

**"STRUCTURAL ADJUSTMENT IN EUROPEAN
RETAIL BANKING
SOME VIEWS FROM
INDUSTRIAL ORGANISATION"**

by
Damien J. NEVEN*

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* Damien J. NEVEN, Assistant Professor of Economics, INSEAD,
Fontainebleau, France

Director of Publication :

Charles WYPLOSZ, Associate Dean
for Research and Development

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Structural Adjustment in European Retail Banking
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* INSEAD, Boulevard de Constance, 77305 FONTAINEBLEAU.

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Abstract

This paper tries to assess how the current programme of European integration will affect the structure of the European retail banking industry. It is argued that trade in banking services is, and will presumably remain, limited, while there is still a concern for possible trade diversion. Next, we analyse the conditions for the establishment of subsidiaries of European banks in other European countries. We argue that current directives will matter in so far as they set in motion a process of competitive deregulation. We find that deregulation should induce more price competition. In turn, this will affect bank strategies in terms of the quality of service they choose to offer, in terms of the number and locations of their branches, in terms of the price discrimination they can achieve and in terms of the way in which customer loyalty can be exploited. We provide evidence of the lack of competition in the banking industry and find that all countries, with the notable exception of Germany, are characterised by some rent sharing with labour. We finally argue that there is no compelling rationale for cross-border mergers and acquisitions in banking and no reason to encourage them from a public policy prospective.

Introduction

The process of European Integration is now gathering pace. The objective of the current program, clearly spelled in the European Commission's white paper, is to dismantle the remaining barriers to intra-European flows of goods, services and factors of production. In this context, the European commission has put forward an number of directives which are specific to the banking industry. The objective of this paper is to assess the impact of the proposed changes in regulation, in light of the current structure and organisation of the European banking industry. Attention will also be focused on retail banking.

The completion of the "internal market" in the banking sector has been the subject of a number of studies. Most importantly, a study of the European financial sector was undertaken by Price Waterhouse on behalf of the European Commission. This study is part of the so called "Cechini report" which tries to estimate the benefits which should accrue from a more integrated Europe. Price Waterhouse's objectives were (i) to assess to importance of the financial sector, (ii) to identify the barriers to trade in financial services and (iii) to estimate the consequences (the benefits ?) of integration. With respect to this last objective, the study proceeds as follows : a number of financial services are selected and the price of those services is compared across the various member countries. It is then assumed that integration will increase trade, allow for more arbitrage and foster competition, so that prices of financial services in Europe should converge to a common level, close enough to the lowest levels observed today. The benefits from integration can then be quantified as the increase

in consumer surplus resulting from the fall in prices which should occur in countries where prices are currently high.¹ This exercise certainly provides an interesting and simple benchmark. Yet, the assumption that prices will converge to some "low" level (however defined) seems questionable. Presumably, a "perfect" market for an homogenous commodity with a large number of small profit seeking banks might achieve such convergence. Casual observation does not suggest however that the banking industry fits the picture too well, at least in its current form; banking products are differentiated in the sense that consumers will not switch from one bank to another in response to small price differences; players are sometimes few; regulation will stay for prudential (and other) reasons; banks in some countries are also notorious for their collusive behaviour. That is to say that the structure of the banking market is likely to be imperfectly competitive. In this paper, I attempt to apply to the European banking industry various concepts and models of imperfect competition, borrowed from industrial organization. These tools are used to get some insight into the structure of the European banking industry which will emerge after 1992. A particular attention will be given to the structural conditions of the industry in terms of cost and demand. The type and degree of competition between banks will be emphasized.

I shall proceed as follows. In the first section, the Commission's directives on the banking sector are reviewed, in light of the objectives of the White paper. A distinction is drawn between "classical" trade involving

1. One should ideally also take into account the change in producer surplus. This is, however, difficult to assess, given the variety of outcomes which might stem from an increase in competition (in terms of market shares, firm sizes, ...)

flows of services across borders and the movement of factors of production. It is found that for the banking industry, the liberalisation of factor movement is of particular importance. Next, it is argued that the current directives amount to the inception of a process of competitive deregulation, which is more important than harmonisation per se. Hence, in section 2, I try to identify the areas in which deregulation will be significant; it seems that the banking industry is characterised by a lack of price competition, either because regulation in this area has been captured or because of some collusive behavior. One can thus expect deregulation to induce more price competition and the deregulation of interest rates is identified as particularly important. Hence, I try to analyse (making references to the industrial organisation literature) how the intensification of price competition will modify bank's strategies and market structure. The banking industry is assessed in terms of incentive of individual banks to achieve productive and allocative efficiency. It is argued that the incentive for productive efficiency should be improved in terms of a more effective market for corporate control. This might, however, be hard to come about because, even under the most liberal directive proposed by the commission, mergers and acquisitions in banking would still be monitored (at least potentially) by national authorities. In addition, even if banking was not given a special status with respect to mergers and acquisitions, significant problems could still arise in this area. Indeed, there is a wide variety of legislation, regulatory bodies and corporate law which rule on takeover bids and procedures. This situation would make some European banks particularly vulnerable, while others are protected and there is not, for the time being, any plan to harmonise these rules. In terms of allocative efficiency, a distinction is drawn between the type of competition between banks and the intensity of competition. With respect to

the type of competition, it is argued that where interest rate were regulated, banks had an incentive to compete through quality. As a result, banks have "overinvested" in quality, especially in terms of branch density and automatic teller machines. The impact of interest rate deregulation, which amounts to adding an additional competitive (price) variable, is then assessed with particular reference to the number of branches and their location. Some indirect evidence is also gathered with respect to the intensity of competition. Finally, section 3 presents some conclusion.

Section 1. European integration and deregulation in the banking sector

As indicated above, the objective of the White Paper on the completion of the internal market is to remove the barriers to intra-EC trade in goods and services and allow for the free movement of factors of production.

At the outset, it is important to notice that "trade" can arise in several ways ; first, trade can arise, in the classical sense, through the cross-border movement of a good or service. In the banking sector, this would occur if a resident of one country obtains (and pays for) services² performed by a bank established in a foreign country. Alternatively, rather than supplying its customer from abroad, this bank could choose to open a subsidiary or a branch in the customer's country. This alternative arrangement would require this bank to make an investment abroad, i.e. to move capital, and presumably to move some labor (at least originally) to

2. This would include bank deposits that we regard as banking products (and not as inputs).

staff the subsidiary. All this is to say that there is an alternative to the movement of goods and services, which is the movement of factors of production (capital and labor). As indicated below, this alternative seems to be particularly relevant in the banking sector. One reason might be that trust, confidence and reputation which are important in banking will be easier to establish when there is geographical proximity of the supplier and the receiver of the service (see Sampson and Snape, 1985).

The directives on banking and capital flows put forward by the European commission bear on both alternatives of trade. In what follows, I shall first (i) discuss the effect of integration on "classical" trade and subsequently (ii) turn to "trade" involving factor movements.

(i) Integration and the flows of banking services

The main constraint the the flow of banking services in the current environment stems from the restrictions on capital movements. Indeed, a resident of one country who wants to contract a loan or make a deposit abroad will need to make a capital movement between his home base and the foreign country. The Commission's action on the liberalization of capital flows goes in two steps ; the first wave of liberalization (which came into force on March 1, 1987) dealt primarily with capital movements related to the flows of goods and non-financial services. In June of this year, the Council has adopted the second wave of liberalization, which will be implemented by the mid-1990. Targets of the directives include short term capital movements linked to the acquisition and trading of monetary instruments, short term financial credit, the opening and use of bank deposits and the placing of part of mutual funds (Oct. 89). This last

directive is thus particularly important for the flow of banking services across countries, which should be greatly facilitated.

Integration should thus affect trade flows between countries and it is useful to think of the current integration in terms of the theory of custom unions. A custom union is said to be formed when a group of member countries reduce (or remove) the barriers to trade between members and adopt a common trade policy with the rest of the world. More generally, the formation of a customs union amounts to create more liberal/or easier trading conditions between members than those applying between a member and the rest of the world. Hence, given that the (common) external trade policy of the EC is not due to change (at least formally and officially), the completion of the internal market, which amounts to the reduction of non-tariff barriers to intra-EC trade, is equivalent to the completion of a custom union. In principle, two effects arise when a custom union is formed : on the one hand, trade can be diverted. This will happen when a member country used to import some commodity from the rest of the world, but because of the lower protection, starts to import from another member country instead. This is presumably not desirable, given that in this case the rest of the world is the efficient source of supply.³ On the other hand, trade can be created. This happens when a country used to produce some commodity, while being protected by some trade barriers. When barriers are removed, this country prefers to stop domestic production and to import from a member country. This is presumably desirable given that the

3. Trade diversion is certainly harmful, even to the members, when production is competitive and trade is of the inter-industry type. With imperfect competition and/or inter-industry trade, one can build scenarios where trade diversion has ambiguous effects in terms of welfare.

production is shifted from the inefficient domestic industry to a more efficient locus.

What about banking services ? To what extent is trade in banking services important ? Should we expect more trade diversion or more trade creation ?

Table 1 presents for 8 EC countries the export earnings from banking services in percentage of the total banking output as well as the import of banking services in percentage of apparent consumption.⁴ It is clear from this table that trade in banking services is limited, a least relative to other industries (the average import share in GDP for these countries range from 22.2 % in Spain, to 76.1 % in Belgium). It is only in the UK that trade in banking services accounts for a significant share of output. In addition, trade in banking services for any particular country tend to go both ways (import and export). Hence, trade is of intra-industry type.

Table 2 provides data on the trade balance and intra-EC exports and imports (in % of total exports and imports, respectively). It appears that with the exception of France and Italy, these EC countries have a trade surplus in banking services. In addition, it seems that the bulk of trade takes place with the rest of the world, rather than between EC countries.

This last observation suggest that trade diversion could very well occur as a consequence of integration; as indicated above this effect is not desirable from the point of view of an efficient allocation of world resources. Trade diversion could also positively harm Europe's trading partners. Given the relatively low importance of the banking trade, diversion is however not likely to be a major issue for these partners.

4. "Output" is measured as gross income (including interest earnings). Apparent consumption is equal to domestic output - exports + imports.

Still, diversion could be avoided by applying to extra-EC trading partners the conditions that will apply to intra-EC trade.

(ii) Integration, the movement of factors and the right of establishment

As indicated above, the alternative to the export of services for a bank is the establishment of branches or subsidiaries in foreign countries. The impediments to "trade" in this case stem from (i) restrictions to foreign direct investments, (ii) restrictions to the movement of labor and (iii) the rules governing market access. General restrictions to intra-EC labor movement have, by and large, been lifted by now and restrictions to the movement of capital are being removed (as indicated above). In addition, it does not seem that "there is any specific restriction on the employment of foreign EC national or special discriminatory rules in terms of professional qualifications or degree of competence and management experience" (Price Waterhouse, 1988). The rules governing market access are however particularly relevant in the banking industry, given that market access is regulated for prudential reasons. Access to foreign market can take place either through the -de novo- establishment of a subsidiary, or the acquisition of a foreign bank. With respect to the establishment of banking subsidiaries, it does not seem that the conditions of market access discriminate against foreign banks. According to the survey of national regulations undertaken by Price Waterhouse, "with the temporary exception of Spain, the entry and establishment rules for foreign banks are essentially the same as for domestic institutions". One could presumably argue that the extent of actual discrimination against foreign banks is underestimated by this study, which focuses on the legal framework. The significance of some of these regulations depends on the margin of discretion with which they are

applied. Still, the prima facie case points to the absence of overt discrimination. More restrictions do however apply with respect to the acquisition of domestic banks by foreign institutions; formal restrictions apply in France, Italy, and Spain. In all countries, an authorization is required from the competent supervisory institution. In addition, Portugal which is not covered by the Price Waterhouse study seems to have significant restrictions to foreign penetration and acquisitions.

In practice, the degree of penetration by foreign banks varies substantially across Europe. As table 3 indicates, the market share absorbed by foreign institutions ranges from 1% in Denmark to 91% in Luxembourg. Comparing countries of similar size, large differences appear between say Belgium (46%) and Holland (10%), or the UK (60%) and Germany⁵ (1%). This is somewhat puzzling, given that, in principle, there isn't anywhere an overt discrimination against foreign establishments. Those differences could be explained in several ways ; first, it might be that foreign penetration is high in those markets which are attractive in terms of profits. Looking at the correlation between the market share of foreign firms and the rate of return on assets (see table 10) provides little support to this hypothesis⁶ (corr = -0.36). Alternatively, one could presume that in countries where market concentration is high, foreign penetration would be low. This would occur because foreign firms would prefer to penetrate a rather unconcentrated markets, given that the potential retaliation from a very

5. It is commonly argued the high reserve requirement in Germany makes this market unattractive to foreign banks. This is however not entirely convincing, given that one cost component (reserve) does not unambiguously determine profitability.

6. Ideally, one should correlate foreign penetration with some past (and not current) profitability. Differences in profitability across countries are however rather stable over time.

concentrated industry would be more severe (see Schmalensee, 1978). Indeed, some support can be found for this hypothesis, with a correlation between foreign penetration and market concentration (measured by C5 concentration ratio - see table 9) equal to -0.58. On the whole, given the discrepancies in foreign penetration indicated above, one might still be tempted to conclude that "hidden" restrictions exist or that existing rules are used with much discretion, and particularly so in Germany, Denmark, Italy and Portugal.

The European Commission has taken very concrete steps with respect to the issue of market access; the so called, second banking directive, which was presented to the council in February 1988, introduces a list of bank activities for which the principle of mutual recognition applies. This principle simply states that if a banking service can be legally performed under some conditions, in one country, it cannot be forbidden under the same conditions in another country. The list of services covered includes underwriting and trading, for customers or for own account, of practically any type of security, the participation in share issues, money brokering, leasing and issuing of credit cards. More importantly, this directive also establishes a single banking license, valid across the EC. It is enshrined in the principle that once a bank is authorised to undertake activities in its home country (according to the rules prevailing there), it may conduct the same activities in any member countries irrespective of whether or not these activities are allowed in the host country and without the need to obtain local authorization. In fact, the implementation of this principle amounts to the mutual recognition of regulatory bodies, for the list of activities covered by the directive. The implications of this new principle are wide-ranging : foreign bank might be able to gain some competitive advantage by supplying domestic customers with products that domestic banks

cannot offer (and vice-versa). The story however does not end there.

Clearly, the regulatory body of the domestic market will have an incentive to change its own regulation in order to put local bank on the same level as the foreign bank. As a result, some harmonization of the regulations across countries can be expected as the various national regulatory bodies attempt to "level the playing field".

Moreover, one could very well imagine that the national regulatory agencies could use their power to provide their domestic banks with a competitive advantage abroad. Indeed, it would suffice for this agencies to allow a banking product which is forbidden in other countries (or allow an existing product under weaker conditions). Since one can expect all regulatory agencies to respond by relaxing their own regulation, a process of competitive deregulation will ensue, i.e. a process in which regulatory agencies compete through their rulings (which de facto have EC standing) to provide their domestic banks with some competitive advantage.

The outcome of such a process will surely be a harmonised regulation. Yet, it might be a minimum of regulation, and indeed, might be a lack of regulation. In order to avoid such an outcome, the Commission has recognised that some basic rules should be harmonised. These basic rules include the process of prudential supervision (size and composition of funds, solvency and liquidity coefficients, concentration of credit risks) and the definition of common standards of investor protection.

One can wonder whether the second banking directive and especially the mutual recognition of regulatory bodies were at all necessary, at least in principle, to obtain some benefits from integration. Indeed, imagine for a second a world in which the various national markets would be efficient, made of a large number of cost efficient small firms. Assume in addition that regulation differs across countries, but does not discriminate against

foreign operators. Regulation differs across countries simply because of a diversity of national (or regulator's) preferences. In such a world, the second banking directive and the mutual recognition of regulatory bodies would be positively harmful ! Indeed, the process of competitive deregulation would lead to the establishment of a common regulation, which for all (but possibly one) members would differ from their original, most preferred, model. In other words, the new outcome would be Pareto-dominated by the original one. That is also to say that if there is a diversity of preferences, a variety of regulation, which accommodates those preferences, is desirable. Of course, variety might also entail production (in terms of duplication, unexhausted scale economies) and transaction costs. These have to be weighed against the benefits from diversity.

Still, it is unrealistic to consider that the European banking market is "efficient". To the extent that regulation has been captured to some degree and to the extent that firms' behaviour is somewhat collusive, a competitive deregulation should a priori lead to more competition and more efficient banks (as discussed in the next section). Some benefits should thus accrue from this process, but the benefits will stem from deregulation and not harmonisation per se.⁷ In order to assess these gains, one should thus (i) identify the areas in which either regulation has been captured or where banks have a tendency to collude and (ii) analyse how deregulation will modify bank's strategies and market structure. This is the objective of section 2.

7. Notice that this not necessarily the case for all industrial sectors. When economies of scale and/or the existence of a large strategic home base are important, some benefits can flow from integration per se.

Section 2. Price competition in the banking industry

As indicated above, in order to assess the impact of deregulation, it is useful to identify the areas in which either regulation has been captured or where collusion among banks is apparent. The study by Price Waterhouse, referred to above, is particularly informative in this respect. Indeed, the study provides evidence on the level of prices for a number of standard banking products across the community. These products include commercial loan, consumer credit, credit cards, mortgage, commercial draft, travellers checks, current account and letter of credit. For every single product, one observes large differences in prices across countries, as indicated by table 4. The question then arises of whether such price differences indicate varying degrees of price competition. One should be careful in interpreting those data since several factors can possibly explain such price differences. First, it might very well be that, even though we observe price differences for every single product, the cost of the bundle of products is still about the same in every country. Price differences would then reflect different types of discrimination across products. Still, even if it was the case, the possibility of discriminating in price is itself a strong sign of a lack of price competition. Second, it might be that differences in prices reflect differences in costs. In turn, differences in costs might reflect differences in factor prices, differences in scale or sheer inefficiency (assuming that all banks have access to the same technology). If the latter holds, it would not be inconsistent with the hypothesis of a lack of price competition (which would allow banks to be inefficient). With respect to scale economies, there is a large body of empirical literature which tries to estimate the degree of scale economies in banking. It seems that by and large there is now a consensus that scale

economies are unimportant and exhausted at a low level of activity (for a recent reference, see Benston et al., (1982)). Finally, with respect to factor prices, and especially the price of labor, one would only expect systematic differences between Spain on the one hand and the rest of the community on the other hand (Portugal is not included in the study). Yet, the highest prices are often observed in Spain. Hence, one is led to conclude that possible cost differences are not likely to invalidate our presumption that price differences reflect different degree of price competition.

Some more direct evidence can also be obtained in a survey by the OECD (1985). This study shows that in several European countries interest rate were still regulated or subject to cartel-like agreements (see table 5). Interestingly, regulation in Belgium has even been strengthened since this study was completed (see Baltensperger and Dermine, (1987)). Finally, the persistent size of average margins on demand and savings deposits presented in Table 6 is a strong indication of a lack of price competition.

All in all, it seems that a lack of price competition is an important characteristics of the banking market in Europe. At the same time, the process of competitive deregulation outlined above should make price competition more intense. In what follows, we shall concentrate on the effect on price competition on bank strategies and market structure. That is not to say that other dimensions of deregulation will be unimportant. At the same time, new far-reaching developments are taking place independently of deregulation (the emergence of mutual funds as substitutes for traditional savings, or the securitization of debts). Still, the introduction of price competition should be, in my opinion, particularly significant.

A priori, intuition would suggest that if price competition increases, prices should fall and banks should become more efficient. Indeed, prices should fall as banks start to undercut each other. As discussed below, it is not so clear however that efficiency will necessarily be improved. In addition, the existence of price competition might also reduce profitability and should have an impact on other bank strategies, so that the market structure will be deeply affected. We shall take both issues in turn.

(i) Deregulation and incentives for efficiency

At the outset, one should distinguish between productive and allocative efficiency. Productive efficiency requires that whatever is done should be achieved at minimum cost; allocative efficiency implies that what is done meets consumer needs at prices which reflect the cost of provision. The incentives to be efficient will come from both the capital and the product market. A firm in competitive product markets has in general incentives to allocative efficiency since otherwise consumers will shift to other firms. The main incentive to productive efficiency will however be the threat of bankruptcy, or the threat of a hostile take over. The possibility of going bankrupt and/or an efficient market for corporate control are thus necessary conditions for productive efficiency. Yet, in the banking market, none of these conditions is fully satisfied. Indeed, (as documented by Baltensberger and Dermine (1987)) European countries have deposit insurance schemes which are designed precisely to reduce the risk of bank failures. While aiming at protecting depositors, these schemes do also in fact protect

the banks.⁸ The treat of take over is not fully effective either, since foreign participations in banks are still subject to approval by the appropriate regulatory body (even if the second banking directive is implemented). In addition, even if the system of approval applicable to banks was lifted, questions can be raised in general about the efficiency of the market for corporate control in Europe (see Yarrow, 1986). In a recent survey, Armstrong, Haspeslagh and Neven (1988) also point to important differences between European countries in the nature and strength of the rules governing takeovers. As a result, banks in some countries (like The Netherlands) would be completely protected while banks in other countries (like the UK) would be much more vulnerable.

On the whole, deregulation by introducing competition in the product markets should improve allocative efficiency. Much less can however be expected in terms of incentives for productive efficiency.

(ii) Deregulation, bank strategies and market structure

It is useful, at the outset, to characterise competition between banks in the current situation. Two separate issues can be distinguished; first, if banks are not competing in price, along what dimensions are they competing? In other words, what is the prevailing type of competition? Second, is it that banks, while colluding on price, are vigorously competing along these other dimensions? That is, what is currently the competitive pressure? Both issues will be taken in turn.

8. A system of "lender of last resort", as an alternative to deposit insurance, would have the same effect.

A. Prevailing type of competition

In what follows, we review some characteristics of current competition and try to assess how it will be affected by the introduction of price competition.

1) Network and quality competition

Clearly, when banks do not compete in price for customer deposits, they have an incentive to overinvest in equipment designed to collect these deposits; in general bank will invest in equipment (branches) to collect deposit to such a point the marginal cost of deposits, equal to the interest on deposits plus the marginal cost of equipment, is equivalent to the interbank rate (which is an alternative source of funds). Hence, when interest rate spreads are high, the interbank rate is much above the deposits rates and banks have an stronger incentive to expand their facility. This is illustrated by table 7 and figure 1. In table 7, a weighted average⁹ of the margins on demand and savings deposits is presented along with the number of inhabitants per branch and the density of population. This latter variable is included because, other things being equal, one would expect countries with low densities to show a higher number of inhabitants per branch. The reason is that the marginal benefit from opening a branch is lower when density is low. In addition, the marginal cost of branches is presumably invariant to density. As a result, the optimal number of branches (i.e. this number for which marginal cost is equal to marginal benefit) will

9. Where the weights represent the typical proportions of demand and savings deposits in the money supply.

be lower when density is low and hence the number of inhabitants per branch will be higher. Figure 1 presents the same data as table 7 on weighted average spreads and inhabitants per branch. Adjusting for density, France, Denmark and Spain would move somewhat south in the figure, while Belgium and The Netherlands would move somewhat north. By and large, our presumption seems confirmed that countries with low price competition also have very dense branch networks.

Next, the decision to open branches should not be seen as a bank's decision which is independent of its competitors decisions. For any customer, the distance from his residence (or workplace) to the nearest branch is an important dimension of banking service. The density of the network can thus be seen as an dimension of the quality of the banking service provided to the customers. This is a also dimension of the service, which is not heavily regulated and over which there is no apparent collusion. It is thus reasonable to consider that banks actually compete along this dimension. In short, not only do banks have an individual incentive to "overinvest" in branches, but competition will also lead them extend their network.

Yet, branch density is only one dimension of the service quality. Some other dimension, like the quality of the premises or the quality of the staff are difficult to quantify but casual observation suggest that banks compete along those dimensions. The density of automated teller machines is also presumably valued by the consumers and is therefore likely to be used as a competitive strategy. Table 8 presents the number of automated teller machines (ATMs) per million inhabitants. We observe again that countries like Germany and Italy where average margins are low, have a low density of ATMs. By contrast, Belgium and Spain, with high margins, have high densities of ATMs. France and the UK, which have very high densities of

ATM, with average margins, are also interesting given that these two countries have experienced a strong competition between networks.

The evidence reviewed so far suggests that banks do compete along quality dimensions. How is quality competition going to be affected by the introduction of price ? To answer this question, a reference to the analysis of Dixit (1979) is useful. Dixit builds a model in which firms sell differentiated products and have two strategic variables, namely price and quality. He allows firms either to compete or to collude, over either, or both, dimensions and compares the outcomes of these various competitive scenarios. For our purpose, the relevant comparison is between the outcome of price collusion / quality competition and the outcome of competition on both quality and price. This comparison yields unambiguous conclusions; if an industry competes on quality alone, the resulting quality level will exceed that when price is competitive as well. Interestingly, it will also exceed the level achieved when there is collusion on both dimensions. In a way, quality is used to overcompensate the absence of price competition. Hence, one can expect that (i) banks will have to adjust downwards the level of quality they offer, particularly in terms of branch networks and that (ii) the adjustment will be less important in those countries where banks collude on both price and quality. It is also useful to think of those results in terms of individual banks; presumably banks have competed in quality with a varying degree of success. As a result, banks have achieved different levels of quality, for example in terms of the density of their network. This accords with intuition and casual observation. As price competition increases, those banks that were successful in terms of quality will also be in the worst position to compete in the new environment. Indeed, the adjustment which will be required, for example in scaling down

the branch network, will be particularly important for those banks. The winners of the quality game might thus be (at least initially) the losers of the price and quality game.

Some more insights into the economics of branches can be gained from location theory. To keep the illustration simple, assume that banks are competing in some geographical space, represented by a segment of unit length (see figure 2). Consumers are evenly spread along this segment and will decide which bank to visit on the basis of geographical proximity and price. Assume that originally bank only compete through the location of their branches. From the analysis of Eaton and Lipsey (1975), we can conclude that competing banks will then have an incentive to locate their branches back to back, or at least very close to one another. For example, if two banks have to locate one branch, they will both find it optimal to go to the centre. The reason is simply that banks will split equally the interval in between them, whereas they will obtain the entire custom from their "long" market, i.e. the segment towards 0 for bank 1 and the segment towards 1 for bank 2 (see figure 2). Banks thus have an incentive to reduce the interval between them and as a result, will pair at the centre (any pairing outside the centre would be unstable, since branches would have an incentive to leapfrog.) This type of analysis can be generalised to more complex situations, with more banks and with several branches per bank; when there is no price competition, there is a tendency towards spatial agglomeration. This result also accords with the casual observation that banks often gather in particular neighbourhoods.

As price competition arises, location incentives will be modified in the following way; if banks stay in the same neighbourhood, consumers who decide on the basis of price and proximity will easily be attracted by some price

reductions, since banks are basically undifferentiated in terms of geographical proximity. Price will be the main variable according to which consumers choose. As a result, price competition between geographically concentrated branches is likely to be very intense. In order to relax this competition, banks will then have an incentive to move away from one another (see d'Aspremont et al. (1979)). By so doing, banks will be able to charge higher prices, since customers around their locations will trade off high price with the inconvenience of going to a bank much further away. Isolated branches could thus obtain some local monopoly power. All this is to say that the optimal locations of branches are deeply affected by the existence of price competition. The strategy of branch concentration which has often been implemented will not be appropriate anymore in the new competitive environment. Banks might have to consider relocating their branches. Some further insight can be obtained by looking at the optimal number of branches in this simple paradigm. In absence of price competition, banks will determine the optimal number of branches by trading off the fixed cost of an additional branch with the additional market share that can be obtained. When there is price competition, the matter is not that clear. Indeed, as a bank opens new outlets, on average branches will also be closer to the competitors' branches and accordingly price competition will be more intense. The incentive to expand the network is therefore reduced (see Martinez and Neven, (1988)). In a way, this result is also an particular application to a spatial context, of the result by Dixit (1979) (see above), that non price competition lead to excessive quality (branches). Finally, the argument is sometimes put forward that entry barriers in the banking industry are high because a new entrant has to set up a branch network. In principle, the mere size of the investment required to set up the network should not constitute a barrier to entry; what matters is

whether the operation of the new firm, after entry at whatever appropriate scale, is profitable. Efficient capital markets should provide the necessary funding for entry at whatever size if indeed operations can be anticipated to be profitable. It is only to the extent that capital markets are not efficient in allocating funds that there might be a barrier to entry. One could however also be concerned about the behaviour of incumbent firms. What matters is whether incumbent firms can credibly threaten the entrant to react aggressively in the event of entry, to such an extent that entry will turn out to be unprofitable. If such a credible threat can be implemented, the entrant will prefer to say out, so that entry will be effectively deterred. There is also an entry deterring strategy which is particularly relevant to the banking industry : by extending their network beyond what they would otherwise do, incumbent banks could effectively "crowd in" the market, to such an extent that entry with an additional network (or even branch) would become unprofitable (see Schmalensee (1978)). Unfortunately, no evidence could be gathered to assess whether such entry deterring strategies are used in the banking industry. It is still interesting to notice that, in general, it will take fewer branches to effectively deter entry when there is price competition, as compared to what it takes when there is no price competition (see Corstjens et al., (1988)). This suggests that entry deterrence through the extension of branch networks might become more of a concern.

2) Price discrimination

It is commonly observed that bank offer some services for free, like the maintenance of a current account, as in Belgium and The Netherlands (as reported by the PW study). Transactions on current accounts are also often carried out without charge, as in Belgium, the Netherlands, France or Spain.

This suggests that in order to maintain an overall level of profitability banks charge prices in excess of costs for other services. In other words, banks discriminate in price across products and to the extent that different types of consumers buy different products, banks also discriminate across consumers. In the US, where the same practices are observed, it is estimated that elderly and affluent consumers subsidise the transaction accounts of low-income customers, by as much as 4 billion \$ (in 1981) (see Bryan and Allen (1988)). The extent of cross-subsidisation of services is however difficult to estimate and, according to Steinherr and Gilibert (1988), most banks have not been able to set up a reliable analytical cost accounting system to estimate product specific costs. The reason is that many banking services are jointly produced. For example, there is no obvious way to allocate the fixed costs of branches across loans, deposits and other services. The problem is particularly acute because the share of total cost which has to be allocated across products is very high. According to a study by Mc Kinsey of the American banking industry, up to 80% of total costs has to be "shared" by a range of products. In general, less than 30% of total costs are unique to specific products (see Bryan and Allen (1988)).

As price competition increases, one would expect the extent of price discrimination to be reduced, so that prices will reflect cost more closely. Still the question arises of this is going to happen? What is the mechanism that will ensure that prices reveal cost, given that in the current situation a large proportion of costs has to "shared" by a range of services. The answer depends to a large extent on whether there are economies of scope in banking services, i.e. whether the unit cost of a service can be reduced if another services is provided at the same time. If not, then there is no compelling reason to produce services jointly; to

illustrate, consider two services which are currently jointly produced by a bank. If there are no economies of scope, the possibility of competing in price should provide new banking institutions with the opportunity of supplying each service separately, without incurring any cost disadvantage. These institutions should thus reveal the cost of the individual services. If, by contrast, there are important economies of scope, these new specialised institutions cannot be expected to emerge and there is no obvious mechanism to reveal the cost of individual services. Hence, the question of whether "universal" or "specialised" banks will emerge depends to an important extent on the existence of economies of scope.

The econometric evidence on this is somewhat limited. Gilligan et al. (1984) report that there are some economies of scope between personal deposits and loans, and between consumer deposits and other revenues like service charges or fee income (see also Gilligan and Smirlock (1984) and Switzer et al. (1988)). Still, the methods used to estimate cost complementarities in these studies is not entirely satisfactory. Some indirect evidence can be obtained by observing the successful operation of some new specialised institutions, particularly in the US; for example, it seems that non mortgage credit can be dissociated from other branch activities, and shifted to point of purchase locations without any significant cost disadvantage. In 1975, 44% of non mortgage debt was branch based in the US, but this figure declined to 32% by 1985 (see Bryan and Allen (1988)). This tendency towards the dissociation of services can be expected to be particularly relevant for consumer durable loans (especially cars).

On the whole, it seems that more price competition should lead to the dissociation of those services, for which there is no significant economies of scope with other branch based activities. When there are, in addition,

significant diseconomies of scale, joint production of services in branches might thus be an inefficient mode of production, which will not be sustainable as price competition reveals the true costs

3) Bank loyalty, product differentiation and price competition

In general, within two broad classes of absorption of savings on the one hand and release of savings on the other hand, banking products seem to be highly substitutable. The conditions for loans and deposits (leaving the price aside) tend to be fairly standard, at least for the majority of consumers. The scope for differentiation seems also limited, given that banking products are rather simple items which can be defined by a few characteristics. There is however one form of product differentiation which seems to be important; given that depositing money with a bank will always involve a risk, consumers who are risk averse will attach a particular attention to the reputation of the bank they deal with. In addition, given that money matters are still seen as private affairs, a relationship of trust and confidence with bankers will also be highly valued. Since it takes time to build both reputation and trust, private customers will have a tendency to be loyal to their bank and cannot be expected to switch bank immediately in response to a perceived price difference. It is also noteworthy that the cost of changing banks is typically a fixed cost. According to a study by the American Banking Institute, it takes an interest differential of 1 to 3%, for private customers to switch bank. von Weizsacker (1984) has investigated the characteristics of competition when there are once for all costs of switching from one product to one of its substitutes. He assumes that there is no price competition. Quite surprisingly, he finds that the existence of switching costs tends to increase the degree of substitutability between products. The reason is as

follows; when prices are fixed and future preferences for banks are uncertain (a good bank today might be a bad bank tomorrow), little weight will be given to current preferences in choosing a bank, precisely when switching costs are high. Hence, the higher the switching cost, the less weight is given to current preferences, which is another way of saying that products are perceived as more substitutable. Interestingly, this result also suggests that individual banks should have an incentive to reduce switching costs !

When firms compete in price, another effect comes into play; banks will have an incentive to attract new customers (often young ones) by reducing price. They will do so, knowing that higher prices can be charged in the future when the customer price elasticity will be low, owing to switching costs. Klemperer (1987) analyses such a situation. He finds that indeed when customers have chosen a bank, the competition between banks is reduced by the existence of the switching costs. Each bank has some market power over its stock of loyal customers. This accords with intuition. In the initial period where banks try to attract new customers, one could however expect competition to be more intense, with banks competing for high market shares (i.e. for a large stock of future loyal customer). However, this is not necessarily the case ; if the customers are forward looking, they will realise that banks are trying to lure them. As a result, they will not respond to the attractive initial offers of the banks, which in turn will have less incentive to compete vigorously. In general, it is unclear whether competition will be initially more or less intense than without switching costs.

On the whole, there is thus an interaction between price competition and bank strategies with respect to customer loyalty. When there is no price competition, banks cannot gain much from customer loyalty. When competition

in price is allowed, banks will have an incentive to use price in order to attract customers. This will be beneficial later, when customers are indeed captured, but it might be very costly in the initial period. Casual observation suggest that banks already try to attract young customers, by offering them gifts and special facilities. As price competition increases, we would expect to see gifts for youngsters but also better interest rate conditions.

B. The competitive pressure

So far, we have reviewed a number of bank strategies which are likely to be affected by deregulation. We have seen that banks have engaged in various forms of non-price competition and the question remains of whether competition along those dimension was intense. In principle, non price competition could eliminate excess profits in the same way as price competition. At the same time, one could presume (see below) that banks which were subject to intense competition, would be better positioned to cope with the new environment. Hence, it is useful to assess the intensity of competition in the current environment.

Various indicators of competition can be used. First of all, we look at the degree of concentration. In general, one would expect collusion to be easier between a small number of large players than in a more atomistic industry. Table 9 presents two concentration measures, namely the market share absorbed by the largest five firms and the Herfindahl index (as projected by PW - this second measure seems rather unreliable). It appears that the market is very concentrated in Belgium, the Netherlands, Greece and Portugal and relatively unconcentrated in the UK and Luxembourg, with the other countries falling in between.

One would expect that a low competitive pressure would translate in high profits. Table 10 presents the rate of return on assets (before tax) for all European countries. It is immediately apparent that profits are particularly high in Denmark, Germany, Spain, Italy and the UK, and particularly low in Belgium, France and Portugal. The rate of return on deposits, excluding the interbank deposits, is also presented in Table 9. This second measure of profitability might be more directly related to the activity of collecting funds since the interbank rate is competitively priced and hence, interbank deposits generate little profit. According to this second measure, the relative profit performance of Belgium and Luxembourg are markedly improved, whereas the performance of the UK deteriorates.

These profit figures can be related to the concentration data presented above. It turns out that high concentration does not lead to higher profits, as one could expect (the correlation between profits and the five firms concentration ratio is equal to -0.12). One explanation behind this might be that the profit figures are a poor representation of the economic rent accruing to banks. The rent can be dissipated in several ways and, in general, can be shared between capital and labor. Rent sharing with labor could result in excess staff and/or higher wages. In order to examine this, table 11 presents the level of asset (excluding the interbank assets) per employee and ratio of the remuneration per employee in banking over the national average. The results are striking ; in all countries, remuneration in banking are higher than the national average. This could be explained by higher human capital in banking, or rent sharing. Assuming that the adjustment for human capital would be approximately the same across countries, a large difference appear between Germany and the rest of Europe, with a very low level of remuneration in Germany, together with a high level of assets per employee. Hence, it seems that relative to other countries

there is no rent sharing (neither through staff nor wages) in German banking. The situation in the Netherlands is similar, but not as striking as the German one. By contrast, remunerations in Spain and Italy are particularly high, with low to average assets per employee. The UK seems to have very high remunerations, which are however to be contrasted with a high level of assets per employee. France and Denmark have moderately high wages but a very low level of assets per employee.

On the whole, the following picture emerges : Germany seems a profitable banking market, with relatively average concentration and no rent sharing. It is apparently the country which is best positioned to compete in the new environment. The absence of rent sharing might be particularly important to the extent that adjustments in wages and/or the labor force tend to be difficult. At the other extreme, Spain and Italy are highly profitable but have extensive rent sharing. The competitive pressure should be lowest in those countries. Figures for the UK should be interpreted cautiously, but on the whole the UK combines a high return with high productivity and high wages, so that the extent of rent sharing is difficult to estimate. Belgium France and The Netherlands have a low profitability with evidence of some rent sharing, especially for Belgium and France.

On the whole, competition seems to be most intense in Germany, The Netherlands and, possibly, the UK. A factor which might have contributed to fostering competition in those countries is the absence of capital control; indeed, those countries have not had capital controls for some time, such that banks have had access to the international capital market to obtain funds at competitive prices. Large corporate clients presumably had the same opportunity. As a result, there was a ceiling on the interest rate that could be charged to these clients. At the same time, there was a limit on the amount that banks could spend in order to gather domestic funds, so that

marginal inefficient banks could not survive. On both accounts, access to capital markets thus presumably has the effect of increasing competition. Interestingly, Germany and The Netherlands have also experienced low levels of inflation since the early 80's. This might also be significant because bank profitability increases with inflation (mostly because of interest rate ceilings on deposits). Hence, most European countries have experienced a period in the early 80's of high inflation, high profits, with the exception of Germany and The Netherlands. Some rent has thus accrued to banks in these other countries, rent which has been shared with labour. This has not happened in Germany and The Netherlands, which had much less rent to share.

Conclusion

In this paper, it has been argued that little benefit can be expected to accrue from European integration of the banking market. What matters is that the European integration will give rise to a process of competitive deregulation. This should affect the banking industry in a significant way. As price competition starts to emerge, bank strategies in terms of branches, networks, quality, price discrimination and product range should be modified. To the extent that some national markets have enjoyed a high degree of protection and that the resulting rents have been shared with labor, the adjustment might require difficult job reductions and salary cuts. This should of particularly concern in Spain and Italy.

In preparation for European integration and deregulation, much attention has been given recently to bank mergers, acquisitions and cross participations. This is indicated, for example, by the acquisition of the Italian subsidiary

of Bank of America by Deutsche Bank, the agreement between Midland and the Hong-Kong and Shanghai corporation or the participation of Commerzbank in Banco Hispano Americano of Spain. At the same time, a wave of mergers and acquisitions has been observed in the US, following deregulation. In this respect, the American experience should be particularly instructive for Europe, because deregulation in the US concerned similar dimensions as in Europe, namely interest rates and geographical coverage. In this sense, the US could be a laboratory experiment for European deregulation. One can thus wonder about the motives behind those mergers and acquisitions. Of course, one motive might simply be to gain market power but this should be discarded from a public policy prospective. Apart from market power, the prima facie case should be also against mergers and acquisitions given that as indicated above, there are apparently no significant economies of scale in banking. Notice, however, that there are important network externalities in credit card and payment systems, such that consumers will prefer to hold a credit or charge card which is widely acceptable. This might be a motive for increasing size. However, in the European context, credit card and payment system are (by and large) either carried out by independent, non bank institutions or have been subject to cooperative agreements. To the extent that small banks can join an existing network at non discriminatory terms, network externalities should thus not be a rationale for size.

A closer look at the American experience suggest (i) that mergers and acquisitions occurred between small to medium size banks, and (ii) that the main benefit from those operations stemmed from cost reductions in check clearing and processing and from the economies of throughput with respect to marketing and software development (see The Economist, Banking Survey, March 1988). Interestingly, most banks kept a decentralised organisation. With respect to the European context, it is interesting to notice that the

potential for cost savings in check processing is likely to be more limited than in the US, given that most European countries have an efficient centralised clearing system. Second, even if cost can be reduced, the majority of the savings will occur within rather than across countries, for the simple reason that a majority of transactions take place within rather than across countries. As a result, mergers between banks of the same country seem to make more sense than mergers across countries. If one looks at the second motive for mergers and acquisitions, revealed by the American experience, one reaches the same conclusion; indeed marketing tends to be specific to countries and software is specific to languages, so that avoiding duplication of marketing and software expenditures is more realistic within rather than across countries.

Another motive for mergers and acquisitions could be to achieve a better diversification of risk, given that business cycles are not fully synchronised. The relevance of this motive should however decline, as Europe becomes more integrated.

On the whole, given that mergers and acquisitions are often difficult to realise because of managerial, cultural and organisational problems, one is left rather agnostic about the benefits of cross border mergers in banking, apart from market power. Hence, from a public policy prospective, it does not seem that such mergers should be encouraged.

In more general terms, one can wonder whether the process of deregulation will lead to a lot of firms' entry and exit. As mentioned above, exit in the sense of bankruptcy has less significance in banking than in other industries, while exit through mergers should occur mainly for small to medium size institutions. Entry of new firms is conceivable but it might not even be necessary; to the extent that some banking services can be dissociated from a branch network (as discussed above), the barriers to

entry and exit in the supply of those services seem rather small. As a result, the market for those services is to some extent contestable, so that the mere threat of competition should discipline the existing firms. Competition in the supply of those services could thus increase without substantial entry. Finally, the entry of new banks with a branch network is conceivable, but it will depend on the perceived barriers to entry and exit. As mentioned above, the barriers to entry should not be formidable if new banks can join the existing payment and credit card networks at favourable conditions. To the extent that capital in banking is not too specific to the industry, barriers to exit, or at least the costs of scaling down, should not be overriding. Still, the the analysis presented above suggests that there is in many countries a excessive number of branches. Hence, a reallocation of the existing capacity between different players is more likely than a net increase in the total number of branches.

References

- Armstrong, T., P. Haspeslagh and D. Neven, (1988), Note on the Harmonisation of European Takeover and Merger Regulation, mimeo, INSEAD
- d'Aspremont, C., J. Gabszewicz and J.-F. Thisse, (1979) On Hotelling' Stability in Competition, Econometrica, 47, 1145-1150.
- Baltensberger, E. and J. Dermine, (1987), Banking Deregulation, Economic Policy, 4, 63-109.
- Baltensberger, E. and J. Dermine, (1988), European Banking, Prudential and Regulatory Issues, mimeo
- Benston, G., Hanweck, G. and D. Humphrey, (1982), Scale Economies in Banking: a Restructuring and Reassessment", Journal of Money, Credit and Banking, 14, 435-456
- Bingham, T., (1985), Banking and Monetary Policy, OECD, Paris.
- Bryan, L. and P. Allen, (1988), The Changing World of Banking: Geographic Strategies for the 1990s, The Mc Kinsey Quarterly, 52-71
- Corstjens, M., C. Matutes and D. Neven, (1988), Brand Proliferation and Entry Deterrence, mimeo, INSEAD
- Dixit, A., (1979), Quality and Quantity Competition, The Review of Economic Studies, 46, 587-599.
- Eaton, B. and R. Lipsey, (1975), The Principle of Minimum Differentiation Reconsidered: Some New Developments in the Theory of Spatial Markets, The Review of Economic Studies, 42, 27-50.

- Gilligan, T. and M. Smirlock, An Empirical Study of Joint Production and Scale Economies in Commercial Banking, Journal of Banking and Finance, 8, 67-77.
- Gilligan, T., M. Smirlock and W. Marshall, (1984), Scale and Scope Economies in the Multi-Product Banking Firm, Journal of Monetary Economics, 13, 319-405.
- Klemperer, P., (1987), Markets with Consumer Switching Costs, The Quarterly Journal of Economics, 102, 375-394.
- Martinez-Girault, X. and D. Neven, (1988), Can Price Competition Dominate Market Segmentation, The Journal of Industrial Economics, 36, 431-442.
- OECD, (1987), Rentabilité des banques, Paris.
- Price Waterhouse, (1988), The Cost of Non-Europe in Financial Services, in Research of the Cost of Non-Europe, Commission of the European Communities, volume 9.
- Sampson, G. and R. Snape, (1985), Identifying the Issues in Trade in Services, World Economy, June, 171-181.
- Schmalensee, R., (1978) Entry Deterrence in the Ready to Eat Breakfast Cereals Industry, The Bell Journal of Economics, 89, 1228-1238.
- Steinherr, A. and P. Gilibert, (1988), The Impact of Freeing Trade in Financial Services and Capital Movements on the European Banking Industry, mimeo
- Switzer, L., J. Doukas and M. Lauzon, (1988), Economies of Scale in Branch Banking: Evidence from Canada, mimeo, Paper Presented at the EEA Meetings in Bologna, Italy.
- von Weizsacker, C., (1984) The Costs of Substitution, Econometrica, 52, 1085-1116.

Table 1: Trade in Banking Services (1984)

Country	Export/Output	Import/Apparent consumption
Belgium/Lux.	6.8	4.5
Germany ¹⁰	1.9	1.9
Spain	0.54	0.31
France	2.04	2.26
Italy	5.55	7.23
Netherlands	3.41	2.4
U.K. ¹¹	9.7	7.5

SOURCE: SOEEC/OECD/own calculations

10. Data refers to financial services (Banking and insurances)

11. Output refers to London clearing banks only.

Table 2: Trade Balance and direction of trade (1984)

Country	<u>Inter EC Exports</u> Total Exports	<u>Intra EC Imports</u> Total Imports	Trade Balance (M Ecus)
Belgium/Lux.	35	45	132
Germany	NA	NA	NA
Spain ¹²	36	36	30
France	14	30	- 56
Italy	25	23	-293
Netherlands	36	50	58
U.K.	NA	NA	NA

SOURCE: SOEEC, as quoted by P.W./own calculations

12. Data refers to 1985.

Table 3: Market share absorbed by foreign institutions

(End 1987 - % of total assets)

<u>Country</u>	
Belgium	46
Denmark	1
France	16
Germany	4
Ireland ¹³	11
Italy	3
Luxemburg	91
Netherlands	10
Portugal	3
Spain	11
U.K.	60

SOURCE: Steinherr and Gilbert (1988)

13. End 1986.

Table 4: Prices of standard banking products (1987)

(Ratio of highest to lowest observed price)

Mortgage ¹⁴	2.76
Consumer credit	3.29
Credit card	5.0
Commercial draft	5.46
Travellers cheque	1.44
Letter of credit	1.71
Commercial loan	1.57

SOURCE: Price Waterhouse

Table 5: Deposit rate regulation

Country	Market rate paid on demand deposits	Market rate paid on savings deposits
Belgium	No	No
France	No	No
Germany	No	Yes
Greece	No	No
Ireland	No	No
Italy	Yes	Yes
Netherlands	No	Yes ¹⁵
Spain	No	No
U.K.	Yes	Yes

SOURCE: Bingham (1985)/Baltensberger and Dermine (1987)

15. "Concerted Pricing".

Table 6: Margins on deposits

(%, Average 1980 - 1985)

Country	Margins on demand deposits	Margins on savings deposits
Belgium	11.2	5.6
Denmark	16.2	8.9
France	11.7	4.3
Germany	6.5	2.8
Italy	4.3	3.4
Netherlands	5.6	2.8
Spain	14.5	10.7
U.K.	10.8	2.5

SOURCE: Baltensberger and Dermine (1988)

Table 7: Branch networks and interest spreads

Country	Number of inhabitants per branch	Interest spread (weighted average)	Population density
Belgium	1807	7.	323
Denmark	1497	10.725	119
France	2176	6.15	101
Germany	1530	3.72	245
Italy	4192	3.62	190
Netherlands	1978	3.5	427
Spain	1191	11.65	76
United Kingdom	1896	4.57	231

SOURCE: OECD/Table 6 / Steinherr and Gilibert for the UK

Table 8: Density of automated teller machines

Country	Nbr of ATM/ Million inhabitants
France	130
U.K.	120
Spain	70
Germany	35
Italy	30
Ireland	50
Belgium	70

SOURCE: Batelle as quoted by The Economist, Banking Survey, March 22, 1986

Table 9: Concentration

Country	Market share absorbed by 5 largest firms (%)	Herfindahl Index (1983)
Belgium	70	0.119
Denmark	78	NA
France	50	0.086
Germany	44	0.046
Greece	83	NA
Italy	55	0.050
Luxemburg	30	0.086
The Netherlands	84	0.177
Portugal	78	NA
Spain	46	0.086
U.K.	36	0.036

SOURCE: Baltensberger and Dermine (1988), Price Waterhouse

Table 10: Profitability (1984)

Country	Rate of Return on assets	Rate of return on deposits (excluding interbank)	Inflation rate
Belgium	0.34	1.29	6.3
Germany	0.76	1.34	2.4
Denmark	1.00 ¹⁶	NA	6.3
Spain	0.80	1.03	11.3
France	0.30	0.85	7.4
Greece	0.43	0.45	18.5
Italy	0.77	1.33	10.6
Luxemburg	0.30	1.29	6.3
Netherlands	0.51	1.02	3.3
Portugal	0.34	0.40	29.3
U.K.	0.85	0.87	5.0

SOURCE: OECD/own calculations

16. Adjusted.

Table 11: Wages and productivity (1984)

Country	<u>Remuneration per employee</u> National Average	<u>Assets</u> Employee (Thousands Ecus)
Belgium	1.856	916.54
Germany	1.099	1022.16
France	1.559	787.85
Italy	2.134	939.63
Netherlands	1.193	1034.90
Luxemburg	1.904	3701.1
Spain	1.699	821.73
Greece	1.827	874.12
Denmark	1.259	749.56
U.K.	1.994	1387.3

SOURCE: OECD/SOEEC/own calculations

Figure 1: Branch density and interest spreads

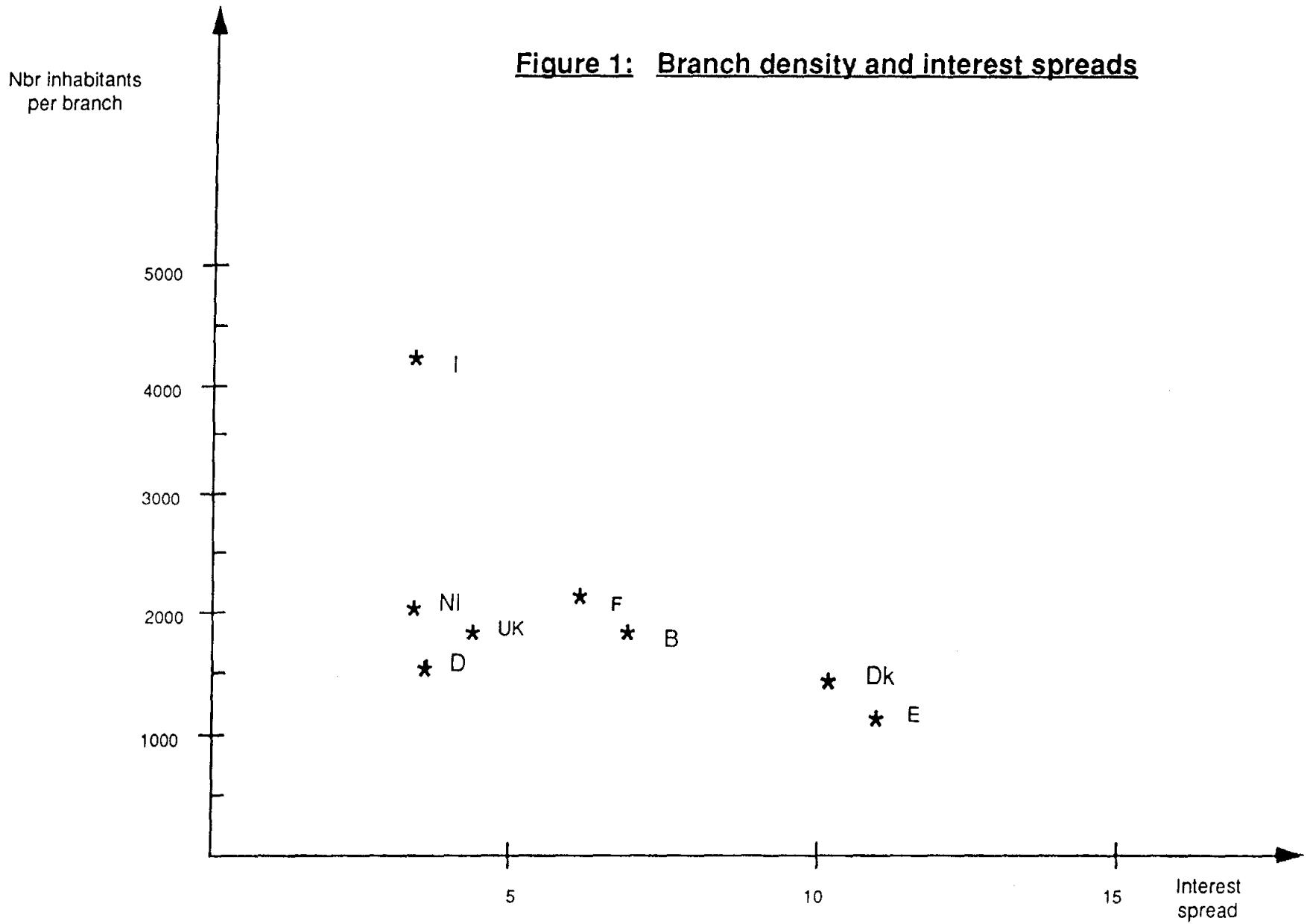




Figure 2

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