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The prevalence of credit risk in Greek Banking:

Risk management & methodology for evaluating corporate credit risk and Greek Business Environment

Abstract

Our article consists of the following 4 parts:

- In the first part: documented the importance of credit risk with the presentation - analysis of the growth of 6 Greek major financial institutions loan portfolio, for the period 2001 to 2008 and comparison of the loan amount with their own funds and total assets them (based on published accounts).

- **In the second part**: we refer to the approval and monitoring procedures that should be followed by banks using the internal ratings (IRB) methods for corporate loans. Our interest is focused on linking credit ratings to the terms of financing (collateral costs) and on the importance of evaluation / assessment and collateral for the balance of exposures. For typesetting the above is estimated the Risk Weight Assets for PD rating scale (National Bank of Greece published data) and relevant Figure/diagram.

- **In the third part**: we analyse the methodology of key criteria for evaluating the creditworthiness of companies. At the same time for a short description of Greek Business environment we used the <<List Easy of Doing Business index 2010>> of the World Bank and the results of the assessment of business sectors in Greece according to the model of Credit Risk Tracker Greece's Standard & Poor's, as published by the Hellastat.

(The key criteria for evaluating creditworthiness of companies mainly come from research on the websites of the companies Fitch, S & P, Moody's KMV, Hellastat, Easy of Doing Business index).

- In fourth part: presented, properly treated, the results of empirical research conducted through distribution of questionnaire to 25 experienced in Risk Management, executives, which was called to assess 20 companies on the basis of their specific quantitative and qualitative characteristics. Finally it is noted that in this final part are also presented all the findings and related conclusions, resulting from the scientific research throughout this paper.

1) Greek Financial Environment - Credit Risk

The risks faced by financial institutions (market risk, operational and credit risk) are very difficult to measure accurately, thereby increasing inherent risk within the banking industry.

The presentation of the financial environment in Greece in recent years and the specific characteristics of bank's financial statements prevalence the importance of credit risk.

1.1) Greek Financial Environment

The banks were the main source of financing for all businesses operating in Greece, regardless of industry type, and Greek companies which have expanded their activities abroad. The conditions that created the financial characteristics of the environment are:

- The accession of Greece to the European Monetary Union (EMU) and the introduction of the euro as a common currency among the member countries, caused downturn in banking market exchange revenue. Interest rates on the interbank market dropped to unprecedented levels in Greece. Consequently banks acknowledged that loans are the main source of revenue and an incentive to develop synergies in other business activities (imports, exports, deposits, treasury, outsourcing services, etc.).
- The rate of growth in Greece was significantly higher than the euro zone countries so as to promote business. The companies have implemented significant investments both in Greece, the Balkan and Eastern European countries to exploit the competitive advantages of these countries (lower cost - new markets). The Greek banks financed these investments abroad, thereby creating exposures in economies (Ukraine, Romania, Turkey etc) which had a higher risk than Greece at that time.
- The decline in the stock market (ATHEX) in 1999 increased criticism and distrust of investors. These dominant elements discouraged listed companies to raise capital by issuing new shares.
- With special arrangements the Greek state has guaranteed bank facilities to particular companies. Community programs implemented financial support mainly to small and medium enterprises through banks.
- The control of supervisory bodies was almost exclusively confined to capital adequacy.

- The banks have been able to securitize their claims in order to create extra liquidity, which in turn increased lending power.
- The restructuring of the banking sector through mergers and acquisitions, including:

- Eurobank absorbed Interbank, Athens bank, Crete bank and Ergasias bank.
- Piraeus Bank merged with ETVA the Macedonia-Thrace Bank and branches of foreign banks Nat west and Credit Lyonnais. (Apostolopoulos, 2004, p. 444 to 456).

These conditions led to a growth in the loan portfolio of a great many banks. For example, the loan portfolio for six banks which in 2001 had attracted 75% of the loans had by 2008 increased by € 194.500mio or 286%.

Table 1: Increase in loan portfolio of banks (National Bank of Greece, Efg Eurobank, Piraeus Bank, Alpha Bank, Emporiki Bank, Agrotici Bank)

Amounts ιn million €

LOANS (Consolidated accounts)		VARIATION
2001	2008	
68,036	262,536	194,500 286%

Source: Published financial statements.

This rapid increase in lending drove growth but was also a subject of criticism. However, the orientation of banks to expand through increased lending, rather than investment banking delayed the impact of the crisis of 2008 in our country.

1.2) Characteristics of banks financial statements

Additionally the prevalence of credit risk is identified in the characteristics of banks financial statements, particularly through examination of the ratio between loan portfolio to total assets and equity to total assets.

Table 2: Accounts from banks financial statement

Amounts in million €

CONSOLIDATED ACCOUNTS – YEAR 2008 (National Bank of Greece, Efg Eurobank, Piraeus Bank, Alpha Bank, Emporiki Bank, Agrotici Bank)				
LOANS	TOTAL ASSETS	EQUITY	LOANS / TOTAL ASSETS	EQUITY / LOANS
262,536	**362,703**	**21,033**	**72%**	**8%**

Source: Published financial statements.

The table above shows that loans are the most important asset of the banks, they represent 72% of their assets (loans / total assets). The accounts of the banks equity finance 8% of the loan (equity / loans). Insecurity of only 1% of the total loan portfolio drastically reduces multiple equity.

It is clear that accurate assessment and effective management of credit risk is essential to ensure banks' capital adequacy.

2) Evaluation and risk management (Corporate loans)

Capital adequacy calculation for banking institutions under Basel I, a procedure that weighed all corporate loans with a single factor, was an inhibitory factor towards the establishment of a certain way for assessing borrowers' creditworthiness.

However, bank defaults and crisis situations make clear that the method of calculating capital adequacy also functions as an informal motivation towards selecting specific exposures, thus leading, under circumstances, to increased credit risk and market distortions.

The rapid expansion of banking institutions' loan portfolios, in connection with new Basel II regulations (mainly IRB method) have put credit risk assessment as a top priority. It was considered that the calculation of minimum regulatory capital for credit risk should be based on bank's assessments subject to compliance with specific rules and procedures that will be reviewed by supervisors.

Regarding the assessment of the creditworthiness of corporate loans will be as provided in Governors of Bank of Greece Act 2589/20-8-2007, mainly:

- establishing a standardised approval and administrative process for loans

-develop a localized internal rating system to each bank estimate of client's probability of Default (PD)

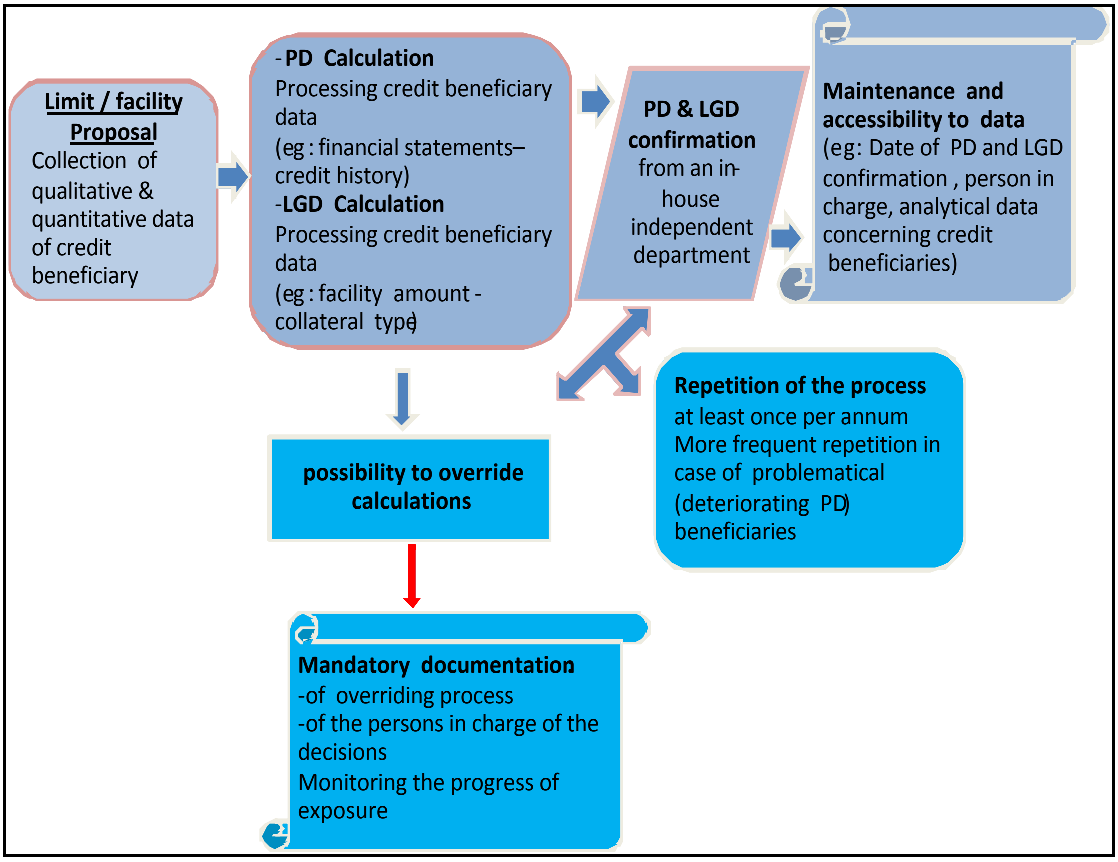
- for loss given default (Loss Given Default - LGD) using a 45% (foundation approach) or to develop a system of calculating LGD (advanced approach). The LGD rate is limited thereby reducing the estimated loss suffered by the bank when the bank takes collateral accepted by the supervisors.

(From our research of the banks' annual statement in 2009 most of Greek banks have incorporated the foundation IRB, reforming their risk management procedures accordingly).

2.1) Approval process

The approval or renewal facilities process, suggested by Bank of Greece Governor's act for IRB method application – is representing below.

Diagram 1 : Approval or renewal facility process



The first step toward approval a new or renewal an existing loan facility begins with collecting detailed quantitative and qualitative information for the beneficiary (financial statements, credit history, transaction behaviour etc). The bank should demonstrate that the economic conditions prevailing in the collection of data is an accurate representation of beneficiaries' current state and can provide reasonably accurate prediction.

Secondly, from a calculation process derives beneficiaries' Probability of Default and Loss Given Default which are confirmed by an in-house independent department (credit control department) in order to apply the requirements of objectivity.

The obligatory repetition of this process at least once a year combined with PD reflects the likelihood of default over a one year horizon. The frequent recurrence to beneficiaries classified as problematic is not only limited to current assessment, but also to the risk of a worsening PD over a period a time shorter than a year.

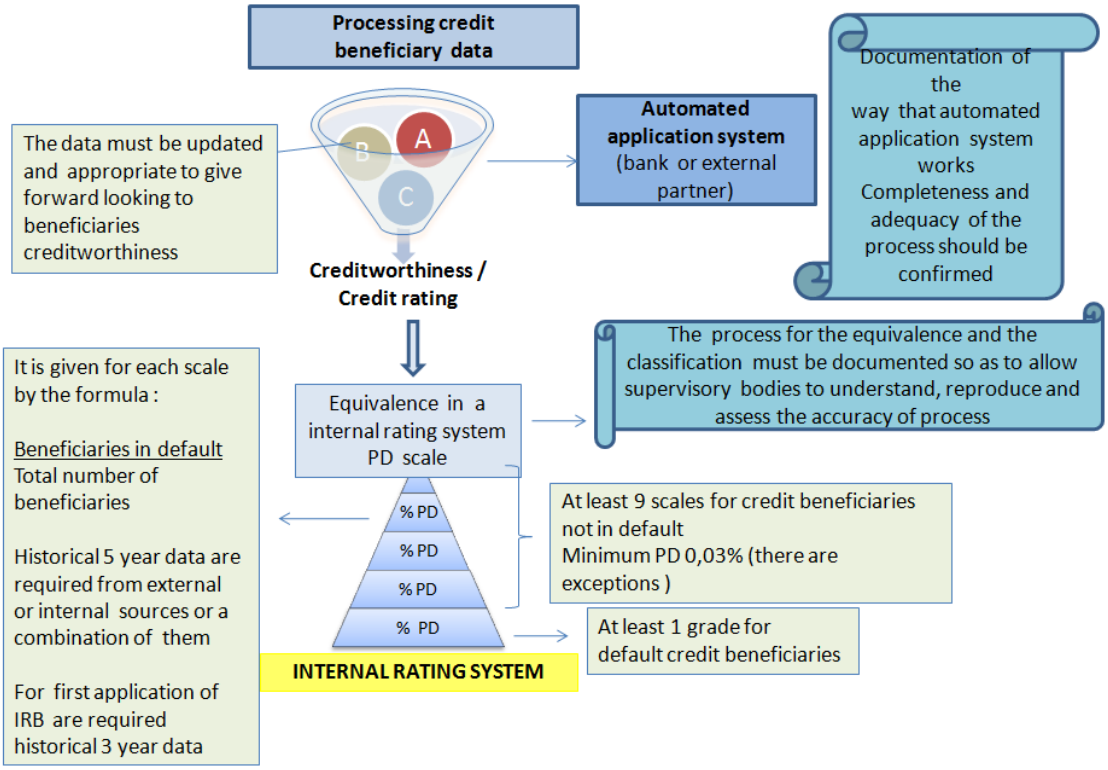
The calculation of PD and LGD is in order to determent the level of approval (height limit, pricing, collateral).The basic condition for applying the internal ratings approach is to integrate the approval process, lending policy and credit risk management.

According to the Bank of Greece Governors act it is allowed to override the results of the process apparently recognizing there may be exceptions that require special treatment. In addition override policies should be documented and specific relevant mandates and to applied closely monitor the evolution of the credit relationship. It is obvious that the frequency of said overrides indicates the effectiveness and adequacy of internal rating systems.

2.2) Rating system for calculating the Probability of Default (PD)

The PD internal rating system is represented below

Diagram 2 : PD Internal Rating System



The qualitative and quantitative data of a specific company is assigned to a specialized and automated application (e,g Risk analyst in Moody's) that comply with the terms and conditions of Basel II. From the raw data is automatically estimated the credit rating of the company.

Current probability of default is estimated by calculation historical data (5 years), in scale regard to the formula:

$$\frac{\text{Total default beneficiaries to each credit rating scale}}{\text{Total beneficiaries to each credit rating scale}}$$

Default Beneficiary: delinquencies over 90 days for amounts, of at least

- € 500
- 5% of loan installment or 2% of loan facility

The effectiveness of the process identified three key points:

- Provision of adequate and representative data to accurately assess the creditworthiness of the company. Though the evaluation carried out by an automated application is the human factor in the interpretation of treaties and the introduction of data (mainly qualitative).
- Appropriate structure of the rating scale of PD. Should take into account the range default rates by credit rating.
- Having calculated the creditworthiness, connecting the borrower to the internal. The classification of more than 25% of the portfolio at a certain level should be documented in detail.

2.3) Calculate the weighting of exposures (Risk Weight)

The impact of credit rating process on the capital adequacy of financial institutions is evident from the calculation of Risk Weight (weighting exposures). For the calculation, the scale of the National Bank of Greece PD's scale was used and the calculation was done using of LGD 45% (case no-collateral) and LGD of 35% (making the case eligible collateral and reduce the LGD)

$$RW \text{ (Risk Weight)} = K \text{ X } 12{,}5$$

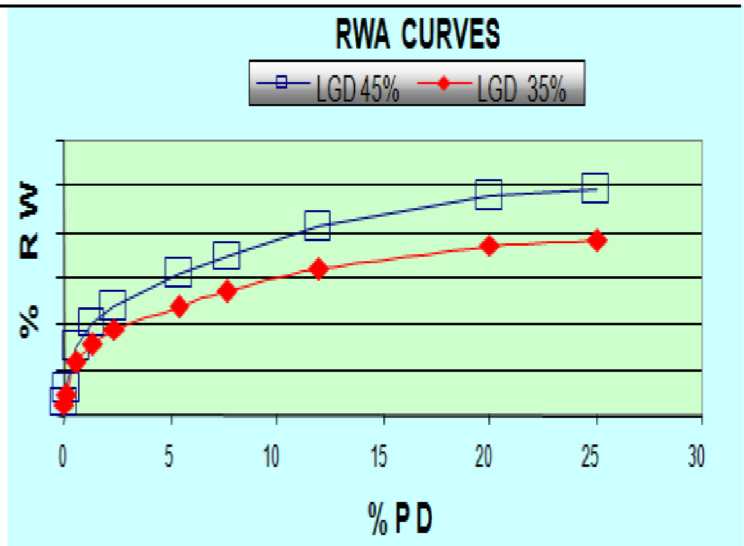
$$K = \left[LGD * N\left[\sqrt{\frac{1}{1+R}} * G(PD) + \sqrt{\frac{R}{1-R}} * G(0{,}999) \right] - PD * LGD \right] X \frac{1}{1-1{,}5b} * \left(1 + (M - 2{,}5) * b\right) X 1{,}06$$

Parameters for calculating the K factor

$R = 0.12 \text{ X } \frac{(1-e^{-50 * PD})}{(1-e^{-50})} + 0.24 \text{ X } \frac{(1-e^{-50 * PD})}{(1-e^{-50})}$	$R^* = 0.12 \text{ X } \frac{(1-e^{-50 * PD})}{(1-e^{-50})} + 0.24 \text{ X } \frac{(1-e^{-50 * PD})}{(1-e^{-50})} - 0.04 * (1- (S-5)/45)$
M = Maturity (Duration of funding) The calculation was done for M = 2.5	S : The consolidated sales of the group (creditor) in million If the consolidated sales are below € 5 million, then S =5
G = Inverse normal distribution	
N = Normal distribution	$b = (0.11852 - 0.05478 * \log PD)^2$
LGD = Loss Given Default. Calculations were done for LGD 45% and LGD 35%	

Table 3: Results of calculation Risk Weight

TE Rank	PD	Scale Equivalent S & P	RW at LGD 45%	RW at LGD 35%
2	0.03%	AA+	14.44%	11.23%
5	0.10%	A+	29.65%	23.06%
9	0.58%	BBB	74.36%	57.83%
11	1.30%	BB+	100.95%	78.51%
12	2.30%	BB	119.40%	92.86%
14	5.41%	B+	153.91%	119.71%
15	7.65%	B	174.98%	135.79%
16	12.0%	B-	206.14%	160.33%
18	20.0%	CC	238.23%	185.29%
19	25.0%	C	246.20%	191.80%



As the credit rating of business is good (to PD: 0,10% - Scale S & P: A +), no significant difference in the calculation of RW, therefore even if the financial institutions take collateral there will be no significant reduction in required regulatory capital.

In contrast to when the business's credit rating is deteriorating (in addition to PD 1,3% - Scale S & P: BB +) increasing the difference in RW.

This makes clear that when clients credit rates deteriorate, collateral obtain from them have a reducing effect on RW and a positive effect on capital requirement.

In conclusion,

- The valuation of the company most associated with the calculation of regulatory capital and is a regulator of the relationship between bank and borrower.
- The evaluation of companies creditworthiness formed by automated, documented and objective process.
- The deterioration of rating for most companies as a result of the current crisis and the increased need of banks to maintain the capital adequacy results to:
  - adding pressure from banks to beneficiaries for additional coverage. The increased recognition of financial collateral than fixed assets collateral, according F-IRB, creates unfavourable conditions particularly in small Greek companies which usually can not provide financial collateral.
  - increased lending rate
- Considering the crisis, default criteria seem to be very strict. Default classification gives a strong negative impact to probability of default and consequently to the

estimated capital adequacy. Furthermore default status dramatically reduces loan facilities while companies are struggling for viability.

3) Methodology for measuring corporate credit risk and Greek Business Environment

Assessing the creditworthiness of companies is addressed by the rating agencies (credit raters), who in many cases have provided expertise to Greek banks to develop an evaluation system that meets the requirements of Basel II.
The basic categories of evaluation approach and process in accordance with the rating agencies shown in diagram 3.

Diagram 3: Basic factors determining the credit rating firms

As shown in the chart is first examined the broader economic environment in which firms operate and then take into account the specific characteristics.

3.1) Sovereign & Country Risks

The process of analyzing the credit risk of companies is inextricably linked to the wider operating environment, as shaped by the structure, legislation and infrastructure state. The state must guarantee the political stability and to develop operational frameworks conducive to business in working. Towards this direction there should be a clear and long established tax and tariff framework. A frequent change of specific fiscal framework increases the uncertainty in economic environments and compromises business planning. Particularly critical is the design and implementation of fiscal and monetary policy. Because of Greece's accession to the European Monetary Union, monetary policy is treated as given but the fiscal policy is particularly relevant because of recent economic conditions. The environmental assessment includes an analysis of state aggregates (such as GDP, unemployment, inflation, state government bonds) to assess the economic potential and robustness of the state. A continuing point of concern is the combination of austerity measures conducive to business development. Historically, it has been pointed out that the rapid deterioration of public finances and subsequent impose austerity measures, are hampering development. The existence of natural resources accompanied by appropriate infrastructure (roads, ports) for the operation, directly & indirectly improves (productive enterprises, development of production-services businesses) business. This advantage should be complemented by the availability of suitable workers. The education system, labour laws and culture of the workers form the foundation to support business activities. An attractive macroeconomic environment requires a developed, robust and reliable banking system, capable of funding high-cost investments.

By overriding assessments of Credit Raters, which give the rating of Greece and instead moving towards the Easy of Doing Business index 2010 (period June 2008 through May 2009) published annually by the World Bank. A total of 183 countries classified from best to worst according to key factors conducive to entrepreneurship.

Table 4: Easy of Doing Business index 2010

State Ranking	Ranking of our country on individual criteria
TURKEY 60 ALBANIA 81 ZAMBIA 84 GREECE 97	*-Starting a Business (146)* *-Dealing with Construction Permits (51)* *-Registering Property (107)* *-Getting Credit (87)* *-Protecting Investors (153)* *-Paying Taxes (74)* *-Trading Across Borders (81)* *-Enforcing Contracts (89)* *-Closing a Business (43)*

Greece has a lower classification even compared non-developed countries. We emphasize that the criterion Employing Workers, which due to the rights of employees charged the classification of developed countries, is not included any more. Furthermore in 2011 the position of Greece deteriorated to (109) mainly due to increased real estate transfer tax. In conclusion, given to the globalization of the economy and the status of the evaluation, the modernization and improvement of business environment take a high priority position.

The pros and cons of Greece in current financial environment according our view are:

Pros **:**

- The continuously effort of reforming the public sector

- -kallikratis project for local authorities
- Current & future plans for privatization of problematic sections of public sector
- organize & control the payroll of public sector employees
- review of the supply chain management for public sectors (hospitals)
- Lower VAT to hotels & stability in north Europe economies may give positive results to tourist industry.
- Crisis situation may improve efficiency and innovation
- The banking system remains stable

Cons :

- The spreads remain to unreasonable high levels
- The delays in modernization and improvement of business environment
- Frequent changes in tax system and high indirect taxes
- No coordination between political parties
- The majority of population is pessimism and reluctant to accept structural changes no matter of economical consequences
- The high deficit and failure to meet revenue targets
- Lack of competitiveness and diversification
- Very long delays in payment of state debts to domestic enterprises (e.g. the delayσ of return VAT to exporting companies worsen their competitiveness)

3.2) Industry Risks

The industry's risks are the inherent risks of business object activation. Since this type of risk affects at the majority or all firms in a sector of the economy, intensifying competition and limiting the potential recovery. The industries are divided into five main categories according to sales prospects incorporating:

• Growth Industry: Ability to expand into new markets with new products and applications and growth rates greater than other classes (> 5%).

• Mature Industry: The penetration in all markets has now been achieved, growth rate <5% to -5%

• Niche Sectors: This sub-market within a broader industry where there is room for growth for new entrants or small companies without attracting the interest of big and powerful business.
• Global Industry: Usually mature industries that can provide global coverage
• High Cyclical Industry: The demand for products or services sector is directly associated with general economic conditions, resulting in periods of economic downturn in growth to show a similar pattern.
Source: Ganguin and Bilardello, 2005

The highly rated industries are characterized by their ability not only to increase sales volume but also set the prices of products / services they sell. Barriers to the entrance of new companies in the industry, such as high investment cost, availability of natural resources, availability of technology, know-how or access to clients denies accessibility to the industry and makes it possible to set prices. On the other hand the problems of an industry significantly impair the creditworthiness of companies operating in it. Especially when the problems are maintained for long periods, it becomes a strong challenge for the management of enterprises. These risks of the industry because of their importance are often a limiting factor in the rating business.

Company Hellastat SA assessed, using the model of Credit Risk Tracker Greece's Standard & Poor's the performance of industries in Greece in 2010. Most industries are characterized <Doubtful >, many classified as <Weak> while only 4 (Super Market, wholesale drugs, diagnostic centres, trade of computers and technology items) were kept in the category <Diamonds>.
Certainly the decision to withdraw Aldi from Greece and adverse developments in the super market chain Atlantic (almost 4 thousand employees) indicate the pressures on companies and industries still classified as a diamond.
The hotel industry, part of the wider tourism industry from which Greece expected economic benefits was declared Doubtful.
The characteristics that make up this deteriorating business environment is the reduction of external trade, the decline in credit expansion, a sharp slowdown in construction activity and the very negative financial position (deficit, debt, unemployment) which in turn create uncertainty.

According to the results of the evaluation an important aspect of the analysis on the progress of firms outside the industry is the location where they operate. Firms based in Attica (Athens) and Central Macedonia, have lower than average risk of delays because they have greater average size and better indicators of profitability, efficiency and capital structure.

Unlike companies based in the South Aegean, Ionian Sea and Crete, which have a higher chance of delays, since nearly 1 in 2 companies are hotels, a precarious industry with very high debt burden.

3.3) Business Risks

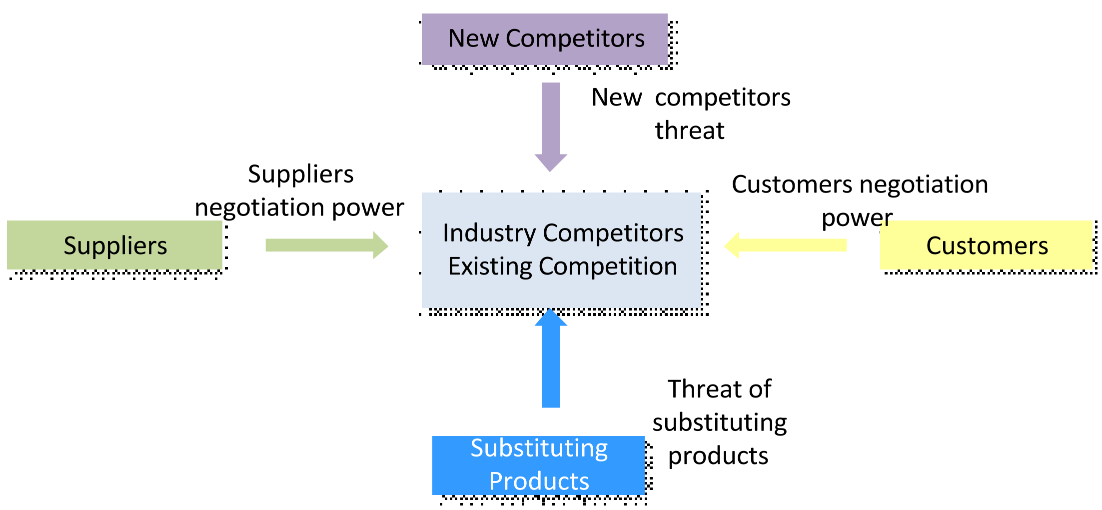
The analysis of entrepreneurial risk assessment on a number of parameters that shape the environment in which a firm operates, the main parameters are:

a) the strategy followed by a Company in relation to competition (existing and potential) threat of substitute products , the bargaining power of suppliers and customers and

b) the comparative advantages / disadvantages of products / services available in relation to competition (cheaper, better quality, etc.), these can contribute to business success and hence produce the required flow to service its obligations.

One of the most widely used methodological approaches for analyzing a company's strategic position in relation to competition, is the model of five forces (Figure 2) Professor School of Management at the University of Harvard, Michael Porter

Diagram 4 : The Model of Porter's five forces



This model shows the forces of competition faced by a company. Through this network of competitive relationships the company is trying to gain sufficient market share and achieve maximum sales growth. However, the gain leadership does not always yield the coveted benefits. Similarly there are cases where the second or third player in an industry enjoying greater success (ie higher profits) than the leader.

The ability of a company to produce in a consistently successful way with the expected results, despite changes in the external environment and potential changes in consumer preferences is one of the most important criteria for evaluating the risk.

In Hellastat SA assessing course of business in Greece in 2010 companies were separated into small, medium and large size, recognizing advantages in large companies:

Table 5: Companies evaluation according its size

Distribution of Corporations	Turnover Size		
	SMALL 0.1 - 2.5 mio	**MEDIUM 2.5 - 10 mio**	**LARGE 10 - 50 mio**
DIAMOND	51%	61%	76%
WEAK	17%	20%	14%
DOUBTFUL	32%	19%	10%
TOTAL	**100%**	**100%**	**100%**

Source : Hellastat SA

The survey is a clear correlation between the size of a company to assess the credit rating. Large enterprises have the highest percentage in the category (Diamonds 76%) and lowest percentage in the category (Doubtful 10%).

The reason that small companies have lower percentages of Doubtful (than those of medium size) is that many small companies do not use bank loans or were not identified by the banks. Now owing to current conditions, there is uncertainty about the viability of small firms is a barrier to their lending while smaller companies struggle to leverage fear.

The credit rating of companies affected by factors such as higher growth rates, and profit margins among others, but also the diversification of activities and easier access to financing sources, which make it more consistent with larger firms (www.hellastat.eu) .

3.4 Risk Management (Management Risks)

The positive macroeconomic environment, the existence of favourable economic conditions and the emergence of business opportunities are attractive factors which could be exploited by management. The adverse economic conditions, business dilemmas and problems both foreseen and dealt with, depend on quality of administration.

To evaluate the administration we should take into account the legal form, industry and firm size.

The success of a management is considered by many factors, the main of which relate to:

- To effectively organize the company (processes, staff) and create a positive work environment.
- To make (SMART) objectives.
- (SMART: Specific, Measurable, Achievable, Realistic, Timely)
- Have a balanced/appropriate risk appetite without being marked as conservative.
- Determine the vision, strategy and mission of a business, achieving their goals and to effectively manage any gaps in achieving objectives.
- To anticipate problems and take advantage of opportunities presented.
- To assume responsibility for its choices.

Corporate governance refers to the framework that defines the relationship between the three pillars of business: shareholders, management and the Board.

Through corporate governance as a set of rules, principles and mechanisms, for organization and management the company seeks transparency to the investing public to safeguard the interests of its shareholders and all those connecting with the company. The modern corporate governance systems seek to ensure the independence of the Board and its organization by major shareholders and senior executives of the company. Adopting the proposals of the Cadbury Committee in Great Britain listed in the Code of Best Conduct, adopted in December 1992, most countries have made institutional reforms, which include:

  - The corporate value increases when firms adopt Internal Audit Committee and / or Committee for the Determination of Compensation Managers.

- The corporate value decreases when in the internal auditing committee or in committees responsible for management remuneration includes own top executives
- The corporate value grows with the increase in participation in the Boart of directors of Non-Executive Members.

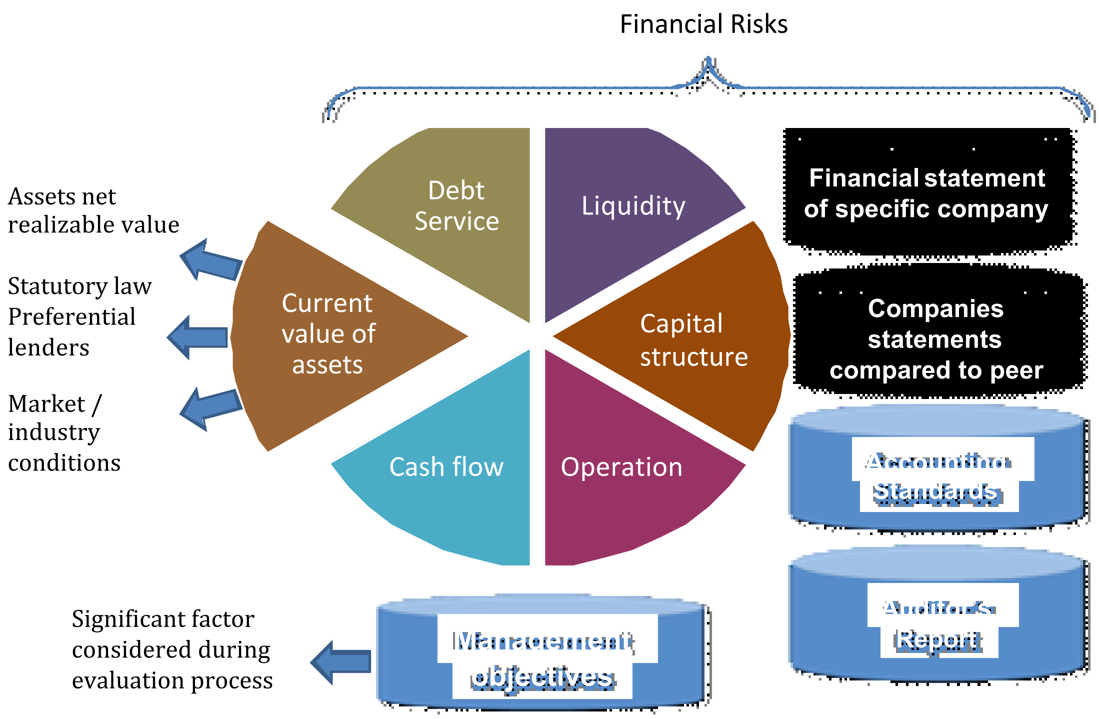
In Greece the reforms introduced by Law 3016/2002 which moved very close under the Code of Best Conduct Cadbury Committee and in general is a solid step in the right direction (www.lawnet.gr).

But corporate scandals at international level (e.g. Enron) and the subsequent collapse of the auditing firm Arthur Andersen, created worry about how listed companies are managed and controlled. The issue of corporate governance in different terms and conditions is evaluated for both large listed companies and smaller businesses.

3.5) Financial risks

The financial risks are the last stage of the credit rating business. Through trend analysis of financial data of business and comparison with data of other companies in the industry, financial risks are evaluated.

Diagram 5: Analysis and assessment of financial risks



As shown in this diagram, examined over time, financial statements are compared with financial data of other companies in the same industry. In the process it is important take into account the peculiarities of accounting standards (IAS, Greek Standards etc) that the evaluated company follows.

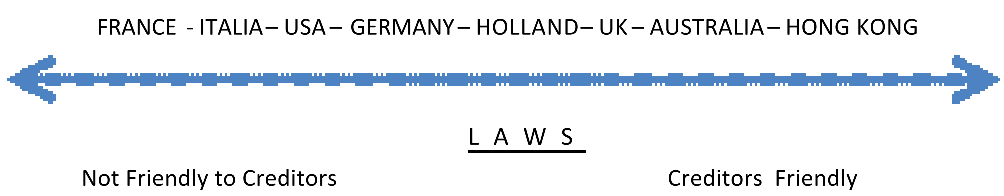
The analysis of financial data and separation of financial risk in specific areas such as : coverage of debt, liquidity, capital structure, operations and cash flows helps to more thoroughly explore the strengths and weaknesses of the company. In assessing the financial risk the current stage in the companies' progress and management objectives should be taken into account. In a business that is in construction stage there is no point in the financial ratio «fixed assets to sales»

Instead, it should be evaluated the method of financing (equity, grant, loan) and be explored any differences in the costs and implementation schedule of investment. The goal of management of product diversification may mean trial production for a long time with increasing cost and the benefit to occur only in subsequent years.

However, the banks are not only interested in the book value of assets of enterprises but also in the value that would result in the realization of companies' assets. It is likely that the historical cost of land is negligible compared to the current market value. Thus, the current value of the assets of the company needs to be enough to ensure that creditors can recover their claims. Conversely, if the assets of a business include property that is considered as collateral to third parties or there are high amounts owed to preferential creditors, such assets are not considered an element of security. The realizable value of assets are volatile and often impaired due to deteriorating conditions in the industry, or course of business. The downward trend in the industry can reduce the value of business property.

Significant modulator of the realizable value of assets in case of companies' bankruptcy is the law of the state. In particular, how friendly the law is towards creditors in the event corporate bankruptcy. The following classification diagram represents countries according to their friendly or unfriendly terms of legislation to lenders.

Diagram 6 : Non-friendly and friendly to lenders Legislation



Source: Ganguin and Bilardello

4) Application of credit evaluation

To explore the practical application of credit evaluation a questionnaire was given to 25 executives in Risk Management. The questionnaire includes a list of 20 companies (in random order) and nine evaluation criteria (qualitative and quantitative). Each company in each criterion is given an evaluation (Good / Satisfactory / Unsatisfactory etc), which is explained. If respondents agreed to the appropriate evaluation criteria, they were then asked to assess the creditworthiness of companies according to the evaluation of the nine criteria and rank them from best to worst. Individuals who participated in the survey and completed the questionnaire are:

- 22 banking executives with extensive experience in evaluating companies, working for banks applying the IRB approach
- 2 employees of commercial companies in the accounting and financial sector
-1 manager in an insurance company - in the credit insurance segment

The questionnaires were completed in May / 2010 and at the request of respondents, their responses remained anonymous.

4.1) Criteria of the questionnaire and treatment response

The nine criteria of the questionnaire assessment factors are used in Credit Rating Methodology.

Table 6: Evaluation criteria included in the questionnaire

FINANCIAL CRITERIA	QUALITATIVE CRITERIA	OTHER CRITERIA
▪ Payment of Interests and Instalments ▪ Liquidity ▪ Capital Structure	▪ Market Conditions ▪ Company Standing in the Industry ▪ Company Stage ▪ Evaluation of Company Management ▪ Transaction Behaviour	▪ Collateral

At each location, in the league table of companies (1-20) a weighting factor was assigned (5-100, first position in the table scoring 100).

The final classification of each company calculated from the frequency in each position classified multiplied with weighting factor assigned.

5.2) Finding from the questionnaire responses

- Companies with positive or very negative characteristics (ie very good or very bad companies) presented relative uniformity in the responses. In contrast, companies with an average final classification presented a high heterogeneity in the responses. So the problem is focused on companies with an average credit rating where the rating is less clear and perhaps more subjective.
- The unsatisfactory transaction behaviour (ie delinquencies over 90 days) was not counterbalanced by a positive rating in the other criteria. According to respondents, when the transaction behaviour is unsatisfactory (ie late payments over 90 days) it is an indisputable fact that cannot be in any way changed by any other factors. What it concerns is how and why these companies received positive assessments in other factors.
- Companies that registered in the top 4 had a positive assessment on financial criteria with minor collateral. It appears that if companies have good and positive evaluation on other criteria, collateral is not taken into account. This result agrees with the example of weighting exposures to the method of internal ratings in Table 3. However, according to respondents collateral has a double role:
  - To cover the bill
  - Assessing the company and the management's commitment to corporate purposes. E.g. monitoring the collectability of the pledged check gives an indication of the progress of the operation and the use of guarantees can be an indication of the commitment of owners to achieving business goals.
- From classification company raised the profile "New partnership with the Bank" and "founded New Company" in Item 6, it appears that there is no aversion to new companies if they do not have other negative elements.
- The financial criteria, particularly the liquidity and interest repayment instalments seemed more important than other criteria.

4.3) Concluding Remarks

In conclusion,

Banking System

- Since international crisis and implementation of Basel II, risk management of credit risk received a significant upgrade. In addition, credit risk is now treated as an extension of Business Risk and industry risk. The evaluation criteria and investigative progress of analyst enabled than to examine total business activities in much greater detail.

- The use of specialized computer systems, the priority given by banks to strengthen their knowledge of personnel, cooperation with international rating agencies, and the reform of the rating methodology of business, have redefined the parameters of the credit procedures.

- The purpose of an evaluation methodology is to format human judgement to perform at the optimal level.

- The international crisis and uncertainty makes credit risk a strong challenge.

- Changing conditions in the financial environment, especially after the 2008 crisis, created the need for continual adjustment of credit procedures and evaluation operations, increasing the need for initiatives by experienced banking management.

- Financial institutions together with the development of the evaluation process structure should develop two main principles:

  Risk management philosophy - or Credit Culture

  The lack of the latter is usually the breaking of the myth of large financial institutions that have the best policies, credit procedures and effective systems of internal control. In conclusion, the effectiveness of the evaluation system not only depends on its integrity, but also by integrating the bank culture.

Greek business environment

- International crisis revealed Greek structural & economic weaknesses as a part of separate domestic crisis.

- Modernization and improvement of Greek business environment is in highest priority.

- State aggregates (Deficit, Debt etc) in conjunction with the lack of transparency has created a deteriorating business environment and affected directly the stability of banking system.

- An anti crisis package with balanced measures between austerity and development needs to be applied

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