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THE INTEGRATION OF BANKING SYSTEMS IN THE EC

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I. INTRODUCTION

The European Community, (EC), is moving closer and closer to full economic integration. There is general agreement that the economic integration of these countries will have major sectoral and national impacts. One sector that will be affected is the banking sector. The banking sector, or the financial sector in general, is extremely important; the efficiency of that sector, in its role as intermediary, is crucial to the efficiency of the economy as a whole.

The integration of banking systems among the EC countries is necessary in order to achieve the goals of European economic union, which include the complete free movement of all factors of production: goods, people, services, and capital. Integration of banking in the European Community entails the harmonization and centralization of regulations, or restrictions. The first step taken, which went into effect in January of 1993, was to make banks free to move anywhere within the Community, creating a larger market in which they must compete.

Competition, due to banks being free to move within the Community, will eventually result in regulation converging near the least amount of current regulatory interference. After integration, banks are free to branch anywhere they want within

the EC, and they abide by the regulations of their home country. Therefore, banks from countries with minimal regulation will have an advantage unless countries with strict regulation of banking lessen restrictions in order to compete. Swary and Topf express this argument. They say that "bank regulation within the EC seems virtually certain to converge on a low level of operative interference, and a concomitantly low regulatory burden." (1992, p. 445)

The purpose of this research is to examine profits in the banking sectors of each of the EC countries before integration, and from there to infer what may happen to profits after integration. This is because it is too soon to have data on and to see the effects of the integration of the banking systems, since the laws governing the integration just came into effect in January of 1993.

Theoretically, profit is related to the risks banks are allowed to assume and to the activities in which they are allowed to engage, which are dependent upon the regulatory environment in which banks operate. After integration of the financial markets in the EC, there will be a low level of regulatory interference. Those countries whose banks have previous experience operating in an atmosphere of little regulatory interference may have certain competitive advantages in the new market, which I will explain later.

II. THEORY/BACKGROUND/LITERATURE

Banking Regulations and Bank Profits

Regulations in the banking industry restrict the operations or activities of a bank. They affect the profits of a bank or a banking system by restricting its opportunity to achieve cost reductions through economies of scale and scope. Different levels of regulation lead to different opportunities for economies of scale and scope, and therefore different profits, all other factors being constant.

A firm enjoys economies of scale when expanding its size decreases its unit costs. A firm enjoys economies of scope when expanding its range of activities decreases its unit costs. In terms of the banking sector, increasing size means increasing its assets, which are its loans, and its liabilities, which are its deposits. Economies of scope in banking occur when banks are allowed to expand their financial activities. "For example, if a bank has invested in acquiring information about a corporation in order to make it a loan, it can use that same information, at no extra cost, to underwrite a bond issue or to write an insurance policy." (Kohn, 1991, p. 498) If regulations restrict a bank from attaining a large size or from engaging in a diverse range of activities, they affect its ability to achieve economies of scale and scope. Cost reductions attained through economies of scale and scope lead to higher profits, assuming all other factors remain constant.

There are many examples of regulations which would limit banks' abilities to achieve economies of scale and scope. Stringent reserve or capital requirements would limit banks in

that they limit the amount of risk banks are allowed to bear. If a bank must keep its capital level high, it cannot diversify its activities as much as it might like. Restrictions on banks' participating in the insurance industry or on their underwriting securities would limit banks' opportunities to achieve economies of scope because they restrict banks from providing a wide variety of services.

Legal Environment and Harmonization of Regulations

When the EC was created by the Treaty of Rome in 1957, the free trade of services was envisioned. Until the Single European Act (SEA), however, which came into effect in July of 1987, no real attempt had been made to bring banking into the confines of EC legislation. (Chrystal, 1992, p. 63) The Single European Act provided for the completion of the common market and targeted the end of 1992 for the complete free movement of goods, people, services, and capital. (Keys, 1989, p. 591) The Second Coordinating Banking Directive (2BD) was adopted in 1989 in order to facilitate the integration of European banking systems. Under the 2BD, banks operating in the EC have the right to move wherever they want within the EC; they have a "single passport." (Economist, 1992, p. 29) A license to operate a bank in one EC country must be accepted in all other EC countries if the bank chooses to expand; banks may not be discriminated against on the basis of nationality. The 2BD sets forth a list of activities permissible to banks, and if banks are allowed to engage in these activities in their home countries, they are allowed to engage in

these activities, by branching, throughout the EC.

The 2BD is accompanied by the Own Funds Directive and the Solvency Ratio Directive, both also of 1989. These directives define equity capital and set minimum capital requirements. Those countries whose capital requirements were not up to those set by the EC will be at a disadvantage initially as they build up their capital.

Implications

Much has been written about the integration of the European financial markets, as outlined by the 2BD. The common theme in the literature is the increase in competition brought about by the larger market.

Keys (1989) foresees greater convergence of national laws regarding banking in the EC, based on the concept of mutual recognition. Mutual recognition requires each country to recognize the laws, regulations, and supervisory practices governing banking in other EC countries as equivalent to its own in allowing their banks to operate within its boundaries and be under home country control. (Keys, 1989, p. 602) In order to recognize the laws of another country as equivalent to its own, there must be agreement on key issues. Key regulations must be harmonized. From initial harmonization of regulations, market forces will lead to even greater harmonization. (Keys, 1989, p. 602) Countries will harmonize their regulations to avoid any country having a competitive advantage as a result of its regulations. As stated earlier, Swary and Topf believe that

convergence will occur at a low level of regulatory interference. (1992, p. 445)

Chrystal and Coughlin (1992), Swary and Topf (1992), and Krause (1973), are all concerned with the efficiency of the financial system and the increased efficiency resulting from the integration of financial systems in the EC. Competition will increase in the new, larger market, thereby increasing efficiency. Banks will not be able to earn monopoly profit; they will have to charge a competitive, lower price for their services. Swary and Topf estimate that overall, prices in the banking sector in the EC could decrease by 21% as a result of integration. (1992, p. 441) In order to be profitable in the new environment, banks will have to take advantage of cost-reduction opportunities.

Vives argues that competition will increase with an integrated European financial system, but that there are certain barriers that prevent the attainment of perfect competition. Some examples of these barriers are the costs faced by consumers of switching banks and the effect having an established reputation has on a bank's ability to compete. (1991, pp. 20-21) He argues that barriers and other factors segment the banking market, and predicts that the market will remain segmented, and therefore the benefits of integration and increased competition will be unevenly distributed. (Vives, 1991, pp. 22) This means that countries' banks which have already been successful in branching out into markets in other EC countries will also be in

the best position to compete in the new integrated market. They will have gained experience operating in the markets which they will be allowed freer access to.

An integrated European financial system is likely to be more competitive. A greater number of firms in the market increases the supply, and therefore decreases the price of their services. However, a larger market provides opportunities to decrease costs through economies of scale and scope. Those countries whose banks are better able to take advantage of opportunities for scale and scope will be more profitable in a market where prices of their services have decreased.

Banks that have not had a lot of restrictions placed on them in the past should be in the best position to take advantage of the economies of scope offered by integration. They have experience in handling a diverse range of activities and their associated risks. Banks that are fairly large and have a strong market base at home should be in the best position to take advantage of the economies of scale offered by integration; otherwise they might be "swallowed up" by banks who have the resources to expand by acquiring smaller institutions.
What often impedes banks from reaching a certain size or engaging in a wide range of activities are the regulations that they face. Banks and banking systems which have not been heavily regulated before integration should enjoy advantages in the market for financial services after integration.

III. EMPIRICAL MODEL

Since data are not available on profits after integration, I look at profits before integration. From the analysis of past profits in the banking sector in the EC countries before integration, I expect to draw some conclusions about the possible effects of integration on profits. My goal is to test whether profits before integration were related to the amount of regulation facing banks. Specifically, I expect that those banks which were less regulated should have been more profitable. If this is true, then certain countries' banks should have a competitive advantage after integration, because they have experience operating in an atmosphere of few restrictions and should be better able to take advantage of economies of scale and scope offered in the larger market.

The tool that I use to explain profits in the banking systems in the EC before integration is OLS (ordinary least squares) regression analysis with data both across countries and across time. The data come from the consolidated banking system income statements and balance sheets for 11 of the 12 EC countries, for the years 1985 through 1989. (OECD, 1991) Data are not available for Ireland, therefore it is not included in the study.

Variables regressed against bank profitability are related to the amount of regulation facing banks. The dependent variable in my model is return on equity (ROE), which is a measure of profit divided by equity. I used after-tax profits, because after-tax returns are the relevant variable in decision making.

The six independent variables discussed below are listed in Table I on page 10.

RESERVES- Reserves are obtained from the balance sheets of the banking systems. I use a ratio of reserves to total assets. Reserves are cash on hand and do not earn money like loans do; if a bank is required to hold more reserves, it is unable to make as many loans. If a country has stringent reserve requirements, its banks should be less profitable. The sign for RESERVES should be negative.

INCOME- This variable measures total non-interest income of the banking system for a given year (from the consolidated income statement) divided by the total income of the system (also from the consolidated income statement). This is a measure of the diversity of activities of the system. The more income that banks earn that is not due to interest charges (i.e. the traditional making of loans), the more diverse is their range of activities. An example of non-interest income would be charges for underwriting securities. The sign for INCOME should be positive, since as banking systems become more diverse (non-interest income rises), profit is expected to rise. Profit should rise because expanding diversity of activities leads to economies of scope, which reduce costs.

GDP- GDP growth is used as a means of capturing fluctuations in profits due to the overall state of the economy. I lag GDP growth by one year, meaning that GDP growth in a country in one year does not affect that countries' banking system profits until

TABLE I: Summary of explanatory variables

variable	a measure of:	expected sign
RESERVES	amount of risk banks are allowed to assume	-
(NON-INTEREST) INCOME	diversity of activities	+
GDP (growth)	fluctuations due to business cycle	+
INSREG	diversity of activities	-
ASSETS	size (economies of scale)	+
CAPITAL	amount of risk banks are allowed to assume	-
UKLOANLOSS	provisions for LDC debt	-
DENMARK	economic circumstances and loan-losses	-

the next year. This makes sense as it would take some time for people to start feeling very optimistic about the economy. The sign for GDP should be positive, since as GDP increases profits in the banking sector should increase also.

INSREG- I use a dummy variable for whether or not a country allows its banks to participate in the insurance industry (according to OECD, 1992). This variable is intended to serve as a proxy for all restrictions on the range of products that banks face. The variable takes on a value of 1 if there are some restrictions in the country regarding banks' participation in the insurance industry and a value of 0 if there are none. If banks are allowed to participate in the insurance industry, their profits should be higher, due to economies of scope. The sign for INSREG should be negative, due to the way I set up the variable.

ASSETS- This variable is used as a measure of the average size of banks in the banking system, and comes from the consolidated balance sheets of the banking systems. It is the total assets of the consolidated banking system of a country for a given year, divided by the number of banks. The sign for this variable should be positive, since profits should be expected to increase as the average size of banks in the system increases. Large banks have better opportunities for economies of scale.

CAPITAL- Capital is another word for equity. I use a ratio of capital over total assets, found in the balance sheets for each countries' banks. If a country has stringent capital (or equity)

requirements in relation to assets for its banks, its banks should be less able to be profitable, in terms of profit divided by equity. They are also less able to be profitable because they are not allowed to take on as much risk; lending and other opportunities are restricted. Thus, the sign for CAPITAL should be negative.

UKLOANLOSS- This is another dummy variable. When profits are plotted over time for the banking systems in each of the EC countries, profits in the UK are puzzling (see figures I and II). In the years 1987 and 1989, profits fell to virtually nothing. My research reveals that during those two years, banks in the UK made huge provisions for LDC debt which was no longer good debt. (Swary & Topf, 1992, p. 169) The UKLOANLOSS variable is set up to take into account these provisions. It has a value of 0 for every country and every year except for the UK in the years 1987 and 1989. This variable should have a negative sign, because provisions for LDC debt caused profits to fall dramatically.

DENMARK- This is also a dummy variable, set up to take into account special circumstances which affected profits in the banking sector in Denmark (see figure I). Starting in 1986, profits fell sharply. The Danish economy fell into a recession, and banks started accumulating losses on domestic loans. "The long recession since 1986 has not left banks unscathed. Their loan loss provisions have in fact been high." (Barnes, 1991) Danish banks "survived a long economic recession and bad-debt provisions mainly because they are better capitalised and more

FIG.2:After-tax ROE- EC banking systems
Data source: OECD, Bank Profitability

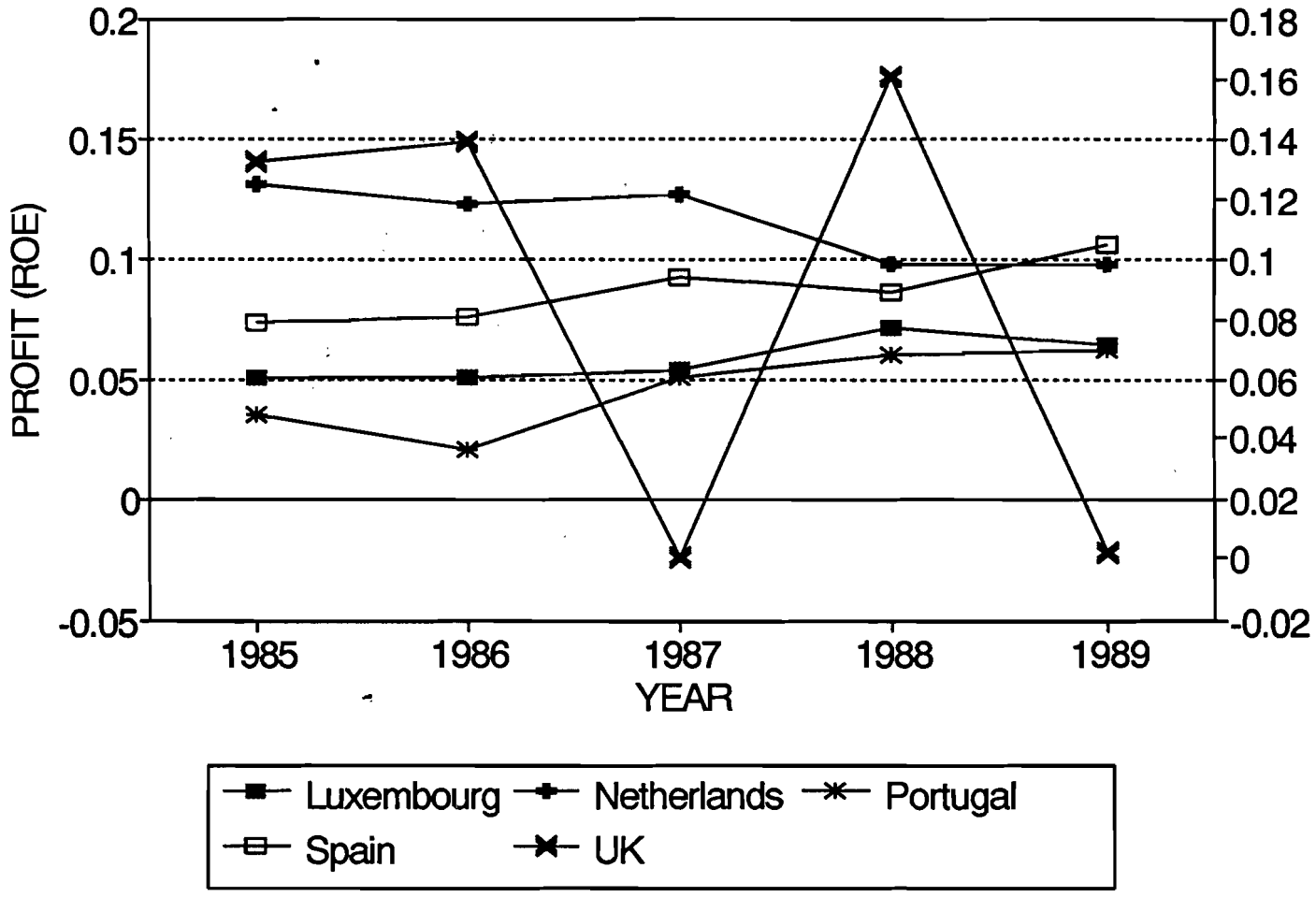
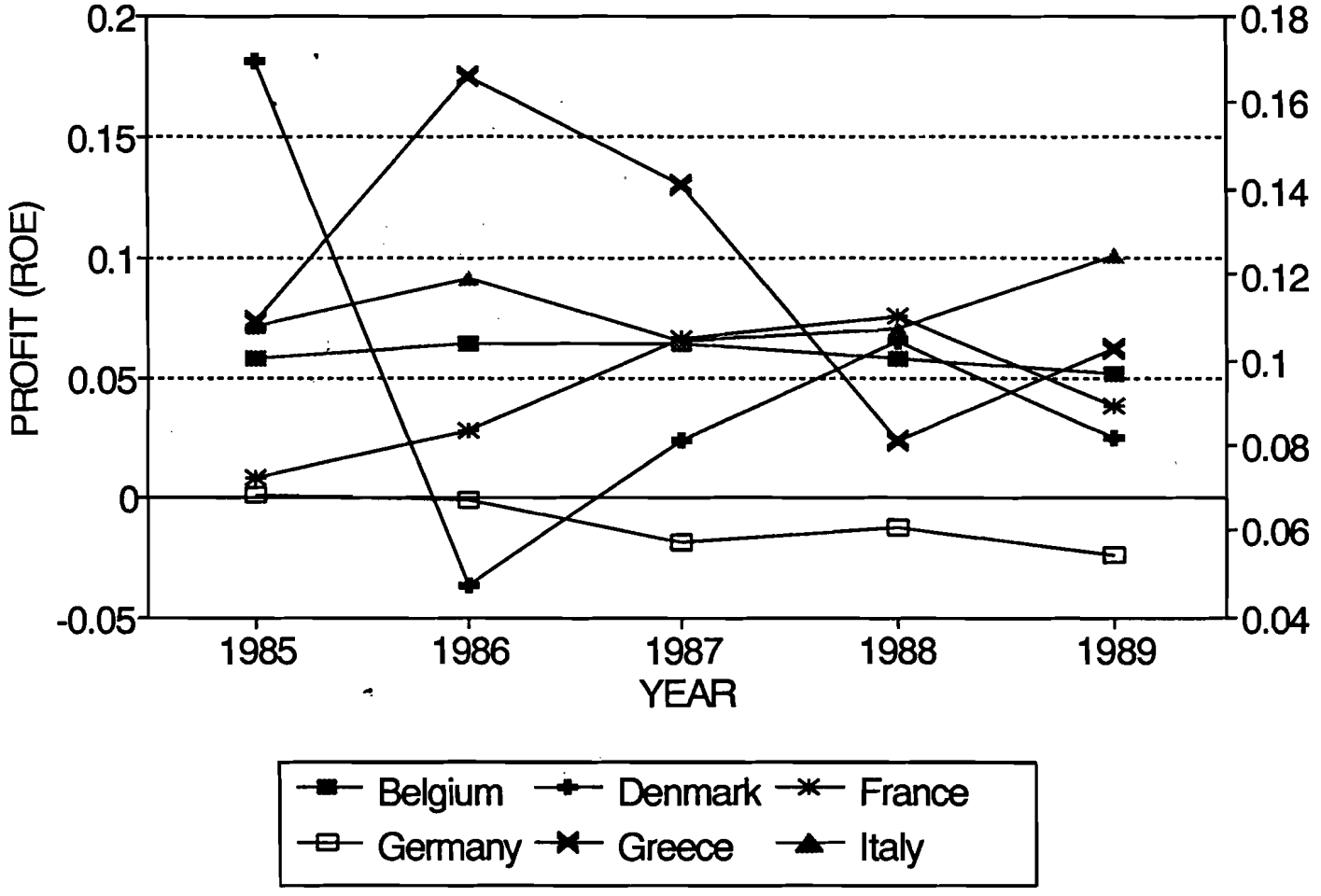


FIG.1:After-tax ROE-EC banking systems
Data source: OECD, Bank Profitability



closely supervised." (Economist, 1992, p. 84) To account for this economic crisis, the dummy variable is set up with a value of 0 for every country and every year except Denmark for the years 1986 through 1989, for which it has a value of 1.

IV. RESULTS

The results of the regression are given in Table II. Overall, they are very good and seem to support the hypothesis that fewer restrictions or regulations lead to greater opportunities for profit.

The two variables that do not perform well are the variable for GDP and the variable for capital. The variable for GDP growth (lagged one year) does not perform well in the sense that it is not statistically significant. No significant relationship can be implied between GDP growth and profits in the banking sector.

The variable for the amount of capital kept by banks in the banking systems of each of the EC countries is puzzling because its positive sign is the opposite of what was predicted. According to the model, banks which held more capital were more profitable than banks which held less, while it was predicted that banks which held less capital would be most profitable.

The rest of the variables turn out to be significant at the .10 level and they all have the predicted signs.

The variable for reserves is negative and significant. This says that banking systems which held fewer reserves (or were required to hold fewer reserves by regulation) were more

TABLE II: REGRESSION RESULTS

VARIABLE	COEFFICIENT /	T-STAT.
RESERVES	-0.1977 /	1.9507*
INCOME	0.0016 /	4.9069*
GDP	0.0007 /	0.3105
INSREG	-0.0125 /	1.4165*
CAPITAL	0.3496 /	1.7108*
ASSETS	0.0003 /	2.1483*
UKLOANLOSS	-0.1472 /	6.4422*
DENMARK	-0.0618 /	3.9454*

R^2 (adjusted) = .63

*indicates significance at the .10 level or greater (with one-tailed test)

profitable. The variable for non-interest income is positive and significant. As banks expanded their range of activities from the traditional loan-making (or were allowed to expand their activities by regulation or the lack thereof), and therefore earned more non-interest income, their profits increased. They were able to take advantage of economies of scope.

The variable for insurance industry participation is negative and significant, as predicted. Banking systems in those countries which allowed their banks to participate in the insurance industry were more profitable than those in countries which restricted bank participation in the insurance industry. Again, when they were allowed to participate in the insurance industry, they were allowed to further take advantage of economies of scope.

The variable for average assets of the banking systems is positive and significant as predicted. Those countries whose banks had the highest average assets were the ones which were most profitable. They were able to take advantage of economies of scale.

V. CONCLUSIONS

As stated, the model is generally helpful in supporting the hypothesis that fewer restrictions or regulations in the banking sector leads to more profit. Those countries whose banking sectors were least heavily regulated, as measured by the variables in the model, were the ones which were most profitable.

An important goal of this research was to infer, from past

performance, which countries' banks would be most likely to be successful, or profitable, after the integration of the banking sectors in the EC. In order to do this, I looked at the actual profits in the banking sector for each country for each year and compared these to the profits predicted by the model. The actual and predicted values, along with the error terms, are shown in Table III.

The model predicted profitability well, as can be seen in Table III, for the banking systems of: Belgium, France, Germany, Spain, and the UK. This definition of "well" is rather subjective. What I did was to look at a graph of the predicted and actual values; these five countries stood out as having the least difference between actual and predicted profits. These are also banking systems which were relatively profitable. If the hypothesis holds that fewer restrictions facing banks, or the ability to participate in a diverse range of activities, leads to greater profitability, then these are the countries whose banking systems should have been least restricted.

The two variables which measured diversity of activities were the insurance participation variable and the non-interest income variable. Belgium, France, Germany, Spain, and the UK are the countries which allow bank participation in the insurance industry. I calculated the average non-interest income of the banking sectors of all countries, and then compared it with the averages for each individual country. The UK was well above the average, Germany was close to the average, France and Spain were

TABLE III: PREDICTED AND ACTUAL VALUES

COUNTRY	PREDICTED	ACTUAL	ERROR
Belgium	.06	.05	.004
	.06	.06	.006
	.06	.07	-.003
	.06	.07	-.015
	.05	.08	-.023
Denmark	.18	.15	.034
	-.04	-.04	.000
	.02	.02	.000
	.07	.06	.008
	.02	.03	.008
France	.07	.06	.009
	.08	.07	.017
	.11	.07	.032
	.11	.08	.035
	.09	.08	.004
Germany	.07	.07	-.004
	.07	.07	-.005
	.06	.07	-.016
	.06	.07	-.009
	.05	.08	-.029
Greece	.11	.11	.003
	.17	.11	.054
	.14	.13	.009
	.08	.13	-.052
	.10	.13	-.024
Italy	.07	.09	-.016
	.09	.10	-.005
	.07	.10	-.030
	.07	.10	-.026
	.10	.10	.002
Luxembourg	.05	.08	-.030
	.05	.08	-.032
	.05	.08	-.027
	.07	.08	-.012
	.06	.10	-.031
Netherlands	.13	.08	.052
	.12	.08	.043
	.13	.08	.044
	.10	.09	.013
	.10	.09	.006

(TABLE III continued)

COUNTRY	PREDICTED	ACTUAL	ERROR
Portugal	.05	.07	-.020
	.04	.07	-.033
	.06	.07	-.014
	.07	.08	-.011
	.07	.06	.005
Spain	.08	.07	.011
	.08	.07	.009
	.09	.07	.022
	.09	.08	.009
	.10	.08	.028
UK	.13	.13	.003
	.14	.14	.003
	-.00	-.01	.007
	.16	.15	.012
	.00	.01	-.007

well over half of the average, but Belgium was less than half of the average. So it seems that as measured by the insurance participation variable, those countries which the model predicted well for were less restricted, and as measured by the non-interest income variable they were, for the most part, not the least restricted countries, but nonetheless fairly unrestricted.

Given that the countries named above: had strong financial systems, were the ones which were least restricted as measured by the insurance industry participation variable, and were fairly unrestricted as measured by the non-interest income variable, it follows that they should be the ones whose banking systems have the best chance of being profitable after integration, because they have gained experience operating in an environment of few restrictions.

There were some weaknesses with the variables. For example, the capital/asset ratio, used for the capital variable, is not a risk-weighted ratio, because a weighted ratio could not be found nor calculated from the data. However, the capital requirements set by the EC use risk-weighted ratios. The problems with this variable could also be due to the fact that during this time, adjustments were being made in many of the countries to BIS (Bank for International Settlements) capital standards.

The model does not account for cost differences due to differences in deposit insurance schemes. There are great differences in deposit insurance protection across the EC countries. There has been much debate within the Community as to

what to do about these differences. A directive has been proposed that would subject each EC country to a minimum ECU 15,000 of deposit insurance protection per depositor. This is below the protection currently offered in the UK, Denmark, France, Italy, and Germany. Portugal and Greece currently have no protection, and Spain, Belgium, and Luxembourg would be required to increase deposit protection to meet the ECU 15,000 minimum. (BNA, 1992) Costs due to different deposit insurance schemes are probably important costs that are missing from the model. Ideally, a variable would be included denoting the costs to banks of deposit insurance, in other words the premiums that they pay. If such costs could be uncovered in future research, the model would be enhanced.

Another variable that is missing in the model is a variable accounting for banks' expansion into markets in the EC. If a banking system had already expanded into EC markets, its banks would further increase their opportunities for economies of scale and they would gain experience in operating in and establish a reputation in these markets. The extent of each banking system's EC operations, for all the years studied, could not be found. Again, if future research could find a measure for each systems' EC operations, that would improve the model.

Certainly future research would also be affected by developments in the establishment of a common European currency. If the EC countries eventually adopt a common currency, their banking sectors would be greatly affected.

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