

Integrated risk analysis: social risk integrated with environment and financial risks

Regis da Rocha Motta (UFRJ) – regis@ind.ufrj.br

Sidney Lianza (UFRJ) – lianza@ufrj.br

Guilherme Marques Calôba (UFRJ) – gcaloba@mail.com

Luyza Viana Pereira (UFRJ) – lupereira@esdi.uerj.br

Adriana Mota Gonçalves (UFRJ) – adrimg@centroin.com.br

Abstract

Businesses in the 21st century have to cope with a triple agenda: economic-financial, environmental and social aspects. Credit application assessment by development banks will increasingly take into account this triple agenda.

Continuing with the proposal to create an integrated risk evaluation, this article sets the bases for associating the social with the environmental and financial risks (subject of a referenced earlier article). Accordingly, the article addresses the concept of a methodology to integrate social factors in the risk assessment of a certain project.

First, the relevance of the social dimension for the company is discussed, then some existing credit models are described (financial and multi-criterion), to then present an embryonic model. Various agencies, foundations and compliance rules analysing social questions are pointed to in order to choose indicators for the social risk composition. The model consists of evaluating the company and the project separately, to then add them together, integrating them after the environmental assessment, creating a socio-environmental rating, to be compared with the financial rating, and so apply a quote to penalise the interest rate obtained by the company, should some environmental and social aspects be disregarded or underrated. Lastly, the importance is discussed of the social risk integration in credit analysis.

Key words: Social risk, Social responsibility, Environmental risk.

1. Introduction

“Is it progress if a cannibal uses a fork?” is the instigating question in a best-seller (ELKINGTON, 1998). Wild capitalism has to make way for green capitalism (HAWKEN *et al*, 1999); financial auditing, for sustainability; and the pure traditional business view has to include ethics of social responsibility.

Non-governmental organisations have already moved one step ahead as representatives of society. Governmental authorities, in turn, have been restricting their operating area, either by budget restraints or focusing only on their key activities, or by the guidance of a minimum State and deregulation with privatisation. The most obvious cause of an accelerated structural change (turbo-capitalism) is the shrinking of the State on a global scale (LUTTWAK, 1999).

Corporate actions in the social arena are now imperative. This paper proposes to take into account these actions, creating an evaluation criterion to analyse and judge the social facts relating to companies and projects. The foundations are laid for a methodology to include the

social sphere in the analysis of credit requests to a development or commercial bank (changing the interest rate relating to the project).

The National Bank for Economic and Social Development (BNDES), for example, offers preferential interest to certain geographic regions (Northeast and the southern half of Rio Grande do Sul). Such areas have huge social problems and deserve lower interest rates to encourage new projects and create jobs. In the proposed methodology, by analogy, projects whose social aspects are solved by the entrepreneur may deserve preferential treatment and those projects that fail to mitigate the social impact of their activities are penalised.

2. Credit models

A corporate evaluation model uses the balance sheet and other accounting statements, in terms of indebtedness, profitability, and so forth, to study indicators. Another important item in the model is the past performance of the company with other loans that may have been previously requested. In general, a credit extension model involves three stages: scoring, rating and determining the interest rate for extension of credit

2.1 Financial only extension models

Some credit extension models use a discriminating analysis (ALTMAN, 1968) and other statistic techniques, such as *Logit and Probit* analyses (NEVES, 1990); others use some artificial intelligence techniques, namely Neural Networks, to rate companies in similar groups, which will then receive the same scoring. This then goes straight past the scoring stage.

3. Multi-criteria decision models

The main purpose of using these models is to decentralise decision-making, creating a simple formula. Some disadvantages may be highlighted in this model: the first is that if this formula is as simple as arithmetic mean or weighted it would be oversimplifying the analysis, and may incur error. For example: If a polluting company has excellent career planning and remuneration, would it be possible for one deed to compensate the other?

3.1 Transitive closure decision models

This kind of decision model arises from additive or multiplicative functions, in the same way as the environmental risk model and the model developed for social risk.

It presumes the transitivity of the criteria, namely, the answer to the question made earlier is: yes; that is, a poor grade in one criterion may be compensated by a good evaluation in another.

However, restraints and exceptions may be set for these models to function adequately. In the event of environmental risk, it is not interesting for the bank to grant the loan that the environmental risk compensates the financial risk.

3.2 Intransitive closure decision models

This type of decision model is most similar to the actual decisions. Hypothetically, all consequences of an action are known and may be represented by indicators. A group of possible actions is formed and, using a set of criteria to judge them, these actions are

associated with future states. These criteria are represented by indicators. Later, it is decided whether the family of criteria created is coherent. Therefore, it is analyzed to see if it has the concepts of: exhaustivity (no important criterion was forgotten); non-redundancy (no criterion may be removed without detriment to the model); cohesion: the separate role of a criterion is the same as it plays within the set.

It may be said that the criteria are intransitive, namely, the integrity of each criterion is respected; one cannot compensate the other. Once these requirements are met, multi-criteria decision models may be used based on fuzzy logic, such as the COPPE-Cosenza model of fuzzy hierarchy (TOLEDO & COSENZA, 2003), or based on a graph theory (BOAVENTURA, 1996). The result of this type of analysis is not a strict classification of priority/preference of actions but the separation in groups in order of preference.

4. Adding the environmental dimension

At first, work was done for a development bank by some of the authors hereof (MOTTA, CALÔBA, 2003), which had suggestions from the staff of the hired consulting firm and the bank personnel, which accompanied the work and reviewed the reports, developing a system that integrates the environmental dimension for the risk analysis for credit extension (MOTTA et al, 2002). The scoring methodology was divided into two stages: in the first three elements are evaluated: company; type of loan; and project or design, associating with specific scoring. In the second stage, a quota is determined so that a fraction of the difference between the financial and environmental scoring is applied, penalizing the evaluation. All scoring for rating will consist of an interval between 10 and 30 points, the last equal to the maximum scoring of AAA. Better ratings receive lower interest rates. The rates increase progressively until rating C. D is refused credit.

The following figure illustrates the ratings and corresponding risk levels:

Scoring			Scoring		
Rating	Bottom limit	Top Limit	Rating	Bottom limit	Top Limit
AAA	28,001	30,000	BB	19,501	20,500
AA+	27,501	28,000	BB-	19,001	19,500
AA	25,501	27,500	B+	18,501	19,000
AA-	25,001	25,500	B	17,501	18,500
A+	24,501	25,000	B-	17,001	17,500
A	23,501	24,500	CCC+	16,501	17,000
A-	23,001	23,500	CCC	14,501	16,500
BBB+	22,501	23,000	CCC-	14,001	14,500
BBB	21,501	22,500	CC	12,001	14,000
BBB-	21,001	21,500	C	10,001	12,000
BB+	20,501	21,000	D	0,001	10,000

Figure 1 – Rating and scoring

5. Introducing the social dimension

The social dimension will be evaluated by a qualitative study of the various social indicators of important sources: research agencies; companies; valid national and international

regulations. The most suited indices are found in this list for the purpose of the study. Therefore, scoring is obtained that means higher or permanent interest rates, in accordance with the actions of the company and design for society. The institutional and private investors also prioritize allocation of capital in reputable and ethical projects, giving them a truly competitive edge (CANUTO, 2001).

The scoring methodology was divided into two stages. In the first, the company is evaluated by social indicators, taking the round of strategy as counterpoint (MOTTA, CALÔBA, 2003). A series of social dimensions is selected and its indicators are rated and weighted in accordance with their relative importance, resulting in a weighted average. That of the project will be made using a list of areas that may suffer social impacts, besides mitigations optionally made in relation to them. Specific scoring is associated with the set of these elements. For example, if all impacts are mitigated, the scoring is the highest. At the other end, the scoring is the lowest. In details, this approach functions as the environmental dimension.

6. Research and methodology

The first part of the study consists of finding pertinent social indicators to facilitate the company's scoring. Various sources considered major on the national scene were used, to be described later, as follows: Ethos Institute; Brazilian Institute for Social and Economic Analyses (Ibase); and Social Observatory. Also, international principles and standards of compliance and excellence will be included: SA 8000 (Social Accountability) and Equator Principles. The compliance standards will set minimum requirements for granting the loan, and no loans will be extended to non-compliant projects.

The financial risk is sovereign, namely, there will be no transitivity between the three main dimensions, since a project will not be implemented only based on its social benefits, should its technical-economic feasibility study show unattractive results for the entrepreneur.

6.1 Ethos Institute

The Ethos Institute for Corporate Social Responsibility is a non-profit association of companies designed to further the development of corporate citizenship, sensitising and mobilising this sector, in a local and global perspective, to agree to foster economic development with social responsibility and undertaking social responsibility-related activities.

The Institute's member companies adopt the ongoing enhancement process using Ethos indicators that analyse the practices of social responsibility, and monitor the company's general performance. The confidentiality of the information obtained is guaranteed and the members of the Institute use this tool to self-evaluate their policies, activities and strategies relating to social responsibility.

The topics addressed in the Ethos Indicators of Social Responsibility are: **Values and Transparency; Internal Public; Environment; Suppliers; Consumers and Customers; Community; and Government and Society.**

6.2 Brazilian Institute of Social and Economic Analyses (Ibase)

This institution is a civil organisation that was headed by the late sociologist Herbert de Souza – *Betinho* – and its prime objective is to publicly disclose the questions referring to social responsibility, contributing to the consciousness and formation of a mentality of the business sector and society. Ibase produces Social Report models (registration of their actions focusing

on social responsibility) and it is responsible for the Social Report Seal/Betinho, which is awarded to companies that satisfactorily meet the Report Model suggested by Ibase.

In studies on this Report, it is found that it aims to be an instrument to evaluate and judge social acts relating to the company, both internal (company and employees) and external (company and community).

The indicators are divided in chapters for small and midsize companies, as follows: **internal social; external social; environmental indicators; of the functional body and relevant information.**

6.3 Social Observatory

The Social Observatory is a project of the Workers' Central Labour Union (CUT) of Brazil, in partnership with the Contemporary Culture Studies Centre (CEDEC), Inter-union Department of Socioeconomic Studies (DIEESE) and Inter-University Network of Studies and Research on Labour (UNITRABALHO). Its goal is to produce and organise consistent information about the social and labour performance of companies in the context of adopting social and environmental clauses in international trade agreements. It supervises companies on labour law compliance (CORTEGIANO, 2003).

The topics used by the Social Observatory are: **trade union freedom; bargaining; child labour; forced labour; gender and race discrimination; occupational health and safety, and environment.**

6.4 SA 8.000

SA 8000 (*Social Accountability*) is an international standard based on the principles of the International Labour Organisation (ILO). It provides standards for auditing actions and activities relating to social responsibility for all branches and business.

The questions discussed are as follows: **basic ILO rights, disciplinary practices (corporal punishments, duress or verbal coercion with employees, etc.), working hours, remuneration, and management systems.**

6.5 The Equator Principles

The Equator Principles were announced by several of the largest worldwide banking corporations. The guidelines were defined for involvement of this segment in the topic of environmental and social risk. The ideas behind the Principles are as follows: compliance with laws and regulations of the country hosting the project; sustainable development and use of renewable natural resources; protection of human physical integrity, cultural characteristics, biodiversity, including endangered species and sensitive ecosystems; use of hazardous substances; serious damage or accidents; occupational health and safety; fire prevention and life safety; socioeconomic impacts; land purchase and use; involuntary resettlement; impacts on indigenous populations and communities; accumulation of impacts of existing projects, proposed project and anticipation of future projects; participation of parties affected in preparing, reviewing and implementing the project; considerations with environmental feasibility and socially preferable alternatives; efficiency in production, delivery and use of energy; and pollution prevention management and minimising waste, pollution control (liquid effluents and gas emissions) and solid and chemical waste.

7. Construction of basic parameters for social risk analysis

7.1 Methodology

By analysing the characteristics, the proposed indicators fit the following stages:

In the excellent stage, the company adopts pertinent standards of international excellence, besides which it is prescribed immediately after the good stage. In the good stage, besides complying with legislation, the company or project disseminates its precepts for the community and throughout its production chain (suppliers, clients and outsourcees). Concerning the regular stage, the company or project must obey legal principles and international compliance standards. At the bad stage, the company does not adopt legal precepts. At the very bad stage, the company is unaware that there are basic precepts to be respected.

This classification in stages gives margin to some subjectivity, which is desirable at this stage. Unlike the earlier definition of multi-criteria decision models, some indicator aspects may compensate others.

7.2 The company's analytical indicators

Values and Transparency inside the company: ethical values that form the basis of the company's culture: whether the company has a code of ethics and whether it is really put in practice in the company's organisational environment.

Values and Transparency of the company towards society: whether the companies produce a Social Report (a record of its actions focusing on social responsibility) and how this is done.

Trade union relations: the company's policy of involvement with labour unions, whether it raises obstacles against the workers' organisation, and whether its interests are aligned with those of its employees.

Participative management: employee support programmes for company troubleshooting.

Concern with children: whether the company uses children as a labour force and whether it is complying with the Apprentice Act, which imposes strict procedures in relation to adolescent workers, such as, for example, staying in school.

Valorising diversity: types of discrimination that may occur in the company's environment.

Remuneration, benefits and career: company-employee relations with regard to the employee's professional development.

Occupational health and safety: compliance with international and national occupational health and safety standards, used as basis for certifications in this area, such as BS 8800 (British Standards) and SA8000.

Employability: job generation programme incentive and professional training of society.

Dismissals: company behaviour toward dismissals, examining the circumstances in which it resorts to this measure; whether the situation and existing problem are studied before dismissal, or whether this is the first option taken by the company.

Retirement: company policy toward retirement of its employees, if there is some kind of financial complement to the pension, or if there are programmes relating to positive participation of retired employees in the company.

Suppliers: company-supplier relations: the company's criteria in selecting its suppliers (if only those in the market, or if the company in its logistics chain has partners aligned with its policy of social responsibility).

Consumers and customers: company criteria in developing and trading its goods and services. It is confirmed whether the company tries to launch reliable goods on the market, with detailed information about their use, customer call service, and ombudsman.

Community: the company's community involvement policy such as, for example, respecting local customs, supporting non-governmental organisations, and improving social conditions.

The following picture of the Excel model shows how to complete this questionnaire. Comments are given to clarify which conditions should be fulfilled for the company to be able to be classified at each stage: excellent, good, regular, bad and very bad, and also an explanation about the indicator and what it intends to evaluate:

	ótimo	bom	regular	ruim	péssimo	RESULTADO
1.2. Público interno	<p>A empresa socialmente responsável não se limita a respeitar os direitos dos trabalhadores, consolidados na legislação trabalhista e nos padrões da OIT (Organização Internacional do Trabalho), ainda que esse seja um pressuposto indispensável. A empresa deve ir além e investir no desenvolvimento pessoal e profissional de seus empregados, bem como na melhoria das condições de trabalho e no estreitamento de suas relações com os empregados. Também deve estar atenta para o respeito às culturas locais, revelado por um relacionamento ético e responsável com as minonas e instituições que representam seus interesses.</p>					
2						
3						
4		1				2
5						1
6						0
7					1	-1
8		1				2
9						1
10					1	-1

Source: authors' own preparation

Figure 2: Excel model for company's evaluation

8. Evaluation of project dimension

The project is evaluated according to a list of topics of social impact. Projections are given of possible impacts that it can cause. These impacts on the local community where the project is installed are evaluated: positive, indifferent or negative.

The 48 themes used as impacting agents (inspired on an ABONG – Brazilian Association of Non-Governmental Organisations - classification) are:

1. Cooperation agencies/Multilateral organisations
2. Literacy and school attendance
3. Agriculture/land issues
4. Art and culture
5. Social assistance
6. Fundraising
7. Citizenship
8. Communication
9. Management councils
10. Credit, savings and investment
11. Democracy
12. Regional economic development
13. Institutional development
14. Sustainable development
15. Human rights
16. Sexually transmissible diseases and AIDS

- | | |
|---------------------------------------|-------------------------------------|
| 17. Solidarity economics | 33. Poverty |
| 18. Education | 34. Economic/public/social policies |
| 19. Social exclusion | 35. The disabled |
| 20. War/international disputes | 36. Indigenous issues |
| 21. Childhood and adolescence | 37. Urban issues/quality of life |
| 22. Legal | 38. Race and ethnics |
| 23. Environment | 39. Gender relations network |
| 24. Public/social movements | 40. Healthcare |
| 25. Housing | 41. Food security |
| 26. Infant mortality | 42. Public security |
| 27. Non-governmental organisations | 43. Information society |
| 28. Universities | 44. Third age |
| 29. Public budget | 45. Third sector |
| 30. Public organisation/participation | 46. Work and income |
| 31. Cultural and historical heritage | 47. Transport |
| 32. Planning | 48. Violence |

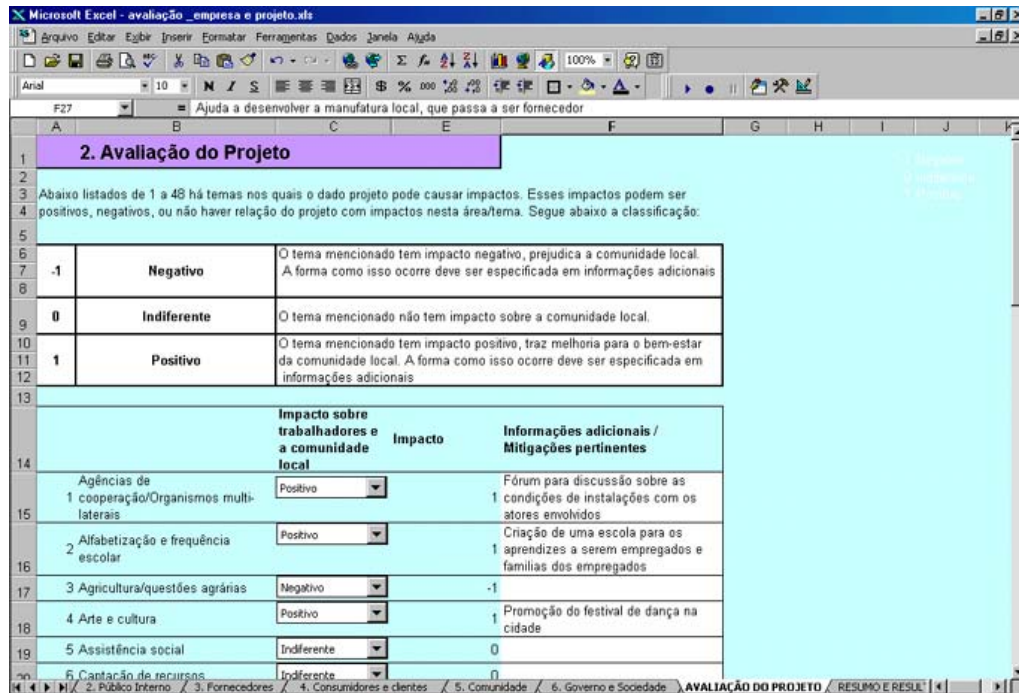
If there are pertinent mitigations, they will be classified according to the definitions below as mandatory; reactive; and sensitive. They follow the action definitions (MONTANA et al, 1998 *apud* CORTEGIANO, 2003):

Mandatory mitigating actions: They attend to legal constraints (CHEIBUB & LOCKE, 2002 *apud* CORTEGIANO). Their compliance does not provide a score. If mitigation is detected as mandatory, the impact on society will continue as negative, and may be indifferent, depending on the specialist's assessment.

Reactive mitigating actions: They occur when there are pressures by organisations (commercial associations, trade unions, social activists, consumers, etc.), marketing (cost of opportunity, demand, competition), or by pressures from unpredictable situations (natural disasters, terrorism, war). In this case, although there is pressure in the sense of a responsible action, the company is free to put itself in any given situation. Points are allocated for impacts mitigated with reactive actions. If mitigation is detected as reactive, the impact on society will be indifferent.

Sensitive mitigating actions: They are characterised by pro-active and preventive behaviours. A socially sensitive company seeks to prevent social and environmental problems from arising or to minimise their effects, concerning a high level of social responsibility. A higher number of points will be allocated to impacts mitigated with sensitive actions. If mitigation is detected as sensitive, the impact on society will be positive.

Two pictures of the Excel model to be completed by the candidate for the loan together with the grantor's auditor.



source: authors' own preparation

Figure 3: Screen of the model/questionnaire that defines the project's impact

9. Integrating the dimensions and sub-dimensions

The results obtained provide an average, a rating and its due classification in the table (from D to AAA). The resulting classification for the project will be added to the classification for the company and so a weighted average will be made with 40% for the company and 60% for the project.

Later, an arithmetic mean of the social and environmental ratings is calculated to create a socio-environmental rating. If this is smaller than the first rating calculated as a financial risk, it must penalise the result. This penalisation may have more or less weighting on this average, depending on the kind of enterprise being evaluated, according to its impact potential, to data comprising the environmental risk, provided by an engineering firm (MOTTA, CALÔBA, VILLA-FORTE). Depending on the activity, a quota interval is provided to be applied to the weighted average with the financial risk. At this point, since there is an interval, the authors give the loan grantor a margin to bargain and arbitrariness that can be discussed with whoever asks for the loan.

Formulário de Risco - Atividade

Divisão:

Grupo:

Classe:

Impacto Ambiental	Intervalo	Pontuação	Classificação	Aliquota Inferior	Aliquota Superior
Pouco Impactantes	8 a 10	10	I	0%	50%
Potencial Variável de Impacto	2 a 8	5	II	25%	75%
Muito Impactantes	0 a 2	0	III	50%	100%
Pontuação da Atividade	5.14		II	25%	75%

Figure 4: Risk potential according to activity

Formulário de Classificação de Risco - Final

Pontuação de Risco Financeiro	28.00
Classificação de Risco Financeiro	AA+
Pontuação de Risco Sócio-Ambiental	11.26
Classificação de Risco Sócio-Ambiental	C
Nota Diferença	16.74

Aliquotas Aplicáveis	
Minima	Máxima
25%	75%

	Scoring	Rating
Aplicando Aliq. Min.	23.81	A
Aplicando Aliq. Máx.	15.44	CCC
Aliquota	50%	
Aliq. Customizada	19.63	BB

Figure 5: Final rating and classification, minimum and maximum quotas

Social impact analysis to date has been considered a way to identify the adverse impacts and to design strategies to mitigate them. This is the basis of the model of many multilateral development banks – the so-called do-no-harm model. They composed, in partnership with the World Bank, the Poverty and Social Impact analysis (PSIA), a recent evolution for strategic analysis as a more effective way to use social analysis to influence results in development. That is, not losing opportunities to influence what kind of investments in development will be made (DANI, 2003).

10. Conclusion

The topic of social responsibility arises from a crying need of the population. Companies need to review their concepts and the mentality of the business sector must no longer be guided by maximum profit, stamping on human and environmental capital. This idea leads to a proposed integration of social risk with the financial and environmental risks in credit analysis. There is an emergent need to analyse policies to reform the distribution of the impact on the well-being of different stakeholders, especially focusing on the poor and more vulnerable (WORLD BANK, 2002), to demonstrate the actual impact and improve future practices (ROCHE, 2002), and therefore seek to benefit projects with environmental and social consciousness.

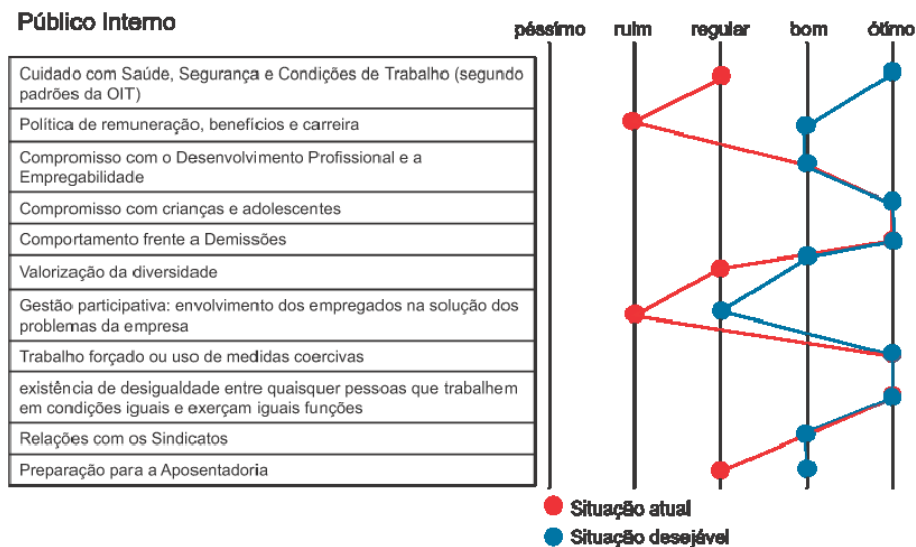
A multi-criteria evaluation is qualitative and comprehensive, requiring much more effort than a simple financial evaluation. An audit will be done by interviews and field surveys, to which the company will not raise obstacles, on the risk of being refused its loan. There might be a

partnership of the Bank with exempt and competent agencies and learning and research institutions in order to overcome operational difficulties, even gaining from the formation of skilled personnel.

Evaluations and methods will very often need to be adapted to fit the context and circumstances of each project and the restraints of the possibilities of an earlier analysis, which will always need to be improved by monitoring, analysis and re-assessment of the policy on an ongoing basis (WORLD BANK, 2002).

The ideal would be organised society playing the role of great auditor of companies, but this is still not a reality in Brazil. The Development Bank will be induced to play this role. If the company fails to comply with the basic precepts of the triple agenda, it will be penalised with a higher interest rate for making new investments. The financial aspect is the most sensitive point in companies, and it was considered, in the methodology proposed herein, to be an instigator of an attitude of social responsibility of companies operating nationwide.

The object of the social risk and environmental risk evaluations is not to increase the interest rate or raise obstacles against granting credit, but rather to adjust the projects that do not fit, in order to create a consciousness and measures that make the project feasible in environmental and social terms, as well as financially, of course. Below is an example of current evaluation and future goals that would make the project feasible or improve its interest rate:



Source: Authors' own preparation

Figure 6 – Example of evaluation and preparation of improvement goals

10. Bibliography

- ALTMAN, E. - **Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy**. *Journal of Finance*. Vol. 23, n. 04, p. 589-609, 1968.
- BOAVENTURA, P.O.N. - **Grafos: Teoria, Modelos e Algoritmo**. Third edition. Editora Edgard Blucher, 1996
- CANUTO, O. - **O Valor da Responsabilidade das Empresas**. *Valor Econômico*, 28/08/2001.
- CAPPELIN, P., MOREL, G. M., PESSANHA, R.L. - **Organizações Empresariais em face da Responsabilidade Social das Empresas no Brasil**, São Paulo, 2002
- CHEIBUB, Z. B., LOCKE, R. M., KIRSCHNER, A. M et al. - **“Valores ou Interesses? Reflexões sobre a responsabilidade social nas empresas”** in *Empresa, Empresários e Globalização*. Rio de Janeiro, Editora Relume Dumará., 2002.
- CORTEGIANO, A. de S. M. A. - **Responsabilidade Social Corporativa – Estudo de Caso da Instalação de Recifes Artificiais na Bacia de Campos**. Rio de Janeiro, RJ. Dissertation for post-graduation engineering program, Federal University of Rio de Janeiro for Master's degree in production engineering sciences (PEP/UFRJ), 2003.

DANI, A. A. – **From Mitigating Impacts to Improving Outcomes**. Presented at the Conference on New Directions in Impact Assessment for Development: Methods and Practice, Manchester, 24-25 November 2003.

DINIZ, E. - **Neoliberalismo e Corporativismo: as duas faces do capitalismo industrial no Brasil**. In: Diniz, Eli (Org.). *Empresários e Modernização Econômica: Brasil Anos 90*. Florianópolis: UFSC/Icadon, 1993.

ELKINGTON, J. - **Cannibals with forks, the triple bottom line of 21st century business**. New Society Publishers, 1998.

FREIRE, F.S.; REBOUÇAS, T. R. S. - **Uma descrição sucinta do Balanço Social Francês, Português, Belga e Brasileiro**. In Silva, César Augusto Tibúrcio e Freire, Fátima de Souza. *Balanço Social: Teoria e Prática*. Editora Atlas. São Paulo, SP, 2001.

HAWKEN, P., LOVINS, A., LOVINS, L. H. - **Capitalismo Natural, Criando a próxima revolução Industrial**. São Paulo, Editora Cultrix, 1999.

INSTITUTO OBSERVATÓRIO SOCIAL - **Responsabilidade Social Empresarial – Perspectivas para a ação sindical**. Florianópolis. 132 p.; 30 cm, 2004.

LUTTWAK, E. - **Turbo Capitalism, winners and losers in global economy**. Harper Collins Publishers, 1999.

MONTANA, P. J. de, CHARNOV, B. H. - **Administração**. São Paulo, Editora Saraiva, 1998.

MOTTA, R., CALÔBA, G. - **Análise de Investimentos**. Editora Atlas. São Paulo, 2002

MOTTA, R. R., CALÔBA G. M., VILLA-FORTE, L. N. - **Introdução do Risco Ambiental na Avaliação do Risco Financeiro de Pedidos de Financiamento Submetidos a um Banco de Desenvolvimento**. Anais do ENEGEP 2003. Ouro Preto, MG. Editora ABEPRO, 2003.

NEVES, C. - **Análise e Previsão de demanda em projetos industriais e de transportes**. Editora UFRJ, 1990.

ROCHE, Chris. **Avaliação de Impacto dos trabalhos de ONGs: aprendendo a valorizar as mudanças**. Editora Cortez. Vila Buarque, São Paulo. 2002.

TOLEDO, O. M.; COSENZA, C. A .N. - **Um caso de Aplicação da Lógica Fuzzy – o modelo Coppe-Cosenza de lógica fuzzy**. XXIII Encontro Nacional de Engenharia de Produção, ENEGEP 2003, Anais, 2003.

TORRES, C. - **Responsabilidade Social das Empresas (SER) e Balanço social no Brasil**. Dissertation of the post-graduation program in anthropology and political science, Federal Fluminense University (PPGACP/UFF), 2001.

SA 8000 **International Standard** - SAI Social Accountability International, October 1997.

SILVA, C. A. T., & FREIRE, F. S. - **Balanço Social: Teoria e Prática**. Editora Atlas. São Paulo, SP, 2001.

SOUZA, H. - **Empresa Pública e Cidadã**. Folha de São Paulo, São Paulo, SP, 26 March, p. 2-2, 1997.

WORLD BANK, Poverty Reduction Group (PRMGR) and Social Development Department (SDV) – **A user’s guide to poverty and Social Impact Analysis**. Work in Progress, draft for comment, 19 April 2002 version.

Sites: <http://www.ethos.org.br> Consulted 5 February 2004
www.observatoriosocial.org.br Consulted 5 February 2004
http://www.febraban.org.br/Arquivo/Servicos/Dadosdosetor/Negocios_2003.asp Consulted 4 February 2004
<http://www.equator-principles.com/ve.shtml> Consulted on 2 April 2004
<http://www.abong.org.br> Consulted 20 August 2004