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## Euro and Profitability of Greek Banks

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### Abstract

*The Greek Banking System, in its effort to prepare itself for the changeover to the EURO, will face some initial costs. Being the basic institution of money distribution, this changeover will impose a heavy burden on banks. In addition to the costs that banks will sustain, they will derive new benefits. The impact of the EURO on Greek Banks is explained through a cost-benefit analysis, by providing a perspective of the anticipated costs, benefits and outcome. The primary objective of this paper is to examine the costs that will arise from this changeover and the benefits that will be produced, as explained by the change in the bank profits. The study results consider the existence of two projects: one without the introduction to EURO and one with the introduction to EURO. We proceed through an incremental method to determine when profits will be produced. To further demonstrate this, we have calculated the NPV of the introduction to the EURO by considering the year 2002 as the basic year. The analysis shows that during the period 2002 - 2007 banks will face a loss in their bank profits. Further analysis indicates that profits will rapidly show increases in the long-term period. Therefore, the changeover to the EURO will probably be very lucrative for the banking system of Greece and the economy in general over the long-term.*

### 1. Introduction

The introduction of the EURO; the future European currency common to all countries/members of the European Monetary Union (EMU), will be a historic event in the true sense of the term. The introduction of the EURO is a unique event of national and international importance. It will be part of our lives no later than the year 2002, once Eurocoins and banknotes will be available. With the introduction to EURO and the impending monetary union, every aspect of our lives (social, political, economical) will be affected (Alogoskoufis *et al.*, 1997; Thomadakis, 1999). There will be a restructurization of bank operations within all segments of the banking business, such as account management,

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payment transactions, credit relations, savings and time deposits, securities, automated teller machines.

The new monetary and financial environment in EURO will be a stable macroeconomic one, characterized by low inflation rates, higher growth and employment and fiscal discipline among country members (Mc Callum, 1996). Banks should follow a strategic plan and prepare themselves in order to be ready to enter into the new competitive monetary and financial environment (Sachinides and Hardouvelis, 1998).

Project feasibility is clearly demonstrated by the intense and advanced efforts that are being made by the banking sector of Greece to prepare for the changeover to EURO. The EURO will contribute in a number of ways. It will, in particular, increase market transparency by making prices more easily comparable, by eliminating the costs associated with currency conversion and by eliminating the exposure to exchange risks. All this will help create an environment that favours a steady and sustainable economic growth. EMU will bring benefits to banks, along with other sectors of the economy. The banks, however, being the primary mechanism for money distribution, will be faced with much higher costs.

The changeover towards monetary union will be made largely through the banking system. Carrying out the necessary changes will impose a heavy burden on the banks. As in any other industry, the banking industry is ready and willing to make the necessary investments in technology, marketing, training and the introduction and purchase of new products that will be required to operate and manage the new EURO system. Much of this work is already in process.

There will also be expensive one-off tasks during the final changeover, which will be imposed on the banks (Wyplosz, 1997; Pellkmans, 1997; Sachinides and Hardouvelis, 1998; Kourlibinis, 1999). For example, the introduction of the new currency; the EURO; both as book money and as physical notes and coins, will be handled by the banking system on behalf of the public authorities. Banks will undertake these tasks in the public interest and not because they are in the banks' own interests. Consequently, managing and bearing the specific related costs cannot be regarded as a commercial duty on banks. It will be a major public duty. Neither the Maastricht Treaty nor any other legislation requires that the costs of introducing the EURO be assumed by the banks alone.

The banking system was chosen due to the fact that from all sectors of economic activity, banks will play the most important role during the transition period. Banks will be responsible for the large influx of transactions during the transition period from 1999 to 2002, where EURO will exist in a logistic form (Survey on the introduction of the single currency, 1995).

Preparation is taking place across all business units within banks. The central team has specified the scenario planning, but individual business units are actively responsible for impact assessment, determining requirements and setting out implementation plans. In order to succeed, mere systems compliance will not be enough. Business consideration and opportunities must drive the technical conversions. Competition will undoubtedly intensify and relationships will become more concentrated. This will have an impact on business, systems and delivery. A radical change to the whole banking system is necessary in order to be ready to adopt the new currency and cooperate with other European banks (Kourlibinis, 1999).

The purpose of the present study is to provide a clear perspective of the economic impact that the transition towards monetary union will have on the banking system of Greece (Gortsos, 1998). The question we are compelled to answer is: will these costs be compensated by benefits? To answer this question, we have chosen 22 Greek banks<sup>1</sup>. Foreign banks are excluded in this study. Our decision was based on the facts that all major changes within mergers and privatization will be effectuated within the banking sector in the coming months. It is expected that National Bank of Greece, Alpha Credit Bank, EFG Eurobank, Commercial Bank of Greece and the team of Piraeus will be the remaining leaders of the banking system following European Monetary Union<sup>2</sup>. We have considered the most important determinants such as new government fiscal and monetary policies, the profit building process of banks including investment strategies, financial investments such as real estate, fixed income (including bonds, treasury bills, bank deposits), stocks, as well as increased competitive pressures and economic fluctuations (Garganas, 1998). Through a cost-benefit analysis, this study illustrates the long-term financial rewards that the changeover to the EURO will offer.

The paper is organized as follows. Section 2 describes the methodology used to obtain the forecasted results. It also gives a more detailed description of the main costs that the Greek banks will sustain during the transition period, as well as a description of the benefits that will become evident after the introduction of the EURO. Section 3 includes an analysis examining the profitability of the banks, by determining anticipated profits, as demonstrated in our comparative project study results. Finally, in section 4 the concluding remarks are discussed and some possible future research directions are outlined.

## **2. Methodology**

In this section we will explain the methodology that will be used to evaluate the impact of EURO on Greek banks, through a cost-benefit analysis. The utility function is represented by the banks.

The introduction to the EURO is the required investment. The costs will be assessed based on the cash outflow towards this investment, and the benefits will be determined by the cash inflows and / or change in the bank's profits. By calculating the NPV, we will determine whether or not the investment is profitable.

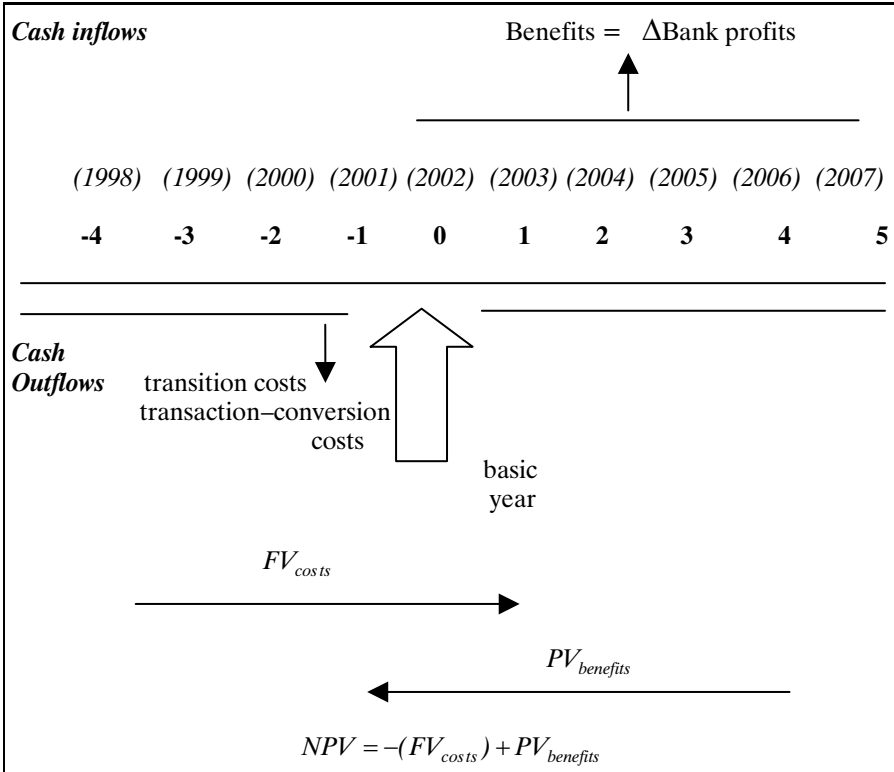
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<sup>1</sup> Greek Banks: Alpha Credit Bank, National Bank of Greece, Agricultural Bank of Greece, Commercial Bank of Greece, Ergobank, Bank of Athens, Aspis Bank, Bank of Attica, General Bank of Greece, Credit Lyonnais, Dorian Bank, Egnatia Bank, ETBA, ETEBA, EUROBANK, European and Popular Bank, Ionian Bank of Greece, Central Bank of Greece, Bank of Crete, Bank of Macedonia-Thrace, Bank of Piraeus, Xiosbank.

<sup>2</sup> Alpha Credit Bank includes the Ionian Bank of Greece, the EFG Eurobank includes the Bank of Athens, the Bank of Crete and a part of the Ergobank, and the team of the Bank of Piraeus includes the Bank of Macedonia-Thrace, the Bank of Piraeus and Xiosbank. The portion of purchase related to the total asset was 35.3% for the National Bank of Greece, 17.9% for the Alpha Credit Bank, 9.6% for the Commercial Bank of Greece, 9.4% for the team of Eurobank, and 5.5% for the team of Piraeus.

The following diagram 1 gives a more detailed outline of the methodology to be used in this study.

**Diagram 1: Cash inflows – Cash outflows**



Taking the year 2002 as the basic year,  $t=0$ , we will calculate the future value of costs (during 1998-2002) and the present value of benefits by that year (i.e. 2002).

As far as the costs are concerned, the years 1998 to 2002 will mark the transition period for the EURO. During this period, banks will have to plan major strategic and organizational changes towards innovative solutions and development. At this time the transition, transaction and conversion costs will have gradually increased (Masourakis, 1998; Massenber, 1998; Pantelia, 1998).

Based on the above, we conclude that the future value of costs compounded at 2002 will be the sum of all the future value of costs incurred during the years 1998 to 2002 (Ross and Jaffe,1995).

$$FV_{costs}^{2002} = FV^{2002}C_{1998} + FV^{2002}C_{1999} + FV^{2002}C_{2000} + FV^{2002}C_{2001}$$

$$FV_{costs}^{2002} = \sum_{t=1}^4 FV^{2002} C_t \quad (1)$$

The discount rate that we will use, will be the annual interbank interest rate "ATHIBOR" (Athens Interbank Offered Rate) of the Bank of Greece. It is the most appropriate, as this study deals with costs (transition costs, transaction costs) and benefits, specifically with interbank transactions in national and foreign exchange currency (Gortsos, 1998).

Note that the future value of each year's costs is compounded annually.

$$FV^{2002} C_t = C_t \prod_{i=1}^t (1 + r_i) \quad (2)$$

Where  $C_t$  is the amount of costs at date  $t$ ,  $t=1, \dots, 4$

$r_i$  is the discount rate at year  $i$ ,  $i=1, \dots, t$

Equations (1) & (2) give:

$$FV_{costs}^{2002} = \sum_{t=1}^4 \left[ C_t \prod_{i=1}^t (1 + r_i) \right] \quad (A)$$

It is obvious that by referring to benefits, we refer to bank profits resulting from the introduction of the EURO. This leads us to question, what would happen to bank profits if there were no common currency. Would the banks be more profitable? In this case we assume the existence of two projects:

Project A, refers to bank profits without the EURO currency.

Project B, refers to bank profits resulting from the introduction of EURO.

By calculating the NPV of the project (the introduction to the EURO) and by proceeding through an incremental method, only profit flows that are incremental to the project will be used (Ross and Jaffe, 1995). By referring to incremental profit flows we mean the changes in bank profits that occur as a direct consequence of accepting the project. Specifically, we are interested in the difference between the bank profits with or without the project.

In estimating the bank profits of 2002, we have chosen 22 Greek banks. After examining the financial statements of each bank separately for the period 1985 – 1997, it becomes evident that a fluctuation of revenues is expected within the banking sectors with some activity moving upward and some declining after the introduction of the EURO. According to the equation Benefits =  $\Delta$  bank profits, we explain the benefits by this change in the bank profits. By analyzing all related measures we will forecast the bank profits that will transpire by 1998 and beyond. We proceed with our analysis using the Time Series Forecasting (TSFC) Decision Support System (Saunders, *et al.*, 1987). Time series forecasting is applied using the methods of single exponential smoothing with linear trend and the method of linear regression, depending on the historical data of each bank.

a) Single exponential smoothing with linear trend:

$$F(t) = aA(t) + (1-a)(F(t-1) + T(t-1))$$

$$T(t) = b(F(t) - F(t-1)) + (1-b)T(t-1)$$

$$f(t + \tau) = F(t) + \tau T(t)$$

b) Linear regression:

$$F(t) = 2(2t+1) \sum_{i=1}^t A(i)/t/(t-1) - 6 \sum_{i=1}^t iA(i)/t/(t-1)$$

$$T(t) = 12 \sum_{i=1}^t iA(i)/t/(t^2-1) - 6 \sum_{i=1}^t A(i)/t/(t-1)$$

$$f(t + \tau) = F(t) + (t + \tau)T(t)$$

Where,  $t$  : time or period,  $t=1,2,\dots,n$

$\tau$  : time from  $t$

$\alpha$  : first smoothing parameter

$\beta$  : trend smoothing parameter

$A(t)$  : actual data in period  $t$

$F(t)$  : forecast for period  $t$

$T(t)$  : trend for period  $t$

$F(t)$  : smoothed value for period  $t$

The PV of the incremental profit flows is equal to:

$$PV = (X_1 - Y_1) + I \sum_{j=2}^6 (X_j - Y_j) / (1 + r_j)^j \quad (B)$$

Where  $r_j$ ,  $j = 2, \dots, 6$  is the discount rate at year  $j$

The year 2002 is considered as the basic year. Taking into account all the benefits and all the costs as of year 2002, we calculate the NPV of the project; that being the introduction to EURO, as the present value of future profit flows minus the future cost values of the project.

$$NPV = -(FV_{costs}) + PV_{benefits}$$

Equations (A) & (B) give:

## 2.1. Costs

### 2.1.1. Transition Costs

During the transition period, banks will have to plan major strategic and organizational changes towards innovative solutions and development. The technical

preparations of banks are very board. In addition to developing EURO facilities to service their own customers' prospective needs, the banks are developing the infrastructure for the marketplace as a whole, the payments and securities settlement field, and planning towards full participation in the future preparations of the ECB. They will prepare for wholesale payments in EURO through the development of an information system and through the competing alternative EURO payment arrangements, including the EBA (ECU Banking Association) net settlement system (Practical Issues Arising from the Introduction of the Euro, 1997; The Greek banking sector towards the European Union, 1998).

There will be a key changeover process required regarding the information systems that will also involve major strategic and organizational issues. The existing information systems, processors for drachma payments are being enhanced to accommodate the EURO and to interface with the European interling network (Target system) (Euro: Adoptions and Implications for the Greek Banking Sector from the European and Monetary Union and the Introduction of the EURO, 1998). Preparations in the field of logistics will take place as well as work to develop a new EURO credit system. The banking system of Greece will have to overcome the obvious marketing and logistical challenges and consider how customers will take the opportunity to do things very differently. Banks will have to take into consideration the legal implications of the EURO.

### **2.1.2. Transaction Costs**

The introduction of the EURO will undoubtedly have a great impact on the banking services; a major part of revenues related to cross-border or interbank transactions will be reduced. This will cause basic banking consumer costs to increase, as consumers will have to be informed about the new methods and systems of transactions (Simon, 1998; Karamouzis, 1998; Blakie, 1997).

The withdrawal of national currency during the first semester of 2002 will imply the reduction of some banking sectors. Conversion of all information systems, including payroll, work-in-process, reconciliation and accounting systems will take place. Account balances, revenues, profits, asset values, balance sheets, indexes and historical data must be converted into EURO at the conversion rates. Notes of foreign currency of member states will be converted into EURO (Accounting for the Introduction of the Euro, 1997; Gross-Border Payments after the Changeover to the Euro, 1997).

Banks will be obliged to charge interest costs on both the initial currencies; either the national one or the foreign exchange and the EURO. The clearing settlement will have to be done in EURO, while the currency of the transactions will have to be recorded as well. LIBOR, the standard measure used for the cost of funds, will be replaced by the EURIBOR (European Inter-bank Offered Rate), a EURO «LIBOR». Conversion of foreign exchange notes into EURO will have to take place. There will be additional costs of modification for the screen-based services such as the stock exchange (Reuters, Tolerate).

The period from January 1<sup>st</sup>, 2002 to June 30<sup>th</sup>, 2002, will be considered as the dual period; that is the period during which two currencies (EURO and national currency) will be in use (Hardouvelis, 1997, 1999). Each information sys-

tem should, therefore, be adapted to show calculations and amounts in both EURO and national currencies simultaneously.

## **2.2. Benefits**

After bearing the costs and risks of the transition period, benefits will be derived by mid to long-term. We explain the benefits that will become evident to the banking system of Greece after the introduction to EURO by the change in the net bank profits, as follows:

$$\text{Benefits} = \Delta \text{Net Bank Profits}$$

The perspectives of Greek banks, after the introduction of EURO, will mainly be the loss of interest revenues, the loss of jobs related to foreign exchange transactions and asset management and the reduction of bank revenues coming from their portfolio administration. Moreover, there will be pressure from the side of forecasting for high-risk stocks and bonds as well as write-offs. The time associated with operating exportation and importation transactions will be reduced, as the foreign exchange rate will be eliminated. The number of banking personnel will decrease so the related personnel expenses will be lower. Moreover, banks will benefit from the development of information systems and systems referring to the capital market.

Banks will try to recover from the loss of revenues that will be caused following the introduction of the EURO by looking for new income resources especially from the sector of commissions and the financial administration (cash-cards, mutual funds, derivative products in money market – bond market – stock market,) (Currie, 1998; The way to Euro, 1997; Giovanni Report, 1997). This change in bank profits; first by their reduction and then their recovery is explained as  $\Delta$ Net Bank Profits.

Generally, the new monetary and financial environment in EURO will be a stable macroeconomic one, characterized by low inflation rates, higher growth and employment, and fiscal discipline among country members. Transparent prices enabling the removal of the quotation of prices in the same currency is made possible, as a result of the elimination of exchange rate risks. This environment will spur the reduction of transaction costs, and thus increase bank profits as well as eliminates the costs linked to exchange transactions. There will no longer be a need to cover exchange risks, buying or settling rates as these not are in application any more. Foreign exchange trading volumes within «in» countries will be reduced. Foreign exchange commission will vanish for payments between «in» countries and payment charges will be reduced. The relatively low interest rate will provide a wide range of investment and financing opportunities causing a rise in significant shifts in bonds and money markets.

Information systems and systems of capital markets will be developed, the salary scale costs will decline and the time of import and export consignment will be reduced. In addition, there will be no relatively large differences between interest rates («spread») and investments will increase (Karamouzis, 1998, Masourakis, 1998).



Before proceeding to the analysis and forecasting of bank profits, it would be useful to refer to the main sources of bank profits that will be affected by the introduction to the EURO.

### **2.3. Sources of Bank Profits**

The major influx of the Greek bank revenues comes primarily from three source areas; specifically interest rates, commissions and financial activities (revenues from dividends). More precisely, by the end of 1997 the Greek commercial banks showed a net operating income of around 1188 billion drachmas. From this amount, 658 billion drachmas were derived from the net interest revenue, 307 billion drachmas were derived from the commissions revenue, 150 billion drachmas from the financial activities and 73 billion drachmas from supplementary income.

In our analysis, we have concluded that the interest income of Greek banks is less than the average of most European banks. According to the data of the European Banking Association, the net interest income related to the total asset of the largest Greek banks was 2.0% at the end of 1995, a percentage less than that of most European banks (Pantelia, 1998). It is worth taking into consideration that a large part of this income was derived from deposits made for the purpose of Greek government concerns. This clearly demonstrates the relatively small relation of profits from subsidies to the net income of Greek banks.

The commissions revenues are more (0.98%) than the average rate of most European banks (Pantelia, 1998). A large part of the commissions revenues come from jobs such as foreign exchange transactions and the sale of government concerns through the banking net. The introduction of EURO is likely to affect many of these activities and especially those related to the foreign exchange transactions, which means that banks will have to develop other sectors such as the financial foreign exchange, asset management, cash-cards.

Finally, the supplementary income and that from financial activities (revenues from dividends) has considerably increased. It reaches an average of 0.37% compared to most European banks (Pantelia, 1998). The reconstructions among the banks, that will have taken place during the transition period, are expected to cause a fluctuation of revenues (as mentioned in the previous section) within the banking sectors<sup>1</sup>, - such as the sector of commissions revenues, the sector of foreign exchange transaction, with some activity moving upward and some declining after the introduction of the EURO. Banks will seek new profit centers in order to recover this fluctuation of their income.

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<sup>1</sup> Based on the data of 1997 the net interest income related to the total asset was 2.2%, the commissions revenues related to the total asset were 1.1% and the financial activities were 0.5% of the total asset.

### 3. Results

#### 3.1. Analysis of Costs

The total transition cost to the Greek banking system will be within the range of 0.05% - 0.14% of the total assets of the banks spread over a period of three to four years. It is expected that the Greek banking system will approach the highest amount of the estimated transition cost, that is the amount of 30 billion drachmas (Hellenic Bank Association, 1998).

Moreover, transaction costs are estimated to be around 30 billion drachmas, whereas conversion costs are not yet known. We should take into consideration that in 1996 the amount of coins that should have been withdrawn was estimated to cost approximately 40 million drachmas.

The following table gives a brief reference of the expected amounts of costs that will incur during the transition period.

**Table 1:** *Costs of a single currency*

Nature	Magnitude
<b>Transition costs</b>	30 (billion drachmas – 1998)
<b>Transaction costs</b>	30 (billion drachmas – 1998)
<b>Conversion costs</b>	40 (million drachmas – 1996) = 0.04 billion drachmas

*Source: Banking Association of Greece, April 1998, p. 61-69*

The above cost amounts will be spread over a period (transition period) of three to four years. As the transition period, we take the period 1998 to 2002. Although the sum of the costs described in the above table is equal to 60.04 billion drachmas, the Banking Association of Greece has estimated that the total cost to the banking system of Greece will be as high as 70 billion drachmas. This is the amount we have taken into consideration for our analysis.

During the first period 1998-1999 the discount rate "ATHIBOR" is equal to 12.5% (Bank of Greece, May 1998). Following the economic policy that the Greek government has announced, it is expected that the interbank interest rate will go down by the end of the same year and approach the range of 7.5% for the period 1999 to 2000. By the year 2000 and further, the Bank of Greece, as a member of the European System of Central Banks, will follow the average interest rate of the country participants within the European monetary union. That means that by the year 2000 and beyond, the discount rate is expected to be around 6.5% (Bank of Greece, May 1998), based on the assumptions of the Bundesbank policy.

By replacing the estimated total cost values into the formula in order to get the future value of costs as outlined in our methodology, (in million drachmas), we obtain:

$$FV_{costs}^{2002} = C_t \prod_{i=1}^4 (1 + r_i)$$

$$FV_{costs} = 70,000(1 + 12.5\%)(1 + 7.5\%)(1 + 6.5\%)(1 + 6.5\%) = 96,019(\text{equation 3.1a})$$

It is expected that the maximum future value of costs in 2002 will be around 96,019 (in million drachmas) based on the fact that the maximum total cost is 70 billion drachmas (constant value of 1998).

### 3.2. Analysis of Benefits

The benefits are explained through the changes in the bank profits  $\text{Benefits} = \Delta \text{Bank profits}$  **PROJECT A** represents the bank profits prior to the introduction of the EURO currency. We will proceed by forecasting these bank profits. We have selected the Greek commercial banks in establishing our basis for analysis, taking into consideration their financial statements, the economic policy that the Greek government is planning to follow, and the growth of change among the banking sectors; that is the fluctuation of revenues. We performed time series forecasting using the methods of single exponential smoothing with linear trend and the method of linear regression, depending on the historical data of each bank and we forecasted the bank profits that will transpire from 2002 to 2007.

Therefore, we have obtained the following results (in million drachmas) Table 2:

**Table 2:** *Banks profits - Project A*

Year	Profits
2002	526,289
2003	570,580
2004	614,872
2005	659,164
2006	703,458
2007	747,750

**PROJECT B** outlines and implies that the banks are now preparing for the introduction to EURO. We have calculated the bank profits that will occur following acceptance of Project A, which refers to the bank profits resulting from the introduction of the EURO. The benefits are explained by the change in bank profits and in order to study the impact of EURO towards the profitability of the banking system of Greece, we have adopted a scenario, concerning the fluctuation of revenues after the introduction to the common currency, proposed by the Banking Association of Greece. According to this scenario, it is expected that by the year 2002 the percentage of net interest revenues («spread») will go down gradually from the range of 2.1% to the range of 1.7%, the commissions revenues (as a percentage of total assets) will go down from the range of 1.1% to the range of 0.7%, the results of financial activities (as a percentage of total assets) will go down from the range of 0.5% to the range of 0.1%. Forecasts and write-offs will be around the average rate of European banks. We have made the assumption that expenses are stable, non-bearing interest revenues will recover after the introduction of the EURO, whereas the interest revenues will remain at low levels and won't be reduced (Masourakis, 1998).

Therefore, we have obtained the following results (in million drachmas) Table 3:

**Table 3: Banks profits - Project B**

Year	Profits
2002	518,627
2003	562,415
2004	606,242
2005	653,018
2006	699,016
2007	743,049

To further illustrate the differences between Project A and Project B, the following incremental profit flows are provided:

**Table 4: Incremental profit flows**

	2002	2003	2004	2005	2006	2007
<b>Project A</b>	526,289	570,580	614,872	659,164	703,458	747,750
<b>Project B</b>	518,627	562,415	606,242	653,018	699,016	743,049
<b>Incremental profit flows B - A</b>	-7,662	-8,165	-8,630	-6,146	-4,442	-4,701

As mentioned in section 3.1, the discount rate after the year 2000 is equal to 6,5%.

The PV of the incremental profit flows is equal to:

$$\begin{aligned}
 PV(B - A) &= -7,662 + [-8,165/(1 + 6.5\%)] + [-8,630/(1 + 6.5\%)^2] + \\
 &+ [-6,146/(1 + 6.5\%)^3] + [-4,442/(1 + 6.5\%)^4] + [-4,701/(1 + 6.5\%)^5] \\
 &= -7,662 + (-7,667) + (-7,610) + (-5,087) + (-3,454) + (-3,431) \\
 &= -34,911 \text{ (equation 3.2a)}
 \end{aligned}$$

The calculations above show the PV of the incremental investment to be negative. Although the difference between the bank profits with or without the project (B-A) is at high levels during the short period 2002-2005, it is gradually reduced in the period 2005-2007.

After evaluating and analyzing the benefits and costs pertaining to the introduction of the EURO, we have proceeded in determining the NPV, based on the equations (3.1a) and (3.2a). Our conclusions are as follows:

$$\begin{aligned}
 NPV &= -(FV_{costs}) + PV_{incremental\ profit\ flows} = \\
 &= -(96,019) + (-34,911) = \\
 &= -130,930
 \end{aligned}$$

The calculations above show that the NPV of the project proves negative.

The findings of our analysis prove that the introduction to EURO; Project B; will lead to a loss in the bank profits for the period 2002-2007. It is expected that the difference between the bank profits with or without the project will be reduced in the years followed 2007 and EURO will be worthwhile for the banks only in the long term.

#### 4. Conclusion

The introduction of a single European currency will represent one of the most fundamental redefinitions of the banking landscape. The new monetary system will herald major changes in our domestic and international banking environment and challenge all the banks to make timely preparations for the changeover process.

EMU planning is not just a question of preparation for a single currency, but also an issue of preparation for the single market. The changeover to the single currency will bring its own demands, but the real challenge is to position the banks for the expanded and more competitive environment that will swiftly follow. The emergence of the EURO will force Greek banks to become more structured, competitive and innovative in order to meet the new challenges that the European Monetary Union will surface. We believe our projections will enable you to see the differences based on the various assumptions we have included, as well as provide you with an overview and greater perspective of the EURO impact on the banking system of Greece.

Our analysis results suggest a negative impact for the short term period 2002-2007. After having outlined the banking profits and activity forecasts, we conclude that banks will face a loss in their profits. Based on the fact that the difference between the bank profits with or without the project is gradually reduced, it is expected that the high cost, associated with the changeover to the EURO, will be compensated by the benefits within the long term, and a healthy yield will be earned thereafter.

The results outlined in the analysis offer a basis to further examine, study and establish the long-term implications and effects that the monetary union will have on the banking system of Greece. The further the projection into the banking future is after the introduction of the EURO, the more secure the outlook will be.

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