or product mixes could jointly produce the same product mix at lower (scale-adjusted) cost". Overall, these concepts are useful empirically, since in reality banks rarely have the same product mixes or specialize completely.

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Baltensberger (1980)<sup>4</sup> shows that bank's optimal cash reserves against early withdrawals increase only with the square root of its liabilities leading to always increasing returns to scale in reserve holdings, but at a decreasing rate as the marginal return to scale approaches zero. Further, Glasner (1989) demonstrates that these returns diminish rapidly once a certain scale is passed. Thus, these economies seem to be significant only for banks operating at small scales. Their importance reduces further if at least some of the reserves earn interest.

Economies of scale in building public confidence arise, because the public perceives large and better diversified banks safer than the smaller banks. Thus, larger banks are able to reduce their confidence building expenditures relative to smaller banks; e.g. reduce their capital ratios and increase the return on capital. Depositors can also achieve cost savings when they need to monitor less the banks they perceive safe which allows the bank to offer lower rates. Other factors producing the same effects are the greater perceived likelihood of the continuation of the provision of services, and confidentiality associated with larger banks.

Further economies of scale may arise, since larger banks usually face smaller transaction costs. There are also economies of scale in evaluating customers' creditworthiness, since information costs of granting additional credit are lower than the costs associated with the first lending decision. It is very hard to assess these factors quantitatively, but as with the reserve holdings, the marginal returns to scale resulting from diversification, economizing on confidence-building and from other sources mentioned evidently disappear when a certain scale is reached. Dowd (1992) concludes that these factors are at least not sufficient to produce a natural monopoly.

Spreading fixed cost over an enlarged product-mix is a common source of the economies of scope. In banking this means exploitation of existing branch network and personnel by adopting new services. Baumol et.al. (1982) stress the cost benefits from joint production originating from inputs that can be shared or employed jointly without congestion as a general source of scope economies. In banking such inputs are especially the ADP-equipment and computer networks.

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<sup>4</sup> This result follows from minimizing the sum of reserve opportunity costs and the expected penalty costs if withdrawals exceed the maintained reserves. When the density function for withdrawals is assumed normal, the optimal amount of reserves becomes:  $R^* = (r/p)\sigma_{x_i}\sqrt{N}$ , where  $r$  is the opportunity cost,  $p$  the penalty cost per note outstanding,  $\sigma_{x_i}$  the standard deviation of withdrawals of individual notes, and  $N$  is the total number of notes outstanding.

The sources of economies of scope specific to banking include: (1) information economies, (2) risk reduction, and (3) customer cost economies (see Breger et.al. 1987). Information of customers gathered from e.g. servicing their deposits or granting a loans can be reused in e.g. granting other types of loans to the same customer. Asset diversification and asset-liability maturity matching through expanding a product mix can reduce bank's overall portfolio and interest rate risks. The widening of the product mix shields also against exogenous shocks like changes in consumer preferences, regulatory changes or other shocks that reduce the demand for specific products. Customer cost economies arise from cost savings when e.g. deposits are held and loans are obtained from the same bank. These savings include e.g. reductions in search and information costs, as well as transaction costs due to inter-account fund transfers. As with scale economies there are difficult quantification problems associated with the benefits from joint production.

### 3.2.3 Empirical evidence of scale and scope economies in banking

The most difficult problem in empirical studies is the specification of banks' output.<sup>5</sup> Two main approaches currently adhered to are the production approach where output consists of the number of deposit accounts and loans outstanding (corrected by their average sizes) and costs include operating expenses. Intermediation approach uses the money values of deposits and loans, and adds interest costs to operating expenses. The quality of banks' loan portfolios are not typically accounted for, which causes potential biases in the estimations, since credit expansion at the given level of input usage (monitoring) shows up as increased efficiency although the quality of the loan stock may have deteriorated. However, in general the results of recent studies appear to be considerably robust across different output and cost specifications, as well as across various countries and banking institutions.

There is a fair consensus in the recent extensive empirical literature (see Clark 1988 for a review) concerning the US banking

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<sup>5</sup> In some previous studies, e.g. Benston et.al. (1982) and Clark (1984) banks' outputs were measured by a single weighted index (Divisia index) enabling a single-product treatment of the production and cost functions. Kim (1986) showed that such an aggregate measure fails to describe banking technology properly, and that previous studies might thus be subject to specification error. This led to the abandonment of the composite aggregates and application of multi-product cost functions.

markets using multi-product production and cost functions that scale economies or diseconomies in banking are rather small. Estimates of overall scale elasticities vary only a few percentage points around unity (except in Buono & Eakin 1990). Small scale economies seem to exist only at low levels, and minor diseconomies at large levels of output. At branch level economies of scale are discovered to be more significant than at the firm level indicating that banks' current branch network is sub-optimally exploited, and some gains could be obtained by increasing output through individual branches. Main results of six representative studies are presented in table A6.1 of Appendix 6.<sup>6</sup> In the US studies estimations are usually carried out separately for states where branch banking is allowed and for states where it is not (the unit banking states), to account for the differences in regulatory environment. The firm level estimates of scale economies are fairly similar for both branch and unit banking when output expansion for branch banks is appropriately modelled. Only diseconomies of scale are found somewhat stronger for unit banks.

There are only a few rigorous empirical studies that involve European banking markets using multi-product functions. Conti and Maccarinelli (1992) survey a few studies concerning Belgian, French and Italian banking industries generally confirming the US findings of a flat average cost curve. Landi (1990) explored the Italian banking market and found, using 1987 cross-section data, that overall scale economies are present at the branch level over all asset sizes, but at the firm level these economies tend to disappear or remain limited. The same conclusion is presented also in Caminal et.al. (1990) in regard to the Spanish market. Kolari and Zardkoochi (1990) studied Finnish savings and cooperative banks for years 1983–1984, and found both small economies for small institutions and small diseconomies for large institutions at the firm level respectively. The branch level average cost curve was found L-shaped. Berg et.al. (1991) report that only small Norwegian banks experience economies of scale, while the middle-sized and large banks are encountered by slight diseconomies. Ruthenberg (1991) detects constant returns to scale for commercial banks at the level of upcoming EEA states, but small banking markets like those of Finland, Sweden, and Belgium are

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<sup>6</sup> The parametric studies presented in table A6.1 use flexible translog cost functions, which do not restrict *a priori* the production technology. Older studies (see Gilbert 1984 for a survey) have little relevance today, and are not considered here, since the nature of banking business has changed significantly. Moreover, the use of single-product cost (separable Cobb-Douglas) functions in these studies is an apparent drawback. In general, these studies detected scale economies and provided support for natural monopoly in banking (see also Gilligan et.al. 1984).

discovered to exhibit quite significant economies of scale. By contrast, he detects diseconomies of scale for the largest markets, i.e. for France and the UK.

Empirical cost studies do not give unambiguous evidence of product specific scale economies in banking. Nevertheless, the empirical studies do not consider the whole range of banking services. There are unquestionable scale economies in particular functions, e.g. marketing and capital market operations, and in production of certain specialized services. Producing payment services and processing transactions, where the fixed set up cost of computer networks is high and incremental costs of additional transactions are low, represent clearly such services. In case of payment facilities, especially debit and credit cards there is also a considerable demand for large scale due to network externalities: Consumers prefer cards that are widely applicable (see e.g. Neven 1990). However, banks need not necessarily grow in size or merge in order to meet this demand as banks can jointly support payments and ATM networks, which allow banks of different sizes to coexist if access to these networks is fairly priced. A trend to develop shared networks is observed in many countries (see table A4.2), and further, the internationalization of the networks is now strongly supported in the EC. Credit cards are mainly issued by large specialized international institutions that are able to exploit the associated scale economies.

Some operations, such as those in money and international financial markets, and provision of some modern sophisticated banking services, e.g. foreign exchange and hedging services, require the banking business to be of a certain size. In particular, this is the case in providing services to large corporate customers. In these cases the concept of critical size is more relevant than the production economies. The central organizations of local mutual institutions at regional or national level provide an example of arrangements that ensure local banks access to these markets. Centralized fund (liquidity) management and provision of services through specialized subsidiaries represent these kind of services of the central organizations, while centralized processing of transactions, managing a common payments network and centralized advertising clearly aim at realizing economies of scale (see Revell 1991a). Furthermore, the critical size appears to be increasing as integration increases the market dimension and exposure of national markets to external competition. This concern has been one motive for the structural changes that have recently taken place in the sector of mutual institutions.

There is no consistent evidence of overall economies of scope in banking (see table A1.6), but some indication of cost complementari-

ties exists. For example, Berger et.al. (1987) report economies of scope between total deposits and loans, and Lawrence & Shay (1986) between off-balance activities and total deposits. Thus, the evidence does not unconditionally favour universal banking. However, bank risks are not properly accounted for in these studies. Thus, benefits from asset diversification and reductions in business risks obtained through a wider product mix do not show up in the above studies.

### 3.2.4 Cost inefficiencies in the production of bank services

The estimates of scale and scope economies derived from estimating parametric (translog) cost functions recognize only scale inefficiency and assume otherwise efficient production of banking services. Some recent studies drop this untested assumption and distinguish between cost variation due to size and product mix as well as due to inefficient production of services. Results of three representative studies are presented in table A6.2. Two studies involve the US and one Norwegian banking market. A striking result emerges that cost inefficiencies in production are much more significant than scale or scope economies: on average the studies found around 20% higher costs compared to a cost efficient benchmark. Further, the dispersion of costs is found wide in all size classes, so that relatively cost efficient banks are discovered among large as well as small banks. Thus, the efficient use of productive resources, i.e. managerial actions to control costs, are of the greatest importance regarding the cost competitiveness (see further discussion in section 3.6).

These studies assess primarily operating inefficiencies, i.e. technical and distributional (or allocative) inefficiencies due to proportionate overuse of all inputs and to improper mix of inputs respectively. Technical inefficiencies are generally found to account for the most of the operational inefficiencies. Berger and Humphrey (1991) examine also financial inefficiencies due to overpayment of interest, but conclude that inefficiencies are mainly operational in nature. The main methods of measuring cost inefficiencies are Econometric Cost Frontier (ECF) and Linear Programming techniques (LP). In the former approach the efficient cost frontier is estimated from the data and observed costs are compared against the frontier, while the latter techniques impose nonparametric cost frontiers above input-output observations and the efficiency of a single bank is evaluated against a reference group of efficient (best practice) banks

(or their linear combination).<sup>7</sup> The obtained results have been fairly robust across different techniques and output specifications.

### 3.3 Recent structural changes in European banking industries

#### 3.3.1 Mergers, acquisitions and cooperation agreements in the 1980s

Mergers, acquisitions and cooperation agreements between banks represent external expansion in contrast to internal ways to realize growth. Clearly these represent complementary strategies, but in the second half of the 1980s an increase in the relative share of the external growth policies can be observed. Abraham and Lierman (1991) and Gual and Neven (1992) have studied in detail mergers, acquisitions and cooperation arrangements in banking in the EC over the periods from 1984 to 1989 and from 1984 to 1991 respectively. Gual and Neven considered also other financial institutions and insurance companies. The amount of mergers and acquisitions was greatest in 1989 and 1990, both with respect to the number of deals and money value. Also the number of various cooperation agreements rose markedly toward the end of the observation period. Most of the mergers were domestic, and moreover none of the cross-border mergers was significant.<sup>8</sup> Also the majority (approximately 70%) of acquisitions took place within national borders, and no apparent increase in the share of the cross-border deals could be observed over the period covered. The acquisitions activity was most intense in 1989 and 1990 both within and across borders. By contrast, a large part of the recent cooperation arrangements between major banks have been of a cross-border type. However, the agreements studied did not include network cooperation, which has significantly advanced in most countries (see section 4.4).

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<sup>7</sup> For details of efficiency measurement using ECF and LP techniques see Berger and Humphrey 1991, and Berg et.al. 1991 and 1993.

<sup>8</sup> The proposition of a large cross-border merger between the Netherlands' AMRO Bank and Belgium's Generale Bank was called off in 1989 (see Lafferty Business Research 1990).

### 3.3.1.1 Domestic restructuring

Although numerous, the recent mergers and acquisitions within the European banking industries have typically involved small institutions, and thus, only a small fraction of total the industry capital. The large, so-called core banks that control a significant share of banking markets in most European countries (see table A1.1b) have remained largely intact; at least in part due to protection on part of the domestic authorities. Mergers between large commercial banks have been rare in Europe. Important domestic regroupings have taken place only in Denmark, Spain, the Netherlands, Sweden and Norway (see table 3.1). In EC the mergers and acquisitions activity has been the most intense in France, Italy and Spain, where markets have been most fragmented and most significant deregulation has taken place. In these countries, especially in Spain, these deals have resulted in a clear rise in industrial concentration (see table A1.7.). The most of the recent mergers have taken place in the group of savings and cooperative and other mutual institutions. These restructurings that have affected most significantly the banking industries of Italy, Spain, Sweden and Finland are examined further in section 3.3.3. Note, that this evidence appears to support the recent empirical results that scale economies in banking are exhausted already at small output levels.

According to Gual and Neven's (1992) findings, the deals were mostly of intra-industry type (approximately 70%), i.e. between financial firms of the same kind. The small amount of inter-industry deals indicates that banks provision of e.g. insurance services, where possible, has mainly been organized, in stead of acquisitions, through an extension of the product mix within the previously established network. This indicates the existence of economies of scope that arise from spreading of fixed costs in the joint distribution of banking and insurance services.

**Table 3.1. Major national mergers/acquisitions of commercial banks in Europe**

Year	Commercial banks involved Name of the resulting bank	Country	Merger/acquisition (Ranking world, home) <sup>1</sup>
1988	Banco de Vizcaya Banco de Bilbao Banco Bilbao Vizcaya	Spain	Merger (77,1)
1989	NMB Postbank Internationale Nederlanden Bank	the Netherlands	Merger (37,2)
1989	Den Norske Creditbank Bergen Bank Den norske Bank	Norway	Merger (149,2)
1989	Banco di Santo Spirito Cassa di Risparmio Roma Banco di Santo Spirito	Italy	Acquisition of controlling 51% stake (181,15)
1990	PK-Banken Nordbanken Nordbanken	Sweden	Merger (69,2)
1990	Svenska Handelsbanken Skånska Banken Svenska Handelsbanken	Sweden	Svenska acquired Skånska (76,3)
1990	Den Danske Bank Copenhagen Handelsbank Provinsbanken Den Danske Bank <sup>2</sup>	Denmark	Merger (73,1)
1990	Privatbanken Sparekassen SDS Andelsbanken Unibank <sup>3</sup>	Denmark	Merger (113,2)
1990	Amro Bank ABN ABN Amro Bank	the Netherlands	Merger (na)
1991	Banco Central Banco Hispano Americano Banco Central Hispanoamericano	Spain	Merger <sup>4</sup>

Sources: Lafferty Business Research 1990, Canals 1993

Notes:

<sup>1</sup> The rankings are for the resulting commercial bank in regard to total assets at the end of 1990. Source: The Bankers' Almanac, Jan. 1992.

<sup>2,3</sup> The resulting two "mega-banks" in Denmark possess a combined market share of approximately 60% (see The Banker, Dec.1991)

<sup>4</sup> Banco Central Hispanoamericano became the largest bank in Spain (source: Bank of Finland)

### 3.3.1.2 Cross-border deals

As noted, foreign entrants have positioned themselves mostly in the wholesale and corporate banking markets over the recent years when the regulatory barriers have been importantly removed<sup>9</sup> (revert to section 1.2). Only a handful of the largest European banks possess branch networks in other European countries. However, cross-border retail banking operations are clearly expanding in Europe. For example, *Crédit Lyonnais*, which has been the most active of the European banks in this field, enlarged its branch network in other European countries from 220 to 700 branches between 1988 and 1991. In its home country, France, *Crédit Lyonnais* operated a network of 2640 branches at the end of 1991 (source: *Crédit Lyonnais, Annual Report 1991*).<sup>10</sup> Likewise, most of the cross-border acquisitions and cooperation agreements have so far been intended to participate in the wholesale and corporate banking markets (see *Lafferty Business Research 1990*). However, the cross-border deals as the first branch establishments often represent first moves to penetrate the foreign retail markets: To obtain detailed knowledge of market conditions and opportunities, and to ensure access to local electronic banking systems. The branch network can be augmented later on, and as even retail services can be increasingly dissociated from branches, other distribution methods can be utilized. Thus, it is worthwhile to examine what kind of cross-border linkages banks have recently established with other banking institutions in Europe, which demonstrate increasing interest to expand operations in foreign retail banking markets.<sup>11</sup>

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<sup>9</sup> In France the market share of foreign banks in terms of deposits was only approximately a half of that in terms of total assets in 1987, which illustrates their concentration in the wholesale (interbank) market (see De Boissieu 1990, p. 199). In Italy foreign banks' lira funds consist mainly of interbank deposits, and to smaller degree of large deposits of companies and public institutions (see Szegő and Szegő 1992). In Germany foreign institutions have largely operated in credit services associated with trade and operation of German subsidiaries of home companies (see Pozdena and Alexander 1992). In the UK the market share of foreign banks in terms of total assets is mainly due to London's role as a international financial centre holding a large share of the Eurocurrency and bond markets. See Linnošmaa (1992) for information concerning the Finnish banking market.

<sup>10</sup> Canals 1993 table 10.8 reports the presence of the major EC banks in other member states in 1988. In addition to *Crédit Lyonnais* (F), *Deutsche Bank* (G), *Dresdner Bank* (G), *Banco Bilbao Vizcaya* (E), *Banco Central* (E), *BNP* (F), and *Barclays Bank* (UK) possessed directly the widest branch networks outside their home countries.

<sup>11</sup> See *Lafferty Business Research 1990*, *Abraham and Lierman 1991*, *Dixon 1991*, *Gual and Neven 1992* and *Canals 1993*.

Most of the non-domestic acquisitions in have taken place in the southern Europe, especially in Spain and Italy, while the acquires have mostly come from the northern EC states, and also to some extent from non-European countries. This reflects the intention of foreign banks to take advantage of the deficiencies in the Spanish and Italian banking markets by supplying services these markets were lacking. Table 3.2. presents the most important cross-border acquisitions of controlling equity stakes between 1986 and 1990 in Europe. The acquisition targets have primarily been second-line institutions rather than major ones, while the acquires have mainly belonged to the group of the largest European institutions as indicated by the reported size rankings. The purchase of Yorkshire Bank by National Australian Bank in 1989 represents the most significant cross-border take-over. The subsidiaries of other foreign institutions have also been subject to a number of take-overs, e.g. Deutsche Bank's acquisition of Bank of America's Italian subsidiary Banca d'America e d'Italia with a 100-branch network in 1986.

Cooperation agreements between banks may take various forms, from pooling and marketing agreements to formal alliances strengthened by reciprocal (swap) or unilateral acquisition of minority holdings in partners' share capital. The latter types of arrangements can be considered more permanent with long term strategic cooperation objectives. Lafferty Business Research (1990) recognizes five distinct strategic objectives behind the cross-border alliances: (1) To penetrate or to facilitate future penetration into foreign banking markets by gaining access to domestic electronic banking systems, (2) to initiate closer relationships, e.g. in marketing, (3) to attain cost reductions in international operations, (4) to rebuild the recipient's capital base, and finally, (5) to deter take-overs. The last two objectives indicate that a motivation for cross-border alliances can be purely defensive in order to maintain independent status as "a web of agreements and cross-holdings" can be used as a shield against hostile take-overs. Thus, cross-border cooperation agreements are not necessarily intended to be expansionary, and may also be aimed to restrict competition. Table 3.3. reports the most important European cross-border alliances cemented with purchases of cross-holdings of shares that took place between 1986 and 1990.

Table 3.2.

### Major cross-border acquisitions of banking firms in Europe, 1984–1990

Target country	Year	Initiative investor (home country; ranking world, home) <sup>1</sup>	Target institution (home country)	Details of the transaction
Italy	1986	Deutsche Bank (G,17,1)	Banca d'America e d'Italia (US)	Acquisition
Germany	1987	Banco Santander (E,86,2)	CC Bank (US) (subsidiary of Bank of America)	Acquisition
the Netherl.	1987	Crédit Lyonnais (F,14,2)	Nederlandse Credietbank (US) (Subsidiary of Chase Manhattan)	Acquisition
France	1987	Istituto san Paolo di Torino (I,na,1)	Banque Vernes (F)	Controlling stake
France	1988	BNP (F,9,1)	Mortgage subsidiary of Chemical Bank (US)	Acquisition
Spain	1989	National Westminster Bank (UK,12,1)	Banko Nat-West March (E)	Stake increase from 46.4% to 83.6%
Spain	1989	Deutsche Bank	Banco Trans (E)	Stake increase from 39.5% to 63.5%
the UK	1989	Deutsche Bank	Morgan Grenfell (UK)	Acquisition
Italy	1989	Crédit Lyonnais	Credito Bergamosso (I)	Controlling stake of 29.6%
Austria	1989	Deutsche Bank	Antoni Hackler and Co.	Acquisition
Spain	1990	Crédit Lyonnais	Banco Commercial Espagnol (E)	Controlling stake of 83%
Spain	1990	Crédit Lyonnais	Iberagentes (E)	Controlling stake of 40%
the UK	1990	National Australia Bank (Austr.,60,3)	Yorkshire Bank (UK)	Acquisition
the UK	1990	Banca Popolare di Novara (I,155,11)	SFE Bank (UK)	Acquisition
Norway	1990	BNP	Kjobmondsbanken (N)	Acquisition
Germany	1990	Barclays Bank (UK,13,2)	Merck, Finck & Co. (G)	Acquisition

Sources: Lafferty Business Research 1990, Abraham and Lierman 1991, Dixon 1991, Llewellyn 1992a and Canals 1993

Notes: <sup>1</sup> Rankings are according to total assets at the end of 1990. Source The Bankers' Almanac, Jan. 1992.

Table 3.3.

### Major cross-border alliances and minority stakes between European banks, 1986–1990

Year	Initiative investor (home country; ranking world, home) <sup>1</sup>	Other partner (home country; ranking world, home) <sup>1</sup>	Details of the transaction
1986	Istituto San Paolo di Torino (I,na,1)	Hambros Bank (UK,594,26)	Purchase of 4% participation
1986	S-E Banken (S,57,1)	Privatbanken (since 1990 Unibank) (D,113,2), Bergen Bank (N) (since 1989 Den norske Bank (N,149,2), Union Bank of Finland (Fin,124,2)	Purchase of 5%, 6% and 3% participations respectively
1987	Banco de Bilbao (E)	Hambros Bank	Purchase of 6% participation
1987	Hongkong Bank (Hongkong, 20,1)	Midland Bank (UK,34,3)	Purchase of 14.9% participation
1988	CARIPL0 (I,na)	Banco Santander	Purchase of 1% participation
1988	Cartera Central (Kuwait,na)	Banco Central (E,121,5)	Purchase of 12% participation
1988	Commerzbank (G,40,6)	Banco Hispano Americano	Purchase of 10% participation
1988	Banco Santander (E,86,2)	Royal Bank of Scotland (UK,104,7)	Swap of 5% equity
1988	Kansallis-Osake-Pankki (Fin,122,1)	Gotabank (S,242,5)	Purchase of equivalent of 16% participation
1989	Rabobank (NL,28,1)	Banco Popular (E,279,9)	Purchase of 1.25% participation
1989	Westdeutsche Landesbank (G,39,5)	Standard Chartered (UK,114,8)	Purchase into branches and investment bank
1989	Banque Paribas (F,54,4)	Banca Commerciale Italiana (I,56,3)	Swap of 2% equity
1989	BNP (F,9,1)	Dresdner Bank (G,na)	Swap of board members
1989	BNP	Banco Bilbao Vizcaya (77,1)	Swap of 85 branches
1989	Banco Español de Crédito (E,239,8)	Banco Totta e Acores (Portugal,473,6)	Purchase of 3.32% participation
1989	Banque Paribas	Hafnia (D,1323,15)	Swap of equity 2.4% of Hafnia for 1% of Paribas
1989	Banco Hispano Americano (E,133,6)	Commerzbank	Purchase of 5% participation
1989	Commerzbank	Crédit Lyonnais (F,14,1)	Swap of 10% equity
1990	Rabobank	Crédit Agricole (F,na)	Cooperation in product development, no participation

Sources: Lafferty Business Research 1990, Abraham and Lierman 1991, Dixon 1991, Llewellyn 1992 and Canals 1993

Notes: <sup>1</sup> Rankings are according to total assets at the end of 1990. Source The Bankers' Almanac, Jan. 1992.

So-called banking clubs<sup>12</sup> represent another notable form of cross-border cooperation. They have been established to promote cross-border operations in various areas of banking businesses and to provide basis for more closer relationships in the future. The clubs first started cooperation in wholesale banking and international operations, but are now extending it also to retail banking as the Single Banking Market is being created in Europe.

### 3.3.2 Universal vs. specialized banking in Europe — recent trends

#### 3.3.2.1 Universal banking and business diversification

Past quarter of the century until late 1980s has been characterized by a general tendency toward universal banking in Europe, but in order to capture the whole development, one should go further back in time to examine the origins of the core banks (see Revell 1991b, p. 11–13). Universal banking does not have a precise definition, but it is most commonly used to characterize a large (commercial) bank that carries out corporate, wholesale, and retail banking, investment banking and securities businesses. Since in many countries especially large banks have established close links with insurance companies or even merged, the concept of universal banking can be taken to contain also

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<sup>12</sup> The major European Banking clubs are. (1) ABECOR: Algemene Bank Nederland (NL), Banque Bruxelles Lambert (B), Banque Internationale à Luxembourg (Lux), BNP (F), Barclays Bank (UK), Hypo-Bank (G), Dresdner Bank (G) and Österreichische Landesbank (A). BNP and Dresdner bank have swapped board members (see table 3.3). (2) EBIC: AMRO (NL), Deutsche Bank (G), Generale Bank (B), Midland Bank (UK), Société Generale (F). (3) EUROPARTNERS: Commerzbank (G), Crédit Lyonnais (F), Banco Hispano Americano (E) and Banco di Roma (I). Commerzbank and Banco Hispano Americano also cemented their partnership by acquiring participations (effectively swapping shares) in 1988 and 1989 respectively (see table 3.3). (4) INTER-ALPHA: Allied Irish Banks, Banco Bilbao Vizcaya (E), Banco Espírito Santo e Comercial de Lisboa (Port.), Berliner Handels und Frankfurter Bank (G), Crédit Commercial de France (F), Istituto Bancario San Paolo di Torino (I), Kredietbank (NL), Nederlandsche Middenstandsbank (NL), Unibank (D) and Royal Bank of Scotland (U.K.). Finally, (5) SCANDINAVIAN BANKING PARTNERS: Suomen Yhdyspankki (Union Bank of Finland, Fin), Bergen Bank (N), Unibank (D) and S-E Banken (S). Scandinavian Banking Partners is fastened by participations purchases by the Swedish S-E Banken (see table 3.3). Source: Lafferty Business Research 1990.

insurance business (see Revell 1991b).<sup>13</sup> The term is also frequently used to refer to the wide range of banking services the Second Banking Directive allows credit institutions to provide. Universal retail banking implies that large institutions offering all services control the market. The deregulation of structural restrictions that separated e.g. short- and long-term lending and commercial and investment banking to specialized institutions has enabled banking institutions to diversify their operations. Germany has the longest traditions in universal banking, since it is the only country in Europe where no significant structural regulations have existed.

The basic motives for banks to diversify their operations have been (see e.g. Canals 1993): (1) To make a more efficient use of the existing network of branches, and to spread the cost the ADP equipment over a wider range of businesses and financial products to enhance profitability. (2) Due to the increased capital standards enter businesses, which require a lower amount of back-up capital. And perhaps more importantly, (3) to reduce the variability of revenues, and (4) to reduce interest rate, credit and liquidity risks attached to banking businesses. For example, the second and fourth motive have to do with the process of securitization, whereby banks sell their credits in secondary markets. Whereas the first and the third motive have induced banks to combine banking with non-banking activities foremost insurance. For insurance companies cooperation with banks allows economizing on sales costs. However, cooperation may denote a reduction in competition as some life-insurance products are to some extent substitutes to bank deposits.

Nonetheless, the process toward universal banking has in general led to an uniformity of large banking organizations within each

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<sup>13</sup> Financial conglomerates, i.e. combinations of banks and insurance companies, are not prohibited in the EC as the Banking Directives allow a bank originating from EC countries to own insurance companies. Selling insurance services through banks' networks or insurance companies' ownerships in banks are not stipulated by the EC directives, and thus, left to national discretion. Although banks and insurance companies can belong to a same holding group, functional separation between banking and insurance subsidiaries must remain. Currently in many countries insurance services may be provided through bank branches (see Canals 1993, Lafferty Business Research 1990 and Alhonsuo & Pensala 1990). The most notable European bank and insurance links are: Lloyds Bank's acquisition of 57% of Abbey Life in the UK in 1988, the agreement between German Dresdner Bank and Allianz to cross-market each other's products in 1989, Commerzbank's acquisition of 50% of DBV in Germany in 1989, and a swap of 10% of share capital between French BNP and UAP in addition to a cross-marketing agreement. Source: Lafferty Business Research 1990.

country, and also internationally.<sup>14</sup> The aspirations to cover most of the markets for different financial services has typically resulted in a fall in the profit margins as financial liberalization has simultaneously increased competition in various markets. Shaw (1990) finds striking the similarity in banks' responses to strengthened competition, which has amplified the effects on banks' profitability. This has concerned both product innovation and diversification, i.e. targeting to the same market niches.

A shift in banks strategies at the beginning of the 1990s from aggressive demand-led strategies of innovation, market penetration and external growth policies to defensive cost-cutting and restructuring, so-called supply-led strategies is observed by Abraham and Lierman (1991). They note, however, that this shift is not apparent in all European countries, e.g. the German banks have continued to be expansive mainly due to the reunification, and also within countries differences between individual institutions can be observed. The reduced rate of growth of consumer demand is argued to constitute the main reason for this change. Revell (1991b) points out that rapid technological improvements in the provision of financial services has left banks with excess staff which call for internal restructurings. Overall, these adjustments are surely affected by banks' anticipation of strengthening competition in the unified European financial markets. Consequently, universal banks are expected to develop more differentiated in each country and also across countries as they rely more on their existing capacity and skills, even though their legal environment is under harmonization (see Abraham and Lierman 1991, and Revell 1991b). Abraham and Lierman (1991) present a rudimentary matrix, which shows the dimensions according to which banks can be classified, and may become more differentiated both functionally and geographically (see table 3.4.).

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<sup>14</sup> Revell (1991b) explains this development by the observation that overall competition among large organizations tends to create a single model in each market. "All supermarkets have much the same range of goods in their shelves, and all motorcars in the lower price ranges look much like each other apart from the cosmetic differences."

Table 3.4.

**Functional and geographical classification of banks, the "archetypes" (source: Abraham and Lierman 1991)**

Geographical	Worldwide	International, global player	Pan-European	Super-Regional	National	Regional and local
Functional						
Universal						
Commercial						
Investment						
Specialized <sup>1</sup>						

Note: <sup>1</sup> E.g. leasing, consumer finance, credit cards

### 3.3.2.2 Universal vs. specialized retail banking

The lifting of regulatory barriers to entry has been able to break some of the established structures also in European retail banking. Technological developments, which have reduced the cost of new systems to provide retail services, and shifts in customer demand toward more sophisticated products, have further enhanced competition. Thus, focusing and differentiation appear necessary also in retail banking. The developed uniformity among large universal retail banks, which has resulted in relatively low level of skills in the production of undifferentiated products, and widespread cross-subsidization carried over from the "old" competitive environment have provided opportunities for new specialized institutions to target successfully in niches for specific products or customers. The profitability of universal retail banks is being threatened mostly by the sharp reduction in the relative share of the advantageous demand deposits,<sup>15</sup> which traditionally constitute the main source funds and profits. Higher level of specialization of employees and technology in specialized institutions is an effective competitive advantage in the

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<sup>15</sup> The substitution of demand deposits in favour of so-called "asset accumulation products" among banks' liabilities representing a wide range of different products offering market based returns amounted averagely to 10% between 1980 and 1986 in Spain (16%), France (7%), Germany (7%), the U.K. (9%) and the Netherlands (8%). The aggregate share of non-market deposits was lowest in the Netherlands and the U.K., 30% and largest in Spain 66% in 1986. Source: Löhneysen et.al. 1990a (exhibit 1).

absence of significant economies of scale in universal retail banking (See Conti and Maccarinelli 1992). Furthermore, the competitive pressure on part of various UCITS and money market funds has increased significantly in many countries (revert to chapter 2).

Löhneysen et.al. (1990a) divide the broad class of the specialized banking institutions, including also UCITS and money market funds, into three distinct subgroups: (1) product, (2) distribution and (3) processing specialists. Product specialists exploit product differentiation opportunities, for example in mortgage and consumer loans and provide substitutes for time deposits and increasingly also for demand deposits: mutual funds and cash management systems. Some of the offered products are targeted to specific customer groups. Their emergence has intensified competition over households' savings and thus increased the average interest expense of banks. Distribution specialists provide tailored services to specified customers. Finally, Processing specialists capitalise on economies of scale in certain products like credit card processing. These institutions are often able to realize further cost advantages by operating advanced technology and skills. Löhneysen et.al. report significant recent break-throughs for specialized institutions. For example, in the UK the share of specialized institutions in the market for mortgage loans rose over the second half of the 1980s from 1% to 11%, and in France and Germany specialized distributors have grown very rapidly, e.g. UFF France and Deutsche Vermögensberatung that specialize in the distribution of mutual funds' shares and other asset accumulation products using direct salesforce.

The competitive advantages of large universal banks are the large and fairly stable customer base, and therefore, access to comprehensive customer information. And additionally, wide networks, dominance of payments systems and pure economic power. Further, long history and familiarity give rise to reputational benefits. However, several authors argue<sup>16</sup> that in the long run traditional universal banks must imitate specialized institutions in respective markets in order to survive in competition. This is obtained only by a change in the overall business strategies and organizational structures.

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<sup>16</sup> See e.g. Löneysen et.al. 1990a and 1990b, Shaw 1990, Whitehead 1990a, Abraham & Lierman 1991, Revell 1991a and 1991b, and Conti and Maccarinelli 1992.

McKinsey<sup>17</sup> management consultants have proposed a "federated bank model" to attain these ends. Without going into details, the main idea is establish independent product or distribution subsidiaries within a holding group that operate in the same way as the specialized institutions. These subsidiaries (or divisions) would possess required specialized skills and technology to supply differentiated products. The central organization (holding company) would manage customer information, asset and liability management and other centralized functions where cost economies are present, and thus maintain the strengths of the former universal structure. Löhneysen et.al. (1990 a and b) note that this kind of organizational structure has already been adopted by some large banks in Europe. The functions of the overall organization should be market based so that the units could purchase services also from and provide to other financial institutions in addition to the central organization.

### 3.3.3 Developments in the mutual institutions sector

#### 3.3.3.1 Underlying developments and motives for restructuring

Perhaps the most significant changes concerning the structure of the retail banking markets in Europe over the recent years are the restructurings among mutual institutions that have taken place to some extent in all European countries. This process has accelerated during the second half of the 1980s and is still under way and expected to continue in many countries. Mutual institutions are taken here to encompass savings and cooperative banks, credit cooperatives, credit unions and building societies. While these institutions differ in their ownership structures, their common feature has traditionally been small size and provision of mainly retail services to households and small businesses in restricted local areas. Hence, there has not been competition among mutual institutions of the same type, referred to as the territorial principle. Mutual institutions typically have national or regional central institutions, with the exception of building societies in

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<sup>17</sup> See Löhneysen et.al. 1990a and 1990b. Shaw (1990) discusses about a same kind of a need for organizational restructuring in traditionally vertically integrated universal banks, which he calls supportive organizations. His model of an entrepreneurial organization, where decision powers are shifted down to independent operational units, resembles closely the McKinsey-model. He argues that greater autonomy may endanger the benefits from centralized organisation. Therefore, he suggests a preferred model of a collaborative organization, where the adequate cohesion is preserved. This structure would then capture the competitive advantages of both specialized and vertical organizations.

the UK, that lead a common network for payment management and perform other collective services. As displayed by figure 3.1. mutual institutions hold significant market shares in all countries. Their collective market share is the largest in Germany and Finland and the smallest in Belgium and Netherlands. Note, that in Danish statistics commercial and savings banks are not reported separately since 1989.

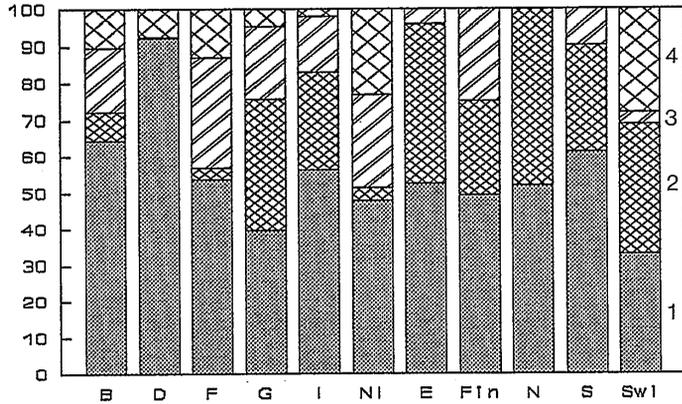
Three major reasons can be identified behind the recent restructurings in the sector of mutual institutions (see Revell 1989, 1991a and b). (1) Most institutions have been seen to operate under the critical size to provide modern, more sophisticated services even in retail banking. Thus, mergers have been conducted in order to enhance their market position and to compete in the level playing field with large universal commercial banks. (2) The BIS capital adequacy standards, which were originally intended to apply only to international credit institutions, are now extended to involve all credit institutions in the EC rulings. This has generally denoted a significant rise in capital requirements for the mutual institutions. Many institutions that fulfilled the previous requirements have been in trouble in attaining the demanded level. In addition, supervisory authorities have sometimes demanded mergers of the institutions that have failed to meet the capital requirements (see Revell 1991a and b). (3) Limited access to capital markets has reduced mutual institutions' ability to expand operations as the retained profits constitute traditionally their only source of additional capital. Note that the motive to increase efficiency has generally been less apparent than the three above mentioned reasons for the restructurings.<sup>18</sup> At the first stage, the territorial principle was mainly honoured in the merger policy: Merger candidates were mainly chosen among the neighbouring institutions. Revell (1991a) argues that from the efficiency perspective this cannot be an optimal policy to conduct mergers. At the later stage, mergers have also resulted in institutions operating at the national level (see section 3.3.3.2).

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<sup>18</sup> Revell (1991a and b) criticizes the use of mergers "as a remedy for all ills" and points out that almost no work has been done to assess the success of past mergers among mutual institutions or commercial banks. He presents some evidence from France, according to which mergers have not been able to increase efficiency in the savings bank sector.

Figure 3.1.

**Market shares of different institutions in 1990  
as % of the deposits by the non-bank public**



- 1 Commercial banks
- 2 Savings banks (UK, Building societies)
- 3 Cooperative banks
- 4 Postal banking services

Source: Table A1.1a.

In addition to mergers, issuing new forms of capital and conversion to a form of a limited liability company have been employed as means to solve the capital adequacy problem of mutual institutions. Authorities have allowed them to issue subordinated loan capital in all European countries. Also various types of near-equity instruments, e.g. participating preference shares, have been made available for mutual institutions in many countries.<sup>19</sup>

Much more important for the structure of the banking markets is, however, the conversion into limited liability companies, referred to as demutualisation, now possible in most countries. This permits the issuance of ordinary shares which are more marketable than the near-equity instruments. The crucial feature concerning the conversion is whether the mutual institutions maintain their traditional shield against take-overs or not (see Revell 1989). If not, this process opens a new route for foreign and domestic entrants into the (retail) banking markets. In a conversion by separation all shares of the institution

<sup>19</sup> Examples of the issuance of near-equities by mutual institutions are the Genußscheins of the German, and Grantifondsbevis of Swedish savings banks. In Finland savings banks' kantarahasto-osuus and cooperative banks' sijoitusosuus, whose issuances were allowed in 1991, represent these kind of near-equities. Participating preference share like equities have been issued also in Italy, Norway and Spain (See Revell 1989 and 1991a).

transformed into a limited liability company are held by an association or foundation representing the ownership of the institution before the reorganization. Thus, immunity to takeovers is preserved. In Italy, Netherlands, Denmark and Sweden savings banks have followed this conversion route. If an institution is converted directly into a limited liability company and listed on a stock exchange it becomes exposed to acquisitions. In the UK some large building societies have recently done this, e.g. the largest one, Abbey National in 1989 (revert to section 2.2.4).<sup>20</sup> Further, in Denmark Bikuben and Sparekassen SDS (absorbed into Unibank in 1990) obtained a stock market flotation in 1989 (see Lafferty Business Research 1990).

### 3.3.3.2 Country-specific developments

Revell (1991a) divides the restructurings taking place among European savings banks into two categories: (1) Local savings banks merge into larger regional units to be able to operate nationwide and provide the range of banking services comparable to that of the large commercial banks. This process typically occurs without an explicit plan and does not involve a complete restructuring of the sector. (2) The central institution takes a leading role and guides a complete restructuring of the savings bank sector. In this case a holding company typically leads the savings bank group which consists of the central institution and local banks. The latter solution can be seen as an attempt to preserve the traditional features of the sector, foremost the locality of operations. Whereas in the former solution the territorial principle may be violated as competition between large independent savings banks may be arise. Developments in the savings bank sectors of Finland, France, Netherlands and Spain can be classified into the first class, while changes in Sweden and Norway belong to the second class, and Italy represents an intermediate case. In Germany reorganizations have so far been modest. Following the above groupings the changes in savings bank sectors are presented below more in detail, as well as changes concerning other mutual institutions.

In Finland<sup>21</sup> the advancement toward a system of larger individual savings banks each operating in a well defined economic region accelerated during the second half of the 1980s. The intention to merge municipal savings banks into regional ones by geographical

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<sup>20</sup> According to British law, the converted building societies possess a five-year protection against hostile acquisitions.

<sup>21</sup> Sources: Finnish Savings Banks' Association, SKOP and OKO.

criteria was already stated in 1969 and again in 1985 in plans worked out by the Finnish Savings Banks' Association and SKOP. As a result the number of savings banks decreased between 1985 and 91 from 254 to 86. The merger activity was most vigorous in 1989, 1990 and 1991 when 33, 28 and 65 mergers took place, respectively. In 1992 the regional principle was abandoned as 41 savings banks formed a single institution, Suomen Säästöpankki (Savings Banks Finland), operating at the national scale. 44 savings banks decided to maintain their independent status. SKOP continues to function as the central institution for the savings bank sector. Measured by the domestic deposits Suomen Säästöpankki became the largest individual bank in Finland: its share amounted to 20.8% in 1992. (The total share of savings banks was 27.3% compared to 28.6% of cooperative banks). In 1990 the largest individual savings bank then, the STS-Pankki (STS-bank) was converted into a commercial bank, and was merged with KOP in 1992. The tendency toward larger regional units has been much slower in the sector of cooperative banks. Between 1985 and 1991 the total number of individual cooperative banks fell from 370 to 329. Thus the sector has preserved much of its local nature and original structure.

Between 1987 and 1990 the number of individual savings banks was approximately halved in France due to brisk merger activity within the sector (see table A1.1a.). Until 1990, when a plan worked out by the Centre National des Caisses d'Epargne was stated, the restructurings had ensued in an unorganized fashion. The plan resembled closely the one adopted in Finland: All local savings banks were to be regrouped into 40–45 strong regional units according to economic areas. The process was completed very rapidly as already at the end of 1991 the French savings bank sector consisted of 42 regional savings banks so that averagely two institutions operated in one economic region. However, these considerable restructurings have not had a significant impact on the competitive conditions, since the overall market share of the savings banks is small (see table A1.1a.). The sector of cooperative and mutual banks, which has much more market power, has remained largely in steady state. The number of individual institutions has fallen only by 30 between 1985 and 91. (See Bulletin Trimestel, Banque de France, Mars 1992, and Revell 1991a)

The number of savings banks in Netherlands has decreased significantly over a long period of time from 269 institutions in 1958 (see Revell 1989). As a result the sector is dominated by Verenigde Spaarbank and six other large institutions (they covered 90% of sector's total assets in 1991). The market share of savings banks is,

however, small in Netherlands. Thus, these mergers have not significantly affected the overall competitive conditions. Much more important has been the development in the sector of banks organized on cooperative basis. Now these banks operate de facto as a single institution headed by their central organization, Rabobank Nederland. Rabobank concentrates primarily on retail banking, where it has a large market share, but has lately entered also the wholesale market. It now conducts a full range of banking activities in all country's regions. (See Committee of Governors of the Central Banks of the Member States of the EC: Payment Systems in 11 EC member States)

In Spain mergers in the savings banks sector have not been guided by explicit plans. The process has resulted in regional savings banks following approximately country's autonomous regions, while the two largest savings banks, Caja de Madrid and "La Caixa" operate throughout the country (revert to section 2.2.5). These restructurings have significantly increased competition as competition now takes place even within the savings bank sector. In Spain the market share of cooperative institutions is small.

In Sweden<sup>22</sup> the holding group Sparbanksgruppen AB (Savings Bank Group) was established in 1991 by the 11 largest savings banks in the country including the central institution Sparbankernas Bank (SwedBank Group). Sparbanksgruppen became the largest bank (from the market perspective) in the Nordic countries. The biggest savings bank Första Sparbanken remained, however, independent. All other savings banks except one, i.e. 90 institutions, made ample cooperation agreements with the holding group. The process denoted a complete and planned restructuring of the country's savings bank sector. Legal amendments were required as the 11 large savings banks were turned into "savings bank companies" (limited liability companies) and remaining savings banks into "savings banks foundations". The group as a whole aimed at providing universal services while preserving the locality of business, and thus represents a pure case two in Revell's classification. Sparbankernas bank maintained its functions in regard to international operations, treasury activities and large corporate customers. Training, payment systems, strategic planning and advertising were reorganized at the group level. The restructuring of the Swedish savings bank sector continued further during 1992 and the following changes came into force at January 1 1993: The holding group structure was demolished as the Sparbanksgruppen AB was

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<sup>22</sup> Information concerning developments in the Swedish savings and cooperative bank sectors are got from Finnish Savings Banks' Association, SKOP and OKO (memorandums and published articles).

transformed into a single limited liability company Sparbanken Sverige AB (SwedBank Ltd). At the same time Första Sparbanken was merged into Sparbanken Sverige. The 90 small savings banks were not merged into Sparbanken Sverige, but they continue close cooperation. They carry on purchasing centralized services from Sparbanken Sverige, and control a share in its ownership. Sparbanken Sverige's share in the total household deposits and total lending were 37% and 25% respectively representing thus the largest market power in the Swedish banking market. Changes in the Swedish cooperative banking sector started in 1991 when 12 regional institutions and the central institution (Föreningsbankernas bank) were merged into a single cooperative bank, Sveriges Förenings Bank. The 331 local cooperative banks stayed independent at this stage. In december 1992 all local cooperative banks were merged into the Sveriges Förenings Bank which was converted into a limited liability company. As a result the sector of cooperative banks disappeared from the Swedish banking system. This process was very rapid as only a few mergers took place between 1987 and 1990 (see table A1.1).

In Norway savings banks have not adhered to an explicit holding group structure, but their central institution, Sparebanken ABC (Union Bank of Norway Ltd), has played an active role in conducting restructurings in the sector. Sparebanken ABC had the legal status of a savings bank and engaged in local retail banking in addition to providing centralized services, and thus, differed markedly from central institutions in other countries. (Sparebanken ABC was itself a result of a merger between the former central institution, Fellesbanken, and the largest savings bank, Sparebanken Oslo Akerhus). In 1990 five savings banks were integrated with Sparebanken ABC. The resulting savings bank, Sparebanken NOR (still Union Bank of Norway), became the third largest bank in Norway. Further, in 1991 three additional savings banks were merged with Sparebanken NOR. Overall the number of savings banks has decreased significantly over the last 10 years, from 308 in 1981 to 134 in 1991. These mergers have resulted in many mid-sized regional savings banks. In Norway savings banks are the only type of mutual institutions in the banking system. (See Koskenkylä 1992 and Norges Offentlige Utredninger, NOU 1992:30)

In Italy four large regional savings banks: Cassa di Risparmio delle province Lombarde (CARIPLO), Cassa di Risparmio di Roma, Cassa di Risparmio di Torino, and Cassa di Risparmio di Verona Vicenze Belluno e Ancona, have attempted to absorb smaller savings banks into large universal banking groups they have formed by separation, but a major part of the sector has refused these offers and

remained independent. These banks have obtained the centralized services either from the sector's central institution ICCRI (Istituto di Credito delle Casse di Risparmio Italiane) or from the large regional savings banks. In 1991 the ICCRI formed a holding group consisting of those medium-sized and small savings banks that had remained independent. The integration of the four large regional savings banks has not been possible as they have had significantly different strategic interests. The savings banks absorbed into the group preserved their local character and legal statuses, but the territorial principle has been violated as competition has evolved within the savings bank sector both in provision of centralized services and local businesses.

In Germany a status quo has mainly been preserved in both sectors of mutual institutions. Expansion of savings banks is limited by the deposit guarantee as it is managed on a regional basis (see Monthly Bulletin of the Deutsche Bundesbank, July 1992). Three regional central institutions of credit cooperatives have been merged with Deutsche Genossenschafts Bank, the central institution at the national level, but the network of local institutions has remained largely intact.

### 3.4 Summary of the structural trends in European banking

It is indicated that the traditional centralized universal banks have lost their comparative advantage over specialized institutions. Thus, large universal banks are expected to become more differentiated in order to remain competitive in specific market segments. However, both structures will most probably coexist in the unified European banking market, since universal retail banks, especially core banks, have generally established important positions in various national markets and conduct a large share of several businesses. This is also supported by the results from empirical cost studies that do not significantly discriminate between different bank sizes or product mixes. Thus, competitive pressures upon the incumbent institutions are expected to come from more efficient institutions in the Single Market regardless of the size or product mix, as high dispersion of average costs is revealed in the recent empirical studies. The competitive pressures on part of specialized institutions differ markedly between the European countries. Their market position is strongest in the UK, France and Germany; and in Sweden the share of the specialized intermediaries in consumer and commercial loan markets is even higher than that of

banks. The fact that the specialized institutions are commonly subsidiaries of the universal banks reduces their competitive impact. In Italy the "competitive fringe" of small specialized institutions is emerging, while in Spain and Finland the universal institutions cover the most of retail banking market (revert to chapter 2).

The growth opportunities due to integration seem largest for specialized institutions (and specialized subsidiaries of large holding groups) in regard to potential product-specific scale economies. By contrast, for universal retail banks the potential cost savings that arise from e.g. a wider use of payment networks and ADP capacity seem largely limited to domestic mergers and acquisitions as the major part of the retail transactions continue to occur within national borders. The fact that the recent mergers and acquisitions have mostly taken place within borders reflects the significance of the organisational and cultural problems in integrating institutions from different countries (see e.g. Neven 1990). Furthermore, Abraham and Lierman (1991) demonstrate the importance of the national resistance to cross-border deals. These factors may effectively curtail also the future cross-border mergers and acquisitions activity. However, as noted at the beginning of this chapter, the strategic aspects of mergers, i.e. preserving or increasing market power, are likely to be more important than the cost savings, although mergers have sometimes been considered more effective than internal reorganizations to cut down overcapacity. One should note, that under overall constant returns to scale mergers and acquisitions do not lead to cost savings unless the management takes specific actions to cut costs. The strengthening of capital base due to regulatory pressure has been a strong distinctive motive for mergers, especially in the sector of mutual institutions, where a large part the recent mergers has taken place.

In the absence of significant cost economies risk reduction becomes a strong argument in favour of large size and diversification. Operating at European scale provides certainly some risk reduction opportunities, and thus could represent a motive for expanding activities beyond home markets for universal retail banks. These incentives are, however, expected to diminish if integration advances toward EMU as planned reducing the economic differences between European countries given the obstacles in cross-border operations. This does not indicate, however, that banks should not exploit profitable business opportunities in other European countries, which are indicated by the significant differences in cost efficiencies and competitive pressures between European banking industries illustrated in successive sections. The increase in cross-border cooperation between banks in Europe can be regarded as "preparation" to exploit these opportunities,

although the motives for cooperation have sometimes been purely defensive.

In the sector of mutual institutions the local nature of retail banking has been sacrificed in many cases in order to be competitive at the national level. Unit size of institutions has significantly increased in all countries except Germany. The largest institutions have adopted universal structures and compete now equally with the leading commercial banks. Some of the largest ones have also commenced international operations, like Abbey National, "La Caixa" and CARIPLO. Due to the restructurings in the sector (potential) foreign competition can be expected to increase for two reasons. Firstly, the sector of various locally operating institutions is disappearing in many countries, which reduces the institutional differences between European banking systems. Secondly, the conversion of mutual institutions, foremost savings banks into limited liability companies, which is expected to continue in many countries, has made them susceptible to take-overs. These institutions usually possess wide retail networks, which makes them suitable targets for foreign banks planning establishment. These procompetitive effects may be offset, however, if the restructurings have left banks with more market power.

## 3.5 Service capacity and resource employment in European banking systems

### 3.5.1 Differences in service capacities

The service capacity of the various European banking systems is measured by comparing networks and utilized resources; branches, ATMs and employees, to population in respective countries. Banking sector is confined to include all deposit taking institutions that grant credit for their own account in line with the First Banking Directive and the source statistics (see table A1.1a.). Table A1.9. reports the institutional coverage of the OECD bank Profitability Statistics, from which the employment data is obtained. It is also the source for banks' accounting balance sheet and income statement data. Unfortunately, employment data for Germany is not available. For all countries, except the UK, for which different sources are used, the OECD data encompass most or all of the deposit taking institutions. Nevertheless, caution must be exercised when making comparisons due to data

limitations and inter-country differences in statistical procedures (see footnotes to tables in Appendix 1).

According to table A1.2a Belgium, Spain and Germany have the densest bank branch networks followed by Finland and Denmark, while Finnish banks have clearly made the largest investments in ATM networks. No general trend to reduce branch network between 1987 and 1990 is observed at the European level as the network density has increased in five out of 12 countries, most significantly in Italy by 15.3%. The tendency to cut down the bank branch network is common to all Nordic countries. Overall, the service capability of the European banks under observation increased by 2 % between 1987 and 1990 in regard to branches as measured by a population-weighted average. With respect to ATM network densities the corresponding increase was 46%, which demonstrates a momentous rise in banks' technological capacities. The instalment of ATMs has occurred in different countries at dissimilar speeds: in 1987 Finland, Norway, the UK and France operated relatively dense ATM networks, while in Italy and especially in the Netherlands the progress was only gathering pace. By 1990 the intra-European differences have significantly decreased; the standard deviation of the ATM network densities has decreased from approximately 8100 to 2500 inhabitants per one ATM. Only Belgium appears to be an outlier by having a strikingly low density in 1990. Total assets and total non-bank deposits per branch display the average sizes of bank branches in various countries. To some extent these figures correlate negatively with the network densities so that in countries where the branch network is thin, a larger business volume is averagely conducted through one branch. Note, however, that the total volume of business per capita varies markedly between countries disturbing the above relationship (see table A1.4.).

As in the case of the network densities, there are considerable differences between European banking systems in regard to human resources employed. In Sweden one bank employee serviced the largest number of people in 1991, 189, which is more than three times more than in Switzerland. Finland and Denmark followed Switzerland as countries occupying the most employees. The number of employees increased between 1987 and 1990 in all countries except in Denmark, France and Norway.

Tables A1.2b and A1.3b present separate bank, branch and employment data for the Nordic countries the for years 1985–1992. In Sweden, Finland and Norway a severe banking crisis has forced banks to cut operating costs. Employment reductions have been largest in Norway, and Finland; in both countries the total reduction has been approximately 21% compared to the year of the greatest employment,

but in Norway the contraction started two years earlier. Banks have cut down the branch network most heavily in Denmark, by approximately 30% since 1987, but also in the other three countries the number of branches has significantly decreased.

It is hard to contrast the overall service potential of the various European banking systems in regard to all three measures employed. In general, Finland appears to hold bigger service potential than the other Nordic countries, especially Sweden, and its potential seems sizable also at the European level in spite of the recent reductions. Italy and the Netherlands appear to possess the smallest overall capacities in Europe. Belgian banks employ relatively few people but instead operate the densest branch networks.

Financial resources of European banks in regard to the production of the financial intermediation services (or alternatively business volumes) are indicated by total assets and total non-bank deposits in table A1.4. According to the per capita measures of total assets, banks' financial resources grew swiftest in Finland between 1987 and 1990 by approximately 65 %, which reflects the extraordinary rapid expansion of the Finnish economy during that period. Also Sweden, Netherlands and Spain experienced brisk growth. Also non-bank deposits per capita rose most significantly in these countries accompanied by France. Overall, financial resources in European banking sectors expanded considerably between 1987 and 90. The population-weighted average increase in per capita total assets and non-bank deposits were 32% and 31% respectively. Switzerland stands forth in the comparisons both in terms of per capita assets and deposits, as well as employees in the banking sector. This reflects a large relative share of foreign deposits and assets in the balance sheets of the Swiss banks (as shown in table A2.2), as well as an important position of the financial sector in the Swiss economy.

### 3.5.2 Underlying factors explaining observed capacity differences

Simple inspection of the capacities is not very fruitful per se. They ought to be related to the actual services provided, since in different countries banks do not conduct identical businesses, and the role of the banking sector in the production of financial services varies markedly between countries. In France, Spain and Finland banks accounted for a substantially larger share in lending to domestic private non-bank sectors in 1987 and 90 as indicated by table A2.1 than in Sweden, Italy or Belgium, where the share of other financial institutions was

important, or in the UK and the Netherlands, where insurance companies and pension funds had a significant portion. Thus, the banks in France, Spain and Finland cover distinctly more of the demand for financial intermediation services than banks in Sweden, Belgium and Italy. This observation explains in part the observed large service capacity in the former countries. Managing payment transactions consumes heavily banks' overall resources. According to Sukselainen (1990) Finnish banks handled 128%, 48% and 202% more bank giro transactions per one bank employee than Swedish, Norwegian and Danish banks respectively,<sup>23</sup> which rationalizes in part the high relative service potential of the Finnish banks.

The distinct differences in banks' strategies to invest in branch capacities can in case of Italy and Spain be explained by differences in branching regulations (revert to chapter 2). In other countries these controls have not generally been restrictive. However, differences in overall regulatory environments have resulted in different levels of capacities through competitive forces. In heavily regulated banking markets where price competition is deterred by e.g. interest rate controls, banks are induced to compete in the quality of offered services. To customers the densities of branch and ATM networks are significant quality aspects representing the availability of banks' services.<sup>24</sup> Neven (1990) notes that in general branching has not been subject to collusive agreements, which has resulted in effective quality competition leading to overinvestment in service capacity in countries where banking regulations have persisted. Furthermore, banks have an incentive to expand branch networks when interest margins on deposits (interbank rate minus deposit rate) are high in order to generate more funds from deposit. The reason is that the marginal cost of deposits equals the deposit rate plus the marginal cost of additional capacity which at the optimum point equals the interbank rate, i.e. the cost of funds from alternative sources. Hence, the higher the deposit margin the larger is the banks' optimal investment in the deposit collecting capacity; primarily branches (see e.g. Neven 1990 and Vives 1991a). This is illustrated in figure 3.2. which demonstrates the correlation between branch network densities and average mark-up on

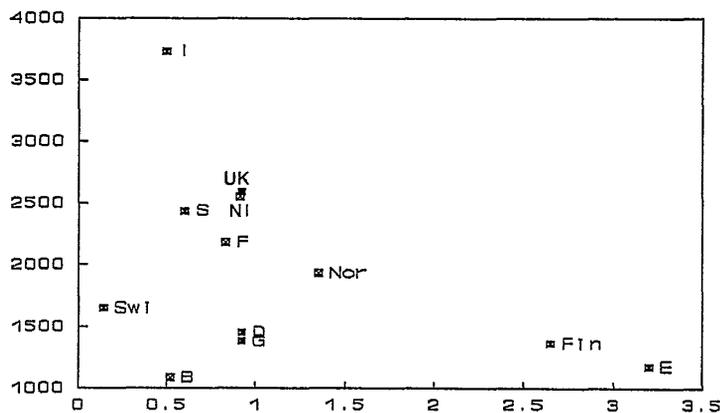
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<sup>23</sup> Postal giro is more significant than the bank giro as a method of payment in all other Nordic countries than Finland. The ratios of bank giro to postal giro transactions were in 1989: Finland 1.9, Sweden 0.3, Norway 0.9 and Denmark 0.4. (see Sukselainen 1990, p. 22)

<sup>24</sup> This is clearly captured in location models where distance from form customer's residence to the nearest branch is an aspect of the service quality, and thus subject to competition between banks. (See e.g. Eaton and Lipsey 1975)

demand deposits in 1987.<sup>25</sup> Spain and Finland had high margins and high densities, while the UK, Sweden and the Netherlands represented the opposite case. Germany, Switzerland and Belgium represent deviations from this relationship. The correlation coefficient for the sample is 0.45. By 1990 deregulation of the financial markets has increased significantly the degree of price competition in many banking markets (see section 4.1.2) lowering the amount of correlation between branch network densities and deposit mark-ups to 0.24. The change in the focus of banking competition towards price competition has the general effect of diminishing the role of branches in competition. Other forces having the same effect as the change in the mode of competition include e.g. the technical developments, increasing mobility of demand for banking services and restructurings due to diminished profitability (see e.g. Conti and Maccarinelli 1992, Abraham and Lierman 1991).

Figure 3.2. **Correlation between branch network density and average mark-up on demand deposits in selected European countries in 1987**



x = Average mark-up on demand deposits  
y = Number of inhabitants per one branch

Sources: Table A1.2a and Appendix 5.

<sup>25</sup> The calculation methods of the mark-ups, and the major complications in making inter-country comparisons are reported in section 4.1.2. The sources of the interest rate data are given in Appendix 5.

A significant correlation between deposit margins and ATM densities can not be detected. Thus, the degree of price competition does not appear to have explanatory power in regard to banks' ATM investments. Services provided through ATMs are to some extent substitutes to services provided through branches by bank employees. Therefore, relatively high labour costs in one country should lead to a relatively dense ATM network. High ATM capacity in Finland can be in part explained by this notion.

Steinherr and Gilibert (1989) note that the income elasticity of demand for financial services exceeds unity, i.e. financial products are luxury goods. Thus, financial industry's share in GDP should show an upward trend over time. This notion suggests that the scope of bank branch and ATM networks should be positively correlated with income. Moreover, higher income denotes larger business volumes for banks. The fact that higher branch and ATM densities reduce the average transaction time of customers, whose opportunity cost is increasing in income accentuates the above hypothesis further. Figures 3.3. and 3.4. clearly support this reasoning. The correlation coefficients between branch and ATM densities and GDP per capita using average figures for years 1987 and 1990 are 0.47 and 0.45 respectively.<sup>26</sup>

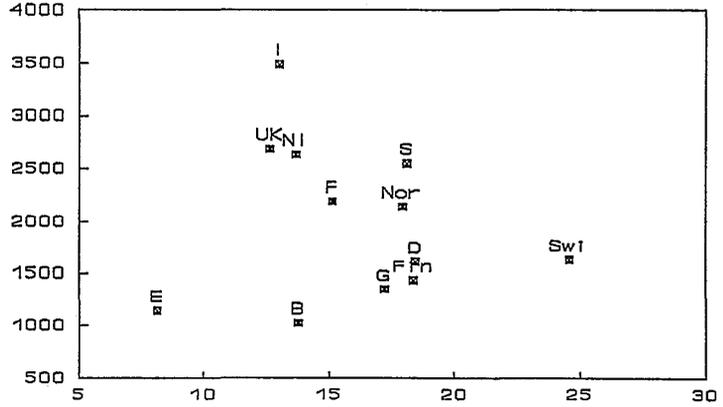
Neven (1990) states that other things equal branch network and population densities should be positively correlated since the marginal benefit from opening a bank branch is lower when the population density is low and the corresponding marginal cost can be reasonably assumed invariant to population density. The data, however, do not confirm this hypothesis: The respective correlation coefficient is close to zero. Other possible reasons for the observed differences in service capacities include e.g. consumer tastes and cultural discrepancies, but these factors are hard to measure quantitatively, and thus not further considered.

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<sup>26</sup> Spain deviates significantly from the relationship between income levels and network densities observed for other countries. Spain appears to be strongly overbranched resulting from previous keen quality competition in the regulated banking market. Data concerning the Spanish ATM-network for 1987 is not available, and thus, it is not included in the calculation of the respective correlation coefficient.

Figure 3.3.

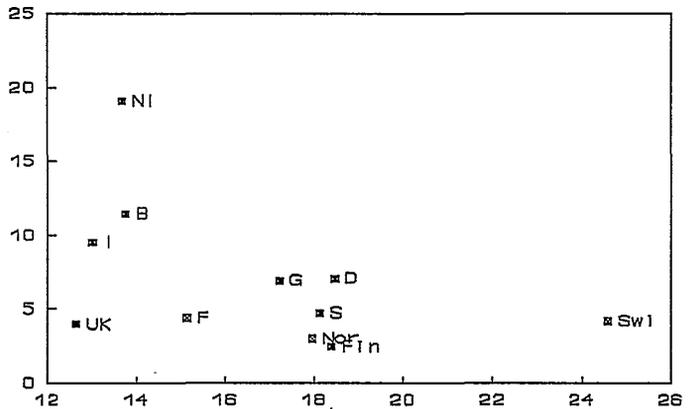
**Correlation between branch network densities and GDP per capita in selected European countries, averages of 1987 and 1990**



x = GDP per capita, ECU 1000s  
y = Number of inhabitants per one branch

Figure 3.4.

**Correlation between ATM network densities and GDP per capita in selected European countries, averages of 1987 and 1990**



x = GDP per capita, ECU 1000s  
y = Number of inhabitants per one ATM 1000s

Sources, figures 3.3 and 3.4: Table A1.2a and OECD National Accounts Vol. II, 1992.

## 3.6 Efficiency and technological levels in European banking industries

### 3.6.1 Efficiency concepts

The broad concept of efficiency is divided into static and dynamic efficiency. Static efficiency assures the optimal allocation of resources in a certain period of time if both of its components, productive and allocative efficiency are reached (see e.g. Scherer & Ross 1990). Dynamic efficiency requires improvements in product quality and production technologies over time to enhance the overall economic performance. Dynamic efficiency in an economy is a prerequisite for long term increases in the standard of living. The concept of banks' cost efficiency adopted in empirical efficiency studies (revert to section 3.2.4) corresponds the concept of productive efficiency, which requires that a given output is produced with a minimum cost. The empirical results from the US indicate that banks' operating efficiency approximates well banks' overall productive efficiency (see Berger and Humphrey 1991.)

Leibenstein (1966) has labelled the productive inefficiency as X-inefficiency representing situations when firms fail to minimize costs. X-inefficiency is possible in imperfect competition, and in could clearly arise in banking markets where regulation protects incumbent institutions. Steinherr and Gilibert (1989) list overstaffing, overbranching, and excessive labour remunerations as types of X-inefficiencies in banking. The conclusion is not, however, so clear cut. As discussed in the previous section, quality competition in regulated markets tends to result in large service capacities, which in turn appear as X-inefficiencies compared to markets where effective price competition has prevailed, although these capacities may have represented optimal decisions in the respective competitive and regulatory environments.

Allocative efficiency requires that services provided meet customers' needs and that they are sold at prices that correspond the marginal cost of their production. Allocative efficiency is reached in perfectly competitive or contestable markets. Thus, the benefits of financial integration in regard to advancements in allocative efficiencies and thus, in consumers' surplus, depend on the increases in the level of banking competition. Productive efficiency is enhanced by competitive product markets as well, but the threat of bankruptcy or take-over, i.e. efficient corporate control, is the additional condition for productive efficiency. Löhneysen et.al. (1990a) argue that the

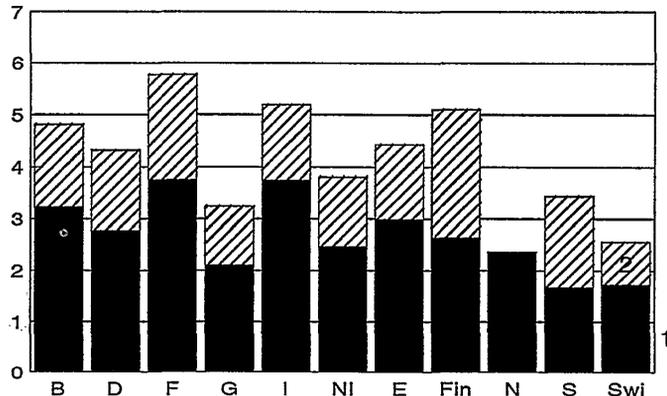
market for corporate control has become more efficient over the 1980s in Europe increasing pressures on banks to operate efficiently. On the other hand, regulatory schemes that aim at preventing bank failures can effectively reduce incentives for productive efficiency (see e.g. Neven 1990, and Baltensberger and Dermine 1987).

### 3.6.2 Operating efficiencies in European banking industries

Operating efficiency in the production of banking services is defined as employed inputs per unit of output, which corresponds closely the concept of productivity. As discussed in section 3.2, the biggest difficulty in measuring banks' efficiency is the measurement of banks' output. Here the efficiencies of the various European banking systems in regard to usage of labour and other inputs are measured by the ratio of the respective costs to total non-bank deposits and total assets, which serve as output proxies. These efficiency measures are reported in table A1.8. The obvious shortcoming of this approach is that the off-balance sheet activities of banks are disregarded. However, as we are primarily concerned with the retail banking activities, especially the ratios with respect to the non-bank deposits (see figures 3.5 and 3.6) should provide a reasonably accurate picture of the relative efficiencies.

Figure 3.5.

**Operating efficiency in selected European banking systems, averages 1983–1986**

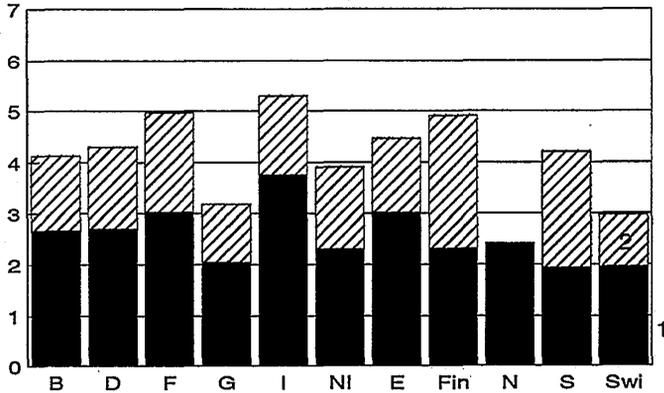


1 (Staff costs / non-bank deposits) \* 100

2 (Non-staff operating costs / non-bank deposits) \* 100

Figure 3.6.

**Operating efficiency in selected European banking systems, averages 1987–1990**



1 (Staff costs / non-bank deposits) \* 100

2 (Non-staff operating costs / non-bank deposits) \* 100

Source: Table A1.8.

The presented measures indicate large efficiency differences across countries. It appears in general that weak price competition in countries where regulations have persisted has resulted in low levels of efficiency. These countries include Italy, France, Spain, and Finland. France, Italy and Spain had largest relative staff costs at the end of the 1980s, while Finland followed by Sweden had the largest relative non-staff operating costs. Comparing the average figures for years 1983–1986 and 1987–1990 displays a clear overall improvement in the labour usage efficiencies in regard to total assets (only Spain and the UK display a deterioration), but in regard to non-bank deposits six countries experienced a respective fall in efficiency. This indicates that deposits have not expanded as rapidly as other outputs. Thus, an increase in labour productivity over the 1980s does not show up unambiguously. By comparing the two efficiency measures, one could reach the general conclusion that production in banking has changed to more capital intensive due to adoption of new banking technologies as the share of non-staff operating costs has increased with only few exceptions. The overall operating efficiency appears relatively stable over the 1980s, except in France and Sweden, where a significant positive and negative development can be detected respectively.

Taken that (in the long run) the scope for deviations in productive efficiencies would be reduced in the Single Banking Market, the pressure to adjust capacity is greatest in the least efficient banking

systems, i.e. in Spain, Italy, France and Finland (revert to section 3.5.1 for the discussion on banks' service capacities). On the other hand, the large differences in the efficiency measures, as well as in the capacity levels, indicate that significant potential efficiency gains could be reached if integration forces efficiency levels to converge. These gains would be naturally greatest in the most inefficient banking systems, although painful capacity adjustments would be required. When interpreting the presented measures like any aggregate indicators of bank efficiency, one should bear in mind the basic result from the empirical cost efficiency studies that banks' cost efficiency varies significantly in all size classes. Thus, in countries where the aggregate efficiency is found low, there could exist banks that can cope well in international efficiency comparisons, and be competitive in the unified European banking market.<sup>27</sup>

### 3.6.3 Level of banking technology in European countries

As a final supply-side aspect of the provision of banking services, differences in banking technologies across European countries are investigated. The rapid expansion of the ATM networks in all countries indicates a clear rise in technological levels. Although the ATM network densities were converging there were still important intra-European differences in 1990. Even bigger discrepancies remain in adopted payment techniques (see tables A1.5 and A1.6). The scope of EFT-POS networks and the amount of transactions have increased significantly in all countries between 1987 and 1990, but the original differences between countries have not smoothed away. Figures 3.7. and 3.8. illustrate the use of the new payment methods: EFT-POS transactions per capita and the relative amount of debit and credit card payments. In France, Finland and Sweden the use of the new payment instruments is the largest both with respect to the volume of transactions and their relative importance. Finland has experienced the most rapid growth: The volume of EFT-POS transactions was approximately 20-times larger in 1990 than in 1987. Striking is the low acceptance of new payment techniques in Germany. The introduction of the new payment methods has been slow in Italy, the Netherlands, Switzerland and Spain, in addition to Germany.

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<sup>27</sup> Berg et.al. (1993) compare operating efficiency in Finnish, Swedish and Norwegian banking industries by applying Data Envelopment Analysis (linear programming), and detect efficient banks from all countries on the efficient frontier according to both variable and constant returns to scale specifications, although overall the Swedish banking industry is found the most efficient.

Figure 3.7

**Number of EFT-POS transactions per capita in selected European countries, 1987 and 1990**

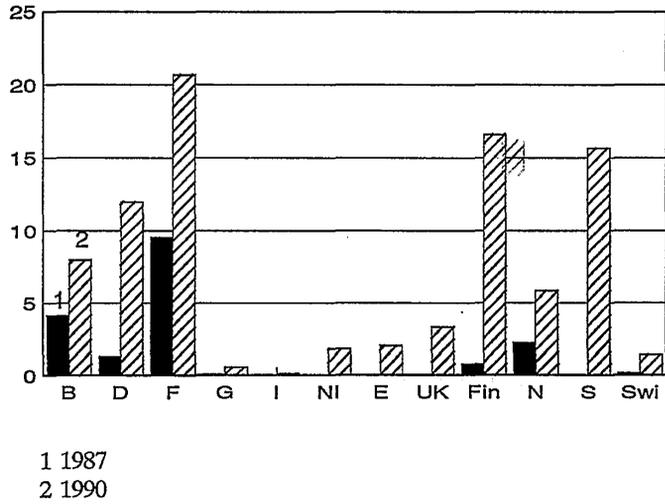
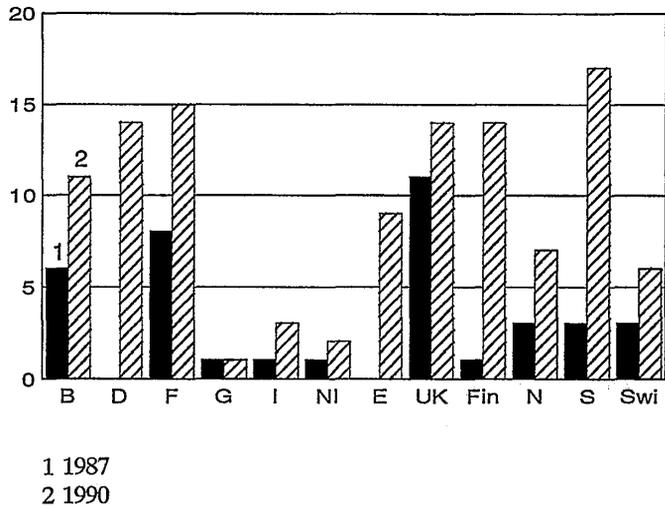


Figure 3.8

**Relative share of debit and credit card payments as % of the total volume of transactions in selected European countries, 1987 and 1990**



Sources: Tables A1.5 and A1.6.

The, technological progress has in general generated significant cost reductions in banking, most importantly in payments transactions and clearing, and deposit collection and maintenance, and led to an increase in labour productivity.<sup>28</sup> The use of the new payment methods should correlate positively with banks' operating efficiency, since the main benefits accrue to banks through cost reductions as less paper circulates in the clearing system and banks can exercise a more close control on customers' accounts. Whitehead (1990b) estimates that approximately 90% of cost savings due to the introduction of the EFT-POS have gone to banks.<sup>29</sup> EFT-POS networks do not grant individual banks competitive advantages, but instead increase the overall performance of the industry. Comparing tables A1.5., A1.6. and A1.8. together indicates that countries, where the share of new payment techniques was the lowest, had also relatively the highest staff costs compared to non-staff operating costs, e.g. Italy, Spain and Germany. The labour efficiency measures show greatest improvements for France and Finland, where the use of new payment technologies is the widest, demonstrating the favourable impact of the technological progress on labour productivity. In regard to the overall operating efficiency the positive correlation between the technological levels is not at all clear. Germany and Switzerland had high efficiencies but adhered largely to traditional payment techniques, while France, Finland and Sweden constituted the opposite case. One must be careful in interpretations as the adopted efficiency measures are limited, and payment methods do not represent the overall level of banking technologies.

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<sup>28</sup> Suominen and Tarkka (1991) report a four-five fold increase in the capability to produce banking services using the same labour input in Finland over a ten-year period from 1990 to 1981. As capital productivity rose simultaneously, the average annual increase in the Total Factor Productivity (TFP) reached 6.2% over the same period. TFP can be decomposed into (1) scale, (2) branching and (3) technological change effects. Taken constant returns to scale and Kim and Weiss's (1989) result of negligible impact of branches in Israeli banking between 1979 and 1982, TFP approximates well the technological progress in banking.

<sup>29</sup> According to Whitehead 1990b, retailers have been willing to install EFT-POS terminals largely at their expense, since they have regarded it as necessary in order to retain their competitive position. Use of credit or debit cards provides benefits to customers mainly through the reduced need to hold cash. Accurate record of transactions is another benefit, and EFT-POS terminals cut transaction times compared to the manual handling of cards, where significant time savings compared to cash payments do not exist. The use of automatic EFT-POS terminals reduces also the probability of mistakes. Because of these benefits, customers would prefer those retailers that accept payment cards to those who do not, and further those that have installed EFT-POS terminals.

New payment techniques clearly represent improvements in service quality (see footnote 29). Thus, in regulated markets quality competition among banks should lead to a fast adoption of the new methods. This is supported by Whitehead's 1990b notion that in general the adoption of EFT-POS systems has been a bank-led initiative. The swift adoption of the new payment technologies in France, Belgium, Finland, Denmark and Sweden can be interpreted in this way resulting in relatively high non-staff operating costs. In traditionally unregulated banking markets of Germany and the Netherlands such quality competition has not taken place.

### 3.6.4 Financial innovation and efficiency in banking

Technological development has also enabled the innovation and expansion of new financial products like swaps and options, whose large scale distribution would not be possible without modern technology. The characterizing features of financial innovations are the exhaustibility of both technological developments and product innovations, common motivation to circumvent regulation and a public good nature (see e.g. Kane 1981, Steinherr & Gilibert 1989).<sup>30</sup> Steinherr and Gilibert predict that room for technical development via computerization will be limited when magnetic cards cover all payments and home- and office-installed integrated systems permit deposits of funds and other transactions. Product innovation is impeded by the fact that new products can often be replicated by a loan or a deposit, an option and a payments transfer. The growth of Euromarkets to circumvent reserve requirements, securitization and asset sales due to capital requirements are the most obvious examples of regulation induced innovations. Tax rulings are another major source of innovations.<sup>31</sup> The public good nature of innovations

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<sup>30</sup> Silber (1983) presents a microeconomic framework for financial innovation; more general than the one motivated by just circumventing regulation. According to Silber the main argument behind innovation is to lessen financial constraints faced by firms: Search for new products is provoked when costs of adhering to existing constraints becomes sufficiently high. Clearly regulations represent the most important financial constraints, but also competition and increasing risks e.g. foreign exchange exposure and interest rate risks have been significant "constraints" prompting the development of the new financial instruments and markets.

<sup>31</sup> De Boissieu (1990) makes a distinction between private and public financial innovation, which stem from non-governmental and governmental sectors respectively. The characterizing feature of the public innovation is the ex ante control on part of authorities. De Boissieu states that a large part of the financial innovation has been public

reduces naturally the incentive to innovate as the exploitation of monopoly rights is hindered. Another factor diminishing incentives is the risk of losing reputation if innovations put bank revenues at risk. Depositors may regard a short-term drop in revenues as a negative signal hurting reputation. Thus, banking can be seen more risk averse relative to other industries.

All these factors place limits on future efficiency growth in banking. Therefore, it can be argued that the potential efficiency gains from the Single Banking Market, where national banking systems with low levels of efficiency and technology would have to reach the levels prevailing in the most efficient systems, may be large relative to further increases in efficiency of the "best practice" banking, provided that the long run competitive forces are powerful enough.

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in Europe, i.e. conducted in a centralized fashion, even though the demand prompting innovation has mainly come from the private sector. As an example, he mentions the creation of the French commercial paper markets. Other motives for financial innovations in addition to those mentioned above can be identified when financial innovation is public in nature. Firstly, international competition may compel lagging countries to accelerate innovation in order to maintain the competitiveness of the domestic financial sector. Secondly, public sector deficits can induce the Government to issue new instruments, e.g. Treasury Bills and Obligations. Finally, new instruments are sometimes created to assist small- and medium-sized and publicly owned companies to raise additional capital without affecting their ownership structure.

## 4 Competition, strategic conduct and barriers to entry in the Single Banking Market

Evidently, the impact of the Internal Market Programme on the degree of banking competition is crucial in regard to the attainment of the possible welfare gains that are inherent in the observed large differences in banks' cost efficiencies and prices of banking services across countries. As noted, the potential welfare gains are the greatest in retail banking, as wholesale banking and corporate banking for large enterprises are already conducted in substantially competitive and integrated markets (see e.g. Neven 1990, Dixon 1991 ch. 5 and Vives 1991a). Increasing threat of foreign competition in liberalized markets would reduce the possibilities of domestic incumbent banks to behave in a manner that deviates from competitive conduct, driving the domestic industry toward productive and allocative efficiency. Welfare gains would then result to banks' customers and the whole economy from lower prices and more efficient operation of the industry. An increase in the number of offered varieties of financial products through foreign supply can be regarded as a distinct source of benefits.

According to depictions made in the two previous chapters, the banking market structure in most European countries can be characterized as oligopolistic; most clearly in the smallest European markets, where industrial concentration is high and the largest institutions occupy important market positions. Moreover, concentration has increased in most countries over the of the 1980s (see table A1.7.). Since the oligopolistic nature is expected to hold through integration, the concept of perfectly contestable markets (Baumol et.al. 1982) provides a more appropriate benchmark of ideal market organization for welfare analyses than perfect competition. The core issues are, whether different national banking industries meet the conditions for contestability, i.e. non-effective barriers to entry and exit, and whether integration is capable of pushing them more close to this ideal benchmark. Chapter five attempts to draw some conclusions along these lines.

This chapter begins with an evaluation of the degree and features of banking competition in various European countries prior to the completion of the Single Market. This is done by examining the pricing of various services, banks' performance, and assessing possible deviations from competitive conduct. Then, the conditions of perfect

contestability are introduced in some detail, and the related empirical evidence is reviewed, also with respect to competing theories of market structure. Judging both the short- and long-term relevance of factors that might constitute effective barriers to free entry and cross-border provision of banking services enables us to contemplate in which sections of retail banking activities in regard to products and customer groups competition is expected to increase. Or by stating the question reversely: To what extent are the national markets expected to remain segmented, whereby observed differences between countries in efficiencies and competition would persist in the Single Market? As legal barriers are largely absent in the Single Market (revert to section 1.2), the impact of other possible obstacles becomes decisive to the attainment of perfect contestability. According to conventions of the Industrial Organization literature, the potential non-legal barriers are classified into two categories: (1) Specific industry features, like required entry investments, and demand characteristics, constitute economic (or exogenous) entry barriers. (2) Strategic actions of incumbent banks that have the purpose of undermining competition on part of potential domestic and/or foreign entrants represent strategic entry barriers. This includes the strategic role of the scale and scope of operations discussed in section 3.1. The range of possible strategic barriers is, however, wider than this, and thus, we recognize other direct and indirect strategies that are aimed at preventing entry.

## 4.1 Intermediation margins and profitability in European banking industries

### 4.1.1 Differences in prices for banking services

The most notable analysis of the competitive and welfare effects of the creation of the Single European Financial Market is the study by Price Waterhouse<sup>1</sup> (PW) on request of the Commission. The study was based on prices of 16 financial products, of which 7 represented banking services, obtained by surveying a sample of market participants in July 1987. For each of the services the average of the four lowest prices (in ECU) prevailing in the EC constructed a competitive benchmark. The difference between the prevailing market

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<sup>1</sup> Price Waterhouse Management Consultants (Dublin) carried out the part of financial services in the Cecchini study of the economic consequences of the Internal Market Programme. (See European Economy March 1988, p. 86–94)

price in each country and the calculated benchmark constituted the theoretical potential price falls corresponding the hypothesis of perfect competition (the law-of-one-price), which were assumed to characterize the Single European Financial Market. However, the study made country specific downward adjustments to this strict postulate in calculating the indicative price reductions for the weighted average of all financial services taking roughly into account the likelihood of imperfect competition and "inevitable differences in market conditions"<sup>2</sup>. For individual services these indicative reductions are not presented. The theoretical price reductions concerning the banking services, and the indicative price reductions are reported in table A3.1. The results for the EFTA countries are obtained from Gardener and Teppet (1992), which augments the PW data set with price information from the EFTA countries for 1987, and replicates the exercise. Table A3.1. reports the results under the scenario of EEA Integration.<sup>3</sup>

PW's and Gardener and Teppet's price survey data provides comprehensive price information concerning various retail and corporate banking services, which is not available since the survey date. Nevertheless, deposit and payment services are excluded, which inhibits the complete evaluation of pricing of retail services. The prices of credits are given as margins to money market rates, and those of other services as direct commissions and charges (see the footnotes of the table A3.1.). Significant price differences were observed across countries for all services surveyed as indicated in table 4.1., which describes the extent of variation. However, the figures for letters of credit and commercial loans tend to confirm the notion that corporate banking services are already provided at relatively congruous

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<sup>2</sup> It is noted in the study that the law-of-one-price fails to hold completely except for those financial products that are subject to "easiest and least costly conditions of arbitrage", for example foreign exchange transactions. The scaling down was performed by a simple rule of reducing the weighted average potential price decline for all financial products by one half with some country specific adjustment in cases where circumstances suggest the otherwise. The ensuing indicative reductions were then reported with an error margin of  $\pm 5$  percentage points. Note, that potential price rises were ruled out in calculations. (See European Economy March 1988, p. 90)

<sup>3</sup> The authors construct three distinct integration scenarios for the EFTA countries: (1) Bilateral Integration, where EFTA countries remain outside the EC, but each EFTA country's financial sector becomes internationalized bilaterally with the EC via cooperation agreements. (2) EEA Integration, where EFTA countries' financial sectors are fully integrated with the EC. (3) EFTA Integration, where EFTA stays outside the EC, but EFTA countries' financial sectors become integrated within the EFTA. (See Gardener and Teppet 1990a and 1992 (revised version), and Gardener and Teppet 1990b)

conditions, while the observations for foreign exchange drafts indicate the converse. The price ratios for consumer loans and mortgages display massive variance, implying considerable variation in the degree of price competition in the various retail banking markets at the survey date.

Heterogeneity of the banking services included in the survey may account for some of the differences, but this bias should not be too large given that the fairly standardized services were selected. More importantly, pricing practices deviate significantly between countries, which is confirmed by the observations: Large variation in theoretical price reductions reveals substantial price discrimination between market segments, and cross-subsidization between different services as the variation in the price for the whole bundle of services (theoretical price reductions in banking) was far more moderate. Still, the respective price levels were also significantly divergent. In general, banks in the EFTA countries were found to charge prices above those in the EC. Spain, Germany and France, and Austria and Switzerland were the countries of the highest prices in the EC and EFTA respectively. Deviations in efficiency and costs clearly explain a part of the observed differences. With respect to the comparisons made in section 3.6.2, low efficiency seems to correlate with high prices as in case of Spain, France, Italy, and Finland, and Sweden. However, Germany and Switzerland appear as outliers in this regard.

Table 4.1. **Ratios of highest to lowest prices of banking services as based on PW (European Economy, March 1988) and Gardener and Teppet (1992) survey data<sup>1</sup>**

	EC(8)	EFTA <sup>2</sup>	EC(8) + EFTA
Commercial loans	1.56	2.60	2.60
Consumer credit	3.33	12.20	12.20
Credit cards	2.46	3.43	3.78
Mortgages	2.65	9.74	11.72
Letters of credit	1.75	1.85	2.00
Foreign exchange drafts	4.32	9.36	9.36
Travellers cheques	1.49	4.73	4.73
<b>Whole bundle of services</b>	<b>1.22</b>	<b>1.23</b>	<b>1.50</b>

Notes: <sup>1</sup> Countries included are reported in table A3.1.<sup>2</sup> Reported scenario EFTA integration; prices are compared within EFTA.

Price discrimination, inefficiencies and excessive prices are symptoms of inadequate competitive pressures, which give rise to large potential welfare gains from the competitive increases prompted by financial integration. Based on the indicative price reductions it is estimated that the welfare gains (increases in consumers surplus) range from 0.7% for the Netherlands to 2.8% for Switzerland as of the respective GDPs in 1986 based on the scenario of EEA integration. Average benefit at the EEA level was estimated to amount to 1.3%. We contemplate in the concluding chapter five, whether a "downscaling" of these estimates is necessary.

#### 4.1.2 Evolution of mark-ups in retail deposit and loan markets

As reported in chapter two, deregulation has removed controls on loan and deposit rates in France, Spain, Italy, Finland, Norway and Sweden mainly during the 1980s. In France, however, the rates paid to demand deposits are still regulated. It is particularly interesting to examine the evolution of intermediation margins and banks' profitability after the regulations have been lifted in order to assess whether it has induced more price competition and whether banks have been able to maintain the level of profitability of the "regulatory era". A reduction in banks' profits would constitute evidence in favour of prevailed regulatory capture. On the other hand, the persistence of previous margins or profits would imply that banks have been able to soften competition via strategic conduct, i.e. to replace the public protection by private actions.

The evolution of interest rate mark-ups is examined separately for deposit and loan markets. Figures A5.1.—A5.3. show the evolution of banks' average mark-ups in case of time and demand deposits and new consumer mortgage loans<sup>4</sup> between 1985 and 1992. Figures A5.4.—A5.23. show the evolution of the mark-ups on monthly basis against the money market rates used as reference.<sup>5</sup> The mark-ups are calculated as a ratio of deposit and loan margins to respective deposit

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<sup>4</sup> For Spain, Italy and Finland the loan rates represent all new consumer loans, not only mortgages.

<sup>5</sup> Although the rates chosen are as representative as possible given the data available, they are inevitably heterogeneous to some extent. Thus, caution should be exercised when making comparisons between countries. The details of the depicted rates are provided in Appendix 5.

and loan rates.<sup>6</sup> Hence, the mark-ups represent industry level Lerner-indices<sup>7</sup> reflecting banks' aggregate monopoly power in corresponding banking industries. In perfectly competitive or contestable markets mark-ups should equal zero, while large mark-ups would indicate low price rivalry or collusive conduct of incumbent banks.

The margin between the money market rate and the demand deposit rate represents the price charged on account management, liquidity and payment services that are not explicitly priced or priced under the cost of their provision. Account maintenance and transactions have been carried out in many countries without an explicit charge (see Neven 1990). Hence, banks' customers have been willing to accept a rate of interest below the market rate in return of free or underpriced services. Therefore, the evolution of mark-ups on demand deposits reflects changes in pricing only when the amount of free or underpriced services per unit of deposited funds does not change (see e.g. Suominen and Tarkka 1991). Moreover, as the pricing of these services varies between countries the differences in demand deposit mark-ups do not represent entirely differences in banks' market power. Interest income from demand deposits is tax exempt in Belgium, France (where there is also explicit regulation) and Finland upto a certain level of interest. These rulings actually correspond to rate regulation, since competition leads all banks offer the maximum tax exempt level of interest. Therefore, effective price competition is absent in tax exempt deposits. In case of time deposits liquidity and payment services are virtually non-existent: The margin stands mostly for the transformation of investments from wholesale to retail banking markets. Thus, the mark-ups on time deposits are more apt to the inspection of differences in deposit market competition.

In general the loan markets appear more competitive than deposit markets, and even occasional negative mark-ups are detected in the yearly averages for France, the UK, Finland and Switzerland, and for Belgium, Italy and Spain in the monthly observations. This reveals

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<sup>6</sup> The mark-up on deposits is defined as:  $(r-r^D)/r^D$ , where  $r^D$  is the deposit rate and  $r$  the money market rate. In case of loans the mark-up is:  $(r^L-r)/r^L$ , where  $r^L$  represents the rate charged on loans.

<sup>7</sup> Lerner index is defined as the ratio of the price – marginal cost margin to the price charged. The money market rate represents the opportunity cost of funds and marginal revenue to banks in loan granting and deposit taking respectively. The effect of reserve coefficients should be taken into account in calculating the true marginal revenue from deposit taking. Thus, the mark-ups on time and demand deposits overestimate the true economic ones. In static Cournot competition the Lerner-index for a representative bank is the ratio between its market-share and perceived demand elasticity. (See e.g. Tirole 1988, ch. 5.4 and 5.5).

again significant cross-subsidization between the lending and deposit taking activities. When deposit margins are large due to regulation or collusive agreements, banks have an incentive to make loan granting contingent on the maintenance of deposit balances, and in order to attract profitable deposits banks are willing to offer favourable loan rates to their customers (see e.g. Gual and Neven 1992).

Mark-ups on time deposits have decreased irrespective of the money market rates in Germany, Switzerland, Italy and Spain, and to some extent also in Belgium and Finland since 1989 (see figures A5.4.–13.), indicating sharpening price competition in deposit markets. In all but the first two markets the changes can be attributed to a shift in the mode of competition toward price competition following deregulation. In France and the Netherlands the mark-ups have followed the changes in the interbank rates demonstrating rigidity in pricing of the time deposits. In the UK, practically market rates have been paid on time deposits. In case of demand deposits the mark-ups are high and follow closely interbank rates in all countries except the UK indicating cross-subsidization of payment, account maintenance and liquidity services, and thus low degree of price rivalry. Italian and Swiss banks appear to offer the most favourable rates on demand deposits. The rigidity of the deposit and loan rates to changes in interbank rates constitutes a sign of weak price competition, and may reflect the presence of collusive price setting behaviour.<sup>8</sup> (Note, that in loan markets the rigidity shows up as an inverse relationship between interbank and loan rates).

### 4.1.3 Banks' aggregate profitability

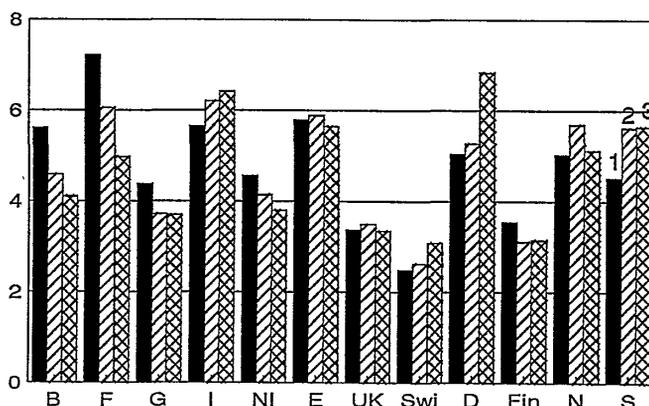
Large monopoly rents earned from sizable intermediation margins do not necessarily imply high profitability as measured by the return on assets or equity if they are accompanied by low operating efficiency or rent sharing with labour resulting in excess staff or wages. Hence, low competitive pressures are not necessarily connected with high profits

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<sup>8</sup> When interbank rates are volatile the rigidity of loan and deposit rates can be interpreted in light of the hysteresis models (see e.g. Baldwin 1988, Baldwin and Krugman 1989, Dixit 1989 and 1992, and Gual and Neven 1992 for an application to the pricing of financial intermediation services). When market rates are volatile it may be optimal for banks to react conservatively to changes in market conditions. As implied by the hysteresis models, increases in market volatility will reinforce the rigidity in pricing. Moreover, when changes in market rates are considered temporary it becomes optimal not to respond at all.

of incumbent banks. The development of banks' aggregate net-interest income as related to the deposit base, excluding interbank deposits (included in the UK data), is depicted in figure 4.1. (see table A3.2.) indicating income generated from "traditional", largely retail banking operations. Direct service charges and fees, and other non-interest income from off-balance sheet activities are thus not included in the figures. Large margins are reflected in the prominent interest income in case of France, Italy and Spain, while low margins are translated into the corresponding figures for the UK and Switzerland. Relatively low interest income of Finnish banks is due to a large proportion of the loan stock being tied to the Bank of Finland base<sup>9</sup> rate which has fallen short of the money market rates.

Figure 4.1. **Banks' yearly net-interest income per non-bank deposits in selected European countries, 1983–1991**



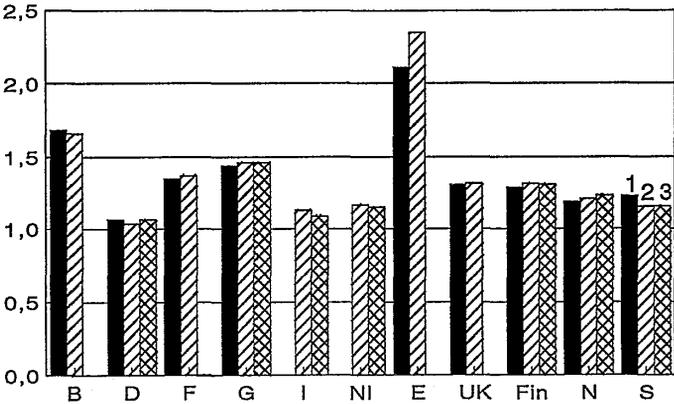
- 1 Average of 1983–1986
- 2 Average of 1987–1990
- 3 1991

Source: Table A3.2.

<sup>9</sup> At 31 Dec. 1990 and 31 Dec. 1992 the share of these loans in Markka denominated total new lending and total loan stock were approximately 29%, 23%, and 63%, 46% for commercial banks respectively. The figures for savings banks were approximately 26%, 12%, and 64%, 49%; and for cooperative banks 27%, 10%, and 61% and 39% respectively. Thus overall, the share of the loans tied to the base rate is decreasing. Source: Bank of Finland.

Figure 4.2. displays labour remunerations in financial services sectors relative to respective national averages. In all countries employees are granted above average remunerations (indicators exceed unity) in the financial industry implying either higher than average human capital, or rent sharing due to non-competitive wage determination (see e.g. Steinherr and Gilibert 1989, and Neven 1990). The human capital argument is strongest for the UK, where the relative remuneration is above the median, since the share of the advanced international financial operations that require higher labour skills is larger in the UK than in the other countries under observation. By contrast, significant rent sharing with labour is indicated for Belgium and especially for Spain, where labour remuneration has been strikingly high.

Figure 4.2. **Ratio of average labour remuneration in financial service sector to national average in selected European countries**

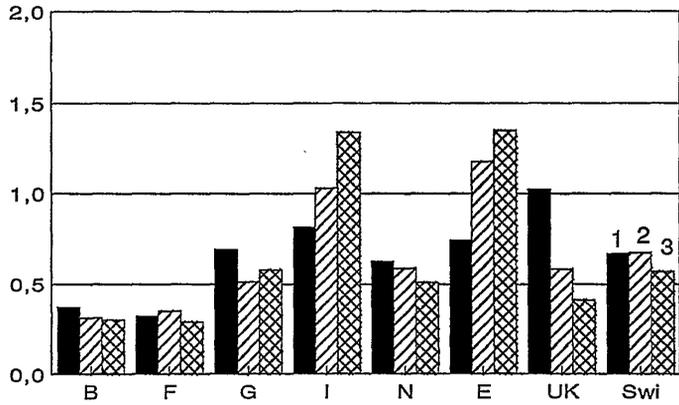


- 1 1985
- 2 1988
- 3 1991

Source: Table A3.3.; includes financial institutions and insurance firms

Figure 4.3a.

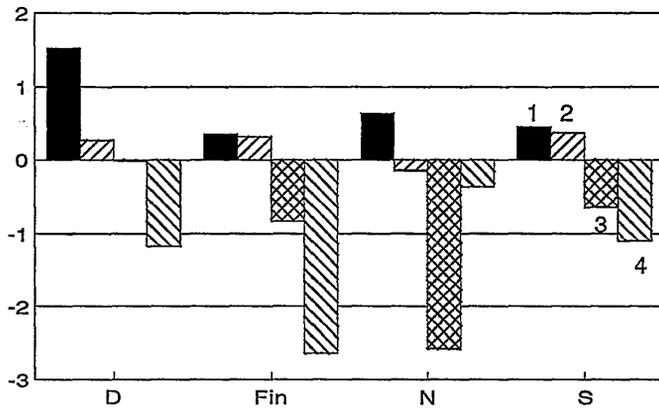
**Banks' yearly pre-tax profits as % of total assets in selected European countries, 1983–1991**



- 1 Average of 1983–1986
- 2 Average of 1987–1990
- 3 1991

Figure 4.3b.

**Banks' yearly pre-tax profits as % of total assets in Nordic countries, 1983–1992**



- 1 Average of 1983–1986
- 2 Average of 1987–1990
- 3 1991
- 4 1992

Source: Table A3.2.

Heavy operating costs due to low operating efficiency appears to have depressed the profitability of French banks as measured by return on total assets (see figures 3.6. and 4.3a.). This applies also to certain extent to Belgium and Sweden. Low return on assets in case of Finland appears to have hinged on both relatively high non-staff operating costs and low interest income. An earlier start of the banking crisis in Norway than in Finland and Sweden shows up as overall losses at the end of the 1980s,<sup>10</sup> while Finnish and Swedish banks have been reporting losses since 1991 (see figure 4.3b.).

#### 4.1.4 Competitive pressures in European banking markets — a summary

Summarizing the observations, the degree of price competition in the banking market seems most substantial in Germany and the UK, where markets have been longest deregulated, with the exception of the German loan market, where mark-ups have, nevertheless, significantly fallen since 1988 from the high levels also apparent in the PW's price survey. It should be noted, however, that a part of the fall is attributable to the rigidity of the loan rates to the rise in the level of interest rates. Pro-competitive forces of banking liberalization appear to have been strong in Spain and Italy, as banks' mark-ups have fallen both in the deposit and loan markets. Still the overall rivalry appears low in these countries, since banks' return on assets has been high in European standards, and in case of Spain even in spite of significant rent sharing with labour. Furthermore, banks' relative interest income has remained high and even increased in Italy. Thus, the signs of regulatory capture and imperfectly competitive behaviour after deregulation seem strongest for Italy and Spain. By contrast, in other significantly regulated banking industries of France and the Nordic countries (especially in Finland), keen quality competition appears to have eliminated excess profits (revert to section 3.5.2).<sup>11</sup>

In France and Belgium banks have managed to maintain or increase the level of deposit mark-ups, which demonstrates the impact

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<sup>10</sup> In Denmark banks have large amount of bonds held as investment assets. Changes in bond prices must be included fully in Danish banks profit and loss accounts showing large swings in yearly profits. (See Koskenkylä 1992).

<sup>11</sup> This argument has theoretical groundings in Dixit (1979), which shows that quality competition can be as effective as price competition in eliminating excess profits. (See also Martinez-Girault and Neven 1988).

of persisting rate regulations. However, in both countries the relative net-interest income of banks has fallen indicating increasing competition in the credit market. (Conversely, in Belgium the mark-ups on consumer mortgage loans rose quite significantly in the early 1990s). In Netherlands, competitive pressures have clearly decreased, also as compared to the PW's price survey, which could be due to collusive conduct facilitated by high degree of market concentration (see table A1.7.). Hence, according to applied methodology, the welfare gains of integration for the Netherlands are underestimated in the PW's study. An overall depiction is that competitive pressures and consequently monopoly power of banks' vary significantly between national banking markets. Combined with a low level of efficiency (see figure 3.6.) in respective banking industries, high margins would make entry attractive to foreign institutions. France and Spain appear to be most distinctly such countries.

## 4.2 Contestability of banking markets — concepts and evidence

### 4.2.1 Characteristics of contestable markets and direct evidence for banking

The concept of perfect contestability (Baumol et.al. 1982) provides a benchmark for an ideal industry organization that is much more applicable to analyses of banking markets than perfect competition as the current structure of European retail banking can be approximated as a system of national oligopolies. Furthermore, the oligopolistic structure is expected to prevail in the Single Market due to the important position of the core banks in most national markets. Vives (1991a) argues that differentiation of banks in terms of perceived riskiness (probability of failure) could result in natural oligopoly in banking sustaining the current industry structure. If banks' customers are sufficiently risk averse, and their diversity in terms of risk aversion is small, banks with low risks would enjoy larger intermediation margins and market shares than riskier ones. The position of the incumbent banks would be enhanced if their initial advantage due to building a reputation of being safe is large. Then, even if (other) barriers to entry did not exist, the prevailing market structure would remain unaltered. As an example Vives gives European savings banks that have been able to offer lower deposit rates. It can be questioned, whether this premium would endure through the drastic changes in the

savings bank sectors. In case of Finland and Sweden certainly not as the recent banking crisis has the most seriously affected the savings banks sectors.<sup>12</sup>

In perfectly contestable markets potential competition, which does not have to be realized, disciplines the behaviour of incumbents regardless of the number of active firms in the industry: Cross-subsidization between banking services would be infeasible, and any sort of productive inefficiency (X-inefficiency) must disappear in equilibrium, since all unnecessary costs, as well as abnormal profits would trigger entry. Zero economic profits and social optimality characterize all sustainable industry configurations, even monopoly.<sup>13</sup> Thus, adhering to contestability grants required flexibility, especially as the market organization varies markedly between European countries (see table A1.1.).

The theoretical requirements for perfect contestability are that entry is absolutely free and exit is absolute costless. Costless exit is actually one determinant of free entry. These two conditions can be boiled down to the following three more fundamental ones (see Baumol 1982): (1) There are no sunk entry costs, which guarantees that firms can enter and leave the market without losing their capital. (2) There exists some price rigidity, whereby the switch of consumers must be faster than the reaction of incumbents, and entrants can evaluate the profitability of entry in terms of incumbent firms' pre-entry prices. Finally, (3) the potential entrant faces the same production technology and demand conditions as the incumbents, i.e. entrants suffer no cost disadvantage relative to incumbent firms. If these conditions of perfect contestability are met, even transitory profit opportunities can not occur as the market is vulnerable to hit- and run-entry. On the other hand, if active firms produce set competitive prices

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<sup>12</sup> In general, the advantage of established banks owing to the perceived safetyness belongs to a class of reputation effects, whose role as viable entry barriers is examined in the following section. However, the question whether these factors are powerful enough to create natural oligopoly in banking is dropped. It is argued in section 3.2.1. that this kind of benefits from economizing on confidence-building would practically disappear at certain (rather small) scales (see Dowd 1992).

<sup>13</sup> More specifically, the first-best optimum, where prices equal marginal costs and total industry costs are minimized, is attained in all sustainable industry configurations from duopoly to perfect competition. In case of monopoly, freedom of entry constraints the incumbent monopolist to operate efficiently and hold its profit at minimum level so that social (Ramsey) optimum is reached. Ramsey optimality denotes Pareto-optimality under the constraint of financial viability. Perfect contestability thus assures that productive and allocative efficiency are achieved. (Monopoly adheres to average cost pricing, which is as close to marginal cost as possible under financial viability). See Baumol et.al. 1982 (ch. 7 and 8 present the analysis of the contestable monopoly), and Tirole 1988, ch. 8.

and produce efficiently, entry to the market is forestalled. Broadly taken an entry barrier is any factor that violates at least one of the above three conditions. Thus, the assessment whether these conditions are satisfied in the unified European banking market, is contained in the discussion of potential economic and strategic barriers to free entry.

There are only few direct empirical applications of the theory of contestable markets to banking, nevertheless showing that the theoretical concept of contestability has also practical meaning. Lloyd-Williams et.al. (1991) review studies that by employing the Rosse-Panzar H statistic (see p. 2–4 for definitions) provide evidence of the US and Canadian banking markets exhibiting some characteristics of contestability. The UK banking market is suggested contestable without empirical verification. The authors find that the Japanese banking market can be described as monopolistic, but potential competition appears powerful enough to prevent monopoly pricing. According to their observations, only few domestic institutions entered the Japanese banking market over the 1970s and 1980s, while a large number of foreign institutions did so. Lloyd-Williams et.al. argue, that the status quo among domestic institutions can be explained by contestable conduct of incumbents due to effective potential competition on part of foreign institutions. Molyneux et.al. (1992) use the same Rosse-Panzar methodology in studying the competitive conditions in major five European banking markets between 1986 and 1989. The uniform result of monopolistic competition was obtained for Germany, the UK, Spain and France, with a possible consistency with market contestability assuming "relatively free access" to above markets. However, the authors note that a closer study of demand and cost schedules is required to make precise conclusions. By contrast, the results for Italy imply earnings under monopoly or conjectural variations of short-run oligopoly conditions.

#### 4.2.2 SCP-paradigm, contestability and barriers to entry — empirical evidence

According to the SCP-paradigm of the traditional IO literature, industry performance is directly caused by the prevailing market structure and conduct of incumbent firms. An increase in the market concentration would increase collusive opportunities between firms, and thus lead to increased profitability. This view is naturally in sharp contrast to the theory of contestable markets, as well as oligopoly theories, where effective price competition can occur even in case of a

duopoly.<sup>14</sup> However, when markets deviate from the ideal conditions of perfect contestability, market power of individual firms enhanced by high concentration may lead to excessive prices and translate into enhanced profitability.<sup>15</sup>

The validity of the SCP-paradigm has been widely examined in banking. Gilbert (1984, tables 1 and 2) presents an extensive survey of the related econometrical literature concerning the US retail banking markets<sup>16</sup> over a period from 1964 to 1983 testing the SCP-hypothesis of a positive correlation between concentration in deposit markets and bank performance; profit rates or interest margins on loans or deposits. Overall the evidence was ambiguous, about 50% of studies rejected the hypothesis, but in any case variations in market concentration had only a small impact on the performance measure employed. Gilbert criticizes strongly the fact that most of the studies do not control for the effect of rate regulation on bank performance, which suppresses the true relationship between market structure and performance.<sup>17</sup> Using data for the US unit state banks between 1973 and 1978, Smirlock (1985) found that banks' rate of return on equity capital or total assets was significantly and positively related to market share but not concentration after controlling for both variables. He argues that the acceptance of the SCP-paradigm in some of the

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<sup>14</sup> Price competition even among a few firms yields a competitive outcome in the standard Bertrand oligopoly model. Price competition is however weakened when the firms face capacity constraints, compete repeatedly (tacit collusion), or when the products are differentiated (see e.g. Tirole 1988 ch. 5.5).

<sup>15</sup> The industry level mark-up over marginal cost (aggregate Lerner-index) is given by the ratio of the Herfindahl index of concentration to the market elasticity of demand in standard Cournot competition. This provides theoretical underpinnings to the SCP-theorem of positive correlation between market concentration and profitability (see e.g. Tirole 1988, ch. 5.4 and 5.5).

<sup>16</sup> The plural is due to geographic restrictions that have prevailed in the US precluding interstate branching. Therefore, banking markets in states that have maintained restrictions should be regarded as independent. However, significant integration of the retail banking markets has taken place over the recent years as restrictions have been gradually lifted: In 1992 47 (in 1989 36) states permitted some form of interstate banking, practically all via subsidiaries rather than branches (see Baer and Mote 1992).

<sup>17</sup> Ceilings on deposit rates (Regulation Q), which was abolished during the 1980's, had clearly enhanced banks' profitability independently of concentration especially when market rates were much above the ceiling rates. This is noted in some of the studies as an explanation for observed non-relationship between concentration and interest paid on on demand deposits, but regulation is not explicitly accounted for in any study. Thus, Gilbert concludes that it is not possible to infer the overall impact of regulations on the estimated relationship (Gilbert 1984).

preceding studies was due to a failure not to account separately for individual banks' market shares.

Neven (1990) and Vives (1991a) conclude that in European banking markets concentration does not appear to correlate positively with banks' profits. However, the data presented in their studies describes the situation in early 1980s when banks' profits were in part attributable to regulatory capture, and thus, the pure effect of market structure could not be isolated.<sup>18</sup> Figure 4.4. depicts the relationship between market concentration (CR5 % of total assets) and banks' aggregate profitability using yearly averages for 1987–1990. The figure confirms Neven and Vives's conclusions, while presenting a period whereby significant national deregulation had already taken place or was underway in the most heavily controlled European markets.

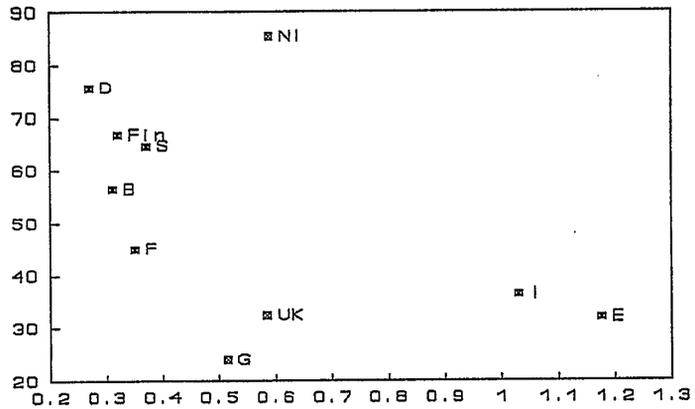
Evidence based on rigorous empirical studies concerning the European banking markets studies is scant. Molyneux and Thornton (1992) investigated the determinants of bank performance across 18 European countries between 1986 and 1989, and found a positive and significant, but negligible correlation between CR10 (with respect to total assets) and pre-tax return on assets (various specifications were used). Bourke's (1989) results, using CR3 and pre-tax profit measures of 12 North-American and European countries with Australia included over a ten year period from 1972 to 1981, are closely in agreement with Molyneux and Thornton's findings. Ruthenberg (1991) tested the SCP-paradigm on a large set of countries (EC and EFTA countries plus Israel, Canada, Australia, and the US) using aggregate bank data for years 1984–1988. According to his findings, banks' performance (interest rate margin) increased with concentration (Herfindahl index) only in small banking markets with relatively few competitors and high entry barriers. i.e. in Finland, Ireland, Sweden, Netherlands (and Israel). The density of the bank branch network was used as a proxy for the relative size of entry barriers. The study can be criticized for this choice (see consecutive discussion in section 4.3), but it suggests that these markets most significantly lack contestability. Thus, an increase in potential competition following banking integration should create the largest potential gains for these particular countries.

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<sup>18</sup> In international comparisons the different intensities of banking regulations are especially disturbing, since correlation between regulatory protection and concentration, as well as correlation between regulatory protection and profitability, may be a source of detected positive correlation between concentration and profitability. In general, the effect of the intensity of banking regulations on the estimated relationship is inconclusive, since regulations that create effective entry barriers tend to enhance profitability while prudential ones tend to depress it (see Bourke 1989, ch.4 for a closer discussion on the matter).

Figure 4.4.

**Correlation between banks' yearly pre-tax return on assets and market concentration (CR5) in selected European countries, yearly averages 1987–1990**



x = Banks' yearly pre-tax profits as % of total assets  
y = CR5 (% of total assets)

Sources: Tables A1.7. and A3.2.

Smirlock (1985) claims that the inability to detect monopoly profits in concentrated markets supports the Demsetz's efficient structure postulate that market structure is shaped endogenously by firms' performance so that concentration is a result of superior efficiency of the leading firms. According to this view, industry's cost conditions have stipulated the evolution of the industry, and potential competition has been powerful enough to eliminate monopoly profits indicating absence of effective entry barriers. Hence, Smirlock's study advocates contestability of the US retail banking markets. Calem and Carlino (1991) present somewhat contradictory evidence in regard to the US retail deposit markets by applying a liquidity management model of a banking firm (see e.g. Santomero 1984 and Hannan 1991), which establishes an explicit theoretical link between market concentration and pricing of deposit and loan contracts. The authors discovered non-competitive conduct in money market deposit and 3- and 6- month CD markets by employing cross-section data for 1985, but deviations from competitive pricing were uncorrelated with market concentration. Their results are in conflict with Berger and Hannan's (1989) results, that detected a positive relationship between money market deposit and CD rates and market concentration. Hannan and Liang (1993) are able to confirm this conclusion. Thus, the evidence

from the US is far from conclusive. In general, the strategic non-competitive conduct observed in the pricing of retail deposit suggests lack of contestability and effective entry barriers in this particular market, even though the overall depiction of the US retail markets appears contestable.

Smirlock's (1985) reasoning does not seem to hold for the European banking markets, where concentration measures are typically much higher than in the US. Overall, in Germany and the UK (as in the US and Japan), where entry has not been formally restricted, market concentration has turned out lower than elsewhere. In Germany and the UK also other structural regulations have been limited. High concentration in France appears to be promoted by the significant public ownership in the sector. However, in general, concentration appears to correlate positively with market size as the smallest markets are also the ones with the highest concentration. As fairly robust evidence of constant returns to scale in retail banking exists, and cost efficient banks are found to be present in all size classes, economies of scale or superior cost efficiency can not be considered factors that fully account for the evolution of the industry structure. Therefore, barriers to entry must have been effective, and most evidently more important than the production economies in shaping market structure in Europe. Most clear entry barriers were naturally created by the regulations impeding domestic and foreign competition. The lifting of the regulations has already induced notable structural changes in retail banking in most European countries that have, however, so far been mainly domestic in nature (revert to chapter 2 and section 3.3).

If potential entrants anticipate tough competition after entry (or if incumbents can deliver a credible message of aggressive post-entry conduct) they are likely not to choose to enter.<sup>19</sup> This implies that entry should take place into retail banking rather than wholesale or corporate banking markets, where intermediation margins and thus profit potential are significantly lower resulting from more effective price competition. Nonetheless, as described in section 3.3.1 foreign entrants have positioned themselves mostly in the latter markets over the recent years when regulatory barriers were importantly removed (see e.g. Heinkel and Levi 1992). Also the total number of banking institutions has decreased between 1987 and 1990 in all countries except Germany. These notions indicate that entry is harder in retail banking, and that also other entry barriers than the legal ones have been effective. Although the establishment of subsidiaries of foreign

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<sup>19</sup> See Gilbert (1989, p. 485–493) for discussion of strategic entry deterrence in light of simple limit pricing and game theoretic models.

banks has been allowed, and capital movements have been free between certain EC countries for rather a long period of time, retail banking operations are carried out almost solely by domestic institutions except in the UK and Belgium where foreign banks have grasped a significant market share (see table A1.7.). Furthermore, cross-border trade in banking services has been moderate (see Neven 1990, table 5.1.). These observations provide further support for the important entry barriers in retail banking. The emergence of specialized suppliers foremost in the UK, French and German markets over the recent years represents contrasting evidence, as well as the increased activities of non-financial firms that can be regarded as substitutes to banks' services, for example leasing and retail (e.g. car) financing.

In general, if some economic or strategic barriers to free entry remain effective, perfect contestability will not be achieved, and the benefits of integration fall short of this benchmark. Evidence of contestable properties of the US, the UK and Japanese banking markets, where entry has been free, suggests that at least in the long run there is hope of attaining welfare gains through increased contestability. Nevertheless, the above discussion of the US retail banking markets demonstrates that in market segments (or submarkets) for various banking products the significance of entry barriers varies importantly. Thus, instead of investigating the retail banking market as a whole, different products as well as customer groups must be regarded separately.

### 4.3 Economic barriers to entry in retail banking

Economic (or exogenous) barriers to entry stem from supply and demand properties that are exogenous to firms operating in the industry, i.e. cost or demand asymmetries that favour established firms and allow them to earn supernormal profits. This definition is in accordance with the earlier stated conditions of perfect contestability, as well as with Gilbert's (1989) broad definition: "a barrier to entry is a rent that is derived from incumbency". Factors that constitute potential economic entry barriers in retail banking are categorized into supply- and demand-side in table 4.2. The following two sections deal with each of them in turn, assessing their conceivable significance in the Single Banking Market.

Table 4.2.

**Theoretical classification of main  
determinants of potential economic barriers to  
entry in retail banking**

Supply-side factors	Demand-side factors
Absolute product differentiation advantages, scale advantages and capital requirements (Bain 1956)	Consumer switching costs, (Klemperer 1987)
Sunk market entry or exit costs (sunk investments in network capacity, computer systems and intangible capital), resource and risk diversification and scope economies (Baumol et.al. 1982)	Reputational effects and confidence, (Krugman 1986, Vives 1991a)
Location models: Network externalities and proliferation, the scope of existing capacity in the banking industry (Neven 1990)	Other factors: <ul style="list-style-type: none"> <li>— Country and currency specific barriers, (Steinherr and Gilibert 1989)</li> <li>— Cultural aspects</li> <li>— Adjustment to new banking technology</li> </ul>

#### 4.3.1 Economic barriers stemming from the Supply-side<sup>20</sup>

The evidence regarding scale and scope economies suggests that these factors do not pose significant entry barriers in retail banking markets. As the cost efficient size of banking operations is discovered fairly small, a new entrant can penetrate the market in modest scale, and still suffer no cost-disadvantage with respect to established institutions. Regarding risk reduction in loan markets, the efficient scale seems also rather small, since a large number of clients is not needed in order to capture most of the risk reduction (see Dowd 1992). Furthermore, the entire argument of scale economies posing an efficient entry barrier in an industry is principally vain, since efficient capital markets should provide funding to all viable investments regardless of their absolute size (see e.g. Scherer and Ross 1990, ch.5.): As in case of certain specialized services, like payment cards, where massive fixed costs due to large requirements of automated technology yield a large cost efficient scale. The same reasoning pertains also to the minimum

<sup>20</sup> For further overall discussion see e.g. Dermine 1990, Neven 1990, Dixon 1991, Vives 1991a and b, Bisigano 1992, Lewellyn 1992b, Conti and Maccarinelli 1992, and Lindberg 1992 for references to the Finnish retail banking market.

equity requirement of ECU five millions set out by the EC Commission.

According to the theory of contestable markets the crucial issue is to what extent required entry investments are sunk, whereby at least a part of the initial capital investments can not be recouped in case of exit. Fundamentally this issue is to what extent capital in banking is specific to the industry. It has been traditionally argued that the wide bank branch and ATM networks of established domestic institutions constitute an effective barrier to entry to domestic retail banking markets, as establishment of distribution capacity demand massive investments that are considerably sunk in nature. Moreover, in many national markets quality competition has resulted in excessive branch and ATM networks, which do not seem to leave any room for new entrants to set up extensive distribution networks (revert to section 3.5.). Therefore, the reallocation of the existing capacity appears a more plausible way to absorb new suppliers (see Neven 1990).

The significant public ownership of banks in some countries, especially in France and Italy, and anticipated reluctance of national governments to accept significant foreign ownership, particularly of the core banks, suggests that a large number of market entries through mergers or acquisitions would not be expected in the Single Market. The lack of significant cross-border deals over recent years (revert to section 3.3.1) implies the same. Bisigano (1992) and Llewellyn (1992a) note also that the number of banks available for sale is limited, and therefore they anticipate that cross-border cooperative agreements (e.g. cross-participation agreements enforced by a change of minority stakes), whereby banks seek to take advantage of each other's distribution networks and market position, will be relatively more important in the future as a means to penetrate foreign markets. In cooperation agreements banks can achieve their goals by less investment and risk. Bisigano, however, asserts that the ability of governments in the EC to block a large bank merger or acquisition will depend on the development of the Community company law. If legislation permits incorporation as an EC corporate entity, the ability of national governments to block entry would be seriously limited.

Overall, the above view overlooks the fact that an extensive branch network is no longer a prerequisite for operating even in retail deposit and loan markets. Main factor contributing to this development is the technological progress, which allows services to be dissociated from the branch network, and provided through the electronic banking systems. Moreover, in the Single Market foreign institutions are free to supply services cross-border, without a need to establish themselves in the domestic market. Customers' demand for locality is expected to

decline as the diffusion and adaptation to new banking technology extends, which still diverge significantly (see figures 3.7. and 3.8.). Thus, at least in the short-run the relative importance of locality needs as an obstacle to internationalization is expected to vary between European countries.

Branch network is becoming less necessary in banks' raising of funds (see Lindberg 1992), and increasing securitization of liabilities diminishes the importance of a large deposit base as a source of cost efficient financial resources. More importantly, as price competition intensifies the real return on deposited funds becomes the major factor determining consumers' choices. It is far more cheap to reach depositors via an electronic than expensive branch network. Further, the termination of rate regulations has enabled banks to be competitive in deposit markets without committing themselves to grant loans. Dermine (1990) notes that the independent provision of deposit and loan services requires free access to interbank markets, which enables efficient liquidity management, and thus eases considerably the entry to deposit or loan markets.

The emergence of specialized institutions in all European countries that provide near-perfect substitutes to bank time deposits offering money market based rates on deposited funds, implies that the barriers to entry on the supply-side are relatively low. This applies partially also to demand deposits; the expansion of cash-management systems in France carrying market rates are examples of close substitutes to demand deposits. Similarly investment accounts with specialized institutions or UCITS, which allow a certain amount of withdrawals, approach demand deposits. Specialized institutions have entered increasingly also into consumer lending operations (revert to section 3.3.2).

Nevertheless, in order to conduct a full range of retail banking activities (provide complete substitutes for demand deposits) entrants must be ready to produce payment transaction services, which require large initial investments in computer capacity, and access to the national retail clearing and payment transfer (bank giro) systems. The established firms have a competitive advantage due to operating established payment management systems and ATM networks, which increasingly allow customers to make bill payments, fund transfers and account inquiries in addition to cash withdrawals (see table A4.2. in Appendix 4). In regard to payment transactions customers will favour the institutions whose services are most widely reachable. Thus, they would disregard the entrants who are not able to provide these services at a similar scale as established institutions. However, if new entrants may join the existing electronic banking systems, i.e. payment transfer

systems and ATM networks at non-discriminatory conditions, existing networks should not constitute significant entry barriers, while inability to obtain access to electronic banking systems would effectively block entry to the large scale retail banking markets. Consequently, incumbent banks may aim at shielding strategically the existing electronic systems from newcomers. The cross-border provision of services is hampered by still remaining obstacles in effecting cross-border retail payments, though progress has recently taken place in the EC. The costs of retail payments are excessive to domestic ones and payment technologies are still heterogeneous.<sup>21</sup> Due to the strategic contents these issues is further elaborated in the next section.

For foreign institutions the requirements of entry capital depend on the means they choose to penetrate the domestic banking market (see e.g. Dixon 1991 and Lindberg 1992). In cross-border provision of services foreign institutions can exploit their existing capacities in their home markets, and the costs they need to incur are chiefly promotional. Establishment of branches do not either demand any additional prudential capital input, while the minimum capital requirements pertain to subsidiaries of foreign institutions. Furthermore, a single branch assures access to home Central Bank finance (lender of last resort), as banks' liquidity supervision if left to home country control. Thus, supply-side impediments to foreign competition appear weak in regard to potential foreign competition, at least in the long run as technological levels in various banking systems are expected to converge and progress in cross-border retail payment systems is achieved. However, low price elasticity of certain retail customers due to various demand side factors can put entrants at a disadvantage. Thus, the overall contestability of retail banking markets is violated if entrants face dissimilar demand conditions; the issue we examine next.

#### 4.3.2 Economic barriers stemming from the demand-side

Product differentiation exists whenever consumers do not view goods as perfect substitutes. Product differentiation implies necessarily a barrier to entry in the sense that new entrants must incur sunk promotional expenditures in order to prove the quality of their product

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<sup>21</sup> See European Communities, COM(90) 447 final) and a Commission Working Document: Easier Cross-Border Payments, Breaking Down the Barriers, March 1992.

varieties to customers<sup>22</sup>. Neven (1990) argues that the scope for product differentiation in retail banking is limited, since in broad terms the financial intermediation services are fairly regular, e.g. deposit and loan contracts are fairly standardized across banks. Thus, in regard to the product itself, differentiation does not seem to provoke important entry barriers, which is supported by the emergence of specialized institutions particularly in the deposit markets.

Nevertheless, consumer switching costs and reputational effects enforce significantly product (or more accurately supplier) differentiation (see Neven 1990, Dermine 1990, and Vives 1991a).<sup>23</sup> In the related literature these two factors are asserted to constitute the most important economic barriers to entry and free mobility of banking services. Consumer switching costs are costs incurred to a bank's client when moving from a bank to another. Klemperer (1987) concludes that in general the costs that arise are transaction, search, learning and/or contractual costs. In banking these costs can be connected to physical change of accounts, information gathering, and foremost penalties to consumers due breaking up contracts, e.g. early withdrawal fees. Banks commonly attempt to increase consumer switching costs through product packaging and customer tying (see Lindberg 1992 ch. 7 for Finnish examples), whereby e.g. a prerequisite for a loan is to maintain a deposit account with the particular bank over the maturity of the loan. Switching costs grant market power to established banks, and hamper new entrants' market penetration, since consumers are not willing to change banks due to small price differentials. The more substantial the switching costs are, the greater is consumers' bank loyalty and the more inelastic is the demand for the particular banking services. The existence of consumer switching costs in banking has interesting implications for banks' strategies, which will be discussed in the next section. Vives (1991a) notes that switching costs are most likely to be decreasing in wealth, which renders wealthy customers with more alternatives, and banks with market segmentation and price discrimination opportunities. Thus, potential competition is expected to increase more substantially in the

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<sup>22</sup> The effectiveness of product differentiation to create an entry barrier is not theoretically clear-cut. It limits effectiveness of entry through preventing perfect imitation, but newcomers "may have the advantage of a better-informed customer base" (Gilbert 1989). The crucial issue is to what extent firms' past promotional expenditures affect their current demands. "...this goodwill arises from previous expenditures and does not influence post-entry advertising decisions." (For comprehensive discussion see Farrel and Saloner 1986 and Tirole 1988, ch.7.)

<sup>23</sup> Klemperer (1987) states that ex ante undifferentiated products can turn ex post differentiated in producers are able to impose switching costs upon consumers.

market for services targeted to wealthy customers and medium sized corporations than in case of "average" households and small enterprises. Thus, the former markets are more probable to hold contestable properties.

Reputational effects<sup>24</sup> stem mainly from the fact that risk averse consumers rank highly their confidence on a particular bank and on the financial system as a whole when depositing funds. Confidence is enhanced by a long-standing bank-client relationship, which increases customer's bank loyalty. In general, reputation effects diminish customers' reactions to price differentials, and thus pose obstacles to entry. The most important reputational factor is the anticipation of bank's solvency and assessment of the probability of failure in case of less than complete or incredible deposit insurance. Other factors include demand for locality (discussed above), and familiarity of local and domestic institutions. The lack of name recognition may submit entry opportunities in mass retail banking only to large banks with well known international names. Finally, similarity of national characteristics and banking systems is likely to render entry from a neighbouring country more probable than from a distant one (see Berg et.al 1992).

Overall, the influence of the reputational effects is expected to decline in the Single Market as prudential regulations are harmonized and the Draft Directive on Deposit Insurance promises the same minimum level of deposit insurance in all EEA countries (see section 1.2.3). Then, in the unified banking market the reputational barriers should be largely of bounded rationality. These facts do not, however, totally nullify the fact that banks must build up reputation of solvency and good management, which takes time. Residual uncertainty in depositing funds remains on consumers as the current deposit insurance schemes in most European countries do not provide limitless guarantee (see table 1.1.), which is also the case with the Draft Directive. Possible remaining divergences in national coverages may distortions, which were discussed in section 1.3. The convergence of economic conditions due to the deepening of the European integration should diminish the power of confidence effects in obstructing entry and directing funds. On the other hand, if progress toward the Economic- and Monetary Union is hampered or if the European Exchange Rate Mechanism breaks down, their influence will not decline as much as expected. The reputation effects can also work against domestic institutions when the home country's financial system

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<sup>24</sup> See Steinherr and Gilibert 1989, Dixon 1991, Vives 1991a, Bisigano 1992 and Dowd 1992.

is in distress, like at the moment in Finland, Sweden, and in Norway, which creates entry opportunities to foreign institutions that are perceived trustworthy.

As the regulatory burdens are converging in the EEA countries due to harmonization and regulatory competition, the influence of country specific factors on the location of the banking activities is expected to diminish. And if a single currency is adopted in Europe, the currency specific factors affecting trade flows in financial services will disappear. Steinherr and Gilibert (1989) note that residents in weak-currency countries tend to invest in long-term capital markets of countries with strong currencies, while investors exploit higher returns on short-term money market instruments in countries of weak currencies. These "distortions" have then the effect of guiding entry decisions of financial institutions.<sup>25</sup> Nevertheless, the discrepancies in rules of taxation (revert to section 1.3.) appear to persist at least for a while constructing an important source of distortions.

## 4.4 Strategic barriers to entry in retail banking

Strategic barriers to entry represent actions on part of incumbent firms which aim at obstructing entry and thus protecting their favourable position in an industry. Two distinct strategy choices are identified in the theoretical literature: (1) Incumbents may enforce economic barriers to entry making entry harder, even blocking it totally (blockaded entry). (2) If entry cannot be blockaded incumbents can pose a credible threat to act aggressively in post-entry competition, thus making entry unprofitable (deterred entry). The latter case is much more interesting, since it involves strategic interaction between firms in post entry competition. The third strategy choice is to accommodate entry if incumbents find that it is more profitable to let entrants enter than to create costly entry barriers.<sup>26</sup> In the following discussion plausible entry blocking and deterring strategies of incumbent retail banks are considered with hindsight to their potential significance in the unified European banking market. Table 4.3.

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<sup>25</sup> Steinherr and Gilibert (1989) state that in general advancing integration fosters the status of small financial centres relative to the established ones, as it smooths out the country and currency specific factors affecting the location of financial firms.

<sup>26</sup> The taxonomy of strategies is due to Bain (see Tirole 1988, ch.8 introduction). A detailed description and formal treatment of blockaded, deterred and accommodated entry is presented in Tirole 1988, ch. 8.2 and ch. 8.3. Actually a fourth strategy choice can be distinguished, i.e. inducement of exit, but it is shown to be identical to entry deterrence.

presents a classification of both types of strategies that construct potential barriers to entry. The actions are divided into supply and demand side according to whether they affect industry's supply or demand conditions respectively. Note that this division is somewhat more arbitrary than in the previous case of economic entry barriers. Banks' strategic decisions concerning size and scope of operations is included within the classification, thus linking the following discussion to that in section 3.1.

Table 4.3. **Classification of strategic barriers to entry in retail banking**

<b>"Supply-side" strategies</b>	<b>"Demand-side" — strategies</b>
Entry deterrence by strategic expansion (Fudenberg and Tirole 1984, Tirole 1988, ch.8) — Branch proliferation — Mergers and acquisitions	Entry deterrence by segmentation of the banking market — Price discrimination — Cross-subsidization — Credible threat to act aggressively
Explicit and implicit collusion (Mercenier and Schmitt 1992) — Domestic cooperation agreements — Cross-border cooperation agreements — Tacit collusion	Entry deterrence by imposing consumer switching costs (Klemperer 1987, Froot and Klemperer 1989) — Product packaging — Customer tying
Network blocking (Vives 1991a)	Entry deterrence by segmentation of customers (Fudenberg and Tirole 1984, Vives 1991a). — Large base of risk-averse customers — Concentration on better informed / wealthy customers  Cost control in response to intensified competition — Reductions in operating costs — Reductions in X-inefficiency

## 4.4.1 "Supply-side" strategies

### 4.4.1.1 Strategic expansion

The commonly asserted argument of bank branch proliferation being able to create an effective entry barrier in retail banking, can be grounded by a theory of an incumbent monopoly deterring entry by "overinvestment" in capacity; i.e. by being a tough top dog<sup>27</sup>. Then, if a bank enjoys monopoly profits in local markets or if it receives of an allotment of joint monopoly profits through collusion it has an incentive to expand branch network in order to crowd space, and thus, diminish room for entry. The reason is that the incumbent bank (or a cartel of banks) reaps monopoly profits, while the post-entry profits, associated with a duopoly outcome, are lower for both the incumbent and entrant (see also Vives 1991a).

Nevertheless, this argument does generally not seem to be in accordance with reality concerning the European banking markets. As noted, quality competition during the period of intense banking regulations has led to dense branch networks in many countries that are in some countries considered even excessive, foremost in Finland, Spain, and Belgium. As banking technology and price competition is advancing, cost control and light branch network provide a competitive advantage, and, as discussed in section 4.3.1, the viability of branch networks as economic entry barriers is diminishing. Moreover, in terms of the location models, a shift in the mode of competition from quality toward price competition gives rise to incentives to "locate further apart", i.e. to reduce branch network (see Eaton and Lipsey 1975 and Neven 1990). Finally, distress in banking systems of

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<sup>27</sup> The animal terminology is due to Fudenberg and Tirole (1984). They present a two period two firm model, where the firm 1 makes an investment  $K_1$  in period 1, e.g. in capacity, and firm 2 observes  $K_1$  and decides then whether to enter or not in the 2. period. If the firm 2 does not enter, firm 1 enjoys a monopoly position in period 2. Firms' respective overall profits are  $\Pi^1(K_1, x_1, x_2)$  and  $\Pi^2(K_1, x_1, x_2)$ , where  $x_1$  and  $x_2$  are the firms decisions in period 2, e.g. output decisions, which are functions of  $K_1$ . Firm 1 blocks or deters entry by choosing  $K_1$  if  $\Pi^2(K_1, x_1^*(K_1), x_2^*(K_1)) \leq 0$ , where  $*$  denotes Nash equilibrium values resulting from the period 2 competition. The authors say that 1. period investment makes firm 1 tough if  $d\Pi^2/dK_1 < 0$ , and soft if  $d\Pi^2/dK_1 > 0$ . Four distinct cases can be distinguished. (1) Top dog: tough through large  $K_1$ , (2) fat cat: soft through large  $K_1$ , (3) lean and hungry look: tough through small  $K_1$ , and (4) puppy dog: soft through small  $K_1$ . To block or deter entry the incumbent firm should choose either strategies (1) or (3), which denotes in either "over"- or "underinvestment" in period 1. Note that this model does not explicitly distinguish between blockaded and deterred entry; they are both included in the choice of  $K_1$ .

Finland, Sweden, Norway,<sup>28</sup> (Denmark and the UK) generates pressures to cut capacity and operating costs in the banking system. Therefore, it appears in general unlikely that branches will be used in a strategic way to block entry. In fact between 1987 and 1990, the branch network densities decreased in seven out of 12 European countries under observation, and only in Spain and Italy the number of branches increased significantly (revert to section 3.5.1). In Italy the branch network density is the lowest, but in Spain among the highest in Europe. Thus, it can be anticipated that only in Italy, where also the level of banking technology is modest, i.e. the role of branches significant in the distribution of services, space crowding by establishing new branches could occur.

The question of the investment in size by means of a merger or an acquisitions is basically the same as that of branch proliferation. The above discussion suggests that these investments are not able to block or deter entry, but rather can make the incumbent bank a soft fat cat, which is compelled to accommodate the entrant. However, mergers and acquisitions reduce the number of available takeover candidates and thus hampers entry by acquisition. As stated in chapter two, in Italy and Spain this has been a clearly stated objective to limit foreign competition. But as a wide branch network is becoming less important for the distribution of retail services, and as foreign supply can take place by way of cross-border trade and/or cross-border cooperation agreements, it can be concluded that pure strategic expansion, without inducing collusive conduct, should not constitute a long run threat effective competition (market contestability) in the unified European banking market.

#### 4.4.1.2 Explicit and implicit collusion

Mercenier and Schmitt (1992) make conceivably a very important point by noting that the price reducing effect of integration actually make entry less attractive. Given that some entry barriers exist, the zero-profit condition is binding only for entrants in the industry equilibrium. Thus, taken that entrants' zero-profit condition was binding prior to the completion of the Single Market, it will not be anymore in the upcoming market conditions. The incumbent firms could therefore raise prices collectively without attracting entry, and

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<sup>28</sup> Recent capacity reductions in the Nordic countries show up in tables A1.2b. and A1.3b.

thus, the monopoly power of the established institutions would be increased.<sup>29</sup>

In general, the incumbent firms have an incentive to ease price competition resulting from national deregulation and increase in the level of cross-border competition by shaping the industry's conditions more favourable for themselves. Vives (1991a) notes that attempts to drive rival banks out of business by using predatory strategies prompts a possibility of failure of the attacked bank, thus causing a change of a confidence crisis in the banking system as a whole, which would hurt the predator as well. Therefore, he concludes that instead of slaughtering competition, mergers, or cooperation agreements are plausible ways to relax future competition. As significant economies of scale are not found in retail banking, the motive for these deals is clearly to attain larger margins or to preserve the previously sheltered margins through cooperation. Regarding the structural changes in European banking systems presented in section 3.3. and increased concentration in most European banking markets, this "preparation" to increased price competition seems to have already taken place. Various cooperation agreements have been so far the major tool in international arrangements, with clearly one aim to loosen competitive pressures. However, the realization of these gains from enhanced monopoly power depends on the degree of contestability of the particular market: If overall entry barriers are not viable banks can not maintain excessive margins irrespective of the market concentration.

Taken that barriers to entry are to some extent effective at least in "mass" retail banking markets, at least in the short run, stemming chiefly from demand rigidities and obstacles in making cross-border payment transfers, there would be room for collusion, which could significantly reduce the welfare gains from banking integration. It should be noted that collusion does not have to be based on explicit agreements, but sustainable collusion can arise through "mutual understanding" when certain competitive strategies are used in repeated price or quantity games; so-called tacit collusion (see e.g. Tirole ch.6 1988, and Honkapohja 1990). Thus, the prerequisite for an efficiently operating Single European Banking Market is active competitive policy that is able to detect and abolish various forms of collusive behaviour and for welfare detrimental competitive strategies.

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<sup>29</sup> Mercenier and Schmitt (1992) show in a general equilibrium exercise of European integration with effective barriers to entry that the benefits of integration largely vanish when collusion between market participants is allowed. When they insert non-collusive conduct to the model, they arrive at results that are fairly in agreement with prior estimates from other analogous studies that do not account for barriers to entry (see e.g. Smith and Veneables 1988 and Norman 1990).

#### 4.4.1.3 Network blocking

Attempts to block foreign entrants' access to national retail clearing and payment systems (bank giro networks) and thus entry to large scale retail banking would clearly be regarded as violations of the competitive rules of the Treaty of Rome.<sup>30</sup> The main question then is at what conditions entrants are able to join the existing systems. Treaty's competitive provisions would also be offended if foreign entrants are offered discriminatory conditions.<sup>31</sup> However, it is very difficult to assess what stipulations are actually discriminatory. The most difficult question concerns the pricing of entry to the system and levying the unit compensation for services provided through the host network. This gives room for incumbent banks to act strategically by demanding a price that is above the true economic cost of operating the network (including interest on initial investment, depreciation, and goodwill). Thus, this type of strategic network blocking could have some power in creating entry barriers. One can anticipate that the most extreme cases would be remarked as violations of EC's competitive rules, as the competitive stipulations in this field are currently sharpening (see discussion below). Nevertheless, a profound examination of this issue would require the examination of the attitudes of various network coordinating organizations, as well as the terms by which foreign institutions have recently entered the domestic payment systems.<sup>32</sup> This important question is left for future studies.

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<sup>30</sup> "If banks are free to branch out and offer services throughout the Community from 1993 on, by virtue of the Second Banking Directive, they should be automatically eligible to participate in other Member States' clearing and payment systems too. If so, they would be free to join other Member States' Automatic Clearing Houses (ACH) and have accounts with the settlement agents associated with them (which would often be central banks) — this freedom, if exercised could, in principle, greatly enhance the efficiency of with which banks effect cross-border transfers." (European Communities, COM(90) 447 final, p. 13). For Community rules on competition see Treaties Establishing the European Communities 1987; rules applying to undertakings, articles 85–90, p. 193–197. The principles are laid down in article 85, which prohibits agreements aiming at distorting competition, and in article 86, which defines and impedes the abuse of dominant market position within the Single Market.

<sup>31</sup> This principle is clearly stated in case of access to ATM networks: "... the Commission will remain vigilant in ensuring that any agreements on inter-operability (of payment cards) do not transgress the Treaty provisions regarding competition, and that charges for cross-border card uses are transparent and fair." (European Communities, COM(90) 447 final, p.6)

<sup>32</sup> Lindberg (1992) reports that in negotiations between the Svenska Handelsbanken and Finnish Bankers' Association about joining the Finnish bank giro system, the required compensation was reduced by 80% after Svenska Handelsbanken announced publicly that the initial demand was excessive and aimed to impeding competition.

Two factors diminish the potential for strategic network blocking (and in general the extent to which established networks create effective entry barriers): (1) improvements under way in EC regarding cross-border payments, and (2) increasing cooperation between banks in operating electronic banking systems, in particular ATM networks. In order to alleviate the existing problems facing individuals and firms in making cross-border payments, Commission gave a Recommendation in 1990 on the Transparency of Banking Conditions Relating to Cross-Border Financial Transactions (90/109/EEC). The main obligations imposed on banks in this Recommendation are to present detailed information of all commissions, fees and charges incurred in payment transfers, and to harmonize the time needed in carrying out the transactions.

The advancements in cross-border payment systems are prompted by the Commission with the main focus on retail payments. Cooperation between banks and public authorities in order to enhance the efficiency of effecting international payments without endangering competition are stated as chief principles for the development. Thus, every credit institution should be made eligible to join any Automatic Clearing House (ACH) in Europe, and national ACH's should be linked together to form one or more Pan-European ACH's.<sup>33</sup>

Further progress is taking place in fields of modernizing<sup>34</sup> and harmonizing national payment systems, reducing transaction costs, overcoming remaining legal problems, and consumer protection, which is significantly enhanced by the recent EC Users Charter.<sup>35</sup> The

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<sup>33</sup> The progress should not reduce the private sector initiatives to improve cross-border payment systems. "To enhance the efficiency of cross-border transfers banks could improve the correspondent banking system, or banks and/or central banks could set up new systems which are based neither on the ACH or correspondent banking." (European Communities, COM(90) 447 Final, section C)

<sup>34</sup> Trans-European Networks – Program is going to allocate resources to development of national payment systems in Ireland, Italy and Greece. See European News, News Section 1992 5 JIBL N-99.

<sup>35</sup> These goals are stated in the Commission Working Paper: Easier Cross-Border Payments, Breaking Down the Barriers of March 1992, with the overall aim to "improve payment systems' speed and reliability and lower costs". Among the recommendations and resolutions set out in the document are: (1) a five point Users Charter (annexed): (i) the bank must inform the user of the most appropriate payment services available, (ii) the user must be given in advance full information regarding the total cost of a payment, (iii) the user must have the option of paying all charges so that the beneficiary receives the full sum, (iv) cross-border payments should be accelerated so that the same speed and reliability as in domestic payments is achieved by the Stage Three of EMU, and finally, (v) the user should have access to a redress procedure equivalent to that existing for domestic payments. The respective Banking Associations have approved these recommendations, and they should be enforced by all banks by January 1993. (2) All remaining double charges in cross-border

efforts to harmonize payment systems are, however, hampered by differences in current payment technologies, organizations and standards (see table A4.1.), and in payment conventions (see table A1.6.): for example in the UK and France cheques are the most favoured payment method, while e.g. in Finland, Norway and Sweden credit transfers clearly dominate. However, note that the use of cheques has decreased in all countries but in Germany between 1987 and 1990.

Payment systems and ATM networks exhibit a network externality, whereby customers prefer the services that are most widely available. Under these conditions it is beneficial for banks to supply compatible services. There is a free riding problem in the sense that small banks may be able to obtain greater benefits from participating in a joint network than large banks that are by themselves able to provide widely available services. Thus, large banks could have an incentive to retain incompatibility, and to strive to block entry by not providing harmonious services with the entrant (see e.g. Katz and Shapiro 1986 and Vives 1991a). However, it appears that in general the benefits from operating joint networks, also due to cost savings, have outweighed the strategic aspects. After a competitive start, linkages between various ATM networks have been established in all countries under observation, except in the UK, where in 1990 were no bridges between the three principal networks. In Belgium the joint network of commercial and savings banks and that of the Postal Administration have so far remained segregated (see table A4.2.). Banks cooperate increasingly also in payment management. In September 1992 banks supported a single payment transfer network in Belgium, Finland, Sweden and Norway (see table A4.1.).

In Europe the internationalization of the ATM networks is well underway within the Eurocheque system,<sup>36</sup> as the number of ATMs

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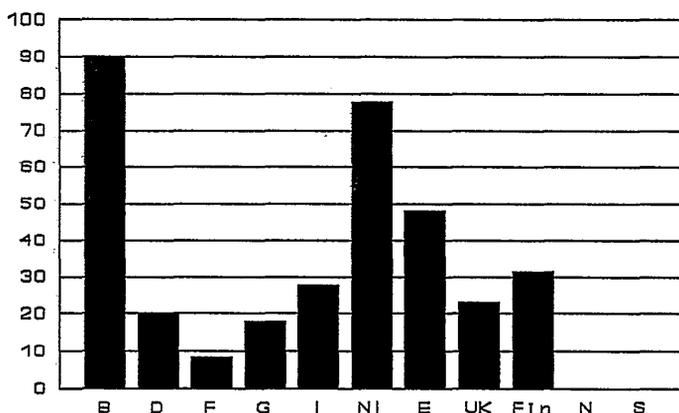
transactions should be abolished. (3) All information relating to foreign exchange transactions should be set out at an all-inclusive exchange rate. (4) A minimum value of ECU 10.000 should be set for the reporting of cross-border payments. (5) Creation of links between national ACH's is further supported. Lastly, (5) Commission sets out a working party to investigate legal issues such as the points of irrevocability and settlement finality. An Annex to the document sets out competition guidelines applicable to all financial institutions aiming to set up a credit transfer system and accentuates free-access to established payment systems (non-exclusivity). Commission is ready to take legal measures if these recommendations are not put into practice.

<sup>36</sup> The Eurocheque system was founded in 1968 in order to replace bilateral agreements between banks in Europe. The initial aim was to provide a uniform cash advance service at bank branches abroad. In 1981 Eurocheque instruments were enabled to be used in the retail outlets. Eurocheque International Holding is, with Eurocard International and Mastercard International, an owner of EPSS, which operates the data transmission network. (See Committee of Governors of the Central Banks of the Member States of the EC: Payment Systems in EC Member States, September 1992)

available to the holders of Eurocheque cards is increasing. Commercial, savings and cooperative banks and some Postal administrations may issue Eurocheque cards and make their own debit cards compatible with the Eurocheque system. Thus, the system can be described as decentralized and open. The Eurocheque and Eurocard/ Mastercard are now cooperating so that the Eurocheque ATM network will be made available to Eurocard/MasterCard holders. Also other credit cards, e.g. American Express, Diners Club and VISA are being accepted increasingly at ATMs (see table A4.2.). The ATM networks of Belgium and the Netherlands were the most open, and those of France, Denmark and Germany the most closed in the EC at the end of 1990, with respect to the acceptance of Eurocheque compatible payment cards (see figure 4.5., Norway and Sweden did not have any Eurocheque compatible ATMs at the end of 1992).

The interlinking of national EFT-POS networks is also commencing, with the aim of creating an European wide system. However, there are technological difficulties hindering the process due to differences in national EFT-POS infrastructures.

Figure 4.5. **Internationalization of ATM networks in selected European countries: The number of Eurocheque compatible ATMs as % of all ATMs at the end of 1990**



Source: Committee of Governors of European Central Banks of the Member States of the EC: Payment Systems in EC Member States, September 1992

#### 4.4.2 "Demand-side" strategies

The survey of the pricing of banking services in section 4.1. disclosed significant price discrimination between different banking services, which is traditionally extended to different customer groups as well (see Bryan and Allen 1988 for evidence from the US retail markets), so that wealthy customers, with larger amount of funds deposited, are offered more favourable terms. This reflects lower switching costs and more ample opportunities for wealthy customers to obtain financial services leading to a higher price sensitiveness (consciousness). Clear cross-subsidization of payment transfer services and also consumer loans from high deposit margins was also evident for many countries. The latter indicates also customer tying, so that in order to attain loans consumers must maintain low return deposits with the bank that had granted the loan. This type of segmentation of the retail banking market is favourable for universal banks operating in all segments, since high margins in less competitive segments allow banks to compete intensely in price in other segments against entrants and even incur temporary losses without endangering overall profitability. Under these circumstances a threat of post-entry competition may be delivered credibly deterring entry (see e.g. Neven 1990, Vives 1991a). Thus, to the extent that established universal banks have monopoly power over their customer base in deposit markets, they hold a competitive edge against specialized institutions, e.g. in the consumer loan markets. Therefore, universal banks have an incentive to strengthen strategically market segmentation by reinforcing customers' switching costs, which has the effect of reducing the price sensitiveness of their customer base.

A significant increase in potential competition in all segments of the retail market would naturally abolish the possibilities for cross-subsidization and product packaging (where a part of the package is priced above the competitive level), and thus weaken the competitive advantage of universal banks. This is observed most distinctly in case of time deposits and consumer loans, where the competitive pressure on part of specialized institutions and other substitutes, and potential threat of entry of foreign institutions is expected to reduce the scope for strategic conduct at least in the long run due to relatively low economic barriers to entry. In general, the margins on time deposits have already decreased in all but two countries under observation (see figure A5.1.). In the "mass" retail market for account maintenance (demand deposits) and payment services established banks are more likely to retain their advantage. In this market there is a clear

indication of extending price competition only in Denmark (see figure A5.2.).

The strategic opportunities of banks vary also according to customer groups. By concentrating on low-income and risk-averse customers, whose switching costs are high and price consciousness modest, incumbent banks may attain some strategic reserves that can be used to deter entry. In case of wealthy and well informed customers these opportunities are negligible.

As noted earlier, the ability to deter (or block) entry by solely crowding space is not expected to be possible in the future, as advancing price competition reveals increasingly the true costs of even retail services and accentuates cost efficiency. Thus, incumbent banks are likely to react to intensified competition also by increasing their efficiency by reducing operating costs (X-inefficiency), and consequently reducing incentives to enter<sup>37</sup>. This can already be observed in countries with high service capacity, i.e. France, Denmark, Finland, Norway and Sweden. However, in the Nordic countries the banking crisis constitutes an independent cause for the restructurings, whose impact is impossible to separate from the anticipated increase in potential competition. Nevertheless, this does not diminish the scope for collusive behaviour, which appears to constitute the most serious long run threat to the attainment of the welfare objectives of banking integration.

A distinct view on banks's strategies can be obtained from Froot and Klemperer (1987). They show in a different context of a two-period model of the exchange rate pass-through that in the presence of switching costs a firm is motivated to attract customers in the first period by lowering prices in order to exploit the increased customer base, over which it has monopoly power, in the second period. It also implies preference of the "early reaction" over the "wait-and-see" strategies in response to changes in banks' legal and competitive environment. In banking this suggests intense initial competition over market shares, which is observed in many countries after banking deregulation: In Finland, Sweden and Norway the loan stock of banks increased drastically after the rate regulations were demolished (see Lewellyn 1992b and Koskenkylä 1992), and in Spain and Italy the number of branches grew substantially after the lifting of branching regulations (revert to chapter 2). Thus, according to this view keen initial competition is expected in the Single Banking Market, as banking institutions aim at penetrating new markets (in foreign

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<sup>37</sup> This is basically the same notion as that of Abraham and Lierman (1991) concerning the notable shift toward the supply-led strategies (revert to section 3.3.2).

countries), even by suffering temporary losses in order to reap future profits.

However as noted earlier, a notable shift toward more cautious strategies is observed, by Abraham and Lierman (1991)<sup>38</sup>, and thus, past reactions may not foretell future reactions. Moreover, if foreign institutions expect market contestability to be effective enough in the long run equilibrium in the Single Banking Market to prevent supernormal profits, penetration, i.e. keen competition, would not be attractive to them. Thus, banks may regard cooperative actions to suppress competition and attain higher margins as more appealing strategies than penetration and tough competition.

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<sup>38</sup> See Bryan 1992 for a reference to the US markets.

# 5 Conclusions — competitive and welfare effects of banking integration

## 5.1 Competitiveness of the European retail banking industries

The descriptive analyses carried out in various parts of the study on retail banking industries in the forthcoming EEA countries (plus Switzerland) assessed the aspects of market organization, service capacity, banking technology, pricing of banking services, mode and degree of competition and industry performance: operating efficiency and profitability. The most striking feature was that the banking systems in different countries were still highly heterogeneous at the outset of the Single Banking Market, although some convergence was evident towards the end of 1980s. Heterogeneity per se certainly hampers the attainment of complete market integration, but at the same time it provides profitable entry opportunities for foreign banking institutions when intermediation margins are high or incumbent banks operate inefficiently. These opportunities exist to a much lesser extent in the already relatively competitive and congruous corporate and wholesale banking markets.

One must be cautious when comparing the overall service capacities and operating efficiencies of different banking industries as the functions of these industries differ and the available data is limited. However, at the beginning of the 1990s the overall competitiveness of banks appears to have been weakest in Italy, Spain, France and Finland. Regulatory protection and keen quality competition seem to have resulted in overcapacities in the three last-mentioned countries as compared with capacity levels that would be optimal in the new competitive environment. This has resulted in relatively poor operating efficiency of banks in these countries. A low level of banking technology and weak competition can be regarded as the main factors suppressing banks' operating efficiency in Spain and Italy. However, Spain has recently experienced a rapid increase in the density of the ATM network and in the use of more advanced payment methods. Overall, the degree of price competition is found to be the lowest in France, Spain and Italy in terms of the magnitude of the relative net-interest income and intermediation mark-ups. The existence of

supernormal profits is most strongly indicated for Spain and Italy, where banks' profits have been high in European standards. Furthermore, significant rent sharing with labour appears to have taken place in Spain.

Germany, the Netherlands and the UK have the longest history of deregulated banking markets and liberalized capital flows, and consequently, of effective price competition. This is reflected in the relatively high operating efficiency in the case of Germany and the Netherlands, though not in the case of the UK, where performance is rather poor (only the measures in regard to total assets are available in table A1.8.), and in low intermediation margins in all three countries. Also, the return on assets is found to be above average in Germany, the Netherlands and the UK. In addition, the Swiss banking system seems efficient and profitable, while intermediation margins have remained flat. Thus, the banking industries of these four countries seem to be the most competitive at the outset of the Single Market. Nevertheless, price competition appears to have eased recently in the Netherlands. Further, in Germany and the Netherlands ATM network densities and the acceptance of new payment techniques, as in Switzerland, are strikingly low, indicating adherence to "traditional" retail banking. It should be noted that the industry level indicators can not be applied directly in judging the performance of individual banks since in recent empirical studies operating efficiency is found to vary substantially across banks. Thus, a single bank may well prove to be efficient and competitive, even though the overall measures for the banking industry are poor.

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## 5.2 On the welfare effects of banking integration

According to the "internal market ideology", an increase in banking competition accompanying financial integration would give rise to significant welfare gains through enhanced price transparency and harmonization, diffusion of banking technologies and the removal of industry-specific inefficiencies. Those countries with a low degree of price competition and operating efficiency would be the ones with the largest potential benefits to be gained in the long run, but they would also face the largest reorganization pressures. Cross-border competition is assumed to grow substantially as the EC legal measures provide a "level playing field" for all banking institutions located in the Single Market area and effectively abolish regulatory barriers to entry and

cross-border provision of banking services. The legal framework for banking was largely completed by 1 January 1993, while the most significant legal obstacles remained in the fields of bank contract law, where no harmonizing measures have yet been enacted, and cross-border retail payments, where significant progress is currently under way.

The specific estimates for the welfare gains provided by PW (see *European Economy*, March 1988) for the EC member states and by Gardener and Teppet (1992) for the EFTA countries are based on the postulate of perfectly competitive and integrated banking markets. Large industry-specific benefits would accrue as productive and allocative efficiency would ensure that production costs would be minimized and prices of banking services would converge down to the level that correspond to the marginal costs of their production, thus making cross-subsidization implausible. Ryan (1992) obtained similar results to the PW study in regard to the importance and distribution of the benefits of overall financial integration by applying a computable general equilibrium model based on perfect competition and convergence of technologies, but the measured benefits were significantly larger. Ryan's study included a broader range of potential effects as it also accounted for the external effects of enhanced efficiency in financial industries on other sectors of the economies studied: more efficient financial intermediation, better services and redistribution of productive factors away from the financial services sector to the production of other goods. This dynamic and macro-economic aspect is conceivably very important, but has been left unexplored in this study as the industry-level viewpoint has been adopted.

Although the studies by PW and Gardener and Teppet make some downward adjustments taking into account certain country- and product-specific "imperfections", their results have been strongly criticized for overestimating the ensuing benefits (see e.g. Neven 1990, Vives 1991a and Conti and Maccarinelli 1992). There are two strong justifications for the criticism: (1) Barriers to entry in banking maintaining market segmentation may be a result of factors other than regulation. (2) The studies fail to recognize the impact of the changes in legal and competitive environments on incumbent banks' strategies, including those pertaining to growth policies, product range, distribution capacity, price discrimination (market segmentation), and overall competitive conduct, entry preventing strategies and potential for sustainable collusion. Hence, the welfare gains could fall short of those associated with the perfectly competitive or contestable

benchmark. The conclusions based on the analyses in chapters 3 and 4 are presented in sections 5.2.1 and 5.2.2 below.

The approach of the above studies can be supported by the notion that national financial liberalization has implied an observed trend toward market-oriented financial systems and a significant shift toward price competition in all previously strongly regulated markets. Also, the observed restructuring in European banking industries, e.g. capacity reductions (to abolish X-inefficiency) in France and the Nordic countries, and major changes among mutual institutions could be taken to imply that the kind of economic adjustments predicted by the studies have already started. But clearly, as indicated, these restructurings have had a strategic content (revert to sections 3.1, 3.4. and 4.4.). In addition, certain internal reasons can be observed behind the restructuring, of which the banking crises in Finland, Norway and Sweden are the clearest examples. Hence, it is impossible to say how large are the restructuring pressures that stem from the anticipated increase in foreign competition per se. In the case of the three Nordic countries, the internal pressures currently seem to dominate.

### 5.2.1 Barriers to entry in retail banking — will contestability be achieved?

It was stressed that the retail banking operations cannot be considered as a whole, but that sub-markets for different services, time deposits and investment accounts, commercial and consumer loans, payment services and demand account maintenance (the "mass" retail market), as well as for various classes of banks' customers, need to be considered individually. The effectiveness of barriers to entry, and thus the degree of contestability, can be expected to differ markedly between various sub-markets. The scattered conclusions made in sections 4.3 and 4.4 are summarized below:

(1) The emergence of specialized institutions in the provision of substitutes for banks' time deposits and investment accounts, commercial loans and increasingly also mortgages and consumer loans indicates low entry barriers and the diminishing role of extensive distribution networks due to technological advances. There appear to be no strong direct impediments to potential foreign competition as a single branch (or a subsidiary) is sufficient to provide these services. Moreover, the need to establish market presence would diminish if the advances in cross-border retail payments are achieved as set out by the Commission (e.g. in the Users' Charter). Nevertheless, in the short run, remaining obstacles in effecting international payments will

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hamper the cross-border supply of these services. It was recognized that adherence to the principle of "general good" written in the Second Banking Directive could lessen foreign competitive pressures.

Competition from specialized institutions, e.g. UCITS and money market funds, varies markedly between countries. At present, their market share is the largest in the UK, France and Germany. Their competitive impact is, however, often hampered by the fact that they are subsidiaries of large banking groups. UCITS are expected to expand as their investment opportunities are now being increased in EC legislation.

(2) Existing branch networks and associated sunk investments that incumbent institutions have incurred are also diminishing in importance as entry barriers in the provision of the full range of "mass" retail services as they can increasingly be dissociated from branches. However, the prerequisite is that entrants can join the existing electronic banking systems on non-discriminatory conditions. This non-exclusivity is one of the main principles in the EC's recently sharpened competition guidelines, and it can be anticipated that at least extreme attempts to strategically shield incumbents' position would be recognized. Furthermore, cooperation is already widespread in operating electronic banking systems, and the internationalization of ATM and EFT-POS networks has started, although technical difficulties will prolong the process.

(3) Entry by merger or acquisition facilitated by progress in the EC Company law and conversion of mutual institutions into joint stock companies seems more plausible than setting up new networks as currently the extent of existing distribution capacity can be even regarded as excessive in some countries. However, cooperation agreements with domestic institutions or mere cross-border supply (perhaps via a single branch) appear the most plausible because of the low capital input required, envisaged managerial diseconomies in integrating institutions from different countries and potential national resistance, especially in order to keep dominant core banks intact.

(4) Demand-side rigidities, particularly consumer switching costs, are argued to constitute the most significant economic entry barriers and to render market power to incumbent institutions. Various reputation effects discriminating foreign institutions have an identical impact, although their significance is expected to diminish as a result of prudential harmonization, and to practically disappear if EMU proceeds as planned. Overall, the mobility of demand and price consciousness among banks' clientele appear to have increased, and demand for locality to have decreased, though the significance of the demand-side rigidities varies markedly between different classes of

banks' customers: the demand of low-income and risk-averse individuals is more inelastic and less mobile than that of wealthy consumers, sustaining price discrimination opportunities. As regards firms, more opportunities are open to medium-sized ones than to small ones as e.g. the ability of the latter to incur foreign exchange exposure is limited.

Thus, retail banking for wealthy consumers and medium-sized firms is expected to experience a significant increase in competition and to possess contestable properties. By contrast, especially in the short run, the "mass" retail banking markets for "average" households and small enterprises are expected to remain segmented to some extent with a more moderate increase in competition and lack of contestability (as entrants face discriminatory demand conditions). Hence, integration will grant greater benefits to high-income households and larger enterprises. Note that the degree of adaptation to new banking technology increases demand mobility, and thus market contestability. France, Finland and Sweden are the most advanced countries in this respect.

From banks' viewpoint, the riskiness of the retail services offered is clearly a dimension that should also be taken into account. Barriers to entry can be taken to be lower for standardized services containing low risk, like mortgage loans backed by full security. By contrast, risky commercial loans in many cases demand local familiarity, which renders foreign banks uncompetitive in this field.

## 5.2.2 The effect of integration on banks' strategies

In chapters 3 and 4 banks' strategies were approached by considering the choice of the scale and scope of operations and the actions that are aimed at impeding competition (strategic entry barriers), respectively. As universal retail banking operations are found to be characterized by roughly constant returns to scale and evidence on the presence of scope economies is inconclusive, the cost conditions do not seem to stipulate the choice of the scale of banking operations or product mix. Only for certain specialized operations would cost reductions follow from the expansion of operations to the European scale. Rather, it was argued that there are pressures upon universal banks to become more differentiated and decentralized in order to meet the competitive challenges posed by specialized institutions in various market niches. Nevertheless, the coexistence of both types of institutions is predicted in the Single Market owing to the current dominant market position of the leading universal banks.

Banks clearly have an incentive to soften emerging competition to sustain intermediation margins and profitability by collusive conduct, or by replacing the abolished legal and administrative entry barriers by strategic ones, i.e. by blocking or deterring entry. Pure strategic expansion, especially via branch proliferation, was found to be implausible as light capacity would constitute a competitive advantage in conditions of intensifying price competition. However, domestic mergers or acquisitions may be effective in reducing competitive pressures by diminishing the possibilities of entry by acquisition. The room for sustainable collusion without attracting entry is highest in "mass" retail markets where economic entry barriers are the most effective. In contrast to the objectives of integration, its price-reducing effect actually widens the possibilities for collusion as it makes entry less attractive. Furthermore, incumbent banks have an incentive to strategically enforce market segmentation by increasing consumer switching costs through product packaging, and by tying customers through contractual means. Overall, collusive conduct, which is potentially enhanced by the recent increase in market concentration in most countries, appears more attractive to banks than keen competition over market shares in the Single Banking Market.

It can be concluded that in the long run explicit private cooperation agreements (e.g. cross-participation and network cooperation), which have been observed to have recently increased, also between firms from different countries, or tacit collusion constitute the most serious threat to the attainment of the welfare objectives of banking integration. Thus, an active competition policy to detect and prevent detrimental competitive conduct is required to ensure efficient operation of the Single Banking Market. Note that price harmonization may not necessarily reflect increased competition, but rather collusive conduct of banks in price setting in the overall Single Market area and thus "harmonization of banks' market power".

### 5.3 Some notes on the impact of EMU

As noted above, most of the legal prerequisites for banking integration have already been put in place by the Internal Market Programme. However, progress toward EMU as planned would significantly reduce the demand-side rigidities and thus enhance market integration by increasing demand mobility: a single currency would abolish foreign exchange transaction costs and currency risks. Deeper economic integration would also substantially reduce the impact of various reputation effects on demand for banking services. Furthermore, EMU

would cancel the effect of currency- and country-specific factors on establishment of banks and other financial institutions and on trade flows in financial services. The harmonization of cash reserve requirements would have the same effect. Nevertheless, no legal measures have been taken so far to harmonize the rules of taxation concerning personal interest income and corporate income, which would remain significant distorting factors in financial markets. The need to harmonize overall fiscal policies in EMU and international tax competition would enhance the process of tax harmonization. However, certain countries seem to wish to maintain their tax advantage.

Thus, EMU can be seen as means of fostering the attainment of integrated financial markets, and thus the realization of the associated welfare gains. In fact, a single currency is a prerequisite for complete financial integration. If the process fails or is prolonged the barriers to entry will remain at a higher level and competitive increases will be more modest.

## 5.4 Final remark

Although references to the data presented and recent empirical observations are made whenever possible, the analysis of entry barriers and banks strategies is, in many cases, still rather abstract. More specific conclusions would require closer examination of e.g. actual demand elasticities, pricing of product packages, management and pricing of electronic banking networks and cooperation agreements in the countries examined, which would constitute a huge undertaking. The key features of industry-level competitive and welfare analyses of banking integration have now been surveyed, but further research is clearly needed to make more definite country-specific conclusions and sharpen the overall analysis.

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# Appendix 1

Table A1.1a. **Institutional framework in banking markets of selected European countries, 1987 and 1990**

	Number of institutions		Number of branches		Market share (as % of deposits by the non-bank public)	
	1987	1990	1987	1990	1987	1990
<b>Belgium</b>						
Commercial Banks	86	87	3507	3487	67.54	64.30
Savings banks	32	28	2300	3853	6.58	8.10
Public Credit Institutions	3	6	3277	2904	15.00	17.30
Post Office	1	1	3132	3208	10.88	10.30
Total	122	122	12216	13452	100.00	100.00
<b>Denmark<sup>1</sup></b>						
Commercial Banks	84	189	2114	2884	na	92.20
Savings Banks	143	na	1327	na	na	na
Cooperative Banks	36	33	93	na	na	0.40
Post Office	1	1	1293	1317	na	7.40
Total	264	223	4827	4201	na	100.00
<b>France</b>						
Commercial Banks	377	419	9939	10212	na	53.60
Savings Banks	364	186	4378	4307	na	3.40
Coop. and Rural Banks <sup>2</sup>	190	194	11175	11125	na	30.10
Post Office	1	1	17089	16967	na	12.90
Total	932	800	42581	42611	na	100.00
<b>Germany</b>						
Commercial Banks <sup>3</sup>	331	415	6643	7186	36.00	39.70
Savings Banks	598	781	18136	20128	36.70	36.10
Coop. and Rural Banks	3482	3384	19428	20819	21.80	19.60
Postal Giro Offices	13	14	17515	29193	5.50	4.60
Total	4424	4594	61722	77326	100.00	100.00
<b>Italy</b>						
Commercial Banks	164	153	7019	7940	57.30	56.40
Savings Banks	86	86	4169	4697	25.30	26.60
Coop. and Rural Banks	859	825	4177	5084	14.00	14.90
Post Office	1	1	13958	14441	3.40	2.10
Total	1110	1065	29323	32162	100.00	100.00
<b>the Netherlands</b>						
Commercial Banks	83	97	2338	2275	47.20	47.80
Savings Banks	58	54	1035	1027	4.30	3.60
Coop. and Rural Banks	926	1	2345	2144	23.50	25.50
Post Bank	1	1	2705	2715	25.00	23.10
Total	1068	153	8423	8161	100.00	100.00

	Number of institutions		Number of branches		Market share (as % of deposits by the non-bank public)	
	1987	1990	1987	1990	1987	1990
<b>Spain</b>						
Commercial Banks	138	154	16454	16835	58.56	52.60
Savings Banks	79	65	13482	15476	37.74	43.40
Cooperative Banks	129	107	3113	2919	3.70	4.00
Total	346	326	33049	35230	100.00	100.00
<b>the United Kingdom</b>						
Authorized Banks	567	537	14994	14509	45.40	56.70
Building Societies	137	99	6967	6051	53.60	42.70
Post Office <sup>4</sup>	1	1	21211	20871	1.00	0.60
Total	705	637	43172	41431	100.00	100.00
<b>Finland</b>						
Commercial banks	10	14	1015	1006	37.24	49.22
Savings banks	230	150	1315	1141	27.98	25.85
Cooperative Banks	369	338	1223	1155	23.96	24.93
Post Bank <sup>5</sup>	1		57		10.82	
Total	610	502	3610	3302	100.00	100.00
<b>Norway</b>						
Commercial banks	30	24	740	602	54.48	52.09
Savings banks	173	142	1426	1194	45.52	47.91
Post Bank <sup>6</sup>	1	1	2686	2455		
Total	204	167	4852	4251	100.00	100.00
<b>Sweden</b>						
Commercial banks	25	17	1428	1359	64.44	61.17
Savings banks	116	104	1325	1185	27.46	28.97
Cooperative Banks	387	373	690	658	8.10	9.86
Post Giro <sup>6</sup>	1	1	2128	1934		
Total	529	495	5571	5136	100.00	100.00
<b>Switzerland</b>						
Commercial banks <sup>7</sup>	5	4	889	969	38.90	33.20
Savings banks <sup>8</sup>	445	451	1874	2009	37.37	35.60
Coop. and rural Banks	2	2	1242	1213	2.78	3.30
Post Office	1	1	3858	3830	20.95	27.9
Total	453	458	7863	8021	100.00	100.00

Sources: (i) EC-countries: Committee of Governors of the Central Banks of the EC-member states, Payment Systems in EC-member States (September 1992); (ii) EC-countries and Switzerland: BIS, Payment Systems in Eleven Developed Countries (April 1989 and December 1991); (iii) Finland, Norway and Sweden; Institutions and branches: Finnish Bankers' Association (Suomen Pankkiyhdistys); Market shares as measured by non-bank deposits: Finnish bank statistics (Pankkitilasto), Norwegian Bank and Credit Statistics (Bank- og kreditstatistikk), Swedish Capital Market Statistics (Statistiska meddelanden, Kapitalmarknaden)

Notes:

<sup>1</sup> Since 1989 commercial and savings banks not reported separately, post giro has been transformed into a bank (Girobank) and it uses the branches of the Post office.

<sup>2</sup> Includes 21 "Caisses de Credit Municipal" that have 76 branches

<sup>3</sup> Commercial banks include mortgage banks, instalment sales financing institutions, banks with special functions and loan associations

<sup>4</sup> National Savings bank Facilities are available at Post offices on agency basis.

<sup>5</sup> Included into commercial banks since 1988

<sup>6</sup> Post Bank and Post Giro included into commercial banks' market shares

<sup>7</sup> Five large banks

<sup>8</sup> Savings, regional, cantonal and other banks

Table A1.1b.

### Largest individual banks and their market shares as % of total assets in selected EC countries, 1987 and 1990

	1987 %	1990 %	Rank 1990 <sup>1</sup> (world, home)
<b>France</b>			
BNP	12.51	14.54	9,1
Crédit Lyonnais	11.53	14.31	14,2
Société Générale	10.48	10.96	16,3
Banque Paribas	3.61	5.55	54,4
Banque Indosuez	3.27	3.39	90,5
Crédit Agricole <sup>2</sup>	12.42	15.21	(na,1)
CR3 <sup>3</sup>	34.52	39.81	
CR5 <sup>4</sup>	41.40	48.75	
<b>Italy</b>			
Istituto Bancario San Paolo di Torino	7.16	9.26	na,1
Banca Nazionale del Lavoro	8.05	7.91	43,2
Banca Commerciale Italiana	6.52	7.09	56,3
Cassa di Risparmio delle Provincie Lombarde	6.32	6.80	58,4
Credito Italiano	4.94	6.70	59,5
Banco di Napoli	6.96	6.21	72,6
CR3	22.17	24.26	
CR5	35.01	37.76	
<b>Germany</b>			
Deutsche Bank AG	5.47	6.61	17,1
Deutsche Genossenschaftsbank	4.22	5.32	24,2
Dresdner Bank AG	3.69	4.96	na,3
Westdeutsche Landesbanks Girozentrale	4.43	4.92	na,4
Bayerische Landesbanks Girozentrale	4.16	4.19	na,5
Commerzbank AG	3.35	3.77	40,6
Bayerische Vereinsbank AG	2.90	2.97	na,7
CR3	14.12	16.89	
CR5	21.97	26.00	
<b>The UK</b>			
National Westminster Bank	9.77	9.68	12,1
Barclays Bank	9.86	8.82	13,2
Midland Bank	5.44	4.76	34,3
Lloyds Bank	5.04	4.40	36,4
Abbey National	3.34	3.71	47,5
CR3	25.07	23.26	
CR5	33.45	31.37	
<b>Spain</b>			
Banco Bilbao Vizcaya <sup>5</sup>		8.71	77,1
Banco de Bilbao	6.59		
Banco de Vizcaya	3.78		
Banco Santander	5.96	7.62	86,2
"La Caixa"	4.95	7.55	88,3
Banco Español de Credito	5.12	6.08	110,4
Banco Central	5.93	5.40	121,5
Banco Hispano Americano	4.68	4.79	133,6
Caja de Madrid	3.06	3.63	166,7
Banco Exterior de España	4.35	2.51	239,8
CR3	18.48	23.88	
CR5	28.55	35.36	

Sources: OECD, Bank Profitability, 1992. The Bankers' Almanac (various publications), own calculations

Notes:

<sup>1</sup> Rankings are according to total assets at the end of 1990. Source: The Bankers' Almanac, Jan. 1992.

<sup>2</sup> In 1990 Cédit Agricole consisted of 90 autonomous credit institutions which, however, operate in many respects as a single institution.

<sup>3</sup> 3-bank concentration ratio: the joint market share of the three largest banks

<sup>4</sup> 5-bank concentration ratio: the joint market share of the five largest banks.

<sup>5</sup> Merger in 1988.

Table A1.2a.

**Banks' distribution capacity in selected  
European countries, 1987 and 1990.  
Post offices excluded**

	Number of institutions		Number of branches		Number of ATMs	
	1987	1990	1987	1990	1987	1990
Belgium	121	122	9084	10244	802	939
Denmark	263	222	3534	2884	570	1016
France	931	799	25492	25569	11500	14428
Germany	4411	4580	44207	48133	7500	11300
Italy	1109	1064	15365	17721	4367	9770
the Netherlands	1068	153	5718	5446	450	2700
Spain	346	326	33049	35084	na	14000
the UK	704	636	21961	20560	12500	17000
Finland	610	502	3610	3302	1557	2838
Norway	203	166	2166	1796	1150	1752
Sweden	528	494	3443	3202	1650	1992
Switzerland	452	457	4005	4191	1239	2262

Table A1.2a. (cont'd)

	Number of inhabitants per branch		Number of inhabitants per one ATM		Total assets per branch (ECU Millions)		Non-bank deposits per branch (ECU Millions)	
	1987	1990	1987	1990	1987	1990	1987	1990
Belgium <sup>1</sup>	1086	973	12304	10614	45,05	46,84	14,11	15,64
Danmark	1452	1783	9000	5060	31,00	49,34	15,12	23,26
France	2184	2207	4841	3910	43,82	57,51	14,05	21,62
Germany	1383	1314	8153	5596	36,82	43,15	19,90	22,46
Italy	3731	3253	13128	5900	42,62	48,87	22,32	24,96
the NL	2554	2727	32602	5537	46,63	78,38	23,54	37,04
Spain	1175	1110	na	2783	10,47	15,13	6,96	10,33
the UK	2591	2792	4551	3377	58,21	86,12	48,98	69,08
Finland	1366	1510	3168	1757	24,49	44,87	14,06	23,17
Norway	1932	2361	3638	2421	33,57	42,69	17,76	25,78
Sweden	2439	2673	5090	4297	36,19	63,51	18,16	27,26
Swi	1650	1622	5335	3004	128,38	139,5	64,86	68,99

Sources: Institutions, branches and ATMs: see table A1.1a.

Data concerning total assets and non-bank deposits: OECD, Bank Profitability, 1992. The UK data: Financial Statistics of the Central Statistical Office, December 1991 (In case of the UK the coverage of the OECD statistics is poor).

Institutional coverage of the OECD statistics is presented in table A1.9.

Note:

<sup>1</sup> Last two columns do not include Belgian public credit institutions (compare to table A1.9.)

**Table A1.2b. Number of banks and bank branches in the Nordic countries, 1987–1992**

	1987	1988	1989	1990	1991	1992
<b>Denmark</b>						
Banks <sup>1</sup>	227	220	211	189	219	210
Branches	3534	3282	3175	2884	2652	2467
<b>Finland</b>						
Banks	610	590	552	502	432	365
Branches	3610	3538	3528	3302	3087	2817
<b>Norway</b>						
Banks	203	187	173	166	158	154
Branches	2166	2032	1880	1796	1774	1662
<b>Sweden</b>						
Banks	528	525	516	494	480	108
Branches	3443	3354	3290	3202	3064	2908

Source: Finnish Bankers' Association

Note: <sup>1</sup>Do not include cooperative banks

**Table A1.3a. Banks' employees in selected European countries, 1987, 1990 and 1991**

	1987 (1000)	No. of inhabitants per one employee	1990 (1000)	No. of inhabitants per one employee	1991 (1000)	No. of inhabitants per one employee
Belgium	60.7	163	62.3	160	61.4	162
Denmark	51.8	99	49.5	104	50.8	101
France	365.2	152	360.3	157	358.6	158
Italy	311.8	183	320.7	180	326.4	176
the NI.	106.0	138	122.4	122	125.1	120
Spain	240.0	162	251.6	155	256.0	153
Finland	43.4	114	50.2	99	46.8	107
Norway	30.5	137	26.0	163	24.6	173
Sweden	43.0	195	46.3	184	45.5	189
Swizerl.	112.5	59	121.4	56	120.9	56

Sources: OECD, Bank Profitability, 1992 (see table A1.9. for coverage). Nordic countries: Finnish Bankers' Association.

Note: Data covering the whole banking system is not available for Germany and the UK.

Table A1.3.b. **Banks' employees in the Nordic countries,  
1987-1992**

	1987	1988	1989	1990	1991	1992
Denmark	51800	50800	50000	49466	50778	47560
Finland	43400	51800	53200	50200	46800	42202
Norway	30531	30114	27609	26031	24598	23935
Sweden	43030	44758	45213	46291	45520	44169

Source: Finnish Bankers' Association

**Table A1.4. Banks' financial resources in selected European countries, 1987 and 1990**

	Total assets MECU		Non-bank deposits MECU		Per cap. total assets tECU		Per cap. non- bank deposits tECU	
	1987	1990	1987	1990	1987	1990	1987	1990
Belgium	261639	343781	81936	114773	26,51	34,49	8,30	11,52
Denmark	109558	142287	53432	66799	21,36	27,68	10,42	12,99
France	1116993	1470393	358164	552759	20,06	26,06	6,43	9,80
Germany	1466460	1890936	792475	984433	23,98	29,90	12,96	15,57
Italy	654810	865955	342953	442308	11,42	15,02	5,98	7,67
the NL	266643	426879	134617	201707	18,17	28,55	9,18	13,49
Spain	345941	530846	229942	362587	8,91	13,63	5,92	9,31
the UK	1278318	1770555	1075790	1420348	22,47	30,84	18,91	24,74
Finland	88423	148157	50747	76502	17,93	29,71	10,29	15,34
Norway	72712	76680	38465	46298	17,38	18,08	9,19	10,92
Sweden	124591	203370	62538	87271	14,83	23,76	7,45	10,20
Switzer.	514175	584761	259762	289138	77,79	86,04	39,30	42,55

Sources: OECD Bank Profitability, 1992 (see table A1.9. for coverage). The UK data: Financial Statistics of the Central Statistical Office, December 1991. Exchange rates of 31 December 1987 and 31 December 1990: Bank of Finland

Table A1.5.

**EFT-POS network and transactions in  
selected European countries, 1987 and 1990**

	Number of EFT-POS terminals		Number of inhabitants per one EFT-POS terminal	
	1987	1990	1987	1990
Belgium	15388	28253	641	353
Denmark	6246	15804	821	325
France	70000	180000	795	313
Germany	6663	23152	9177	2731
Italy	744	22185	77058	2598
the Netherlands	385	2223	38106	6726
Spain	na	311900	na	125
the UK	13000	110000	4376	522
Finland	5010	26500	984	188
Norway	4536	12168	922	349
Sweden	na	na	na	na
Switzerland	572	2590	11556	2624

	Number of EFT-POS transactions (1000)		Number of EFT-POS transactions per capita	
	1987	1990	1987	1990
Belgium	40600	79040	4.11	7.93
Denmark	6600	61542	1.29	11.97
France	530000	1167300	9.52	20.69
Germany	4000	35000	0.07	0.55
Italy	200	5400	0.00	0.09
the Netherlands	na	27000	na	1.81
Spain	na	79000	na	2.03
the UK	na	192000	na	3.34
Finland	3700	82700	0.75	16.59
Norway	9260	24679	2.21	5.82
Sweden	na	134000	na	15.66
Switzerland	1000	9600	0.15	1.41

Table A1.6.

**Relative importance of different payment instruments as % of total volume of transactions in selected European countries, 1987 and 1990**

	Cheques		Payments by cards		Credit transfers		Direct debits	
	1987	1990	1987	1990	1987	1990	1987	1990
Belgium	33	24	6	11	54	58	7	7
Denmark	na	26	na	14	na	50	na	10
France	65	56	8	15	17	17	10	12
Germany	9	10	1	1	54	53	36	36
Italy	53	46	1	3	44	48	2	3
the NL	19	15	1	2	64	62	16	21
Spain	na	30	na	9	na	6	na	55
the UK	58	51	11	14	22	22	9	13
Finland	9	2	1	14	89	83	1	1
Norway	20	14	3	7	77	78	0	1
Sweden	20	14	3	17	77	69	--	--
Switzerl.	14	10	3	6	80	81	3	3

Sources (tables A1.5 and A1.6): EC members: Committee of Governors of the Central Banks, Payment Systems in EC Member states, 1992; BIS, Payment Systems in Eleven Developed Countries, 1989 and 1991. Scandinavian countries: Finnish Bankers' Association.

Table A1.7. **5-bank concentration ratio (CR5) and market share of foreign institutions (MSF) as % of total assets in selected European countries, 1987 and 1990**

	CR 5		MSF <sup>1</sup>	
	1987	1990	1987	1990
Belgium	58.2	54.9	47.0	47.0 <sup>3</sup>
Denmark	74.3	77.1	1.0	na
France	41.4	48.8	11.4	na
Germany	22.0	26.0	4.2	3.9
Italy	35.0	37.8	2.9	2.9 <sup>3</sup>
the Netherlands	86.8	84.1	10.0	na
Spain	28.6	35.4	9.7	10.0
the UK	33.5	31.4	61.6 <sup>2</sup>	57.2 <sup>2</sup>
Finland	68.5	65.4	1.1	0.86
Sweden	na	72.1	2.3	1.6
the US <sup>4</sup>	10.0	na	na	na
Japan <sup>4</sup>	20.0	na	na	na

Sources: CR5 measures for France, Italy, Germany, the UK, Spain, Finland and Sweden: See table A1.1b. and tables 2.2. and 2.3. CR5 for other countries and MSF data: Gual & Neven 1992, Bruni 1990, and publications of respective European central banks.

Notes:

<sup>1</sup> Includes subsidiaries and branches of foreign owned banks.

<sup>2</sup> Excludes Building Societies.

<sup>3</sup> End 1989 figures.

<sup>4</sup> End 1986 figures.

Table A1.8.

**Banks' aggregate operating efficiency in  
selected European countries, 1983–1990**

	(Staff costs / non-bank deposits)*100			(Non-staff operating costs / non-bank deposits)*100		
	Av. 83-86	Av. 87-90	Av. 83-90	Av. 83-86	Av. 87-90	Av. 83-90
Belgium	3.22	2.66	2.88	1.60	1.47	1.53
Denmark	2.76	2.69	2.72	1.56	1.61	1.59
France	3.75	3.03	3.32	2.03	1.94	1.99
Germany	2.10	2.04	2.06	1.14	1.14	1.14
Italy	3.74	3.76	3.75	1.45	1.54	1.49
Netherlands	2.45	2.30	2.36	1.36	1.61	1.49
Spain	2.98	3.01	3.00	1.45	1.46	1.45
Finland <sup>1</sup>	2.63	2.31	2.47	2.47	2.60	2.54
Norway	2.35	2.41	2.39	na	na	na
Sweden <sup>1</sup>	1.67	1.94	1.83	1.77	2.27	2.02
Switzerland	1.71	1.96	1.85	0.84	1.01	0.92
	(/ total assets)*100			(/ total assets)*100		
Denmark	1.39	1.28	1.33	0.78	0.77	0.77
France	1.30	1.02	1.13	0.71	0.65	0.67
Germany	1.13	1.08	1.10	0.61	0.61	0.61
Italy	1.91	1.90	1.90	0.74	0.78	0.76
The NL	1.20	1.12	1.15	0.67	0.78	0.74
Spain	1.99	2.03	2.01	0.97	0.99	0.98
the UK	1.83	1.90	1.88	1.23	1.37	1.32
Finland <sup>1</sup>	1.61	1.25	1.43	1.50	1.40	1.45
Norway <sup>2</sup>	1.55	1.37	1.44	na	na	na
Sweden <sup>1</sup>	0.92	0.85	0.87	0.98	1.01	0.99
Switzerland	0.91	0.99	0.95	0.45	0.51	0.48

Source: OECD Bank Profitability, 1992, own calculations

Notes: The institutions included in the aggregate figures for the countries presented are those given in table A1.9. Staff costs include salaries and other employee benefits plus transfers to pension reserves. Non-staff operating expenses consist of all non-interest expenses related to regular banking business including expenses for property and equipment and related depreciation expenses. The following corrections were made in order to make the figures for different countries comparable with each other:

<sup>1</sup> Credit losses are subtracted from operating costs in case of Finland and Sweden, and other employee benefits and transfers to pension funds are included in staff costs.

<sup>2</sup> Congruous data of the operating costs of the Norwegian banks is not available.

We do not present the first type of efficiency measures for the UK, since interbank deposits can not be separated from the public non-bank deposits. Similarly, we omit the presentation of the second type of measures for Belgium, as the data are not in agreement with those for the other countries.

Table A1.9.

## OECD Bank Profitability Statistics, institutional coverage

Country / primary source	Included credit institutions <sup>1</sup>	Excluded credit institutions	Coverage (as % of non-bank deposits in 1990) <sup>2</sup>
Belgium <sup>3</sup> / Banque Nationale de Belgique	Commercial banks Banks with extensive networks Other Belgian-owned banks Subsidiaries of foreign banks Branches of foreign banks Savings banks Private savings banks Private independent persons acting as savings bank agents	Public credit institutions	80.7
Denmark <sup>4</sup> / na	Commercial and savings banks Danish commercial and savings banks Subsidiaries of foreign banks	Credit cooperatives	99.6
France <sup>5</sup> / Commission Bancaire	Commercial banks and credit cooperatives Commercial banks Mutual and cooperative banks: Banques Populaires, Crédit Agricole and Crédit Mutuel Subsidiaries of foreign banks Branches of foreign banks	Savings banks	96.1
Germany <sup>6</sup> / Deutsche Bundesbank	Commercial banks Big banks Other commercial banks Subsidiaries of foreign banks Regional giro institutions Savings banks Regional institutions of credit cooperatives Credit cooperatives	Mortgage banks Banks with special functions (Building and loan associations)	79.22
Italy <sup>7</sup> / Banca d'Italia	Commercial banks Domestic commercial banks Foreign-controlled banks Savings banks	Cooperative and rural banks	84.78
The Netherlands / De Nederlandsche Bank	Commercial banks Universal banks Banks organized on a cooperative basis Savings banks as from 1989 Mortgage Banks as from 1989 (Post Bank as from 1986)	Savings banks until 1988 Mortgage banks until 1988	95.70 in 1987 100 in 1990
Spain <sup>8</sup> / Banco de Espana	Commercial banks Domestic commercial (private) banks Subsidiaries of foreign banks Branches of foreign banks Savings banks Credit cooperatives		approximately 100
The U.K. <sup>9</sup> / Bank of England	Commercial banks 8 of the largest London and Scottish clearing bank groups	Other clearing banks "Independent" authorized banks (not subsidiaries of the 8 largest clearing banks) Building societies	37.4

Country / primary source	Included credit institutions <sup>1</sup>	Excluded credit institutions	Coverage (as % of non-bank deposits in 1990) <sup>2</sup>
Finland <sup>10</sup> / Statistics Finland (Central Statistical Office)	Commercial banks Post Office Bank (since 1988 incl. in Commercial banks) Foreign commercial banks (incl. branches of foreign banks) Savings banks Cooperative banks		100
Norway <sup>11</sup> / Norges Bank	Commercial banks incl. subsidiaries of foreign banks Savings banks		100
Sweden <sup>12</sup> /na	Commercial banks Foreign commercial banks Savings banks Cooperative banks		100
Switzerland <sup>13</sup> / Banque Nationale Suisse	Large commercial banks Foreign commercial banks Cantonal banks Regional and savings banks Loan associations and agricultural cooperative banks Other Swiss and foreign commercial banks		na

Sources: OECD Bank Profitability, Financial Statements of Banks with Methodological Country Notes, 1987. Update information obtained from consecutive issues.

General notes: <sup>1</sup> Subtitles are as given in the Bank Profitability Statistics.

<sup>2</sup> Market shares are obtained from Committee of Governors of the Central Banks of the Member States of the European Economic Community, Payment Systems in EC Member States, Sept. 1992 (see table A1.1a.). Market shares refer to all deposit taking credit institutions (offering payment services). This confinement is in accordance with the First Banking Directive (77/80/EEC): credit institutions are deposit taking undertakings that grant credit for their own account. Postal banking services (post offices) are excluded. Market share data for Finland, Norway and Sweden are got from respective bank statistics (see table A1.1.).

Country Notes: <sup>3</sup> Foreign subsidiaries of Belgian banks are not consolidated with the figures, while their foreign branches are. Public credit institutions is a heterogeneous group of public and quasi-public credit institutions. Two institutions operate as universal (diversified) banks: The General Savings and Pension Fund (CGER) and the Belgian Municipal Credit Institution (CCB). Other institutions are specialized credit institutions offering (long-term) credit to the industrial and agricultural sector.

<sup>4</sup> Foreign subsidiaries of Danish banks and Danish branches of foreign banks are not included. As from 1974 there has been identical regulations for commercial and savings banks in Denmark.

<sup>5</sup> Foreign subsidiaries of French banks are not consolidated with the figures, while their foreign branches are.

<sup>6</sup> Foreign subsidiaries of German banks are not consolidated with the figures, while their foreign branches are. Building and loan associations are not included within the Bundesbank statistics, on which the market share figures are based. Market shares refer to the volume of business: balance sheet total plus endorsement liabilities on rediscounted bills, bills in circulation drawn by the bank, discounted and credited to borrowers, and bills sent for collection from banks' portfolio prior to maturity; annual averages. (Source: Monthly report of the Deutsche Bundesbank, August 1992).

<sup>7</sup> Foreign subsidiaries and branches of Italian banks are not included.

<sup>8</sup> Foreign subsidiaries and branches of Spanish banks are not included. The data excludes official credit institutions and other bank like-institutions, but these institutions can not be considered as a part of the banking system; their deposit taking activities are very limited.

<sup>9</sup> Foreign subsidiaries and branches of the 8 largest clearing banks are included. The coverage is in terms of total assets (of the total of all authorized banks and building societies). Source: Financial Statistics of the Central Statistical Office.

<sup>10</sup> Foreign subsidiaries of Finnish commercial banks are not consolidated with the figures, while their foreign branches are (as from 1984).

<sup>11</sup> Foreign subsidiaries of Norwegian banks are not included

<sup>12</sup> Foreign subsidiaries of Swedish banks are not included

<sup>13</sup> Foreign subsidiaries of Swiss banks are not consolidated with the figures, while their foreign branches are. An exact measure for coverage is not available, but it can be taken large.

# Appendix 2

Table A2.1. **Breakdown of financial institutions' claims on private non-bank sector (1) and total claims<sup>1</sup> (2) in selected European countries, 1987 and 1990**

Financial institutions exclude (column a) and include (column b) insurance companies and pension funds

	1987		(2)		1990		(2)	
	(1) (a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
<b>Sweden<sup>2</sup></b>								
Banks	37.65	34.59	48.26	40.64	41.18	38.70	49.36	42.89
Other fin.institutions	62.35	57.29	51.74	43.57	58.82	55.27	50.64	44.00
Ins.c., pension funds		8.12		15.80		6.02		13.12
Total	100	100	100	100	100	100	100	100
<b>Finland<sup>3</sup></b>								
Banks	82.91	64.11	85.47	69.19	83.96	65.41	84.83	69.26
Other fin.institutions	17.09	13.22	14.53	11.76	16.04	12.50	15.17	12.38
Ins.c.,pension funds		22.67		19.05		22.09		18.36
Total	100	100	100	100	100	100	100	100
<b>France<sup>4</sup></b>								
Banks	99.18	97.15	90.85	85.30	97.85	95.53	87.53	80.83
Other fin.institutions	0.82	0.81	9.15	8.59	2.15	2.10	12.47	11.51
Ins.c., pension funds		2.05		6.11		2.37		7.66
Total	100	100	100	100	100	100	100	100
<b>the UK<sup>5</sup></b>								
Authorized banks	48.47	29.11	80.75	61.13				
Building Societies	39.89	23.95	13.92	10.54				
Other fin.institutions	11.64	6.99	5.33	4.03				
Ins.c., pension funds		39.95		24.30				
Total	100	100	100	100				
<b>Spain<sup>6</sup></b>								
Banks	92.93	90.86	91.18	86.97	92.64	90.08	91.82	86.52
Other fin.institutions	7.07	6.91	8.82	8.41	7.36	7.16	8.18	7.70
Insurance Companies		2.23		4.62		2.76		5.88
Total	100	100	100	100	100	100	100	100

	1987				1990			
	(1)		(2)		(1)		(2)	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
<b>the Netherlands<sup>7</sup></b>								
Banks	90.10	61.11	93.20	57.26	91.69	64.92	94.39	61.75
Other fin.institutions	9.90	6.72	6.80	4.17	8.31	5.89	5.61	3.67
Ins.c., pension funds		32.17		38.57		29.19		34.58
Total	100	100	100	100	100	100	100	100
<b>Italy<sup>8</sup></b>								
Banks	61.19	60.07	73.22	70.05				
Other fin.institutions	38.81	38.10	26.78	25.62				
Ins.c., pension funds		1.83		4.33				
Total	100	100	100	100				
<b>Belgium<sup>9</sup></b>								
Banks	43.75		60.61					
Other fin.institutions	56.25		39.39					
Total	100		100					

Sources: OECD Financial Statistics Part 2 1988 and various country-specific issues, 1991 and 1992. The data are obtained from tables under 31.B. showing the level of outstanding claims according to categories of financial institutions and to counterpart sectors.

Notes: Total claims of the financial sector do not include the claims of the Central Banks. Germany is not included, since all institutions except insurance companies and pension funds are included in the same statistics.

<sup>1</sup> Total claims are obtained by adding to claims on the private non-bank sector (households and non-financial enterprises) the claims on the General Government (State and local government and social security funds), financial institutions and rest of the world.

<sup>2</sup> (i) Banks: commercial, savings and cooperative banks. (ii) Other financial institutions: mortgage institutions, credit companies, investment companies (incl. Sveriges Investeringsbank), finance companies and stockbrokers. (iii) Insurance companies and pension funds: additionally friendly societies

<sup>3</sup> (i) Commercial, savings, cooperative banks and Postipankki (post Office Bank), (ii) Mortgage banks, hire-purchase, factoring and leasing companies, banking houses and financial institutions of the public sector.

<sup>4</sup> (i) All credit institutions: commercial, mutual, savings and municipal credit banks, finance companies and specialized financial institutions see section 2.3.1.1. (ii) mutual share funds and investment companies. (iii) additionally capital redemption companies and mutual insurance associations.

<sup>5</sup> (i) Authorized banks include the Banking Department of the Bank of England, the discount houses and the National Girobank, trustee savings banks and National Savings Bank. (ii) investment and unit trusts, authorized unit trusts, hire-purchase finance houses, special finance agencies, factoring and leasing companies certain public finance companies and miscellaneous institutions. (iii) additionally property unit trusts.

<sup>6</sup> (i) Commercial (private) and savings banks, credit cooperatives and the deposit guarantee funds. (ii) official and other bank like credit institutions and since 1989 brokers-dealers and agency brokers. (iii) social welfare institutions and Consorcio de Compensacion de Seguros.

<sup>7</sup> (ii) Mortgage banks and building fund societies and open-end investment companies.

<sup>8</sup> (i) Commercial and savings banks and their central organizations. (ii) special credit institutions, investment funds, leasing, factoring and consumer credit companies. (iii) separate pension funds do not exist in Italy.

<sup>9</sup> (i) Deposit banks, Government monetary institutions: Postal Cheque Office, the Monetary Fund, the Municipal Credit Institution and the Rediscount and Guarantee Institute. (ii) savings banks, mortgage companies and capital redemption companies, insurance companies, pension funds and Government financial intermediaries.

Table A2.2

**Financial institutions' claims on the Rest of the World as % of total claims in selected European countries, 1987 and 1990.**

Financial institutions exclude (column a) and include (column b) insurance companies and pension funds

	1987		1990	
	(a)	(b)	(a)	(b)
<b>Sweden</b>				
Banks	5.24	4.41	5.09	4.42
Other financial institutions	1.15	1.27	1.63	1.42
Insurance comp. and pension funds		0.18		0.38
<b>Total</b>	<b>6.75</b>	<b>5.86</b>	<b>6.37</b>	<b>6.22</b>
<b>Finland</b>				
Banks	14.89	12.06	11.63	9.50
Other financial institutions	0.81	0.66	1.76	1.44
Insurance comp. and pension funds		0.45		0.11
<b>Total</b>	<b>15.70</b>	<b>13.17</b>	<b>13.40</b>	<b>11.30</b>
<b>France</b>				
Banks	11.60	10.89	13.01	12.01
Other financial institutions	0.00	0.00	1.76	0.26
Insurance comp. and pension funds		0.00		0.01
<b>Total</b>	<b>11.60</b>	<b>10.89</b>	<b>13.40</b>	<b>12.28</b>
<b>the UK</b>				
Banks	40.49	30.65		
Building Societies	0.00	0.00		
Other financial institutions	1.58	1.20		
Insurance comp. and pension funds		3.64		
<b>Total</b>	<b>42.07</b>	<b>35.49</b>		
<b>Spain</b>				
Banks	7.49	7.14	8.06	7.59
Other financial institutions	0.25	0.24	0.25	0.24
Insurance comp. and pension funds		0.56		0.60
<b>Total</b>	<b>7.75</b>	<b>7.95</b>	<b>8.31</b>	<b>8.42</b>
<b>the Netherlands</b>				
Banks	29.01	17.82	30.58	20.00
Other financial institutions	1.91	1.17	1.79	1.17
Insurance comp. and pension funds		4.03		4.13
<b>Total</b>	<b>30.92</b>	<b>23.02</b>	<b>32.37</b>	<b>25.31</b>
<b>Italy</b>				
Banks	6.09	5.83		
Other financial institutions	0.88	0.84		
Insurance comp. and pension funds		0.28		
<b>Total</b>	<b>6.97</b>	<b>6.95</b>		

Sources: See table A2.1.

Notes: See table A2.1. Germany is excluded, since the statistics do not provide a breakdown according to counterparts.

# Appendix 3

Table A3.1.

## PW's (1988) findings:

Theoretical potential falls in prices of banking services and indicative average reductions in prices of financial services in eight EC countries, %

	Netherl.	Belgium	Spain	Italy	Lux.	France	Germany	the UK
Commercial loans	43	-5	19	9	6	-7	6	46
Consumer credit	31	-41	39	121	-27	105	136	122
Credit cards	43	79	26	89	-12	-30	60	16
Mortgages	-6	31	119	-4	37	79	57	-21
Letters of credit	17	22	59	9	27	-7	-10	8
Foreign exchange drafts	-46	6	196	24	33	56	31	16
Travellers cheques	33	35	30	22	-7	39	-7	-7
<b>Theoretical price reductions</b>								
<b>Banking</b>	<b>10</b>	<b>15</b>	<b>34</b>	<b>18</b>	<b>16</b>	<b>25</b>	<b>33</b>	<b>18</b>
<b>All financial services</b>	<b>9</b>	<b>23</b>	<b>34</b>	<b>29</b>	<b>17</b>	<b>24</b>	<b>25</b>	<b>13</b>
<b>Indicative price reductions</b>								
<b>All financial services</b>	<b>0-9</b>	<b>6-16</b>	<b>16-26</b>	<b>9-19</b>	<b>3-13</b>	<b>7-17</b>	<b>5-15</b>	<b>2-12</b>

## Gardener and Teppet's (1992) findings:

Theoretical potential falls in prices of banking services and indicative average reductions in prices of financial services in EFTA countries, %. (Scenario: EEA Integration)

	Iceland	Austria	Norway	Sweden	Finland <sup>1</sup>	Switzerland
Commercial loans	37	184	26	79	144	233
Consumer credit	-221	144	514	82	-95	232
Credit cards	254	0	18	223	161	47
Mortgages	-645	196	-89	160	-431	116
Letters of credit	21	43	72	72	-14	72
Foreign exchange drafts	316	546	145	-86	71	107
Travellers cheques	-38	36	111	129	133	-66
<b>Theoretical price reductions<sup>2</sup></b>						

Notes: Commercial loan: Annual cost incl. commissions and charges of a loan of ECU 250000, Consumer credit: Annual cost of a loan of ECU 500, excess interest over money market (MM) rates, Credit cards: Annual cost of ECU 500 debit, excess over MM rates, Mortgages: Annual cost of a loan of ECU 25000, excess over MM rates, Letters of credit: Cost of LC of ECU 50000 for three mths, Foreign exchange: Cost to a large commercial client of purchasing a commercial draft for ECU 30000, Travellers cheques: Cost for a private consumer of purchasing ECU 500 worth of travellers cheques.

<sup>1</sup> Finnish information on credit cards, foreign exchange, travellers cheques and commercial loans are for 1989, not July 1987 the PW price survey benchmark date.

<sup>2</sup> Norwegian banking sector weights used for Nordic EFTA-countries, German banking sector weights used for Alpine-EFTA

**Table A3.2. Indicators of bank profitability in selected European countries, 1983–1992**

Averages	Net-interest income per non-bank deposits			Yearly profits (before tax) as % of total assets			
	83–86	87–90	91	83–86	87–90	91	92
Belgium	5.61	4.59	4.11	0.37	0.31	0.3	
Denmark	5.04	5.27	6.84	1.52	0.27	-0.01	-1.17
France	7.23	6.06	4.98	0.32	0.35	0.29	
Germany	4.38	3.72	3.70	0.69	0.51	0.58	
Italy	5.64	6.21	6.42	0.82	1.03	1.34	
the Nl.	4.56	4.15	3.80	0.63	0.59	0.51	
Spain	5.79	5.89	5.65	0.74	1.18	1.35	
the UK	3.37	3.49	3.34	1.02	0.58	0.41	
Finland	3.54	3.11	3.14	0.35	0.32	-0.83	-2.64
Norway	5.03	5.69	5.12	0.63	-0.14	-2.58	-0.36
Sweden	4.52	5.62	5.65	0.45	0.37	-0.64	-1.1
Switzerl.	2.48	2.62	3.08	0.67	0.67	0.57	

Sources: OECD (1992) Bank Profitability, 1992. Own calculations.

Notes: Institutional coverage of the OECD Statistics is given in table A1.9.

Table A3.3. **Employment and labour remuneration in financial service sector (financial institutions and insurance firms) in selected European countries, 1985, 1988 and 1990**

	Compensat. of employees as % of that in the total economy (1)				Employment as % of that in the total economy (2)				Average labour remuneration per national average: (1) / (2) <sup>1</sup>			
	1985	1988	1990	1991	1985	1988	1990	1991	1985	1988	1990	1991
B	6.51	6.81	6.66	na	3.88	4.11	3.99	na	1.68	1.66	1.67	na
D	9.38	10.33	10.50	10.76	8.81	9.98	9.97	10.10	1.06	1.04	1.05	1.07
F	11.67	13.22	na	na	8.66	9.64	10.42	10.61	1.35	1.37	na	na
G	4.30	4.50	4.62	4.59	2.99	3.08	3.13	3.14	1.44	1.46	1.48	1.46
I	13.67	14.31	14.33	15.08	12.20	12.68	13.16	13.85	1.12	1.13	1.09	1.09
NI	na	12.65	13.25	13.59	na	10.82	11.61	11.82	na	1.17	1.14	1.15
E	9.14	11.08	na	na	4.33	4.72	na	na	2.11	2.35	na	na
UK	12.51	14.40	15.93	15.87	9.56	10.92	12.25	na	1.31	1.32	1.30	na
Fin	7.83	9.01	9.16	9.30	6.07	6.85	7.02	7.09	1.29	1.32	1.31	1.31
N	8.27	9.32	9.10	9.04	6.95	7.70	7.41	7.33	1.19	1.21	1.23	1.23
S	7.83	8.83	9.42	10.06	6.36	7.66	8.36	8.69	1.23	1.15	1.13	1.16

Sources: OECD National Accounts Volume II, 1992. Tables used: 12, GDP by kind of activity at current prices; 13, cost components of value added by kind of activity; 15, employment by kind of activity, employees.

Notes: <sup>1</sup> Represents the ratio between labour remuneration in the financial service sector and corresponding national average, i.e.  $(w_{f_t}/w_{tot_t}) * (l_{tot_t}/l_f) = w_f/w_{tot}$ .

# Appendix 4

**Table A4.1. Electronic payment transfer (bank giro) networks and retail clearing systems in selected European countries**

Country / operating giro networks	Member institutions	Processed transactions <sup>1</sup>	Automated retail clearing systems	Coordinator <sup>2</sup>	Foreign institutions as participants
<b>Belgium</b> C.E.C.	All Belgian financial instit. and branches of foreign institutions	CH,CT,DD, ATM POS	C.E.C.	CB	yes
<b>Denmark</b> PBS	All domestic banks <sup>3</sup>	CH,CT,DD, ATM POS	Clearing through PBS, settlement at CB (BEC)	CB/BA	no
<b>France</b>	Commercial, and "network" banks own local and nationwide data links	CH,CT,DD,BE	SIT <sup>4</sup>	CB	yes
<b>Germany</b>	Major banks, savings banks and credit co-operatives and Postal adm. operate own networks	CH,CT,DD	Intra-network payments within the network, inter netw. payments transmitted to CB system, EAF	CB	yes
<b>Italy</b> SITRAD STACRI	Major banks Savings banks	na	ME and local clearing system	CB	n.a.
<b>the Netherlands</b> Banks' circuit, <sup>5</sup> BGC Postbank circuit	Commercial,coop. and savings banks Postbank	CH,CT,DD,ATM,P OS	Settlement via CB's current account system	CB	yes
<b>Spain</b>	na	na	SNCE	CB	yes
<b>the UK</b>	na	na	APACS <sup>6</sup>	APACS council	yes
<b>Finland</b> Pankkisiirto (Bank Giro)	All domestic banks Svenska Handelsbanken (since 1991)	CT,DD	Settlement via CB's current account system	CB	yes
<b>Sweden</b> Bankgirot	All banks	CT,DD	The Data Clearing System (truncation of documents) The Central bank Terminal System (clearing totals)	Bankgirot centre <sup>7</sup> CB	yes yes

Sources: Committee of Governors of the Central Banks of the Member States of the EC: Payment Systems in EC Member States, Sept. 1992; Finnish, Swedish and Norwegian Bankers' Associations.

Notes: The data refer to situation prevailing in 1991. <sup>1</sup> CH=cheques, CT=credit transfers, DD=direct debits, BE=bills of exchange, ATM=transactions at ATM's, POS=transactions at EFT-POS terminals. <sup>2</sup> CB=central bank, BA=bankers' association. <sup>3</sup> In 1991 the Postgiro was converted into a commercial bank, GiroBank Ltd, which became a member of the Danish Bankers' Association as well as the PBS. <sup>4</sup> Operating since May 1990, and involves the whole banking community. Entry requirement: An institution must account for 0.2% of annual volume of the SIT. <sup>5</sup> Participating banks have founded a central intermediary, BGC to facilitate the collection and processing of transfer orders. There are plans of integrating the Postbank's circuit in the context of National Payment Circuit project. <sup>6</sup> 16 commercial banks and 4 building societies have currently a membership in APACS, most banks, both domestic and foreign prefer not to incur the costs of membership and participate in clearing via agreements with the members. Settlement accounts are maintained with the Bank of England. <sup>7</sup> The Data Clearing System is administered by a steering committee with representatives from the participating banks.

Table A4.2.

## ATM networks in selected European countries

Country / ATM network	Network members (debit cards linked to sight accounts with...)	Degree of cooperat. between networks	Possible transactions <sup>1</sup>	Cross-border linkages (partial access, not necessarily to the whole network)
<b>Belgium</b>				
BANKSYS	Domestic commercial and savings banks	none	WD,CB, OD,AT	Eurocheque cards (no info on credit cards)
POSTMAT	Postcheque (Postal Administration)			Reciprocal agreements with Postal Administration of Lux. and France
<b>Denmark</b>				
DANKORT (PBS)	All domestic banks	full	WD,CB, OD,AT	Credit and Eurocheque cards
<b>France</b>				
Bank Card Consortium	All domestic deposit taking institutions <sup>2</sup>	full	WD,(CB, AT) <sup>2</sup>	Credit and Eurocheque cards
<b>Germany</b>				
4 independent networks	A certain group of banks	growing	WD <sup>4</sup>	Credit and Eurocheque cards
<b>Italy</b>				
SETIF (BANCOMAT)	All banks established in Italy	full	WD,CB	Eurocheque cards (no info on credit cards)
<b>the Netherlands</b>				
BGC	All other banks established in NI	expected	WD,CB	Eurocheque cards (no info on credit cards)
Postbank	Postbank			
<b>Spain</b>				
3 networks	A certain group of banks	full	WD <sup>5</sup>	Eurocheque cards (no info on credit cards)
<b>the UK</b>				
3 independent networks (LINK,MINT,1 other)	Certain banks and building societies	none	WD,CB, OD,(AT) <sup>6</sup>	Credit and Eurocheque cards
<b>Finland</b>				
POLT	All domestic banks	full	WD,CB (AT)	VISA and Eurocheque cards <sup>7</sup>
<b>Sweden</b>				
BANKOMAT	Commercial and cooperative banks	none	WD,CB	Eurocard (not Eurocheque cards)
MINUTEN	Savings banks			
<b>Norway</b>				
1 single network	All domestic commercial and savings banks	full	WD,CB	VISA, Eurocard and Eurocheque cards <sup>8</sup>

Sources: Committee of Governors of the Central Banks of the Member States of the EC: Payment Systems in EC Member States, Sept. 1992; Finnish, Swedish and Norwegian Bankers' Associations.

Notes: <sup>1</sup> WD= Withdrawal of cash, CB= Checking of balances and obtaining statements of accounts, OD= Ordering of documents (e.g. cheques, credit transfer forms), AT= Account transfers

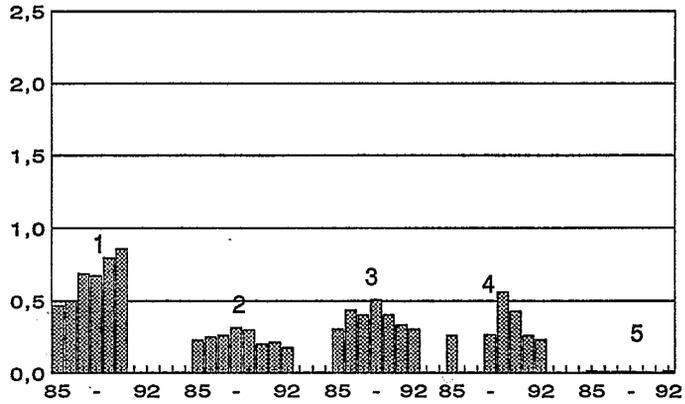
<sup>2</sup> The more advanced services in are usually provided by "intelligent" ATMs inside banking halls, not through the general network. <sup>3</sup> I.e. domestic commercial banks and structured network banks (see section 2.2.1). <sup>4</sup> Access by special debit cards to electronic self service banking.

<sup>5</sup> No further information available. <sup>6</sup> More advanced ATMs now being installed. <sup>7</sup> VISA accepted by ATMs of the Union Bank of Finland and Postbank, Eurocheque cards issued by European savings banks are accepted by savings banks' ATMs.

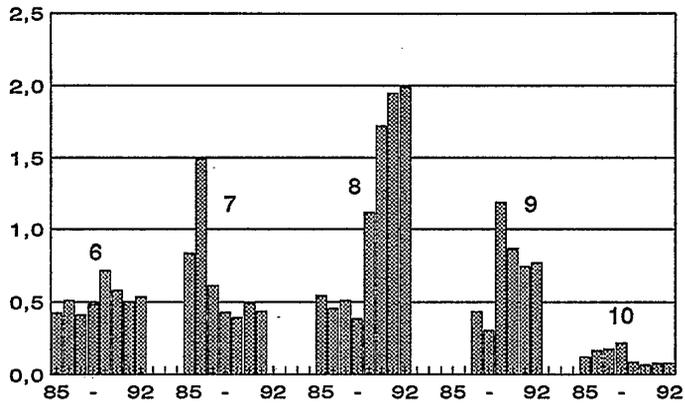
<sup>8</sup> VISA accepted by most ATMs, Diners Club and American Express by approximately 200 ATMs, Eurocard and Eurocheque card accepted by 550 ATMs of commercial banks.

# Appendix 5

Figure A5.1. **Mark-ups on time deposits in selected European countries, yearly averages 1985–1992**



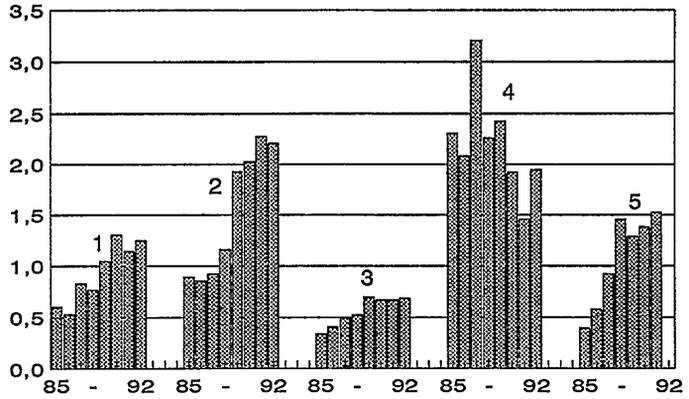
- 1 France
- 2 Germany
- 3 Italy
- 4 Spain
- 5 the UK



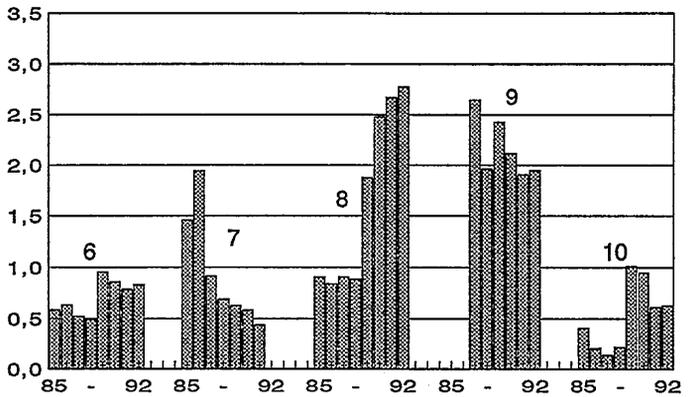
- 6 Belgium
- 7 Denmark
- 8 the Netherlands
- 9 Finland
- 10 Switzerland

Figure A5.2.

**Mark-ups on demand deposits in selected European countries, yearly averages 1985–1992**

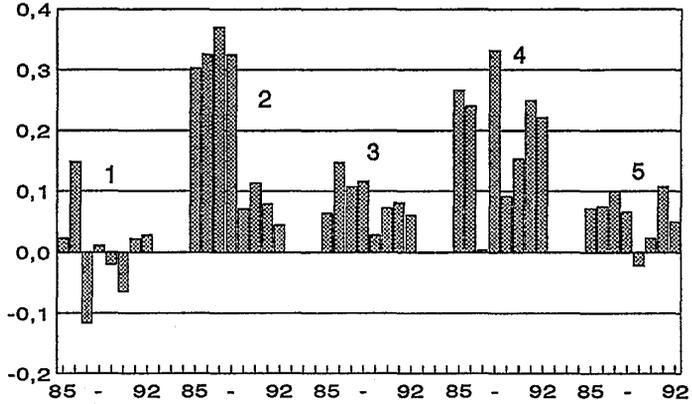


- 1 France
- 2 Germany
- 3 Italy
- 4 Spain
- 5 the UK

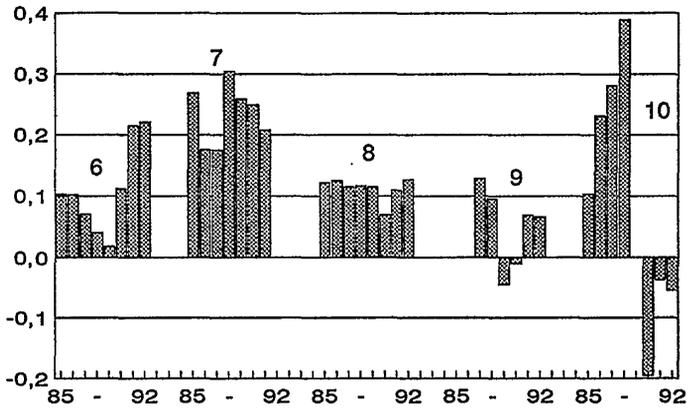


- 6 Belgium
- 7 Denmark
- 8 the Netherlands
- 9 Finland
- 10 Switzerland

Figure A5.3. **Mark-ups on consumer mortgage loans in selected European countries, yearly averages 1985–1992**



- 1 France
- 2 Germany
- 3 Italy
- 4 Spain
- 5 the UK



- 6 Belgium
- 7 Denmark
- 8 the Netherlands
- 9 Finland
- 10 Switzerland

Figures  
A5.4.—A5.13.

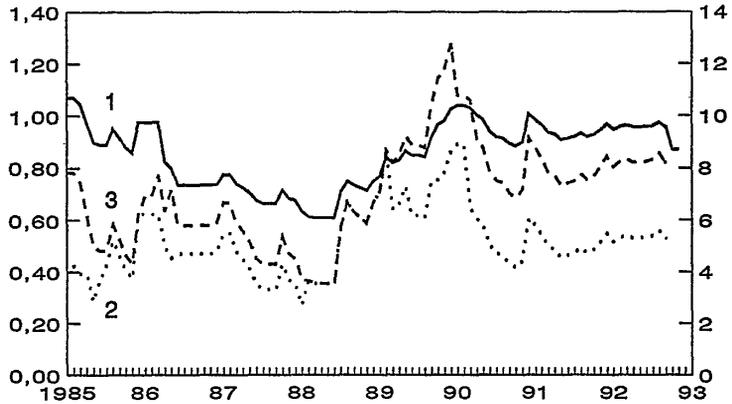
**Mark-ups in deposit markets,  
monthly observations 1985—1992**

Notes:

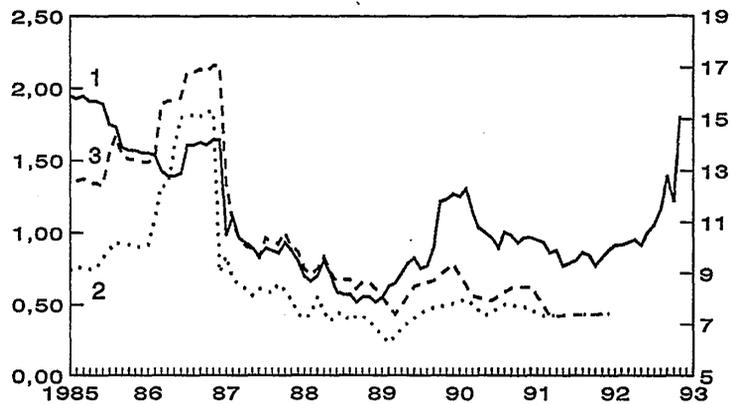
- 1 Short-term money market rate (right hand scale)
- 2 Mark-up on time deposits:  $(r-r^{Dt})/r^{Dt}$ , where  $r^{Dt}$  is the time deposit rate and  $r$  the short-term money market rate (left hand scale)
- 3 Mark-up on demand deposits:  $(r-r^{Dd})/r^{Dd}$ , where  $r^{Dd}$  is the demand deposit rate and  $r$  the short-term money market rate (left hand scale)

Rates used for each country are specified in table A5.1.

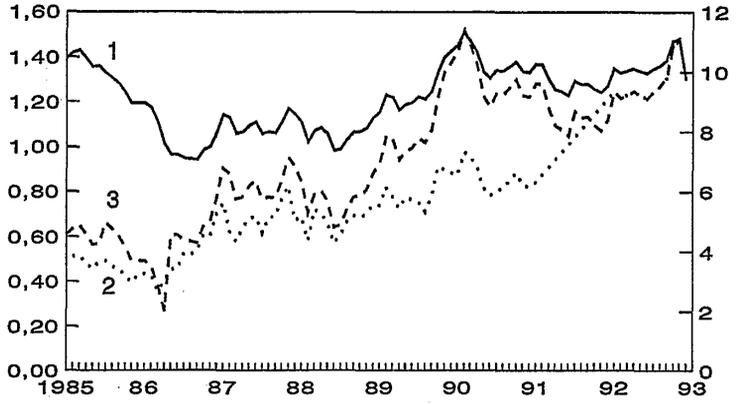
Belgium



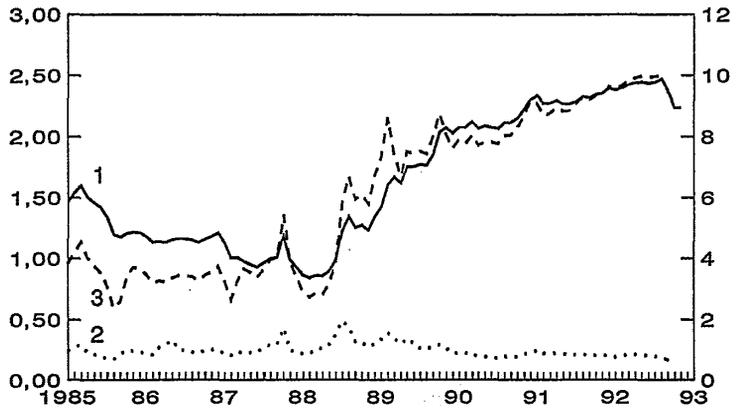
Denmark



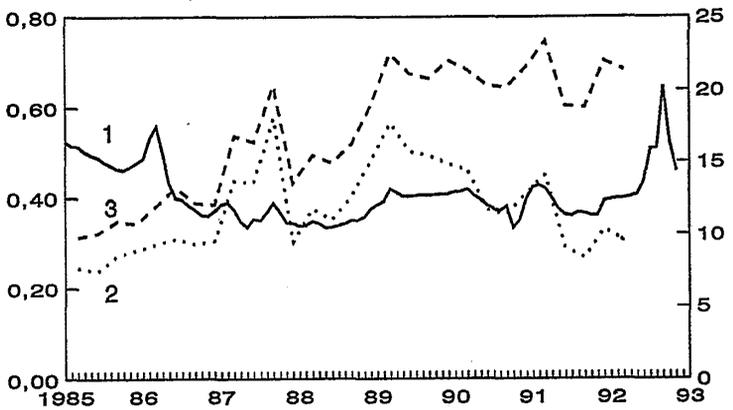
France



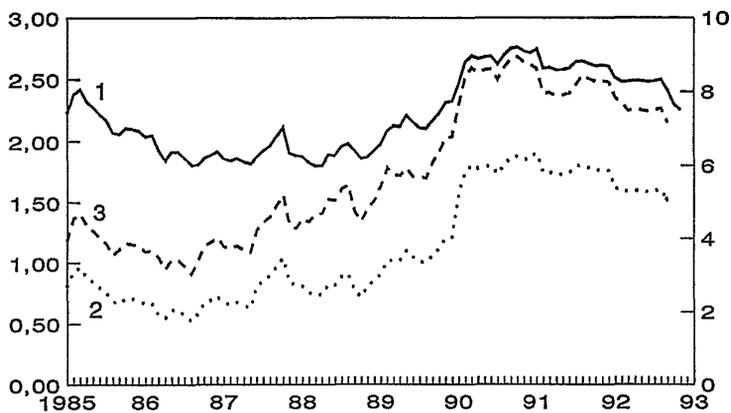
Germany



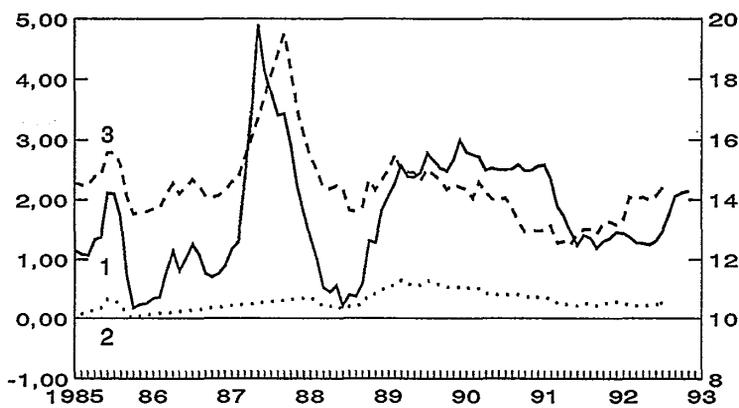
Italy



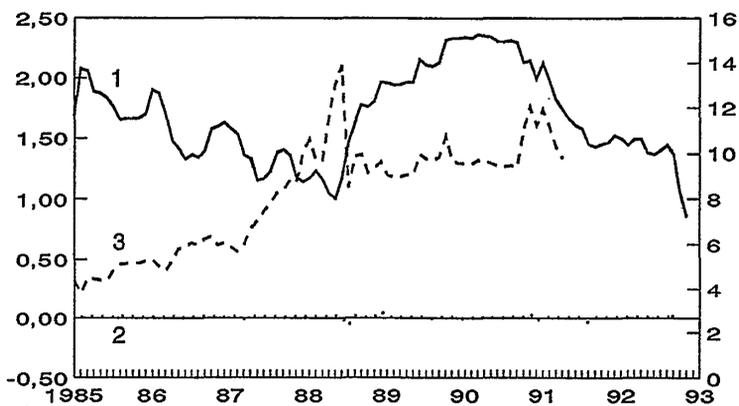
the Netherlands



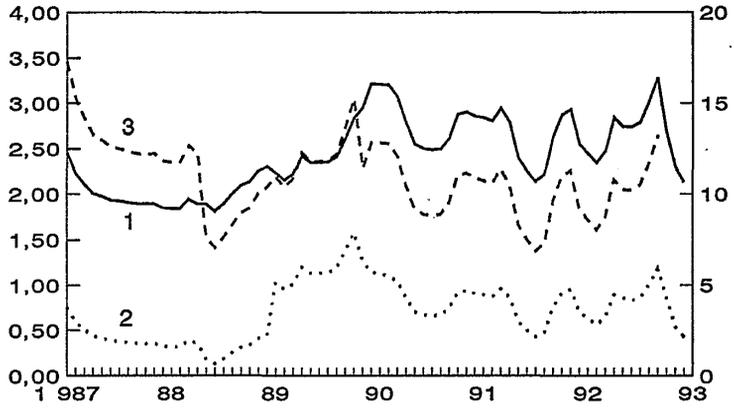
Spain



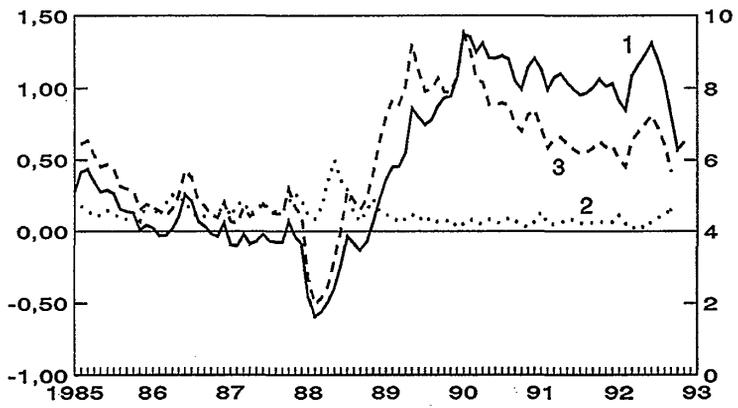
the United Kingdom



Finland



Switzerland



Figures  
A5.14.-A5.23.

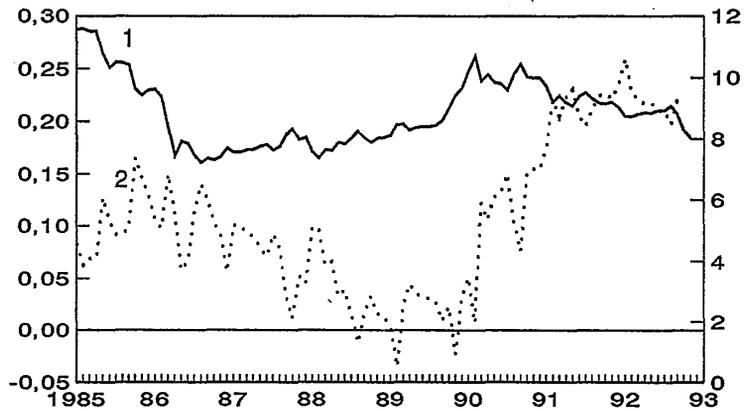
**Mark-ups on new consumer mortgage loans,  
monthly observations 1985-1992**

Notes:

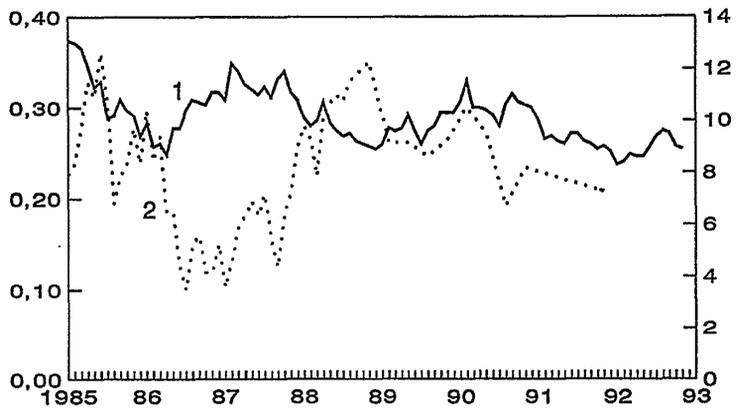
- 1 Money market reference rate (right hand scale)
- 2 Mark-up on new consumer mortgage loans:  $(r^L - r)/r^L$ , where  $r^L$  is the loan rate and  $r$  the money market reference rate

Rates used for each country are specified in table A5.1.

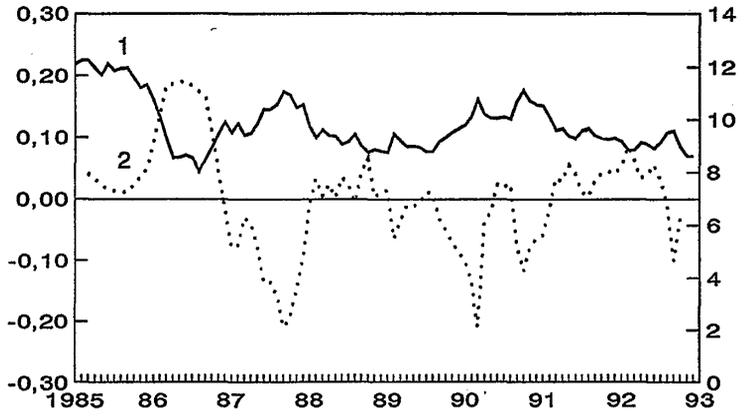
Belgium



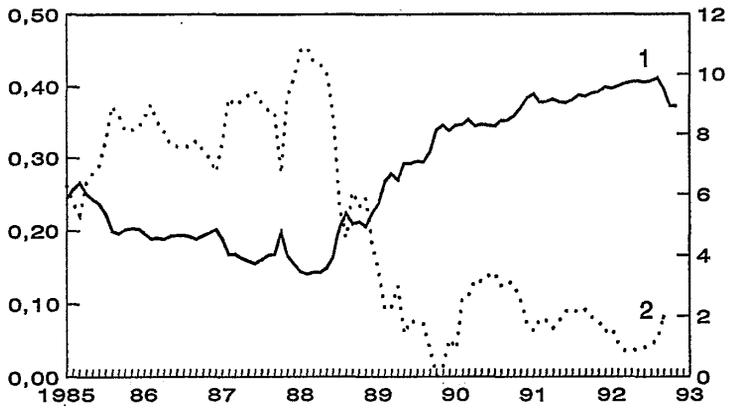
Denmark



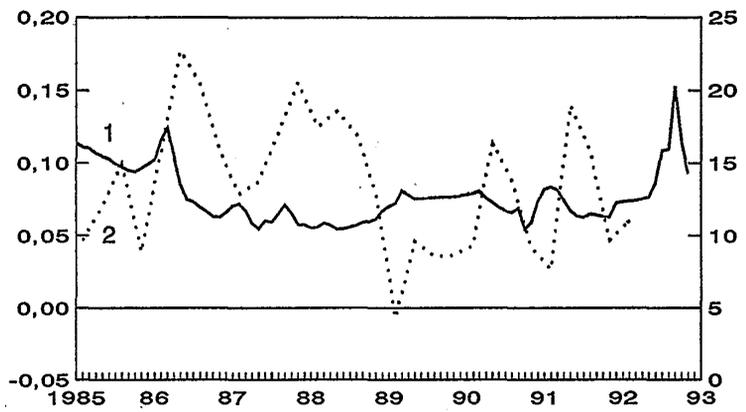
France



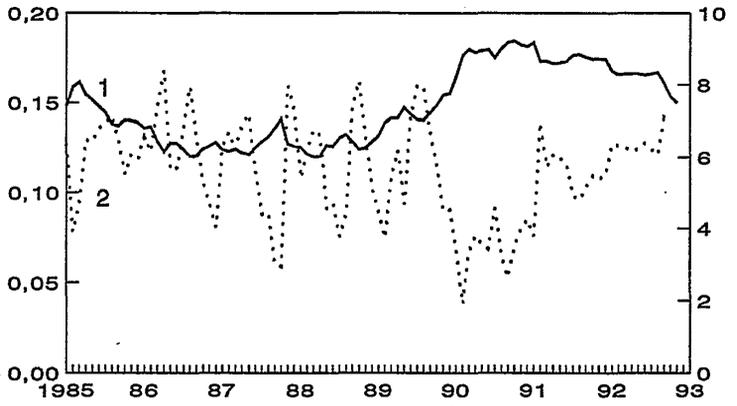
Germany



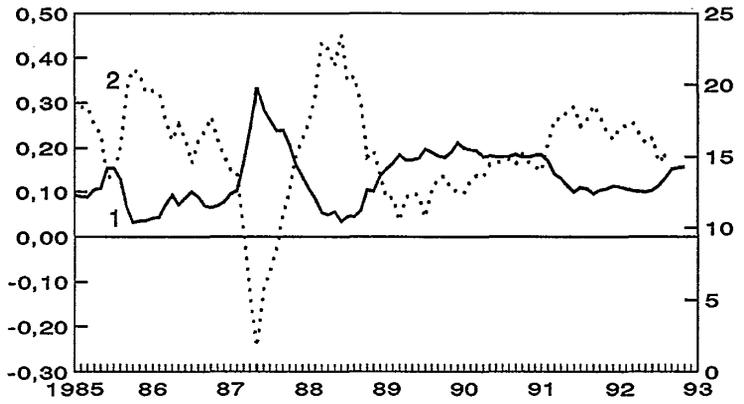
Italy



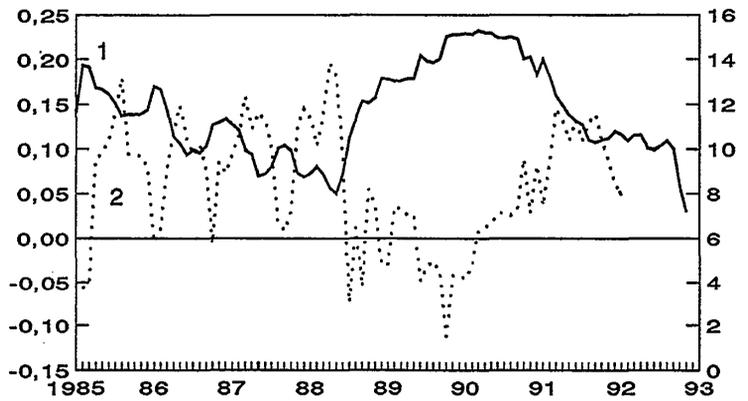
the Netherlands



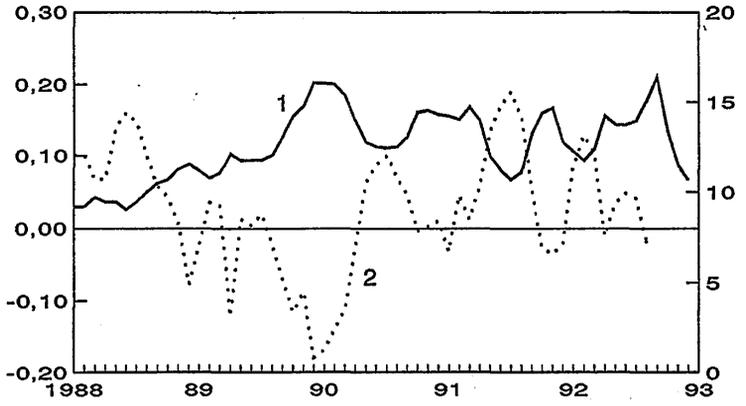
Spain



the United Kingdom



Finland



Switzerland

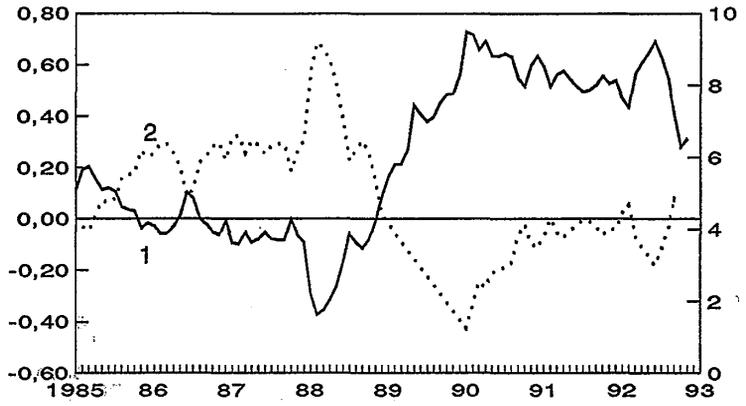


Table A5.1. Interest rates used in figures A5.1.-A5.23.

Interest rates used	
<b>Belgium</b>	
1 Time deposit rate	3-mth ordinary deposits with commercial banks (III2a2)
2 Demand deposit rate	deposits in ordinary savings banks books (III2a1)
3 Consumer mortgage loan rate	ordinary mortgage loans (20-year) (III1c1)
4 Short term money market rate (Figs. A5.1., 2. 4.- 13.)	3-mth Treasury certificates
5 Money market reference rate (Figs. A5.3., 14. - 23.)	Central Government bonds
<b>Denmark</b>	
1	capital accounts 12 mth withdrawal (III2a3)
2	savings accounts (III2a2)
3	mortgage loans (10-year) (III1c)
4	other short-term bills
5	Central Government bonds
<b>France</b>	
1	time deposits (< 3 mths) (III2a2 average of min, max rates)
2	savings deposits, bank accounts on pass-books (III2a11)
3	housing loans (<> 15 years) (III1c3 average of min, max rates)
4	3-mth Fibor
5	public and semi-public sector bonds
<b>Germany</b>	
1	time deposits (1 to 3 mths) (III2a1)
2	savings deposits with legal period of notice (III2a2)
3	mortgages, variable rate
4	3-mth Fibor
5	3-mth Fibor
<b>Italy</b>	
1	savings deposits with banks (annual yields) (III2a2)
2	demand deposits with banks (III2a1)
3	bank credits (III1a2)
4	interbank sight deposits
5	interbank sight deposits
<b>the Netherlands</b>	
1	time savings deposits (3 mths) (III2a31)
2	ordinary savings accounts (III2a2)
3	mortgage loans (interest fixed for 5 years) (III1c1)
4	3-mth Aibor
5	5 longest running issues of Central Government bonds
<b>Spain</b>	
1	time deposits (6-12 mths) (III2a31)
2	savings deposits (III2a2) (until 1987 the max rate paid, since deregulated)
3	credits (1-3 years) (III1b3)
4	3-mth interbank loans
5	3-mth interbank loans

---

**Interest rates used**

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**the United Kingdom**

1	sterling certificates of deposits (III2b3) (average of min, max rates)
2	deposits at 7 days notice with London clearing banks
3	building society mortgage loans (20/25 years variable rate, adj. monthly) (III1c1)
4	3-mth interbank loans
5	3-mth interbank loans

**Finland**

1	12 mth time deposits, tax exempt (from Bank of Finland database)
2	savings deposit accounts (III21)
3	total new lending (III15)
4	3-mth Helibor
5	3-mth Helibor

**Switzerland**

1	3-mth deposits with cantonal banks (III2a2)
2	savings books deposits with cantonal banks (III2a1)
3	first mortgages (variable rate adjusted at 3-6 mths notice) (III1b+c2)
4	3-mth Euro deposits
5	3-mth Euro deposits

**Norway<sup>1</sup>**

2	commercial banks, non-bank demand deposits (III2a1)
4	3-mth Nibor

**Sweden<sup>1</sup>**

2	household transaction accounts (III2a2)
4	3-mth Treasury discount notes

---

Sources: OECD Financial Statistics Monthly, Part 1 (several issues)

Notes: The rates cited in the column two are those at the end of 1992. They may have had different headings in previous issues. For further details see respective statistics.

<sup>1</sup>Data for Norway and Sweden are used only in figure 3.2. Further presentation is hindered by the lack of data.

# Appendix 6

Table A6.1. Recent estimates of overall scale and scope economies in US retail banking

Authors		Economies of scale upto \$M	$\varepsilon_{cy}$	Disecon. of scale from \$M	$\varepsilon_{cy}$	Scope economies upto \$M	SC(y)	Methodology
Benston <i>et.al.</i> 1982 <sup>1</sup>	a	no		10-25	1.06	na		CF
	b	no		25-50	1.10			
	a*	no		50-75	1.02			
	b*	no		200-300	1.09			
Glligan <i>et.al.</i> 1984 <sup>2</sup>	a	0-25	0.94	100-200	1.09	yes		CF
	b	0-25	0.93	100-200	1.14	yes		
Berger <i>et.al.</i> 1987 <sup>3</sup>	a	no		no		100	6.2	CF
	a'	0-10	0.79	no				
	b	no		200-300	1.20	no		
	a*	no		no		75	1.6	
	a**	50-75		no				
	b*	no	0.99	100-200	1.11	no		
Buono, Eakin 1990 <sup>4</sup>	a*	no		overall	1.23	yes	0.64	CF
	a**	overall	0.85	no				
	b*	no		overall	1.38	yes	0.09	
Ferrier, Lovell 1990 <sup>5</sup>	a	500-1000	0.97	no		na		ECF
	a	500-1000	91%			na		
Berger <i>et.al.</i>	a	75-100	0.99	100-200	1.01	100008	2.37	CF
	b	50-75	0.99	100-300	1.04	10000	3.61	
1991 <sup>7</sup>	a'	1000- 2000	0.98	no				ECF
	a	25-50	0.99	500-1000	1.01	no	-0.15	
	b	25-50	0.99	75-100	1.01	no	-0.22	
	a'	500-1000	0.98	no				

Notes:

- i) Estimates are significantly different from one at 0.05 level. Deposit ranges in \$ millions show the size classes where economies cease and diseconomies begin respectively.  $\varepsilon_{cy}$  is defined below.
- ii) **a** denotes results for branch banks, and **b** for unit banks when production approach (the number of accounts and operating expenses as outputs and costs) is employed. **a\*** and **b\*** represent the intermediation approach (dollar values of accounts and interest expenses added to operating expenses). **a'** refers to branch level results.
- iii) Methodology refers to estimation techniques: CF=Cost Function model (translog), ECF=Econometric (stochastic) Cost Frontier, LP=Linear Programming (nonparametric frontier)

<sup>1</sup> Dataperiod 1975-78, divisia index is used as output specification.

<sup>2</sup> Dataperiod 1978, rejection of non-jointness (LR-tests) of production function implies economies of scope.

<sup>3</sup> Dataperiod 1983.

<sup>4</sup> Dataperiod 1985. Scale and scope economies are estimated across the whole sample (represent economies for a typical branch or unit bank).

<sup>5</sup> Dataperiod 1984. Efficient cost frontier exhibits pervasive scale economies.

<sup>6</sup> 91% of observations have unused scale economies

<sup>7</sup> Dataperiod 1984. Size classes denote total assets. Scale economies max 4% (ECF), 9% (CF), diseconomies max 6 % (ECF), 7% (CF)

<sup>8</sup> According to CF economies of scope increase with deposits, ECF predicts fairly constant diseconomies.  $SC(y)$ s represent sample means.

Definitions for the measures of production economies:

$\epsilon_{cy}$  is given by:  $\epsilon_{cy} = \sum_i \left( \frac{\partial \ln C(w,y)}{\partial \ln y_i} \right) = \sum_i \epsilon_{cy_i}$ , where  $C=C(w,y)$  represents the multi-product

cost function,  $w$  the vector of input prices,  $y$  the output vector, and  $\epsilon_{cy_i}$  product specific scale economies in production of a single output (see e.g. Gilligan *et.al.* 1984 and Berger *et.al.* 1987).

When the branch network expansion is accounted for the cost function becomes  $C=C(w,y,B)$ , and the overall scale elasticity:  $\epsilon_{cy} = \sum_i \epsilon_{cy_i} + \epsilon_{cB}$ , where  $\epsilon_{cB}$  represents the cost elasticity of branches

(see Benston *et.al.* 1982, and Kim and BenZion 1989).

The measure of global scope economies in the  $n$  product case is:

$SC(y) = \frac{[C(w;y_1,0,\dots,0) + \dots + C(w;0,\dots,y_n) - C(w,y)]}{C(w,y)}$  and the measure of product specific scope

economies is:  $SC(y_i) = \frac{[C(w;y_1,\dots,0,\dots,y_n) + C(w;0,\dots,y_i,\dots,0) - C(w,y)]}{C(w,y)}$ . When these measures

are positive, scope economies exist in the production of the particular combination of outputs.

(See Baumol *et.al.* 1982, ch. 4)

Table A6.2.

### Some measures of decomposition of cost efficiency in banking

Authors		Total cost inefficiency	Total operating inefficiency	Technical inefficiency	Distributional inefficiency	Methodology
Berg <i>et. al.</i> 19891	a	na	19.0	17.0	2.0	LP
	b		12.0	6.0	6.0	production
	c		2-3 / > 4	2-3/3-4/> 4	2-3 / > 4	approach
	d		< 0.5	< 0.5	< 0.5	
	a	na	28.0	25.0	3.0	LP
	b		27.0	18.0	9.0	intermediation
	c		> 4	3-4 / > 4	> 4	approach
	d		1 - 2	1 - 2	1 - 2	
Ferrier & Lovell 19902	a	na	26.04	8.90	17.14	ECF
	b		5.17	5.17	0	production
	c		25 - 50	25 - 50	--	approach
	d		150 - 200	150 - 200	--	
	a	na	21.06	16.04	5.02	LP
	b		18.4	21.53	7.14	production
	c		0 - 25	0 - 25	150 - 200	approach
	d		200 - 300	200 - 300	25 - 50	
Berger & Humphrey 19913	a	23.55	12.68	15.26	-1.80	ECF
	b	24.61	23.49	23.53	5.07	intermediation
	c	500 - 1000	5000-10000	5000-10000	100 - 200	approach
	d	0 - 10	0 - 10	0 - 10	25 - 50	
	a*	19.07	14.03	12.41	1.62	
	b*	38.17	35.34	16.37	22.24	
	c*	> 10000	> 10000	> 10000	> 10000	
	d*	0 - 10	0 - 10	0 - 10	5000-10000	

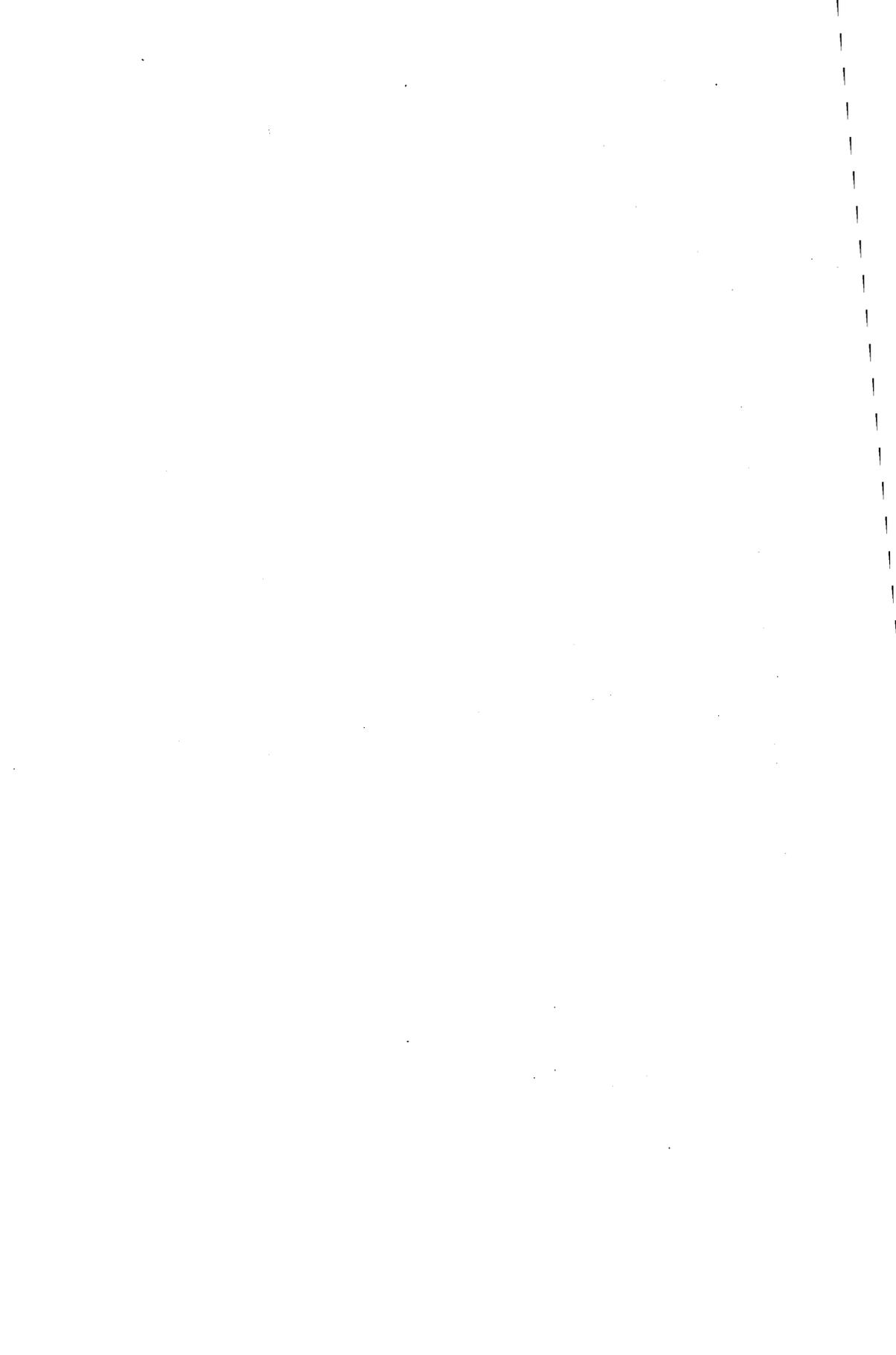
Notes: **a** depicts the sample mean in percentage points, **b** the difference between the most and the least efficient size group in percentage points, **c** the most, and **d** the least efficient size class. Methodology refers to estimation techniques (see table A6.1.). Note different descriptions for the last study.

1 Data cover 121 Norwegian banks, year 1985. Figures **a** give actual costs above the efficient frontier derived from average efficiency scores within size classes. Size classes (**c** and **d**) denote total loans in NOK Billions.

2 Data cover 575 US banks, year 1984. Figures **a** represent actual costs above the estimated efficient frontier. Size classes (**c** and **d**) denote deposits, \$ Millions.

3 Data cover 13 951 US banks, year 1984. Figures **a** give the inefficiency residual between the highest and lowest cost quartiles. Inefficiencies in the payment of both produced deposit and purchased funds interest, but not reported here. **a** etc represent results for branch banks and **a\*** etc for unit banks. Size classes (**c** and **d**) denote total assets \$ Millions.





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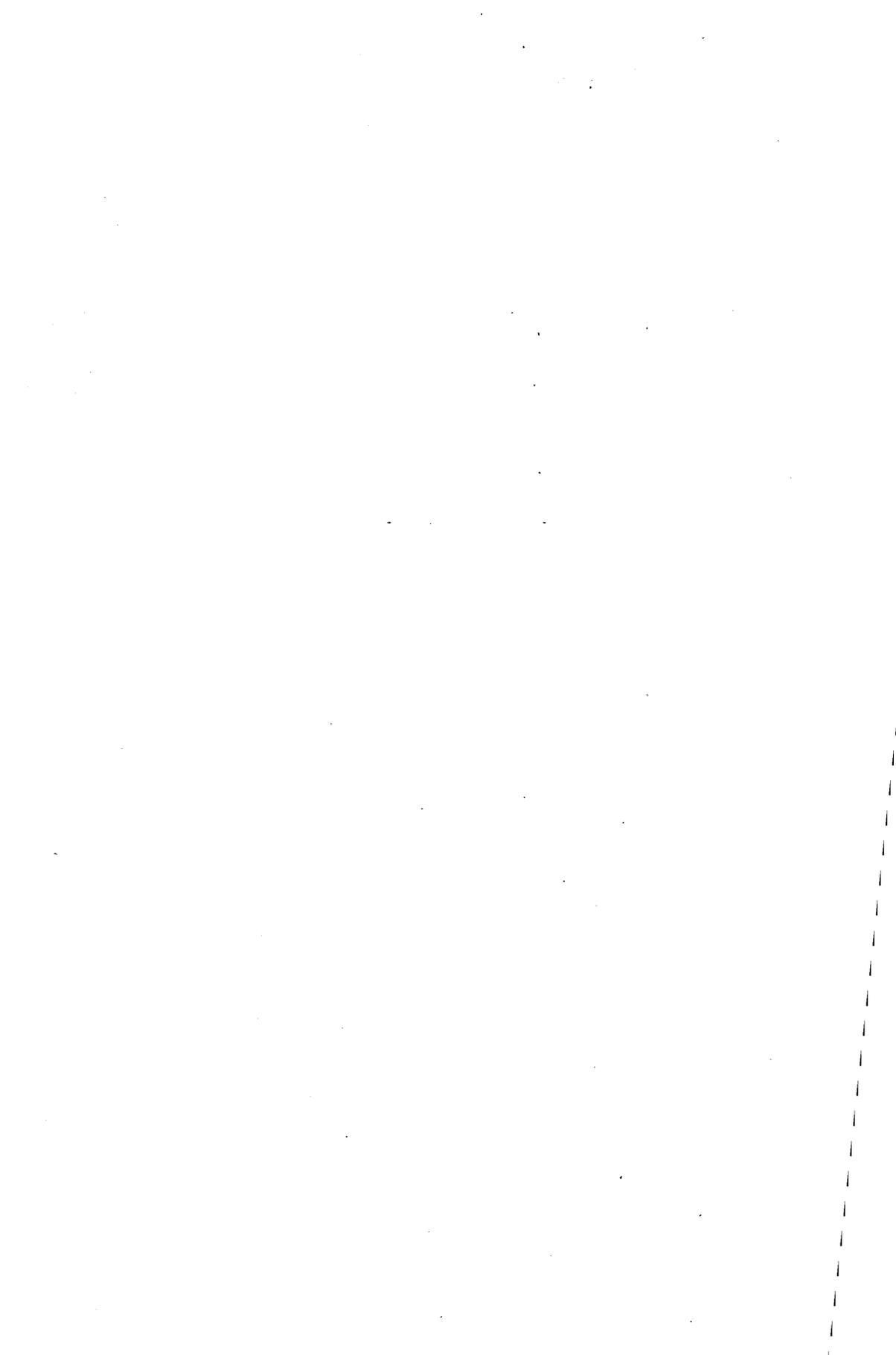
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