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The Evolutionary Tendencies of the Banking Environment and the Impact of Banks' Risk and Size on Their Profitability: The Prospect of Banking Institutions and Suggestions of Policy

¹George Thanos, ¹Constantinos Tsamadias and ²Panayotis Dimopoulos

¹Technological Educational Institute of Chalkis, Greece

²Technological Educational Institute of Lamia, Greece

Abstract: The object of this study is related to the international financial-credit tendencies and characteristic differentiations of the credit institutions that alter the traditional transactional relationships and bring about changes and re-classifications in the international banking market. Various sorts of risks and the way they affect, along with the size of banks, banks' profitability are dealt with in this work. More specifically, the impact of these factors on a random sample of European Union's country-members' banks is investigated. Then, an effort to work out future resolutions and orientations for banking institutions in the context of the globalisation of international economic relationships and of technological developments is made. Finally, the respective conclusions are drawn and political suggestions are made.

Key words: Financial management, Banking risk, Finance and Banking

Introduction

International Financial-credit oriented Tendencies and Bank Institutions' Characteristic Differentiations. Releasing the movement of capitals in international stock and capital markets as well as taking distance from the traditional way of operation (Thanos G., 1999) by use of modern banking and communication technologies have necessitated for the last years a series of structural changes and re-classifications on which the viable utilisation of banks' existing capacities internationally relies. The most significant changes are epitomised in the dramatic technological developments which are constantly replacing man with electronic automation systems and altering the transactional relationships of the traditional banking establishment as follows.

Most transactions are performed by use of machines like ATMs, phone banking, on-line PC banking, Internet Banking, digital television etc.

The communication of the customer with the bank can be performed also outside bank's premises from customer's residence or place of work (remote banking).

The traditional structure and organisation of banks at a peripheral level is placed on new re-structural bases. the existing customer-bank relationships are changing dramatically all the time due to a change in customer's possibilities to choose, which will lead the banker to the contraption of other ways of attracting and of retaining his clientele.

the labour coefficient with the management of telework applications (Salamouris, 2001), telebanking and other means offered by the Internet will be redefined since it can be provided from also outside traditional professional premises as well as the employer pay on the basis of the project and not on the basis of worker's physical presence.

In the context of the globalisation and internationalization of economy, even a large bank in its own place will be a small one from the viewpoint of the market shares it possesses.

The role of banks in today's revolution of informatics will not exclusively involve funding the processing sector any longer but also providing modern products adapted to the needs of our times, such as retail banking, treasurer's consulting, derivatives etc. Banking services will assume thus a more commercialised form which will give market the dimension of completeness in as far as the variety of the provided products is concerned.

The above tendencies of the structural evolution in the banking environment will bring about changes and differentiations in banks, changing the data in the international financial-credit market, which will have considerable impacts on also Greek banks.

The recent dramatic technological developments will change the function of banks' operational cost on a short-term period since banks, in order to increase their competitiveness under the pressure of the external environment, will proceed to high expenditures so that they will be updated in terms of new informatics-oriented as well as banking risk transactional administration and management systems, which, in consequence, will bring about a change in the function cost of banking products (Thanos and Kiochos, 2001). The case of the cost differentiation in banking transactions is referred to indicatively (Table 1) with regard to the degree of the technology used in the United Kingdom and USA, where, for example, the use of the Internet is even more cost-effective than the ATM,

amounting to about 10% of a traditional banking establishment's cost.

In addition to this, due to the internationalisation of banking markets, apart from the compression inelasticity factor of the labour cost, another factor related to the international options of founding or establishing banking institutions is that of the comparative labour cost among various countries. Namely, it is reported, on the basis of the data concerning the cost of living (The Economist, 1994) and of the ratio USA = 100, that Greece is assessed at the level of 89 units, the countries of the former Eastern Bloc ranging between 50 and 60 units, which means that the factor "labour cost" is expected to play a negative role in the strategic choice in respect of banks' establishment in and expansion to countries of an expensive labour force.

The principal features of European banking institutions forming their relevant position in the international financial-credit environment could be summarised as follows:

There is a surplus of banks in Europe. Banking density, measured on the basis of the relevant indices (immobilisation of banks/population) and (immobilisation of banks/GNP), is on average more than double in Europe in comparison with the USA.

There are countries (like France, Italy, Belgium, Holland and Austria) occupying redundant personnel in contrast to the USA (Schinasi, 1997). More specifically, the average number of clerks at a bank in Greece appears to be at higher levels than the respective average number in many other European countries (Provopoulos and Capopoulos, 2001).

European banks go through a competition pressure in international markets (mainly, from American banks led to it by adopting banks-leaders' aggressive policies), which has a decline in both the margin and profits as a result. European banks, by taking up high entrepreneurial risks, are compelled to increase the forecasts for problematic funding.

European banks, in contrast with the US banks, due to the difference existing in the American labour legislation, will show higher inelasticity in the reduction of the labour cost, which is the most important part of the production cost contrary to the compensation factor of the coefficient "capital" that could turn out to be also a comparative advantage in the Euro zone. With regard to the competitiveness of Greek banks, enhancing the terms of real convergence presupposes obviously the more rational use of the production coefficients to reduce the unitary cost of financial-credit products.

Materials and Methods

The Impact of Banks' Risk and Size on their Profitability: Banks' profitability, as a substantial term in Greek political things, started to be shaped in 1987 by Caradja Committee's report, which signalled, in the context of the Greek banking system, the advent of fundamental changes that have lasted until today and are expected to apply in also the distant future.

No sooner did these changes commence than the Greek banking system would pass from an environment of financial-credit stillness into an environment of increased competition where banks were acquiring more and more freedom of movement all the time to opt, eventually, for the policy of placing their capitals that would contribute to the optimisation of their investments portfolio in a rational way on the basis of private-economic criteria.

The factors defining the profitability of banks and have been intensely the concern of modern banking research could, in our opinion, be categorised into those referring to a) the maximisation of, principally, banks' operational revenues and related, on the one hand, to managements' decisions and, on the other, to the impacts of the external economic environment (Thanos, Kapanecas, Tzouanaki, 2003.) and into those referring to b) the minimisation of, principally, banks' operational cost and related also to both managements' decisions and to the impacts of the external economic environment.

More specifically, also the capital cost; labour cost; market share; sales volume; organisational structure and bank's size; quality in customer's service; classification and qualitative evaluation of clientele (the structure of clientele); the legislative (whether regulative or deregulative) framework; adaptation of the banking production to the changes in the structure of the demand for banking products; various kinds of risks depending on the form of bank's investments and management policy as well as other inherent and extraneous both qualitative and quantitative factors who are measurable, however, by the appropriate selection of quantitative criteria, could be included in the factors affecting the profitability of banks.

The causes of banking crises on which credit institutions' economic stability and viability usually depend, will be due, to a considerable extent, to the various kinds of risks that affect these institutions' profitability and could be classified into risks cropping up from the macroeconomic environment and into risks related to banks' structural formation as well as management managerial function.

Researching on a whole of countries during the time period 1980-1994 and using a multivariate logic model, drew the conclusion that banking crisis was related to a weak macroeconomic environment and to the especially low development rate of the GNP. Of course, it should be noted at this point that the risk in question is reduced as far as the Euro countries are concerned since the relevant countries members' already healthy economies are expected

to be even more reinforced in the context of the united Europe, originating one of the most powerful economic poles at a worldwide level (Kyriazis, 1998). Obstfeld Maurice and Rogoff Kenneth (1995) analysed the risk the banking sector runs in view of a speculative attack against a certain country's currency. Their study mentions the case of countries with stable currencies where there were rumours about an allegedly imminent devaluation of these currencies, which, as a result, would harbour risks entailing the withdrawal of saving deposits or their conversion into other foreign countries' currencies and, in consequence, the origination of liquidity problems at banks (Obstfeld and Rogoff, 1995). Naturally, such risk does not exist within the Euro countries for the above mentioned reason.

Carl Johann Lindgren, Gillian Garcia and Mathew, J. Saal (1996) think that banks may benefit a lot from the float of payments as financial intermediaries in the continual presence of high chronic inflation, but they sustain a considerable loss in revenues when inflation drops dramatically and abruptly, the example of Brazilian and Russian banks being a characteristic one in this case. However, it is noted that no such risk exists in the Euro countries since no high inflation exists there and even if it does, it drops smoothly.

Frederic Mishkin (1996) argues that in the event the risk of short-term interest rates is increased, as it has happened in the USA, this will, of course, cause a rise also in the interest rates of saving deposits. Nevertheless, the interest rates referring to assets (long-term loans) are usually stable while any rise in them, in the event of new loans, will affect bank's results in the form of a chronological delay. In this way, it is likely that a decline in banks' profits will be brought about or, at worst, damages may occur. It should be stressed that the above risk grows more dangerous when banks have a low interest rate margin and low reserve capitals. In view of such a prospect, banks should be wary of drops in their interest rates in order to anticipate abrupt drops in their interest rates that could be induced by sudden rises in short-term interest rates due to impacts from the international financial credit environment. Velasco Andres (1987) and Kaminsky Graciela, Carmen Reinhart (1996) think that the abrupt as well as large increase in short-term interest rates can be attributed to many factors, such as the rise in inflation, austere monetary policy, international rise in interest rates or even the necessity for a country to protect itself against a speculative attack, which, however, is unlikely to happen in the Eurozone for the same reasons as these mentioned above.

In consequence, just because banking profits are affected by various kinds of risks, like the interest rate risk, loan risk, capital risk etc., the necessity that it should be measured would come up. The Risk Based Capital method, through which the capital required for covering probable damages is estimated, is a useful method to measure banking risk. Merton (1974 and 1977) analysing banking risk on bank's management's side, draw the conclusion that the "economic default" exists when the value of bank's assets, after the discount of all the future financial flows has taken place, is lower than the value of alien capitals.

With regard to the way in which the various kinds of risks affect both economy and banks, it is inferred that the Currency Risk will affect enterprises which have a low export coefficient (exports/sales) below 20% as well as domestic enterprises (Doucas, Hall and Lang, 1999) at a low degree. The Large Return Volatility Risk refers to investors who wish to manage the Portfolio Risk (Codzamanis, 1999). The Political Risk refers to the breach in the relationships with the past due to the refusal of keeping up to previous commitments. Contrary to political uncertainty, which will describe a subjective immeasurable doubt as far as a certain political environment is concerned, the political risk expresses a relative objective measurement often assuming the form of a mathematical probability of this doubt, in which case the climate prevailing in a country in terms of foreign capital can be assessed in an objective way (Germidis, 1982). The banking risk (leverage) involves measuring the degree of the risk to which a credit institution is exposed and, in the context of a broader assumption, could be defined as the fraction (assets, net worth) which should, first and foremost, be lower than or equal to 20 in the case of a rationally operating bank. Exceeding, that is, the limit of 20 means high loan-oriented encumbrance which could increase the probability that imbalances be originated due to irrational funding. This index, for example, would exceed the above limits (Vliamos and Kyriazis, 1993) in several countries in the European Union (Belgium, France, Luxemburg).

Banks should investigate also the country risk simultaneously with trade balance (Melvin, M., 1985). According to some assessments (The Economist, 1999), Greece, as a country, runs a weighted risk amounting to 40 on a 0-100 scale. The following factors are included in this weighted means: provisional stability; managerial quality; financial and monetary policy; balance of current transactions, public debt; financial structure and liquidity risk. The dependence of a certain national economy on a specific field should also be stressed in particular. For example, the field of the banking sector in Switzerland possesses a very high percentage in the GNP in comparison with other countries, which will justify the special weight the above country lays on the banking field to safeguard both its viability and its competitive capacity (Paris, Match, 1999).

In terms of the mediation risk banks enjoy, there is always the element of unpredictability in it since undertaking an unnecessary entrepreneurial risk a priori is impossible in practice many a time because the concept of the mistake made by undertaking the specific risk is created ad posteriori (The Economist, 1999). In addition to this,

the risk will increase interest rates and discount interest rates at evaluating the current value and affects investment-oriented decisions negatively (Premium Risk, Samuel, Wilkes, 1980). The uncertainty about the future currency will create uncertainty about enterprises' profits and, as a result, will not encourage investment-oriented decisions (Pindyck, 1991 and Berk, 1999). With reference to the effect the size of banks has on their profitability, it appears that recent purchases, mergers, restructuring schemes as well as increases in the capital stock of US and European banking institutions that have resulted in a relatively high capital-oriented sufficiency and in a critical size have contributed to the acquisition of a vial development and high profitability (Stournaras, 2001 and Vasiliou, Carkaz, 2000). Also the result of the multiple retrogression models, following and based on the methodology of: Malinaud, 1981; Maddala, 1983, Wonnacot, R. and (Wonnacot, T., 1970, Gramer, 1973 and Johnston, 1973) on an accidental sample of 241 observations on 25 banking institutions in the Eurozone, will converge to the above conclusion.

$$(III) = a + b (\text{risk}) + c (\text{total assets}),$$

where:

$$(II) = \text{net profits}$$

$$(\text{risk}) = \text{assets/net position},$$

from where the following result is derived:

$$(III) = 153.214 - 3.514 (\text{risk}) + 0.0046 (\text{total assets})$$

$$(-3.314) \quad (18.369)$$

The model focuses, more specifically, on only the above two basic factors of defining profit (risk and size. More particularly, for reasons of practical application, various kinds of risk (Mingo, 1998) related to banks' capital-oriented structure are incorporated in the risk factor. On the basis of the model

R^2 is not shown as being very high (about 60%) due to the inhomogeneous nature of the Eurozone countries' legislation as well as to the differentiation in the institutions' structural organisation characteristics. However, the size of the sample (241 observations) is considered to be large enough to approach Eurozone's picture at satisfactory degree. The relationship of the net profits with both the risk and the total assets is shown in Figs. 1 and 2.

It is inferred from the above relationship that the banks of the sample will not increase their profits when the relationship between equity and foreign capitals grows more and more unfavourable. In general, a zero or even negative increase in the price is observed in the case that the risk level rises. What is more, it is observed in many cases that risk in many banks will exceed the allowed limits, as the latter are defined above.

It also appears that large banks show higher profits since the coefficient on total assets is positive and statistically considerable. That is, when the bank's size is enlarged, then also profits are increased except for few exceptions, in which case large banks will obviously show their highest profits, which is in league with the theories about the increase in the market share.

Results and Discussion

The Prospect of Banking Institutions and Suggestions of Policy: At times of a technological revolution, seeking a way out on the part of banks in the context of the globalisation of international economic relationships and of the continual vicissitudes of the financial-credit environment should lead banks' entrepreneurial activities to more customer-centred orientations and, more specifically, to securing access to unexploited parts of market through its homogenous fragmentation and the exercise of specialised sales policies. The structural criteria (age, geographical area, educational level, consumer's preferences, preferable transaction hours etc.) could be adapted appropriately in every country according to its customs, culture and transactional morals.

Table 1: The cost of banking transaction (year 1997)

Kind of Transaction	United Kingdom (in British Pounds)	USA (in USA Dollars)
Banking establishment	0.64	1.07
Telephone	0.32	0.54
Through Aut. Cash Machines	0.27	0.27
Through Home Banking	--	0.15
Through the Internet	0.05	0.10

Source: The Kathemerini of 25-01-1998, from data provided by the Northwest Group, Booz and Allen as well as by Hamilton for the year 1997.

Table 2: A concise movement of processing sector's share in the G. N. P.

Decade	Share from	Share upto
1940-49	---	12,68%
1950-59	14,62%	15,98%
1960-69	16,33%	17,83%
1970-79	19,10%	19,15%
1980-89	19,49%	17,18%
1990-2000	16,39%	13,94%

Source: Ministry of National Economy

With reference to retail banking and to consumer's profile, special studies on customer's lists have been performed both inside and outside banks through electronic banking (Radecki, Wenniger, Orlow, 1997), like, for example the customers' list for elderly customers (Poggy, Flanagan, 1998), where useful conclusion about the exercise of specialised financial-credit policies are drawn (Roberts, 1998) (Wittenbraker, Read, 1998). So, the banks, knowing the structure of their customers' demand, could proceed to a tailor-made construction of banking products for their customers, which will result in an increase in sales on a short-term time period as well as in profits on a long-term time period. The example of customer's tailor-made Swiss banking products in terms of both consumer and treasury products to the purpose of creating customer-oriented relationships of a long-term nature is characteristic (Paris match, 1999).

Making easier customer's access to a bank with services, like in-store banking (Stroup, 1998), kiosk banking for the banking facilitation of transactions and movements of capitals of all sorts (Kjonaas, 1998), the smart card for facilitating banking movements of capitals and for controlling accounts balances by use of the smart cart (Clark, 1997), credit insurance by phone and consumers for examining consumers' reaction to the sales of loans and of insurance products by telephone (Pursley and Catley, 1998) etc., is a way in which banks can increase their market share.

Banks, of course, should provide the above services as long as the confidentiality of their customers' data is safeguarded, especially, when transactions are performed in an electronic way (Roboff and Charles, 1998).

Banks should also see to it that they resolve on their customers' complaints at every level by expanding the institution of the ombudsman and measuring their resolution percentage.

Creating appropriate infrastructures and providing banks' clerks with incentives to facilitate their customers even better (Clutterbuck, 1989) as well as pursuing, at the same time, the expansion and modernisation of banks' branches network (Wilkes, 1998) will create broader competitive reactions, which is bound to result in the provision of more enhanced and useful financial credit products (Elliot, 1973).

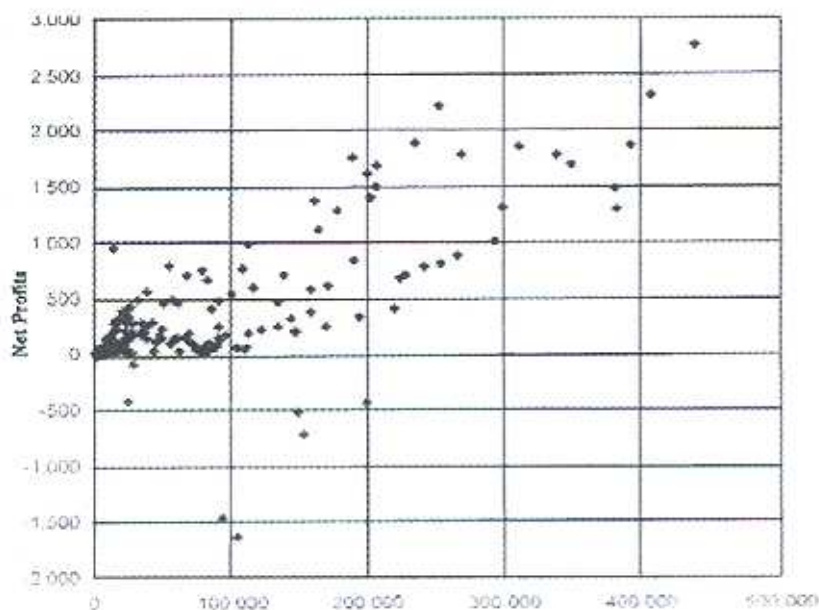


Fig. 1: Net Profits in Relation to the Risk (in million Euros)

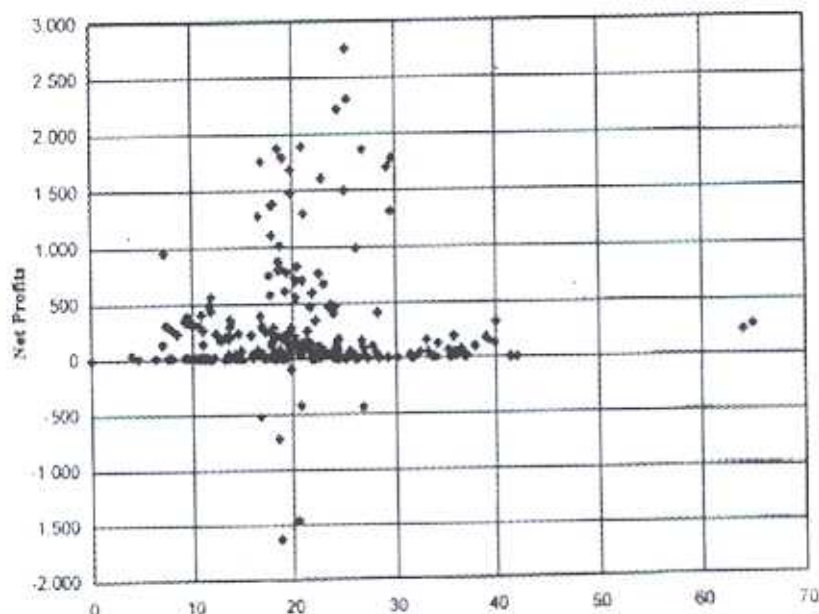


Fig. 2: Net Profits in Relation to the Total Assets (in million Euros)

With regard to demand, banks should work out a comprehensive consumer's profile (Georghiou, 1998) so that they will not only get acquainted with the needs of demand, but also be able to predict consumer's new tendencies perpetually. Technology will also assist with an increase in the market share of the banking field through investments (Loucas, 1997).

The fact that the change occurred in the structure of the GNP in both many European countries as well as internationally for the last years has led to also a change in the structure of demand, with a turn from the primary and secondary sectors of production to the tertiary sector.

More specifically, a tendency for shrinkage in the two first production sectors in favour of the third one is shown in the following table in terms of Greek economy.

It is inferred, so to speak, that the share of processing in the GNP showed a continuous increase from the 40s until the end of the 70s, ever since when it has been showing a continuous decline, which ran the risk of reaching the levels of 1950 in the year 2000.

The above decrease in the secondary sector is offset by a constantly augmented tertiary sector (services) in the sense that domestic consumption displays a turn in relation to the past in terms of imported products, which has resulted in the creation of an augmenting tendency in the influx of imports, namely, the decrease in the volume of domestic processing production, which is offset by the respective increase in the imports of cheap substitutes. This means that the volume of importing commercial companies is increased, which, as a result, brings about an increase in the overall product of the tertiary sector. The above mentioned items will lead banks to a change in the structure of the provided banking products and services with the aim to exploit other dynamic economy sectors and peak fields, such as the exploitation of high technology products, consumption loans of various kinds, fixed assets etc. The phenomenon of the decline in the domestic production and of its gradual replacement by imports coming from countries of cheap work force is not only Greek but concerns the whole of European Union's countries.

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