

**A MODEL FOR THE DETERMINATION OF THE CREDITWORTHINESS
OF MUNICIPALITIES IN SOUTH AFRICA**

by

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ABSTRACT

Because the nature of municipalities differs from that of commercial institutions, norms and standards for the determination of creditworthiness are also different. Although various documented models and studies addressing credit rating related issues in the commercial sector are available, no objective model for determining the creditworthiness of municipalities has been published in South Africa.

This model has been developed specifically for the determination of the creditworthiness of municipalities and is based on objective standards. All the indicators applied in the model are calculated objectively. The net product of the model is therefore a numerical figure indicating creditworthiness at a specific time. The model shows the numerical composition of the figure, and specific indicators or norms of interest can be studied in greater detail.

The model has the following unique features:

- It calculates a numerical value, representing the creditworthiness of a municipality.
- The determination of the creditworthiness figure is objective.
- Trends are calculated and form part of the calculation of the creditworthiness figure.
- The model is parameter-driven - by merely changing the values in the parameter file, all the calculations are changed accordingly.
- The creditworthiness figure from the model does not claim to be an absolutely accurate representation of the creditworthiness of a municipality, but claims to be accurate enough (80/20 principle) to form a basis for reliable and effective management decisions.

This model is the first in South Africa to offer a means of determining the creditworthiness of municipalities objectively. It is a simple model which is based on

the elements representing creditworthiness.

Key terms:

Creditworthiness; municipal creditworthiness; credit rating; municipal evaluation; objective analysis; model.

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CHAPTER 1

INTRODUCTION

- 1.1 GENERAL**
- 1.2 DEFINITION OF THE PROBLEM**
- 1.3 HYPOTHESIS**
- 1.4 OBJECTIVE OF THE STUDY**
- 1.5 METHOD OF RESEARCH**
- 1.6 STRUCTURE OF THE STUDY**
- 1.7 SOURCES CONSULTED**

CHAPTER 1

INTRODUCTION

1.1 GENERAL

Since the 1990s, the concepts of creditworthiness and credit rating have become more important to the local government environment in South Africa. This was not spontaneous, but enforced by money-market mechanisms which are guided by, inter alia, assessments of creditworthiness. The first South African based credit rating agency also started operating during 1990 (Big plans for Africa's biggest ratings firm 1998).

For many years (up to the end of the 1980s), municipalities in South Africa were regarded as excellent debtors because they promptly settled their debts. Since the 1990s, however, many municipalities have defaulted on their debt obligations or have been faced with financial difficulties in meeting them. Rent boycotts during the late 1980s were the main reason for the financial difficulties of municipalities during that era, which resulted in municipalities' inability to meet their financial commitments (Pretorius 1991). Factual reports, like the White Paper on Local Government (South Africa 1998b: section A), indicate that the financial difficulties of municipalities are real and the Project Viability Report (Project Viability 1998) indicates that the tendency towards debt default is increasing.

The providers of capital to municipalities are understandably extremely cautious about entering into loan agreements with them because there is a definite measure of risk involved. This study provides a model for assessing the risk objectively.

1.2 DEFINITION OF THE PROBLEM

A well-known method used in the evaluation of the "creditworthiness" of municipalities

in South Africa is to inquire into their history of loan repayments. If a municipality has defaulted once on the repayment of its loan commitments, that default influences its creditworthiness long after the occurrence, and its rehabilitation is sometimes not taken into account. This approach is applied because up to now there has been no objective method in South Africa for determining the creditworthiness of municipalities.

Before 1994, municipalities in South Africa were directly supported by the higher spheres of government in their efforts to raise capital. The central government guaranteed overseas loans to municipalities, and provincial governments granted loan-raising powers (with administrator's approval) before loans could be raised by municipalities. Loan-raising powers were granted only if the provincial administrator was satisfied that the municipality would be able to meet its future loan commitments. (Each of the old provinces in South Africa had its own relevant ordinances, which regulated borrowing powers, for example the Transvaal Provincial Ordinance No 17 of 1939, section 52(2).) These loan-raising powers were in fact regarded by the providers of capital as a guarantee that the loan would be serviced as per loan agreement.

The granting of guarantees and loan-raising powers to municipalities by higher spheres of government has seen changes since 1994. Section 157 of the Constitution of South Africa provides that provinces may not guarantee loans (presumably loans by local governments within their geographical areas or loans by agencies or corporations of the provincial governments). Similarly, section 188 of the Constitution provides that the national government may not guarantee any provincial or local government loan.

The implication of this change is that higher spheres of government will not intervene and provide any form of financial support in cases of default by any municipality. This has resulted in financial institutions exercising caution in granting loans to municipalities, as their risk has increased dramatically. Although financial institutions consider the local government sphere to be a prominent and viable market for their services, they have to protect the interests of their shareholders and many of them (if not all) are currently investigating viable measures to determine the creditworthiness

of municipalities.

Since the early 1990s, various credit rating agencies have established themselves in the rating of municipal creditworthiness in South Africa (see chapter 3, section 3.5). However, their assessment of the creditworthiness of the municipalities with which they have been involved is not transparent and is somewhat subjective. Each of these agencies has, from a business perspective, profit as its main objective, resulting in municipalities having had to pay for whatever creditworthiness ratings they required. Although most of these agencies have well-established international partners or links and are reliable in providing excellent services and results, these services are costly and not totally transparent.

Since 1994, municipalities have been on their own in establishing equitable "creditworthiness" in order to attract external capital (Roberts 1998). There is an urgent need to develop a reliable model for determining the creditworthiness of municipalities in South Africa.

1.3 HYPOTHESIS

The model is unique in its approach, structure, content and output. The following hypotheses were formulated for the study:

- H1 Municipalities in South Africa are faced with financial difficulties, which prevent them from obtaining loans easily on the South African money-market or from financial institutions.
- H2 The assessment of the creditworthiness of municipalities plays an important role in the granting of loans on the money-market.
- H3 Treasurers or chief financial officers should be able to determine the creditworthiness of their municipality themselves and identify those

critical performance areas that affect the creditworthiness score.

- H4 If the treasurer or chief financial officer of a municipality can determine the creditworthiness of his or her municipality objectively, he or she has a substantial basis for negotiating loans and loan conditions with the providers of capital.
- H5 A model for assessing the creditworthiness of municipalities in South Africa, based on a simple and objective analysis, can be developed.

The model developed for determining the creditworthiness of municipalities in South Africa is a simple and objective tool that enables a quick and reliable assessment of the creditworthiness of municipalities.

1.4 OBJECTIVE OF THE STUDY

The objective of the study is to develop a model that:

- determines creditworthiness
- expresses creditworthiness by means of figures
- is objective
- has a solid theoretical basis
- is easy to use

The model is intended to assist the providers of capital to municipalities, and municipalities themselves, to determine the creditworthiness of a municipality objectively.

The providers of capital will be able to use the model as a tool for objectively addressing the creditworthiness of municipalities without being influenced by subjective issues such as personality clashes between the analysts and the officials or different interpretations of the quality of activities. The model will provide an objective indicator

(being a numerical figure) to be used for purposes such as the determination of the effect of borrowing on a municipality.

The creditworthiness indicator calculated for different municipalities is based on a common set of norms (parameters).

Municipalities themselves can use the creditworthiness indicators to determine their own specific strengths and weaknesses in terms of the model. Those areas of measurement in which they underperform can thus be identified and a concentrated effort can be made to improve.

Various research methods could have been used to formulate the model to determine the creditworthiness of municipalities. However, a combination of methods, all of which are described in the account of the method of research, was used.

1.5 METHOD OF RESEARCH

This study is based firstly on a literature study of the two important subjects, namely municipalities and creditworthiness. The literature study, discussions and existing credit-assessment approaches were required to develop a unique model for the determination of the creditworthiness of municipalities. The model developed was then substantiated by empirical data collected from five municipalities throughout South Africa over a four-year period.

The structure, purpose, objectives and performance of municipalities in South Africa have a direct effect on the approach to developing an acceptable and usable model for the determination of the creditworthiness of municipalities in South Africa.

Creditworthiness in the sense of a rating that is objectively determined is a relatively new concept for South African municipalities. It therefore needed to be properly analysed to identify those areas that are common to the existing approaches and those

that are applicable to municipalities. Furthermore, additional indicators and combinations of indicators and norms needed to be developed, to ensure a logical and practical result. These are all dealt with in the structure of the study.

1.6 STRUCTURE OF THE STUDY

This study is divided into nine chapters. A synopsis of each follows:

CHAPTER 1: INTRODUCTION

This chapter outlines the background to the research topic. The significance of the research and the reasons for undertaking it are explained and the purpose of the study outlined. The structure of the study is also presented.

CHAPTER 2: THE IMPORTANCE OF CREDITWORTHINESS FOR MUNICIPALITIES

Municipalities form the third sphere of government and play a vital role in the attainment of most of the objectives set by the central government. Most people live in areas managed by municipalities and are dependent on these municipalities to provide them with affordable communal goods and services. Spiralling urbanisation in South Africa has resulted in an increasing demand for more and better services, and thus for exceptional managerial and financial management skills. An effective indicator of the creditworthiness of a municipality is a very important management tool for both internal and external users.

CHAPTER 3: THEORETICAL BASIS FOR THE DETERMINATION OF CREDITWORTHINESS

The method used for determining the creditworthiness of municipalities is

somewhat different from that used for commercial institutions. The major objective of commercial institutions is profit-making, and their reporting structure and financial statements are in line with this objective. In municipalities, the objective is not profit-making, but the provision of goods and services which are of the required quality and in the required quantities, but are still affordable. In municipalities there are subjective issues, such as local politics and environmental factors, which have a direct effect on their creditworthiness. It is, however, important to have a thorough understanding of the concept of creditworthiness before attempting to apply it to alternative circumstances. This chapter endeavours to establish a thorough basis for the understanding of creditworthiness by describing and assessing various approaches to creditworthiness which are used by local and international analysts.

CHAPTER 4: THE ELEMENTS REQUIRED IN A MODEL FOR THE DETERMINATION OF CREDITWORTHINESS

The subject of creditworthiness is not new, and a large body of material on approaches to creditworthiness in the commercial environment is available. In developing the model for assessing the creditworthiness of municipalities, it was decided to borrow those elements of creditworthiness that are applicable to the municipal situation from the existing approaches and eliminate or address those approaches with shortcomings. This chapter logically addresses the elements that are required for an effective model.

CHAPTER 5: THE MODEL

In this chapter, structuring and operation of the model are extensively described. The ratios and indicators are calculated and an overall theoretical creditworthiness indicator arrived at.

CHAPTER 6: RESEARCH METHODOLOGY

This chapter describes the research process. It begins with the objectives of the research and goes on to the identification of a sample, the development of the questionnaires, the application of the model based on the questionnaire and the eventual results.

CHAPTER 7: ANALYSIS, INTERPRETATION AND APPLICATIONS

The net value of this research emanates from the usefulness of the research results. This chapter analyses the research results by presenting them in graphical format.

CHAPTER 8: EVALUATION OF THE MODEL

To establish the value and reliability of the model, it was evaluated by means of an outcomes-based analysis approach, as well as an external evaluation, executed by an external provider of capital to municipalities.

CHAPTER 9: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In this chapter the outstanding features in previous chapters are summarised, conclusions are drawn, the implications of the study are highlighted and topics for further research identified.

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CHAPTER 2**THE IMPORTANCE OF CREDITWORTHINESS FOR MUNICIPALITIES**

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 - 2.2.1 The role and nature of municipalities**
 - 2.2.2 The activities of municipalities**
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- 2.6 RISK MANAGEMENT**
- 2.7 REVIEW OF RESEARCH AND APPLICATIONS REGARDING CREDIT-WORTHINESS IN MUNICIPALITIES**
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CHAPTER 2

THE IMPORTANCE OF CREDITWORTHINESS FOR MUNICIPALITIES

2.1 INTRODUCTION

Municipalities are public institutions that render a number of communal services and that came into existence as a result of the needs of communities (South Africa 1998b: annexure B). Communities needed goods and services and some form of authority to regulate their individual activities. This provision of goods and services and the regulatory function developed into highly specialised public institutions known as municipalities. Municipalities do not operate in a vacuum, but are part of the overall government structure. They are generally referred to as the third sphere of government. Central government is regarded as the first sphere and provincial government as the second sphere (South Africa 1998b: section A, par 2.5).

Until the mid-1970s, municipalities in South Africa concentrated primarily on the provision of goods and services, but since then the political function has become more prominent (South Africa 1998b: section E, par 1). During the democratic municipal elections of 1995, party politics played an important role, as was evident in the outcome. Party politics have infiltrated the municipality management structures to such an extent that many decisions are more politically motivated than objective assessment would have suggested. Although on a different level, politics have been part of local government functioning in overseas countries for many decades (Stewart 1983:7; Craythorne 1994:12).

Since 1994, local government in South Africa has experienced a number of changes which include the transition to a "real" democracy and the amalgamation of municipalities with neighbouring settlements and townships. In May 1999 there were 843 municipalities in South Africa, many of which were not financially independent and could be regarded as "bankrupt" (Lunsche 2000, Project Viability 1998:2). Surveys carried out by Duff & Phelps Credit Rating Company during 1998 indicated that 275

(33%) municipalities were in financial difficulties, with 80 on the verge of “imminent financial failure” (DCR 1998:5).

Information obtained from Project Viability, the objective of which was to monitor the short-term liquidity of municipalities and intervene when necessary, indicates that the Department of Constitutional Development estimated that in total only about 150 (17%) of the 843 municipalities in South Africa were creditworthy at the end of 1998 (Project Viability 1998:15). Statistics on the creditworthiness of municipalities for subsequent periods were purely speculative, no firm figures being available.

The position outlined above has significantly increased the level of risk perceived by investors, and as a result it is increasingly difficult, in fact in many cases impossible, for municipalities to obtain capital on the open markets to finance necessary capital investment.

2.2 THE NATURE AND PURPOSE OF MUNICIPALITIES IN SOCIETY

The main purpose of municipalities is to provide goods and services to communities. Municipalities are structured and organised to provide these goods and services. In consequence of their powers and the direct contact they have with their communities, municipalities also act as agents for the other spheres of government, for example by providing basic health care clinics on behalf of the Department of Health of the central government.

According to the Constitution of the Republic of South Africa Act 108 of 1996 (ss 151 & 152) the object of local government is to -

- *provide democratic and accountable government for local communities*
- *ensure the provision of services to communities in a sustainable manner*
- *promote social and economic development*

- *promote a safe and healthy environment*
- encourage the involvement of communities and community organisations in the matters of local government.

The Constitution thus implies that municipalities should be responsible for putting a developmental framework in place in their respective jurisdictions by -

- exercising a political (representative) function (with community participation) to achieve service delivery, social and economic development and a healthy environment
- making political decisions (developing policy) with regard to these core functions.

The key “objects” of local government (according to the above Act, ss 151 and 152) give municipalities some freedom to develop their own strategies for providing services, promoting social and economic development and providing local health care. The Constitution gives them the scope to decide on how to realise these objectives: to decide, for example, whether the objectives can and should be achieved through state-centric measures, privatisation or the use of non-state enterprises in a government-determined agenda.

The Constitution affords local councils some protection in discharging their responsibilities without interference from higher tiers of government. In this regard they are given executive authority and administrative powers (s 156(1), Schedule 4, Part B) in respect of -

- air pollution
- building regulations
- childcare facilities
- electricity and gas reticulation
- fire-fighting services

- local tourism
- municipal airports
- municipal planning
- municipal health services
- municipal public transport
- municipal public works, but only with respect to the discharge of their municipal functions in the Constitution
- pontoons, ferries, jetties, piers and harbours, excluding the regulation of international and national shipping and related matters
- stormwater management systems in built-up areas
- trading regulations
- water and sanitation services, limited to potable water supply systems and domestic wastewater and sewage disposal systems.

Although municipalities have some freedom in the way they perform the functions they are empowered by statute to fulfil, central government controls some of their activities. The Constitution, Act 108 of 1996 provides that municipalities are to be established in terms of the provisions of legislation passed by Parliament and provincial legislatures. Section 151(3) of the above Act stipulates that *“A municipality has the right to govern, on its own initiative, the local government affairs of its community, subject to national and provincial legislation, as provided for in the Constitution.”*

Section 156(1) of the Act stipulates that *“A municipality has executive authority in respect of, and has the right to administer -*

- a. *the local government matters listed in Part B of Schedule 4 and Part B of Schedule 5; and*
- b. *any other matter assigned to it by national or provincial legislation.”*

In practice these provisions mean that municipalities have legislative powers prescribed by laws passed by Parliament and the provincial legislatures. To ensure that municipalities act responsibly and provide accountable government and administration, section 188(1) of Act 108 of 1996 provides that the Auditor-General must audit and report on the accounts and financial statements of all local governments.

Municipalities are the link between the objectives of central government and the general public. To clarify this unique position, it is necessary to elaborate on the role and nature of municipalities.

2.2.1 The role and nature of municipalities

The White Paper on Local Government (South Africa 1998b, s 152) stipulates that local government, namely municipalities, is mandated to:

- (1) *Provide democratic and accountable government for local communities;
ensure the provision of services to communities in a sustainable manner;
promote social and economic development;
promote a safe and healthy environment; and
encourage the involvement of communities and community organisations
in the matters of local government.*
- (2) *A municipality must strive, within its financial and administrative capacity
to achieve the objects set out in subsection (1)*

Within the framework of the above mandate to municipalities, the communities in specific municipalities have specific needs and aspirations which may and do differ from one community to the next. Municipalities are responsible for addressing those needs and aspirations in an organised and well-planned manner. Every municipality should thus develop its own unique mission statement with strategic objectives and a plan of action to address its identified needs and aspirations.

The necessity for properly structured planning by municipalities is endorsed by the Development Facilitation Act (63 of 1995) as well as Schedule 6 to the Local Government Transition Act 97 of 1996 (second amendment), which prescribes extensive planning for municipalities.

A corporate plan drafted by the City Council of Pretoria during 1993, known as "ROMOKORP", is an example of a plan to put mission statements and objectives into practice. In this plan, the City Council of Pretoria committed itself to improving the quality of life of all its residents. All available resources were to be utilised optimally to ensure (City Council of Pretoria 1993:2) -

- that a council be democratically elected;
- that excellence is promoted;
- co-operation and support between citizens, interest groups and the Council;
- that the available resources are optimally developed, utilised and protected;
- that adequate infrastructure is available; and
- a free, just, safe, independent and stable communal life.

In section 153, the Constitution (Act 108 of 1996) defines a developmental role for local government by mentioning two elements. A municipality must:

- *structure and manage its administration, and budgeting and planning processes to give priority to the basic needs of the community, and to promote the social and economic development of the community (s 153(a))*
- *participate in national and provincial development programmes (s 153 (b)).*

It is important to note the wording of the above-mentioned quotation. Municipalities "must give priority to local needs" (s 153(a)). The Constitution requires municipalities to address basic needs first (as a priority). They are therefore required to perform their

key functions, namely -

- service delivery
- social development
- economic development, and
- health care

with a view to meeting their constitutional obligation under section 153(a).

The most outstanding characteristic of municipalities is service provision. For municipalities, profit is not a motive and efficiency is only one of many objectives. More than 30 years ago, Cowden (1969:21-30) stated that the objectives of municipalities include political satisfaction, health and welfare and a number of other activities and qualities that can only be measured subjectively. This subjectivity in the measurement of many of the activities of municipalities is one of the major difficulties in the determination of creditworthiness.

Service provision is the single most important activity that distinguishes municipalities from commercial institutions. The efforts of most commercial institutions are aimed at maximising profits, resulting in dividends for shareholders. Almost all other considerations, for example social and environmental issues, are subject to profit-making (Craythorne 1994:252). In contrast to the market-related approach of maximising profits by private undertakings, municipalities often have to ignore objective economic principles and simply respond to perceived need, rendering services according to the needs of the community. In many cases this includes the provision of socially beneficial services at cost or even at a (sometimes substantial) loss (Cloete 1978:80 & 100).

The provision of socially beneficial services can be subdivided into operating objectives for the following (Hepworth 1980:115, Unisa 1999: sect 4.2):

- The provision of services at full cost recovery, based on user charges

plus a surplus, known as quasi-profit services, for example trading services like water and electricity.

- The provision of services with partial cost recovery, based on user charges with no element of surplus, known as quasi-non-profit services, for example economic services like refuse removal and sewerage.
- The provision of services on a purely non-profit basis, based entirely on the need for these services, for example community and subsidised services like roads and stormwater drainage. These services are usually financed from assessment rates or subsidised from profits made on trading and economic services (if there are surpluses).

Stewart (1983:1) claims that "a municipality is a political institution for local choice as well as a provider of services". The active involvement of politics in the operation of municipalities complicates the management of municipalities and further increases the gap in terms of the operational agreement between municipalities and commercial undertakings.

To complicate comparisons between municipalities even more, general observations show that the provision of services in traditionally "white" areas, administered by "white" municipalities is predominantly of a high standard while service levels in traditionally "black" areas, administered by "black" municipalities, are in most cases much lower. Recent political developments such as amalgamations and demarcations (Demarcation Board 2000) brought these two poles of service levels into the same organisational entity and great pressure has been put on the management of municipalities to bring all service levels in the same area of jurisdiction up to the same standard (Craythorne 1994:7).

Although the executive management structure of municipalities can be compared with that of most commercial institutions, the direct link between municipalities and local as well as national politics to some extent influences the decision-making process of

municipalities. Since 1995 in particular, democracy having been introduced down to the lowest level in communities, there has been a move towards transparency in all municipal activities and the voice of local voters has further influenced the decision-making process. The services rendered and tariff structures applied are the basic elements that distinguish municipalities from commercial organisations and institutions (South Africa 1996a: Part B, Schedule 4). Although some municipal activities (for example, a workshop for repairing motor vehicles) can be compared with activities in the commercial sector, most activities are not comparable. For example, municipalities provide and maintain a variety of access roads and streets with different stormwater disposal schemes and are also responsible for maintenance programmes for the prevention of flooding. According to Swanevelder (1991:35), considering the total spectrum of municipal activities, drawing comparisons between municipalities and commercial institutions is of little value.

A municipality is an important link between the individual resident and the different spheres of government, be it regional, provincial or central government. Here central government largely relies on local governments, through the provincial structures, for the effective implementation of policy (eg housing and health care).

Since the 1994 elections, municipalities have been playing a more important role in political expression and are more sensitive to the needs of their ratepayers. A municipality must manage its activities and risk in such a way that it is able to comply with the communal needs. To this end, in most cases the raising of capital is the most important factor - or the major obstacle - in addressing these needs. Raising capital is in turn dependent on the degree of creditworthiness of the municipality requiring it.

2.2.2 The activities of municipalities

The objectives and functions of municipalities are differently motivated from those in the private (commercial) sector. Municipalities usually provide those services which the

private sector does not want to or may not supply (for instance, as a result of legislation) (Cowden 1969:21-22, South Africa 1996a: Part A, Schedule 4). The management structures and activities of municipalities are still evolving, driven by the needs of the communities they serve. Local and national economic and environmental developments as well as national political trends provide the framework for development and activities in municipalities (Kotzé et al 1984:1, South Africa 1998b: section B).

The management structures and activities of municipalities are clearly reflected in their organisational structures. The organisational structure consists of a number of entities that shoulder decision-making and responsibilities, their task being to provide the service and attain the political objectives that have been formulated. To realise these objectives with the scarce resources available, a decision-making structure with sufficient constitutional support (for example, democratically elected councillors and community supported budgets) is in place, as illustrated in figure 2.1 (South Africa 1998a: chapter 3).

Every form of government must have legislative, governmental and administrative functions. The structure and composition of these institutions will be determined by the physical and social conditions prevailing. In local government these institutions are represented as (Cloete 1996:6-7) -

- legislative - councils
- governing - executive committees
- administrative - departments or divisions.

The services rendered and their extent and quality are determined by the needs of the specific community served. In a local area where there is an efficient and well-reticulated passenger transport service, such as rail transport or privately operated bus services, a municipal public transport service may not be necessary because there is no need for it. Likewise, a very expensive sewerage system in an area with a high natural water level may be absolutely necessary while a much cheaper sanitation

system would be adequate in an area where the natural water level is sufficiently lower and cheaper drainage systems can be used.

Figure 2.1 shows that the various departments report to the full council via the chief executive officer, other service-related committees and the executive committee.

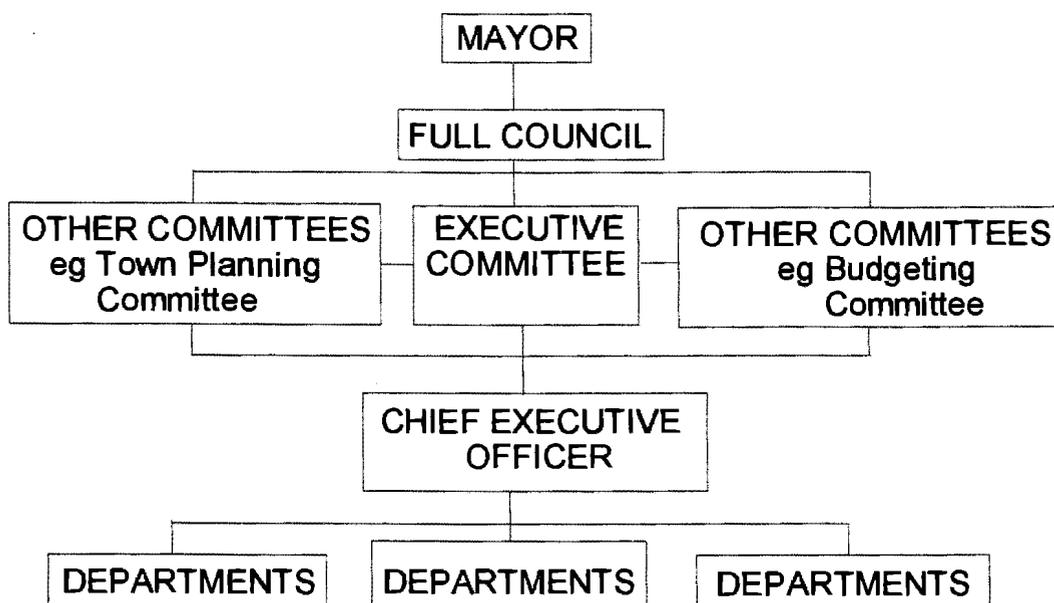


Figure 2.1: Organisational layout of a municipality

The services provided by municipalities are classified into three categories (IMFO 1996a:20), namely -

- rate and general services
- housing services
- trading services.

Rate and general services are all services provided by a municipality which are not housing or trading services. These services range from communal services such as roads and street lighting to services that are measurable such as water and electricity. Rate and general services are further classified into community, subsidised and economic services (IMFO 1996a:21).

- **Community services** are “services provided without any compensatory tariffs or service charges being levied. The costs of these services are financed from assessment rate income and subsidies (for example civil defence, certain health services, roads, and traffic control)”.
- **Subsidised services** are “services the tariffs of which are fixed in such a way that the cost of providing the service may be recovered as far as possible. In many cases, however, such tariffs are purely regulatory by nature. Any losses incurred on such services are financed from assessment rate income and subsidies (for example ambulance service, library service, recreational facilities and civic halls)”.
- **Economic services** are “services the tariffs of which are fixed in such a way that the full cost of providing the service may be recovered without incurring a surplus or deficit (for example housing service, licensing, cleansing service and sewerage service)”.

The main objective of **housing services** is to provide housing for the lower-income groups or underprivileged families. These services are usually grouped into two categories, namely letting schemes and selling schemes. Funds are usually made available by the other spheres of government (mainly the central government) to support housing projects (IMFO 1996a:21).

Trading services provide enterprise-like services such as water and electricity with a view to making a surplus. These services are usually measurable, thus giving consumers or users a choice regarding the quantity and/or quality of service they desire. Trading services are provided on the basis of full cost recovery and tariffs are normally structured in such a way that a surplus is realised (IMFO 1996a:21).

Municipal goods and services are provided on the basis that the total cost of provision must be recovered. All capital projects and accompanied borrowing for the financing thereof, are the result of an extensive integrated development planning (IDP) process

which identifies priorities to be scheduled on the capital program of the municipality for execution. When a project is identified as a priority, whether it is financially more, or less viable, it is implemented, provided that the cost of the project can be recovered by means of service charges, assessment rates, grants or subsidies.

To be able to provide the goods and services described above, municipalities have to execute a number of managerial and operational functions. These are (Boone & Kurtz 1992:5):

- **Planning**, which is the process of setting objectives for the future and developing courses of action to accomplish them.
- **Organising**, which is the process of arranging people and physical resources to carry out plans and accomplish objectives.
- **Leading**, which is the act of motivating or causing people to perform certain tasks intended to achieve specific objectives. It is the art of making things happen.
- **Controlling**, which is the process whereby managers determine whether organisational objectives are being achieved and whether actual operations are consistent with plans.

Although all the above-mentioned management functions are necessary for efficient and effective local government, the primary function is planning with decision-making as the main activity.

2.2.3 Decision-making in municipalities

Decision-making should be regarded as a process where “gut feel” should not play a role, especially where public interest is at stake. Although some decisions have to be made immediately, there is usually sufficient time for thorough consideration before making critical decisions.

Boone and Kurtz (1992:176) define decision-making as follows:

making a choice among alternative courses of action, [which involves] choosing among two or more alternatives by following the steps of recognising the problem, developing and analysing alternative courses of action, selecting and implementing a course of action, and obtaining feedback to determine the effectiveness of the decision.

According to Boone and Kurtz (1992:185), the decision-making process involves the six steps illustrated in figure 2.2.

After the problem has been diagnosed and identified, resources and constraints should be identified. This should make it easier to find alternative solutions to the problem. An informed decision can only be made once the alternative solutions have been thoroughly evaluated. Once a decision has been implemented, it should be monitored so that the decision makers can be given the necessary feedback to enable them to take corrective action if necessary, and/or support the decision.

All decisions involve a definite series of steps that lead to a particular result. Some decisions are made in minutes as the decision maker mentally proceeds through each step in the process. Other decisions may take months or even years. Timely and reliable information is crucial in the decision-making process.

The ultimate decision makers in municipalities are the duly elected councillors who represent the community and/or stakeholders. They rely on the quality and quantity of management information supplied to them in making choices and formulating effective decisions. Management information is the golden thread that joins all the phases of the decision-making process (Boot 1989:31).

Traditionally, reports on matters for council acknowledgement and/or approval are circulated to all the relevant departments for comment before presentation to the

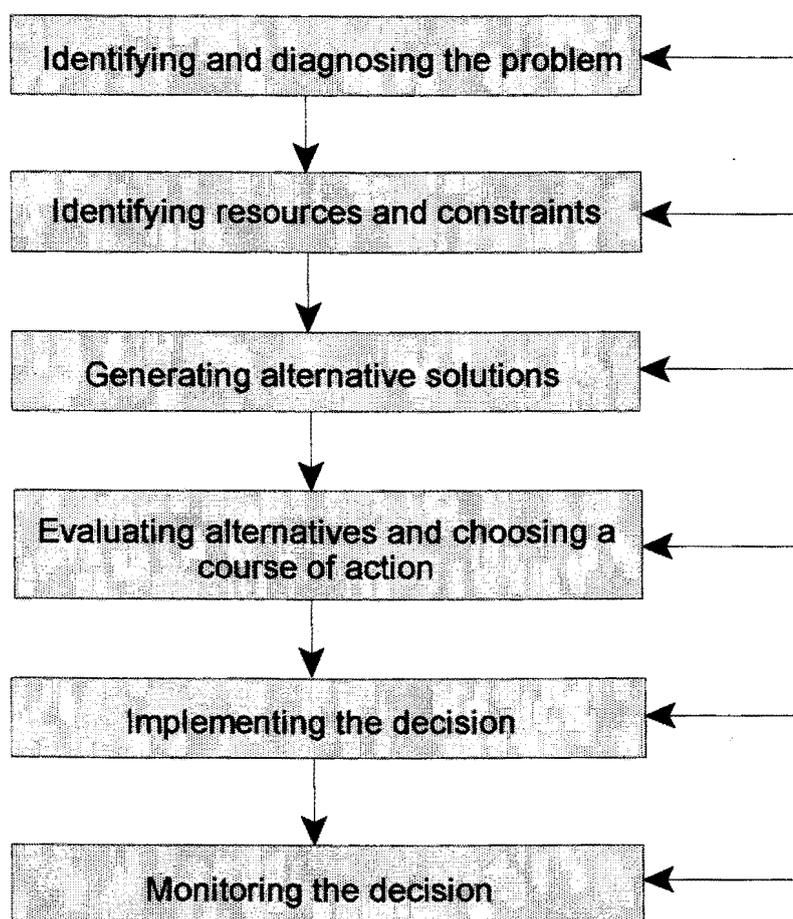


Figure 2.2: The decision-making process

Source: Boone & Kurtz (1992:185)

council. This procedure is still the most effective official communication as it ensures transparency in decision-making. The councillors (decision makers) are democratically elected and come from all walks of life. Practical experience by the author of this thesis in lecturing to municipal councillors has shown that some councillors do not understand and/or are unable to interpret the standard annual financial statements of municipalities. Many do not understand/comprehend some of the reports submitted to the council for decision-making. Municipal officials should therefore concentrate on structuring reports for decision-making in such a way that all decision makers are able to understand the contents of reports and make informed decisions.

The use of applicable formulas and models in the evaluation phase of the decision-

making process can make a valuable contribution to effective decision-making. The formulas and models applied in analysing practical situations should be simple and reliable to ensure acceptability by the users.

2.2.4 The effect of constitutional development on local government

During British rule at the Cape of Good Hope from the beginning of the 19th century, local government in South Africa experienced a number of changes and its development is interwoven with the history of the country. The shaping of the democratic form of local self-government was the result of British rule from the beginning of the 19th century. In those years, the population was comparatively small and scattered over wide areas and central government control tended to be bureaucratic. As the population increased and large numbers of "settlers" immigrated from Britain and Europe, the people demanded a greater say in local and central government matters. Thus bureaucratic control by the central government changed to a more elective approach for municipal institutions.

On 31 May 1961, South Africa became a Republic (the Republic of South Africa Constitution Act 32 of 1961), and three types of legislation corresponding to each form of government were implemented (Cowden 1969:9) -

- Acts of Parliament
- ordinances of provincial councils
- bylaws of municipalities.

The Constitution of the Republic of South Africa (Act 108 of 1996) came into force on 4 December 1996 and representation on local councils is based on a more democratic system. For example, all citizens over the age of 18 are now entitled to vote in elections at the national, provincial and local levels of government (chapter 2, section 19(1) of the above act). In practice, this has resulted in a number of duly elected councillors who do not have the "ability" or never had a "chance" to be introduced to the highly specialised sphere of local government management that is currently needed. The new

dispensation puts additional pressure on already limited resources for the provision of goods and services to local communities at affordable tariffs. Management and decision makers need to be highly efficient to satisfy the needs and aspirations of voters.

Recent developments in local government have influenced the financial sphere to such an extent that the situation can be referred to as a "total onslaught" on financial resources. Total outstanding debtors, which is an acceptable norm for the evaluation of operational efficiency (Swanevelder 1991:127&128) increased from R6,2 billion in 1996 to a total of R10,3 billion in June 1998. The actual level of debtors as a percentage of rates and service charges in all provinces in South Africa increased by approximately 1% per month after October 1996 and totalled 33% in June 1998. Smaller municipalities recorded higher percentages than larger ones, for example 47% for grade 0 - 5 municipalities for June 1998 (Project Viability 1998:6). In Rapport, De Jager (2000:7) published figures on the outstanding debt to municipalities in South Africa, as indicated below the dark line in table 2.1.

In analysing table 2.1, the following should be noted:

- Participation by municipalities during this period was as high as 730 out of a potential 830, calculated as 88% (Project Viability 1999:1).
- The gap in recording the debt between June 1998 and September 1999 which is 15 months compared with a constant quarter (3-month) gap in all other recordings.
- The constant growth from October 1996 up to June 1998 compared with the erratic variations for the last three months.
- The indication by Dr Kapp of the status of debt to municipalities during March 1999 of approximately R12,6 billion compared with the trend shown in the table.
- Only 483 of the 853 (57%) municipalities in South Africa are included in the figures as indicated for December 1999 and March 2000 (De Jager 2000:7) as opposed to the 88% previously mentioned.

Table 2.1: Outstanding debt to municipalities in South Africa (1996-2000)

OUTSTANDING DEBT TO LOCAL MUNICIPALITIES BY CONSUMERS/RATEPAYERS (ALL PROVINCES IN SOUTH AFRICA)	
October 1996	R6 262 016 293
December 1996	R6 468 189 630
March 1997	R7 022 926 233
June 1997	R7 302 584 847
September 1997	R8 490 584 743
December 1997	R8 713 089 066
March 1998	R8 889 312 263
June 1998	R9 360 264 568
September 1999	R7 355 155 277
December 1999	R8 867 108 316
March 2000	R7 416 721 389

The second part of the above table and information on the actual status of municipal debt is questionable since the data are incomplete and varying inconsistently from year to year.

In a document published by the President of the South African Revenue Protection Association (SARPA 2000:3) it is claimed that the debt to municipalities amounted to R13 billion at the beginning of 2000.

It is clear from the above that the finances of municipalities are increasingly under pressure. The major areas of concern are poor management in general and the management of outstanding debtors in particular, as well as a lack of funds to finance activities and infrastructure. Since poor management falls beyond the scope of this research, the topic will not be discussed further.

2.3 THE FINANCIAL REQUIREMENTS OF MUNICIPALITIES

The expectations of most of the fast-growing Third World segment of the South African population have been raised by politicians' pre-election promises, and the fact that they live side by side with a smaller First World society. Raised expectations result in an increase in needs and requirements which can be satisfied only if adequate funds are available (Craythorne1994:493).

To determine and evaluate the financial situation of any institution, municipalities included, financial systems should operate effectively with regular financial statements. These financial statements should be drafted according to acceptable norms which comply with the standards set by the standard-setting authorities (IMFO 1996a:7). In South Africa the Institute of Municipal Financial Officers (IMFO) is the standard-setting body for municipal financial and accounting matters. The Municipal Accountants Act 21 of 1988 legislates the establishment of a Board for Municipal Accountants and the registration of municipal accountants with the Board.

To ensure effective and efficient financial systems and administration, IMFO refer to the following in their Code of Accounting Practice (IMFO 1996a:9-31):

- Accounting concepts.
- Accounting principles.
- Financial reporting.
- Accounting and financial reporting practices

The financial requirements of municipalities are multi-disciplinary. Effective and efficient financial systems and administration should be in place, financial statements should be prepared regularly, a healthy cash flow should be attained and there should be sufficient funding for the implementation of capital programmes.

2.3.1 Financial systems

The financial system of a municipality consists of a central general ledger system which is budget based. The organisation of the operating budget of a municipality also represents its organisational structure. By analysing a municipality's operating budget, it is fairly easy to assess how its different functions and activities are organised and structured in the different departments and sections. All financial transactions are eventually reflected in the central general ledger system. This system has many subsystems, each of which addresses a specific activity; for example a debtors' subsystem keeps track of detailed debtors' information as well as a history file. Other subsystems are creditors' systems, stores systems and vehicle costing. The objective of financial systems is to ensure efficient and effective financial administration; this facilitates effective management information and annual financial statements.

2.3.2 Financial statements

Financial statements can be described as follows (Palepu et al 2000:7-8):

A collection of data prepared according to logical and consistent accounting procedures. It is designed to convey information concerning the financial aspects of an institution. A statement may show a position at a moment in time, as with a balance sheet. It may show a series of activities over a period of time, as with an income statement. Such statements are employed by institutions to present their financial situation to interested parties.

The format and content of financial statements for municipalities in South Africa are prescribed by the IMFO publication "*Published annual financial statements for local authorities*" (IMFO 1996b). This format of the financial statements is a progressive step in bringing the financial statements of municipalities more in line with those of commercial institutions and Generally Accepted Accounting Practice (GAAP). It also complies with the requirements of the Auditor-General (IMFO 1996a:1).

In its continuous efforts to ensure transparent and effective reporting, IMFO is in the process of developing its own statements of Generally Accepted Municipal Accounting Practices (GAMAP). Although the financial statements based on the GAMAP practices will effect changes in the presentation of the financial statements of municipalities, they should not affect the content of the study (GAMAP 1999:2).

Although the development of GAMAP is a further step towards narrowing the gap between municipal accounting practices and GAAP, some differences, especially in the presentation of the financial statements, still exist. GAAP, for example, restructures the disclosure of current assets and liabilities separately under their appropriate headings and does not offset current liabilities against current assets, resulting in a net current asset or liability situation. Currently, GAMAP still follows the old approach of offsetting current liabilities against current assets. During a GAMAP workshop (March 2001), one of the major developers of GAMAP from Deloitte & Touche (Mr Allen York) indicated the areas of difference between GAMAP and GAAP that will be addressed before the legalisation of GAMAP which is expected to be during the 2002/2003 financial year. Currently (2001) municipalities are still preparing annual financial statements in terms of the IMFO (1996b) standards. For the purposes of this study, the 1996 IMFO standard is used in examples and for explanatory purposes.

The overriding principles in the presentation of the financial statements of municipalities are accountability and transparency. The White Paper on Local Government (South Africa 1998b:126) states that the annual financial statements of municipalities should portray financial viability and enable an accurate assessment of the risk that will be incurred if private sector funding, in whatever form, is used.

The objectives of the financial statements of municipalities are as follows (Boot 1996: 1-2):

- To provide reliable and comprehensible information for the reasonable presentation of the financial position and operating results of a

municipality.

- To provide applicable information on the methods used in reaching the planned objectives and the reasons for deviating from them.
- To provide applicable information on economic resources, financial commitments and net assets.
- To provide applicable information regarding the earning and spending of cash and other liquid resources as well as the ability of the municipality to meet its commitments.
- To provide information for purposes of comparison and correct interpretation by users.

All the management functions of a municipality rely largely on the management information as provided by the management information systems. Management information is formally stated in the financial statements.

The financial statements of a municipality form the basis of formal communication with the external environment regarding its financial performance and financial position. Such statements are also a prime source of information in determining its creditworthiness. However, financial statements alone do not normally disclose sufficient information for the performance of a proper financial appraisal. Further investigation, such as an analysis and interpretation of the financial statements, audit reports and operational statistics, is necessary (Sherwood 1976:viii; Swanevelder 1991:221-223).

2.3.3 Cash

Municipalities, like all business enterprises, need sufficient cash to enable them to operate effectively. The more expensive capital expenditure required for large projects is usually financed from external loans, and almost all other expenditure is financed

from cash received for the provision of goods and services. In order to ensure the availability of sufficient cash to sustain operational activities, a well-organised cash planning programme is necessary (Project Viability 1998:11).

If municipalities could rely on all debtors, especially consumer debtors, to pay their dues promptly, cash flow planning would have been much easier, as reflected in the budgeted figures. However, this is not the case, and most municipalities in South Africa are currently experiencing critical cash flow problems (Project Viability 1998:11). Goods and services are provided to communities and charged according to the promulgated tariffs, but some of the beneficiaries either cannot or will not pay for the goods and services received. Apart from taking steps to encourage the collection of outstanding debtors' accounts, outstanding payments should be anticipated in all cash flow planning activities and steps taken to ensure the effective and efficient provision of goods and services from the available cash resources.

Cash comprises (Cilliers et al 2000:587) -

cash on hand and in the bank and cash equivalents such as short-term money-market instruments. Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and are subject to an insignificant risk of changes in value.

In 1995 the Department of Constitutional Development conducted national surveys to establish the liquidity of all municipalities in South Africa. The project was named "Project Liquidity", its objective being to determine the liquidity position of municipalities and implement measures to alleviate cash flow problems. After identifying the extent of the liquidity problem and the reasons for it, Project Liquidity was renamed "Project Viability" in the first quarter of 1997.

Project Viability identified the following main reasons why municipalities were sliding into cash flow difficulties (Training Board 1997:1 & 2):

- lack of proper credit control (outstanding debtors)
- lack of proper management of short-term assets and liabilities
- lack of administrative and technical rationalisation in a subregional context
- insufficient right sizing of municipal services and expenditure savings
- affordability and inter-governmental grants
- the hidden cost of integrating previously separated municipalities
- lack of capacity at both political and administrative levels.

At a meeting of the Industrial Training Board for Local Government held in March 1999, the Project Viability project leader indicated that more than 70% (more than 580) of all municipalities evaluated by Project Viability were experiencing urgent cash flow problems.

The cash position is very important in the determination of the creditworthiness of municipalities. One of the leading analysts in the determination of the creditworthiness of municipalities in the USA (Groves & Valente 1994:76) identified the cash position of a municipality as one of the major objective indicators of its creditworthiness.

Without a proper cash flow, the services provided by municipalities cannot be financed, irrespective of the amount of income raised. It is therefore essential that municipalities convert all income into cash.

Although cash flow statements as required (IMFO 1996b) are prepared and presented by chief financial officers (CFO's) of municipalities, many complaints in which such statements were referred to as an unsatisfactory exercise because of the complexity of compiling them and in which the usefulness of the information provided was questioned, were forwarded to the Local Government Accounting Section at UNISA and also raised at technical meetings held by IMFO. The empirical information obtained from the sample municipalities for the development of the model proved that the cash flow information

provided was somewhat suspect. The "Cash generated by operations" figure used in the model differed from the figure provided in the published annual financial statements and the figure calculated by using a simple cash flow model based on the proposed GAMAP structure by as much as 200%. For the purposes of this study it was decided to apply a simple cash flow model in calculating the annual cash flow for each municipality in the sample and use these results as input in the model.

2.3.4 Financing the services of municipalities

Municipalities have closed financial systems, which means that they must balance their books and raise sufficient income to curb expenditure. If sufficient income (and cash) cannot be raised, expenditure should be limited or reduced. The main categories of sources of income of municipalities are assessment rates (which are generally based on the valuation of property) and other fees and charges for services rendered such as electricity and water provision and the use of swimming pools and libraries (Craythorne 1994:359; Stewart 1983:206).

The activities of municipalities can be divided into the following two broad categories (Craythorne 1994:335 & 351):

- Operating activities which are structured and planned during the compilation of the operating budget, and which organise the day-to-day operating activities and are usually financed from operating income, viz. assessment rates and service charges.
- Capital activities which originate in the long-term capital budget, also called the capital programme, and which are committed in the capital budget of the year and reflect the municipality's future development proposals. These capital activities are in most cases financed by means of external loans. Instalments on external loans, as well as the accumulated interest for the period, must be paid from cash generated from the operating activities (ie operating income).

For the financing of operating activities, which should follow the guidelines of the approved operating budget, municipalities charge rates and taxes as calculated and promulgated in accordance with the approved operating budget. Because of direct financing (from income during the year), only smaller capital items are usually provided for in the operating budget. Apart from the capital charges, intended for the repayment of loans on larger capital items, larger capital items such as water reservoirs or new roads are usually financed from external loans (Cowden 1969:285-287).

Water reservoirs and new roads are typical items to be included in the longer-term capital programme of the municipality. The funding of the projects envisaged should be included in the planning of the capital programme and capital budget.

During the capital budgeting process, consideration is given to the affordability and repayment of loans raised for the financing of projects, together with the additional operating costs, such as maintenance. Although a municipality may regard a capital project as necessary and affordable, the raising of sufficient capital financing at affordable borrowing rates to finance it, may not be easy.

Sources for the financing of capital projects are proposed in the capital budget. Although some municipalities have substantial internal funds such as capital development funds, which can be used to fund some of the projects, the majority of capital projects have to be financed from externally raised capital (external loans) (Craythorne 1994:337). The Accounting Reform Committee, appointed to address the reform of municipal accounting procedures, also proposed that "capital expenditure of substantial value" be financed by means of external loans (GAMAP 1999:19).

In terms of their objectives, municipalities should as far as possible provide goods and services of the right quality and in the quantities required by the communities they serve. In South Africa large amounts of development capital are required for

infrastructure development. Infrastructure development projects also lead to increased operating expenditure such as capital charges for the servicing of the borrowed capital and maintenance costs. The increased operating expenditure and acknowledgement of the affordability and willingness-to-pay issues in the South African local environment have resulted in default of loan repayment in a growing number of municipalities (see sec 2.4). The above-mentioned are some of the reasons for the rapid growth in debt of South African municipalities. These issues also reflect negatively on the credibility of municipalities.

2.4 GROWTH IN DEBT OF MUNICIPALITIES

An analysis of various Quarterly Bulletins of the South African Reserve Bank revealed the debt of municipalities for the period 1989 to 1995 (table 2.2). From 1996 onwards, the applicable information is not available. Some unconfirmed total municipal debt figures were identified from various other sources. However, it was not possible to obtain any reasonably reliable total municipal debt figures from 1999 to date.

From 1989 to 1995, the total debt of municipalities increased from approximately R12 000 million to more than R23 000 million (see table 2.2).

Other sources indicated total municipal debt for 1996 and 1997 as follows:

- June 1996 - In excess of R26 billion (Lunsche 2000)
- September 1997 - R24 billion (Equitable share 1998-99)

No updated information on the debt of municipalities was available.

It is evident from table 2.2 and other information that the total debt situation of municipalities has deteriorated (increased) dramatically in recent years.

Apart from this growth in debt, the ability to service this debt also deteriorated rapidly as the average loan servicing percentage (ie total debt servicing cost as a percentage of total operating income) increased from approximately 10% in 1991 (Swanevelder 1991:209) to 14% in 1998 (Project Viability 1998:4).

Municipalities, like other commercial institutions, rely on debtors to pay their dues promptly to ensure a healthy cash flow and enable them to meet their cash commitments. As the debt of a municipality increases, more cash is required to service the debt, which in turn puts pressure on operating budgets and user tariffs. Table 2.1 indicates the exponential increase in cash owed to municipalities by their consumers. Part of this outstanding cash is required by the municipality to pay its annual capital charges.

Table 2.2: Loan debt of South African municipalities (1989-1995)

GROWTH IN DEBT OF SOUTH AFRICAN MUNICIPALITIES			
YEAR	R million		
	LOANS - STOCK	OTHER LOANS	TOTAL DEBT
1989	4 904	7 109	12 013
1990	5 586	7 609	13 195
1991	5 970	8 296	14 266
1992	6 687	8 498	15 185
1993	7 751	11 051	18 802
1994	8 490	11 099	19 589
1995	8 468	14 751	23 219

Source: SA Reserve Bank, various Quarterly Bulletins

During the last decade there has been a considerable change in investors' attitudes towards the criteria laid down for investing in municipalities. A reason for this change in attitude is that some municipalities have defaulted on the repayment of loans or requested a moratorium or extension on repayments (Gauteng Province 1996). The traditional providers of capital for infrastructure and development projects in

municipalities, for example insurance companies, commercial banks, pension funds and development financing institutions such as the Development Bank of Southern Africa, are concerned about the creditworthiness of municipalities and are not interested in providing capital without corresponding securities and/or some evaluation of the financial situation (Roberts 1998).

2.5 THE ROLE OF CREDIT IN MUNICIPALITIES

Municipalities, like commercial institutions, rely on credit arrangements to streamline their operating activities. Credit arrangements in this sense refer to the granting of credit to taxpayers and consumers (debtors), as well as the obtaining of credit from the providers of goods, for example electricity, water, petroleum products and services such as repairs and maintenance to specialised equipment (creditors).

When granting credit to the public, municipalities usually require a service deposit from consumers. Although different norms apply, this service deposit is regarded as security for the credit accumulating as goods and services are used and must cover the value of consumption of water and electricity for at least one month in advance. In levying this service deposit, which must be paid before services are provided, the municipality ensures that instances of nonpayment will not result in financial losses. This will, however, only be effective if the administrative systems are accurate and reliable and the discontinuation of services is well coordinated and enforced, for example discontinuing the water or electricity supply in cases of nonpayment.

Municipalities also need credit arrangements from their suppliers (creditors), that is the suppliers of bulk electricity and water. Traditionally, municipalities were good creditors and apart from the occasional default on payments as a result of administrative problems, paid their dues promptly. However, in recent years, the occurrence of default on payments to creditors and borrowing institutions has become much more frequent (Project Viability 1998:5 & 8).

As a result of the increasing perception by creditors and investors of default on repayments, municipalities are increasingly required to convince the suppliers of goods and services and investors that they are able and willing to pay on due dates for goods received on credit and repay loans for capital projects. This process of convincing the suppliers of goods and services and prospective investors of their ability and willingness to pay has become more and more difficult as the cases of default have increased. In many instances, rumours of financial difficulty are expedited by the media, and the perception of financial incompetence influences the total local government sector, irrespective of individual cases of excellent financial management and discipline (Threat of bankruptcy as debts escalate 1996).

In this regard, the local government sector, the investment community and the providers of goods and services to municipalities are all seeking an objective system or model for the evaluation of the creditworthiness of individual municipalities to minimise their risk. A study in creditworthiness is a means to support risk management.

2.6 RISK MANAGEMENT

Until recently, risk management in municipalities was regarded as a line function only, and was seen as the activities involved in protecting property against losses due to natural disasters such as tornados and earthquakes, and manmade disasters, such as fires. For many years, the treasurers of municipalities regarded their financial management function as ensuring that sufficient cash was available to pay for daily operations and major capital projects and that excess cash was invested in the most advantageous manner.

Risk management involves far more than this. The ability of a municipality to collect sufficient cash from income raised as well as the raising of sufficient cash for the continuance of its operating and capital activities is also a matter of grave concern. The risk involved stems from the basic needs of communities. Municipalities are responsible

for providing potable water for all their people and seeing to it that it is affordable, thereby limiting the health risk attached to the provision of water. Access to potable water is a constitutional right endorsed by the Constitution of the Republic of South Africa 108 of 1996.

Recently, however, more attention is being paid to financial risk management. The reason for this is increased volatility in interest rates and political influences affecting cash flow tendencies. Financial risk management is generally accepted to mean the maximisation of finance income and the minimisation of finance related expenses (eg interest) within the parameters of acceptable risk set by the institution (Wacht 1991:319). The major factor influencing the maximisation of profits or surpluses in business-related transactions is risk. The higher the risk factor, the higher the profits or surpluses to be earned will be, but the smaller the chance of actual occurrence. If the risk factor is low, the profit margin relating to the transaction involved is usually also low (Correia et al 2000:62-69).

The creditworthiness of a municipality is an important input into the risk management function. An objective and acceptable quantification of the creditworthiness of a municipality will enable the municipality to position itself in terms of its objectives by, say, concentrating on those indicators that need attention in determining the outcome of the creditworthiness assessment. Creditworthiness measures also indicate to prospective investors and creditors the risk involved in doing business with the particular municipality.

The development of a model for the determination of the creditworthiness of municipalities as a major input into the management of risk is a much debated, but little researched, subject. A review of the status of research on creditworthiness in municipalities is therefore appropriate.

2.7 REVIEW OF RESEARCH AND APPLICATIONS REGARDING CREDIT-WORTHINESS IN MUNICIPALITIES

Extensive research into the subject of creditworthiness in the local government environment indicated that little substantial published research on this subject is available.

The credibility of credit-rating agencies is earned by correctly forecasting the future viability of institutions. Although the credit ratings allocated to municipalities by credit rating agencies are widely used by financing institutions, there is little proof of their specific success in the rating of municipalities. The complexity of measuring subjective issues such as the quality of services and community satisfaction, which are important objectives of municipalities, complicates the determination of creditworthiness in municipalities. Thus analysts tend to steer away from trying to quantify the subjectivities in municipalities and instead base their conclusions and recommendations on generalised subjective conclusions.

2.7.1 Research and applications overseas

The ever-increasing financial difficulties of municipalities worldwide are the stimulus for the increased requirement for credit analysis and an increase in the number of credit rating agencies (Electric perspectives 1996:52). All creditors in the First World context require credit analysis performed by credible credit rating institutions (some of which have their own credit analysis activities, for example the World Bank) before credit is granted or investments are made (Griesgraber & Gunter 1996:55-56).

All the major credit-rating institutions, such as Standard & Poor's, Moody's, Duff & Phelp's and Fitch IBCA, are continuously busy with research on the subject of creditworthiness. Their competitive edge is protected by not publishing evaluation specifics. Valuable studies were made on the evaluation of the financial condition of

American municipalities by Groves and Valente (1994). These studies were initiated by the International City/County Management Association (ICMA), and were well documented and published.

2.7.2 Research and applications in South Africa

The importance of determining the creditworthiness of municipalities in South Africa has been highlighted since the turn of the last decade, and a number of internationally based credit-rating agencies have recently established themselves in South Africa.

First National Bank (FNB) identified an extremely lucrative business opportunity in the provision of capital to municipalities, and established a company, INCA, with a view to financing infrastructure in South Africa. A multidisciplinary team developed a comprehensive 55 point Credit Evaluation Model (based on a precursor, which included 15 key risk criteria) and which has been used by FNB's Government Banking Unit in the credit assessment of borrowers in their target market. Their major edge in the market of infrastructure financing is based on this Credit Evaluation Model. The outcome of this model is directly used in calculating the capital exposure of the municipality concerned. FNB claim that their model has proved to be highly reliable and successful and that it was developed locally (INCA 1997:8 & 9). Apart from the information provided in their prospectus, no further information on the structure and/or workings of the model is available (Personal discussion with the executive director of INCA, March 1998).

The subject of determining the creditworthiness of municipalities in South Africa has been researched to some extent but little information has been published. This thesis is currently the only study on this subject in South Africa registered with the Human Sciences Research Council.

2.8 SUMMARY

Municipalities in South Africa are in an extremely eventful phase. The most prominent events were the promulgation of the Constitution of the Republic of South Africa Act 108 of 1996 which introduced a new perspective on democracy, the Local Government Transition Act 200 of 1993 and the Local Government Transition Act 97 of 1996 (Amendment Act) which heralded a dramatic surge for upliftment created by pre-election promises, with local government playing an important implementation role in the upliftment of previously disadvantaged groups.

This new dispensation created numerous opportunities and threats. The opportunities are mostly on the side of the communities while the threats are directed at the formal public institutions compelled by legislation to comply with the predetermined norms and fulfil the promises.

In the context of the necessity for municipal activities to comply with the expectations of the new dispensation, all resources must be optimally utilised. Those municipalities with the potential to comply with the expectations should be supported in their activities. Funds from external investors and credit by external suppliers are essential to enable municipalities to meet their objectives. These external associates of municipalities are also liable to their owners and stockholders and the international example has taught them to insist on acceptable guarantees in limiting the risk of bad debts.

Municipalities are on their own in the endeavour to fund their activities and raise capital for the execution of their capital programmes. Financing institutions in South Africa are currently evaluating borrowers thoroughly before granting any credit. However, in South Africa these evaluations are subjective, and every financing institution has its own method and criteria. International experience has taught us that the most effective and objective method of dealing with the problem of evaluating borrowers is an acceptable credit-rating system. First World financing institutions rely heavily on the credit

evaluations performed by credit-rating agencies before granting credit or loans.

Credit-rating agencies currently operating in South Africa and involved in the rating of municipalities seem to rely heavily on international norms and standards for evaluation purposes. However, if they are to apply to the South African situation, these norms and standards need to be researched and adjusted for applicability. Such research and assessment are time-consuming and expensive.

The purpose of this study is to develop a model that can be applied to any municipality by entering a number of readily available financial and other data as input, and receiving as output an indication of the relative creditworthiness of the municipality concerned. The model should support existing and well-structured credit-rating agencies and municipalities, by indicating the relative creditworthiness. The model used by INCA is proof that an objective model can be used.

Before developing such a model, a theoretical basis for determining the creditworthiness of municipalities in South Africa should be investigated. This is done in the following chapter of this study.

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CHAPTER 3**THEORETICAL BASIS FOR THE DETERMINATION OF CREDITWORTHINESS**

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CHAPTER 3

THEORETICAL BASIS FOR THE DETERMINATION OF CREDITWORTHINESS

3.1 INTRODUCTION

In the previous chapter, the importance of creditworthiness for municipalities was discussed by referring specifically to its nature and purpose, to the role of debt and credit granted and received and to risk. Since the purpose of this study is to develop a model for the determination of the creditworthiness of municipalities, the next step will be to establish a theoretical basis for the determination of creditworthiness.

Models for the determination of creditworthiness were initially designed for larger commercial institutions only. Only recently have models been developed for the determination of the creditworthiness of small businesses (Lear 1989:70). Various international companies such as Standard & Poor's and Moody's and local (South African) companies such as CA ratings, IBCA South Africa and Duff & Phelps' Credit Rating Co evaluate the creditworthiness of municipalities. Apart from INCA (a funding institution operating under the cover of First National Bank which claims that they have developed an objective and effective model for the determination of the creditworthiness of municipalities), no trace could be found of any formal models specifically developed for evaluating the creditworthiness of municipalities.

INCA developed their model specifically to assist them with a "quick" evaluation of the creditworthiness of municipalities. Discussions with their management in an effort to obtain information on the indicators and norms that were used proved fruitless. They claim that their model is accurate, correlates very well with credit ratings done by official credit rating studies in South Africa and as such is very valuable and cannot be made available for general information or for sale.

Groves and Valente (1994) have done valuable work on the evaluation of the financial condition of municipalities. The Financial Trend Monitoring System (FTMS) developed by Groves and Valente is discussed in section 3.5.5.

The rating of institutions is an extremely sensitive and perception-driven activity. It is by no means surprising to find that two internationally recognised credit-rating agencies such as Standard & Poor's and Moody's rate institutions differently. The difference in ratings is usually the result of a different interpretation of the subjective elements involved and the rating agency's approach to ratings. Standard & Poor's have a reputation for being more scientific in their approach to ratings, relying heavily on the results of intensive number crunching, while Moody's are seen to take a broader view (The wrong side of the line 1994:35). Apart from the difference in approach and interpretation, credit rating remains a developing subject. In July 1996, Standard & Poor's announced that they were changing their credit-rating criteria for public power utilities in order to reflect the changes brought about by increased competition. They added "business position" to their analysis. The three areas they analyse for public power credit ratings are: business position, financial posture and regulatory environment (Competition prompts S&P to change municipal rating criteria 1996:6).

In the study of the theory surrounding creditworthiness, the focus is on a description of the subject and an interpretation of current indicators. The applicability of creditworthiness in municipalities is also investigated.

The principles and approaches used by the leading credit-rating firms are explained, evaluated and theoretically analysed before they are considered for inclusion in the model.

Current analysis of the creditworthiness of municipalities is based mainly on financial ratios, accompanied by some unstructured subjective influences. In this chapter the inclusiveness of these ratios is investigated and evaluated. The financial ratios to be included in this model is identified.

Financial ratios are not the only factors to be considered in determining the creditworthiness of municipalities. Institutional and environmental indicators also play an important role. Such indicators that are included in the model are identified.

Changes in financial, institutional and environmental ratios and indicators from one period to the next may themselves be a crucial indicator of creditworthiness. These changes result in the identification of trends. Trend analysis as an element of creditworthiness in municipalities is determined.

3.2 DEFINITION OF CREDITWORTHINESS

In the modern economy, the political, social and financial environments are interlinked and influence one another as well as one another's creditworthiness. The evaluation of creditworthiness, which can also be regarded as collective risk, is of fundamental importance because it is not sufficient to do business with so-called "safe" business partners only, thereby excluding a significant number of businesses that are considered to be marginally creditworthy (Edwards 1976:59). In the local government environment, the determination of the extent of "safety" is expressed by the creditworthiness of the municipality concerned.

Good decisions about the involvement of credit transactions can be made only when sufficient information on the nature of the business, its financial health, opportunities and threats and various other factors is available. These criteria are used to determine the ability ("can he/she?") and willingness ("will he/she?") of the debtor to pay. It thus follows that both financial and non-financial information is required for a thorough assessment in the determination of creditworthiness.

The concept of creditworthiness may include a broad spectrum of definitions, depending on the application. While established credit-rating agencies determine "credit ratings" for municipalities, credit-rating specialists name their credit-rating

models or systems differently. Some credit-rating specialists refer to “bankruptcy models” (Libby & Short 1981:52) to predict those businesses that will go bankrupt within a certain period, some call them “credit-scoring models” (Thomas, Crook & Edelman 1992:5) which indicate those businesses that have a bad credit risk, and others call them “financial condition indicators” (Groves & Valente 1994:1), showing the actual trends which lead analysts to draw a conclusion about the creditworthiness of the institution under surveillance.

For purposes of this study, creditworthiness can be defined as:

A calculated figure where the actual performance of a municipality, as well as internal and external influences on the municipality, is taken into consideration, and which is measured against a predetermined set of norms.

3.3 THE INTERPRETATION OF RATING INDICATORS OF CREDITWORTHINESS

With the globalisation of the economies of the world, where investment and trading activities do not recognise borders, a standardised expression of credit rating is important to enable all role players to adopt an informed view and make informed decisions about the risk involved in specific economic activities. Once a credit-rating analysis has been conducted, the results must be communicated in an understandable and acceptable way, and a credit-rating, identified by a preset abbreviation, is usually allocated to the institution that is being rated. This credit rating then indicates to the investment community the risk involved in investing monetary resources in the rated institution.

Credit-rating specialists like to be unique in the presentation of their results and allocate different names (see section 3.2) to their rating results or use different codes. The larger and more prominent international rating agencies have set some standard which is generally accepted and widely recognised. The rating definitions currently applied by most leading rating agencies are summarised in table 3.1.

Table 3.1: Rating definitions applied by leading rating agencies

Source: Sherwood (1976:11)

LONG-TERM		SHORT-TERM	
Investment Grade		Investment Grade	
AAA	There is the lowest expectation of investment risk. Capacity for timely repayment of principal and payment of interest is extremely strong. Adverse changes in business, economic, or financial conditions are unlikely to significantly increase investment risk.	A.1+	There is an extremely strong capacity for timely repayment.
AA	There is a very low expectation of investment risk. Capacity for timely repayment of principal and payment of interest is very strong. Adverse changes in business, economic, or financial conditions would increase investment risk although not significantly	A.1	There is a very strong capacity for timely repayment.
A	There is a low expectation of investment risk. Capacity for timely repayment of interest is strong. Adverse changes in business, economic, or financial conditions would lead to increased investment	A.2	There is a strong capacity for timely repayment.
BBB	There is a low expectation of investment risk. Capacity for timely repayment of principal and payment of interest is adequate. Adverse changes in business, economic, or financial conditions are more likely to lead to increased investment risk than for obligations in higher categories.	A.3	There is a strong capacity for timely repayment, although this capacity may be vulnerable to adverse changes in business, economic, or financial conditions.
Speculative Grade		Speculative Grade	
BB	There is a possibility of investment risk arising. Capacity for timely repayment of principal and payment of interest exists, but is vulnerable to adverse changes in business, economic, or financial conditions.	B.1	There is an adequate capacity for timely repayment. This capacity is more vulnerable to adverse changes in business, economic, or financial conditions than for obligations in higher categories.
C.1	There is an inadequate capacity to ensure timely repayment.	B.2	The capacity for timely repayment is vulnerable to adverse changes in business, economic, or financial conditions.
D.1	There is a high risk of default or default has already occurred.		

The descriptions of the various grades indicate the marginal difference between some

of the ratings. For example, the long-term investment grade AAA differs from the AA, and A ratings in the words, "lowest", "very low" and "low" risk. Although this difference means a great deal to the informed investment community, it has little significance for the layperson trying to understand the basics of ratings.

The great dividing line between ratings that are regarded as relatively safe and those that are at least slightly unsafe, is BBB (triple-B). Many investment consultants will advise investors not to invest in bonds or institutions rated BBB, unless they are very knowledgeable about bonds and fully aware of the risks involved. The potential returns on those more risky investments are usually better, which in many instances attracts more adventurous investors.

Credit-rating labels for municipalities differ in Standard & Poor's (S&P's) and Moody's, as indicated by the following table (City of Fort Collins 1993:95):

RATING		Description
Moody's	S&P's	
Aaa	AAA	Best quality; extremely strong capacity to pay principal and interest
Aa	AA	High quality; very strong capacity to pay principal and interest
A	A	Upper-medium quality; strong capacity to pay principal and interest
Baa	BBB	Medium-grade quality; adequate capacity to pay principal and interest
Ba and lower	BB and lower	Speculative quality; low capacity to pay principal and interest

During the mid-1970s, Standard & Poor's began adding plus (+) and (-) signs to some of the bonds in its second to fifth highest categories. These symbols were designed to indicate the relative credit standing of such bonds within their rating category. For example, bonds rated BBB+ are viewed as slightly safer than other bonds with BBB ratings (Sherwood 1976:12). In this regard, Moody's followed suit, and within groups, designated those bonds with the strongest attributes with a "1". For instance, A1 or Aa1

would be of a slightly higher quality than A or Aa.

In the informed community, the above ratings are effective and rating agencies will not allocate a rating without a detailed explanation and justification. The ratings done for municipalities in South Africa were also expressed in the same manner. However, in the South African context, the establishment and structure of municipalities, as well as the threats and opportunities they experience are vastly different from those applicable to their American and European counterparts.

Duff & Phelp's, one of the prominent role players involved in the rating of South African municipalities, states in their *Annual local government bulletin* (Duff & Phelp's 1998:19) that a quantitative credit ranking is not a rating. They say that rankings are mainly formula-driven and are based on identified key quantitative criteria. Examples of some of the criteria they include in a ranking are (Duff & Phelp's 1998:19):

- socio-economic characteristics where they consider issues such as the size of the local area, its nature and the diversity of the underlying tax and revenue base, as well as the economic growth of the region
- efficiency statistics where average collection trends, distribution losses and staff cost trends are considered
- credit protection ratios such as gearing and liquidity ratios.

Duff & Phelp's (1998:19) also indicated that subscribers to their *Bulletin* requested information (a general demand) on the relative standing of municipalities with regard to their capacity for timely payment of obligations. In reaction to this request they ranked the 44 municipalities on their database according to the following scoring scheme:

Ranking	Definition
9 - 10	Strong
7 - 8	Good
5 - 6	Adequate
3 - 4	Vulnerable
2	High risk
1	Extremely high risk

This study establishes a new category of creditworthiness expression which is based on a median figure of 100. If the objectively calculated and numerically expressed rating is less than 100, there will be a measure of "negative" risk (where the risk becomes higher as the score becomes lower). On the other hand, if the rating is more than 100 it will indicate the relative "positive" risk (where the risk becomes less as the score becomes higher).

To express the score determined by the model, only three categories of scoring are used:

- (1) low risk - for those municipalities with a total creditworthiness score higher than 95 points
- (2) medium risk - for those municipalities with a total creditworthiness score between 80 and 95 points
- (3) high risk - for those municipalities with a total creditworthiness score below 80 points

After the indicators of creditworthiness as used by the existing credit-rating agencies have been interpreted, the applicability of creditworthiness in South African municipalities is discussed.

3.4 APPLICABILITY OF CREDITWORTHINESS IN MUNICIPALITIES

In the commercial environment, creditworthiness is directly related to financial performance. In the municipality environment, creditworthiness embraces much more than financial performance (Zeigler 1980:57). Issues such as local economic trends, social and political circumstances and infrastructural needs and desires, which are in most cases not directly measurable, and are referred to as "subjective issues", have a definite effect on the creditworthiness of municipalities. On the basis of financial indicators only, a municipality may qualify as an acceptable credit risk, while critical infrastructure such as roads and electrical networks is collapsing because of a lack of

maintenance, and the migration of people into the area may increase the need for housing and worsen the unemployment situation. The subjective issues present in municipalities make an analysis and evaluation of its creditworthiness, based on financial performance indicators only, unreliable.

In a doctoral study entitled "Municipal bond credit ratings: regional patterns and spatial correlates" Zeigler (1980:112) proves that by utilising a selected set of demographic, social and geopolitical variables and by running separate analyses for each local area, the discriminant analysis models he used have a much higher predictive accuracy than that found in other analyses using only financial variables. Zeigler's findings suggest that non-financial variables, which were generally ignored in studies of creditworthiness, need to be incorporated into these studies. His study illustrates the need to devote more attention to the interface between the social well-being of the people and the financial well-being of the municipality concerned.

In order to meet the demands for funds for the normal capital programme of a municipality as well as the reconstruction and development programme which is part of the municipality's social commitment, the money-market has to be approached for capital. All money-market instruments have requirements with which a prospective lender has to comply to minimise the risk of non-repayment of the loan. The most popular of these requirements are guarantees or credit ratings. Prospective investors will probably also look at the credentials of the rating. If the rating was performed by an accredited rating agency, it will be more readily accepted. If the rating company is not accredited, well known, or the method of rating is questionable, prospective investors will not become involved but will prefer to invest with those institutions where the risk is limited as indicated by a favourable credit rating by an acceptable credit-rating agency.

The new political dispensation has increased the capital needs of municipalities as ever-increasing numbers of voters demand better services and infrastructure. Large

capital investments are needed to comply with these needs. As mentioned in par 1.2, municipalities must now compete in the open money-market for capital. One of the chief factors considered by prospective investors in their investment decision is the creditworthiness of a municipality.

Having established the necessity for the determination of the creditworthiness of municipalities in South Africa, the methods used by established credit-rating agencies to determine such creditworthiness need to be investigated.

3.5 CREDIT EVALUATION APPROACHES

In an endeavour to establish an equitable theoretical basis for the determination of the creditworthiness of municipalities in South Africa, a first step would be to describe the existing approaches used by specialists operating in this field. The number and spectrum of published credit-rating results and comments in the printed media indicate that Standard & Poor's, Moody's, Fitch and Duff & Phelps are probably the best-known and internationally accepted credit-rating agencies in the world. It is generally accepted that currently, Standard & Poor's are probably the largest credit-rating agency in the world, with Moody's second, Fitch third, and Duff & Phelps fourth.

The first locally based credit-rating agency was Republic Ratings, which started operating in 1990. Republic Ratings was then taken over by IBCA, an international ratings group, in 1995. Fitch and IBCA amalgamated in 1998 and became Fitch IBCA Inc. Duff & Phelps, also an international ratings group, established an office in South Africa during 1995 and they claim to be the biggest ratings firm operating locally (Big plans for Africa's biggest ratings firm 1998). Standard & Poor's and Moody's are not currently directly involved in the rating of South African municipalities.

It is known that some South African capital-financing institutions like the Development Bank of Southern Africa (DBSA) (Somers 1997) as well as the Infrastructure Finance

Corporation Limited (INCA 1997) apply credit-rating models that have been developed for internal use. The broad philosophy applied in the model used by INCA has been published in their prospectus (INCA 1997), and is described in section 3.5.4. DBSA, however, did not publish any information on their approach to and/or philosophy on the credit-rating of municipalities. During informal discussions with Dr Somers of DBSA (August 1997), it became clear that their approach is objective, practical and in agreement with this study.

In order to establish a clear understanding of the critical performance indicators and other issues to be considered for inclusion in a model for the determination of the creditworthiness of municipalities, the approach of Standard & Poor's, which is one of the largest in this field, and those of Fitch IBCA and Duff & Phelps which are directly involved in South African municipalities, is analysed and evaluated.

Verifiable material on the specific approaches and procedures used by the credit-rating agencies operating in this field is not readily available. The analysis that follows is compiled from annual reports, rating results and ad hoc publications. Although some information may be lacking, the core critical information for determining their approaches should be sufficient. Since Standard & Poor's are considered to be one of the largest credit-rating agencies in the world, a special effort has been made to obtain as much information as possible on their approach. Standard & Poor's approach could also provide a stable basis for further analysis.

3.5.1 Standard & Poor's municipal finance criteria

Although Standard & Poor's have been involved in the rating of the South African central government, they have not been involved in the rating of any municipality in South Africa. In the USA, where Standard & Poor's are most active, the majority of municipal debt is held in the form of bonds. The types of bonds which municipalities in the USA issue are **general obligation bonds**, which are usually backed by the full faith and credit of the state or city that sells them, and **revenue bonds**, which are usually

backed only by the income from or taxes on specific projects (Sherwood 1976:115).

3.5.1.1 General obligation bonds

In their assessment, Standard & Poor's require certain information from municipal bond issuers. In the case of general obligation bonds, the following 10 separate pieces of information are required (Sherwood 1976:115-116):

- (1) A statement of the issuer's overall debt, broken down both as to when each issue will mature and as to the kind of security behind it, that is, the source of the income that will serve to pay off principal and interest. This statement must also indicate the issuer's overlapping debt, that is, its share of the debt of overlapping tax units of which it may be part, such as counties, cities, and school districts.
- (2) The issuer's total assessed valuations of property for each of the past four years.
- (3) The issuer must supply tax-collection statements for each of the past four years. Each statement must indicate the amount of taxes collected in the year in question, the amount collected in the ensuing year, and the amount collected as of a recent date. The statement must also indicate the issuer's tax rate for each of the past four years and the area's overall rate, which means the total of the rates levied by overlapping tax units.
- (4) The issuer must provide a recent estimate of the population of its area.
- (5) The issuer must supply copies of its two most recent annual reports and of its most recent budget.
- (6) The issuer must submit a list of its 10 largest taxpayers, plus the

- valuations placed on their properties. When these taxpayers are corporations, the number of each corporation's employees must be included.
- (7) Standard & Poor's requires a brief description of the area's economy. This description must deal with the nature and character of its economic development, the level of its building activity, and the market valuations of its homes.
 - (8) When applicable, as in the case of a school district, the issuer must indicate its school enrolment in each of the past ten years.
 - (9) The issuer must indicate its borrowing plans for a reasonable period, say, five years into the future.
 - (10) The issuer must delineate its capital-improvement programme for the next five years. In the case of a city, this would include its plans to build or improve streets, sewerage systems, and so forth.

Standard & Poor's lump this and other pertinent data they obtain on the issuer from census data, business journals and other sources into four categories, namely (Standard & Poor's 1995:15):

- debt factors
- administrative factors
- economic factors
- current financial account analysis.

The last two factors are regarded as the most important. All four of these factors should, however, be investigated in order of ascending importance.

Under each of these four broad areas that are considered to be especially relevant to a government's "capability and willingness" to repay its debt, the following issues are reviewed (Standard & Poor's 1995:20-23):

a **Debt factors**

Standard & Poor's examine the following matters under debt factors:

- *The nature of the security behind the bond in question.* A key question is: Does any law prohibit the issuer from selling additional bonds without first obtaining the approval of the voters? If not, does the state constitution or any ordinance impose a limit on the amount of the debt the issuer may incur? If so, what is this limit? How close is the issuer to the limit?
- *A comparison of the issuer's existing and proposed debt against three different measures, namely:*
 - **Per capita debt.** Specific benchmark figures are used by Standard & Poor's in order to determine whether the per capita debt is low, average or high. These benchmarks are, however, constantly adjusted to accommodate, say, inflation.
 - **Per capita debt in relation to per capita income.** Per capita debt amounting to less than 10% of per capita income is considered to be good. Debt amounting to between 10% and 15% of such income is viewed as doubtful. Debt in excess of 15% of such income is deemed to be a little high.
 - **Debt in relation to the total market valuations of taxable property.** The debt of the overwhelming majority of bond issuers ranges from 5% to 10% of the total market valuations of taxable property. Debt that falls on either side of this range is considered to be low or high and is weighted accordingly.
- *The trend in the issuer's debt, as a percentage of its per capita income and the market valuations of its property.* A twofold or threefold increase in the span of a few years would probably be viewed negatively. A

decrease would be counted in the issuer's favour, assuming other factors remain positive.

- *The rate of debt retirement.* In ordinary times, municipal bond issuers usually sell debt that will mature in 15 to 25 years. In very recent years, however, there has been a growing trend towards issuing debt that will mature in an even shorter period. Underwriters find such debt easier to sell. Short-term debt can, of course, be too short term. A major reason why New York City ran into serious financial difficulties in 1975 was that it constantly had to roll over its short-term debt. Standard & Poor's prefer a balance in a municipal bond issuer's debt structure so that unduly large amounts of debt do not fall due in any single year. Such a balance helps to make debt retirement orderly.
- *The issuer's debt service costs.* The issuer's debt service costs are its mandatory payments of principal and interest on loans. When these costs do not exceed 10% of gross revenue, the issuer is ordinarily deemed to be in a comfortable position. But when costs run to 20% or 25% of revenue, the issuer is adjudged to be running, or beginning to run, a risk. From Standard & Poor's viewpoint, much depends on the issuer. If it is a city, debt service costs amounting to 20% or more of gross revenues would not be good at all. But if it is a small rural town which spends money mainly on the building of roads, the percentage of debt service costs to gross revenue could be much higher, without this being a problem.
- *Debt history.* Has the issuer ever defaulted on principal or interest payments? Most have not, but those that have are closely probed, especially if their defaults have occurred in the last two or three decades.
- *Future capital needs.* Standard & Poor's would like to know how much

more money the issuer will need to borrow over the next five years. The key questions are:

- How does the amount that must be borrowed compare with the amount of debt already outstanding?
- How does the outstanding amount compare with what will be required?

If the first figure in either case is high, there may be cause for concern.

b ***Administrative factors***

In the assessment of the administrative factors, Standard & Poor's address the following issues:

- The form of government involved. In other words, does the government have wide-ranging authority and responsibility? In the USA, most cities do not have such wide-ranging authority. For example, they usually cannot impose sales or income taxes without obtaining approval from their state legislatures or, in some cases, without going directly to the voters. Because so few local governments can levy taxes, other than property taxes, on their own, this shortcoming is not necessarily a strike against them. But those that do have the ability usually receive a plus from Standard & Poor's.
- *Management.* Standard & Poor's are particularly concerned about how professional management are. During recent years, the class of managers has improved as professional city managers have emerged. According to John K. Pfeiffer, vice-president of Standard & Poor's bond division (Sherwood 1976:119), these professional city managers are trained for their jobs and are more knowledgeable and alert than their predecessors.

- *Capital-improvement programme and other long-range plans.* Standard & Poor's want to see these plans, ascertain who prepared them and study them for evidence of careful thought or haphazardness.
- *Future pension liabilities.* The adequate funding of pension liabilities reflects directly on the quality or lack of quality of management. Many states and cities have incurred heavy pension liabilities for the future, yet these same states and cities have not always funded these liabilities adequately. In the USA, a study of 44 cities (Standard & Poor's 1995:22) in the state of Pennsylvania showed that they had unfunded pension liabilities in excess of \$1 billion. In some communities in other areas of the country, unfunded pension liabilities exceed bonded debt. This problem is of increasing concern to Standard & Poor's. When municipal management indicate that they are aware of and trying to do something about the problem, they usually receive a plus. When they brush the problem aside, they are apt to receive a minus.
- *Limitations on tax rates.* An issuer may be legally barred from levying taxes above a certain rate, or may be forbidden to set aside more than a certain portion of its taxes to pay off principal and interest on debt. Depending somewhat on how stringent such limitations are, they can be a drawback to the issuer's ability to obtain a high rating.
- *The issuer's tax-collection experience.* Standard & Poor's believe that a governmental body that collects 98% of the taxes owed in the year that they become due is doing very well. Even an issuer that collects 95% is deemed to be doing reasonably well. A lower rate of collection may be cause for concern, although there are exceptions, for example an issuer may have had a long history of collecting 90 or 91% of the taxes owed to it in the year levied, then another 7 or 8% in the ensuing year. This could be the pattern for a community in an agricultural region. One reason for

New York City's troubles in the mid-1970s was that it based its revenue projection and hence its budget on the assumption that it would collect 100% of the taxes owed to it in the year levied. The fact was that its actual tax-collection rate was around 90% (Standard & Poor's 1995:23).

- *The issuer's revenue structure and the elasticity of that structure.* The issuer may rely heavily on a certain kind of tax, which may in case of a recession, wreak havoc with both its revenues and its budget. Standard & Poor's like to see the principle of diversification practised with a reasonable balance in the kind of taxes levied by a municipal bond issuer.

c ***Economic factors***

Economic factors play a critical role in Standard & Poor's assessment of municipal bonds. The state of an issuer's economy has a direct impact on its ability to service its debt.

- *Economic stability.* A vice-president in the municipal bond department of Standard & Poor's, Hyman C Grossman, said the following during an interview: "First and foremost, we look for economic stability. If the tax base is not diverse, then we very much hope that employment opportunities are. In this connection we check the **stability of employment** and how this stability or lack of stability compares with that of nearby areas or comparable states or cities elsewhere. Obviously, the rate of unemployment is also taken into account" (Sherwood 1976:120).
- *Population.* Population is also checked, especially its rate of increase or decline. The normal and ideal trend is a gradual increase in population. John K Pfeiffer, vice-president of Standard & Poor's bond division said the following about population: "A rapid increase in population may be a sign of approaching problems in the form of heightened demand for more

hospitals, schools, and other municipal services. A decline, of course, often indicates that problems have already arisen in the form of fewer jobs or a dwindling middle class" (Sherwood 1976:120).

- *Per capita ratios.* In assessing an issuer's economy, Standard & Poor's look into -
 - the estimated market values of all taxable properties
 - the per capita estimated market values of homes
 - the per capita volume of wholesale and retail sales .

Indeed, the overall economic performance of the issuer, as it compares with its particular area, its state and the nation as a whole, is as important as anything else in this category.

d ***Current financial account analysis***

Standard & Poor's finally make an analysis of the issuer's current account, in particular of its fiscal performance in relation to its budget and balance sheet.

- *Year-end financial performance.* Did the main operating account end the most recent fiscal year with a surplus, in balance, or with a deficit? Standard & Poor's viewpoint is that although any issuer may end up with a deficit, especially during a recession, a closing deficit for three successive years is a decidedly negative factor since such a trend cannot be allowed to continue for any length of time.
- *Budget performance.* Standard & Poor's look well beyond the question of whether the budget is in balance. For example, they want to know how rapidly the budget is increasing in size. In inflationary times an increase of only 10% per annum is considered reasonable, other things being equal. An increase of 20% or 25%, however, is considered a cause for

concern, especially if the tax base is expanding at a much slower rate.

- *Current assets.* Standard & Poor's are particularly interested in the issuer's quick assets, that is cash and securities that can be quickly marketed. They are somewhat less interested in the amount of federal and state aid the issuer may expect because such aid often arrives late. In certain instances, such aid may be important, for example some districts and states rely heavily on state aid. The question then arises: What happens if the state cannot maintain its present level of funding?
- *Independence of audit.* Standard & Poor's consider
 - whether an issuer's financial accounts are independently audited
 - the standard or quality of the audit
 - whether the audit and audit reports were on time.
- *Transparency of financial activities.* Standard & Poor's try to ascertain whether the issuer engages in any kind of financial gimmickery. This can count heavily against the issuer. New York City, for example, engaged in gimmickery of various sorts for a long time. It therefore got into the habit of using the proceeds from short-term debt to finance long-term capital expenditure and of using the proceeds from long-term debt to pay day-to-day operating expenses, thus violating some very basic rules of financial prudence. Yet New York has not been the only offender in this regard. Late in 1975, Standard & Poor's lowered their rating on Philadelphia's debt because of that city's operating deficit and its accounting practices. Among other things, it was borrowing from its capital fund to meet its operating budget and counting on revenues that might never materialise. (Standard & Poor's 1995:23)

Debt, administration, economy and current account factors are the four major areas that Standard & Poor's examine in weighing general obligation bonds.

3.5.1.2 Revenue bonds

Revenue Bonds are bonds secured only by the income from taxes or income on specific projects. Regardless of the precise purpose of a given issue, all issuers of revenue bonds must supply information in the following six basic areas:

- (1) *A statement describing the purpose of the issue.* This statement must include a breakdown of estimated construction costs, the indicated starting date of the construction, and the expected completion date.
- (2) *An engineering report, a feasibility study or both.* This must include a complete history of the system involved, presuming it is already in existence; a statement justifying the need for initial or further construction, with a description of the benefits likely to result; and a list of competitive systems in the area, with an indication of how their services compare with those of the system being proposed.
- (3) *Audit reports for the past three to five years.* This assumes that the system has been in existence for as long as this.
- (4) *Details of the security for the bond.* These include an indication that issuer is pledging its net revenues towards payment of principal and interest; its proposed flow of funds, that is, the order in which it proposes to pay its bills and obligations; a description of any special funds it has established and their use and purpose; parity provisions, that is, whether any other bonds have equal or greater claims on revenues than the bond in question; the terms of the bond's indenture; a description of any outstanding liens on the project's assets or revenues; and the project's debt service schedules for outstanding issues and the new issue.

- (5) *Any other covenants that help to protect the property.* Standard & Poor's want to know what insurance is carried on or in relation to the project, who is responsible for maintenance and repairs, and whether compulsory audits are required.
- (6) *Economic data.* Standard & Poor's require economic data about the area in which the project will function. Such data must include population trends, income levels, the composition of local industry, and so forth.

The nature of further information that is required will vary according to the nature of the project. For example, in the case of an electric system, Standard & Poor's demand a description of power capacities and the ways this power is used; rates and charges, completely broken down; a customer count, both historical and projected; a list of projected large commercial and industrial users; and an indication of the availability of power contracts.

The four factors Standard & Poor's consider to be the most important in rating revenue bonds are -

- (1) the level of debt service coverage
 - (2) the stability of the revenues pledged towards debt service coverage
 - (3) the bond's basic security provisions
 - (4) management.
- (1) *The level of debt service coverage.* The level of fixed-charge coverage expected of revenue bonds varies somewhat according to the nature of the project. Standard & Poor's will not let any project have its bonds qualify for a rating of triple B or higher unless its net revenues at least matches its fixed charges after the issue of the new bond. Otherwise Standard & Poor's insist that they have no immutable standards on what constitutes adequate coverage.

On the issue of standards for adequate coverage, Richard E Huff, a vice-president in the municipal bond department has the following to say: "We have been asked this question many times, and our answer is always the same. I could cite many examples of comparable projects with comparable fixed-charge coverage. Yet one receives an A+ rating, verging on double-A, while another barely qualifies for a triple-B rating. Why is this so? One reason is that we're just as concerned with the **quality** of coverage as with the **quantity**. For example, the New Jersey Turnpike Authority has never had an excessive amount of fixed-charge coverage. Yet its bonds are rated single-A or better, in part because it is able to increase its tolls whenever necessary to meet its fixed charges and other costs" (Sherwood 1976:125).

- (2) *The stability of the revenues pledged towards debt service coverage.* The question Standard & Poor's ask is: How stable are pledged revenues? Their stability can be affected by a host of matters - a growth or decline in population being one. The overall status of a region's or the nation's economy is another. A recession can have a particularly devastating effect on airport revenues. This may be particularly true if an airport relies heavily on tourist business. Airlines may simply cancel many flights.

A project's rates also affect its revenues. Standard & Poor's check whether a given project is charging rates comparable to those of similar facilities in its region. It also checks whether the project can raise rates on its own or whether it must obtain permission from local government or a regulatory commission. Whichever is the case, Standard & Poor's check whether the project has enjoyed a history of timely rate adjustments.

Depending on the nature of a project, special factors may also affect revenues. For example, if a water-supply system is considered, its location in an area subject to natural catastrophes such as droughts, hurricanes or floods can

reduce revenues.

Standard & Poor's investigate all the above-mentioned factors in studying revenue stability. If a system has been in operation for a number of years, they want to know whether revenues have been stable in the past.

(3) *The bond's basic security provisions.* In assessing a bond's basic security provisions, Standard & Poor's look into the following issues:

- *The basis on which revenues are pledged.* Standard & Poor's much the pledging of net revenues and, in any event, always analyse the revenues on a net basis. The point is, operating costs could absorb gross revenues, leaving little or nothing.
- *The order in which the project plans to spend its revenues.* The usual order is maintenance costs, debt service, reserve fund and renewal and replacement of equipment. Reversal of this order may raise questions.
- *A reserve fund.* This fund is set up to provide a cushion against the possibility that revenues may not always be sufficient to pay off principal and interest. Standard & Poor's prefer that the amount set aside should initially or soon be equal to at least one year's debt service costs.
- *Allocation of surpluses on the project.* What will happen to any surplus the project may earn? Will the project be allowed to keep it, or will the city in which the project is located siphon off the surplus either totally or partially? There are advantages both ways, but Standard & Poor's at least want to know what the arrangement will be.
- *Indenture terms.* Indenture terms can be important. Of particular concern is the nature of the limitation on issuance of additional bonds in the

future. A common provision is that the project must maintain a certain level of debt service coverage before being allowed to sell more debt.

- *Outstanding liens on its revenues.* If the project has any outstanding liens on its revenues, these may have an impact on its ability to pay off debt, as can debt service schedules. If a project has a number of bonds outstanding, it may become overburdened with payments of principal and interest in certain years. Orderly retirement of debt is desired.

- *Compulsory annual audits.* Are the project's accounts subject to compulsory annual audits? They usually are, but Standard & Poor's want to be assured that independent auditors are used.

- *Other issues in determining whether a bond's basic security provisions are adequate.* These involve the following:
 - Similar projects to be compared with each other?
 - Is there sufficient insurance, not only to cover debt service costs but also to pay for rebuilding costs and employee wages, in the case of destructive disasters, say a fire?
 - Who is responsible for paying the project's maintenance and repair costs? As a rule, the indenture clearly indicates that either the city or the utility will be responsible.

Standard & Poor's must assess whether the responsible party lives up to its obligation. To make sure, they encourage projects to hire outside consultants every few years to do surveys.

- (4) *Management.* Financial results are one indicator of the quality of management, as is evidence of the ability to plan ahead. So, too, is evidence of a willingness to raise rates in the face of political pressure not to raise them.

3.5.2 Fitch IBCA (South Africa)

Fitch IBCA uses the same rating abbreviations as were described in section 3.3. No detailed information could be found on their specific approach to the rating of municipalities. Some of the more critical areas they consider in their evaluation and assessment process could, however, be deduced from published rating reports. Fitch IBCA recently rated the City of Cape Town and a summarised rating report was published on 25 February 1998.

From the available published report (Fitch IBCA 1998), the City of Cape Town has been assigned a domestic short-term rating of "A1" and a domestic long-term rating of "A+". High credit quality "A" ratings denote a low expectancy of credit risk. The capacity for timely payment of financial commitments is considered strong. This capacity may, nevertheless, be more vulnerable to changes in certain circumstances or under certain economic conditions than is the case with higher ratings.

In their assessment, Fitch IBCA noted the following issues which influenced the rating:

3.5.2.1 *Environmental issues*

- Cape Town is a favoured tourist destination.
- It is the centre of the funds management sector in the country, with a number of secondary banks having their headquarters in the area.
- Oil companies are well represented.
- There are well established educational facilities.
- The local economy has grown at a better rate than in many other areas in the country.
- It has not escaped the loss of employment opportunities in the formal sector.
- There are many service disparities.

3.5.2.2 *Financial issues*

- Operating expenditure budgets provide for a moderate deficit before accounting for contributions from other spheres of government.
- Non-receipt of expected contributions from other spheres of government would be unlikely to materially impact negatively on Cape Town.
- Debt service levels are currently moderate.
- The final apportionment of assets and liabilities of the authorities in the area is expected to be completed during the year and there is a good chance that Cape Town will see a much reduced debt profile, which will provide capacity for tackling the capital expenditure targets.

3.5.2.3 *Institutional issues*

- It has a broad tax revenue base, with only limited reliance on other spheres of government for funding.
- Reliance on electricity and water sale profits is within the average seen in South Africa.

From the above-mentioned summarised published rating report by Fitch IBCA, and in the absence of more specific information on their rating procedures, it seems that the eventual rating result is determined fairly subjectively. The issues considered in their rating process can, however, be categorised as environmental, financial and institutional.

Trends have a direct influence on the rating results allocated by Fitch IBCA. Almost all indicators evaluated and assessed were compared with historic tendencies.

3.5.3 Duff & Phelps's Credit Rating Company of Southern Africa (Pty) Ltd

After a series of takeovers, the founder of the first credit rating company in South Africa, Republic Ratings, negotiated a relationship with Duff & Phelps's International, and Duff & Phelps's Credit Rating Company of Southern Africa (Pty) Ltd (DCR) came into existence in 1995.

DCR claims that in March 1998 it was dominating the South African market, where it rated or did research on more than 200 organisations ranging from banks, medical aid funds and insurance companies to large industrial borrowers, municipalities and parastatals (Big plans for Africa's biggest ratings firm 1998).

Regarding municipalities, DCR publishes an *Annual local government bulletin*, which first appeared in October 1998.

As with all the other rating agencies, no or very little published information on its rating philosophy and approach is published. An analysis of specific rating reports and its *Annual local government bulletin* are the only means of identifying its specific approach to the rating of municipalities.

DCR defines rankings as "...mainly **formula driven** and based on identified key **quantitative** criteria" (Duff & Phelps's 1998:19).

In describing the main difference between a quantitative credit ranking and a credit rating, DCR states that "... rankings do not encapsulate certain key **qualitative** inputs" (Duff & Phelps's 1998:19).

The main objective of this study is the development of a model that is formula driven, based on identified key quantitative (performance) and qualitative criteria. Because the qualitative aspects present in municipalities are incorporated and the above definitions

by DCR are used as the basis, the model developed in this study may be regarded as a **credit-rating model**.

In its October 1998 annual report (Duff & Phelps's 1998:19), DCR indicated the following key quantitative criteria on which the credit rankings of municipalities are based:

- The **socio-economic** characteristics of the region. In this category they refer to issues such as -
 - the size
 - the nature and diversity of the tax and revenue base
 - the economic growth of the region.
- **Efficiency** statistics. In this category they refer to issues such as -
 - average collection trends
 - distribution losses
 - staff cost trends.
- **Credit protection ratios**. In this category they refer to issues such as -
 - gearing
 - liquidity ratios.

In their assessment they use published historical data, and considerable emphasis is placed on liquidity characteristics. These rankings are short term and not "future oriented".

3.5.4 Infrastructure Finance Corporation Limited

The Infrastructure Finance Corporation Limited (INCA) has been established as a public company dedicated to infrastructure development financing. In their prospectus, INCA state that their aim is to create value for their investors by "applying consistent and expert credit evaluation techniques for the evaluation of potential borrowers so that credit risk can be accurately priced" (INCA 1997:3).

INCA use a "credit evaluation model" (CEM), which they claim gives them the capacity

to identify the risks involved in infrastructure lending and enables them to price these risks accordingly (INCA 1997:7).

The CEM used by INCA uses statistical techniques to evaluate the risk profile of a borrower and measures this against a database of important national standards. The five main risk categories on which the CEM focuses are -

- (1) the **financial position** of the borrower
- (2) the **economic environment**
- (3) the **institutional capacity** of the borrower
- (4) **environmental management**
- (5) some **socio-political issues**, such as unemployment, housing and levels of service payments.

Each of the above-mentioned risk categories is evaluated, weighted and scored. The resultant score is then used to determine the relative creditworthiness of a borrower (INCA 1997:9).

Apart from the above limited information available from the INCA prospectus (INCA 1997), no additional information is available on the specific approach and application of their CEM.

3.5.5 ICMA's Financial Trend Monitoring System

The Financial Trend Monitoring System (FTMS) as described and researched by Groves and Valente (1994), is regarded as an important source in the endeavour to seek and develop a reliable model for the determination of creditworthiness of municipalities. The approach of Groves and Valente is described and discussed extensively in this section.

When analysing the creditworthiness of municipalities, the importance of trends is evident. All specialists commenting on this subject include some reference to historic

trends and forecasts in their analyses. In an ICMA publication "Evaluating Financial Condition", Groves and Valente (1994) applied the FTMS which identifies and organises the factors that affect financial condition so that they can be measured and analysed. This system (model) recognises the importance of financial factors in the assessment of municipalities, but also includes the vital environmental and organisational factors.

The approach by Groves and Valente is examined in sections 3.5.5.1 to 3.5.5.4 by identifying and describing the categories of indicators and evaluating their system.

3.5.5.1 *Solvency indicators*

The solvency indicators identified by Groves and Valente (1994:1) express the meaning of the term "financial condition", which can be interpreted in a narrow or a much broader sense.

The solvency indicators identified by Groves and Valente (1994:1) are as follows:

- **Cash solvency** refers to a municipality's ability to generate enough cash to meet its short-term (30 to 60 days) cash commitments.
- **Budgetary solvency** refers to a municipality's ability to generate enough income over the normal budgetary period to at least realise a break-even situation.
- **Long-run solvency** refers to a municipality's ability to pay for all the costs of doing business in the long run, and is seen in a broader sense than the previous two solvency indicators.
- **Service solvency** involves the following: As a result of the uniqueness of municipalities which stems from their main objective, namely service

provision, the evaluation of creditworthiness or the financial condition of municipalities needs to take into consideration the provision of services at a level and quality required by the community.

In practice, the determination of the first three solvency indicators, namely cash solvency, budgetary solvency and long-run solvency, is not particularly difficult because they are functions of the financial system, and the figures necessary for calculating them are readily available if the financial statements are drafted according to the specified format and are in fact available.

Service-level solvency, however, is different. A municipality may be in a sound financial condition, but unable to support, say, health, traffic and fire protection services at an adequate level. An attempt to provide these services at an acceptable level may cause cash, budgetary, or long-run solvency problems.

Groves and Valente (1994:2) define financial condition as “a local government’s ability to finance its services on a continuing basis”. More specifically, financial condition refers to a municipality’s ability to -

- maintain existing service levels
- withstand local and regional economic disruptions
- meet the demands of natural growth, decline and change.

3.5.5.2 *Financial condition factors*

Groves and Valente (1994:4) identify three categories of factors to be considered when evaluating financial condition, namely environmental factors, organisational factors and financial factors. The factors under each of these categories, with the relevant indicators, are explained as follows:

a Environmental factors

Environmental factors are the external influences on a municipality. The following external influences affect municipalities (Groves & Valente 1994:4):

- the creation of demands, for example an increase in population which results in an increase in infrastructure facilities such as water reservoir capacity as well as an increase in the number of traffic officers, and
- the provision of resources, such as tax revenues and income from the water sales increase that accompanies an increase in population.

Examples of environmental factors are -

- local community needs and resources
- external economic conditions (national and regional)
- intergovernmental constraints
- natural disasters and emergencies
- political culture.

To prevent the financial condition of municipalities being negatively affected, the environmental factors must at least generate enough resources to pay for the demands they make.

b Organisational factors

Groves and Valente (1994:146) regard management practices and legislative policies as the factors with the most critical influences on financial conditions. These factors can be described as the municipality's responses to changes in environmental factors. Management practices and legislative policies are central to the process of flow of influence and information and should therefore continuously filter through the changes in the environmental factors to make possible the desired results in the financial factors. Services must be extended or reduced, efficiency increased or taxes raised as an organisational response to the changes in the environmental factors. Current limiting

factors on the organisational behaviour of South African municipalities are the political preferences and legislative restrictions influencing management practices. A municipality should be given the space to respond appropriately to changes in the environment.

Management practices and legislative policies are considered to be crucial in all credit rating exercises (Sherwood 1974:119). The professionalism of management, for example, is assessed by examining the quality of financial reporting and capital planning, and by checking to see whether the government has used any financial gimmickry (Sherwood 1974:119 & 121). The responsiveness of the legislative body is determined by considering whether elected officials have been willing to raise tax rates when necessary (Sherwood 1974:127).

In Groves and Valente's FTMS, the organisational factors do not have any indicators, but have evaluation questions to help clarify their impact on the municipality's financial condition. The financial factors are largely a result of environmental and organisational influences. Cash, budgetary, or long-run insolvency will be the eventual result if the environment's demands are greater than the resources it provides.

c Financial factors

Indicators were allocated for each one of the financial factors identified by Groves and Valente. The financial factors with their relevant indicators are presented in table 3.2.

The trend indicators shown in table 3.2 indicated by "increase" or "decrease" show potential problems that require further analysis. Indicators showing both an "increase" and a "decrease" mean that any deviation in the indicator may pose a potential problem.

To put the FTMS by Groves and Valente into perspective, it can be illustrated diagrammatically as in figure 3.1.

Table 3.2: Financial factors with their relevant indicators

FINANCIAL FACTORS	CATEGORIES	TREND INDICATORS
REVENUES	- Growth	- Revenues per capita (increase or decrease)
	- Flexibility	- % Intergovernmental revenues (increase or decrease)
	- Elasticity	- % elastic tax revenues (decrease)
	- Dependability	- Property tax revenues (decrease)
	- Diversity	- % one-time revenues (increase)
	- Administration	- % uncollected property taxes (increase) - % user charge coverage (decrease) - % revenue shortfalls (increase)
EXPENDITURES	- Growth	- Expenditure per capita (increase)
	- Mandated costs	- Employees per capita (increase)
	- Productivity	- % fixed costs (increase)
	- Effectiveness	- % fringe benefits
OPERATING POSITION	- Operating results	- % operating deficits (increase)
	- Fund balances	- Enterprise losses (increase)
	- Reserves	- % fund balances (decrease)
	- Liquidity	- % liquidity (decrease)
DEBT STRUCTURE	- Long-term debt	- % long term debt to: * Assessed valuation (increase) * Population (increase) * Personal income (increase)
	- Short-term debt	- % current liabilities (increase)
	- Overlapping debt	- % overlapping debt (increase)
	- Debt schedules	- % debt service (increase)
UNFUNDED LIABILITIES	- Pensions	- % unfunded pension liability (increase) - % pension assets (decrease)
	- Leave benefits	- Accumulated employee leave (increase)
CONDITION OF PLANT	- Depreciation	- % depreciation expenses (decrease)
	- Asset inventories	- Capital outlay (decrease)
	- Maintenance and replacement schedules	- Maintenance effort (decrease)

Source: Groves & Valente (1994:94)

3.5.5.3 Evaluating the results of FTMS

Groves and Valente (1994:9) recommended that the indicators should be monitored over a period of at least five years. By monitoring trends over longer periods, one can determine how fast an indicator is changing and in which direction. Trends can also be

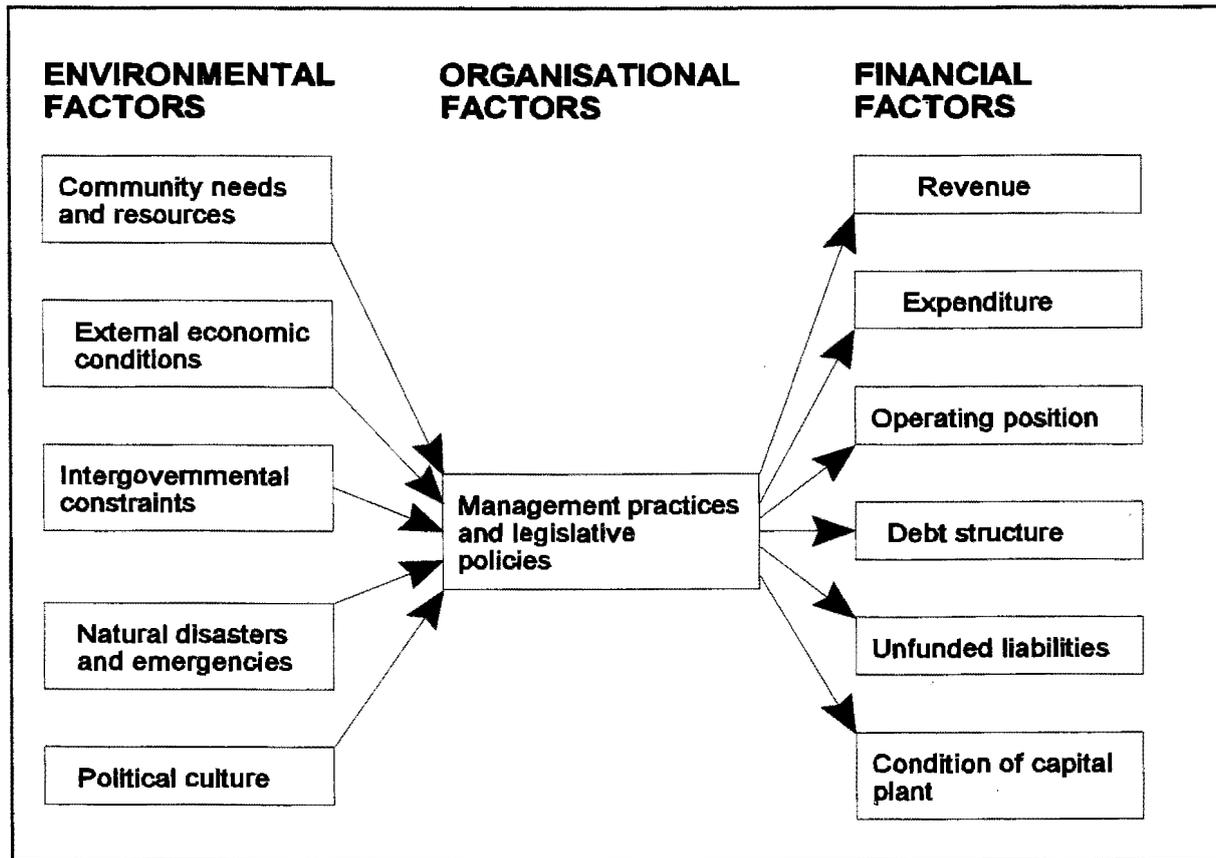


Figure 3.1: Factors affecting financial condition

Source: Groves & Valente (1994:5)

compared with one another and with regional and national trends.

The following is an example of the interpretation by Groves and Valente:

Credit-rating firms assume that a local government will normally be unable to collect, say, 8% of its property taxes in the year the taxes are due. If uncollected property taxes rise to more than 10%, rating firms should regard this as a negative factor because it signals potential problems in the stability of the property tax base. An increase in the rate of delinquency for two consecutive years is also considered a negative factor.

A practical application of Groves and Valente's FTMS to the South African situation is that the providers of capital to municipalities may consider the following to be negative factors:

- the short-term debt outstanding at the end of the year exceeding 5% of operating revenues
- a two-year trend of increasing short-term debt outstanding at the end of the fiscal year

3.5.5.4 *Conclusions based on the FTMS*

Although Groves and Valente's FTMS has shortcomings (for example, it does not quantify results) in terms of the determination of creditworthiness, it was found to be a practical method of evaluating the financial condition of municipalities. Although some of the other systems may be as valuable or even more valuable, details of their methods are not available in the media.

Besides the critical financial factors (indicators), Groves and Valente also analyse a number of extremely relevant organisational and environmental factors. Although these factors are not quantified, they are identified and organised in such a way that their influence on the financial condition of the municipality concerned is evident. A typical conclusion from the FTMS would therefore be that the financial condition has deteriorated. However, the extent of this deterioration will not be known or estimated. The user of the information is expected to interpret the trend indicators and value them according to his/her needs.

In analysing the FTMS, the following categories for assessment have been identified:

- **financial**, with reference to overall fiscal performance, financial position, budgetary performance and debt situation
- **institutional**, with reference to organisational factors, namely management practices and legislative policies
- **environmental**, with reference to the economic base, intervention by the sovereign and political culture
- **trend analysis**, which is the basis of Groves and Valente's approach to

the evaluation of local government creditworthiness.

This study not only uses the influence of trends as important calculated multipliers, but also weighs and adds them in order to obtain a comparative creditworthiness value.

This study also includes comparative graphs generated from the results of the model. This could be a useful addition to the interpretation of the results of the model.

3.5.6 Summary of credit evaluation approaches

The broad international acceptance and long-standing credibility record of Standard & Poor's are an indication that their approach to the determination of creditworthiness of municipalities is acceptable. Standard & Poor's assessment of municipal finance criteria addresses four categories of information, namely a number of relevant financial indicators as well as certain administrative, managerial and institutional and economic issues. Although the available literature does not indicate the actual method of assessment and accumulation of the different values and weights, it is assumed that this is a mainly subjective process and a function of the ability and perceptions of the analyst involved in the evaluation.

The eventual rating indicator as presented by Standard & Poor's is in a relatively vague format. Because it is not very specific, it accommodates possible uncertainties arising from the subjective component of the evaluation.

Standard & Poor's distinguish between general obligation bonds and revenue bonds, which are clearly defined funding mechanisms in the USA and are generally used by municipalities. In South Africa, however, integration between the different functions and cross-subsidisation is such that no specific distinction is made between the current application of funding. Until recently, local providers of capital were not very concerned about the specific application of their capital because repayment was "guaranteed". In future, however, a distinction between general obligation debt or loans and revenue-

supported debt or loans could be beneficial in the search for alternative sources of capital and applicable security.

The assessment of revenue bonds by Standard & Poor's was ignored for the purposes of this study because it is not currently applicable. Their assessment of general obligation bonds is, however, of great interest because it also addresses most of the controversial issues that apply to revenue bonds.

Since the hypothesis of this study is to develop a model for the determination of the creditworthiness of municipalities in South Africa based on objective analysis, the categories and indicators used by Standard & Poor's, which are all considered to be of value, must be rearranged to fit into a general framework for an objective approach. This rearrangement of the Standard & Poor's categories and indicators could result in the following:

- Debt factors (section 3.5.1.1 a) and current financial account analysis which are shown as separate categories by Standard & Poor's are grouped together as **financial indicators**.
- Administrative factors (section 3.5.1.1 b), which include matters such as management, long-term planning and tax collection efficiencies, are grouped together under the category **institutional indicators**, which reflects a broader view than merely administration.
- Economic factors as indicated by Standard & Poor's refer to typical **environmental** issues. Population trends, employment and economic stability are typical environmental issues over which a municipality has little control.
- Standard & Poor's continuously refer to the importance of longer-term observations which lead to the identification of **trends**. For example:
 - Section 3.5.1.1 (2) refers to information on assessed valuations of property for each of the past four years.
 - Section 3.5.1.1 (3) - tax-collection statements and tax rates for

- each of the past four years are analysed.
- Section 3.5.1.1 (5) - copies of its two most recent annual reports and most recent budget are required to determine trends.
 - Section 3.5.1.1 (7) refers to a description of the area's economy which includes its economic development.
 - Section 3.5.1.1 (8) requires school enrolment statistics for the past 10 years.
 - Section 3.5.1.1 (9 and 10) requires the borrowing plans and capital-improvement programme for the next five years.

The analysis of Standard & Poor's is based on a set of norms (benchmarks) which were developed over a period of time for specific environments. Although the approach and categories for assessment are part of their rating philosophy and should be the same for the assessment of municipalities worldwide, the norms they apply should vary to accommodate different political, economic and social situations as well as the time-value of money.

The situation described in section 3.5.1 applies to a typical American municipality in the mid-1970s. In that situation, per capita debt of \$400 or less was considered low. Debt of \$900 to \$1 000 was considered high, while debt in excess of \$1 000 was considered high enough to constitute a negative factor in their rating. These norms may be totally different for the South African situation. One of the important aspects of an objective model is the development of applicable norms and standards against which performance can be compared.

The approach by Standard & Poor's cannot be criticised because it is internationally accepted and based on thorough investigation and analysis. The resultant rating has strong elements of subjectivity which could be extremely influential and/or confusing in an environment of general turmoil, depending on the agenda of a specific user. Since subjectivity contains an element of uncertainty, it also undermines transparency.

Objectivity is one of the key qualities of the model developed in this study. Every effort was made to ensure that all the relevant issues addressed by Standard & Poor's are included in the model, but in such a way that it is objective.

Based on limited information available from Fitch IBCA, the assumption can be made that although their credit-rating philosophies and approach may differ, the core evaluation criteria of Fitch IBCA and Standard & Poor's are very much in line and correspond to a large extent.

Duff & Phelp's ventured into the area of credit "ranking" which corresponds to a certain extent to the creditworthiness model envisaged in this study. The critical indicators used in the assessment of the credit ranking, with the exclusion of the "qualitative inputs", agree factually with those identified by both Standard & Poor's and Fitch IBCA.

The study and analysis of the approaches and critical credit-rating input indicators of the above-mentioned credit-rating agencies identified the following categories of indicators to be included in a model for the determination of the creditworthiness of municipalities:

- financial indicators, which include -
 - liquidity ratios
 - debt (solvency) ratios
 - operating ratios
- institutional indicators, which include -
 - efficiency indicators for general management and administration
 - strategic planning and policies
- environmental indicators, which include -
 - socio-economic circumstances
 - economic-political relationships
 - dependency on local environment
- trends, which are time-related and based on historical data.

Although trends are relevant and are taken into account on an ongoing basis, none of the above-mentioned credit-rating agencies specifically refer to the role and influence that trends have on their evaluation. ICMA recognised the importance of trends in the determination of the creditworthiness of municipalities in their FTMS.

The above investigation of methods used by the various institutions currently involved in the determination of the creditworthiness of municipalities led to the identification of the categories of indicators to be included in a model for the determination of the creditworthiness of municipalities. The financial results of municipalities were identified as the principal category of assessment indicators. Whether the financial results of municipalities in South Africa are representative and sufficiently reliable for inclusion in an objective formula-driven model, is addressed in the following paragraph.

3.6 INCLUSIVENESS OF FINANCIAL RESULTS OF MUNICIPALITIES

The general purpose of local government accounting and financial reporting is to (IMFO 1996b:18) -

- provide useful information to the providers of credit on decision-making regarding investments and provision of credit
- provide useful information to internal management on decision-making regarding expenditure and the provision of services
- ensure that an acceptable level of management performance and public accountability is maintained.

The IMFO Handbook (IMFO 1998), which provides details of the accounting practices to be followed by local government financial administrators, established standardised procedures and specifications for financial activities and reporting.

In South African municipalities, the accounting information system, which is maintained by accountants, provides and reports the required financial information. The main

purpose of financial reporting is the provision of information on the financial situation, changes, and performance for decision-making purposes (Evans 1989:28).

The financial results of a municipality are the culmination of all its effort in measurable form. If correctly analysed, the financial results are also an important yardstick for objectively measuring the performance of a municipality. If, for example, distribution losses on water are considered, the percentage distribution losses is an indication of the quality of management. Distribution losses have direct financial implications and although they will always be there, they should be limited. If the percentage distribution losses increases without specific reasons, this reflects negatively on management.

Different communities have different needs. This is one of the subjective areas that complicates any assessment of performance. In some communities only the best quality roads and sidewalks are acceptable, while other communities prefer gravel roads with the financial benefit involved. To accommodate this difficult and conflicting argument, a norm should be developed which accommodates a representative quality in its expression and is acceptable to a broad spectrum of users of the indicator of creditworthiness as determined by the model developed in this study.

Since financial indicators include a measure of the subjective qualities of services and activities, it is important to include some of them. Numerous financial ratios are identified, and many apply only to specific situations and have no relevance to the determination of creditworthiness. Some of the financial indicators or ratios that are identified should thus be included in the model, while others should be ignored.

3.7 FINANCIAL RATIOS TO BE INCLUDED IN THE MODEL

Financial ratio analysis is one of the most common techniques used in financial statement analysis to gain a better understanding of an entity. Financial ratios per se are useless, and only become meaningful when they are integrated with other knowledge, such as industry trends (CICA 1993:11).

Financial ratios are designed to show relationships in financial information. Ratios put numbers into perspective. A ratio is a fixed relationship (in degree or number) between two numbers. In finance, ratios are used to point out relationships that are not obvious from the raw data (Robertson 1989:4).

Financial ratio analyses are useful tools for the measurement of the overall effectiveness of institutions. Financial ratios are used to measure activity, efficiency, profitability, liquidity, leverage and the granting of credit (Potgieter & Frank 1990:4). Many of the financial ratios identified as useful management information for commercial institutions are not applicable to municipalities because their main objective, namely profit-making versus service delivery, differs.

Hampton and Wagner (1989:260) indicate some of the uses of ratios as follows:

- The comparison of different companies in the same industry. This would highlight the factors that classify a firm as successful or unsuccessful. Municipalities fall into this category since they are in the same industry, namely local government.
- Comparing different industries. The uniqueness of local government in South Africa disqualifies it from this use of financial ratios, because it cannot be compared with any other "industry". If the different groupings of municipalities are regarded as different industries, they can be used as such. The structure and activities of a large city like Johannesburg are different from those of Grahamstown, while those of Grahamstown and Beaufort-West may be very similar.
- Comparing different time periods. Municipality performance can be successfully compared in different time periods. Over a period, norms can be developed which are valuable indicators in providing clues to trends

and future problems.

According to Swanevelder (1991:77-80), ratios can be used -

- to compare different municipalities in the same group
- to compare a municipality with itself over time.

The uses identified by Swanevelder are in line with those identified by Hampton and Wagner (1989:260) and Johnson and Melicher (1982:67-70).

It is possible to formulate countless ratios from the financial information on the balance sheet, income statement and cash flow statement. To ensure the success of a financial analysis, the analyst must select only those ratios that provide significant information about the topic under review.

Hampton and Wagner (1989:263) concentrated on the adequacy of working capital and classified financial ratios into the following three major categories:

- (1) **Liquidity ratios**, which examine the adequacy of funds (meaning cash), solvency and the ability to pay obligations when due.
- (2) **Profitability ratios**, which measure the efficiency of activities and the ability to generate profits.
- (3) **Other ratios**, which are generally linked to liquidity or profitability, but measure other dimensions of activity.

Potgieter and Frank (1990:4-5) defined the "**Other ratios**" identified by Hampton and Wagner as follows:

- **Activity ratios**. These ratios measure how effectively resources are used. Typical ratios in this category include -

- turnover rate of stock
- turnover per square metre per year (sales area)
- turnover per employee
- turnover per budget per previous period.

Since the major element of these ratios is turnover, and turnover in this sense is not applicable to municipalities, none of these ratios is applicable to municipalities.

- *Efficiency ratios*, which measure the efficiency of management, staff, control of systems and expenditure by classifying expenditure and relating it to business operations. These ratios include -
 - gross profit as a percentage of turnover
 - operating costs as a percentage of gross profit
 - operating costs as a percentage of turnover.

Although there is a dire need to measure the efficiency of the management of municipalities, the efficiency ratios suggested by Potgieter and Frank are not applicable because the elements of the ratios are not relevant to municipalities.

- *Leverage ratios*. These measure the extent of debt financing, typical ratios being -
 - outside or external liabilities as a percentage of total assets
 - payment period of creditors (days).

Leverage ratios may be of value to the municipality's financial analyst because the elements of the ratios are clearly identifiable and are within the sphere of local government activities.

- *Credit granting ratios.* These evaluate the granting of credit and include ratios such as -
 - credit sales as a percentage of turnover
 - collection period of debtors (days).

Since communities have little choice when it comes to purchasing the goods and services provided by municipalities, the relationship between the municipality and the community (purchasers) is somewhat different to that in the commercial sector. For this reason, the ratio indicating credit sales as a percentage of turnover will be of limited and little use in municipalities. The collection period of debtors is, however, of importance because it reveals a large number of subjective perspectives. It could be an indication of the efficiency of managing the administrative procedures, metering, calculating charges and accounting. Even some political and/or socio-economic preferences can be illustrated, such as willingness to pay, affordability and acceptability of tariffs.

When studying the relevant factors influencing credit ratings in particular, the following common aspects should be considered when ratios are used:

- Ratios are interrelated and should be used collectively and never on their own.
- Ratios are not a substitute for managerial judgment but are merely supportive tools (Correia et al 2000:147).
- Past performance is the basis of ratios. Indications of the present and future must therefore be balanced against reality.
- Ratios do not provide explanations (Correia et al 2000:146-147).

In addressing credit analysis with a view to determining the creditworthiness of municipalities, the critical financial performance indicators identified as playing a

distinctive role in the structure of a model to determine the creditworthiness of municipalities are -

- liquidity ratios
- solvency ratios
- operating ratios
- socio-economic ratios.

3.7.1 Liquidity ratios

The most relevant financial ratios applicable to the establishment of the creditworthiness of municipalities are liquidity ratios. One of the main concerns of most financial analysts is liquidity: Will the borrowing institution be able to meet its maturing obligations? The purpose of liquidity ratios (Steyn et al 2000:76) is to measure an institution's ability to meet its financial commitments in the short term. By relating the amount of cash and other current assets to current obligations, ratio analysis provides a quick, easy-to-use measure of liquidity.

A large number of liquidity or working-capital management ratios, for example ratios to indicate the adequacy of cash, current assets, quick assets and cash flows from inventory, can be calculated and used. Fewer ratios are needed to determine creditworthiness. These ratios are as follows (Correia et al 2000:147-149):

- Ratios indicating the **adequacy of cash**:
 - **Current ratio** indicates the extent to which current assets cover current liabilities. (Steyn et al 2000:77).
 - **Quick ratio** or acid test provides a conservative view of creditors' protection, since inventory and prepaid items may not always be liquid. An institution is usually in a good liquid position when quick assets exceed current liabilities (Steyn et al 2000:77).

- Ratios indicating the **flow of liquidity** (also referred to as efficiency ratios):
 - **Receivables turnover** measures the speed of converting accounts receivable into cash (Steyn et al 2000:78-79).
 - **Inventory turnover** reflects the speed of converting the current inventory balance into an equal amount of cash (Steyn et al 2000:81-83).

The current ratio recognises inventory as a near-term liquidity source and therefore includes it. The acid test ratio, however, excludes it. Municipalities in general do not rely on inventory as a source of liquidity because it is purely supportive and not a trading asset. In other words, they classify inventory as items kept in stock for own use in repairing and maintaining infrastructure and administration.

The use of the **acid test** ratio to determine a municipality's ability to repay short-term debt is stricter and more accurate than the use of the current ratio (Swanevelder 1988:80). Only those assets that can be quickly converted into cash are included, and inventory (stores and materials) which cannot be converted into cash easily is excluded. Known prepaid expenditure should also be excluded from this ratio (Steyn et al 2000:77).

As in the case of the acid test ratio, the **flow of liquidity** indicators can also be reduced to one, namely **receivables turnover**. Inventory turnover, which reflects the speed of converting the current inventory balance into an equal amount of cash, is of no real importance and should not affect any evaluation of creditworthiness because the purpose of inventory in municipalities is purely supportive and usually non-significant (IMFO 1996b:40).

3.7.1.1 *Acid test ratio or quick ratio*

The **acid test ratio** is determined by dividing current assets (excluding inventory) by current liabilities:

$$\text{Acid test ratio} = \frac{\text{Current assets - inventory}}{\text{Current liabilities}}$$

Current assets usually include cash, marketable securities, debtors and inventories. Current liabilities consist of creditors, short-term debt payable, the short-term portion of long-term liabilities and other accrued expenses.

This ratio requires that inventory be deducted from current assets and that the balance remaining should be sufficient to cover current liabilities. If an institution is getting into financial difficulty, it starts paying its bills (accounts payable) more slowly, building up bank loans, and so on. If current liabilities are rising faster than current assets, the current ratio will decrease (reduce), and this will indicate that the institution is in difficulties and that real problems may be looming.

Many authors suggest that the use of the acid test ratio is a more accurate guide to liquidity. For example, Van Horne (1983:55) states that it is “a somewhat more accurate guide to liquidity” and Moyer (et al 2001:74-75) writes that “This ratio therefore provides a stricter test of liquidity than the current ratio”.

Some authors indicate the importance of the acid test ratio in determining the creditworthiness of institutions. For example, Edwards (1976:43) writes as follows: “The acid test is the most important ratio for the credit assessor in determining company liquidity, and more valuable than the current ratio for this purpose.” Argenti (1983:67-73) expresses a similar view in stating that the acid test ratio “is considered to be one of the most important single failure-predicting tools.” Moyer (et al 2001:74-75) says that

if a firm intends to remain a viable business entity, it must have enough cash on hand to pay its bills as they come due and that the acid test ratio is probably the most stringent measure for this evaluation.

Most of the above-mentioned authors also acknowledge an absolute requirement of 1:1 for this ratio. All agree that only in absolutely exceptional circumstances should this ratio requirement of 1:1 be reduced, and if it is, only by a very small margin.

3.7.1.2 *Working capital coverage ratio*

The secondary role of inventory as part of the working capital in municipalities distorts the traditional approach to ratios involving working capital. Inventory in a municipality is usually not stock items for sale, but necessary items to enable sustainable service delivery, for example water meters and water piping for maintenance of the water network. Inventory should thus be excluded from current assets if current assets are used in ratios. If inventory is excluded from current assets, the substantial current assets remaining in the balance sheets of municipalities will be -

- debtors
- cash
- short-term investments.

The current liabilities of municipalities, on the other hand, usually consist of -

- provisions (eg accumulated leave)
- creditors
- loans (short-term portion).

In the commercial environment, working capital is defined as the net amount available to finance additional operating activities (in excess of the current operating activities) and can be calculated as follows (Brigham & Gapenski 1991:733):

$$\textit{Working capital} = \textit{current assets} - \textit{current liabilities}$$

In municipalities, however, working capital should be calculated as follows:

$$\text{Working capital} = (\text{current assets} - \text{inventory}) - \text{current liabilities}$$

Since working capital is a direct indicator of the institution's ability to grow (Correia et al 2000:415-416), it should be represented mainly by cash. Municipalities in South Africa are currently experiencing major cash flow problems emanating from ever-increasing consumer debtor balances of which large amounts are not recoverable (Project Viability 1998:9).

The relative cash coverage of the calculated working capital in municipalities is a valuable liquidity ratio because it indicates the direct growth and development potential based on cash. In order to ensure viability and represent a meaningful measure of creditworthiness, a dedicated cash reserve, equivalent to the working capital, should always be available.

A ratio to interpret this dedicated cash reserve must be included as a measure of creditworthiness and is called the **working capital coverage ratio** in this study.

The **working capital coverage ratio** is calculated by dividing the cash and marketable securities by the net working capital:

$$\text{Working capital coverage ratio} = \frac{\text{Cash and marketable securities}}{\text{Working capital}}$$

An ideal **working capital coverage ratio** is: >1:1. There should always be sufficient cash and marketable securities available to ensure that the net working capital can be used to its full potential.

3.7.1.3 *Debtors collection period*

The **debtors collection period** measures the speed of converting debtors into cash.

While the current ratio and working capital reserve ratio can be regarded as pure liquidity ratios referring to the magnitude of liquidity, the ability of municipalities to convert outstanding debtors into cash is regarded as an activity ratio that could enhance the value of financial analysis if it is used together with the liquidity ratios. This debtors collection period can be determined as follows:

$$\text{Number of days to collect outstanding debtors} = \frac{\text{Outstanding debtors X 365}}{\text{Total debtors raised}}$$

- Outstanding debtors is the total as per balance sheet and excludes long-term debtors such as housing debtors.
- Total debtors raised is the total of all rates and taxes raised (charged) as indicated in annexure D to the published financial statements, namely analysis of operating income and expenditure, as "operating income" (IMFO 1996b:83).

3.7.1.4 *Debt to generated cash ratio*

The debt to generated cash ratio indicates the time (in years) it will take the municipality to repay its long-term debt with the cash generated by the operating activities. Only long-term debt is used in the calculation, as it indicates the existing future debt commitments. Although, for purposes of this study, this ratio is allocated under the category "liquidity ratios", it is an efficiency ratio. In the SA Journal of Accounting Research, Ward (2000:3) indicated that this ratio is regarded as significant in influencing credit assessment.

$$\text{Debt to generated cash ratio} = \frac{\text{Long-term debt}}{\text{Cash generated by operations}}$$

- Long-term debt is recorded in the balance sheet as a separate item.
- Cash generated by operations is recorded in the cash flow statement.

The result of this ratio is expressed in years. The fewer the number of years required to repay the long-term debt from cash generated by operations, the more viable and productive the municipality is, taking the capital investment into consideration. Positive liquidity is a direct result of a favourable debt to generated cash ratio.

3.7.2 Solvency ratios

In a research report by the Canadian Institute of Chartered Accountants (CICA 1993:202), the concepts of solvency and solvency ratio were defined as follows:

- Solvency - "relates to the quality of debt and the ability to repay long-term debts as they become due".
- Solvency - "a measure of the extent to which debt is used to finance operations by showing the relative use of borrowed funds as compared to resources invested by stockholders".
ratio

In the definition for solvency ratio, the phrase "resources invested by stockholders" should be replaced by the terms "own capital" or "equity" to make it applicable to local government accounting (IMFO 1995:20).

Ammons (1996:83) regards debt as another useful indicator of a community's financial health and as a useful indicator for credit evaluation purposes, among other things. Debt may be a useful source of financing new infrastructure or public amenities, but if it is ineffectively managed or exceeds acceptable levels, this may signal problems.

The extent of loan debt into which it is safe for a municipality to enter cannot be determined by any fixed formula because it depends on various factors. For example (Henke 1986:288) -

- the financial ability of the municipality
- the purpose of the loan
- the loan period and lifespan of the assets
- interest rates and the capital charge effect on the operating account
- money-market tendencies
- the ability to earn income
- the planning and management of debt
- the willingness of the community to support the debt.

Since many municipalities approve internal loans from available internal funds such as capital development funds, total outstanding debt must include all these outstanding internal loans (Swanevelder 1988:67). Here again a large number of debt ratios can be identified and calculated. It is necessary to reduce these ratios to those really applicable to the determination of the creditworthiness of municipalities. The following debt ratios are relevant in credit assessment:

- debt ratio
- debt to equity ratio
- loan debt servicing costs as a percentage of total operating income

3.7.2.1 *Debt ratio*

This ratio measures the extent to which total debt is covered by total assets and indicates the extent to which a municipality finances capital expenditure with borrowed money (Swanevelder 1988:75).

$$\text{Debt ratio} = \frac{\text{Total debt}}{\text{Total assets}}$$

- Total debt includes total outstanding external as well as internal debt. Total debt is calculated by adding the items “long-term liabilities” and “short-term portions of long-term liabilities” in the balance sheet.
- Total assets consist of the total assets as reflected in the note on fixed assets to the balance sheet **before** the subtraction of “loans redeemed and other capital receipts” (IMFO 1996b:57).

3.7.2.2 *Debt to equity ratio*

The debt to equity ratio is a ratio of total debt to total equity which indicates the extent to which total debt is covered by own capital (consisting of statutory funds and reserves) (Correia et al 2000:151-152). This ratio is referred to as the “leverage” of the municipality or its “capital structure”. Since municipalities do not have equity holders to be remunerated, their leverage is best if they have no debt. The lower a municipality’s debt to equity ratio, the better its creditworthiness (Steyn et al 2000:70).

The debt to equity ratio indicates the relation of the authorities’ and creditors’ positions. It should also be viewed in the light of sector (industry) averages.

$$\text{Debt to equity ratio} = \frac{\text{Total debt}}{\text{Total equity}}$$

- Total debt includes total outstanding external and internal debt.
- Total equity includes all items in the balance sheet listed under “statutory funds and reserves” and “retained income” where “unappropriated surpluses” must be added and “accumulated deficits” must be subtracted.

3.7.2.3 *Loan debt servicing cost as a percentage of operating income*

This ratio reflects the share of operating income that is spent on the servicing of loans and is also an indication of the capacity of the borrower to take up new loans

(Swanevelder 1988:73; Ammons 1996:81).

$$\text{Debt servicing} = \frac{\text{Total loan debt servicing cost}}{\text{Total operating income } \textit{minus} \text{ grants, subsidies and intergovernmental transfers}}$$

- Total loan debt servicing costs include all capital charges, that is interest, redemption and contributions to redemption funds (external and internal) as reflected in Appendix D to the published annual financial statements, "Analysis of operating income and expenditure" (IMFO 1996b:83).
- Total operating income is reflected in Appendix D to the published annual financial statements, "Analysis of operating income and expenditure".
- Total grants and subsidies must be deducted from the total income as reflected in this appendix. Grants, subsidies and intergovernmental transfers are deducted from total operating income as they tend to be unreliable sources of income, not guaranteed for the total extent of the loan period.

3.7.3 Operating ratios

Operating ratios refer to those financial ratios that indicate the operating performance of the institution under observation. The data necessary to determine these ratios originate from budgets representing the planning and programming of activities, and the financial statements, giving an objective perspective, expressed in figures, of the operating results. These ratios identify the fiscal performance of the institution and is an indication of overall management performance. Gallinger (1991:81-84) refers to these ratios as "profitability ratios".

In local government, where profit is not the major objective or motive, operating performance in general refers to physical output measures, that is the volume of sewerage effluent processed, the number of refuse bins collected, utilisation of the

library, et cetera. These output performance indicators become somewhat complicated when the question of quality of services is raised. The volume of sewerage effluent processed may indicate a good performance level, although the quality of the effluent processed is substandard. The problem of quality of services is a function of the political process. Councillors should interpret the actual needs of the community in terms of quantity and quality and address these needs in a cooperative manner during the budgeting process. The issues involving needs versus resources are addressed in section 3.9.1.

For the purpose of seeking effective indicators to be included as an element in a model for the determination of the creditworthiness of municipalities, indicators of operating performance are limited to financial ratios which represent an overall indication of the operating results of a municipality.

Operating ratios which give some indication of the operating trends and sustainability of activities are as follows:

- the operating surplus or deficit as a percentage of accumulated surplus or deficit
- the accumulated surplus as a percentage of total operating income
- operating intergovernmental transfers or subsidies as a percentage of total operating income.

3.7.3.1 *Operating surplus or deficit as a percentage of retained income*

This ratio indicates the impact of the operating surplus or deficit on the unappropriated surplus or accumulated deficit, reflected in the financial statements as retained income, and the sustainability of the current trend of operating activities.

$$\text{Ratio} = \frac{\text{Operating surplus or deficit}}{\text{Retained income}}$$

- Operating surplus or deficit is the net surplus or deficit for the financial period as per income statement and should be entered into the formula as (+) for a surplus and (-) for a deficit.
- The retained income is the figure as at the end of the financial period, recorded in the financial statements. To ensure a correct outcome, where a positive ratio is indicated by (+) and a negative ratio by (-), the retained income must always be entered as a positive figure (+).

3.7.3.2 *Retained surplus or accumulated deficit as a percentage of total operating income*

This ratio indicates the relative magnitude of the retained income in relation to the total operating income.

$$\text{Ratio} = \frac{\text{Retained surplus or accumulated deficit}}{\text{Total operating income}}$$

- The retained surplus or accumulated deficit is the figure as at the end of the financial period, recorded in the financial statements. If an accumulated deficit is recorded, the entry in the formula will be negative (-).
- The total operating income for the period (year) is as reflected in the income statement.

Swanevelder (1988:124) claims that practice indicates that the retained surplus of municipalities in South Africa should be approximately 4% to 8% of total income for a particular year (depending on the size of the municipality).

From the above discussion it is obvious that financial indicators should form a substantial part of the model; they can never be excluded. Financial indicators are, however, not the only factors that influence the creditworthiness of municipalities.

Institutional indicators may also play a distinctive role.

3.8 INSTITUTIONAL INDICATORS TO BE INCLUDED IN THE MODEL

While the financial indicators addressed in the previous section can be determined fairly easily because they are based on objective financial information and are presented periodically in a standardised format, institutional indicators are based on more subjective information.

Institutional indicators refer to the same indicators identified by Groves and Valente (1994:4) as organisational factors. They define organisational factors as “the municipality’s response to changes in environmental factors”. Institutional indicators must quantify the municipality’s ability to address organisational needs and ensure effectiveness and efficiency.

The aim of this section is to identify and justify the inclusion of a number of relevant institutional indicators in the model. These indicators should represent and quantify the institutional performance and ability of a municipality and be as objective as possible.

An analysis of the practices applied by credit-rating agencies indicated that, apart from the identification of a category which can be named “institutional indicators”, these indicators should be divided into two groups: general management and administrative indicators and indicators addressing the mission statement, strategies and policies.

3.8.1 Indicators of general management and administrative ability and performance

All specialists in credit rating refer to the importance of the ability and performance of general management and administration in credit-rating assessment. Section 3.5 reflects some of the approaches to the problem of identifying and analysing indicators of general management and administration. One of the shortcomings of the existing

work on this subject is the identification and quantification of specific objectives and “measurable” indicators that can provide a representative and meaningful assessment of the ability and performance of general management and administration.

By analysing the existing and broadly accepted local government credit-rating approaches presented in section 3.5, the following objective and quantifiable indicators were derived:

- quality of internal auditing
- efficiency of management information
- efficiency of financial administration
- efficiency of budgetary control.

Each of the above-mentioned indicators is now described and justified. For the development of the model, standards are assumed, based on experience. These assumed standards are only a starting point, and provide a basis for further research into the development of applicable benchmarks for municipalities in South Africa.

3.8.1.1 Existence of internal audit function: audit programmes and procedures to deal with audit reports

The quality of internal auditing addresses the existence of an internal audit function with audit programmes and procedures to deal with audit reports. The reliability and transparency of the financial and other management functions are enhanced by an independent internal audit function. Within the internal audit function, audit programmes, ensuring the systematic audit of all relevant activities, should be approved and executed. Procedures to deal with audit reports, both internal and external, should be addressed within the guidelines as set in financial regulations and legislation (Cowden 1969:344).

3.8.1.2 *Efficiency of management information*

The efficiency of management information is expressed by the availability of management information on the operations in the current financial year. Effective management information which, in the financial department, may also be referred to as the adequacy of financial reporting, is one of the major operational support measures to ensure overall effective management (Boot 1989:29 & 30). For the purposes of this study, it must be accepted that the quality of management information is dependent on the level of knowledge and experience of the decision makers who have to use and interpret it. The management information system should adhere to the requests and needs of the decision makers (users), and the system should provide the required information as, when and in the form in which it is required.

3.8.1.3 *Efficiency of financial administration*

The efficiency of financial administration is reflected in the timeliness of recording data, doing reconciliations and issuing reports required by law. A set of criteria for judging the adequacy of financial reporting in local government as developed by the Government Finance Officers Association in the USA includes the timeliness of monthly financial reports (Ammons 1996:88). To enable decision makers, some of whom are prospective investors in the municipality, to make informed decisions, all information required by law must be available at the right time and in the correct format.

The timely provision of the above information is a measure of the effectiveness of the financial administration.

3.8.1.4 *Efficiency of budgetary control*

The efficiency of budgetary control is indicated by discrepancies between actual results and budgeted amounts. The various budgets represent the planning of all activities in a municipality during a financial year. The extent of compliance with the budgets is a

direct measure of the effectiveness of financial management (Maher 1994:679-682). As a control instrument, the various budgets in general, but the operating budget in particular, indicate the progress made (in monetary terms) with the planned activities during the year. Corrective action can be taken if there are any discrepancies.

Discrepancies between the operating budget figures and actual results are fair and objective indications of management's ability to execute plans. The supposition is that the execution of other budgets will reflect the same tendencies encountered in the operating budget.

3.8.2 Indicators regarding mission statement, strategies and policies

The aim of this section is to identify a quantifiable set of norms which represent all relevant aspects of the mission, strategies and policies as identified by the credit-rating agencies and specialists mentioned in section 3.5.

Modern-day communities expect only the best value for their money. In the competitive climate of modern society, municipalities must keep up with their communal requirements and needs. In order to do so, they must endorse strategic planning actions with clearly defined mission statements and supportive strategies and policies.

Boone and Kurtz (1992:130) define strategic planning as follows:

The process of determining the major objectives of an organization and then adopting the courses of action and allocating the resources necessary to achieve those objectives.

Strategic planning plays a crucial role in creditworthiness. A municipality should be geared to achieving its specific mission, by adopting relevant strategies and policies to meet its objectives. The objectives should be expressed in the formulation and drafting of the various budgets. Soundly conceived objectives should be as follows (Boone & Kurtz 1992:124-126):

- *Specific.* Objectives should be specific, for example to supply purified water that is potable on all developed stands in the jurisdiction area before the end of the financial year.
- *Measurable.* The objective should include a performance indicator. For example, the quality of the water should be such that it is potable and available on all developed stands.
- *Time-specific.* Objectives should be accomplished within time frames. For example, the specified water supply must be provided before the end of the financial year.
- *Focused on results.* The focus of the objective should be on results and not on activities. For example, the provision of potable water should be the focus.
- *Challenging but realistic.* The supply of water as expressed in the objective should be attainable. In the context of availability of funds, affordability by the community, sufficient infrastructure, competent personnel, et cetera, the project should be viable.

The extent of a municipality's compliance with aspects of strategic planning can be objectively determined by assessing the following:

- the existence of a formal organisational structure in relation to the approved mission and strategies
- the existence of an integrated development plan with supportive annual business plans on which annual budgets are based
- formalised pricing policies for the different municipal services.

The detailed assessment of these indicators is discussed in chapter 4.

Institutional indicators as financial indicators are therefore important and should be included, at least to some extent, in the model for the determination of the creditworthiness of municipalities. The aforementioned two indicators can be supplemented by the environmental indicators.

3.9 ENVIRONMENTAL INDICATORS TO BE INCLUDED IN THE MODEL

Groves and Valente (1994:142), like most other authors on the subject of the credit-rating of public entities, stress the importance of the environment in the activities and performance of these institutions. Hussey (1994:61-73) supports a composite framework identifying the general environmental characteristics of organisations as:

- cultural
- technological
- educational
- political
- legal
- natural resource
- demographic
- sociological
- economic.

Although all of these categories are important, most of them have some interrelated characteristics, such as the general literacy level of the population, which correlate with the values and norms of society, as well as scientific and technological advancement (Kast & Rosenzweig 1985:137).

In seeking measurable indicators that are representative of most of the above-mentioned categories, the approach followed in this thesis was to analyse the views of other authors on the subject and then formulate the following indicators:

- a socio-economic indicator, namely needs/resources
- an economic-political indicator, namely a measure of intergovernmental support
- a factor representing the natural resources, politics, demography and technology, termed a "dependency factor".

3.9.1 Socio-economic indicator (affordability indicator)

This indicator implies that a municipality's financial health, and thus its creditworthiness, can be determined by comparing resources and needs. The level of spending to raise services to a certain level (norm) is compared with the ability to support that norm. Thus areas with a high ratio of needs to resources will have high fiscal stress regardless of the municipality's budgetary surplus or deficit (Craythorne 1994:476-478).

The capital programme of a municipality is usually prepared within the parameters of affordability as indicated by its tariffs. The creditworthiness of a municipality is negatively affected if some of the investment projects in the carefully planned capital programme are implemented over a shorter period when they are only affordable over a longer period. The shorter the period during which the programme will be affordable, the lower this kind of risk will be and the better the credit rating.

The socio-economic indicator for the determination of creditworthiness is thus based on an affordability ratio which uses the effect of investment projects on tariffs as a norm. The Development Bank of Southern Africa (DBSA), one of the leaders in the field of evaluating local government investment programmes in South Africa, claims that an investment programme is affordable if it requires an annual increase of no more than 2% to 3% in real terms (DBSA1998:27). Since this seems to be the most relevant indication of a norm, a 2,5% annual increase in tariffs as a result of the capital programme will be used as a starting point in the model.

The socio-economic ratio based on needs and resources is as follows:

$$\text{Socio-economic ratio} = \frac{\text{Needs}}{\text{Resources}}$$

- Needs can be defined as the level of spending necessary to bring the

quantity and quality of services to a certain level (standard), as reflected in a municipality's capital programme.

- The resources can be defined as the revenue base of the municipality as reflected in the tariff structure and the net effect of the implementation of the capital programme on tariffs.

3.9.2 Economic-political indicator

An economic-political indicator can be defined as an indicator representing the political influences affecting the economic situation for which the central government takes responsibility. Although the definition of the indicator seems subjective, the ratio identified to quantify it is far more objective, that is the extent of intergovernmental support by means of intergovernmental transfers, subsidies or grants to support the operational activities of a municipality.

The ratio for measuring this indicator is: operating intergovernmental transfers or subsidies as a percentage of total operating income. This ratio indicates to what extent the municipality relies on operating income from own sources, compared with intergovernmental transfers and the willingness of government structures to support the municipality.

$$\text{Ratio} = \frac{\text{Operating intergovernmental transfers or subsidies}}{\text{Total operating income}}$$

- Operating intergovernmental transfers or subsidies, and
- the total operating income for the period (year) are reflected in the income statement (Appendix E: Detailed income statement)(IMFO 1996b:85).

3.9.3 Dependency risk factor

The dependency risk factor can be defined as a measure of the dependency of the

municipality on specific industry activities for its viable existence.

Many cities and towns in South Africa have some industrial or business activities which have a major influence on the overall well-being of the entire community. The greater the number and diversity of these industries, the less the risk of collapse will be in cases of general financial difficulties and/or economic fluctuations. There is an interdependency between the general community and the industrial activity in the area, say a mining community which is totally dependent on the continuation of activities at the mine. Should the mining activities be reduced dramatically or even stopped, the community and the municipality would be without an income and unable to provide services on a sustainable basis.

This indicator can be quantified by expressing the total operating income from an industry or group of industries as a percentage of total municipal operating income and weighing it against the largest single industry in terms of income and the total number of industrial sites.

This indicator can be explained and interpreted as follows:

The total municipal income from the largest single ratepayer in its jurisdiction area is expressed as a percentage of the total municipal income for the same period.

Example:

Total municipal income	R100 000 000
Income from single largest ratepayer	R20 000 000

Calculation:

Dependency risk factor:	$\frac{20\,000\,000}{100\,000\,000} \times 100$
	= <u>20% risk</u>

From the above calculation it is evident that the larger the most prominent industry in terms of income for the municipality, the higher the dependency risk factor will be.

The inclusion of financial, institutional and environmental indicators for one financial year only ignores historic trends which do have an effect on the creditworthiness of a municipality. By including trends in the determination of the creditworthiness of municipalities, the result should be more reliable.

3.10 TREND ANALYSIS

A ratio can be described as the statistical result of the comparison of one figure with another. The comparison of any ratio with the same ratio for a different accounting period indicates a 'trend' (Moyer et al 2001:90).

The total basis of the approach followed by Groves and Valente (1994:3) in evaluating the financial condition of municipalities is the use of trend analysis. Trend analysis is a technique for identifying certain relationships between items and key trends in those relationships, commonly used for evaluating the progress (or decline) of an entity over a period of years, for comparing one entity with another in the same industry, and for assessing an entity against industry standards (CICA 1993:XI). As far back as 1942, Merwin (1942:63) designed a study to ascertain patterns in financial ratio analysis and concluded that it was important to study the trends of a ratio and use them to make decisions.

Trend analysis is a management tool which, if applied correctly in the study of credit rating, arranges the relevant indicators of creditworthiness logically to facilitate analysis and measurement, which in some cases may be useful in predicting the future (CICA 1993:12).

For the evaluation of the financial condition of municipalities, Groves and Valente

(1994:3) redefine trend analysis as -

a management tool that pulls information from a municipality's budgetary and financial reports, combines it with economic and demographic data and creates a series of financial indicators that, when plotted over time, can be used to monitor changes in the financial condition and alert the municipality to future problems.

Groves and Valente (1994:5) combine the important organisational and environmental factors with the financial factors affecting the financial condition of municipalities. A comparison between the FTMS developed by Groves and Valente and other published material indicated that the 36 indicators on which Groves and Valente rely include all objective indicators of creditworthiness identified by others. For most indicators in the FTMS, no minimum standards are declared. Instead, potential "warning trends" are identified and suggestions put forward for analysis.

In this study, the most critical indicators for the determination of the creditworthiness of municipalities are identified and monitored over time. These indicators provide the necessary trend analysis for intelligent interpretation. Since the envisaged model is based on quantifying all relevant indicators of creditworthiness, trend analysis must also be expressed in simple, quantifiable terms.

During the empirical investigation and research for this study, the availability of applicable, correct and reliable information was only one of the obstacles encountered. Obstacles of this sort may affect the creditworthiness of municipalities even further and need to be addressed.

3.11 MEASURING OBSTACLES IN MUNICIPALITIES

In order to assess the creditworthiness of a municipality, the relevant indicators and factors influencing the evaluation should first be identified and then evaluated. The most objective approach is to formulate the relevant indicators and factors in a format

which makes them measurable. Although the financial ratios and indicators are relatively easy to determine by using the verified financial data, a number of problems are evident (Groves & Valente 1994:2 & 3):

- the nature of a public entity, that is, a municipality
- the state of municipal financial analysis
- the character of municipal accounting practices.

3.11.1 The nature of a public entity

As stated in chapter 2, private firms can more easily determine whether or not they are financially sound. The principal test is the profits made, which roughly translates into efficiency. Because of the nature of municipalities and the inclusion of services and service levels in the definition of creditworthiness, the measurements will be less exact.

3.11.2 The state of municipal financial analysis

As is evident in all municipalities in South Africa, financial practitioners are primarily concerned with cash and budgetary solvency and little attention is paid to long-term and service-level solvency. Until 1990, the debt-carrying capacity of municipalities was the main concern of the investment community. During this decade, political and economic changes, resulting in instability in South Africa, motivated a drive towards a represented and acceptable form of financial analysis for municipalities.

In conducting financial analysis in municipalities in South Africa, an important element, namely normative standards, is lacking. Communities differ widely in characteristics such as size, geography, demographics, revenue structure and service provision. An attempt has been made to develop standards for municipalities by averaging data for various sizes of municipalities (Swanevelder 1991). However, this attempt has not been followed up, and to date, no relevant standards exist.

3.11.3 The character of municipal accounting practices

High visibility and the “auditability” of the money passing through the accounting system have been the basis of municipality accounting systems for a long time. The movement of money in and out of the municipality and compliance with legislation are stressed. Fund accounting has thus been more important than programme cost accounting and the measurement of long-term financial health (Groves & Valente 1994:3).

Municipal financial reports in South Africa are usually prepared for a one-year period only, and there is thus a lack in disclosure of -

- deferred costs
- employee benefit liabilities
- reductions in purchasing power caused by inflation
- the erosion of streets, buildings and other fixed assets
- the effect of economic and demographic changes on changes in revenue and expenditure rates
- a multi-year perspective indicating the emergence of favourable or unfavourable conditions.

For a thorough creditworthiness analysis, various other sources in the municipality must be investigated to find information that will satisfy the “input” needs for a model to determine the creditworthiness of municipalities.

3.12 SUMMARY

Theoretical studies on the creditworthiness of municipalities are non-existent. One of the reasons why this matter has been the subject of much talk but little action is the subjective factors differentiating local government from commercial institutions. These factors emanate from the objectives of local government institutions, which are service oriented and not profit oriented.

Most documented material on the subject of the creditworthiness of municipalities is

based on vague and subjective evaluation criteria. The ability and objectiveness of the analyst involved in the rating process play a major role in the eventual evaluation outcome, and as such are debatable.

This chapter outlines and debates the theoretical basis for the determination of creditworthiness in municipalities. The major elements to be included in the assessment, namely financial indicators, institutional indicators, environmental issues and the recognition of trends, are identified.

Creditworthiness is defined in a broader sense by identifying, firstly, the categories of activities to be evaluated and then identifying and describing quantifiable measures to enable objective evaluation of each of the categories. In structuring the elements for the model developed for this study, the approaches used by all the established credit-rating agencies involved in the credit-rating of local authorities were investigated and discrepancies in their approaches identified and eliminated.

The categories of indicators to be included in a comprehensive model for the determination of the creditworthiness of municipalities were identified as -

- financial indicators
- institutional indicators
- environmental indicators.

A fourth category of evaluation was included, namely trends. Trends apply to the elements of all the above categories and are valuable indicators in forecasting.

In chapter 4, the elements to be included in a model for the determination of the creditworthiness of municipalities are described and discussed in detail.

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CHAPTER 4**THE ELEMENTS REQUIRED IN A MODEL FOR THE DETERMINATION OF
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CHAPTER 4

THE ELEMENTS REQUIRED IN A MODEL FOR THE DETERMINATION OF CREDITWORTHINESS

4.1 INTRODUCTION

Chapter 3 reflects the elements that need to be considered and evaluated to make the objective credit rating of municipalities possible. This chapter explains the elements or indicators more extensively and sets standards and norms for their evaluation. The overall aim is to establish simple indicators that are easily attainable and quantifiable from the existing information systems and sources.

An institution is very likely to show signs of deterioration before its ultimate failure, just as an ill person often has certain symptoms that enable his/her doctor to diagnose his/her disease. In order to detect these impending problems, a popular technique in the corporate area is the use of ratio analysis, which involves the examination of the financial statements of the institution for a variety of reasons. In the corporate environment, impending failure is often reflected in the enterprise's current balance sheet. Similarly, the income statement is an important source of information on an enterprises' operations and profitability (Correia et al 2000:136-137).

Different users rely on different ratios and information in their assessment of institutions. Credit managers often rely on particular ratios, such as the current ratio, to evaluate credit applications. Security analysts use financial ratios in their evaluation of securities on the stock and bond exchanges. Investors are likewise interested in such ratios as profitability, growth and leverage in commercial institutions but are more interested in security of repayment in municipalities (Project Viability 1998:8).

In the light of the above it seems natural to look at similar indicators in order to predict the future of an institution and to estimate its susceptibility to financial difficulties and

perhaps even total collapse. If the prognosis of the investigation is that the institution under surveillance is progressively favourable, no preventative or remedial action is called for. The prediction of future problems, on the other hand, may lead to measures which might in fact prevent, or at least reduce, the severity of the impending problem.

Although the interpretation of financial ratios is, and always will be, the most objective and important aspect of creditworthiness determination in municipalities, vital subjective issues should also be included (Groves & Valente 1994:2). The aim of the model is to obtain at least 80% accuracy in the determination of the creditworthiness of municipalities.

This chapter addresses two related issues, namely -

- the model to be used
- each of the identified ratios and indicators, how and where to find them and how to assess them for inclusion in the model.

After studying this chapter, the analyst should have no doubts about the model to be used and how and where to obtain the required information for it.

4.2 DISCRIMINANT ANALYSIS

The approach in the model to be used in this study is based on Altman's 1968 model of discriminant analysis (Altman 1993:182). Since the 1930s authors have acknowledged the importance of ratio measurement in determining the viability of institutions. These authors include (Altman 1993:181) -

- Smith and Winacor (1935)
- Merwin (1942)
- Hickman (1965)
- Beaver (1967)
- Neter (1967).

The above authors all indicate the definite potential of ratios as predictors of bankruptcy. The most significant indicators are ratios measuring profitability, liquidity and solvency. Almost every study cites a different ratio, or combination of ratios, as being the most effective indication of impending problems.

In all the above studies, the methodology emphasises individual signals of impending problems which are susceptible to faulty interpretation and confusion. The reason for this is that an institution with a poor profitability and/or solvency record may be regarded as a potential problem, while its above-average liquidity may indicate a situation that is in fact not problematic. The potential ambiguity regarding the relative performance of different institutions is therefore clearly evident (Altman 1993:181).

Altman (1988) bases his multiple discriminant analysis model on the shortcomings in any univariate analysis. The following issues are addressed in his multiple discriminant analysis model:

- Which ratios are important enough to be included?
- What weights should be attached to the selected ratios?
- How should the weights be objectively established?

In finance research studies, the technique of discriminant analysis can be used to reduce a number of independent variables (ratios) to a single score which can then be used to classify the institution according to preset values, make comparisons over time or compare institutions with one another (Robertson 1989:225).

In Altman's model, all individual ratios must be weighted (ratio multiplied by the weight) in terms of their relative importance in achieving the goal (Robertson 1989:105).

Altman (1988:100) uses a Z-score in his model. This score is a term used to describe the sum of the individual ratios contained in a model, each multiplied by its respective weight. This Z-score can be compared with the end score emanating from the model developed in this study.

The model developed in this study largely complies with Altman's multiple discriminant analysis model. Where Altman concentrates only on financial data in his calculations, this model also includes some crucial institutional and environmental indicators, as well as trends.

One of the objectives of this study is to steer away from subjectiveness in the development of the model for the determination of creditworthiness and seek those objective and obtainable figures that will enable a reliable and acceptable measure of creditworthiness (see chapter 1, section 1.3, hypothesis H5).

4.3 CATEGORIES OF INDICATORS

The following four broad categories to be considered for the evaluation of the creditworthiness of municipalities have been identified -

- financial indicators
- institutional indicators
- environmental indicators
- trends.

Each of these categories has a unique contribution to make to an overall assessment of creditworthiness.

4.3.1 Financial indicators

The greatest emphasis has been placed on the financial indicators in assessing the creditworthiness of municipalities. Although financial indicators are of vital importance, the objective of municipalities is not financial, but service oriented (Cowden 1969:38). The financial results of a municipality indicate that subjective qualities are also present in great measure. For example, the payment rate by consumer debtors may be an indication of their acknowledgment that they have received value for money. If the payment rate is high and bad debts low, it can be reasonably assumed that consumers

are pleased with the quality and quantity of services provided as well as with the rates and tariffs applied. Thus much more can be read into the figures than they show on face value.

Since the financial figures are the most objective and readily available measures of activity in a municipality which are verified by auditors, transparent to the public and consumers and extensively used by all credit rating approaches as the most popular and representative creditworthiness indicators, they also carry the most weight in the model developed.

4.3.2 Institutional indicators

Institutional indicators measure the ability of management to structure and adapt the internal organisational setup and activities to comply with internal and external needs (Groves & Valente 1994:141). Internal needs can be regarded as the organisational and administrative requirements of councillors, heads of departments and all supportive functions. A major element to be addressed in depth is transparency at all levels. To ensure this, applicable management information should be available timeously and in the format required, when required. An effective internal audit function will ensure, for example, that operating activities and management information are verified and reliable.

Institutional capacity and performance are measurable only if there is some indication of requirements. The requirements for the outcome regarding the institutional activities are vested in the mission and strategies of the municipality with supportive planning to reach the desired outcomes. Although, up to now, the institutional capacity and performance of municipalities have been incorporated into assessments of creditworthiness and evaluated, the outcome has not been objectively quantified as a result of the nature of institutional activities. This research overcame the aforementioned problem by implementing a unique assessment technique described in chapter 5, section 5.4.

4.3.3 Environmental indicators

The internal environment of a municipality is addressed by the institutional arrangements and managerial ability, which can normally be manipulated according to preferences. The external environment is different and consists of all the forces that affect its strategic options but are typically beyond the control of the municipality, such as spiralling inflation (economic) or demographic swings of population in the geographic areas they serve (social) (Pearce & Robinson 1988:53-54)(Hussey 1994:61-73).

The external environment influencing the creditworthiness of municipalities consists of the following (Kast & Rosenzweig 1985:137)(Hussey 1994:61-73):

- The general **economic** situation and trends
- **Sociological** class structure and mobility
- The nature, quantity and availability of natural **resources**.
- Constitutional considerations and the nature of the **legal system**
- The general **political** climate of society
- The historical background, ideologies, values and norms of society.

The above are all subjective issues and their evaluation, in the traditional sense, depends primarily on the personal experiences of the analyst concerned. An objective of this research is that all norms and indicators must be expressed in quantifiable terms. Indicators must therefore be quantifiable and structured to make an equitable assessment of the subjective environmental circumstances.

4.3.4 Trend analysis

Trends are affected by both the internal and external environment. The internal environment is to some extent manoeuvrable and is a function of the quality of management. The external environment, however, is different and to a large extent a given. Management must adjust approaches and policies which include financial and

institutional factors to meet the objectives of the municipality in supporting its mission statement. Management should also take note of trends and react accordingly to ensure that the objectives of the municipality are met and goods and services are provided on a continuous basis and are of the format and quality expected.

Trend analysis and the monitoring thereof help management to identify and concentrate on those evaluation criteria that deviate from expected tendencies. The advantages of including trend analysis in the model are as follows (Groves & Valente 1994:1-10):

- The events of a single year are placed in a longer-term perspective and permit analysts and managers to evaluate changes over time.
- A significant amount of information that already exists in a municipality's records is presented on a comparative basis.

A difficulty in the development of the model was the quantification of trends. It is easy to calculate the difference in the values of the norms that were identified. The question is how to quantify the difference in values in such a way that even a layman can understand and perform the calculation.

4.4 FINANCIAL INDICATORS

The financial indicators which are regarded as important and which should be included in the model are liquidity ratios, solvency ratios and operating ratios. The financial indicators used by all specialists in the field of credit analysis can be grouped into these categories. Although some of these specialists such as Groves and Valente (1994:5) use numerous ratios in each of these categories, only those ratios and indicators that are the most relevant in the assessment of creditworthiness were identified by this research and included in the model.

In order to explain the application of the ratios necessary for the model, a set of

financial statements of a hypothetical municipality is used.

4.4.1 Liquidity

Liquidity as defined in chapter 3, section 3.7.1, is one of the primary concerns of financial managers because the total existence of the municipality depends on it. If there are no funds (cash) to pay salaries or creditors, the provision of goods and services will collapse. It is thus important that the liquidity of a municipality be regularly monitored. Since a lack of liquidity threatens a municipality's very existence, liquidity is one of the most important determinants of the creditworthiness of a municipality.

For the purpose of determining the creditworthiness of municipalities, the liquidity ratios identified as being relevant are the following (see chapter 3, section 3.7.1):

- Acid test
- Working capital coverage ratio
- Debtors collection period
- Debt to generated cash ratio.

These ratios are explained in sections 4.4.1.1 to 4.4.1.4 below and the calculations demonstrated by using the hypothetical financial data in the financial statements and additional information provided in tables 4.1 and 4.2.

The format of the balance sheet (table 4.1) differs from that prescribed by Generally Accepted Accounting Practice (GAAP). The format does, however, conform to that prescribed by Generally Accepted Municipal Accounting Practice (GAMAP). Municipalities are still preparing their annual financial statements in terms of the IMFO standards. The IMFO standards are used in the examples.

Table 4.1: Balance sheet for explanatory purposes**BALANCE SHEET AS AT 30 JUNE 20.2**

	20.1 R'000	20.2 R'000
CAPITAL EMPLOYED		
FUNDS AND RESERVES	59 089	69 215
Statutory funds	47 011	55 107
Reserves	12 078	14 108
RETAINED SURPLUS	7 645	10 353
	66 734	79 568
TRUST FUNDS	785	1 490
LONG-TERM LIABILITIES	88 250	81 571
CONSUMER DEPOSITS: SERVICES	12 803	12 938
	<u>168 572</u>	<u>175 567</u>
EMPLOYMENT OF CAPITAL		
FIXED ASSETS	147 580	158 656
INVESTMENTS	19 000	19 000
LONG-TERM DEBTORS	13 370	12 279
DEFERRED CHARGES	56	297
NET CURRENT LIABILITIES	(11 434)	(14 665)
CURRENT ASSETS	31 563	28 355
Inventory	557	3 232
Debtors	24 567	21 828
Cash	2 469	0
Short-term investments	3 000	2 200
Short-term portion of long-term debtors	970	1 095
CURRENT LIABILITIES	(42 997)	(43 020)
Provisions		648
Creditors	30 947	11 944
Short-term portion of long-term liabilities	12 050	28 966
Bank overdraft	0	1 462
	<u>168 572</u>	<u>175 567</u>

Table 4.2: Income statement and additional financial information for explanatory purposes

INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE 20.2

	20.1 R'000	20.2 R'000
Actual income	93 053	142 365
Rates and general services	33 275	47 883
Housing services	2 602	2 739
Trading services	57 176	91 743
Actual expenditure	91 640	138 495
Rates and general services	39 281	56 256
Housing services	3 211	3 574
Trading services	49 148	78 665
Total actual surplus / (deficit)	1 413	3 870
Appropriations for the year	(68)	(1 162)
Net surplus / (deficit) for the year	1 345	2 708
Unappropriated surplus / (deficit) at beginning of the year	6 300	7 645
Unappropriated surplus / (deficit) at end of the year	7 645	10 353

ADDITIONAL FINANCIAL INFORMATION:

• Loans redeemed and other capital receipts (Obtainable from the notes to the balance sheet)	120 620	136 366
• Total debt servicing cost (Obtainable from annexure D: Analysis of operating income and expenditure)	11 520	14 250
• Income from single largest ratepayer	1 350	1 420
• Total salaries, wages and allowances	32 282	36 285
• Total capital budget (following year)	2 000	2 500
• Total budgeted expenditure (operating)	93 250	108 300
• Cash generated by operations	36 657	42 622
• Average interest rate (as per Consolidated Loans Fund allocation)	14%	14%

4.4.1.1 Acid test ratio

The acid test measures the most liquid current assets against current liabilities and is calculated by dividing current assets (less inventory) by current liabilities (see chapter 3, section 3.7.1.1).

The elements of the acid test ratio can be directly deduced from the balance sheet. Based on the data in table 4.1 (balance sheet), the acid test ratio will be as follows:

Example:

$$\text{Acid test ratio} = \frac{\text{Current assets - inventory}}{\text{Current liabilities}}$$

$$\begin{aligned} \underline{20.1} &= \frac{31\,563 - 557}{42\,997} \\ &= \underline{0.721:1} \text{ or } \underline{72.1\%} \end{aligned}$$

$$\begin{aligned} \underline{20.2} &= \frac{28\,355 - 3\,232}{43\,020} \\ &= \underline{0.584:1} \text{ or } \underline{58.4\%} \end{aligned}$$

Swanevelder (1991:193) determined an acid test ratio of between 105,6% and 282,4% for a sample of group 4 to group 12 municipalities in 1990. The higher this ratio, the better, because it indicates whether the municipality is in a position to meet all its liabilities and whether it has sufficient quickly transformable assets to meet this commitment. The private sector norm for this ratio is 1:1 or 100% (Swanevelder 1991:193).

In the above example, the municipality clearly has a problem because it is nowhere near to the norm of 100% or even the averages for municipalities as determined by Swanevelder (1991). Apart from the poor performance of this ratio, even if it is only viewed over the two years available, it is also extremely negative. The ratio decreases

from an already unsatisfactory 72,1% to an unacceptable 58,4%, which indicates that this municipality does not have sufficient quick assets to finance current liabilities.

4.4.1.2 *Working capital coverage ratio*

The working capital coverage ratio is calculated by dividing the readily available cash, thus cash and marketable securities, by the net working capital (see chapter 3, section 3.7.1.2).

Cash and marketable securities will include cash as defined by GAAP accounting statement AC118 as (Cilliers et al 2000:587):

...cash on hand and in the bank and cash equivalents such as short-term money-market instruments. Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and are subject to an insignificant risk of changes in value.

In the example (table 4.1), cash and marketable securities will consist of cash plus short-term investments as well as the short-term portion of long-term debtors.

Net working capital for municipalities is defined in chapter 3, section 3.7.1.2, as -

(current assets - inventory) - current liabilities

Example:

$$\text{Working capital coverage ratio} = \frac{\text{Cash and marketable securities}}{\text{Net working capital}}$$

In a municipality (table 4.1), these elements will be defined as follows:

$$\text{Working capital coverage ratio} = \frac{\text{Cash + short-term investments + short-term portion of long-term debtors}}{(\text{Current assets - inventory}) - \text{current liabilities}}$$

$$\begin{aligned} \underline{20.1} &= \frac{2\,469 + 3\,000 + 970}{(31\,563 - 557) - 42\,997} \\ &= \frac{6\,439}{(11\,991)} \\ &= \underline{(0,537)} \end{aligned}$$

$$\begin{aligned} \underline{20.2} &= \frac{0 + 2\,200 + 1\,095}{(28\,355 - 3\,232) - 43\,020} \\ &= \frac{3\,295}{(17\,897)} \\ &= \underline{(0,184)} \end{aligned}$$

These ratios (results) of 0,537 (negative) for 20.1 and 0,184 (negative) for 20.2 imply that the municipality in this example does not have enough cash to guarantee its viability. These negative ratios will have a negative effect on the creditworthiness of the municipality.

4.4.1.3 Debtors collection period

The debtors collection period measures the time in days the municipality takes to convert accounts receivable, excluding long-term debtors such as housing debtors, into cash. The ability of municipalities to convert outstanding debtors into cash has a major influence on their credit rating and an activity ratio such as the turnover rate of debtors could curb some of the deficiencies experienced by using only liquidity ratios (see chapter 3, section 3.7.1.3).

Example:

$$\text{Number of days to collect outstanding debtors} = \frac{\text{Outstanding debtors X 365}}{\text{Total debtors raised}}$$

$$\begin{aligned} \underline{20.1} &= \frac{24\,567 \times 365}{93\,053} \\ &= \underline{96 \text{ days}} \end{aligned}$$

$$\begin{aligned} \underline{20.2} &= \frac{21\,828 \times 365}{142\,365} \\ &= \underline{56 \text{ days}} \end{aligned}$$

It is evident from the above-mentioned that the number of days required to collect outstanding debtors, although still high, decreased by more than a month during the past year, which shows a very positive trend. A debtors collection period of 56 days seems to be acceptable since Swanevelder (1991:208) determined an average of 58 days for municipalities in South Africa.

4.4.1.4. *Debt to generated cash ratio*

The debt to generated cash ratio indicates the period (in years) it will take the municipality to repay its long-term debt from the cash generated by the operating activities (Wadia 1992:106). This ratio is explained in chapter 3, section 3.7.1.4.

Example:

$$\text{Debt to generated cash ratio} = \frac{\text{Long-term debt}}{\text{Cash generated by operations}}$$

$$\begin{aligned} \underline{20.1} &= \frac{88\,250}{36\,657} \\ &= \underline{2,407 \text{ years}} \end{aligned}$$

$$\begin{aligned} \underline{20.2} &= \frac{81\,571}{42\,622} \\ &= \underline{1,914 \text{ years}} \end{aligned}$$

The above-mentioned ratios indicate that the period decreased, which is positive. The period it will take to repay the increase in total debt per annum based on the cash generated by operations is decreasing.

4.4.2 Solvency

The solvency of an institution is indicated by the solvency ratios. In chapter 3, section 3.7.2, the ratios to be included in the model are identified as -

- debt ratio
- debt to equity ratio
- loan servicing costs as a percentage of total operating cost.

4.4.2.1 Debt ratio

This ratio measures the extent to which total debt is covered by total assets and indicates the extent to which a municipality has financed capital expenditure with borrowed money, whether it was borrowed externally or internally (see chapter 3, section 3.7.2.1).

Example:

$$\begin{aligned} \text{Debt ratio} &= \frac{\text{Total debt}}{\text{Total assets}} \\ \underline{20.1} &= \frac{88\,250 + 12\,050}{147\,580 + 120\,620} \\ &= \underline{0,374 \text{ or } 37,4\%} \end{aligned}$$

$$\begin{aligned} \underline{20.2} &= \frac{81\,571 + 28\,966}{158\,656 + 136\,366} \\ &= \underline{0,375} \text{ or } \underline{37,5\%} \end{aligned}$$

The debt ratios indicate that debt in relation to assets is stable. Unless the debt ratio is compared with norms or benchmarks, it means very little except that it can be compared over time to ensure that the situation does not deteriorate. The debt ratio deteriorates if it increases in value.

A debt ratio of 37,5% as determined in the example is slightly higher than the figures calculated by Swanevelder (1991:210) of 30,6% for external debt and 25,6% for internal debt. If the mix between internal and external debt is taken into account, where some municipalities rely solely on external debt and others have ample sources of internal funding, a debt ratio of 37,5% may be reasonably acceptable.

4.4.2.2 *Debt to equity ratio*

The debt to equity ratio indicates the extent to which total debt is covered by own accumulated funds and reserves (see chapter 3, section 3.7.2.2).

Example:

$$\text{Debt to equity ratio} = \frac{\text{Total debt}}{\text{Total equity}}$$

$$\begin{aligned} \underline{20.1} &= \frac{88\,250 + 12\,050}{59\,089 + 7\,645} \\ &= \underline{1,503:1} \end{aligned}$$

$$\begin{aligned} \underline{20.2} &= \frac{81\,571 + 28\,966}{69\,215 + 10\,353} \\ &= \underline{1,389:1} \end{aligned}$$

The higher this ratio, the higher the periodic interest and redemption commitments will be and thus the higher the risk of default having a negative effect on creditworthiness (Masulis 1988:90). The ideal situation would be one in which there is no debt at all. In the municipal environment, however, a situation with no debt is extremely rare because in most municipalities there is a continuous need for more and better service delivery and thus a need for capital (debt). Since no benchmarks for a debt to equity ratio in municipalities could be identified, it was assumed that as a starting point, and based on averages calculated from the sample municipalities, the ratio should be set at an initial 1:1.

On the basis of the example, this ratio improved during the preceding year, but is still negative if a benchmark of 1:1 is accepted as the initial norm. In the example, this ratio would therefore affect creditworthiness negatively.

4.4.2.3 *Loan servicing as a percentage of operating income*

This ratio reflects the share of operating income that is spent on the servicing of loans and is also an indication of the capacity of the borrower to take up new loans (see chapter 3, section 3.7.2.3). In order to express this ratio as a percentage, it is multiplied by 100.

Example:

$$\text{Debt servicing} = \frac{\text{Total loan debt servicing cost X 100}}{\text{Total operating income - grants, subsidies and intergovernmental transfers}}$$

$$\begin{aligned} \underline{20.1} &= \frac{11\,520 \times 100}{93\,053} \\ &= \underline{12.380\%} \end{aligned}$$

$$\begin{aligned} \underline{20.2} &= \frac{14\,250 \times 100}{142\,365} \\ &= \underline{10.009\%} \end{aligned}$$

This ratio implies that the annual expenditure on servicing loans (repayment of capital, payment of interest and all redemption charges) is approximately 11% of total income. During the following year this ratio decreased, which is a positive trend.

4.4.3 Operating ratios

Operating ratios provide an indication of overall management performance and management's ability to adjust to changing circumstances and ensure viability (see chapter 3, section 3.7.3).

4.4.3.1 *Operating surplus or deficit as a percentage of retained income*

This ratio gives an indication of the impact of the operating activities on the retained income (unappropriated surplus) and the sustainability of the current trend of operating activities. If a municipality has negative retained earnings (an accumulated deficit), this will indicate financial failure and be detrimental to creditworthiness. In order to express this ratio as a percentage, the ratio is multiplied by 100.

Example:

$$\text{Ratio} = \frac{\text{Operating surplus or deficit} \times 100}{\text{Retained income}}$$

$$\begin{aligned} \underline{20.1} &= \frac{1\,345 \times 100}{6\,300} \\ &= \underline{21.35\%} \end{aligned}$$

$$\begin{aligned} \underline{20.2} &= \frac{2\,708 \times 100}{7\,645} \\ &= \underline{35.42\%} \end{aligned}$$

This ratio builds on the previous year's performance. The trend in the example is positive, and thus also positive for creditworthiness.

4.4.3.2 *Retained surplus or accumulated deficit as a percentage of total operating income*

Retained surplus as a percentage of total operating income provides an indication of the relative magnitude of the accumulated surplus. In order to express this ratio as a percentage, the ratio is multiplied by 100.

Example:

$$\text{Ratio} = \frac{\text{Retained surplus or accumulated deficit X100}}{\text{Total operating income}}$$

$$\begin{aligned} \underline{20.1} &= \frac{7\,645 \times 100}{93\,053} \\ &= \underline{8.22\%} \end{aligned}$$

$$\begin{aligned} \underline{20.2} &= \frac{10\,353 \times 100}{142\,365} \\ &= \underline{7.27\%} \end{aligned}$$

Although the actual retained income increased, the ratio (retained income as a percentage of total operating income) decreased slightly during the following year. This was because the operating income increased by a substantial 53%. In circumstances where the operating income increases by such a high margin, a logical assumption would be that the surplus for the year would increase accordingly. The decrease in this ratio will have a negative effect on the creditworthiness of the municipality.

If an accumulated deficit is recorded, the calculation of the ratio will be negative and have an extremely negative effect on creditworthiness.

4.5 INSTITUTIONAL INDICATORS

Institutional indicators to some extent represent and quantify the institutional performance and capability of a municipality, and can be divided into two groups, namely:

- (1) general management and administration
- (2) indicators addressing the mission statement, strategies and policies.

All institutional indicators, except those referred to in paragraphs 4.5.1.4 and 4.5.1.5, which result in numerical values, are scored by comparing the number of positive answers with the norm required. This principle is the same as scoring a theoretical examination. For example, if a theoretical examination consists of 10 questions to be answered by a “yes” or a “no” and each correct answer bears one mark, it is easy to determine what the score out of 10 is by adding the number of correct answers.

4.5.1 General management and administrative indicators

The importance of the capability and performance of general management and administration in credit-rating assessment is confirmed by all the credit analysis specialists in municipalities. To address general management and administration comprehensively in terms of credit analysis, the following evaluation items were identified (see chapter 3, section 3.8.1):

- The existence of an internal audit function, audit programmes and procedures to deal with audit reports;
- the availability of management information on operations in the current financial year; and
- financial administration as reflected in the timeliness of recording data, doing reconciliations and issuing reports required by law.

Under each of the above-mentioned evaluation items, a number of relevant questions

are asked to provide an indication as regards performance and quality. To ensure objectivity, the questions were structured in such a way that they could be answered by either a "yes" or a "no". A "yes" was then allocated the numerical value of "1", and "no" the numerical value of "0".

The questions to be answered by a "yes" or "no" in each of the categories are as follows:

4.5.1.1 *Existence of internal audit function: audit programmes and procedures to deal with audit reports*

- (1) Does an internal audit function exist and is provision made for it in the operating budget?
- (2) Do internal audit programmes exist and provide for future auditing activities for at least three months, and are the programmes updated?
- (3) Is "performance auditing" part of the audit programme?
- (4) Does an audit procedures statement exist?
- (5) Is a queries register updated continuously and are outstanding audit queries followed up and reported to the CEO?
- (6) Do any of the auditing personnel have a formal accounting or auditing qualification or auditing experience of more than five years?
- (7) Is the audit report qualified by the external auditor?

4.5.1.2 *Availability of management information on operations in the current financial year*

- (1) Are updated budgetary reports distributed at least monthly to all departmental heads for information and control of the correctness of their specific votes? (If all the relevant departmental heads are linked by means of an electronic network and are able to access the updated financial information continuously, the answer to this

question should be “yes” if the different reports are easily accessible and regularly and correctly updated.)

- (2) Are exception reports processed on request and per specification? (Are exception reports available, as and when required, on the electronic network?)

4.5.1.3 *Financial administration as reflected in the timeliness of recording data, doing reconciliations and issuing reports required by law*

- (1) Were the published annual financial statements for the previous financial year submitted to the provincial structures on or before 30 September, that is three months after the end of the financial year?
- (2) Were the annual budgets approved by the council on 30 June of the year preceding the applicable financial year?
- (3) Does any audit report mention any documentation which is required by law but was not submitted on time?

4.5.1.4 *Proof of efficiency of budgeting and control and the effectiveness of planning, as indicated by variances in actual expenditure results from the budgeted expenditure amounts*

This indicator is assessed by evaluating actual expenditure against budgeted expenditure. This indicator will show the overall management planning and control and management’s ability to take corrective action if deviations occur and are reflected in the financial information system.

Only budgeted versus actual operational expenditure is considered because it reflects the total direct communally related activities. Most unplanned and impulsive activities will be reflected in this deviation. Other indicators which are related to the budget, such as those applicable to the capital budget, are addressed in other indicators.

The budgetary deviation is calculated by expressing the difference between budgeted and actual expenditure as a percentage of total budgeted operating expenditure.

Example:

$$\text{Variance} = \frac{\text{Total budgeted expenditure} - \text{Total actual expenditure} \times 100}{\text{Total budgeted expenditure}}$$

$$\begin{aligned} \underline{20.1} &= \frac{(93\,250 - 91\,640) \times 100}{93\,250} \\ &= \underline{1.73\%} \end{aligned}$$

$$\begin{aligned} \underline{20.2} &= \frac{(108\,300 - 138\,495) \times 100}{108\,300} \\ &= \underline{(27.88\%)} \end{aligned}$$

The above indicators show that the budgetary management/control developed major deviations in the past year. Apart from the extent of the deviation, it developed in a negative direction and will also affect the creditworthiness of the municipality negatively.

4.5.1.5 *Salaries, wages and allowances as a percentage of operating expenditure*

The expenditure structure of a municipality indicates the actual commitment of its management because the allocation of the resources is divided among the different expenditure categories. Some expenditure items, such as repairs and maintenance, capital charges and contributions to fixed assets, indicate the extent of management's commitment to "growth-related" activities as they contribute to securing the longer-term investment of the municipality. Salaries, wages and allowances, namely the cost of staffing the municipality are not "growth-

related" at all, beyond a certain point. Swanevelder (1991:185) established that on average staff costs are 27% for larger municipalities. From this it can be confidently stated that staff expenditure of more than, say, 30% is unproductive and will be viewed negatively by investors and thus have a negative effect on the credit rating of the municipality.

The calculation of this ratio is as follows:

$$\frac{\text{Total actual salaries, wages and allowances X 100}}{\text{Total actual operating expenditure}}$$

The actual figures for calculating the above-mentioned can be found in annexure D (Analysis of operating income and expenditure).

Example:
$$\frac{\text{Total actual salaries, wages and allowances X 100}}{\text{Total actual operating expenditure}}$$

$$\begin{aligned} \underline{20.1} &= \frac{32\,282 \times 100}{91\,640} \\ &= \underline{35.23\%} \end{aligned}$$

$$\begin{aligned} \underline{20.2} &= \frac{36\,285 \times 100}{138\,495} \\ &= \underline{26.20\%} \end{aligned}$$

The above calculations indicate that the staff costs decreased dramatically in the year 20.2 and are currently below the average as determined by Swanevelder (1991:185).

4.5.2 Documented mission statements, strategies and policies

The development and documentation of mission statements, strategies and policies are

a fairly “new” concept for municipalities. Municipalities operated effectively for many years by adhering to mostly unwritten mission statements, strategies and policies. Modern development expanded the prominence of municipalities and their importance as one of the major role players in the well-being of communities. This also compels municipalities to formulate their own specific missions and strategies to fulfil these missions and devise policies to formalise the activities.

It is necessary for the modern municipality to have a documented mission statement, strategic planning and management formulations and policy statements to ensure a continuous and viable operation.

4.5.2.1 *Existence of a formal organisational structure in relation to the approved mission and strategies*

- (1) Is there a council-approved mission statement, with strategies to support it?
- (2) Do any formal council decisions exist which endorse the organisational structure in terms of the approved mission and strategies?
- (3) Is an updated organisational diagram that supports the operational activities in terms of the approved policy available?
- (4) Do the organisational structure and the approved personnel budget agree?

4.5.2.2 *Existence of an integrated development plan with supportive annual business plans on which annual budgets are based*

- (1) Does a development plan which addresses all of the following exist:
 - (a) physical township development planning
 - (b) infrastructure needs

(c) financial implications

- (2) Was the development plan updated for each of the past three years?
- (3) Is there substantial evidence of community participation in the drafting and/or revision of the development plan?
- (4) Is the longer-term capital programme based on the development plan?
- (5) Are the objectives stated in the development plan addressed by the annual operating and capital budgets?

4.5.2.3 *Formalising pricing policies for the different municipal services*

The formalisation of pricing policies for the different municipal services which leads to the determination of service charges and assessment rates is one of the most sensitive issues in modern-day developing local governments. Apart from conforming with the norms of a good tax system (Cowden 1969:100), pricing policies must also address certain corrective measures as supported by the central government, without affecting revenue collection negatively.

- (1) Do formal, council-approved policies for the determination of tariffs for the different municipal goods and services exist?
- (2) Are the pricing policies for economic services, housing and trading services based on cost recovery principles? (Does the estimated income for the year for these services at least cover the estimated expenditure?)
- (3) Is there any evidence of community involvement in the formulation of pricing policies? (Are issues such as the ability and willingness to pay in any way addressed in the formulation of the pricing policies?)

4.6 ENVIRONMENTAL INDICATORS

Environmental forces have a direct impact on the way the organisation structures its activities. In times of extreme drought, for example, greater emphasis would be placed on curbing water distribution losses. Commercial organisations, including municipalities of the future, will be increasingly subjected to external forces and should be prepared to adapt. This is evident from current experiences, for example environmentalists who are concerned about air pollution calling on municipalities to enforce health measures (Kast & Rosenzweig 1985:142).

Although difficult to quantify, environmental indicators are addressed by all credit-rating analysts. For the purposes of this study and the objective of finding quantitative measures to determine the creditworthiness of municipalities, the environmental indicators are divided into three categories, namely -

- (1) socio-economic
- (2) eco-political
- (3) dependency risk factor .

These categories, and the measures to quantify them are explained in sections 4.6.1 to 4.6.3 below.

4.6.1 Socio-economic indicator

This indicator can also be called the "affordability indicator". A knowledge and interpretation of the social environment is essential for the municipality because it forms the basis of its existence. Local government must meet a number of social needs (Craythorne 1994:14). These needs are addressed via a democratic system through representative councillors and are manifested in the budgeting system. The capital programme should be an expression of the communal (social) needs carefully planned and programmed within the limitations of resources.

An indicator quantifying the socio-economic dimension of a municipality is a ratio that links the community's needs and resources. The level of spending needed to bring services to a certain level (norm) is compared with the ability to support that norm.

Community needs and resources are a category in which the tax base and economic and demographic characteristics are treated as different sides of the same coin. Changes in community needs and resources are interrelated. The demand for housing and municipal services will decrease as a result of a decrease in population or jobs and will cause a corresponding decline in the market value of housing which, in turn, will reduce revenue from property taxes. In this scenario, the local government may be forced to raise taxes to make up for lost revenues which, in turn, might result in the municipality being less attractive for prospective residents.

The needs and resources of a community are linked by the municipality, using a longer-term capital programme (investment programme). The long-term capital programme accommodates the needs and resources of the community over a specified period. The cost of meeting the needs should be quantified in money values for inclusion in the capital programme. Resources, on the other hand, consist of revenue from the charging of rates and taxes. The resources are, however, limited and should only be marginally increased per annum. The Development Bank of Southern Africa (DBSA) supports an increase of between 2% and 3% per annum in real terms. The resources linked to the needs, as defined in the capital programme, are the total capital charges for the period.

Needs as a percentage of resources are calculated by dividing the needs as quantified in the capital programme by the resources to be allocated to it. In almost all developing environments, the needs by far exceed the resources. The extent by which these needs exceed the resources is then projected over the "affordable" period by increasing the resources by, say, 3% per annum. An "affordable" implementation period is thus arrived at.

The shorter the period over which the capital programme will be affordable, the lower

the risk will be as a measure of creditworthiness.

The following data are required to calculate this indicator:

- the cost of future needs as reflected by the capital programme
- the current resources allocated to the capital programme (capital charges)
- the average discounting rate
- the average funding period.

Method of calculation

The period for financing the cost of the capital needs for the following year must be calculated using the annual payment based on the current year's actual capital charges adjusted to imply a 2,5% increase (based on the average indicated by DBSA).

Example:

The formula for standard annuity discounting calculations is used with the following values:

Present value (PV): total of following year's capital programme.

Interest rate (i): average interest rate (eg Consolidated Loans Fund allocation).

Payment (PMT): 2,5% calculated on existing capital charges.

The calculation of the period (n) can be done by using the formula for calculating annuities, or with the aid of a financial calculator, the obvious method. The procedure involves activating the annuity calculation activity on the calculator and entering the required values. (Either the present value (PV) or the payment (PMT) must be entered as a negative.)

20.1:

Input:	PV	=	(-)R2 000 000
	i	=	14%
	PMT	=	R11 520 000 x 2,5% = R288 000
Output:	n	=	27,35, say, <u>27 years</u>

20.2:

Input:	PV	=	(-)R2 500 000
	i	=	14%
	PMT	=	R14 250 000 x 2,5% = R356 250
Output:	n	=	30,86, say, <u>31 years</u>

Based on the current "affordable" capital charges and accepting an increase of 2,5% per annum as reasonable, it will take approximately 27 to 31 years to repay the needs of the following year. The longer this period, the more negative its impact will be on the creditworthiness of the municipality. The estimated asset life for the calculation of depreciation of assets in municipalities, published in GAMAP (1998:80), varies between five years for security measure assets such as fencing and access control systems, to 30 years for community assets such as libraries and recreation centres. In terms of these guidelines, the above calculation of 31 years makes a negative contribution to the creditworthiness of the municipality in the example.

4.6.2 Economic-political indicator

An economic-political indicator refers to the interaction and interrelationship between the national and local economy and how this is affected by political sentiments. Most analysts of creditworthiness in municipalities include in their assessments the effect of political influences on the local economy. Economic and political conditions are largely beyond the control of municipalities. These conditions include inflation, employment, economic wealth, interest rates and business activity.

In South African municipalities, the customary practice was that, through a process of subsidisation and grants from the national and provincial structures, municipalities were compensated for the inequalities created by political activities. In the search for an indicator for quantifying this economic-political influence on the local evaluation of creditworthiness, the following ratio was identified:

$$\text{Ratio} = \frac{\text{Operating intergovernmental transfers or subsidies}}{\text{Total operating income}}$$

Operating intergovernmental transfers and subsidies as a percentage of the total operating income of a municipality indicate the extent to which the municipality relies on income from intergovernmental transfers. In most instances these intergovernmental transfers cannot be relied on as a permanent source of income, and are extremely risky. The higher the reliance on intergovernmental transfers and subsidies for financial viability, the lower the municipality's score for purposes of creditworthiness.

4.6.3 Dependency risk factor

One of the essential environmental indicators is an indicator to measure the influence of the economic base of the municipality. The economic base can be described as those sources of income for the municipality which have a direct effect on its viability. For the purpose of this study such sources of income are represented by the consumer debtors composition, that is those responsible for the income of (cash flow into) the municipality. If the composition of these payers should change drastically, this could have a substantial effect on the operations and the creditworthiness of the municipality (see chapter 3, section 3.9.3).

$$\text{Dependency risk} = \frac{\text{Income from single largest ratepayer}}{\text{Total municipal income}}$$

Example:**20.1**

Total municipal income	R93 053 000
Income from single largest ratepayer	R1 350 000

Calculation:

$$\begin{aligned} \text{Dependency risk factor} &= \frac{1\,350\,000}{93\,053\,000} \times 100 \\ &= \underline{1,45\% \text{ risk}} \end{aligned}$$

20.2

Total municipal income	R142 365 000
Income from single largest ratepayer	R1 420 000

Calculation:

$$\begin{aligned} \text{Dependency risk factor} &= \frac{1\,420\,000}{142\,365\,000} \times 100 \\ &= \underline{1,00\% \text{ risk}} \end{aligned}$$

The larger the most prominent industry in terms of income for the municipality, the higher the dependency factor, and thus also the dependency risk.

4.7 TREND ANALYSIS

In this study trend analysis is applied in its simplest form. The row of performance indicators over a number of years shows a trend, be it is stable, increasing, decreasing or erratically varying. Trends refer to the performance of the identified row of indicators over a number of years (Holmes & Sugden 1999:219-2220).

Trends become valuable only after some of the reporting periods have expired and the actual trends can be determined. After the first year (base year), when only one figure will be available, no trend can be determined. After the second year, some degree of

trend can be determined by comparing the second year with the first year (base year). As data from subsequent years are added to the database, the real value of the trend multiplier becomes evident.

This study applies trend analysis in a unique way. The trend indicator is an integral part of the total creditworthiness score. The detailed working and application of the trend indicator are extensively discussed in chapter 5, section 5.3.2.

4.8 SUMMARY

This chapter explains the elements identified in the determination of the creditworthiness of municipalities in South Africa. The categories of indicators, with the detailed ratios and indicators to be determined under each category, are identified.

The number of ratios and indicators that are included are simple enough to allow even a layperson to use them and draw an informative conclusion.

This chapter deals with the specific ratios and indicators as well as the method of calculation. From the outset, the intention of this study was to present a simple-to-use, reliable and quantifiable model for the determination of creditworthiness in municipalities in South Africa. The number of relevant ratios and issues used to assess the creditworthiness of municipalities was limited in such a way that, although there were only a few municipalities, the result is valid albeit not fully comprehensive. The following chapter presents the detailed working of the model.

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CHAPTER 5**THE MODEL****5.1 INTRODUCTION****5.2 QUANTIFICATION OF THE MODEL****5.3 STRUCTURE OF THE MODEL****5.3.1 Horizontal lines representing the different categories of indicators****5.3.2 Columns representing the effect of trends on the ratios and indicators****5.3.3 Totals of matrix****5.4 SCORING THE RATIOS AND INDICATORS****5.4.1 Necessity of benchmarks****5.4.2 Scoring values****5.4.2.1** *Scoring values for numerically expressed performance***5.4.2.2** *Scoring values for non-numerically expressed performance***5.4.3 Weighting of initial scores****5.5 OPERATION OF THE MODEL****5.6 SUMMARY****5.7 SOURCES CONSULTED**

CHAPTER 5

THE MODEL

5.1 INTRODUCTION

In chapters 3 and 4, the elements to be included in the model for the determination of the creditworthiness of municipalities are substantiated and discussed. In this chapter the elements described in the previous chapters are structured in a format which expresses the unique approach of quantifying all aspects of evaluation.

This model is unique because it comprises elements of multivariate discriminatory analysis (Steyn et al 2000:96), ratio analysis (Swanevelder 1991:75), financial condition evaluation (Groves & Valente 1994:1) and, most importantly, practical applicability. For the first time, subjective elements that influence creditworthiness have been quantified objectively and incorporated in a single model. The model consists of a scoresheet derived from an evaluation of financial ratios/indicators, institutional ratios/indicators, environmental ratios/indicators and the objective inclusion of trend analysis. The format of a scoresheet is given in annexure C (an ideal municipality). It is assumed in annexure C that 100 points are scored for all the years under review.

Although a large number of ratios could be identified and included in a model for the determination of the creditworthiness of municipalities, it is believed that the ratios included in this model identify the basis of all relevant ratios and are to some extent inclusive of a number of other relevant ratios.

5.2 QUANTIFICATION OF THE MODEL

The approach in the development of the model was to include all the most relevant ratios, norms and indicators in the determination of the creditworthiness of

municipalities. All the relevant ratios, norms and indicators are quantified and in the case of subjective measures, respondents are compelled to decide between a simple “yes” or “no” (annexure B: Questionnaire). The relevant ratios, norms and indicators are structured to make it relatively easy for the respondent to decide and then complete the questionnaire.

Since there are no benchmarks or preset norms for South African municipalities, with the exception of a few identified by Swanevelder (1991), the model was developed by starting with a structure of weights allocated to the different ratios, norms and indicators. The initial weight allocation in the model was established after discussions with different stakeholders, and the application of knowledge gained from the literature studied and from practical experience.

5.3 STRUCTURE OF THE MODEL

The model for the determination of the creditworthiness of municipalities consists of a matrix with columns and rows. The columns run from top to bottom with the different categories of evaluation in the left-hand column. The rows run from left to right (horizontally) and are used to indicate the trends over time.

5.3.1 Horizontal lines representing the different categories of indicators

The different categories are subdivided into the ratios and indicators as discussed in chapters 3 and 4, and are all listed in the left-hand column. Next to the brief description of the ratio or indicator, the value calculated for the specific indicator is reflected.

Example:

$$\text{Acid test ratio} = \frac{\text{Current assets - inventory}}{\text{Current liabilities}}$$

If the result from the above formula is 1,20:1, 1,20 will be indicated as the score for the acid test ratio for the specific period. All of these values are determined as described in chapter 4. If the norm for the acid test ratio is set at, say, 1,20, and the calculated score for the municipality is 1,20, the score equals the norm and the maximum points allocated to the specific norm (6 in this case) will apply.

The values entered per ratio or indicator are added together under each category. The different categories of indicators are weighted as follows:

FINANCIAL INDICATORS	= 50 points
INSTITUTIONAL INDICATORS	= 20 points
ENVIRONMENTAL INDICATORS	= <u>10 points</u>
	= 80 points
TRENDS	= <u>20 points</u>
TOTAL	= <u>100 points</u>

The weighing of the different categories above is further divided into the different ratios and indicators which measure and quantify the objective activities. These ratios and indicators are further weighted as follows:

FINANCIAL INDICATORS = 50 points, consisting of:

Liquidity	= 20 points
Solvability	= 20 points
Operating indicators	= 10 points

INSTITUTIONAL INDICATORS = 20 points, consisting of:

General management and administration	= 14 points
Documented mission statements/strategies/policies	= 6 points

ENVIRONMENTAL INDICATORS = 10 points, consisting of:

Socio-economic	= 4 points
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Eco-political	= 2 points
Dependency risk	= 4 points

TRENDS = 20 points

The model developed in this study aims at a figure of 100 points as a norm for evaluating a positive (if higher than 100 points) or negative (less than 100 points) creditworthiness score. The trend per category will add an additional 20 points required for a total score of 100 points.

Apart from the trend analysis, the above-mentioned ratios and indicators are further divided into the following categories, indicating the equivalent value multiplier:

FINANCIAL INDICATORS

	<u>Equivalent value multiplier</u>
Liquidity	= 20 points , consisting of:
Acid test ratio	= 6 points
Working capital coverage ratio	= 6 points
Debtors collection period	= 4 points
Debt to generated cash ratio	= 4 points
	<u>Equivalent value multiplier</u>
Solvency	= 20 points , consisting of:
Debt ratio	= 4 points
Debt to equity ratio	= 8 points
Loan servicing as % of operating income	= 8 points
	<u>Equivalent value multiplier</u>
Operating	= 10 points , consisting of:
Operating surplus/deficit as % of retained income	= 5 points
Accumulated surplus as % of total operating income	= 5 points

INSTITUTIONAL INDICATORSEquivalent value multiplier**General management and administration = 14 points**, consisting of:

Existence of internal audit function: audit programmes and procedures to deal with audit reports = 2 points

Availability of management information on operations in the current financial year = 2 points

Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports = 4 points

Proof of efficient budgetary control as indicated by variances of actual results from budgeted amounts = 4 points

Salaries, wages and allowances as a percentage of operating expenditure = 2 points

Equivalent value multiplier**Documented mission statements/strategies/policies = 6 points**, consisting of:

Existence of a formal organisational structure in relation to the approved mission and strategies = 2 points

Existence of an integrated development plan with supportive annual business plans on which annual budgets are based = 2 points

Formalisation of pricing policies for the different municipal services = 2 points

ENVIRONMENTAL INDICATORSEquivalent value multiplier**Socio-economic = 4 points**, consisting of:

Needs/resources = 4 points

Equivalent value multiplier**Economic-political = 2 points**, consisting of:

Intergovernmental support = 2 points

	<u>Equivalent value multiplier</u>
Dependency risk	= 4 points , consisting of:
Dependency risk	= 4 points

The total of the above ratios and indicators is 80 points. To arrive at the total of 100 points, all of these values must be multiplied by 1,25, which is the value allocated to trends, if constant.

5.3.2 Columns representing the effect of trends on the ratios and indicators

As discussed in chapters 3 and 4, trends are essential in the determination of the creditworthiness of municipalities. Apart from detailed statistical approaches, no logical generally accepted theory or practical applications of trend analysis applicable to this model could be found. This model accommodates trends in a unique quantifiable manner which is easy to use and interpret.

The ratios and indicators, excluding trends, described in the study add up to a total of 80. The trend per category will add the additional 20 points required for a total figure of 100. Thus if the trend situation is constant, the multiplier should be 1,25 to elevate the 80 points scored by the other ratios and indicators to the norm of 100.

This approach is unique because no equitable, easy to use alternative could be identified. The quantification of the trends is done as follows by using only three levels of evaluation:

- A multiplier to the value of **1,25** is used if the **trend remained constant** during the evaluation period. This implies that the trend contributes 20 points to the total creditworthiness calculation.
- If the **trend is positive**, the multiplier is **1,5**.
- If the **trend is negative**, the multiplier is **1** and will therefore make no contribution to the creditworthiness calculation.

These **trend factors** are multipliers to be applied to each ratio and indicator in the model.

As part of this model, where the standard for “creditworthiness” is 100 points, 20 points of the total value of each of the indicators are allocated to trends. The score earned by comparing the performance with the norm is multiplied by the trend factor to accumulate to the creditworthiness performance. The **trend multiplier** is calculated according to the trend which is based on previous performance.

An important aspect of trend analysis is tendencies over time. Since South Africa is a developing country, and activities and changes in the local government environment are occurring rapidly, the **trend cycle** is set at four years. After a period of four years, the changes are so dramatic that the base year must be advanced. After a period of four years, the base year is thus shifted one year forward and the previous first year becomes the base year. This initial trend cycle of four years is not fixed and can be changed if actual figures and performance indicate otherwise.

The **calculation of the trend multiplier**, in terms of a four-year cycle, is as follows:

The calculated value of the current year indicator is compared with the calculated values of the same indicators for the previous years, **before** the application of the trend multiplier. The performance of each of the four years is then weighted (referred to as the **trend weight**) on the following basis:

- **base year** (which is the starting year for the first year of the evaluation): multiplied by **0,05** (5%)
- **evaluation year - 2** (or starting year + 1): multiplied by **0,15** (15%)
- **evaluation year - 1** (or starting year + 2): multiplied by **0,30** (30%)
- **evaluation year** (or starting year + 3): multiplied by **0,5** (50%)

Accordingly, the trend multiplier value is the summation of the calculated values for each of the years.

If a row of values for an indicator, before the application of the trend multiplier, is as indicated in the “Value” row, the multipliers for the consecutive years are calculated as follows:

- At the beginning of the evaluation project, a **starting year** (20.0) is defined where no history exists and the multiplier is 1,25 to compensate for the 20% allocated to trends. The starting year will become the **evaluation year -1** in the following year. Only after 3 years (thus in the fourth year) will the starting year become the **base year**.
- During year 20.1, one year after the starting year, the performance of year 20.1 is compared with the performance during the starting year. In the example, the value increases from 5 to 6. An increase in value represents a trend value of 1,5, which is multiplied by the trend weight of 0,5 (evaluation year), resulting in the proportional value of the starting year trend multiplier of 0,75 ($= 1,5 \times 0,5$). (The weighted value of evaluation year -1 (or 20.0) should be $1,25 \times 0,3 = 0,375$ if a set of four years is available.) Since only two years are available, the weighted value for evaluation year -1 must be 0,5 ($= 1,0 - 0,5$ for the evaluation year), and the contribution towards the trend multiplier is 0,625 ($= 1,25 \times 0,5$). The logic is that the total of the weighted values must be 1. The trend multiplier in the example for year 20.1 is thus: $0,625 + 0,75 = 1,375$.
- The performance in year 20.2 must be compared with the performance of both the starting year (20.0) and year 20.1. Compared with these two years, the performance of 7 is better than both years and is thus 1,5 in both cases. The trend multiplier value for year 20.2 is thus the summation of: $1,25 \times 0,2 = 0,25$ for the evaluation year - 2 comparison, $1,5 \times 0,3 = 0,45$ for the evaluation year - 1 comparison and $1,5 \times 0,5 = 0,75$ for the evaluation year comparison, which results in a trend multiplier of 1,45 for 20.2.

- The performance in year 20.3 is the same as that in the starting year (5) and less than for both years 20.1 (6) and 20.2 (7). The trend multipliers allocated are thus the summation of: $1,25 \times 0,05 = 0,0625$ for the base year, $1,0 \times 0,15 = 0,15$ for evaluation year - 2, $1,0 \times 0,3 = 0,3$ for the evaluation year - 1 and $1,0 \times 0,5 = 0,5$ for the evaluation year, which amounts to a total value of 1,0125.
- The performance in 20.4 is less than that of all four preceding years. This is also the first year with a full range of contributors, totalling a weight of 1. The base year is still the starting year with a weight multiplier of 0,05.
- During year 20.4, the base year changes from year 20.0 to 20.1. The string of individual trend multiplier values for year 20.4 is as follows:

-	20.1:	0,05
-	20.2:	0,15
-	20.3:	0,30
-	20.4:	<u>0,50</u>
Total		<u>1,00</u>

The trend multiplier for 20.4 is thus 1,0.
- For both years 20.5 and 20.6, the indicator scores increased to 5 and 6, and the trend multipliers increased respectively to 1,325 and 1,475.

The calculated trend multiplier must be calculated and applied to each and every one of the indicators in the model.

5.3.3 Totals of matrix

The totals of the matrix represent the end result of the analysis. The standard is set at 100 which means that the creditworthiness of the municipality is standard or average.

A measurement higher than 100 will indicate an above-average rating and a score below 100 will indicate creditworthiness below average and a possibly problematic situation. The extent of the deviation is indicated by the size of the score. Although this credit-scoring approach is totally different from those currently used by credit rating agencies, and as such cannot be directly linked to their approaches, a score of, say, 130% and higher will indicate a very creditworthy situation that might be in line with an AAA Standard & Poor's rating.

Over a period of time, the credit scores earned by municipalities will establish this credit rating model's own creditworthiness and norms will surface that will establish some benchmarks for municipalities.

Example:

Year	(Starting year) 20.0	20.1	20.2	20.3	20.4	20.5	20.6
Indicator score	5	6	7	5	4	5	6
Multiplier for year 20.0	1,25	0,625	0,25	0,0625	-	-	-
Multiplier for year 20.1	-	0,75	0,45	0,15	0,05	-	-
Multiplier for year 20.2	-	-	0,75	0,3	0,15	0,05	-
Multiplier for year 20.3	-	-	-	0,5	0,3	0,15	0,05
Multiplier for year 20.4	-	-	-	-	0,5	0,375	0,225
Multiplier for year 20.5	-	-	-	-	-	0,75	0,45
Multiplier for year 20.6	-	-	-	-	-	-	0,75
Trend multiplier	1,25	1,375	1,45	1,0125	1,0	1,325	1,475

5.4 SCORING THE RATIOS AND INDICATORS

The scoring of the ratios and performance of the indicators are some of the more contentious issues in the model. The model consists of different categories of ratios and indicators, some of which are calculated figures based on objective data and others cannot be calculated objectively. No scoring basis has been developed for this type of model analysis. This study sets a basis for scoring this type of analysis by applying an objective scoring scale and allocating a score to the performance of each identified ratio or indicator in each category. As the model is implemented, the norms and ratios will establish their own creditworthiness and scientific basis.

The quality and reliability of all the issues assumed in the study are evaluated in chapter 8.

Whatever scoring approach is used, it should be applied consistently throughout the model. This will ensure that if discrepancies are identified in the model, the alternatives to be investigated to correct them are limited.

5.4.1 Necessity of benchmarks

Ammons (1996:ix) claims that if local governments are serious about the efficient provision of quality services, they need performance benchmarks. If they are not serious, they should be, for the sake of their citizens. The National Productivity Institute (NPI) of South Africa has for many years urged municipalities to measure performance and has given municipalities advice on how to start the process. The few who participated saw that a performance measure is virtually valueless if it appears in the form of an isolated abstract number. Swanevelde (1991) evaluated a number of municipalities in South Africa and determined actual average performances on a number of relevant ratios and issues that are applicable in determining the creditworthiness of municipalities. Some of the averages determined by Swanevelde (1991) are used as initial benchmarks since they are currently the best available in

South Africa.

The application of the model for the determination of the creditworthiness of municipalities will over time establish relevant benchmarks against which actual performances can be measured for the allocation of a reliable score.

5.4.2 Scoring values

The scoring values used in the model consist of a simple linear range from 0 to 7, with 0 the lowest or most unsatisfactory or non-existent, and 7 the highest or best possible result. Spector (1992:46) contends that the most difficult part of the development of a scoring system is its validation. The validation of a scale used for scoring is like testing a theory, in that its appropriateness cannot be proven. Instead, evidence is collected to either support or refute its validity. As with a theory, a scale used for scoring is tentatively accepted because it is useful.

Spector (1992:1) identified the following four characteristics that turn a scale into a summated rating scale:

- The scale must contain multiple items.
- Each individual item must measure something that has an underlying, quantitative measurement continuum.
- Each item has no "right" answer.
- Each item is a statement that must be rated.

The financial and environmental indicators in the model, which are expressed in numerical terms, must be evaluated against some norm or benchmark, while the non-numerically expressed indicators stand on their own and must be evaluated as such.

Each of the ratios listed in the model must be evaluated in terms of the scoring set out above. The following section describes scoring for numerically expressed performance,

and section 5.4.2.2 explains scoring for non-numerically expressed performance measures.

5.4.2.1 *Scoring values for numerically expressed performance*

Numerically expressed performance is noted in the financial and environmental indicators for which a norm or benchmark should be defined.

The scoring measured against this set norm or benchmark is valued as follows:

If the performance is more than 30% above the norm	=	7
If the performance is up to 30% above the norm	=	6
If the performance is equal to the norm	=	5
If the performance is up to 30% below the norm	=	3
If the performance is more than 30% below the norm	=	1

Therefore if a norm is set as 1:1, and the actual performance is 1,5:1, the performance is more than 30% above the norm and will score 7. If the actual performance is 0,6:1, the performance is more than 30% below the norm and the score will be 1.

In some instances, negative results indicate positive performance. In such cases a performance better than the norm will be indicated by a score lower than the norm, for example, the debt to generated cash ratio. If the ratio is less than the norm, it indicates a positive result. In such cases the application of the above-mentioned scoring table is to be reversed.

Since each of the ratios is also weighted in terms of the total spectrum of indicators, as a further step, the score must be adjusted to represent the correct value and contribution to the total creditworthiness as described in section 5.3.3.

5.4.2.2 *Scoring values for non-numerically expressed performance*

The non-numerical performance measures are those identified as institutional indicators. Each of these indicators consists of a number of questions asked. The answers to these questions are a simple “yes” or “no”, and the value attached to a “yes” is 1 and “no” is 0.

Each of the categories has its own number of performance-related statements or questions. The standard set for quantifying the performance of these indicators is a score of 5 if all the related questions are answered positively.

The norm set for non-numerical performance measures is equal to the number of performance-related statements or questions. If for example, 7 out of 10 questions are answered positively, the score for that category will be 3 ($7 \div 10 = 70\%$, which is up to 30% below the norm of 10).

Example:

INSTITUTIONAL INDICATORS

GENERAL MANAGEMENT AND ADMINISTRATION

- 1.1 Existence of internal audit function, audit programmes and procedures to deal with audit reports

<u>Issues to be evaluated:</u>	(If “yes”, score = 1, if “no”, score = 0.)	<u>Score</u>
1.1.1	Does an internal audit function exist, and is it provided for in the operating budget?	1
1.1.2	Do internal audit programmes exist and provide for the future auditing activities for at least three months and is the programme updated?	1
1.1.3	Is “performance auditing” part of the audit programme?	1
1.1.4	Does an audit procedures statement exist?	1

1.1.5	Is a queries register updated continuously, and are outstanding audit queries followed up and reported to the chief executive officer?	1
1.1.6	Do any of the auditing personnel have a formal accounting or auditing qualification or more than 5 years' auditing experience?	0
1.1.7	Has the audit report been qualified by the external auditors?	<u>0</u>
		<u>5</u>

In this category, seven (7) statements/questions were identified, of which five (5) were answered positively. The score for this category is thus three (3) ($5 \div 7 = 71\%$, which is up to 30% below the norm for 7 questions).

5.4.3 Weighting of initial scores

All initial scores vary between 0 and 7. Since some of them, such as the financial indicators, are regarded as more important than the institutional indicators, the financial indicators receive proportionally more points than the institutional indicators.

The model requires the user to enter the score norm per indicator, for example seven (7) for indicator 1.1. The equivalent value multiplier which weights the specific value (item) in comparison with the total is 2 (section 5.3.1). Scoring 5 out of a total of seven (7) questions gives a score for the category of 3. With a norm value of 5, the score of 3 gives a total for adjudication of $3 \div 5 \times 2 = 1,2$. In the context of the model, this score of 1,2 must be multiplied by 1,25 in the starting year to arrive at the contribution it makes towards the total creditworthiness of 1,5.

5.5 OPERATION OF THE MODEL

The model has been structured in such a way that it is simple to use. It consists of four protected worksheets, developed on the spreadsheet program Quattro Pro, namely:

- **Worksheet A: Recording of financially related data**

This includes the balance sheet and income statement, as well as some relevant operating data which are not normally part of the published annual financial statements. Worksheet A is also structured to accept only the necessary information, and all other cells containing formulas and text are protected.

- **Worksheet B: Recording of required non-financial data**

Non-financial data are collected by means of a questionnaire requiring the respondent to answer a simple “yes” or “no”.

- **Worksheet C: Parameters**

The model is parameter driven. The norms and benchmarks identified and/or developed for each of the indicators are entered on this worksheet. Most of this worksheet is protected.

- **Worksheet D: Calculated cash flow**

To ensure comparative cash flow information for analysis purposes, the cash flow is calculated, based on the balance sheet and income statement information provided in worksheet A.

- **Worksheet E: Analysis**

All the relevant data entered in worksheets A, B and C are processed in the logical sequence of the theoretical basis in worksheet E. Most of this worksheet is protected. Although the analyst can clearly see the logical deployment of the data, the data cannot be changed without changing

the source data. The total creditworthiness score is calculated in the last segment of this worksheet.

5.6 SUMMARY

The model developed is unique in that it discriminates to the extent that non-related data are pooled by using a unique scoring system, ensuring an objective result. With the preset norms and weights allocated to the different norms and indicators, as well as the categories of indicators, the break-even score is 100. If the score is more than 100, the creditworthiness is positive and if it is less than 100, the creditworthiness is negative. The categories and indicators responsible for deviations can be easily identified because the scoresheet is transparent and corrective action can be taken.

However, if a number of municipalities are evaluated by means of the model on the basis of a standard set of parameters, the end result should be extremely informative because the same standard is applied and the end result will indicate the *relative* creditworthiness of the municipalities, irrespective of whether they actually score more or less than the envisaged 100 points. The same will apply if a standard set of parameters are used over a period of time. If a municipality were to apply a standard set of parameters over a number of years, the end result would indicate the relative movement with regard to creditworthiness.

The structure and working of the model being elucidated, the model can be applied to empirical data.

5.7 SOURCES CONSULTED

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CHAPTER 6**RESEARCH METHODOLOGY**

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CHAPTER 6

RESEARCH METHODOLOGY

6.1 INTRODUCTION

Up to chapter 5, this study has consisted mainly of theoretical aspects regarding the determination of the creditworthiness of municipalities. It was established that a number of role players are involved in the determination of the creditworthiness of municipalities, and the general approach adopted by all of them is approximately the same, namely an investigation by a group of analysts, followed by the allocation of a measure of creditworthiness. Although widely accepted as indicators of creditworthiness, the indicators used by established credit rating institutions are usually rather subjective, not only in the methodology of determination, but also in the expression of the result (see chapter 3, section 3.3).

In the South African environment subjectivity is, and should be, challenged in view of the high priority placed on transparency. Where two municipalities are evaluated on creditworthiness, the evaluation results should at least indicate those areas included in the evaluation and the respective performance in each of these areas. Therefore, if the two municipalities are eventually differently rated, those areas responsible for the difference in rating should be identifiable.

To effect an objective approach of this nature, this study concentrates on an evaluation system based on objective questionnaires and other objective critical financial ratios for the determination of the creditworthiness of municipalities, namely financial performance, institutional capacity, the environment, and trends. The data obtained from the questionnaire are entered into a computerised model which evaluates the information based on objective norms and weights. The net result yielded by the model is a creditworthiness indicator for the municipality for which information was keyed into

the model. The model is scientifically developed, using some recognised approaches and ratios and some new approaches and ratios.

The methodology of scientific research as described by Neuman & McCormick (1995:137-139) can be summarised as: the logic of implementing scientific methods in the study of reality. The methodology used in this study is empirical in nature as the hypothesis is supported by observations and propositions based on sense, experience and logic (Beach 1996:3). In the context of this study, empirical research refers to the factual and material evidence that creditworthiness in municipalities can be objectively measured. This statement is one of the hypotheses set in chapter 1 of this study.

6.2 OBJECTIVES OF THE RESEARCH

The main objective of this research is to demonstrate that the level of creditworthiness of municipalities can be determined by using an objective model, expressing the creditworthiness in numerical terms.

Although the determination of creditworthiness in municipalities as expressed in chapter 3, section 3.5, is not an unfamiliar subject, the traditional approaches used by credit rating agencies are subjective if compared with the approach described in this study.

In order to quantify and express all issues and indicators identified as relevant to the determination of the creditworthiness of municipalities in numerical terms, some unique approaches were investigated and applied. The four most prominent of these approaches are:

- (1) The quantification of subjective issues, for example a value allocated objectively to the quality of the internal audit function (Indicator 1.1).
- (2) The quantification and incorporation of trend analysis into the different levels of the design of the model, for example the adjustment of a value performed, based on its performance over the past four years.

- (3) The quantification and summation of non-comparable issues in such a way that it makes sense.
- (4) The application of a single quantifiable figure expressing creditworthiness at a specific time. This figure expressing creditworthiness can be compared with the performance of other municipalities, reasons for deviations can be identified and corrective action can be taken if required.

6.3 STEPS IN THE RESEARCH PROCESS

The steps followed in this research are in line with those indicated by Sproull (1995:10).

The steps are as follows:

Planning:

- State preliminary research hypothesis.
- Review related information/literature.
- Determine levels of measurement.
- Define the population and select the sample.
- Select the data collection method.

Conduct:

- Develop model.
- Collect data.
- Analyse data.
- Test hypothesis and answer research hypothesis.

Report:

- Write thesis.

The study is structured according to the above steps. This chapter deals with the population, the sample, the development of the questionnaire and the collection of data.

6.4 THE POPULATION AND THE SAMPLE

The area of research can be regarded as homogeneous as it is only applicable to municipalities in South Africa. There are a number of types of municipalities, as well as a vast difference in size and provision of services (South Africa 1998a). Larger cities provide a variety of services that are very different from those provided in rural towns. Many of the smaller rural towns do not provide library services, for example, as the population would not be able to afford such services and the utilisation would be unacceptably low. The structure of the model is such that it should overcome these differences and be applicable to all municipalities.

The population for this research is all the existing municipalities in South Africa, being 853 in total (Project viability 1998:2).

Interaction with a number of municipalities indicated that because of the sensitivity of the subject of creditworthiness, they are in general not in favour of providing information for the purposes of this research project. Some municipalities were not willing to participate in the research as they consider the information required to be highly sensitive.

In order to proceed with the project, municipalities were randomly contacted and asked for their support. The general response was not positive and only a few questionnaires were received back after the first effort.

While the first effort yielded few responses, the second produced even less, as changes in management changed the attitudes of some municipalities regarding the provision of information for the research. One such example is a Town Council in the North-West Province. Although a previous Town Treasurer supported the research and submitted thoroughly completed questionnaires for the first two years of the project, a change in the post incumbent resulted in a negative attitude towards the project and no

further questionnaires were received, despite various personal visits and communication by letter.

In order to obtain useful information from a representative group of municipalities, banking institutions were approached, and ABSA Bank indicated that they would support the project in respect of the gathering of information on a national basis. ABSA Bank used their influence as a provider of capital to a large number of municipalities in South Africa to gather the required information from a number of municipalities. One of the critical requirements from ABSA was that the information gathered and passed on for use in the model should be kept confidential. All the information forwarded from ABSA was coded regarding its origin, but certified as being correct as received from the individual municipalities.

Even the attempt by ABSA to obtain information from municipalities, only yielded sufficient useful information from ten municipalities. However, the diligent and precise application of the model to a few municipalities only would be sufficient to justify the use of the model and comply with the study objective.

6.5 DEVELOPMENT OF THE QUESTIONNAIRE

The questionnaire was developed and used for the collection of relevant data as identified in chapter 4. One of the major objectives in the development of the questionnaire was to keep it concise and simple. Only vitally necessary questions were included.

The questionnaire consists of four sections, namely:

- An introductory section containing general information.
- Section A: Financial statements.
- Section B: Additional financial information.
- Section C: Institutional and Administrative information.

This method of data collection is in line with the requirements set by Sproull (1995:189).

Much of the information required for the model is derived from the financial statements (section A of the questionnaire). The information contained in financial statements is considered to be factual and reliable as it is audited and published.

However, there was no control or verification regarding the additional information required for sections B and C of the questionnaire.

To overcome this concern about the reliability of the data on the questionnaires received, the data per municipality were entered in the model and compared. If deviations exceeded 50% and the municipality was known, the information was telephonically confirmed. If the municipality was not known (ABSA information collection), all the information received on the municipality was analysed in order to determine whether the questionnaire was acceptable and should be included, or whether it was unreliable and should be ignored *in toto*. Although this approach is not scientific, it was the most efficient method for gathering sufficient information to evaluate the hypothesis.

It is believed that as the results from the model are applied, municipalities may gain confidence in the approach and be more willing to cooperate in the future development of the model.

6.5.1 Layout, contents and purpose of questions

The questionnaire is divided into four distinct sections. The first part of the questionnaire requires general information regarding the participating municipality. The second section requires the inclusion of copies of the financial statements for the period under observation. The third section requires additional financial information and

statistics not readily available from an analysis of the financial statements. The fourth section requires information regarding the status and performance of some institutional and administrative activities.

6.5.1.1 *General information*

General information, namely the name, address, contact person, etcetera was included to make it possible to identify the municipality. As some municipalities have been rated by credit rating agencies, a comparison between the ratings is be useful in the further development of the model.

6.5.1.2 *Financial statements*

Much of the information required for the model is derived from the financial statements. The financial statements of a municipality represent the only validated information on its performance. Although the financial statements mainly reflect the financial performance, the statements are also a very good indicator of a number of non-financial activities. For example, good investment decisions are usually the result of an informed and competent treasurer.

6.5.1.3 *Additional financial information*

Some additional financial information regarding the budgets and financial details, which is not part of the financial statements, is required for the model. Section B of the questionnaire requires this information.

6.5.1.4 *Institutional and administrative information*

The model requires information to enable the evaluation of the institutional, administrative and environmental situation of the municipality. All of the questions in

this section are based on a direct answer, requiring respondents merely to mark the blocks indicating either "Yes" or "No".

6.5.2 Pre-evaluation and finalisation of the questionnaire

After completion of the draft questionnaire, it was forwarded to five municipalities of different sizes for their comments on the availability of the required information, clarity of questions and general opinions regarding the completion of the questionnaire. All five municipalities indicated that the questionnaire was easy and not too time-consuming to complete.

As the empirical information required extends over a period of four years, the dates indicated on the questionnaire, as well as some minor details, were changed annually on the basis of the response by participants. These minor changes were introduced in order to make the questionnaire and the answering thereof more user-friendly and informative with each consecutive submission.

A copy of the questionnaire is attached as annexure B.

6.5.3 Response

Of the 12 municipalities which eventually indicated that they would participate, only four returned their questionnaires. After personal communication, a further four were received. Reasons for the poor response were, for example:

- Insufficient manpower for the completion of the large numbers of questionnaires received.
- Council policy that questionnaires should not be completed without specific council approval.
- The sensitive nature of the information and the possible misuse of calculated information.

During the second year of the project only four thoroughly completed questionnaires were returned. Some of the municipalities that did return their questionnaires in the first year, declined to participate in the second year, for the following reasons:

- Change in chief financial officer or chief executive officer with no background on the project and no sympathy for it.
- Changes in council policy regarding the provision of financial information to outside institutions.
- Various copies of the questionnaire posted but not received.

As the response from municipalities regarding the questionnaires was not satisfactory at all, an alternative method for the collection of the required information had to be found.

In presenting the objectives and methodology of the project to various funding institutions, ABSA Bank agreed to be of assistance in the collection of the required information via their existing regional infrastructure and local government client base.

During the second semester of 1999, the required information was collected from seven municipalities spread relatively evenly throughout the country. The information collected was for the four-year period covering the financial years from 1995/96 up to 1998/99.

The participation of municipalities by no means reflects their interest in the subject. During a telephonic survey carried out among 30 chief financial officers of municipalities in the country, asking them some relevant questions regarding credit ratings, the answers received were as follows:

QUESTION	Number answering "YES"	Number answering "NO"
1. Are you opposed in general to an objective credit rating for your municipality?	5	25
2. Would you participate in a project which attempts to establish a model for the determination of the creditworthiness of municipalities?	2	28
3. Do you think an objective model for the determination of the creditworthiness of municipalities is useful/necessary?	30	0

Comments received on the above questions were:

Question 1:

- The determination of creditworthiness is not objective and may lead to incorrect perceptions.
- We do not have the resources in our municipality to assist creditworthiness analysts in collecting data and information.
- Our council will not support any general credit rating to be conducted as we are currently busy with sensitive negotiations regarding external loans.

Question 2:

- The current situation is not positive and will thus not give the correct perspective and will thus distort any model development.
- Already limited human resources cannot be allocated to any project that does not contribute to the operating activities of the municipality.
- Municipalities are bombarded with large numbers of questionnaires and asked to provide irrelevant information to various institutions they never hear of again. Requests to provide

information, other than required by legislation, are ignored.

Question 3:

- If it is objective and simple to use and understandable, it will definitely be useful.
- It will be used by us to determine our areas of strengths and weaknesses regarding creditworthiness.
- If it can be accepted on a broad basis by financial institutions as a measure of creditworthiness, it will be extremely useful.

Municipalities in general are only cautious when the issue of assessing their creditworthiness is mentioned, as indicated by the above analysis.

6.6 LIMITATIONS AND PROBLEMS EXPERIENCED

One of the most significant limitations is that only seven municipalities could be found that were willing to participate consistently in the project over the four-year period. Two of these municipalities had to be withdrawn for various reasons. Although the five remaining municipalities are regarded as sufficient to prove the hypothesis set for the study, the reliability and acceptability of the results could have been more firmly substantiated by a larger sample.

Although not evident, the lack of control over the information provided by the municipalities was a further limitation. Some of the information provided in the questionnaires seems questionable, though not impossible. In such cases the information as provided was used.

6.7 ANALYSIS METHODOLOGY

After receipt, the questionnaires were checked for completeness. If more than approximately 10% of the required information was not provided, the questionnaire was

ignored. If relatively little information was missing, the respondent was contacted via the established channel and requested to provide the required information.

The next step was to import the data into the model. The structure of the model follows the format of the questionnaire, which simplified this activity. The model, which was developed on the spreadsheet program Quattro Pro 8, protects all cells not meant for data input, and thereby ensures that critical cells with formulas are not overwritten or deleted.

This data input was done by the researcher himself to ensure the correctness of the data input as well as to detect possible irrelevant or non-sensical information.

6.8 INTERPRETATION OF RESULTS

The categories of evaluation are (as indicated in chapter 5):

- Financial
- Institutional
- Environmental

Each of the indicators under each of these categories is further weighted by a trend multiplier.

Each of the indicators has a specific norm attached for evaluation purposes. If all indicators conform with this set norm and the trend is absolutely stable, the total score of the municipality under observation will be 100. Upward deviations from 100, say a score of 105, will indicate that the accumulated creditworthiness of the municipality is 5% better as the norm set. If, however, there is a downward deviation with a score of say 93, it will indicate that there is an accumulated creditworthiness risk of 7% against the set norms.

The critical factor in this evaluation is the **setting of the norm per indicator**. As

indicated in chapter 4, the setting of norms for the various indicators is one of the most important aspects to consider after the indicators and categories of indicators have been established. Very little research has been done in South Africa regarding the determination of norms applicable to local government financial ratios. The only properly researched norms were some established by Swanevelder (1991). Although the norms determined by Swanevelder were properly researched, they are limited as only a few applicable to this study have been identified.

The model uses a separate parameter file for entering the different norms. If, during the application of the model, it should become evident that, as a result of changing circumstances, some of the initially identified norms should be changed, they can be changed by changing the appropriate norm in the parameter file only. All calculations in the model using that specific norm will then be recalculated throughout. Changing of the parameter file is a very sensitive issue as it has an immediate and direct effect on the creditworthiness score. If the parameter file is to be changed, it must be properly motivated and done in a totally transparent manner and all involved parties should be informed of the change or changes with reasons.

A creditworthiness figure is calculated for each of the indicators identified by the model. The score per municipality can be interpreted on its own, as the ideal creditworthiness score is 100 points or more. If compared with previous year's figures, a clear indication can be obtained of the relative performance and tendencies over the period.

All the different scores per indicator are added to represent a subtotal per category. The subtotals per category are then added together to represent the final creditworthiness score. The analyst can therefore relatively easily determine areas of concern as well as areas of positive performance regarding the creditworthiness of the municipality concerned.

6.9 SUMMARY

The purpose of the empirical part of this research project was firstly to confirm the hypotheses and secondly to lay a basis for further study and development of an objective and quantifiable model for the determination of the creditworthiness of municipalities in South Africa.

The study attempted to approach the subject as scientifically as possible. The research was practice-oriented and acknowledged research methodologies were used. Data for the empirical research were obtained by using documented questionnaires sent by post.

The following information was required:

- financial information from audited annual financial statements
- institutional information gathered from operational activities
- other operational statistics.

Although the total count of municipalities in South Africa is approximately 853, of the 25 approached for participation in the project, only a total of five participated to such an extent that the information they supplied was regarded as reliable and useful for the project.

The results obtained from the application of the model are discussed in chapter 7.

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CHAPTER 7**ANALYSIS, INTERPRETATION AND APPLICATIONS****7.1 INTRODUCTION****7.2 TOTAL CREDITWORTHINESS****7.2.1 The setting of norms****7.2.2 The interpretation of trends***7.2.2.1 Trend weight**7.2.2.2 Trend value***7.2.3 Interpretation of total creditworthiness****7.3 CATEGORIES OF INDICATORS****7.3.1 Most uncreditworthy municipality in the sample: Municipality B****7.3.2 Most creditworthy municipality in the sample: Municipality D****7.4 INSTITUTIONAL AND ENVIRONMENTAL INDICATORS****7.4.1 Institutional indicators****7.4.2 Environmental indicators****7.5 PRACTICAL APPLICATIONS****7.5.1 Sensitivity analysis****7.5.2 Loan conditions****7.5.3 Productivity measures****7.6 SUMMARY****7.7 SOURCES CONSULTED**

CHAPTER 7

ANALYSIS, INTERPRETATION AND APPLICATIONS

7.1 INTRODUCTION

The purpose of this study is to establish a model for determining the creditworthiness of municipalities. The theoretical part of the study (chapters 3 and 4) identified the elements to be included in the model. The structure of the model is discussed in chapter 5 and the method of gathering empirical information is explained in chapter 6.

Empirical information on five municipalities, varying in size and geographically distributed across the country, was obtained for a five-year period and entered into the model.

On the basis of income, the municipalities evaluated by means of the model ranged from relatively small, with an average income of R51 million per year over the five-year period (1994/95 to 1998/99), to the largest in the sample, with an average income of R712 million per year. The smallest in the sample is identified as municipality A and the largest as municipality E.

Since a unique concept is used in the determination of the creditworthiness of municipalities in this study, the model is evaluated by discussing and explaining the actual creditworthiness results, based on the application of the model, and comparing the results in the sample.

7.2 TOTAL CREDITWORTHINESS

One of the major benefits of the model is the determination of a single indicator of creditworthiness calculated from a relatively large number of factors affecting the

creditworthiness of municipalities.

Table 7.1 provides an overview of total creditworthiness of all the municipalities in the sample.

Table 7.1: Total creditworthiness score based on norms set in table 7.2

MUNICIPALITY	TOTAL CREDITWORTHINESS SCORE (POINTS)			
	1995/96	1996/97	1997/98	1998/99
A	73,000	83,150	91,900	81,510
B	77,000	63,600	61,350	64,005
C	54,500	77,550	98,310	88,420
D	80,750	79,500	103,960	103,805
E	68,500	84,600	108,610	92,517

An ideal creditworthiness score is 100 points or more. From the above summary it can be seen that some municipalities in the sample do reach the set norm. The lowest creditworthiness recorded by the sample over the four-year period was 54,5 points scored by municipality C for the 1995/96 financial year, while the best performance was by municipality E during 1997/98, with a score of 108,61 points. The average total creditworthiness score for the sample over the four-year period is 81,827 points.

From the above information it can be inferred that the creditworthiness of municipalities represented by the sample and measured by the model is poor. An important element of the model is the parameter file containing the norms set for the different creditworthiness indicators.

7.2.1 The setting of norms

The setting of norms in the determination of creditworthiness is one of many contentious issues. As indicated in chapter 4, it is essential to set acceptable norms for

the various indicators. The determination and setting of norms are, however, a totally separate subject and need to be addressed in a separate study.

It is important to apply the same set of norms in comparative situations. If, for instance, the model is used by a commercial bank to determine the creditworthiness of municipalities, a similar set of norms should be used for all the municipalities.

For the purpose of demonstrating and evaluating the model, the norms set as criteria for the different indicators are presented in table 7.2. Although some of the norms set in table 7.2 (creditworthiness parameters) could be disputed, they were properly evaluated in chapter 8 and resulted in stable and reliable outcomes. The norm for the debtors collection period, for example, is set at 54 days (Swanevelder 1991:190). If the average debtors collection period for a municipality for the period under review is more than 54 days, it would impact negatively on its creditworthiness. However, if the average debtors collection period for the period under review is less than 54 days, it would have a positive effect on its creditworthiness.

7.2.2 The interpretation of trends

The total creditworthiness indicators as indicated in table 7.1 include two applications of trends. The two trend applications are trend weights and trend values, as explained in detail in chapter 5, section 5.3.2. The trend weights and trend multipliers, as set in the parameter file, have been thoroughly researched and structured.

Table 7.2: Creditworthiness parameters set for creditworthiness evaluation

CREDITWORTHINESS PARAMETERS				
A FINANCIAL INDICATORS	NORMS			
	1995/96	1996/97	1997/98	1998/99
LIQUIDITY:				
Acid test	1.94	1.94	1.94	1.94
Working capital coverage ratio	1.00	1.00	1.00	1.00
Debtors collection period	54.00	54.00	54.00	54.00
Debt to generated cash ratio	5.00	5.00	5.00	5.00
SOLVENCY:				
Debt ratio	56.20	56.20	56.20	56.20
Debt to equity ratio	1.00	1.00	1.00	1.00
Loan servicing %	15.86	15.86	15.86	15.86
OPERATING:				
Operating surplus/deficit as % of accumulated surplus/deficit	74.00	74.00	74.00	74.00
Accumulated surplus/deficit as % of total operating income	4.91	4.91	4.91	4.91
B INSTITUTIONAL INDICATORS				
1 GENERAL MANAGEMENT AND ADMINISTRATION				
1.1 Existence of internal audit function:				
Audit programmes and procedures to deal with audit reports	7	7	7	7
1.2 Availability of management information on the operations in the current financial year	2	2	2	2
1.3 Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports required by law	3	3	3	3
1.4 Proof of efficient budgetary control and effective planning as indicated by variances of actual results from budgeted amounts (based on expenditure only)	5	5	5	5
1.5 Salaries, wages and allowances as % of total expenditure	28	28	28	28
2 DOCUMENTED MISSION STATEMENTS/ STRATEGIES/POLICIES				
2.1 Existence of a formal organisation structure in relation to the approved mission and strategies	4	4	4	4
2.2 Existence of an integrated development plan with supportive annual business plans on which annual budgets are based	5	5	5	5
2.3 Formalised pricing policies for the different municipal services	3	3	3	3
C ENVIRONMENTAL INDICATORS				
1 SOCIO-ECONOMIC				
1.1 Needs/resources	10	10	10	10
2 ECONOMIC-POLITICAL				
2.1 Intergovernmental support	5	5	5	5
3 DEPENDENCY FACTOR				
3.1 Dependency risk	10	10	10	10

7.2.2.1 *Trend weight*

Each indicator adding up to the total creditworthiness of a municipality is evaluated against its performance for the past three years, with each of the past years taken into consideration. The trend weights applied in the model are as follows (see chapter 5, section 5.3.2):

Table 7.3: Trend weight application in the model

TREND WEIGHTS	TREND WEIGHT
Base year (which is the starting year or the first year of the evaluation)	0,05
Evaluation year -2 (or starting year +1)	0,15
Evaluation year -1 (or starting year +2)	0,30
Evaluation year (or starting year +3)	0,50

The current year (evaluation year) thus contributes 50% to the trend value. With each consecutive year, the base year is moved one year forward. Evaluation year -2 becomes the base year and the evaluation year moves to evaluation year -1 in the following year. As the years thus go by, the current year will be the most "important" with a weight multiplier of 0,5 (50%), while the values of three years ago will influence the total trends by only 0,05 (5%).

7.2.2.2 *Trend value*

Trends form an integral part of the creditworthiness calculation and have a value. This value is based on the principle that performance may be negative, stable or positive. A value was attached to each one of these categories to comply with the total structure of the creditworthiness model. The values presented in table 7.4 are used.

Table 7.4: Trend value application in the model

TREND VALUE APPLICATION	TREND VALUES
Trend decrease (negative)	1,00
Stable (equal)	1,25
Trend increase (positive)	1,50

Since trend values contribute 20 points to the model, the trend value multiplier, if stable, should be 1,25, to add up to the ideal total creditworthiness indicator of 100 points. (The total for all the other indicators represents 80 points of the ideal 100 points. If these 80 points are multiplied by 1,25 the result is the total ideal figure of 100 points.)

7.2.3 Interpretation of total creditworthiness

Based on the norms set for the model in table 7.2, it is evident that municipality B clearly has a major creditworthiness problem compared with the other municipalities in the sample, as reflected in table 7.1.

The municipalities in the sample indicate mixed creditworthiness risk. The variation in the total creditworthiness scores, with 100 regarded as the break-even score, indicates the creditworthiness risk. This creditworthiness risk is equivalent to the difference between the break-even 100 and the figure scored. From the sample it is evident that municipality B performed poorly in 1998/99 (with a total creditworthiness score of 64,005), and its creditworthiness indicators should be further investigated.

The total creditworthiness of the sample is indicated in figure 7.1. This figure shows the total creditworthiness clearly as determined by the model over a four-year period. From this information, read in conjunction with table 7.1, the following conclusions can be drawn:

- **Municipality A** showed consistent growth in creditworthiness in the preceding three years. Break-even creditworthiness (100,0) was never reached. The best creditworthiness score was obtained during 1997/98 (91,9), after which it decreased to a level below the 1996/97 score.

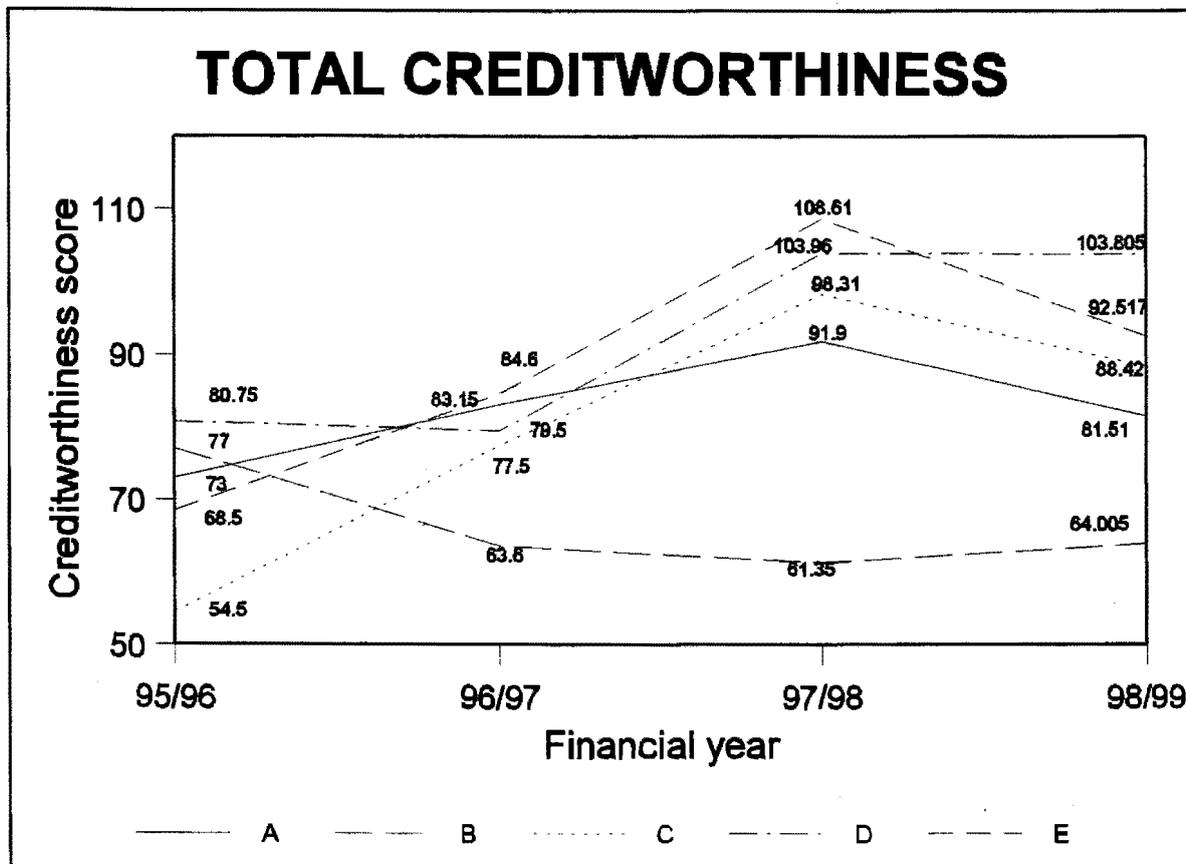


Figure 7.1: Total creditworthiness

- **Municipality B** performed the worst in the sample. Although it started with a promising creditworthiness in 1995/96 of 77,0, its performance in the next year decreased substantially to 63,6 after which it stabilised somewhat. Its creditworthiness figure for the evaluation year (1998/99) was an unsatisfactory 64,005. Its average creditworthiness over the four-year period (1995 to 1999) was also a very poor 66,5.
- **Municipality C** showed a positive growth in total creditworthiness over

the first three years under observation. During the evaluation year the creditworthiness score decreased to an unsatisfactory 88,42.

- The best performer for the evaluation year (1998/99) was **municipality D**, with a total of 103,805. Municipality D also started off with the best creditworthiness score in 1995/96. During the last two years of the analysis, its creditworthiness score remained almost constant. (A decrease of 0,155 is minimal.)
- **Municipality E** also indicated a steady growth in creditworthiness in the preceding three years, with a rather serious decline in the evaluation year (1998/99).

Only municipality B, which had the lowest creditworthiness score during the evaluation year (1998/99) showed some increase in creditworthiness during the evaluation year (1998/99).

From the summary in table 7.1 and figure 7.1, it is clear that although a total creditworthiness figure is a very useful indicator for general application and evaluation, the elements contributing to this total figure are most important. For certain users of the model, some of the indicators or categories of indicators may not be very important, although they must be part of the total analysis.

The next section deals with the categories of indicators that contribute to total creditworthiness.

7.3 CATEGORIES OF INDICATORS

In most cases the analyst will want to know more about the compilation of the total creditworthiness indicator. The next level of creditworthiness information involves an analysis of the subtotals per category of indicators. In analysing these categories of

indicators, it is evident which of the categories are responsible for specific deviations from and contributions to total creditworthiness.

In order to analyse the indicators provided by the model, the two most extreme examples in the sample are explained.

7.3.1 Most uncreditworthy municipality in the sample: Municipality B

If municipality B, which showed the lowest creditworthiness, is analysed, the subtotals of the categories of indicators are as follows:

Table 7.5: Categories of indicators: Municipality B

Municipality B		Creditworthiness indicators			
CATEGORIES OF INDICATORS		1995/96	1996/97	1997/98	1998/99
A	FINANCIAL INDICATORS:	53,500	41,700	36,090	37,385
1	LIQUIDITY	8,000	13,250	13,580	7,510
2	SOLVENCY	33,000	26,200	20,160	27,700
3	OPERATING	12,500	2,250	2,350	2,175
B	INSTITUTIONAL INDICATORS:	21,000	19,250	22,520	23,995
1	GENERAL MANAGEMENT AND ADMINISTRATION	15,500	11,250	14,720	16,345
2	DOCUMENTED MISSION STATE- MENTS/STRATEGIES/POLICIES	5,500	8,000	7,800	7,650
C	ENVIRONMENTAL INDICATORS:	2,500	2,650	2,740	2,625
1	SOCIO-ECONOMIC	1,000	1,100	1,160	1,190
2	ECO-POLITICAL	0,500	0,550	0,580	0,435
3	DEPENDENCY RISK FACTOR	1,000	1,000	1,000	1,000
	TOTAL CREDITWORTHINESS	77,000	63,600	61,350	64,005

The above creditworthiness per year per category can be illustrated graphically as in figure 7.2.

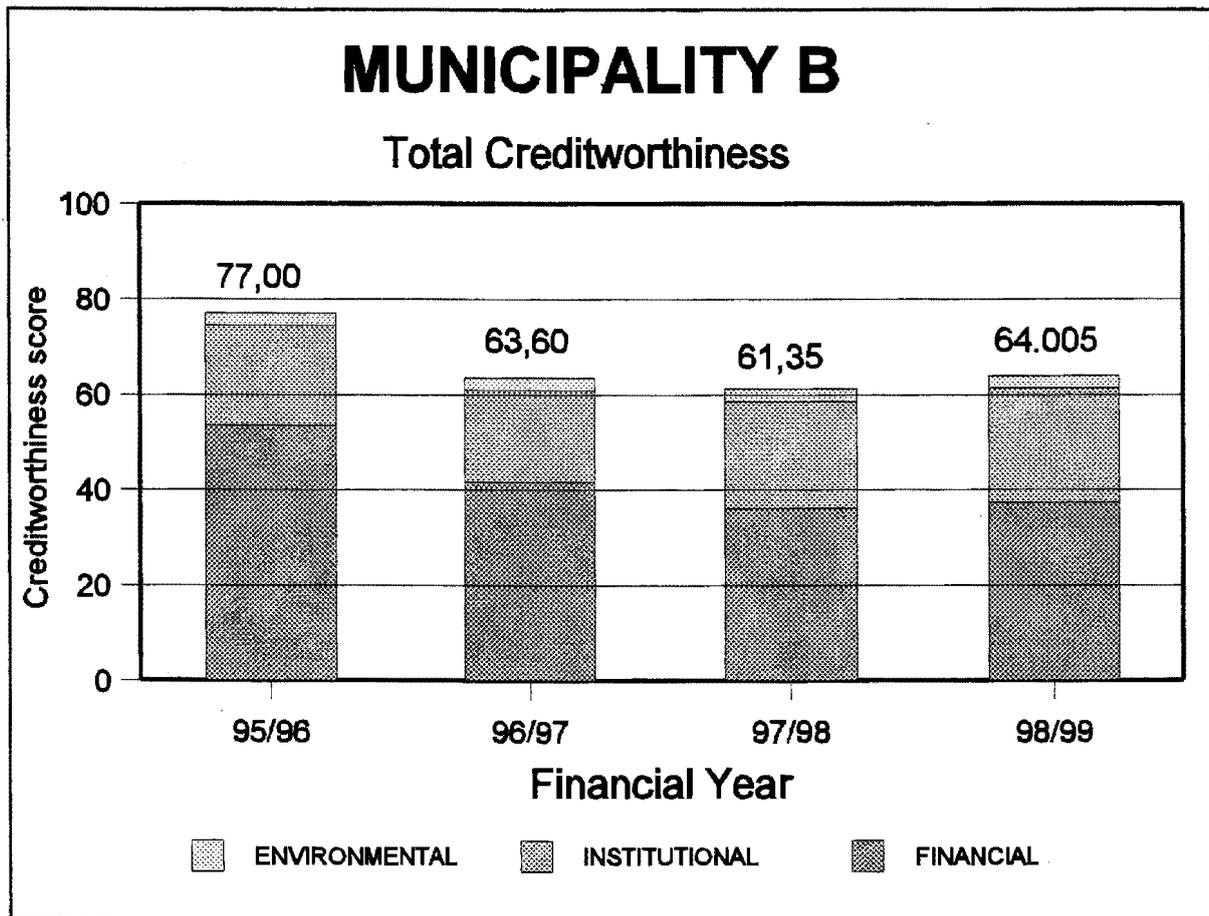


Figure 7.2: Municipality B: Total creditworthiness

Figure 7.2 clearly shows the poor creditworthiness performance of municipality B. Measured against the break-even score of 100, the average score over the four-year period is 66,5. During 1998/99 a slight upswing in total creditworthiness was evident.

Figure 7.3 uses the same data as figure 7.2, but presents it per category per annum, clearly showing the deviations and trend.

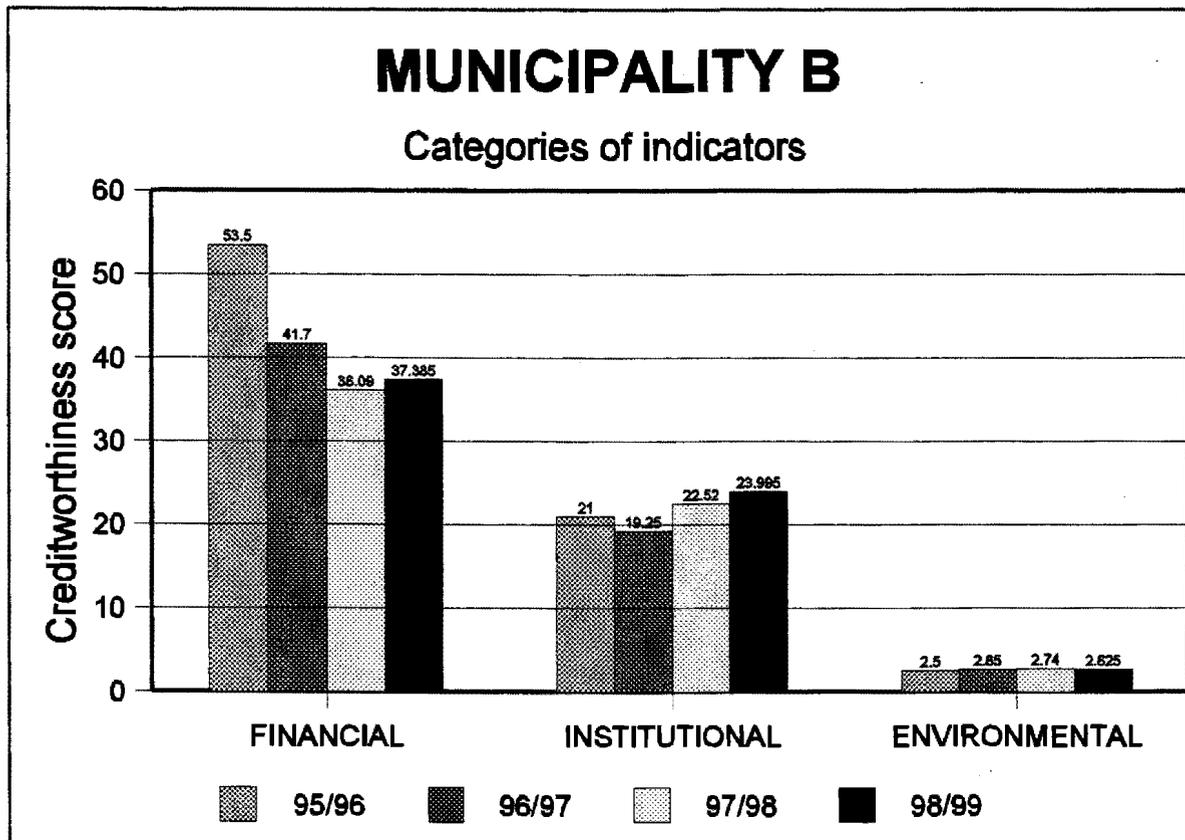


Figure 7.3: Municipality B: Creditworthiness per category

Although the institutional performance has improved every year since an initial decline during the first year, it is still slightly below the break-even level of 25 points. The major contributing factor to the negative creditworthiness of municipality B is obviously the poor financial performance. Break-even creditworthiness for the financial indicators is 62,5 points and municipality B scored almost half of that figure during the last two years.

The model, with its supportive figures for easy visual analysis, provides a thorough drill down system whereby each level of evaluation can be further investigated.

If investigated further, figure 7.4 shows the specific financial ratios contributing to the deviation in financial indicators.

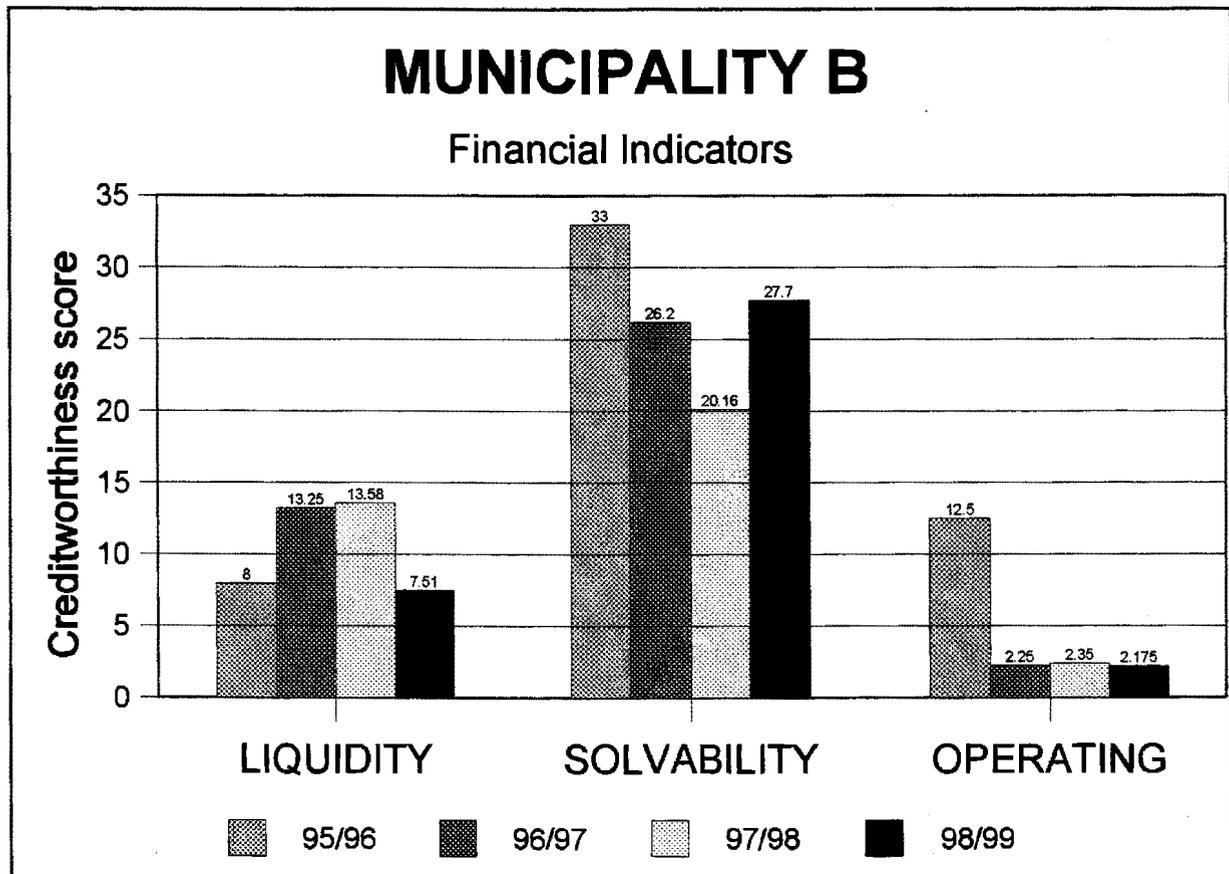


Figure 7.4: Municipality B: Financial indicators

It is clear from figure 7.4 that the three groups of financial indicators, namely liquidity, solvency and operating, indicated inconsistent trends. Liquidity showed a positive upswing during the middle years with an eventual major decrease during 1998/99. The inverse was true for the solvency indicators. Solvency started somewhat above the norm of 25 during 1995/96, decreasing rapidly during the middle years and eventually gained some ground during 1998/99. The operating indicators started off during 1995/96 equal to the norm of 12,5 but then decreased to unacceptable levels of between 2 and 3.

Municipality B has a major creditworthiness problem emanating mainly from its financial performance.

Apart from the above analysis, the results of the individual indicators in for example the liquidity analysis, namely the acid test, working capital coverage, debtors and debt to cash ratios can be examined in a similar manner. This will pinpoint the existing weaknesses.

7.3.2 Most creditworthy municipality in the sample: Municipality D

On the basis of the sample, municipality D was the most creditworthy during the evaluation year. If municipality D is analysed, the subtotals of the categories of indicators are as follows:

Table 7.6: Categories of indicators: Municipality D

Municipality D		Creditworthiness indicators			
CATEGORIES OF INDICATORS		1995/96	1996/97	1997/98	1998/99
A	FINANCIAL INDICATORS:	54,750	48,200	67,160	65,325
1	LIQUIDITY	11,000	7,200	14,960	22,250
2	SOLVENCY	35,000	38,500	40,600	37,450
3	OPERATING	8,750	2,500	11,600	5,625
B	INSTITUTIONAL INDICATORS:	16,500	19,400	24,640	26,550
1	GENERAL MANAGEMENT AND ADMINISTRATION	11,000	11,400	16,840	18,900
2	DOCUMENTED MISSION STATEMENTS/STRATEGIES/POLICIES	5,500	8,000	7,800	7,650
C	ENVIRONMENTAL INDICATORS:	9,500	11,900	12,160	11,930
1	SOCIO-ECONOMIC	1,000	0,900	1,160	0,990
2	ECO-POLITICAL	1,500	3,300	2,880	2,610
3	DEPENDENCY FACTOR	7,000	7,700	8,120	8,330
	TOTAL CREDITWORTHINESS	80,750	79,500	103,960	103,805

The above creditworthiness per year per category can be illustrated graphically as in figure 7.5.

Figure 7.5 shows that the first two years under observation were relatively stable and

after a rather dramatic increase in creditworthiness in 1997/98 it again stabilised in 1998/99.

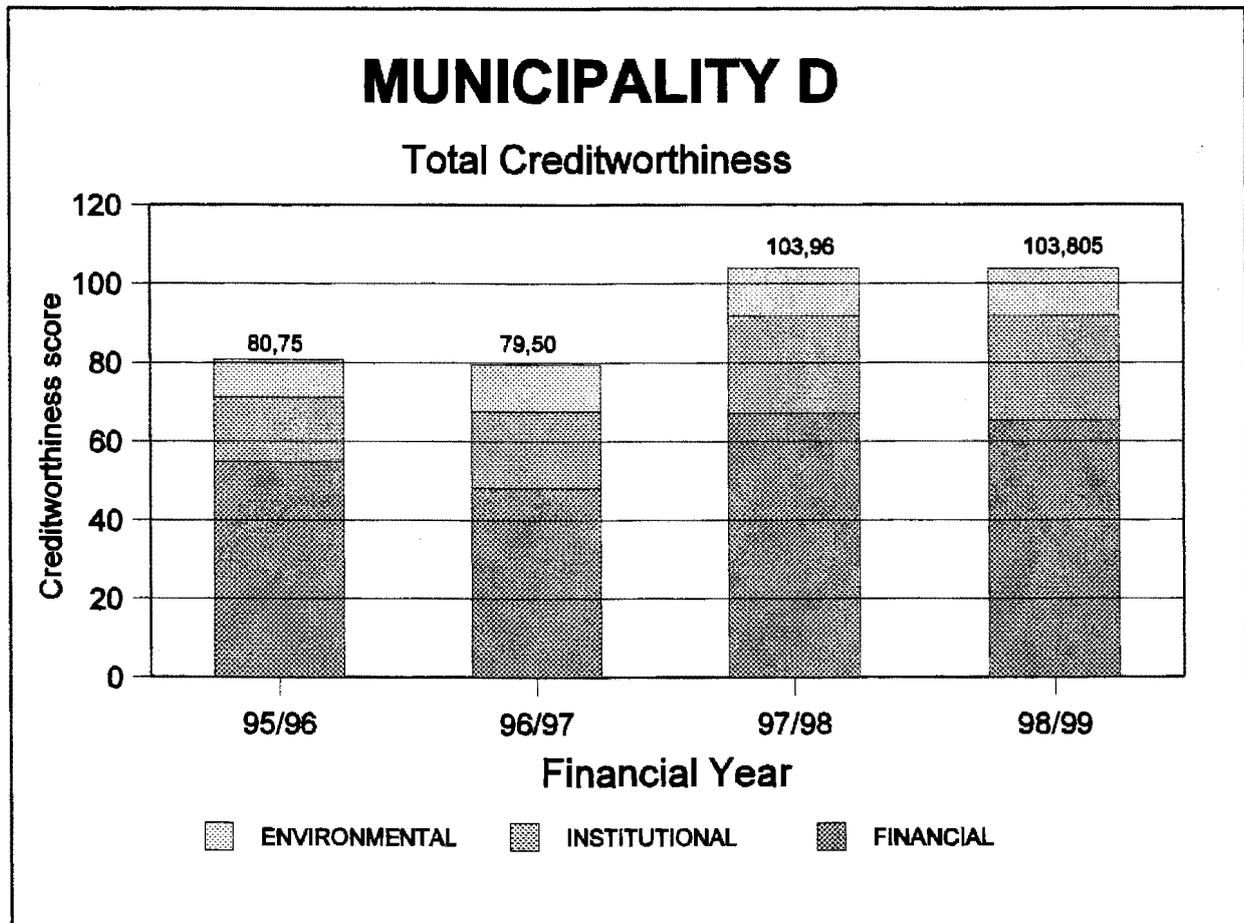


Figure 7.5: Municipality D: Total creditworthiness

Figure 7.6 clearly indicates the comparison between the categories of indicators. The institutional indicators showed a consistent increase over the four-year period (1995/96 to 1998/99) and are above the norm of 25 points for the 1998/99 financial year. The environmental indicators showed relative consistency. With a norm for the environmental indicators of 12,5 points, the performance (11,93) for the evaluation year (1998/99) is acceptable.

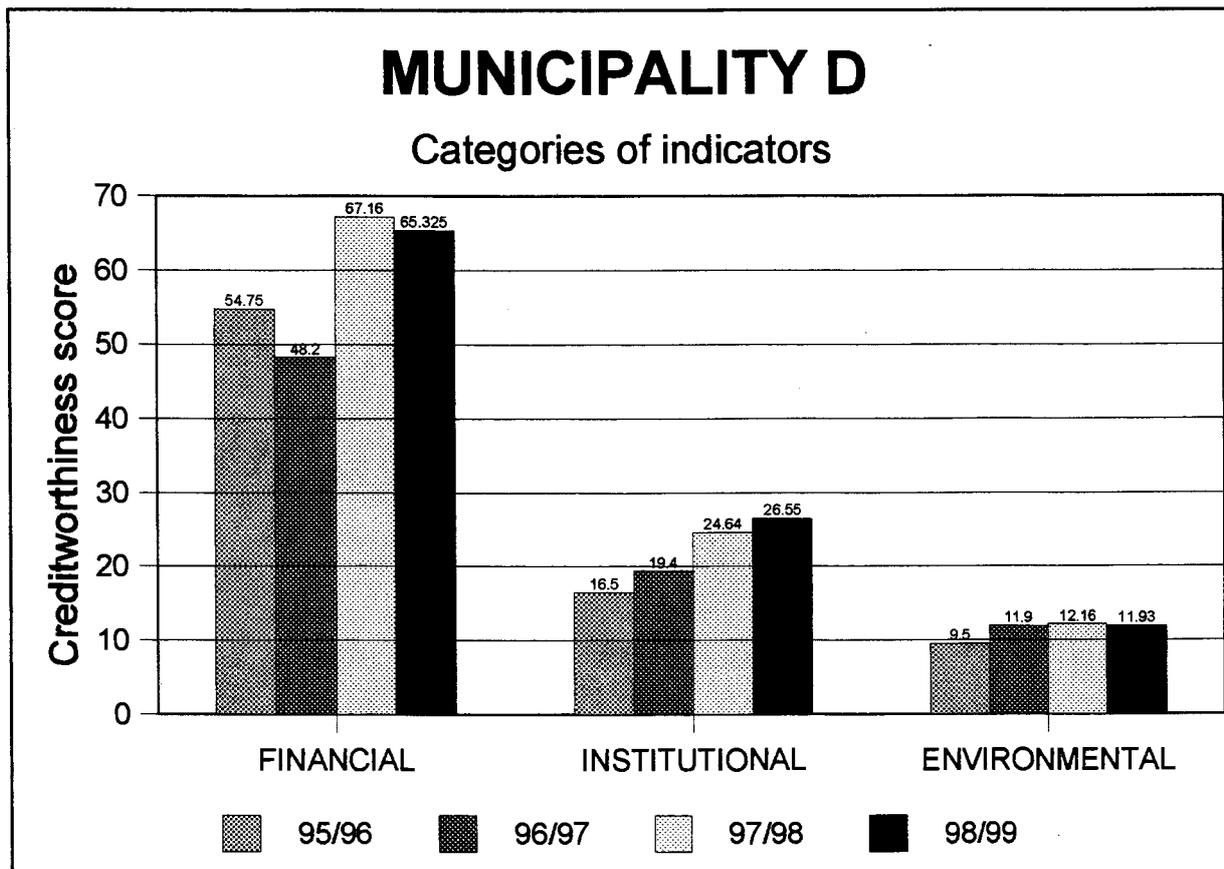


Figure 7.6: Municipality D: Creditworthiness per category

The major deviations, resulting in a positive creditworthiness score for municipality D during the last two years, were effected by the financial indicators. After an initial decrease during 1996/97, the financial indicators increased to above the norm. The increase from the year 1996/97 to the year 1997/98 was 18.96 points, which represents a percentage increase of almost 40%. Although the performance of the financial indicators decreased somewhat during the evaluation year, an above break-even status was maintained during 1998/99.

The performance of the financial indicators of municipality D is further elucidated by the information in figure 7.7.

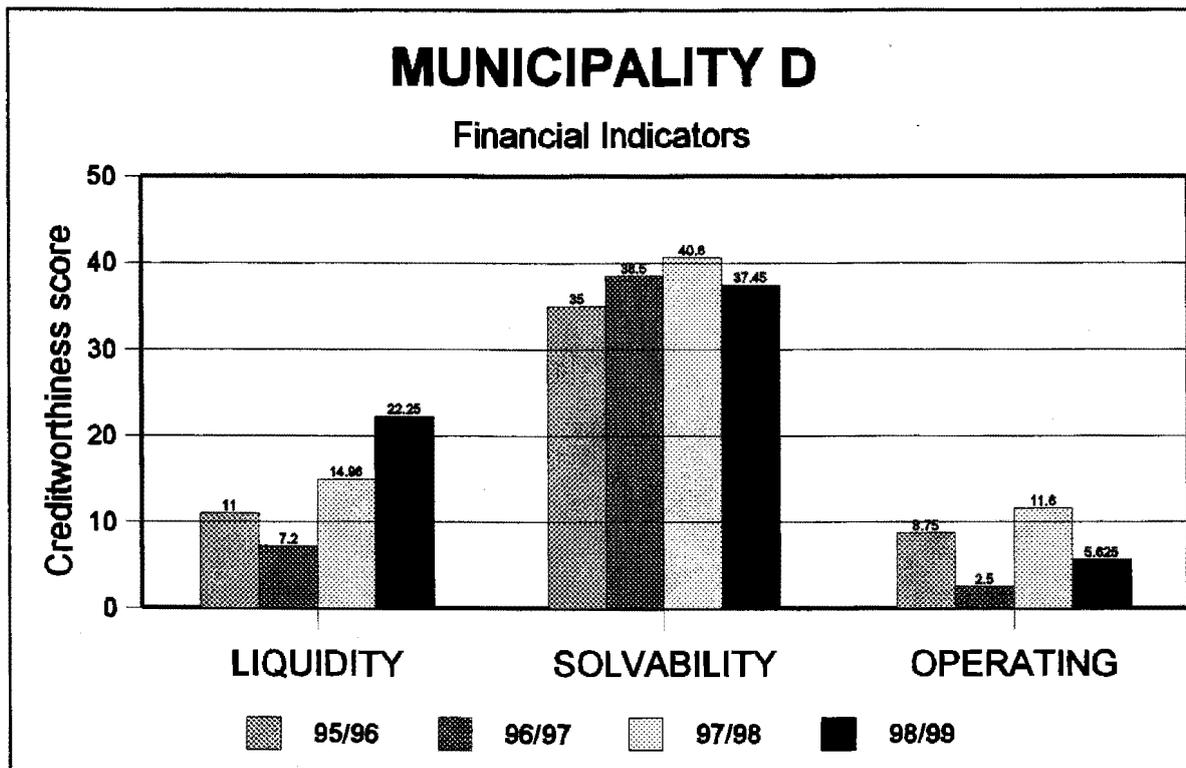


Figure 7.7: Municipality D: Financial indicators

Figure 7.7 shows the performance of the financial indicators.

- **Liquidity**
Although the liquidity did not reach the break-even level of 25 points, the tendency is positive.
- **Solvency**
The required break-even norm for solvency is also 25 points. Although there was a slight decrease in solvency during the evaluation year, it is still far above the required norm and should be regarded as very positive.
- **Operating**
The required break-even norm for the operating indicators is 12,50 points. The operating indicators performed somewhat under the norm and affected the total financial indicators negatively.

Each of the factors affecting these indicators can be further analysed to pinpoint strengths and weaknesses.

The creditworthiness of municipality D is positive at present.

7.4 INSTITUTIONAL AND ENVIRONMENTAL INDICATORS

The results from the model are as good as the information collected and entered as inputs. For the purposes of the development of the model, the information on the questionnaires was not verified *in toto*. Only some obviously incorrect information was queried and corrected. Figures 7.8 and 7.9 indicate the variances in institutional and environmental indicators over the four-year period.

7.4.1 Institutional indicators

Figure 7.8 indicates the tendencies of the institutional indicators over the four-year period. An assessment of figure 7.8 clearly shows that the institutional indicators are

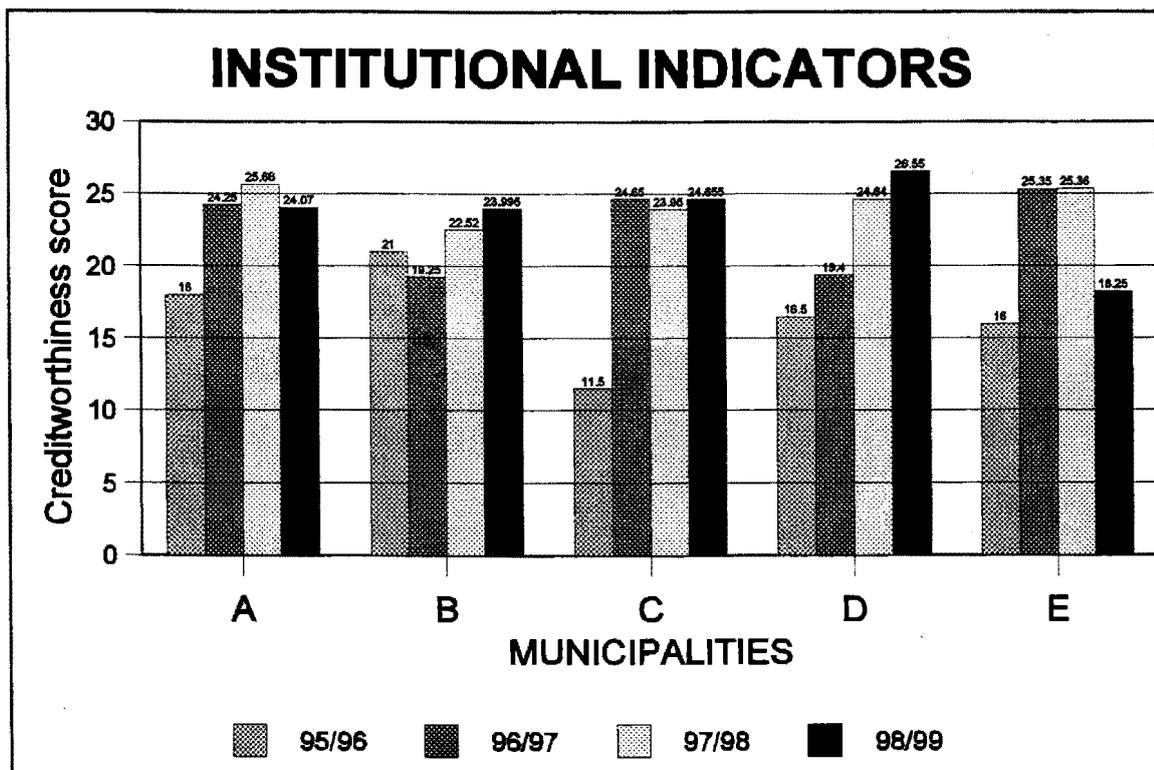


Figure 7.8: Institutional indicator tendencies

relatively stable throughout. This situation may change when thoroughly verified, actual data related to these indicators are obtained for the implementation of the model by various users.

7.4.2 Environmental indicators

Figure 7.9 indicates the tendencies of the environmental indicators over the four-year period. From figure 7.9 it can be seen that the environmental indicators are also relatively stable throughout. This situation may also change when thoroughly verified, actual data related to these indicators are obtained for the implementation of the model by various users.

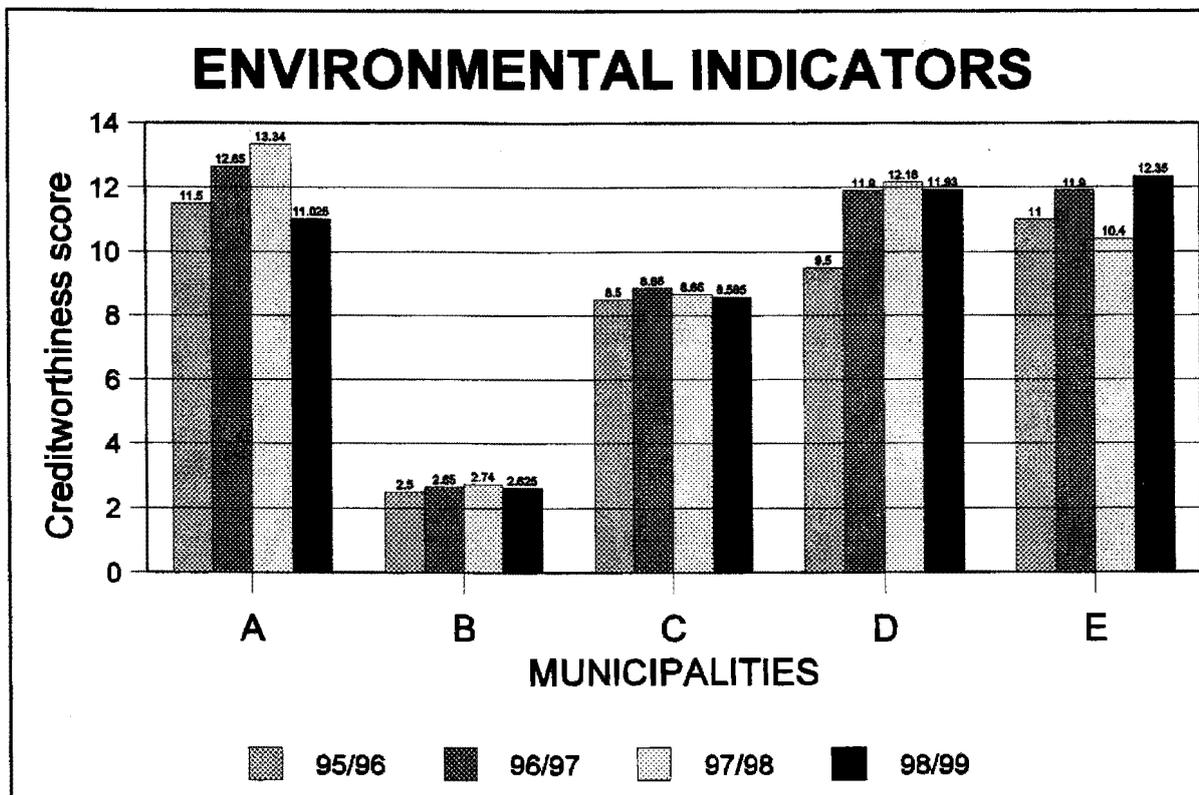


Figure 7.9: Environmental indicator tendencies

7.5 PRACTICAL APPLICATIONS

Apart from the general applications as described in sections 7.3 and 7.4 above, the results of the model lend themselves to various innovative practical applications. Examples of such practical applications are provided below.

7.5.1 Sensitivity analysis

Probably one of the most useful features of the model, apart from determining the creditworthiness, is to determine the net effect of operating activities on creditworthiness.

For example, assume municipality D, which indicated a positive creditworthiness score of 103,805 in 1998/99, were to consider raising a R80 million loan for a new public transport system. The business plan for the project indicated the following:

- The project includes -
 - the purchasing of ten 80 seater busses
 - the building of two bus terminuses at strategic points
 - the establishment of a mechanical workshop
 - the employment of staff to operate the service effectively.
- Annual capital charges, payable over a period of 10 years, of R15 million.
- Average annual additional repairs and maintenance costs of R1,2 million.
- Average annual additional running costs (including fuel) of R2,7 million.
- Average annual additional expenses on salaries, wages and allowances of R 2,1 million.
- Estimated average annual income from operating the service of R14,5 million.

From the limited information provided by the business plan, it is clear that the public transport service will operate on an annual cash deficit of approximately R6,5 million. If the above information is entered into the creditworthiness model of municipality D

during 1998/99, the creditworthiness score decreases to 92,8 points. If the cash deficit on the project can be recovered from, for example a government subsidy, the creditworthiness score will increase to 93,16 points.

If the government, in stead of contributing approximately 30% of the total additional annual expenditure as a result of the project, decided to make a once-off capital contribution of, say, 30% towards the capital expenditure (R24 million), the creditworthiness score of municipality D would change to 93,64 points. From a creditworthiness viewpoint, it might be a slightly better deal to try to get the government to make a once-off contribution towards the public transport service rather than annual contributions.

The implementation of the project will definitely have a negative effect on creditworthiness.

7.5.2 Loan conditions

In determining their interest rates, financial institutions incorporate a factor representing the risk involved in lending money to third parties. If the creditworthiness of a borrowing institution is suspect, the lending institution may increase the interest rate applicable to the loan above the average interest rate applicable to low-risk lending.

If the model is applied, and both parties agree to the parameters used, the creditworthiness score can be a useful bargaining tool in the hands of both the municipality and the lending institution in determining the applicable interest rate and other terms applicable to the repayment of the loan.

Municipalities C and D for example, could negotiate a better than average interest rate when applying for a loan, because their creditworthiness score as determined by the model is positive.

7.5.3 Productivity measures

There is a close relationship between creditworthiness and productivity. Both are measured against a preset norm. In creditworthiness determination, this norm is similar to productivity measurement because it is performance-based (Pritchard 1995:3). Each of the indicators thus determined by the model is indirectly a measurement of productivity.

The difference between productivity measurement and creditworthiness determination is that -

- productivity is the application of the clinical formula, input divided by output, and
- creditworthiness includes a much broader sphere of relevant influences.

It can be concluded that creditworthiness is determined by the summation of a number of relevant productivity measures.

The model provides a wide spectrum of productivity measures slightly adjusted to incorporate quantification and the influence of trends.

If, for example, the debt ratio of a municipality is exploited, and its creditworthiness indicator is 6 while the norm set for the indicator is 5, one can conclude that the debt ratio is in fact extremely productive. The way in which the municipality's gearing, that is total debt as a measure of total assets, is structured is therefore positive.

7.6 SUMMARY

In this chapter the creditworthiness of the municipalities in the sample is determined and compared to indicate the creditworthiness differences. Municipalities A to E range from a relatively small town in the Western Cape to a large city in Gauteng. The creditworthiness score calculated for a municipality by the model is not affected by the

size of the municipality. The same model can thus be used for all sizes of municipalities.

The total creditworthiness scores per municipality differs substantially. The tables and figures indicate these differences clearly. By assessing the results of the model, any chief financial officer of a municipality or financial manager at a financial institution should be able to make an informed decision about the relative creditworthiness of a municipality.

Since the creditworthiness scores include a multiplier to address trends, these scores can be valued as a figure that indicates the creditworthiness at a specific time. By looking at a range of creditworthiness scores for the same municipality, the user of the data can obtain a clear picture of the actual creditworthiness trend in the municipality. The more frequently the model is applied, the more informative the trends emanating from the results will be. This will lead to more accurate conclusions and ultimately better decisions.

7.7 SOURCES CONSULTED

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CHAPTER 8**EVALUATION OF THE MODEL****8.1 INTRODUCTION****8.2 OUTCOMES-BASED EVALUATION OF THE MODEL****8.2.1 Model results evaluated against financial statement and other empirical information****8.2.2 Municipality A****8.2.3 Municipality B**

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CHAPTER 8

EVALUATION OF THE MODEL

8.1 INTRODUCTION

The model for the determination of the creditworthiness of municipalities in South Africa combines theoretically based principles into a single objective model. It is claimed that the model determines the creditworthiness of municipalities effectively.

Although the elements of the model have been thoroughly researched and the model conforms with the requirements of simplicity, objectivity and applicability, its outcomes must be evaluated for ultimate acceptability and usefulness.

The evaluation of the model was done in two independent exercises:

- The first method used was to calculate the creditworthiness of a municipality for one year, drawing typical creditworthiness conclusions, and then compare the conclusions with the actual outcomes in the following years. This evaluation method is referred to as the "Outcomes-based evaluation method".
- The second method was to request the Development Bank of Southern Africa, which is currently very involved with the credit evaluation of municipalities in South Africa, to evaluate the municipalities in the sample and eventually compare their creditworthiness evaluation outcomes with those of the model. This method is referred to as the "External evaluation method".

For the evaluation of the model, all the municipalities in the sample were assessed.

Municipality B, which was identified as the most uncreditworthy municipality, was evaluated in full detail for each of the years 1995 to 1999 and the other municipalities were only evaluated in detail for the evaluation year 1998/99.

8.2 OUTCOMES-BASED EVALUATION OF THE MODEL

All five of the municipalities in the sample were evaluated by using the outcomes-based method. This method entails the capturing of the empirical information obtained for the municipalities in the sample over the five-year period in the model and the determination of the creditworthiness scores by the model.

8.2.1 Model results evaluated against financial statement and other empirical information

The reliability, consistency and usefulness of the results of the model is established by analysing the creditworthiness scores of each of the municipalities in the sample and noting areas of concern and/or achievement. These areas of concern and/or achievement are then compared with the actual financial results disclosed in the financial statements and the other empirical information of the following years. The results from the model are thus tested against the actual outcomes as represented by the actual financial statements and other empirical information (Annexures D to H), to establish the reliability, consistency and usefulness of the model.

8.2.2 Municipality A

The average creditworthiness score of municipality A over the four years evaluated is 82,4 points. This average is calculated by adding the scores of the four years and dividing the four-year total by four. As the break-even creditworthiness is 100 points, the average creditworthiness of municipality A over the four years is below this norm and poses some risk for any form of credit involvement.

Table 8.1 presents a summary of the creditworthiness scores for municipality A for the period under review.

Table 8.1: Municipality A: Creditworthiness per category of indicator

Municipality A		Norm	Creditworthiness indicators			
CATEGORIES OF INDICATORS			1995/96	1996/97	1997/98	1998/99
A	FINANCIAL INDICATORS:	62,50	43,500	46,250	52,900	46,420
1	LIQUIDITY	25,00	11,000	27,500	22,140	21,900
2	SOLVABILITY	25,00	15,000	16,500	22,960	19,120
3	OPERATING	12,50	17,500	2,250	7,800	5,400
B	INSTITUTIONAL INDICATORS:	25,00	18,000	24,250	25,660	24,065
1	GENERAL MANAGEMENT AND ADMINISTRATION	17,50	12,500	16,250	17,860	16,415
2	DOCUMENTED MISSION STATEMENTS/ STRATEGIES/POLICIES	7,50	5,500	8,000	7,800	7,650
C	ENVIRONMENTAL INDICATORS:	12,50	11,500	12,650	13,340	11,025
1	SOCIO-ECONOMIC	5,00	1,000	1,100	1,160	1,190
2	ECO-POLITICAL	2,50	3,500	3,850	4,060	4,165
3	DEPENDENCY RISK FACTOR	5,00	7,000	7,700	8,120	5,670
TOTAL CREDITWORTHINESS		100,00	73,000	83,150	91,900	81,510

Although the creditworthiness score for municipality A increased during the first three years, there was a negative turn during the 1998/99 evaluation year. All categories of indicators became negative during this year.

An assessment and evaluation between the results of the model and the financial statements and other empirical information (annexure D) reveals the following:

- (1) The cash flow statement indicates that during 1998/99 there was a net decrease in cash and cash equivalents, which had been positive in the previous years. This net decrease in cash and cash equivalents is almost equal to the decrease in cash generated from operations. This indicates that cash generated from operations was less than that for the previous year and was funded by sources other than investment or financing activities.

- (2) The abovementioned (in 1) decrease in cash and cash equivalents also had a negative impact on the debt ratio, which is the major reason for the decrease in the liquidity indicator.
- (3) During 1997/98, the financial indicators measured 52,9 points against a required norm of 62,5 points. Liquidity, as one of the categories of the financial indicators, was already under some threat as it had declined by 5,36 points since the previous (1996/97) year.
- (4) During 1997/98, solvency was at approximately the same level as liquidity but showed an improvement of some 6,5 points if compared with the 1996/97 financial year. The main reason for this improvement in solvability was the improvement of the debt/equity ratio.

The financial statements indicate that long-term liabilities reduced by approximately 25%, while equity increased marginally.

The only negative indicator, under the solvability category, is the loan servicing percentage. The municipality does not have excessive external loans but still pays above average amounts as capital charges (interest and redemption). This indicates that some external loans have been raised with either:

- exceptionally high interest rates,
 - far shorter repayment periods than the norm, or that
 - longer term external loans have been used for short-term financing purposes and thus been "rolled over".
- (5) During the 1997/98 financial year, the operating indicators shows an improvement.

This improvement is substantiated by the net deficit of the previous (1996/97) financial year that was turned into a substantial surplus during

1997/98 as indicated by the income statement. During 1998/99, though, operating income and expenditure were almost equal. The balance sheets shows that outstanding creditors from the previous period (1997/98) reduced by approximately R6,5 million and short-term investments reduced by approximately R5,3 million. The conclusion is that short-term investment money was used to pay (reduce) the creditors.

- (6) The major reason for the institutional indicators to reduce somewhat during the evaluation year (1998/99) was financial administration and expenditure on salaries, wages and allowances, which performed below the norm, as well as a slight decrease in budgetary control.

The above are indicators that are dependent on the quality of general financial management.

- (7) The environmental indicators performed well if measured against the norm of 12,50 points. Although there was a slight decrease in the performance of the environmental indicators during the evaluation year (1998/99), it was as a result of the dependency risk increasing to slightly above the norm (5,67 where the norm is 5,0). The socio-economic indicator increased slightly but is on average far below the norm. This means that the needs of the community exceed the resources by far.

Conclusion: Municipality A

With a creditworthiness score of 81,51 points, municipality A is classified as a municipality with a medium (between 80 and 95 points) creditworthiness risk.

The financial performance of the municipality needs some further specialist attention in the area of general financial management to improve the operating performance, but specifically loan administration and negotiating skills to ensure effective borrowing terms and more affordable external loans.

During the 1998/99 financial year a decline in financial discipline was the sole reason for the decrease in creditworthiness. Providers of capital and creditors should be wary and adopt a 'hold' attitude and wait for the creditworthiness results for the 1999/2000 financial year before entering into major funding transactions.

If the model was, for example, available and was used by the chief financial officer to determine the creditworthiness of the municipality, he or she could have advised the management of the municipality regularly regarding its creditworthiness performance and identified strengths and weaknesses. All those activities performing below the norm could have been analysed and if appropriate, corrective action could have been taken. The chief financial officer could also have advised the council not to borrow more money until the performance indicated by the various indicators and represented by the overall creditworthiness figure, has increased to acceptable levels.

If the financial institution, approached by this municipality for a loan, had this model available, it would most probably have hesitated to grant a large loan, taken the results of the model into account.

By using the model developed in this study, users can identify weaknesses regarding creditworthiness and take pro-active steps to address these weaknesses.

8.2.3 Municipality B

The average creditworthiness score of municipality B over the four years evaluated is 66,5 points. This average creditworthiness of municipality B over the four years is unsatisfactory and the municipality poses an extreme risk for any form of credit involvement.

Table 8.2 presents a summary of the creditworthiness scores for municipality B for the

period under review.

Table 8.2: Municipality B: Creditworthiness per category of indicator

Municipality B		Norm	Creditworthiness indicators			
CATEGORIES OF INDICATORS			1995/96	1996/97	1997/98	1998/99
A	FINANCIAL INDICATORS:	62,50	53,500	41,700	36,090	37,385
1	LIQUIDITY	25,00	8,000	13,250	13,580	7,510
2	SOLVABILITY	25,00	33,000	26,200	20,160	27,700
3	OPERATING	12,50	12,500	2,250	2,350	2,175
B	INSTITUTIONAL INDICATORS:	25,00	21,000	19,250	22,520	23,995
1	GENERAL MANAGEMENT AND ADMINISTRATION	17,50	15,500	11,250	14,720	16,345
2	DOCUMENTED MISSION STATEMENTS/ STRATEGIES/POLICIES	7,50	5,500	8,000	7,800	7,650
C	ENVIRONMENTAL INDICATORS:	12,50	2,500	2,650	2,740	2,625
1	SOCIO-ECONOMIC	5,00	1,000	1,100	1,160	1,190
2	ECO-POLITICAL	2,50	0,500	0,550	0,580	0,435
3	DEPENDENCY RISK FACTOR	5,00	1,000	1,000	1,000	1,000
TOTAL CREDITWORTHINESS		100,00	77,000	63,600	61,350	64,005

The following deductions and conclusions were made by evaluating and comparing the creditworthiness results, as determined by the model, with the actual financial performance (disclosed in the financial statements) and other empirical information for municipality B (annexure E) on an annual basis.

8.2.3.1 Evaluation year 1 (1995/96):

- (1) The creditworthiness score per category as determined by the model are presented in table 8.3.

The "Difference %" is calculated by dividing the difference between the actual score and the norm by the norm times 100. It indicates the percentage variance of the actual score from the norm score.

Table 8.3: Municipality B: 1995/96: Creditworthiness score per category

Municipality B 1995/96	Norm	1995/96 score	Difference %
Financial	62,5	53,5	(14,4%)
Institutional	25,0	21,0	(16,0%)
Environmental	12,5	2,5	(80,0%)
Total	100,0	77,0	

- (2) The total creditworthiness score is 77 points, indicating a risk of 23. All creditors and investors or prospective creditors and investors should be wary of this risk and at least analyse it to determine the major source of this risk before entering into any form of financial agreement with the municipality.

The chief financial officer of the municipality, on the other hand, could by analysing the results of the model have ascertained what categories of activities are responsible for the poor creditworthiness performance and then have been pro-active in trying to either improve them or justify their performance.

- (3) Although creditworthiness is a problem in all the categories, the financial category seems to be the least negative (14% from norm). In analysing the financial indicators further (see table 8.2), it is evident that both the solvability and operating indicators performed as well as, or better than the norm. Only liquidity (8 scored versus a norm of 25) was a real problem.

If a financial institution had been asked by this municipality to fund a loan and had taken only the financial indicators into account, the loan application would probably have been successful. The financial institution would probably have decided to increase the interest rate and/or

decrease the loan period to compensate for the "risk" uncovered by analysing the financial indicators.

Having taken note of the creditworthiness performance as expressed by the model, the chief financial officer of the municipality would probably not have entered into a commercially based loan agreement as it would have been noted that the financial position, together with the environmental circumstances, was detrimental to the viability of the municipality. If the need for additional funding had been critical, alternative sources, such as government grants, industrial grants, and/or long-term zero or low interest rate loans could have been obtained.

- (4) The institutional indicators underperformed by 16% during 1995/96. In the context of the total performance of the municipality, this underperformance of the institutional indicators should be an area of concern to the institutional lenders and external partners, as it indicates an inability on the part of the municipality to administer itself properly.

Some of the indicators applicable in determining the creditworthiness of an institution are relatively easy to address and should be a high priority for the chief financial officer and the municipality's council as a whole.

The areas responsible for the poor institutional performance are:

- Financial administration (3 points scored with a norm of 5 points).
- Excessive expenditure on salaries, wages and allowances. The average actual expenditure on salaries, wages and allowances is 42,5%, with a norm of 28% as determined by Swanevelder (1991:185).

By applying and analysing the model, it is possible to measure the critical

areas of performance in quantitative terms and identify them immediately. The shortcomings in the financial administration could have been addressed as soon as they were identified and resolved without delay. As a result of current labour legislation, the problem identified regarding the excessive expenditure on salaries, wages and allowances, cannot be solved successfully in the short term, but the municipality should take steps to rectify the problem. The high expenditure on salaries, wages and allowances reflects either the employment of more people than the norm, a skew distribution of manpower resources, for example more employees in senior positions than in lower positions, deviating from the norm, or generally above average remuneration. Whatever the reason for the relatively high salaries, wages and allowances, general production and productivity levels should be above average, leading to a more satisfied community.

- (5) The environmental indicators underperformed drastically (80% below the norm). An analysis of the environmental indicators reveals the following:
- The needs of the community totally overshadow the resources. On the basis of the capital requirements, it is evident that the immediate needs during 1995/96 were more than double the resources. (This vast need may serve as the underlying motivation for the success of a loan application.)
 - Governmental support in balancing the municipality's budget by far exceeds the norm. The empirical information indicates that the municipality is to a large extent reliant on intergovernmental support. Continuous governmental support is an indication of a limited ability by the community to pay for some essential municipal goods and services and relies on an insecure source.
 - The main reason for the negative creditworthiness may be found

in the dependency indicator. The dependency risk indicator is more than twice as bad as the set norm. The empirical information shows that apart from government support, the municipality depends heavily on a single industry for its existence.

The environmental indicators supported by relevant empirical information depict a scenario of a needy community with a limited ability to pay which is largely dependent on support from the government and a particular industry.

By quantifying the impact of the environment on the municipal creditworthiness in applying the model, councillors and officials could take note of the situation and act accordingly. Councillors and officials could address issues such as productivity, PPP's (public, private partnerships) and SMME's (small, medium and micro enterprises) in an attempt to stimulate economic activity with the aim of ultimately enhancing the environmental circumstances.

- (6) If an analyst is confronted with a loan application from this municipality, and only the financial indicators, or even worse, some of the financial indicators, such as solvency and operational indicators, are considered, the creditworthiness of the applicant may seem to be relatively acceptable. If the analyst had looked further and included institutional and environmental indicators, the analyst would have noticed the extremely negative influence the institutional capabilities, but more important, the environment has on the creditworthiness of the municipality.
- (7) During 1995/96 there was a great need for capital expenditure. Given the circumstances of a high dependency factor, major reliance on government subsidies and negative cash flow from operations, the municipality could not afford to carry any additional burden of capital

provided by commercial institutions, especially interest-bearing borrowing.

The municipality could have approached those institutions which benefit from its existence, such as industry or government, for the provision of the required capital. The capital should also have been provided either as a grant or on affordable terms (zero or low interest) or with repayment over an extended period. The latter would have reduced the impact on the operating account for each year.

- (8) If any additional loans are approved, creditworthiness will decrease even further as the municipality does not have either the reserves or the capacity to service such loans. The chief financial officer could have advised the council as to the various options available, had the outcome of the creditworthiness model for 1995/96 been known.

8.2.3.2 *Evaluation year 2 (1996/97):*

- (1) The creditworthiness scores per category as determined by the model are as follows:

Table 8.4: Municipality B: 1996/97: Creditworthiness score per category

Municipality B 1996/97	Norm	1996/97 score	Difference %
Financial	62,5	41,70	(33,3%)
Institutional	25,0	19,25	(23,0%)
Environmental	12,5	2,65	(78,8%)
Total	100,0	63,60	

- (2) As expected from the evaluation carried out in year 1, creditworthiness

declined rapidly.

The financial statements show that during 1996/97 long-term liabilities increased by approximately R26 million. This represents an increase of 58% in external loans.

If the provider/s of the above loan/s had used the model, the loan would most probably not have been granted, or it would have been granted at a higher interest rate. On the other hand, if the chief financial officer had known what the creditworthiness of the municipality was, he or she would most probably have advised the municipal council differently regarding the raising of the loan. Whether the loan was aimed at an income-generating project or not, the model indicates that there is either a resistance to paying rates and taxes or an inability to pay. If the recovery of the additional operating cost as a result of the loan could not have been motivated by the chief financial officer, the loan should not have been raised.

- (3) The model indicated a marginal change in the institutional and environmental indicators, while the financial indicators declined dramatically from 53,5 points in 1995/96 to 41,7 points in 1996/97. On the basis of the analysis of the model in 1995/96, this decline in financial indicators was to be expected.
- (4) The institutional activities should have been addressed by the chief executive officer to ensure that the decline in 1996/97 was reversed. Institutional efficiency is one of the requirements for effective municipal service delivery. If the institutional infrastructure collapses, the municipality will have serious problems.

The decline in the institutional indicators should be addressed by council. Support in addressing institutional problems can be obtained

from the internal and external auditing functions. Institutional problems should be addressed in the auditors' reports, which are circulated to the other spheres of government if the problems are not addressed satisfactorily. The Municipal Structures Act (South Africa 1998a: section 34(3)(b)) provides that where a municipality is not able to administer its functions properly, the minister may intervene.

- (5) The environmental indicators improved marginally as a result of consistency in performance.

An analysis of the empirical environmental information shows that, although the performance is poor, it is consistently poor. The municipality should urgently address the environmental issues by, for example, trying to attract commerce and industry, or negotiate cost recovery approaches with the larger industries to shift reliance on government contributions to cost-recovering activities.

- (6) The cash flow statements shows that cash generated from operations for municipality B declined from a net shortfall of R15 890 000 in 1995/96 to a net shortfall of R5 628 000 in 1996/97.

Although the picture is negative (cash outflow), cash generated from operations has increased since the previous period (1995/96). This may be attributed to the slight decrease in the debtors collection period and/or increase in net operating income as indicated by the income statement for the period.

As during 1995/96, the shortfall in cash generated from operating activities during 1996/97 was financed almost entirely from a cash surplus in financing activities. Borrowed money was therefore used to finance the cash shortfall in operating activities. This funding approach is unacceptable and the chief financial officer and council will have to

ensure proper budgeting, tariff determination and cost recovery procedures.

- (7) Municipality B is definitely not a viable investment opportunity for any investor, whether a normal trade creditor or a provider of capital. This conclusion has been arrived at by objectively assessing the actual financial performance of the municipality and comparing it to the results of the model. The benefit of applying the model is the identification and quantification of variances, even if they are relatively small.

8.2.3.3 *Evaluation year 3 (1997/98):*

- (1) The creditworthiness scores per category as determined by the model are indicated by table 8.5.

Table 8.5: Municipality B: 1997/98: Creditworthiness score per category

Municipality B 1997/98	Norm	1997/98 score	Difference %
Financial	62,5	36,09	(42,3%)
Institutional	25,0	22,52	(9,9%)
Environmental	12,5	2,74	(78,1%)
Total	100,0	61,35	

- (2) The balance sheet of municipality B shows that during 1997/98 even more loans (to the amount of approximately R17 million) were obtained from external sources. The cash flow from operations decreased to levels equal to the first year under observation (1995/96), and the debtors collection decreased by approximately 17,5%.
- (3) Although the costs of the trading services are recovered through tariffs,

the income statement shows that the assessment rate tariffs are not sufficient to recover the cost of services classified as rates and general services. This reflects the eco-political environment of the municipality. The tariffs charged for the provision of trading services are sufficient, but the rate tariff is insufficient to recover the expenditure of rates and general services. The community is willing to pay for those services that can be measured, but the communal services, such as street lighting, stormwater drainage and libraries, which cannot be measured, are not properly charged for in appropriate tariffs.

Although the model indicates a positive pricing policy approach by the municipality and proper interaction with the community, the financial results indicate a tariff policy that is too consumer-friendly and the chief financial officer and council will have to adopt a tariff policy that enables the total recovery of municipal service provision. Although community participation is essential in tariff negotiations between the council and the community, the objective must be total cost recovery. In order to balance the budget the community must agree to either tariff adjustments or service delivery quality adjustments.

- (4) The municipality reacted to the decrease in institutional indicators of the past year and the institutional performance increased by 3,27 points to 22,52 points, but which is still below the norm of 25 points.

The fact that the institutional structure of the municipality is relatively strong is a positive indicator for longer term viability.

- (5) At some stage the relatively strong institutional structure should influence the other aspects that influence creditworthiness so that pro-active steps are taken to change the negative tendency to a more positive one.
- (6) The environmental indicators followed very much the same trend as in

previous years. It seems that the municipality has not considered taking any steps to improve environmental performance but simply accepts it as a given.

- (7) Obvious areas of performance that should be addressed are the unacceptable level of debtors as well as external debt. If these two major issues cannot be addressed effectively, the municipality will definitely experience serious financial difficulties in future.

8.2.3.4 Evaluation year 4 (1998/99):

- (1) The creditworthiness scores per category as determined by the model are indicated by table 8.6.

Table 8.6: Municipality B: 1998/99: Creditworthiness score per category

Municipality B 1998/99	Norm	1998/99 score	Difference %
Financial	62,5	37,385	(40,2%)
Institutional	25,0	23,995	(4,0%)
Environmental	12,5	2,625	(79,0%)
Total	100,0	64,005	

- (2) The total creditworthiness of municipality B is still at an unacceptably low level (64,005 points) and should not attract any investment. There was a marginal upswing of 2,65 points from 1997/98 to 1998/99, but the creditworthiness level is so low that such a marginal upswing is of little benefit.
- (3) The municipality has not acted in contradiction to the assessment made during the past year. Without having a model to guide them, the chief

financial officer and/or council took some corrective measures, the most important of which was the decrease in the debtors collection period which the municipality achieved by concentrating on debtor collections.

The cash flow statement indicates an increase in cash flow from operating activities which is a result of the increase in debtors collections. The liquidity of the municipality is still far below the norm and will result in longer term cash flow difficulties.

Conclusion: Municipality B

With a creditworthiness score of 64,005 during the 1998/99 evaluation year, municipality B has a high creditworthiness risk. Investors, creditors and municipal officials should take note of this poor creditworthiness performance. All involved should work together and concentrate on those areas that can be addressed in the short term to ensure longer term viability for the municipality.

In evaluating municipality B over the four-year period and annually referring to the actual financial results disclosed in the financial statements of the following year, it can be categorically stated that the interpretation of the creditworthiness scores as determined by the model provides an objective summary of the performance and enables pro-active forecasting of do's and don't's for the following years. These do's and don't's apply to both the financial institutions and the chief financial officer or municipal council.

This model will be invaluable to the chief financial officer and any financial institution in ascertaining the strengths and weaknesses of the municipality in terms of creditworthiness.

The model was used, in this evaluation, to come to the above conclusions and verifying it with the actual financial results and other empirical information. Without the model it would have been very difficult, if possible, to properly

evaluate this municipality to this extent.

8.2.4 Municipality C

The average creditworthiness score of municipality C over the four years evaluated is 79,7 points.

Table 8.7 presents a summary of the creditworthiness scores for municipality C for the period under review.

Table 8.7: Municipality C: Creditworthiness per category of indicator

Municipality C		Norm	Creditworthiness indicators			
CATEGORIES OF INDICATORS			1995/96	1996/97	1997/98	1998/99
A	FINANCIAL INDICATORS:	62,50	34,500	44,050	65,700	55,180
1	LIQUIDITY	25,00	5,000	5,000	13,500	10,310
2	SOLVABILITY	25,00	27,000	36,300	40,600	32,970
3	OPERATING	12,50	2,500	2,750	11,600	11,900
B	INSTITUTIONAL INDICATORS:	25,00	11,500	24,650	23,950	24,655
1	GENERAL MANAGEMENT AND ADMINISTRATION	17,50	8,000	16,400	16,000	16,930
2	DOCUMENTED MISSION STATEMENTS/ STRATEGIES/POLICIES	7,50	3,500	8,250	7,950	7,725
C	ENVIRONMENTAL INDICATORS:	12,50	8,500	8,850	8,660	8,585
1	SOCIO-ECONOMIC	5,00	1,000	0,900	1,040	1,130
2	ECO-POLITICAL	2,50	0,500	1,650	1,740	1,785
3	DEPENDENCY RISK FACTOR	5,00	7,000	6,300	5,880	5,670
	TOTAL CREDITWORTHINESS	100,00	54,500	77,550	98,310	88,420

Municipality C indicates a positive growth in creditworthiness over the first three years of the analysis. During the 1998/99 evaluation year there was, however, a decline in creditworthiness.

An analysis and interpretation of the trends in creditworthiness of municipality C, as determined by the model and assessed and compared with the actual financial statements and other empirical information (annexure F), reveals the following:

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- (1) The environment was very stable throughout the four years during which it was observed. Although the environment scored 3,85 points below the norm of 12,5 points on average, it was consistent, the lowest score being recorded in 1995/96 as 8,5 points and the highest as 8,85 points during 1996/97. The major reason for the below norm score of the environmental indicators is the socio-economic needs indicator. The needs of the community exceed the resources by far (constantly by more than 50%). The government is also making substantial contributions towards the financing of the municipality as indicated by the income statement.

Although the environmental indicators may show a substantial risk, it may not necessarily have any effect on the financial performance. A municipality which is reliant on a single large industry for say 90% of its income, will measure negative in respect of the environmental indicators, but may be very positive in terms of the financial indicators as long as the industry exists. The financial indicators may be positive and the financial position excellent, but in terms of creditworthiness, the environmental risk should be noted.

- (2) The institutional indicators indicate an almost constant growth from 11,5 points in 1995/96 to an all-time high of 24,655 points during the 1998/99 evaluation year. The norm is 25 points. Apart from a relatively poor institutional score during the base year (1995/96), the institutional indicators are approximately equal to the norm in all respects.

The conclusion can therefore be drawn that the municipality is institutionally stable, well-established and able to sustain this status.

- (3) The financial indicators, reflecting the movement and variances in the actual financial information, are those indicators that mostly influence the variation in the creditworthiness score.

- (4) By implementing proper financial management measures, including pricing policy, consistently during the years under observation, the municipality was able to turn a large accumulated deficit into an unappropriated surplus.

- (5) The operating and solvency indicators of the municipality are acceptable if compared to the set norm, but liquidity is below the norm. All the indicators used to determine liquidity performed below the norm. The most negative of these are working capital and debtors collections. The debtors collection period is also almost three times below the norm.

The municipality has been operating on a bank overdraft for the past three years.

- (6) Although the municipality has a consistently strong institutional capacity, it could not prevent the decline in the outstanding debtors situation. During the first year (1995/96) the debtors collection period was 140 days, which increased to 164 days during 1997/98 and then decreased to 144 days during the 1998/99 evaluation year.

Conclusion: Municipality C

The creditworthiness score of municipality C was 88,42 points during the evaluation year. This score is regarded as a medium creditworthiness risk.

Municipality C could potentially be a good investment opportunity, if all the liquidity indicators can be addressed and stabilised. The use of the model developed in this study clearly indicate those areas that need attention and will support the efforts by the chief financial officer to stabilise and improve the creditworthiness of the municipality.

The results disclosed by the model can be a useful instrument in the hands of

the chief financial officer to persuade the municipal council and other heads of departments to improve performance in those areas indicated by the model as below the norm.

If the model was available and used by the chief financial officer, he or she could have advised the management of the municipality on all those activities performing below the norm and corrective action could have been taken to ensure a turn-around in poor performance areas.

8.2.5 Municipality D

The average creditworthiness score of municipality D over the four years evaluated is 92 points. This average score is the best scored by the sample municipalities.

Table 8.8 presents a summary of the creditworthiness scores for municipality D for the period under review.

Table 8.8: Municipality D: Creditworthiness per category of indicator

Municipality D		Norm	Creditworthiness indicators			
CATEGORIES OF INDICATORS			1995/96	1996/97	1997/98	1998/99
A	FINANCIAL INDICATORS:	62,50	54,750	48,200	67,160	65,325
1	LIQUIDITY	25,00	11,000	7,200	14,960	22,250
2	SOLVABILITY	25,00	35,000	38,500	40,600	37,450
3	OPERATING	12,50	8,750	2,500	11,600	5,625
B	INSTITUTIONAL INDICATORS:	25,00	16,500	19,400	24,640	26,550
1	GENERAL MANAGEMENT AND ADMINISTRATION	17,50	11,000	11,400	16,840	18,900
2	DOCUMENTED MISSION STATEMENTS/ STRATEGIES/POLICIES	7,50	5,500	8,000	7,800	7,650
C	ENVIRONMENTAL INDICATORS:	12,50	9,500	11,900	12,160	11,930
1	SOCIO-ECONOMIC	5,00	1,000	0,900	1,160	0,990
2	ECO-POLITICAL	2,50	1,500	3,300	2,880	2,610
3	DEPENDENCY RISK FACTOR	5,00	7,000	7,700	8,120	8,330
	TOTAL CREDITWORTHINESS	100,00	80,750	79,500	103,960	103,805

Municipality D measured the best creditworthiness for the 1998/99 evaluation year in

the sample of five municipalities. The municipality scored above the break-even norm of 100 for both the 1998/99 evaluation year and the year before. This municipality is thus considered to be creditworthy at the end of 1998/99. This creditworthiness is, however, only applicable as long as the existing trend in municipal activities continues. If the municipality should, for example, enter into a very large loan agreement for a project that is not income-generating, or the institutional stability is changed by a major change in the staff complement, the creditworthiness assessment may change.

An analysis and interpretation of the creditworthiness scores assessed and compared with the actual performance (annexure G), indicates the following:

- (1) The financial indicators scored above the norm for the last two years of the evaluation. A breakdown of the financial indicators indicates that liquidity has increased over the past years to a level that is almost equal to the norm.

The municipality has the collection from debtors under control as the average collection period decreased consistently during the past four years to measure better than the norm during the 1998/99 evaluation year.

The most negative of the liquidity indicators is the debt ratio. Although debt is totally under control and in fact has decreased from previous years, the net decrease in cash generated from operations has resulted in this negative debt ratio.

- (2) The relatively large decrease in cash generated from operations as indicated by the cash flow statement, appears to be the result of a policy decision by the council to reduce the total amount owed to creditors, which was unacceptably high.

The trend in operating creditors shows a dramatic and consistent

decrease from a total of R187 million in 1995/96 to as little as R11,235 million in 1998/99.

- (3) The balance sheet indicates that the municipality also managed to convert an accumulated deficit of R134,864 million in 1995/96 into an unappropriated surplus of R13,115 million during 1998/99.
- (4) The solvency of the municipality measures above average. The debt of the municipality is thus under control if compared to the norm. The municipality is only paying approximately 50% of the norm in capital charges (being interest and redemption on loans). It can therefore be deduced that municipality D definitely has some low-risk borrowing capacity.
- (5) The institutional indicators of municipality D measure above the norm. If this category is analysed, it shows that the municipality is relatively positive in the areas of management information, budgetary control and productivity. The municipality performed well, with a below norm expenditure on salaries, wages and allowances. Areas that performed slightly below the norm are the efficiency of the auditing function and general financial administration.

The areas that underperform should be addressed by the chief financial officer and/or the council as soon as the model identifies them as areas of under-performance.

- (6) The environment in which the municipality operates seems to be positive as the performance is only slightly below the norm. Only the socio-economic needs indicator is below the norm. The municipality is therefore functioning independently without excess government interference and is not dependent on any specific large industry.

Conclusion: Municipality D

According to the results disclosed by the model, the creditworthiness score of municipality D is positive and it has a low risk. This means that the municipality should be able to attract prospective providers of capital and creditors. An analysis of the actual financial performance based on the empirical information confirms the positive financial position of the municipality. In addition to the financial position, the model also quantifies the risk involved in the institutional capacity and the environment.

The chief financial officer can use the results disclosed by the model to advise his or her council at an early stage of the viability of proposed projects. This advice can be to proceed, scale down or stop all expenditure on a proposed project and is valuable, for example, where large amounts of fruitless expenditure on the planning of unaffordable projects can be prevented.

By including a proposed new loan with its estimated effect on other operational activities, for example, increased maintenance, salaries and wages and insurance, in the model, the effect thereof on the creditworthiness of the municipality can be determined. This will indicate to the chief financial officer the extent to which new loans can be accommodated without having a too large negative effect on the creditworthiness of the municipality.

The chief financial officer of municipality D is in a very strong position, taking the results of the model into consideration, when negotiating the terms of loan agreements with financial institutions. The results of the model can also be used very positively by the council in marketing campaigns and attracting commercial and industrial interest.

8.2.6 Municipality E

The average creditworthiness score of municipality E over the four years evaluated is

88,6 points.

Table 8.9 presents a summary of the creditworthiness scores for municipality E for the period under review.

Table 8.9: Municipality E: Creditworthiness per category of indicator

Municipality E		Norm	Creditworthiness indicators			
CATEGORIES OF INDICATORS			1995/96	1996/97	1997/98	1998/99
A	FINANCIAL INDICATORS:	62,50	41,500	47,350	72,850	61,922
1	LIQUIDITY	25,00	8,000	8,300	15,720	15,960
2	SOLVABILITY	25,00	31,000	36,300	38,280	37,450
3	OPERATING	12,50	2,500	2,750	18,850	8,512
B	INSTITUTIONAL INDICATORS:	25,00	16,000	25,350	25,360	18,245
1	GENERAL MANAGEMENT AND ADMINISTRATION	17,50	10,500	17,350	17,560	10,595
2	DOCUMENTED MISSION STATEMENTS/ STRATEGIES/POLICIES	7,50	5,500	8,000	7,800	7,650
C	ENVIRONMENTAL INDICATORS:	12,50	11,000	11,900	10,400	12,350
1	SOCIO-ECONOMIC	5,00	1,000	0,900	1,160	0,810
2	ECO-POLITICAL	2,50	3,000	3,300	2,520	3,210
3	DEPENDENCY RISK FACTOR	5,00	7,000	7,700	6,720	8,330
	TOTAL CREDITWORTHINESS	100,00	68,500	84,600	108,610	92,517

Municipality E scored the highest creditworthiness (108,61 points) in the sample of five municipalities for any particular year, during 1997/98. If the exceptionally high creditworthiness score during 1997/98 is excluded, municipality E showed a positive growth in creditworthiness for the period under review.

If the creditworthiness scores are analysed and compared with the actual financial and other empirical information (annexure H), the following are evident:

- (1) Total creditworthiness decreased by more than 16 points during the 1998/99 evaluation year. This decrease in creditworthiness is due mainly to a sudden decrease in operating performance and efficiency.

- Both the operating indicators decreased. Appropriations during 1997/98 were to a large extent responsible for an above average net operating performance. During the 1998/99 evaluation year the net surplus for the year decreased dramatically from the previous year (1997/98). It is believed that the level of operating activities during the evaluation year is a true reflection of the operating ability and performance as all other financial indicators are relatively stable.
 - The balance sheet shows that outstanding debtors increased dramatically and could be regarded as getting out of hand. The debtors collection period increased from an already high 131 days in 1995/96 to 166 days in 1998/99.
- (2) Comparisons between balance sheet information shows that during the 1998/99 evaluation year the municipality obtained additional external loans to the value of approximately R30 million. These loans have a negative effect on a number of indicators, especially solvency. The 1998/99 income statement does not reflect any increase in capital charges as a result of this loan. It can be deducted that the loan was received late in the financial year.

The other indicators measuring solvency, namely the debt ratio and the debt-equity ratio, indicates a substantial decrease. The model as a whole therefore responds effectively, even if some of the input data do not reflect the expected results.

- (3) The institutional indicators also reflect a sharp decrease during 1998/99. Budgetary control, which is also closely related to financial management, indicated a sharp decrease.
- (4) The environment of municipality E is relatively stable although, as with all

the municipalities in the sample, the socio-economic needs far exceed the resources.

Conclusion: Municipality E

The total creditworthiness score of 92,517 points determined by the model during the 1998/99 evaluation year seems to be reliable. Although a slump in creditworthiness was experienced during this year, the municipality is relatively stable. The decrease in creditworthiness seems to be a direct result of additional external loans, as well as a decrease in general financial management, which could have been the result of political or management structure changes.

The municipality is regarded as medium risk. Its creditworthiness score is slightly below the level regarded as low risk (95 and higher).

By using the model to determine the creditworthiness of the municipality, the chief financial officer can advise the management of the municipality as to those areas where improvement is necessary. Although some of the problem areas may need costly and longer term solutions, some problems could be addressed immediately with the existing resources, if they were known.

8.3 EXTERNAL EVALUATION OF THE MODEL

The Development Bank of Southern Africa was the only institution, which provides capital (lending money) to municipalities, that was willing to assess the model developed in this study and give official feedback on the reliability of the creditworthiness of municipalities as determined by the model, without having the detailed working of the model.

The Development Bank of Southern Africa, as one of the main providers of capital to municipalities in South Africa, expressed an independent opinion on creditworthiness as determined by the model developed in this study. The report received from the

Development Bank of Southern Africa is attached as annexure I.

The credit rating model used by the Development Bank of Southern Africa is a fourth version of the model that was implemented more than five years ago (annexure I) and is based on financial indicators.

Empirical information on all five of the sample municipalities, for the five years under observation, with the creditworthiness results as determined by the model developed in this study, were handed over to the Development Bank of Southern Africa for evaluation. The Development Bank of Southern Africa applied its credit rating methodologies and summarised its evaluation of the results from the model as follows:

“It is clear from the results that your model and the DBSA (Development Bank of Southern Africa) model are providing consistent results.” (annexure I)

The above independent evaluation of the model, by comparing it to a totally different approach, resulted in a measure of consistency which also indicates that the model is stable.

8.4 SUMMARY

The model for the determination of the creditworthiness of municipalities in South Africa is unique in its structure, elements and operation. This uniqueness also complicates effective evaluation as there is no benchmark for measurement. The most effective evaluation is the practical application of the model in a real live scenario.

A real live scenario evaluation was created by retrospectively applying the model to the empirical information obtained for the development of the model. This evaluation was called the outcomes-based approach, as the actual results for following years were available as outcomes for evaluation purposes.

The outcomes-based evaluation consistently resulted in a number of useful and

applicable outcomes that could be directly related to following year actual performances disclosed in the financial statements. In the hands of both municipal officials and the providers of capital, the creditworthiness score (and its breakdown) is a useful tool in identifying areas of concern, as well as the effect of actions on creditworthiness.

The independent evaluation of the results of the model done by the Development Bank of Southern Africa also confirmed consistency when compared with results based on their approach.

The net creditworthiness scores obviously should and will be different in the Development Bank of Southern Africa approach and in the model developed in this study, because the indicators and norms applied, differ. The model developed in this study, for example, includes quantified institutional and environmental indicators which do not appear to be part of the Development Bank of Southern Africa model. Furthermore, this model takes trends into account which may not be the case in evaluations done by the Development Bank of Southern Africa.

The model developed in this study conforms with the norms and standards as required, namely, simplicity and ease of use, consistency and reliability. The model can be used effectively by either the providers of capital to municipalities or municipalities themselves. The model will not only indicate whether capital expenditure is viable or not, but will also be a useful tool in identifying operational areas of concern and the effect of addressing them.

8.5 SOURCES CONSULTED

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CHAPTER 9

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

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CHAPTER 9

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

9.1 INTRODUCTION

There is an alarming growth in the debt of municipalities to the providers of loan capital and an even more disturbing continuous growth in debt to municipalities by ratepayers and consumers for rates levied and services provided. This unhealthy financial situation has resulted in some municipalities defaulting on their commitments to the providers of capital and creditors. The perceived risk of financing municipalities in general has been negatively affected and a management tool for determining this risk objectively is required.

An extensive literature study of published material on creditworthiness in general, but for non-profit-making entities, public institutions and municipalities in particular, was conducted. Although the required elements to ensure an effective and reliable model for the determination of the creditworthiness of municipalities could be identified, it was found that very little reliable material has been published on this subject.

By thoroughly researching the subject of creditworthiness of municipalities, a model for the determination of the creditworthiness of municipalities in South Africa was developed that adheres to the scientific and popular requirements for such a model.

9.2 SUMMARY OF THE STUDY

This study was motivated by a need identified among the providers of capital, on the one hand, and municipalities, on the other. Both parties need to know the effect of capital structure changes and changes in activities on creditworthiness as a determinant of future action. Sustainable service provision by municipalities relies

heavily on the provision of sufficient capital to ensure proper infrastructure and maintenance equipment, as well as adequate working capital to facilitate effective operating activities.

Municipalities have to sustain existing service delivery and in general also have to address extreme developmental requirements for the provision of more and better quality goods and services to growing communities with limited financial resources. These developmental requirements emanate from the integrated development planning processes in municipalities. To address these developmental requirements, funding is required and municipalities have to enter the money-market to obtain the required capital.

One of the growing demands made by the providers of capital to municipalities is proof of creditworthiness. This study provides a model that can be applied to determine the creditworthiness of municipalities.

The logic in developing the model is as follows:

- The role, nature, structure and purpose of municipalities were researched to determine the critical requirements regarding creditworthiness.
- The credit evaluation approaches by prominent credit rating agencies and institutions were researched to identify their strengths and weaknesses in complying with the determined requirements.
- By using the information and data researched, objective indicators to quantify each of the categories of creditworthiness, were developed.
- The quantifiable indicators were logically structured into a model which uses norms and weights to calculate the proportional creditworthiness per indicator. The creditworthiness values per indicator are then added to

represent a creditworthiness score for the municipality evaluated.

The research of the theory of creditworthiness resulted in the identification of four distinct categories of indicators that fully represent creditworthiness in municipalities.

These categories are -

- financial;
- institutional;
- environmental; and
- trends.

Each of these categories had to be substantiated with specific indicators, ratios and elements to quantify creditworthiness.

The elements that were identified for inclusion in the model for the determination of the creditworthiness of municipalities in South Africa were structured logically into a format that incorporates all the relevant creditworthiness issues and results in a single creditworthiness score.

The model calculates the relative value of each of the indicators included in the model and then summarises the values according to the category of indicators, eventually reaching a total that provides an overall creditworthiness score for the municipality concerned. To enable an objective creditworthiness score, a unique scoring system, consisting of norms and weights, was used.

All the elements applied to determine the creditworthiness score are indicated in the model. Shortcomings in obtaining an acceptable creditworthiness score can thus be identified relatively easily, and progress in obtaining an acceptable creditworthiness score can be measured. If required, pro-active steps can be taken by municipalities to improve their prospects of being successful in obtaining the required capital financing from financial institutions. This means that steps can be taken to improve the creditworthiness of the municipality.

If this model is applied, municipalities will be able to determine their own creditworthiness score and thus their relative creditworthiness before even approaching financial institutions for funding. The model can also be used as early as the initiation stages of a project to determine its viability. If a new project or expansion on an existing project is proposed, the chief financial officer can apply the estimated project proposal figures to the model and inform the management of the municipality on the expected viability of the project and the expected effect on its creditworthiness as well as other operational activities. This report by the chief financial officer, based on the model, could indicate whether the council should proceed with the project as envisaged, scale it down, postpone it or that the project should not be considered at all.

The application and usage of the model are not limited to creditworthiness specialists or financial institutions. The chief financial officers of municipalities will be of the most prominent users of the model. In using the model, chief financial officers will be able to be better equipped financial advisors to their municipal councils.

The requirements for the model can be summarised as follows:

- Creditworthiness must be indicated by a single figure.
- The elements of creditworthiness must be identifiable.
- The model must be simple and easy to understand.
- The model must be parameter driven.
- The model must be reliable for application in the municipal environment.

The model developed in this study complies with all the above-mentioned requirements.

9.3 RELIABILITY OF THE MODEL

Both an outcomes-based evaluation and an external evaluation have been done to determine the reliability and consistency of the model developed in this study.

The outcomes-based evaluation was done by comparing the results disclosed by the model with information disclosed in the annual financial statements and other empirical information from the five municipalities in the sample, over a period of five years. The indicators calculated by the model were used to identify specific strong and weak areas in the municipality. These strengths and weaknesses were compared with the actual financial results of the following years, as disclosed by the annual financial statements and other empirical information regarding the institutional situation and the environment of the municipality. The model tested successfully with the various sets of data and accurate deductions were made.

Where the model indicated in one year that a municipality was not creditworthy enough to obtain further loans, and the municipality nevertheless obtained a large loan, the financial statements of future financial years (as well as the results of the model of future years) clearly disclose that the municipality is faced with escalating financial problems.

An external evaluation of the model was done by the Development Bank of Southern Africa. The Development Bank of Southern Africa is currently prominent in the provision of capital (loans) to municipalities and has its own established credit evaluation techniques. The Development Bank of Southern Africa compared the results provided by the model developed in this study with those provided by their assessment and found the comparative results to be consistent.

9.4 PROBLEMS EXPERIENCED

A study of this nature is subject to difficulties and problems. The two most prominent difficulties experienced in the development of the model for the determination of the creditworthiness of municipalities were -

- (1) the lack of relevant published material on the issue of creditworthiness assessment in general, but specifically on non-profit-making and public

- institutions, and
- (2) the reluctance of municipalities to cooperate in the provision of information required for the development of the model

The first problem was overcome by extending the scope of the sources consulted to a far greater spectrum and field of application than had been anticipated at the beginning of the study. Information and concepts from the various sources made a positive impact on the study by assisting in the formulation of the scope of the study and the parameters. In this study a set of relevant indicators was established which provides a basis for further research and development.

The lack of cooperation on the part of municipalities in providing information for the development of the model affected only the time-frame of completion of the study. If the majority of municipalities initially approached to participate in the study had responded positively and submitted the required information annually, the development of the model would have been finalised approximately one year earlier.

Other difficulties that were experienced, but which were largely resolved, were the format and presentation of some of the information available on the financial statements of municipalities. In the development of the model, financial statement information that could be interpreted incorrectly was disregarded and alternative combinations of more reliable information were identified for inclusion.

A general lack of benchmark performance indicators, to be used in the assessment of actual performance, was experienced. Some of the norms used in the model are based on findings in previous studies and literature and some are based on practical experience. Although the norms currently used in the model proved to be relatively reliable as indicated by the evaluation of the model, productivity levels and other performance circumstances change over time and norms should be reconsidered annually and updated if required.

9.5 SUGGESTED FURTHER RESEARCH

9.5.1 Development and maintenance of benchmarks

A number of relevant issues that need further research and study were identified during the development of the model. The most important of these is the development of a representative and reliable set of benchmarks to be used for the evaluation of municipal activities in general, but the evaluation of municipal creditworthiness in particular.

The only relatively reliable source of a few applicable norms for municipalities was provided by a single study in 1991. Unfortunately, this work was not followed up, with the result that the norms used were ten years old. Annual financial statements were the backbone of the said study and in terms of legislation, municipalities are compelled to prepare and submit annual financial statements. On the basis of the work completed in 1991, a study addressing the establishment and maintenance of a set of norms for the evaluation of the creditworthiness of municipalities in South Africa, would be invaluable.

9.5.2 Validation of weights allocated in the model

The weights allocated in the model developed in this study were not thoroughly researched, but based on information obtained from the literature studied. No thoroughly researched and substantiated weights are available.

9.5.3 Broadening of the input base

The model developed in this study is based on the minimum input requirements to effect a reliable outcome. By increasing the number of indicators under each of the categories, the sensitivity of the model can be further increased because the basis of evaluation is broadened. The broadening of the input base should however not result in an uncontrollable extension of numerous ratios, all measuring the same indicators, but each additional ratio should be properly researched to ensure a positive

contribution towards the sensitivity of the model.

9.6 CONCLUSIONS

The model developed for the determination of the creditworthiness of municipalities is a useful tool that provides an objective method of evaluating creditworthiness. This model can be used by both the providers of capital (financial institutions) and municipalities to assess the risk involved in changing activities and funding. Once the creditworthiness of a municipality has been determined, the municipal council can take appropriate steps to improve its creditworthiness, if necessary.

The first two hypotheses formulated in chapter 1 of the study were substantiated as follows:

- H1 Municipalities in South Africa are faced with financial difficulties, especially cash flow problems, which prevent them from obtaining loans easily on the South African money-market or from financial institutions.

- H2 The determination of the creditworthiness of municipalities plays an important role in obtaining loans on the money-market.

The financial position of municipalities in South Africa is generally deteriorating at an alarming rate. The most important of the negative financial tendencies become evident when analysing the cash position of some municipalities. Not only are municipal debtors generally increasing rapidly, but the money owed to the external providers of capital to municipalities is also increasing at an alarming rate.

One of the major issues that focuses attention on the determination of creditworthiness in municipalities was the decision by the central government to stop the issuing of borrowing powers by provincial structures, which guaranteed the repayment of loans entered into by municipalities. Since the 1990s, many municipalities have also defaulted in terms of complying with loan agreements with the providers of capital, who

currently insist on some creditworthiness analysis of the prospective borrowing municipalities. In most instances these creditworthiness analyses are initiated and executed by the providers of capital themselves.

H3 Treasurers or chief financial officers should be able to determine the creditworthiness of their municipality and identify those critical performance areas affecting the creditworthiness score.

In the development of the model, some of the techniques applicable in the development of expert systems were applied. The objective of so-called "expert" systems is to ensure that the front end appearance of the application, as seen by the user, is simple and user-friendly, while the internal workings of the model are rather complicated and include all the relevant factors and norms. Hence, the model developed in this study is easy to use and the chief financial officer of a municipality or financial manager at a financial institution should be able to apply it.

The structure of the model identifies the scores of the relevant indicators and categories of indicators per period. The critical performance areas regarding creditworthiness are clearly indicated and the performance of the model can be noted.

H4 If the treasurer or chief financial officer of a municipality can determine the creditworthiness of his/her municipality objectively, he/she has a substantial basis for negotiating loan conditions with the providers of capital.

In the absence of an objective, reliable and acceptable creditworthiness assessment, the providers of capital dictate the terms and conditions of loans to municipalities. Most providers of capital apply some form of subjective creditworthiness analysis which suits their own needs and holds municipalities "hostage" regarding loan periods, interest rates and borrowing amounts. By applying the model, a more fair and equitable borrowing system will be established.

H5 A model for the determination of the creditworthiness of municipalities in South Africa, based on a simple and objective analysis, can be developed.

The study proved that the relevant elements to be included in a comprehensive creditworthiness analysis can be objectively quantified and structured into a simple, practical and reliable model.

Interest shown by various providers of capital to municipalities during the development of the model contributed to the development philosophy. It is expected that the model will be used by various entities on a broad basis for the determination of the creditworthiness of municipalities in South Africa.

9.7 RECOMMENDATIONS

The model developed is an easy-to-use, practical and effective tool to determine the creditworthiness of municipalities. Based on this research, it is recommended that -

- the creditworthiness results determined by means of the model, be disclosed as part of the financial report of the chief financial officer in the annual financial statements of all municipalities in South Africa
- the Institute of Municipal Finance Officers undertake to establish and maintain a Centralised National Municipal Benchmark Databank, based on national averages, to be applied in the model for the determination of the creditworthiness of municipalities
- the Institute of Municipal Finance Officers facilitate the suggested further research, particularly regarding the substantiation of weights allocated to the various indicators in the model.

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ANNEXURE A**COVERING LETTERS TO THE QUESTIONNAIRE**

The covering letters to the questionnaires for both 1997 and 1998 are attached. For both these years, questionnaires were distributed to the municipalities identified for the sample. Since 1999 the preferred policy has been to make personal contact and get support from third parties such as ABSA Bank.

Deon Scott
P.O. Box 905-618
Garsfontein West
0042

Tel: (012) 429 4450 (o)
(012) 981123 (h)
082 5543681 (s)

The Treasurer

Dear Sir,

**EMPIRICAL DATA/INFORMATION REQUIRED FOR THE DEVELOPMENT OF A
MODEL FOR THE DETERMINATION OF THE CREDITWORTHINESS OF LOCAL
AUTHORITIES IN SOUTH AFRICA**

I am a registered D Com student at UNISA, busy with a thesis entitled: 'The development of a model for the determination of the creditworthiness of local authorities in South Africa'.

The theoretical basis for the model has been described and the model has been developed with hypothetical data. The value of the model can only be established by using actual data from local authorities and evaluating the outcome by comparing it with outcomes determined by established credit rating agencies.

The local authorities identified for inclusion in the sample are those that have recently been rated by credit rating agencies as well as others chosen to cover the total spectrum of local authorities in South Africa. The sample consists of the following local authorities:

- City of - Metro
- -Municipality
- -
- district council -
- City Council - Municipality
- Municipality -

I would appreciate it if you could forward the required information and documentation, to reach me before 30 November 1997. If you should have any difficulty in completing or forwarding the required information, please contact me.

I would like to express my appreciation for your help in developing a model that could be available and useful for all local authorities in South Africa.

Deon Scott

P.O. Box 905-618
 Garsfontein West
 0042

Tel: (012) 429 4450 (o)
 (012) 981123 (h)
 082 5543681 (s)

The Treasurer

Dear Sir,

**EMPIRICAL DATA/INFORMATION REQUIRED FOR THE DEVELOPMENT OF A
 MODEL FOR THE DETERMINATION OF THE CREDITWORTHINESS OF LOCAL
 AUTHORITIES IN SOUTH AFRICA**

During 1997 I requested a number of local authorities to provide me with financial and other relevant information to be used as empirical data for a D Com study entitled: 'The development of a model for the determination of the creditworthiness of local authorities in South Africa'.

I would hereby like to thank those local authorities who did provide me with the relevant information and request the same information for the following (1997/98) financial year.

Some of the changes in local authorities during the past years influenced not only the recording of data in the financial and other statements, but also affected the data to such an extent that the development of norms and standards based on these data are not reliable. For this reason as well as the desire to develop reliable benchmarks, it would be appreciated if you could forward me the information as requested in the attached questionnaire.

The local authorities identified for inclusion in the sample are those that have been rated by credit rating agencies, as well as others, to cover the total spectrum of local authorities in South Africa. The sample consists of the following local authorities:

- | | | | |
|---|------------------------|---|--------------------|
| - | City of | - | Metro |
| - | ..... | - | .....Municipality |
| - | | - | |
| - | district council | - | ..... |
| - | City Council | - | Municipality |
| - | Municipality | - | ..... |

The attached questionnaire is short and simple and will not take much time to complete. I would appreciate it if you could forward the required information and documentation, to reach me before 30 November 1998. If you have any difficulty in completing or forwarding the required information, please contact me.

I should like to express my appreciation for your continuous help in developing a model that could be available and useful to all local authorities in South Africa.

Deon Scott

ANNEXURE B**QUESTIONNAIRE**

The questionnaire as posted to municipalities for the collection of the empirical information is attached on the following seven pages.

QUESTIONNAIRE

Information required for the development of a model for the determination of the creditworthiness of local authorities in South Africa

NOTE:

This questionnaire is confidential with respect to the names of the individuals who complete it and the name of the local authority.

GENERAL INFORMATION ABOUT QUESTIONNAIRE

PURPOSE OF QUESTIONNAIRE:

The purpose of this questionnaire is to obtain information required for developing a model for the determination of the creditworthiness of local authorities. The development of the model is a study project for the fulfilment of a D Com degree in Accounting at UNISA.

THREE SECTIONS:

This questionnaire consist of three sections.

- **Section A** requires published financial information.
- **Section B** requires additional financial performance information.
- **Section C** requires information on the general management and administration of the local authority.

WHO TO COMPLETE?

The most appropriate individual (official) to complete the questionnaire is probably the internal auditor. It is also required that the questionnaire be controlled for correctness by the treasurer as some of the questions in Section C are of a 'subjective' nature and are to be double checked by another senior official.

DUE DATE:

It would be appreciated if the required information can be forwarded to reach the addressee before 30 November 1998.

CONTACT PERSON AND ADDRESS:

Student Name: Deon Scott
Student Nr: 325-048-2
Institution: UNISA
Postal Address: P.O. Box 905-618
Garsfontein-West
0042
Tel: (012) 981123 (h) (from 5/12/98 this number changes to 9931123
(012) 429 4450 (office)
0825543681 (cell)

GENERAL INFORMATION:

Name of Local Authority:

Postal Address:

.....

.....

Postal Code:

Tel. Nr:

Contact Person:

SECTION A:**FINANCIAL STATEMENTS**

Verified financial information is the core input into the model for the determination of the creditworthiness of local authorities. For this reason, you are requested to include copies of the:

- The financial statements as prepared for publication for the 1995/96, 1996/97 and 1997/98 financial years. (Even if these are not yet audited by the external auditors).

SECTION B: ADDITIONAL FINANCIAL INFORMATION

Some of the required financial information that might be difficult to identify from the financial statements, or that are not required in the financial statements, are requested in this section.

The following additional financial information is required:

1. **Capital budget information:**

CAPITAL BUDGET	Total approved Capital Budget	Total Capital Expenditure
1995/96		
1996/97		
1997/98		

2. **Operating budget information:**

OPERATING BUDGET	Total budgeted Income	Total budgeted Expenditure
1995/96		
1996/97		
1997/98		

3. The impact of the single largest source (i.e. mine, big industry e.g. Iscor or business complex in residential towns) of income for the local authority on its viability is substantial. If the single largest consumer/ ratepayer is also relatively small, it should nevertheless be provided in the table hereunder:

INCOME FROM SINGLE LARGEST RATEPAYER	Total income from single largest consumer/ratepayer per annum R
1995/96	
1996/97	
1997/98	

SECTION C: INSTITUTIONAL AND ADMINISTRATIVE

In this section a number of questions aimed at the evaluation of the institutional capacity and performance are asked. Although some of these questions might seem to be irrelevant, all of them are necessary inputs into the model. All of the questions in this section are to be answered by a simple 'Yes' or 'No'. Your accurate and honest input is required to facilitate the development of a reliable model for the determination of the creditworthiness of local authorities.

(Please answer the following questions by making a cross (X) in the relevant column)

1997/98

1. GENERAL MANAGEMENT AND ADMINISTRATION			
1.1 Existence of internal audit function: audit programmes and procedures to deal with audit reports		'Yes'	'No'
(a) Does an internal audit function exist, and is it provided for in the operating budget?			
(b) Do internal audit programmes exist and provide for the future auditing activities for at least three months?			
(c) Is "performance auditing" part of the audit programme?			
(d) Does an audit procedures statement exist?			
(e) Is a queries register updated continuously and are outstanding audit queries followed up and reported to the CEO?			
(f) Do any of the auditing personnel have a formal accounting or auditing qualification or have auditing experience of more than 5 years?			
(g) Is the latest audit report qualified by the external auditor?			

1.2 Availability of management information on the operations in the current financial year	'Yes'	'No'
(a) Are updated budgetary reports distributed at least monthly to all departmental heads for information and control of the correctness of their specific votes? (If all the relevant departmental heads are linked by means of an electronic network and can access the updated financial information continuously, the answer to this question should be 'yes' if the availability of the different reports are easily accessible and regularly and correctly updated).		
(b) Are exception reports processed on request and per specification? (Are exception reports as, and if required, available on the electronic network?)		
1.3 Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports legally required.	'Yes'	'No'
(a) Was the annual financial statements of the previous financial year available for auditing on or before 30 September, i.e. 3 months after the ending of the financial year?		
(b) Was the annual budgets approved by the council on 30 June of the year preceding the applicable financial year?		
(c) Does any internal or external audit report applicable on the previous financial year, mention any legally required documentation not submitted on time?		
2. DOCUMENTED MISSION STATEMENTS/ STRATEGIES/POLICIES		
2.1 Existence of a formal organisational structure in relation to the approved mission and strategies	'Yes'	'No'
(a) Does a council approved mission statement, with strategies supporting it exist?		
(b) Does any formal council decision exist which endorses the organisational structure in terms of the approved mission and strategies?		

	Yes	No
(c) Is an updated organisational diagram supporting the operational activities in terms of the approved policy available/displayed publicly?		
(d) Is the organisational structure in line with the approved personnel budget?		

2.2 Existence of an integrated development plan with supportive annual business plans on which annual budgets are based	Yes	No
(a) Does a development plan which addresses all of the following, exist: <ul style="list-style-type: none"> • Physical township development planning • Infrastructural needs • Financial implications. 		
(b) Was the development plan updated for each of the past three years?		
(c) Is there substantial evidence of community participation in the drafting and or revision of the development plan?		
(d) Is the longer-term capital programme based on the development plan?		
(e) Is there reference between the annual operating as well as capital budgets and the development plan?		
2.3 Formalising pricing policies for the different municipal services	Yes	No
(a) Do formal, council approved policies for the determination of all tariffs for the different municipal goods and services exist?		
(b) Are the pricing policies for economic services, housing and trading services based on cost recovery principles? (Does the estimated income for the year for these services at least recover the estimated expenditure).		
(c) Is there any evidence of community involvement in the formulation of pricing policies? (Are issues such as the ability to pay and willingness to pay in any way addressed in the formulation of the pricing policies?)		

ANNEXURE C
FORMAT OF THE CREDITWORTHINESS SCORESHEET

SCORESHEET									SCORE PER ANNUM (TRENDS EXCLUDED)				EQUI- VALENT VALUE MULTIPL	TRENDS MULTIPLIER				CREDITWORTHINESS SCORE				
A	START YEAR 0	START YEAR 0	START YEAR +1	START YEAR +1	START YEAR +2	START YEAR +2	START YEAR +3	START YEAR +3	95/96	96/97	97/98	98/99		SCORE	START '96	START +1	START +2	START +3	95/96	96/97	97/98	98/99
	NORM	VALUE	NORM	VALUE	NORM	VALUE	NORM	VALUE	SCORE	SCORE	SCORE	SCORE		NORM	95/96	96/97	97/98	98/99	SCORE	SCORE	SCORE	SCORE
FINANCIAL INDICATORS																						
LIQUIDITY:																						
Acid Test	1,94	1,9400	1,94	1,9400	1,94	1,9400	1,94	1,9400	5	5	5	5	5	6	1,25	1,25	1,25	1,25	7,500	7,500	7,500	7,500
Working Capital Coverage	1,00	1,0000	1,00	1,0000	1,00	1,0000	1,00	1,0000	5	5	5	5	5	5	1,25	1,25	1,25	1,25	7,500	7,500	7,500	7,500
Debtors Collection Period	54,00	54	54,00	54	54,00	54	54,00	54	5	5	5	5	5	4	1,25	1,25	1,25	1,25	5,000	5,000	5,000	5,000
Debt/Cash Ratio	5,00	5,0000	5,00	5,0000	5,00	5,0000	5,00	5,0000	5	5	5	5	5	4	1,25	1,25	1,25	1,25	5,000	5,000	5,000	5,000
SOLVABILITY:																						
Debt ratio	56,20	56,20	56,20	56,20	56,20	56,20	56,20	56,2	5	5	5	5	5	4	1,25	1,25	1,25	1,25	5,000	5,000	5,000	5,000
Debt-Equity ratio	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1	5	5	5	5	5	8	1,25	1,25	1,25	1,25	10,000	10,000	10,000	10,000
Loan servicing %	15,88	15,88	15,88	15,88	15,88	15,88	15,88	15,88	5	5	5	5	5	8	1,25	1,25	1,25	1,25	10,000	10,000	10,000	10,000
OPERATING:																						
Operating surplus/deficit as % of retained income	74,00	74,00	74,00	74,00	74,00	74,00	74,00	74	5	5	5	5	5	5	1,25	1,25	1,25	1,25	8,250	8,250	8,250	8,250
Retained surplus or accumulated deficit as % of total operating income	4,91	4,91	4,91	4,91	4,91	4,91	4,91	4,91	5	5	5	5	5	5	1,25	1,25	1,25	1,25	8,250	8,250	8,250	8,250
INSTITUTIONAL INDICATORS																						
1 GENERAL MANAGEMENT																						
1,1 Internal audit function	7,00	7	7,00	7	7,00	7	7,00	7	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,500	2,500	2,500	2,500
1,2 Management information	2,00	2	2,00	2	2,00	2	2,00	2	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,500	2,500	2,500	2,500
1,3 Financial administration	3,00	3	3,00	3	3,00	3	3,00	3	5	5	5	5	5	4	1,25	1,25	1,25	1,25	5,000	5,000	5,000	5,000
1,4 Efficient budgetary control	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5	5	5	5	5	4	1,25	1,25	1,25	1,25	5,000	5,000	5,000	5,000
1,5 Salaries, Wages and Allowances %	26,00	26,00	26,00	26,00	26,00	26,00	26,00	26,00	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,500	2,500	2,500	2,500
2 MISSION/STRATEGIES/POLICIES																						
2,1 Formal organisation structure	4,00	4	4,00	4	4,00	4	4,00	4	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,500	2,500	2,500	2,500
2,2 Integrated development planning	5,00	5	5,00	5	5,00	5	5,00	5	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,500	2,500	2,500	2,500
2,3 Pricing policies	3,00	3	3,00	3	3,00	3	3,00	3	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,500	2,500	2,500	2,500
ENVIRONMENTAL INDICATORS																						
1 SOCIO-ECONOMIC	10,00	10	10,00	10	10,00	10	10,00	10	5	5	5	5	5	4	1,25	1,25	1,25	1,25	5,000	5,000	5,000	5,000
2 ECO-POLITICAL	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,500	2,500	2,500	2,500
3 DEPENDANCY FACTOR	10,00	10,00	10,00	10,00	10,00	10,00	10,00	10,00	5	5	5	5	5	4	1,25	1,25	1,25	1,25	5,000	5,000	5,000	5,000
																			100,000	100,000	100,000	100,000

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MUNICIPALITY A

BALANCE SHEET AS AT 30 JUNE:

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
CAPITAL EMPLOYED					
FUNDS AND RESERVES	28 571	34 464	37 735	44 361	47 167
Statutory funds	25 566	30 763	31 472	36 757	40 487
Reserves	2 985	3 701	6 263	7 604	6 680
UNAPPROPRIATED SURPLUS	665	3 003	1 519	2 360	2 472
	29 236	37 527	39 254	46 721	49 639
TRUST FUNDS	3 900	1 584	2 606	3 046	3 651
LONG-TERM LIABILITIES	47 645	46 441	43 965	32 788	35 516
CONSUMER DEPOSITS: SERVICES	0	0	1 244	1 455	1 463
	<u>80 681</u>	<u>85 552</u>	<u>87 268</u>	<u>83 990</u>	<u>90 269</u>
EMPLOYMENT OF CAPITAL					
FIXED ASSETS	61 223	65 590	69 476	69 451	75 287
INVESTMENTS	20 080	17 844	0	0	0
LONG-TERM DEBTORS	3 744	2 109	9 786	7 964	8 360
DEFERRED CHARGES	0	0	0	0	0
NET CURRENT LIABILITIES	(4 366)	(5 991)	8 006	6 575	6 622
CURRENT ASSETS	9 178	10 360	19 771	23 764	16 327
Inventory	324	387	478	499	528
Debtors	8 850	9 969	8 578	8 951	6 361
Cash	4	4	979	4	322
Short-term investments	0	0	9 736	13 668	8 631
Short-term portion of long-term debtors	0	0	0	0	0
CURRENT LIABILITIES	(13 544)	(16 351)	(11 785)	(17 189)	(9 705)
Provisions	1 120	2 963	2 854	3 388	1 639
Creditors	8 373	7 123	7 714	12 381	5 677
Short-term portion of long-term liabilities	0	0	1 197	1 335	1 453
Bank overdraft	4 051	6 265	0	185	545
	<u>80 681</u>	<u>85 552</u>	<u>87 268</u>	<u>83 990</u>	<u>90 269</u>

MUNICIPALITY A

INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE:

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
Actual Income	39 980	43 837	51 942	57 490	60 193
Rates and General Services	18 416	22 218	26 155	28 558	30 988
Housing Services	162	95	97	44	37
Trading Services	21 402	21 524	25 690	28 888	29 168
Actual Expenditure	39 786	43 583	50 573	54 458	58 141
Rates and General Services	21 591	26 248	30 350	32 311	30 187
Housing Services	147	113	154	102	46
Trading Services	18 048	17 222	20 069	22 045	27 908
Total Actual Surplus / (Deficit)	194	254	1 369	3 032	2 052
Appropriations for the year	57	2 143	(2 912)	(2 191)	(1 940)
Net Surplus / (Deficit) for the year	261	2 397	(1 543)	841	112
Unappropriated Surplus / (Deficit) at the beginning of the year	405	665	3 063	1 519	2 360
Unappropriated Surplus / (Deficit) at the end of the year	666	3 062	1 520	2 360	2 472

MUNICIPALITY A

CASH FLOW STATEMENT FOR THE YEAR ENDED 30 JUNE:

	1996 R'000	1997 R'000	1998 R'000	1999 R'000
CASH FLOW FROM OPERATING ACTIVITIES				
Cash receipts from ratepayers, government and other	44 862	50 420	54 926	60 843
Cash paid to suppliers and employees	(42 990)	(50 091)	(49 337)	(66 123)
CASH GENERATED FROM OPERATIONS	<u>1 872</u>	<u>329</u>	<u>5 589</u>	<u>(5 280)</u>
CASH FLOW FROM INVESTING ACTIVITIES				
Purchase of property, plant and equipment	(4 430)	(3 977)	4	(5 865)
Long term debtors	(4 365)	(1 677)	1 822	(396)
NET CASH FROM INVESTING ACTIVITIES	<u>(8 795)</u>	<u>(5 654)</u>	<u>1 826</u>	<u>(6 261)</u>
CASH FLOW FROM FINANCING ACTIVITIES				
Loans repaid	(1 204)	(1 279)	(11 501)	2 823
Increase in consumer deposits	0	1 244	211	8
Other capital receipts	8 127	16 071	7 032	3 791
NET CASH FROM FINANCING ACTIVITIES	<u>6 923</u>	<u>16 036</u>	<u>(4 258)</u>	<u>6 622</u>
NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	<u>0</u>	<u>10 711</u>	<u>3 157</u>	<u>(4 919)</u>

MUNICIPALITY A

ADDITIONAL FINANCIAL INFORMATION:	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
INCOME AND INCOME STATEMENTS					
1 Loans Redeemed and Other Capital Receipts (Notes to Balance Sheet)	15 007	14 070	11 102	22 015	10 257
2 Total Debt Servicing Cost (Capital Charges) (Annexure D: Analysis of Operating Income and expenditure)	10 000	13 200	10 440	13 000	13 300
3 Intergovernmental Transfers/Subsidies	10 000	10 000	10 000	10 000	10 000
4 Income from single largest ratepayer	10 000	10 000	10 000	10 000	10 000
5 Total Salaries, Wages and Allowances	10 000	10 000	10 000	10 000	10 000
CAPITAL BUDGETS					
6 Approved Capital Budget Total	10 000	10 000	10 000	10 000	10 000
7 Actual Capital Budget Implemented	10 000	10 000	10 000	10 000	10 000
8 Total Capital Budget (Following year)	10 000	10 000	10 000	10 000	10 000
OPERATING BUDGETS					
9 Total budgeted Income	37 000	41 115	48 000	54 000	60 000
10 Total budgeted Expenditure	38 327	41 016	48 282	53 724	60 000
11 Budgeted Surplus/(Deficit)	<u>(1 327)</u>	<u>(37 001)</u>	<u>68</u>	<u>334</u>	<u>0</u>
CASH FLOW STATEMENT					
12 Cash generated by Operations	0	1 072	0	5 000	0 000
13 INTEREST RATE					
Average interest rate (eg as per CLF allocation)	15.00%	15.00%	15.00%	15.00%	15.00%

INSTITUTIONAL AND ADMINISTRATIVE MUNICIPALITY A		94/95	95/96	96/97	97/98	97/98	98/99
		yes or no	yes or no	yes or no	yes or no	yes or no	yes or no
INSTITUTIONAL INDICATORS							
1	GENERAL MANAGEMENT AND ADMINISTRATION						
1,1	Existence of internal audit function: Audit programmes and procedures to deal with audit reports						
1.1.1	Does an internal audit function exist and is it provided for in the operating budget?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.2	Do internal audit programmes exist and provide for the future auditing activities for at least three months, and have the programmes been updated?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.3	Is "performance auditing" part of the audit programme?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.4	Does an audit procedures statement exist?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.5	Is a queries register updated continuously and are outstanding audit queries followed up and reported to the CEO?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.6	Do any of the auditing personnel have a formal accounting or auditing qualification or have more than 5 years auditing experience?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.7	Was the audit report qualified by the external auditors?	Y 0	N 1	N 1	N 1	N 1	N 1
1,2	Availability of management information on the operations in the current financial year						
1.2.1	Are updated budgetary reports distributed at least monthly to all departmental heads for information and control of the correctness of their specific votes?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.2.2	Are exception reports processed on request and per specification?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1,3	Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports legally required						
1.3.1	Were the published annual financial statements for the financial year submitted to the provincial structures on 30 September, ie 3 months after the end of the financial year?	N 0	N 0	N 0	N 0	N 0	N 0
1.3.2	Were the annual budgets approved by the council on 30 June of the year preceding the applicable financial year?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.3.3	Does any audit report mention any legally required documentation not submitted on time?	Y 0	N 1	N 1	N 1	N 1	N 1

MUNICIPALITY A

		94/95	95/96	96/97	97/98	97/98	98/99
		yes or no	yes or no	yes or no	yes or no	yes or no	yes or no
2	DOCUMENTED MISSION STATEMENTS/STRATEGIES/POLICIES						
2,1	Existence of a formal organisational structure in relation to the approved mission and strategies						
2.1.1	Does a council approved mission statement, with strategies supporting it exist?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.1.2	Does any formal council decision exist which endorses the organisational structure in terms of the approved mission and strategies?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.1.3	Is an updated organisational diagram supporting the operational activities in terms of the approved policy available?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.1.4	Do the organisational structure and the approved personnel budget agree?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2,2	Existence of an integrated development plan with supportive annual business plans on which annual budgets are based.						
2.2.1	Does a development plan which addresses all of the following exist: (physical township development planning, infrastructural needs, financial implications)?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.2	Has the development plan been updated during the past three years?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.3	Is there substantial evidence of community participation in the drafting and/or revision of the development plan?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.4	Is the longer-term capital programme based on the development plan?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.5	Is there an integrated development plan with supportive annual business plans on which annual budgets are based?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2,3	Formalised pricing policies for the different municipal services						
2.3.1	Do formal, council approved policies for the determination of tariffs for the different municipal goods and services exist?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.3.2	Are the pricing policies for economic services, housing and trading services based on cost recovery principles?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.3.3	Is there any evidence of community involvement in the formulation of pricing policies?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1

CREDITWORTHINESS PARAMETERS

		NORMS			
		95/96	96/97	97/98	98/99
A	FINANCIAL INDICATORS				
	LIQUIDITY:				
	Acid Test	1.94	1.94	1.94	1.94
	Net Working Capital Security	1.00	1.00	1.00	1.00
	Debtors Collection Period	54.00	54.00	54.00	54.00
	Debt/Cash Ratio	5.00	5.00	5.00	5.00
	SOLVABILITY:				
	Debt ratio	56.20	56.20	56.20	56.20
	Debt-Equity ratio	1.00	1.00	1.00	1.00
	Loan servicing %	15.86	15.86	15.86	15.86
OPERATING:					
	Operating surplus/deficit as % of accumulated surplus/deficit	74.00	74.00	74.00	74.00
	Accumulated surplus/deficit as % of total operating income	4.91	4.91	4.91	4.91
B	INSTITUTIONAL INDICATORS				
1	GENERAL MANAGEMENT AND ADMINISTRATION				
1.1	Existence of internal audit function: Audit programmes and procedures to deal with audit reports.	7	7	7	7
1.2	Availability of management information on the operations in the current financial year	2	2	2	2
1.3	Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports legally required.	3	3	3	3
1.4	Proof of efficient budgetary control and effective planning as indicated by variances of actual results from budgeted amounts. (Based on expenditure only)	10	10	10	10
1.5	Salaries, Wages and Allowances as % of Total Expenditure	28	28	28	28
2	DOCUMENTED MISSION STATEMENTS/STRATE- GIES/POLICIES				
2.1	Existence of a formal organisation structure in relation to the approved mission and strategies.	3	3	3	3
2.2	Existence of an integrated development plan with supportive annual business plans on which annual budgets are based.	4	4	4	4
2.3	Formalised pricing policies for the different municipal services	2	2	2	2
C	ENVIRONMENTAL INDICATORS				
1	SOCIO-ECONOMIC				
1.1	Needs/Resources	10	10	10	10
2	ECO-POLITICAL				
2.1	Intergovernmental support	5	5	5	5
3	DEPENDANCY FACTOR				
3.1	Dependency risk	10	10	10	10

CREDITWORTHINESS ANALYSIS		START YEAR 0	START YEAR 0	START YEAR +1	START YEAR +1	START YEAR +2	START YEAR +2	START YEAR +3	START YEAR +3	SCORE PER ANNUM (TRENDS EXCLUDED)				EQUIVALENT		TREND MULTIPLIER				BREAK EVEN	CREDITWORTHINESS SCORE			
MUNICIPALITY A		95/96	95/96	96/97	96/97	97/98	97/98	98/99	98/99	SCORE	SCORE	SCORE	SCORE	SCORE	VALUE	START JR	START +1	START +2	START +3		FINAL SCORE	FINAL SCORE	FINAL SCORE	FINAL SCORE
		NORM	VALUE	NORM	VALUE	NORM	VALUE	NORM	VALUE	95/96	96/97	97/98	98/99	NORM	MULTIPLE	95/96	96/97	97/98	98/99		95/96	98/97	97/98	98/99
A FINANCIAL INDICATORS																				62,50	43,500	46,250	52,900	46,420
LIQUIDITY:																				25,00	11,000	27,500	22,140	21,900
Acid Test		1,94	0,6099	1,94	1,6399	1,94	1,3535	1,94	1,6279	1	3	1	3	5	6	1,25	1,375	1,2	1,3375	7,50	1,500	4,950	1,440	4,815
Working Capital Coverage		1,00	(0,9817)	1,00	1,4234	1,00	2,2559	1,00	1,3797	1	7	7	7	5	6	1,25	1,375	1,45	1,0875	7,50	1,500	11,550	12,180	9,135
Debtors Collection Period		54,00	83	54,00	80	54,00	57	54,00	39	1	3	3	6	5	4	1,25	1,375	1,45	1,4875	5,00	1,000	3,300	3,480	7,140
Debt/Cash Ratio		5,00	24,8082	5,00	133,6322	5,00	5,8629	5,00	(6,7265)	7	7	6	1	5	4	1,25	1,375	1,05	1,0125	5,00	7,000	7,700	5,040	0,810
SOLVENCY:																				25,00	15,000	16,500	22,960	19,120
Debt ratio		56,20	38,52	56,20	32,11	56,20	36,92	56,20	39,53	7	7	7	6	5	4	1,25	1,375	1,2	1,0125	5,00	7,000	7,700	6,720	4,860
Debt-Equity ratio		1,00	1,24	1,00	1,15	1,00	0,73	1,00	0,74	3	3	6	6	5	8	1,25	1,375	1,45	1,2375	10,00	6,000	6,800	13,920	11,880
Loan servicing %		15,66	32,54	15,66	29,74	15,66	23,73	15,66	22,20	1	1	1	1	5	8	1,25	1,375	1,45	1,4875	10,00	2,000	2,200	2,320	2,380
OPERATING:																				12,50	17,500	2,250	7,800	5,400
Operating surplus/deficit as % of retained income		74,00	360,45	74,00	(50,38)	74,00	55,37	74,00	4,75	7	1	3	1	5	5	1,25	1,125	1,3	1,1625	6,25	8,750	1,125	3,900	1,163
Retained surplus / accumulated deficit as % of total operating income		4,91	6,96	4,91	2,93	4,91	4,11	4,91	4,11	7	1	3	3	5	5	1,25	1,125	1,3	1,4125	6,25	8,750	1,125	3,900	4,236
B INSTITUTIONAL INDICATORS																				25,00	18,000	24,250	25,660	24,065
1 GENERAL MANAGEMENT AND ADMIN																				17,50	12,500	16,250	17,860	18,415
1.1 Internal audit function		7,00	7	7,00	7	7,00	7	7,00	7	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,50	2,500	2,500	2,500	2,500
1.2 Management information		2,00	2	2,00	2	2,00	2	2,00	2	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,50	2,500	2,500	2,500	2,500
1.3 Financial administration		3,00	2	3,00	2	3,00	2	3,00	2	3	3	3	3	5	4	1,25	1,25	1,25	1,25	5,00	3,000	3,000	3,000	3,000
1.4 Efficient budgetary control		5,00	6,00	5,00	4,74	5,00	1,37	5,00	3,10	3	6	7	7	5	4	1,25	1,375	1,45	1,2375	5,00	3,000	6,600	8,120	6,930
1.5 Salaries, Wages and Allowances %		28,00	30,29	28,00	30,48	28,00	32,67	28,00	30,66	3	3	3	3	5	2	1,25	1,375	1,45	1,2375	2,50	1,500	1,650	1,740	1,485
2 MISSION/STRATEGIES/POLICIES																				7,50	5,500	8,000	7,800	7,650
2.1 Formal organisation structure		4,00	4	4,00	4	4,00	4	4,00	4	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,50	2,500	2,500	2,500	2,500
2.2 Integrated development planning		5,00	4	5,00	5	5,00	5	5,00	5	3	5	5	5	5	2	1,25	1,375	1,325	1,2875	2,50	1,500	2,750	2,650	2,575
2.3 Pricing policies		3,00	2	3,00	3	3,00	3	3,00	3	3	5	5	5	5	2	1,25	1,375	1,325	1,2875	2,50	1,500	2,750	2,650	2,575
C ENVIRONMENTAL INDICATORS																				12,50	11,500	12,650	13,340	11,025
1 SOCIO-ECONOMIC		10,00	21	10,00	18	10,00	18	10,00	15	1	1	1	1	5	4	1,25	1,375	1,45	1,4875	5,00	1,000	1,100	1,160	1,190
2 ECO-POLITICAL		5,00	1,82	5,00	1,36	5,00	1,33	5,00	1,30	7	7	7	7	5	2	1,25	1,375	1,45	1,4875	2,50	3,500	3,850	4,060	4,165
3 DEPENDANCY FACTOR		10,00	0,0228	10,00	0,0193	10,00	0,0174	10,00	0,0349	7	7	7	7	5	4	1,25	1,375	1,45	1,0125	5,00	7,000	7,700	8,120	5,670
																				100,00	73,000	83,150	91,900	81,510

MUNICIPALITY B

BALANCE SHEET AS AT 30 JUNE:

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
CAPITAL EMPLOYED					
FUNDS AND RESERVES	65 422	76 257	80 298	86 609	100 290
Statutory funds	60 662	71 147	76 007	82 628	94 459
Reserves	4 760	5 110	4 291	3 981	5 831
UNAPPROPRIATED SURPLUS	209	2 878	(2 343)	(2 970)	(733)
	65 631	79 135	77 955	83 639	99 567
TRUST FUNDS	7 700	4 449	60	70	3 991
LONG-TERM LIABILITIES	50 311	46 267	71 447	88 550	83 085
CONSUMER DEPOSITS: SERVICES	3 134	3 429	3 325	3 544	4 385
	<u>126 776</u>	<u>132 280</u>	<u>152 787</u>	<u>175 812</u>	<u>190 988</u>
EMPLOYMENT OF CAPITAL					
FIXED ASSETS	88 934	92 204	105 998	118 073	132 362
INVESTMENTS	19 340	10 699	9 410	15 608	17 894
LONG-TERM DEBTORS	11 179	11 247	9 911	9 343	13 848
DEFERRED CHARGES	8 295				2 046
NET CURRENT LIABILITIES	(2)	18 130	27 470	31 788	25 150
CURRENT ASSETS	21 184	40 325	44 576	50 744	50 969
Inventory	2 259	2 616	3 510	3 662	3 915
Debtors	17 749	36 308	36 715	51 630	46 281
Cash	1 176	1 401	4 351	(4 548)	774
Short-term investments					
Short-term portion of long-term debtors					
CURRENT LIABILITIES	(21 186)	(22 195)	(17 106)	(18 956)	(25 819)
Provisions					
Creditors					
Short-term portion of long-term liabilities	20 626	17 118	16 908	18 838	23 884
Bank overdraft	560	5 077	198	118	1 935
	<u>126 776</u>	<u>132 280</u>	<u>152 787</u>	<u>175 812</u>	<u>190 988</u>

MUNICIPALITY B

INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE:

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
Actual Income	63 238	74 319	78 151	93 793	100 588
Rates and General Services	27 018	38 786	38 822	48 729	49 840
Housing Services	253	203	237	269	313
Trading Services	35 968	35 330	39 092	44 795	50 435
Actual Expenditure	62 411	70 866	80 946	93 387	99 973
Rates and General Services	34 614	41 930	48 678	54 894	58 538
Housing Services	355	269	253	361	402
Trading Services	27 442	28 667	32 015	38 132	41 033
Total Actual Surplus / (Deficit)	827	3 453	(2 795)	406	615
Appropriations for the year	(8 647)	(785)	(2 428)	(1 933)	(3 540)
Net Surplus / (Deficit) for the year	(5 820)	2 668	(5 221)	(627)	(2 925)
Unappropriated Surplus / (Deficit) at the beginning of the year	6 029	209	2 875	(2 343)	(2 970)
Unappropriated Surplus / (Deficit) at the end of the year	209	2 877	(2 343)	(2 970)	(5 895)

MUNICIPALITY B**CASH FLOW STATEMENT FOR THE YEAR ENDED 30 JUNE:**

	1996 R'000	1997 R'000	1998 R'000	1999 R'000
CASH FLOW FROM OPERATING ACTIVITIES				
Cash receipts from ratepayers, government and other	54 976	75 318	77 845	107 569
Cash paid to suppliers and employees	<u>(70 866)</u>	<u>(80 946)</u>	<u>(93 387)</u>	<u>(99 973)</u>
CASH GENERATED FROM OPERATIONS	<u>(15 890)</u>	<u>(5 628)</u>	<u>(15 542)</u>	<u>7 596</u>
CASH FLOW FROM INVESTING ACTIVITIES				
Purchase of property, plant and equipment	(2 597)	(14 686)	(13 229)	(13 532)
Long term debtors	<u>(68)</u>	<u>1 336</u>	<u>568</u>	<u>(4 203)</u>
NET CASH FROM INVESTING ACTIVITIES	<u>(2 665)</u>	<u>(13 350)</u>	<u>(12 661)</u>	<u>(17 735)</u>
CASH FLOW FROM FINANCING ACTIVITIES				
Loans repaid	(2 257)	25 970	19 042	(2 494)
Increase in consumer deposits	295	(104)	219	821
Other capital receipts	<u>20 742</u>	<u>(3 938)</u>	<u>43</u>	<u>17 133</u>
NET CASH FROM FINANCING ACTIVITIES	<u>18 780</u>	<u>21 928</u>	<u>19 304</u>	<u>15 461</u>
NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	<u>225</u>	<u>2 950</u>	<u>(8 899)</u>	<u>5 322</u>

MUNICIPALITY B

ADDITIONAL FINANCIAL INFORMATION:	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
INCOME AND INCOME STATEMENTS					
1 Loans Redeemed and Other Capital Receipts (Notes to Balance Sheet)	88 341	73 715	94 772	117 341	123 259
2 Total Debt Servicing Cost (Capital Charges) (Annexure D: Analysis of Operating Income and expenditure)	6 850	7 824	7 926	10 938	10 835
3 Intergovernmental Transfers/Subsidies	9 835	13 968	10 148	10 841	14 492
4 Income from single largest ratepayer	14 545	17 093	17 975	21 572	23 135
5 Total Salaries, Wages and Allowances	26 321	26 068	36 945	42 006	42 686
CAPITAL BUDGETS					
6 Approved Capital Budget Total	8 668	9 235	37 522	38 000	32 500
7 Actual Capital Budget Implemented	5 368	9 642	35 354	35 087	27 772
8 Total Capital Budget (following year)	9 235	37 522	38 000	32 500	30 000
OPERATING BUDGETS					
9 Total budgeted Income	60 500	74 319	79 593	89 992	98 931
10 Total budgeted Expenditure	68 324	70 866	85 772	89 992	102 360
11 Budgeted Surplus/(Deficit)	<u>(7 824)</u>	<u>3 453</u>	<u>(6 179)</u>	<u>0</u>	<u>(3 429)</u>
CASH FLOW STATEMENT					
12 Cash generated by Operations	2 284	(15 890)	(5 828)	(15 542)	7 599
13 INTEREST RATE					
Average interest rate (eg as per CLF allocation)	15.00%	15.00%	15.00%	15.00%	15.00%

INSTITUTIONAL AND ADMINISTRATIVE MUNICIPALITY B		94/95	95/96	96/97	97/98	97/98	98/99
		yes or no	yes or no	yes or no	yes or no	yes or no	yes or no
INSTITUTIONAL INDICATORS							
1	GENERAL MANAGEMENT AND ADMINISTRATION						
1.1	Existence of internal audit function: Audit programmes and procedures to deal with audit reports						
1.1.1	Does an internal audit function exist and is it provided for in the operating budget?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.2	Do internal audit programmes exist and provide for the future auditing activities for at least three months, and have the programmes been updated?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.3	Is "performance auditing" part of the audit programme?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.4	Does an audit procedures statement exist?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.5	Is a queries register updated continuously and are outstanding audit queries followed up and reported to the CEO?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.6	Do any of the auditing personnel have a formal accounting or auditing qualification or have more than 5 years auditing experience?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.7	Is the audit report qualified by the external auditors?	Y 0	N 1	N 1	N 1	N 1	N 1
1.2	Availability of management information on the operations in the current financial year						
1.2.1	Are updated budgetary reports distributed at least once a month to all departmental heads for information and control of the correctness of their specific votes?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.2.2	Are exception reports processed on request and per specification?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.3	Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports legally required						
1.3.1	Were the published annual financial statements for the financial year submitted to the provincial structures on 30 September, ie 3 months after the end of the financial year?	N 0	N 0	N 0	N 0	N 0	N 0
1.3.2	Were the annual budgets approved by the council on 30 June of the year preceding the applicable financial year?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.3.3	Does any audit report mention any legally required documentation not submitted on time?	Y 0	N 1	N 1	N 1	N 1	N 1

MUNICIPALITY B

2 DOCUMENTED MISSION STATEMENTS/STRATEGIES/POLICIES

2.1 Existence of a formal organisational structure in relation to the approved mission and strategies

2.1.1 Does a council approved mission statement, with strategies supporting it exist?

2.1.2 Does any formal council decision exist which endorses the organisational structure in terms of the approved mission and strategies?

2.1.3 Is an updated organisational diagram supporting the operational activities in terms of the approved policy available?

2.1.4 Do the organisational structure and the approved personnel budget agree?

2.2 Existence of an integrated development plan with supportive annual business plans on which annual budgets are based.

2.2.1 Does a development plan which addresses all of the following, exist: (physical township development planning, infrastructural needs, financial implications)?

2.2.2 Has the development plan been updated during the past three years?

2.2.3 Is there substantial evidence of community participation in the drafting and/or revision of the development plan?

2.2.4 Are the longer-term capital programme based on the development plan?

2.2.5 Is there an integrated development plan with supportive annual business plans on which annual budgets are based?

2.3 Formalised pricing policies for the different municipal services

2.3.1 Do formal, council approved policies for the determination of tariffs for the different municipal goods and services exist?

2.3.2 Are the pricing policies for economic services, housing and trading services based on cost recovery principles?

2.3.3 Is there any evidence of community involvement in the formulation of pricing policies?

	94/95	95/96	96/97	97/98	97/98	98/99
	yes or no					
		no	no	no	no	no
2.1.1	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.1.2	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.1.3	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.1.4	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.1	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.2	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.3	N 0	N 0	Y 1	Y 1	Y 1	Y 1
2.2.4	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.5	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.3.1	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.3.2	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.3.3	N 0	N 0	Y 1	Y 1	Y 1	Y 1

CREDITWORTHINESS PARAMETERS

		NORMS			
		95/96	96/97	97/98	98/99
A	FINANCIAL INDICATORS				
	LIQUIDITY:				
	Acid Test	1.94	1.94	1.94	1.94
	Net Working Capital Security	1.00	1.00	1.00	1.00
	Debtors Collection Period	54.00	54.00	54.00	54.00
	Debt/Cash Ratio	5.00	5.00	5.00	5.00
	SOLVABILITY:				
	Debt ratio	56.20	56.20	56.20	56.20
	Debt-Equity ratio	1.00	1.00	1.00	1.00
	Loan servicing %	15.86	15.86	15.86	15.86
	OPERATING:				
	Operating surplus/deficit as % of accumulated surplus/deficit	74.00	74.00	74.00	74.00
	Accumulated surplus/deficit as % of total operating income	4.91	4.91	4.91	4.91
B	INSTITUTIONAL INDICATORS				
	1 GENERAL MANAGEMENT AND ADMINISTRATION				
	1.1 Existence of internal audit function: Audit programmes and procedures to deal with audit reports.	7	7	7	7
	1.2 Availability of management information on the operations in the current financial year	2	2	2	2
	1.3 Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports legally required.	3	3	3	3
	1.4 Proof of efficient budgetary control and effective planning as indicated by variances of actual results from budgeted amounts. (Based on expenditure only)	10	10	10	10
	1.5 Salaries, Wages and Allowances as % of Total Expenditure	28	28	28	28
	2 DOCUMENTED MISSION STATEMENTS/STRATE- GIES/POLICIES				
	2.1 Existence of a formal organisation structure in relation to the approved mission and strategies.	3	3	3	3
	2.2 Existence of an integrated development plan with supportive annual business plans on which annual budgets are based.	4	4	4	4
	2.3 Formalised pricing policies for the different municipal services	2	2	2	2
C	ENVIRONMENTAL INDICATORS				
	1 SOCIO-ECONOMIC				
	1.1 Needs/Resources	10	10	10	10
	2 ECO-POLITICAL				
	2.1 Intergovernmental support	5	5	5	5
	3 DEPENDANCY FACTOR				
	3.1 Dependancy risk	10	10	10	10

CREDITWORTHINESS ANALYSIS		START YEAR	START YEAR	START YEAR	START YEAR	START YEAR	START YEAR	START YEAR	START YEAR	SCORE PER ANNUM (TRENDS EXCLUDED)				EQUIVALENT		TREND MULTIPLIER				BREAK EVEN	CREDITWORTHINESS SCORE			
		0	0	+1	+1	+2	+2	+3	+3	95/96	96/97	97/98	98/99	SCORE	VALUE	95/96	96/97	97/98	98/99		95/96	96/97	97/98	98/99
		NORM	VALUE	NORM	VALUE	NORM	VALUE	NORM	VALUE	SCORE	SCORE	SCORE	SCORE	NORM	MULTIPL	95/96	96/97	97/98	98/99		SCORE	SCORE	SCORE	SCORE
MUNICIPALITY B																				62.50	53,500	41,700	36,090	37,385
A FINANCIAL INDICATORS																				25.00	8,000	13,250	13,580	7,510
LIQUIDITY:																				7.50	4,500	9,900	10,440	3,915
Acid Test		1.94	1,6990	1.94	2,4007	1.94	2,4838	1.94	1,8225	3	8	8	3	5	6	1.25	1,375	1.45	1,0875	5.00	1,500	1,350	1,260	1,215
Working Capital Coverage		1.00	0,2369	1.00	0,1733	1.00	0,1659	1.00	0,0547	1	1	1	1	5	6	1.25	1,125	1.05	1,0125	5.00	1,000	1,100	0,840	1,180
Debtors Collection Period		54,00	178	54,00	171	54,00	201	54,00	168	1	1	1	1	5	4	1.25	1,375	1.05	1,4875	5.00	1,000	0,900	1,040	1,190
Debt/Cash Ratio		5,00	(2,8488)	5,00	(12,6949)	5,00	(5,6980)	5,00	10,9355	1	1	1	1	5	4	1.25	1,125	1.3	1,4875	5.00	1,000	0,800	1,040	1,190
SOLVENCY:																				25.00	33,000	28,200	20,160	27,700
Debt ratio		56,20	37,60	56,20	44,01	56,20	45,43	56,20	41,84	7	6	6	6	5	4	1.25	1,125	1.05	1,4125	5.00	7,000	5,400	5,040	6,780
Debt-Equity ratio		1,00	0,79	1,00	1,13	1,00	1,28	1,00	1,07	6	3	3	3	5	8	1.25	1,125	1.05	1,4125	10,00	12,000	5,400	5,040	6,780
Loan servicing %		15,86	10,28	15,86	10,14	15,86	11,66	15,86	10,77	7	7	6	7	5	8	1.25	1,375	1.05	1,2625	10,00	14,000	15,400	10,080	14,140
OPERATING:																				12.50	12,500	2,250	2,350	2,175
Operating surplus/deficit as % of retained income		74,00	1,276,58	74,00	(181,41)	74,00	(26,76)	74,00	(98,48)	7	1	1	1	5	5	1.25	1,125	1.3	1,1625	6,25	8,750	1,125	1,300	1,183
Retained surplus or accumulated deficit as % of total operating income		4,91	3,87	4,91	(3,00)	4,91	(3,17)	4,91	(5,88)	3	1	1	1	5	5	1.25	1,125	1.05	1,0125	6,25	3,750	1,125	1,050	1,013
B INSTITUTIONAL INDICATORS																				25,00	21,000	19,250	22,520	23,995
1 GENERAL MANAGEMENT																				17,50	15,500	11,250	14,720	16,345
1.1 Internal audit function		7,00	7	7,00	7	7,00	7	7,00	7	5	5	5	5	5	2	1.25	1,25	1.25	1,25	2,50	2,500	2,500	2,500	2,500
1.2 Management information		2,00	2	2,00	2	2,00	2	2,00	2	5	5	5	5	5	2	1.25	1,25	1.25	1,25	2,50	2,500	2,500	2,500	2,500
1.3 Financial administration		3,00	2	3,00	2	3,00	2	3,00	2	3	3	3	3	5	4	1.25	1,25	1.25	1,25	5,00	3,000	3,000	3,000	3,000
1.4 Efficient budgetary control		5,00	0,00	5,00	5,63	5,00	3,77	5,00	2,33	7	3	6	7	5	4	1.25	1,125	1.3	1,4125	5,00	7,000	2,700	6,240	7,910
1.5 Salaries, Wages and Allowances %		28,00	36,78	28,00	45,84	28,00	44,98	28,00	42,70	1	1	1	1	5	2	1.25	1,375	1.2	1,0875	2,50	0,500	0,550	0,480	0,435
2 MISSION/STRATEGIES/POLICIES																				7,50	5,500	8,000	7,800	7,850
2.1 Formal organisation structure		4,00	4	4,00	4	4,00	4	4,00	4	5	5	5	5	5	2	1.25	1,25	1.25	1,25	2,50	2,500	2,500	2,500	2,500
2.2 Integrated development planning		5,00	4	5,00	5	5,00	5	5,00	5	3	5	5	5	5	2	1.25	1,375	1,325	1,2875	2,50	1,500	2,750	2,850	2,575
2.3 Pricing policies		3,00	2	3,00	3	3,00	3	3,00	3	3	5	5	5	5	2	1.25	1,375	1,325	1,2875	2,50	1,500	2,750	2,850	2,575
C ENVIRONMENTAL INDICATORS																				12,50	2,500	2,650	2,740	2,825
1 SOCIO-ECONOMIC		10,00	24	10,00	24	10,00	21	10,00	21	1	1	1	1	5	4	1.25	1,375	1.45	1,4875	5,00	1,000	1,100	1,160	1,190
2 ECO-POLITICAL		5,00	18,79	5,00	12,98	5,00	11,56	5,00	14,41	1	1	1	1	5	2	1.25	1,375	1.45	1,0875	2,50	0,500	0,550	0,580	0,435
3 DEPENDANCY FACTOR		10,00	23,0000	10,00	23,0000	10,00	23,0000	10,00	23,0000	1	1	1	1	5	4	1.25	1,25	1.25	1,25	5,00	1,000	1,000	1,000	1,000
																				100,00	77,000	63,800	61,350	64,905

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MUNICIPALITY C

BALANCE SHEET AS AT 30 JUNE:

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
CAPITAL EMPLOYED					
FUNDS AND RESERVES	126 472	144 551	149 788	248 196	217 427
Statutory funds	113 535	130 768	142 505	166 272	176 751
Reserves	12 937	13 783	7 283	81 924	37 676
UNAPPROPRIATED SURPLUS	(31 191)	(31 223)	(25 722)	927	7 342
	95 281	113 328	124 066	249 123	224 769
TRUST FUNDS	2 585	3 603	4 150	4 848	4 870
LONG-TERM LIABILITIES	112 211	125 112	101 893	33 950	85 941
CONSUMER DEPOSITS: SERVICES	5 403	5 732	5 977	6 475	6 955
	<u>215 480</u>	<u>247 775</u>	<u>236 086</u>	<u>294 196</u>	<u>322 535</u>
EMPLOYMENT OF CAPITAL					
FIXED ASSETS	182 223	202 803	200 875	210 933	252 438
INVESTMENTS	16 505	7 449	6 152	6 228	11 812
LONG-TERM DEBTORS	33 815	17 201	16 415	14 414	13 211
DEFERRED CHARGES	0	141	0	0	0
NET CURRENT LIABILITIES	3 134	20 381	13 533	62 621	45 074
CURRENT ASSETS	60 609	76 491	100 212	126 145	117 345
Inventory	2 083	3 064	2 855	2 858	3 488
Debtors	53 884	73 427	96 882	121 937	112 453
Cash	4 872	0	0	0	0
Short-term investments					
Short-term portion of long-term debtors			895	1 320	1 427
CURRENT LIABILITIES	(57 475)	(56 110)	(86 679)	(63 524)	(72 271)
Provisions	0	0	3 403	5 812	2 085
Creditors	56 883	49 862	87 211	48 501	56 273
Short-term portion of long-term liabilities	672	390	5 817	0	3 126
Bank overdraft	0	5 918	7 446	9 211	9 877
	<u>215 480</u>	<u>247 775</u>	<u>236 086</u>	<u>294 196</u>	<u>322 535</u>

MUNICIPALITY C

INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE:

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
Actual Income	182 831	191 859	229 615	270 976	284 466
Rates and General Services	59 545	66 342	81 448	107 040	102 306
Housing Services	6 397	2 317	4 243	4 056	5 539
Trading Services	116 789	123 200	143 923	159 845	176 721
Actual Expenditure	184 038	201 063	228 458	261 216	284 302
Rates and General Services	77 316	89 912	102 748	110 988	123 813
Housing Services	5 395	2 946	3 107	2 978	4 589
Trading Services	101 326	108 205	122 603	147 252	155 900
Total Actual Surplus / (Deficit)	(1 207)	(9 204)	1 157	9 760	164
Appropriations for the year	(1 848)	9 172	4 344	19 889	6 351
Net Surplus / (Deficit) for the year	(3 055)	(32)	5 501	26 649	6 415
Unappropriated Surplus / (Deficit) at the beginning of the year	(26 136)	(31 191)	(31 223)	(25 722)	927
Unappropriated Surplus / (Deficit) at the end of the year	(31 191)	(31 223)	(25 722)	927	7 342

MUNICIPALITY C**CASH FLOW STATEMENT FOR THE YEAR ENDED 30 JUNE:**

	1996	1997	1998	1999
	R	R	R	R
CASH FLOW FROM OPERATING ACTIVITIES				
Cash receipts from ratepayers, government and other	181 558	210 724	262 560	300 231
Cash paid to suppliers and employees	<u>(208 004)</u>	<u>(207 706)</u>	<u>(277 517)</u>	<u>(279 347)</u>
CASH GENERATED FROM OPERATIONS	<u>(26 446)</u>	<u>3 018</u>	<u>(14 957)</u>	<u>20 884</u>
CASH FLOW FROM INVESTING ACTIVITIES				
Property, plant and equipment	(41 361)	2 037	(10 161)	(42 112)
Long term debtors	16 417	1 785	1 002	1 203
NET CASH FROM INVESTING ACTIVITIES	<u>(24 944)</u>	<u>3 822</u>	<u>(9 159)</u>	<u>(40 909)</u>
CASH FLOW FROM FINANCING ACTIVITIES				
Loans	12 418	(15 686)	(76 985)	55 010
Consumer deposits	329	245	498	480
Other capital	<u>34 071</u>	<u>8 601</u>	<u>100 603</u>	<u>(35 465)</u>
NET CASH FROM FINANCING ACTIVITIES	<u>46 818</u>	<u>(6 840)</u>	<u>24 116</u>	<u>20 025</u>
NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	<u>(4 572)</u>	<u>0</u>	<u>0</u>	<u>0</u>

MUNICIPALITY C**ADDITIONAL FINANCIAL INFORMATION:**

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
1 Loans Redeemed and Other Capital Receipts (Notes to Balance Sheet)	123 224	228 508	252 253	283 860	310 767
2 Total Debt Servicing Cost (Capital Charges) (Annexure D: Analysis of Operating Income and expenditure)	26 275	19 857	19 347	18 876	27 415
3 Intergovernmental Transfers/Subsidies	20 004	16 629	13 249	15 216	15 100
4 Income from single largest ratepayer	32	33	47	72	113
5 Total Salaries, Wages and Allowances	98 624	50 258	50 234	61 448	67 458
CAPITAL BUDGETS					
6 Approved Capital Budget Total	0	17 892	25 000	38 000	26 290
7 Actual Capital Budget Implemented	41 262	17 363	23 662	43 284	40 817
8 Total Capital Budget (Following year)	17 892	25 000	38 000	26 290	34 834
OPERATING BUDGETS					
9 Total budgeted income	0	217 133	230 000	250 901	300 000
10 Total budgeted Expenditure	0	219 489	230 000	250 811	298 000
11 Budgeted Surplus/(Deficit)	<u>0</u>	<u>(2 356)</u>	<u>0</u>	<u>90</u>	<u>2 000</u>
CASH FLOW STATEMENT					
12 Cash generated by Operations	31 235	(26 446)	3 018	(14 957)	20 884
INTEREST RATE					
13 Average interest rate (eg as per CLF allocation)	0.00%	16.40%	14.20%	14.38%	15.00%

INSTITUTIONAL AND ADMINISTRATIVE MUNICIPALITY C		94/95	95/96	96/97	97/98	97/98	98/99
		yes or no	yes or no	yes or no	yes or no	yes or no	yes or no
INSTITUTIONAL INDICATORS							
1	GENERAL MANAGEMENT AND ADMINISTRATION						
1.1	Existence of internal audit function: Audit programmes and procedures to deal with audit reports						
1.1.1	Does an internal audit function exist and is it provided for in the operating budget?	N 0	N 0	Y 1	Y 1	Y 1	Y 1
1.1.2	Do internal audit programmes exist and provide for the future auditing activities for at least three months, and have the programmes been updated?	N 0	N 0	Y 1	Y 1	Y 1	Y 1
1.1.3	Is "performance auditing" part of the audit programme?	N 0	N 0	Y 1	Y 1	Y 1	Y 1
1.1.4	Does an audit procedures statement exist?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.5	Is a queries register updated continuously and are outstanding audit queries followed up and reported to the CEO?	N 0	N 0	Y 1	Y 1	Y 1	Y 1
1.1.6	Do any of the auditing personnel have a formal accounting or auditing qualification or have more than 5 years auditing experience?	N 0	N 0	Y 1	Y 1	Y 1	Y 1
1.1.7	Is the audit report qualified by the external auditors?	Y 0	Y 0	Y 0	Y 0	Y 0	N 1
1.2	Availability of management information on the operations in the current financial year						
1.2.1	Are updated budgetary reports distributed at least once a month to all departmental heads for information and control of the correctness of their specific votes?	N 0	N 0	Y 1	Y 1	Y 1	Y 1
1.2.2	Are exception reports processed on request and per specification?	N 0	N 0	Y 1	Y 1	Y 1	Y 1
1.3	Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports legally required						
1.3.1	Were the published annual financial statements for the financial year submitted to the provincial structures on 30 September, ie 3 months after the end of the financial year?	N 0	N 0	N 0	N 0	N 0	N 0
1.3.2	Were the annual budgets approved by the council on 30 June of the year preceding the applicable financial year?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
1.3.3	Do any audit report mention any legally required documentation not submitted on time?	N 1	N 1	N 1	N 1	N 1	N 1

CREDITWORTHINESS PARAMETERS

		NORMS			
		95/96	96/97	97/98	98/99
A	FINANCIAL INDICATORS				
	LIQUIDITY:				
	Acid Test	1.94	1.94	1.94	1.94
	Net Working Capital Security	1.00	1.00	1.00	1.00
	Debtors Collection Period	54.00	54.00	54.00	54.00
	Debt/Cash Ratio	5.00	5.00	5.00	5.00
	SOLVABILITY:				
	Debt ratio	56.20	56.20	56.20	56.20
	Debt-Equity ratio	1.00	1.00	1.00	1.00
	Loan servicing %	15.86	15.86	15.86	15.86
	OPERATING:				
	Operating surplus/deficit as % of accumulated surplus/deficit	74.00	74.00	74.00	74.00
	Accumulated surplus/deficit as % of total operating income	4.91	4.91	4.91	4.91
B	INSTITUTIONAL INDICATORS				
	1 GENERAL MANAGEMENT AND ADMINISTRATION				
1,1	Existence of internal audit function: Audit programmes and procedures to deal with audit reports.	7	7	7	7
1,2	Availability of management information on the operations in the current financial year	2	2	2	2
1,3	Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports legally required.	3	3	3	3
1,4	Proof of efficient budgetary control and effective planning as indicated by variances of actual results from budgeted amounts. (Based on expenditure only)	10	10	10	10
1,5	Salaries, Wages and Allowances as % of Total Expenditure	26	26	26	26
	2 DOCUMENTED MISSION STATEMENTS/STRATE- GIES/POLICIES				
2,1	Existence of a formal organisation structure in relation to the approved mission and strategies.	3	3	3	3
2,2	Existence of an integrated development plan with supportive annual business plans on which annual budgets are based.	4	4	4	4
2,3	Formalised pricing policies for the different municipal services	2	2	2	2
C	ENVIRONMENTAL INDICATORS				
	1 SOCIO-ECONOMIC				
1,1	Needs/Resources	10	10	10	10
	2 ECO-POLITICAL				
2,1	Intergovernmental support	5	5	5	5
	3 DEPENDANCY FACTOR				
3,1	Dependancy risk	10	10	10	10

MUNICIPALITY D

BALANCE SHEET AS AT 30 JUNE:

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
CAPITAL EMPLOYED					
FUNDS AND RESERVES	140 854	126 933	138 053	153 608	186 821
Statutory funds	136 750	122 817	133 840	146 874	181 489
Reserves	4 104	4 316	4 413	3 834	5 352
UNAPPROPRIATED SURPLUS	(134 664)	(29 219)	(26 822)	12 089	13 115
	5 990	97 714	111 231	165 697	199 936
TRUST FUNDS	18 478	18 608	10 830	11 487	18 849
LONG-TERM LIABILITIES	50 332	30 195	22 246	13 157	13 452
CONSUMER DEPOSITS: SERVICES	7 373	7 483	7 674	6 070	8 123
	80 173	153 978	151 981	198 391	240 160
EMPLOYMENT OF CAPITAL					
FIXED ASSETS	106 645	158 815	102 599	148 833	148 322
INVESTMENTS	39 821	29 806	1 876	2 100	3 924
LONG-TERM DEBTORS	17 232	12 256	19 842	14 409	20 715
DEFERRED CHARGES					0
NET CURRENT LIABILITIES	(143 525)	(46 899)	(32 336)	32 983	67 199
CURRENT ASSETS	54 096	64 626	71 732	85 644	89 533
Inventory	2 450	2 154	2 371	2 532	2 890
Debtors	49 689	59 878	58 059	57 845	53 118
Cash	1 787	2 494	11 303	25 287	33 527
Short-term investments					
Short-term portion of long-term debtors					
CURRENT LIABILITIES	(197 621)	(111 525)	(104 068)	(52 661)	(22 334)
Provisions	10 356	7 649	7 503	7 282	7 015
Creditors	187 094	101 197	88 667	43 381	11 235
Short-term portion of long-term liabilities	171	2 478	7 898	2 018	4 084
Bank overdraft					
	80 173	153 978	151 981	198 391	240 160

MUNICIPALITY D

INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE:

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
Actual Income	235 226	267 300	305 841	363 163	380 748
Rates and General Services	74 075	82 955	87 943	101 441	112 585
Housing Services	868	710	1 302	959	1 248
Trading Services	160 283	183 635	216 596	260 763	266 915
Actual Expenditure	246 763	304 396	329 298	358 660	375 752
Rates and General Services	95 566	118 680	120 126	122 680	111 541
Housing Services	1 115	675	726	384	942
Trading Services	150 082	185 041	208 446	235 596	263 269
Total Actual Surplus / (Deficit)	(11 537)	(37 096)	(23 457)	4 503	4 996
Appropriations for the year	(12 194)	142 741	25 854	34 408	(3 970)
Net Surplus / (Deficit) for the year	(23 731)	105 645	2 397	38 911	1 026
Unappropriated Surplus / (Deficit) at the beginning of the year	(111 133)	(134 854)	(29 219)	(26 822)	12 089
Unappropriated Surplus / (Deficit) at the end of the year	(134 864)	(29 219)	(26 822)	12 089	13 115

MUNICIPALITY D

CASH FLOW STATEMENT FOR THE YEAR ENDED 30 JUNE:

	1996 R'000	1997 R'000	1998 R'000	1999 R'000
CASH FLOW FROM OPERATING ACTIVITIES				
Cash receipts from ratepayers, government and other	399 922	333 615	397 784	381 507
Cash paid to suppliers and employees	(392 800)	(342 174)	(404 187)	(408 145)
CASH GENERATED FROM OPERATIONS	<u>7 122</u>	<u>(8 559)</u>	<u>(6 403)</u>	<u>(26 638)</u>
CASH FLOW FROM INVESTING ACTIVITIES				
Purchase of property, plant and equipment	8 128	(4 001)	13 605	153
Long term debtors	4 978	(7 586)	5 433	(6 306)
NET CASH FROM INVESTING ACTIVITIES	<u>13 102</u>	<u>(11 587)</u>	<u>19 038</u>	<u>(6 153)</u>
CASH FLOW FROM FINANCING ACTIVITIES				
Loans repaid	(17 829)	(2 530)	(14 969)	2 361
Increase in consumer deposits	90	211	396	53
Other capital receipts	(1 778)	31 274	15 902	38 637
NET CASH FROM FINANCING ACTIVITIES	<u>(19 517)</u>	<u>28 955</u>	<u>1 329</u>	<u>41 051</u>
NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	<u>707</u>	<u>8 809</u>	<u>13 964</u>	<u>8 260</u>

MUNICIPALITY D

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
ADDITIONAL FINANCIAL INFORMATION: INCOME AND INCOME STATEMENTS					
1 Loans Redeemed and Other Capital Receipts (Notes to Balance Sheet)	234 624	271 572	303 052	359 927	373 711
2 Total Debt Servicing Cost (Capital Charges) (Annexure D: Analysis of Operating Income and expenditure)	19 053	27 057	25 158	26 150	28 005
3 Intergovernmental Transfers/Subsidies	7 622	14 024	12 155	14 909	15 831
4 Income from single largest ratepayer	1 000	1 100	1 200	1 250	1 300
5 Total Salaries, Wages and Allowances	58 583	69 131	78 932	83 584	93 675
CAPITAL BUDGETS					
6 Approved Capital Budget Total	0	106 064	95 509	99 317	43 500
7 Actual Capital Budget Implemented	32 872	29 576	36 072	41 458	33 200
8 Total Capital Budget (Following year)	106 064	95 509	99 317	43 500	67 000
OPERATING BUDGETS					
	19,5	19,6	19,7	19,8	1 999
9 Total budgeted Income	0	269 191	301 067	345 272	382 000
10 Total budgeted Expenditure	0	278 822	304 308	345 171	382 000
11 Budgeted Surplus/(Deficit)	<u>0</u>	<u>(9 631)</u>	<u>(3 241)</u>	<u>101</u>	<u>0</u>
CASH FLOW STATEMENT					
12 Cash generated by Operations	0	7 122	(8 559)	(6 403)	(26 638)
13 INTEREST RATE					
Average interest rate (eg as per CLF allocation)	7,85%	7,85%	8,00%	8,50%	8,50%

INSTITUTIONAL AND ADMINISTRATIVE MUNICIPALITY D		94/95	95/96	96/97	97/98	97/98	98/99
		yes or no	yes or no	yes or no	yes or no	yes or no	yes or no
INSTITUTIONAL INDICATORS							
1	GENERAL MANAGEMENT AND ADMINISTRATION						
1,1	Existence of internal audit function: Audit programmes and procedures to deal with audit reports						
1.1.1	Does an internal audit function exist and is it provided for in the operating budget?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.2	Do internal audit programmes exist and provide for the future auditing activities for at least three months, and have the programmes been updated?	N 0	N 0	Y 1	Y 1	Y 1	Y 1
1.1.3	Is "performance auditing" part of the audit programme?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.4	Does an audit procedures statement exist?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.5	Is a queries register updated continuously and are outstanding audit queries followed and reported to the CEO?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.6	Do any of the auditing personnel have a formal accounting or auditing qualification or have more than 5 years auditing experience?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.7	Was the audit report qualified by the external auditors?	Y 1	N 1	N 0	N 0	N 0	N 0
1,2	Availability of management information on the operations in the current financial year						
1.2.1	Are updated budgetary reports distributed at least once a month to all departmental heads for information and control of the correctness of their specific votes?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
1.2.2	Are exception reports processed on request and per specification?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
1,3	Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports legally required						
1.3.1	Were the published annual financial statements for the financial year submitted to the provincial structures on 30 September, ie 3 months after the end of the financial year?	N 0	N 0	N 0	N 0	N 0	N 0
1.3.2	Were the annual budgets approved by the council on 30 June of the year preceding the applicable financial year?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
1.3.3	Does any audit report mention any legally required documentation not submitted on time?	N 1	N 1	N 1	N 1	N 1	N 1

MUNICIPALITY D

		94/95	95/96	96/97	97/98	97/98	98/99
		yes or no					
			no	no	no	no	no
2	DOCUMENTED MISSION STATEMENTS/STRATEGIES/POLICIES						
2.1	Existence of a formal organisational structure in relation to the approved mission and strategies						
2.1.1	Does a council approved mission statement, with strategies supporting it, exist?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
2.1.2	Does any formal council decision exist which endorses the organisational structure in terms of the approved mission and strategies?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
2.1.3	Is an updated organisational diagram supporting the operational activities in terms of the approved policy available?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
2.1.4	Do the organisational structure and the approved personnel budget agree?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
2.2	Existence of an integrated development plan with supportive annual business plans on which annual budgets are based.						
2.2.1	Does a development plan which addresses all of the following exist: (physical township development planning, infrastructural needs, financial implications)?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.2	Has the development plan been updated during the past three years?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.3	Is there substantial evidence of community participation in the drafting and/or revision of the development plan?	N 0	N 0	Y 1	Y 1	Y 1	Y 1
2.2.4	Is the longer-term capital programme based on the development plan?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.5	Is there an integrated development plan with supportive annual business plans on which annual budgets are based?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
2.3	Formalised pricing policies for the different municipal services						
2.3.1	Do formal, council approved policies for the determination of tariffs for the different municipal goods and services exist?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
2.3.2	Are the pricing policies for economic services, housing and trading services based on cost recovery principles?	Y 1	Y 1	Y 1	Y 1	Y 1	Y 1
2.3.3	Is there any evidence of community involvement in the formulation of pricing policies?	N 0	N 0	Y 1	Y 1	Y 1	Y 1

CREDITWORTHINESS PARAMETERS

		NORMS			
		95/96	96/97	97/98	98/99
A	FINANCIAL INDICATORS				
	LIQUIDITY:				
	Acid Test	1.94	1.94	1.94	1.94
	Net Working Capital Security	1.00	1.00	1.00	1.00
	Debtors Collection Period	54.00	54.00	54.00	54.00
	Debt/Cash Ratio	5.00	5.00	5.00	5.00
	SOLVABILITY:				
	Debt ratio	56.20	56.20	56.20	56.20
	Debt-Equity ratio	1.00	1.00	1.00	1.00
	Loan servicing %	15.86	15.86	15.86	15.86
	OPERATING:				
Operating surplus/deficit as % of accumulated surplus/deficit	74.00	74.00	74.00	74.00	
Accumulated surplus/deficit as % of total operating income	4.91	4.91	4.91	4.91	
B	INSTITUTIONAL INDICATORS				
1	GENERAL MANAGEMENT AND ADMINISTRATION				
1,1	Existence of internal audit function: Audit programmes and procedures to deal with audit reports.	7	7	7	7
1,2	Availability of management information on the operations in the current financial year	2	2	2	2
1,3	Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports legally required.	3	3	3	3
1,4	Proof of efficient budgetary control and effective planning as indicated by variances of actual results from budgeted amounts. (Based on expenditure only)	10	10	10	10
1,5	Salaries, Wages and Allowances as % of Total Expenditure	28	28	28	28
2	DOCUMENTED MISSION STATEMENTS/STRATEGIES/POLICIES				
2,1	Existence of a formal organisation structure in relation to the approved mission and strategies.	3	3	3	3
2,2	Existence of an integrated development plan with supportive annual business plans on which annual budgets are based.	4	4	4	4
2,3	Formalised pricing policies for the different municipal services	2	2	2	2
C	ENVIRONMENTAL INDICATORS				
1	SOCIO-ECONOMIC				
1,1	Needs/Resources	10	10	10	10
2	ECO-POLITICAL				
2,1	Intergovernmental support	5	5	5	5
3	DEPENDANCY FACTOR				
3,1	Dependency risk	10	10	10	10

CREDITWORTHINESS ANALYSIS		START	START	START	START	START	START	START	START	SCORE PER ANNUM (TRENDS EXCLUDED)				EQUI-		START	START	START	START	BREAK	CREDITWORTHINESS SCORE			
		YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	95/96	96/97	97/98	98/99	SCORE	VALUE	95/96	96/97	97/98	98/99		FINAL SCORE PER ANNUM (TRENDS INCLUDED)	95/96	96/97	97/98	98/99
MUNICIPALITY D		0	0	+1	+1	+2	+2	+3	+3	SCORE	SCORE	SCORE	SCORE	NORM	MULTIPL	95/96	96/97	97/98	98/99	EVEN	SCORE	SCORE	SCORE	SCORE
A FINANCIAL INDICATORS																				62,50	54,750	48,200	67,160	85,325
LIQUIDITY:																				25,00	11,000	7,200	14,960	22,250
Acid Test		1,94	0,5602	1,94	0,8865	1,94	1,5782	1,94	3,6794	1	1	3	7	5	6	1,25	1,375	1,45	1,4875	7,50	1,500	1,850	5,220	12,495
Working Capital Coverage		1,00	(0,0508)	1,00	(0,3257)	1,00	0,6298	1,00	0,5213	1	1	3	1	5	6	1,25	1,125	1,45	1,2375	7,50	1,500	1,350	5,220	1,485
Debtors Collection Period		54,00	82	54,00	89	54,00	56	54,00	51	1	3	3	6	5	4	1,25	1,375	1,45	1,4875	5,00	1,000	3,300	3,480	7,140
Debt/Cash Ratio		5,00	4,2397	5,00	(2,5991)	5,00	(2,0548)	5,00	(0,5050)	7	1	1	1	5	4	1,25	1,125	1,3	1,4125	5,00	7,000	0,900	1,040	1,130
SOLVENCY:																				25,00	35,000	38,500	40,600	37,450
Debt ratio		56,20	7,59	56,20	6,47	56,20	2,93	56,20	3,36	7	7	7	7	5	4	1,25	1,375	1,45	1,2375	5,00	7,000	7,700	8,120	8,930
Debt-Equity ratio		1,00	0,33	1,00	0,27	1,00	0,09	1,00	0,09	7	7	7	7	5	8	1,25	1,375	1,45	1,4875	10,00	14,000	15,400	16,240	16,660
Loan servicing %		15,86	10,13	15,86	8,23	15,86	7,20	15,86	7,36	7	7	7	7	5	8	1,25	1,375	1,45	1,2375	10,00	14,000	15,400	16,240	13,860
OPERATING:																				12,50	8,750	2,500	11,600	5,625
Operating surplus/deficit as % of accumulated surplus/deficit		74,00	78,33	74,00	8,20	74,00	145,07	74,00	8,49	6	1	7	1	5	5	1,25	1,125	1,45	1,1625	6,25	7,500	1,125	10,150	1,163
Accumulated surplus/deficit as % of total operating income		4,91	(10,93)	4,91	(8,77)	4,91	3,33	4,91	3,44	1	1	1	3	5	5	1,25	1,375	1,45	1,4875	6,25	1,250	1,375	1,450	4,463
B INSTITUTIONAL INDICATORS																				25,00	16,500	19,400	24,640	26,550
1 GENERAL MANAGEMENT																				17,50	11,000	11,400	16,840	18,900
1.1 Internal audit function		7,00	6	7,00	6	7,00	6	7,00	6	3	3	3	3	5	2	1,25	1,25	1,25	1,25	2,50	1,500	1,500	1,500	1,900
1.2 Management information		2,00	2	2,00	2	2,00	2	2,00	2	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,50	2,500	2,500	2,500	2,500
1.3 Financial administration		3,00	2	3,00	2	3,00	2	3,00	2	3	3	3	3	5	4	1,25	1,25	1,25	1,25	5,00	3,000	3,000	3,000	3,000
1.4 Efficient budgetary control		5,00	9,17	5,00	8,21	5,00	3,91	5,00	1,64	1	1	6	7	5	4	1,25	1,375	1,45	1,4875	5,00	1,000	1,100	6,860	8,330
1.5 Salaries, Wages and Allowances %		28,00	22,71	28,00	23,67	28,00	23,30	28,00	24,93	6	6	6	6	5	2	1,25	1,375	1,2	1,4875	2,50	3,000	3,300	2,880	3,570
2 MISSION/STRATEGIES/POLICIES																				7,50	5,500	6,000	7,800	7,650
2.1 Formal organisation structure		4,00	4	4,00	4	4,00	4	4,00	4	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,50	2,500	2,500	2,500	2,500
2.2 Integrated development planning		5,00	4	5,00	3	5,00	5	5,00	5	3	5	5	5	5	2	1,25	1,375	1,325	1,2875	2,50	1,500	2,750	2,650	2,575
2.3 Pricing policies		3,00	2	3,00	3	3,00	3	3,00	3	3	5	5	5	5	2	1,25	1,375	1,325	1,2875	2,50	1,500	2,750	2,650	2,575
C ENVIRONMENTAL INDICATORS																				12,50	9,500	11,900	12,160	11,930
1 SOCIO-ECONOMIC		10,00	33	10,00	34	10,00	23	10,00	27	1	1	1	1	5	4	1,25	1,125	1,45	1,2375	5,00	1,000	0,900	1,160	0,990
2 ECO-POLITICAL		5,00	5,25	5,00	3,97	5,00	4,11	5,00	4,16	3	6	6	6	5	2	1,25	1,375	1,2	1,0875	2,50	1,500	3,300	2,880	2,610
3 DEPENDANCY FACTOR		10,00	0,41152	10,00	0,39236	10,00	0,34420	10,00	0,34143	7	7	7	7	5	4	1,25	1,375	1,45	1,4875	5,00	7,000	7,700	8,120	8,330
																				100,00	80,750	79,500	103,960	103,805

MUNICIPALITY E

BALANCE SHEET AS AT 30 JUNE:

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
CAPITAL EMPLOYED					
FUNDS AND RESERVES	346 786	407 515	511 458	539 154	641 547
Statutory funds	332 401	391 811	495 139	517 840	565 906
Reserves	14 385	15 904	16 319	21 514	55 641
UNAPPROPRIATED SURPLUS	(117 239)	(118 890)	(101 807)	51 742	53 882
	229 548	288 855	409 651	590 896	695 429
TRUST FUNDS	49 250	48 836	47 440	49 331	50 341
LONG-TERM LIABILITIES	150 368	125 185	56 997	52 202	61 049
CONSUMER DEPOSITS: SERVICES	13 750	14 463	15 000	17 555	20 046
	<u>442 916</u>	<u>474 139</u>	<u>529 088</u>	<u>710 314</u>	<u>846 865</u>
EMPLOYMENT OF CAPITAL					
FIXED ASSETS	296 748	343 348	358 298	389 755	406 747
INVESTMENTS	54 555	11 660	11 580	10 789	43 823
LONG-TERM DEBTORS	560	4 148	4 494	12 127	9 630
DEFERRED CHARGES	1 134	1 085	638	52	41
NET CURRENT LIABILITIES	89 919	113 918	153 797	291 591	386 624
CURRENT ASSETS	201 697	263 819	315 271	396 297	493 598
Inventory	9 657	9 101	9 656	9 887	11 508
Debtors	185 657	237 949	291 602	338 622	398 679
Cash	483	889	493	4 568	6 191
Short-term investments	6 500	16 000	13 120	43 020	77 020
Short-term portion of long-term debtors					
CURRENT LIABILITIES	(111 778)	(149 901)	(161 474)	(104 706)	(106 974)
Provisions	15 551	15 580	16 577	15 574	16 153
Creditors	70 555	56 314	136 110	89 052	66 765
Short-term portion of long-term liabilities	25 672	78 027	9 787	80	50
Bank overdraft					
	<u>442 916</u>	<u>474 139</u>	<u>529 088</u>	<u>710 314</u>	<u>846 865</u>

MUNICIPALITY E

INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE:

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
Actual Income	607 363	660 739	741 599	823 907	878 271
Rates and General Services	257 395	279 778	314 357	349 286	391 480
Housing Services	1 053	1 080	1 112	1 134	1 136
Trading Services	348 915	379 881	426 130	473 487	485 655
Actual Expenditure	585 627	640 573	718 121	792 501	846 858
Rates and General Services	286 262	285 247	326 117	345 896	370 973
Housing Services	12 312	10 703	12 916	16 363	6 134
Trading Services	317 053	344 623	379 088	430 242	467 751
Total Actual Surplus / (Deficit)	21 736	20 166	23 478	31 406	31 413
Appropriations for the year	156	(21 586)	(6 625)	122 143	(29 273)
Net Surplus / (Deficit) for the year	21 892	(1 422)	16 853	153 549	2 140
Unappropriated Surplus / (Deficit) at beginning of the year	(139 130)	(117 238)	(118 660)	(101 807)	51 742
Unappropriated Surplus / (Deficit) at the end of the year	(117 238)	(118 660)	(101 807)	51 742	53 882

MUNICIPALITY E

CASH FLOW STATEMENT FOR THE YEAR ENDED 30 JUNE:

	1996 R	1997 R	1998 R	1999 R
CASH FLOW FROM OPERATING ACTIVITIES				
Cash receipts from ratepayers, government and other	586 859	681 121	899 030	788 941
Cash paid to suppliers and employees	(654 805)	(635 308)	(842 562)	(844 566)
CASH GENERATED FROM OPERATIONS	<u>(67 946)</u>	<u>45 813</u>	<u>56 468</u>	<u>(55 625)</u>
CASH FLOW FROM INVESTING ACTIVITIES				
Purchase of property, plant and equipment	(46 724)	(15 625)	(31 488)	(18 613)
Long term debtors	(3 588)	(346)	(7 633)	2 497
NET CASH FROM INVESTING ACTIVITIES	<u>(50 312)</u>	<u>(15 971)</u>	<u>(39 121)</u>	<u>(16 116)</u>
CASH FLOW FROM FINANCING ACTIVITIES				
Loans	27 241	(139 002)	(10 915)	28 834
Increase in consumer deposits	713	537	2 885	2 161
Other capital receipts	100 010	105 547	24 658	76 369
NET CASH FROM FINANCING ACTIVITIES	<u>127 964</u>	<u>(32 918)</u>	<u>16 628</u>	<u>107 364</u>
NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	<u><u>9 706</u></u>	<u><u>(3 076)</u></u>	<u><u>33 975</u></u>	<u><u>35 623</u></u>

MUNICIPALITY E

	1995 R'000	1996 R'000	1997 R'000	1998 R'000	1999 R'000
ADDITIONAL FINANCIAL INFORMATION:					
INCOME AND INCOME STATEMENTS					
1 Loans Redeemed and Other Capital Receipts (Notes to Balance Sheet)	548 628	643 858	803 449	1 045 503	1 184 170
2 Total Debt Servicing Cost (Capital Charges) (Annexure D: Analysis of Operating Income and expenditure)	57 492	97 857	107 805	110 884	92 942
3 Intergovernmental Transfers/Subsidies	24 392	30 075	26 365	38 550	31 593
4 Income from single largest ratepayer	980	1 020	1 110	1 270	1 290
5 Total Salaries, Wages and Allowances	160 084	181 231	209 680	227 774	249 306
CAPITAL BUDGETS					
6 Approved Capital Budget Total		177 462	255 365	306 440	337 564
7 Actual Capital Budget Implemented	90 674	125 693	236 691	186 305	169 625
8 Total Capital Budget (Following year)	177 462	255 365	306 440	337 564	349 970
OPERATING BUDGETS					
9 Total budgeted Income	0	640 032	684 810	811 955	728 681
10 Total budgeted Expenditure	0	692 377	735 205	809 176	726 946
11 Budgeted Surplus/(Deficit)	0	(52 345)	(50 395)	2 780	1 735
CASH FLOW STATEMENT					
12 Cash generated by Operations	196 076	(87 946)	45 813	56 468	(55 625)
INTEREST RATE					
13 Average interest rate (eg as per CLF allocation)	14.00%	14.42%	14.42%	15.78%	15.00%

INSTITUTIONAL AND ADMINISTRATIVE MUNICIPALITY E		94/95	95/96	96/97	97/98	97/98	98/99
		yes or no	yes or no	yes or no	yes or no	yes or no	yes or no
INSTITUTIONAL INDICATORS							
1	GENERAL MANAGEMENT AND ADMINISTRATION						
1.1	Existence of internal audit function: Audit programmes and procedures to deal with audit reports						
1.1.1	Does an internal audit function exist and is it provided for in the operating budget?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.2	Do internal audit programmes exist and provide for the future auditing activities for at least three months, and have the programmes been updated?	N 0	Y 0	Y 1	Y 1	Y 1	Y 1
1.1.3	Is "performance auditing" part of the audit programme?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.4	Does an audit procedures statement exist?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.5	Is a queries register updated continuously and are outstanding audit queries followed up and reported to the CEO?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.6	Do any of the auditing personnel have a formal accounting or auditing qualification or have more than 5 years auditing experience?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.1.7	Is the audit report qualified by the external auditors?	Y 0	N 1	N 0	N 0	N 0	N 0
1.2	Availability of management information on the operations in the current financial year						
1.2.1	Are updated budgetary reports distributed at least once a month to all departmental heads for information and control of the correctness of their specific votes?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.2.2	Are exception reports processed on request and per specification?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.3	Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports legally required						
1.3.1	Were the published annual financial statements for the financial year submitted to the provincial structures on 30 September, ie 3 months after the end of the financial year?	N 0	N 0	N 0	N 0	N 0	N 0
1.3.2	Were the annual budgets approved by the council on 30 June of the year preceding the applicable financial year?	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
1.3.3	Does any audit report mention any legally required documentation not submitted on time?	N 0	N 1	N 1	N 1	N 1	N 1

MUNICIPALITY E

2 DOCUMENTED MISSION STATEMENTS/STRATEGIES/POLICIES

2.1 Existence of a formal organisational structure in relation to the approved mission and strategies

2.1.1 Does a council approved mission statement, with strategies supporting it exist?

2.1.2 Does any formal council decision exist which endorsew the organisational structure in terms of the approved mission and strategies?

2.1.3 Is an updated organisational diagram supporting the operational activities in terms of the approved policy available?

2.1.4 Do the organisational structure and the approved personnel budget agree?

2.2 Existence of an integrated development plan with supportive annual business plans on which annual budgets are based.

2.2.1 Does a development plan which addresses all of the following exist: (physical township development planning, infrastructural needs, financial implications)?

2.2.2 Has the development plan been updated during the past three years?

2.2.3 Is there substantial evidence of community participation in the drafting and/or revision of the development plan?

2.2.4 Is the longer-term capital programme based on the development plan?

2.2.5 Is there an integrated development plan with supportive annual business plans on which annual budgets are based?

2.3 Formalised pricing policies for the different municipal services

2.3.1 Do formal, council approved policies for the determination of tariffs for the different municipal goods and services exist?

2.3.2 Are the pricing policies for economic services, housing and trading services based on cost recovery principles?

2.3.3 Is there any evidence of community involvement in the formulation of pricing policies?

	94/95 yes or no	95/96 yes or no	96/97 yes or no	97/98 yes or no	97/98 yes or no	98/99 yes or no
2.1.1	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.1.2	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.1.3	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.1.4	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.1	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.2	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.3	N 0	N 0	Y 1	Y 1	Y 1	Y 1
2.2.4	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.2.5	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.3.1	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.3.2	N 0	Y 1	Y 1	Y 1	Y 1	Y 1
2.3.3	N 0	N 0	Y 1	Y 1	Y 1	Y 1

CREDITWORTHINESS PARAMETERS

		NORMS			
		95/96	96/97	97/98	98/99
A	FINANCIAL INDICATORS				
	LIQUIDITY:				
	Acid Test	1.94	1.94	1.94	1.94
	Net Working Capital Security	1.00	1.00	1.00	1.00
	Debtors Collection Period	54.00	54.00	54.00	54.00
	Debt/Cash Ratio	5.00	5.00	5.00	5.00
	SOLVABILITY:				
	Debt ratio	56.20	56.20	56.20	56.20
	Debt-Equity ratio	1.00	1.00	1.00	1.00
	Loan servicing %	15.86	15.86	15.86	15.86
	OPERATING:				
	Operating surplus/deficit as % of accumulated surplus/deficit	74.00	74.00	74.00	74.00
	Accumulated surplus/deficit as % of total operating income	4.91	4.91	4.91	4.91
B	INSTITUTIONAL INDICATORS				
	1 GENERAL MANAGEMENT AND ADMINISTRATION				
	1.1 Existence of internal audit function: Audit programmes and procedures to deal with audit reports.	7	7	7	7
	1.2 Availability of management information on the operations in the current financial year	2	2	2	2
	1.3 Financial administration as reflected in the timeliness of books, accounts, reconciliations and reports legally required.	3	3	3	3
	1.4 Proof of efficient budgetary control and effective planning as indicated by variances of actual results from budgeted amounts. (Based on expenditure only)	10	10	10	10
	1.5 Salaries, Wages and Allowances as % of Total Expenditure	28	28	28	28
	2 DOCUMENTED MISSION STATEMENTS/STRATE- GIES/POLICIES				
	2.1 Existence of a formal organisation structure in relation to the approved mission and strategies.	3	3	3	3
	2.2 Existence of an integrated development plan with supportive annual business plans on which annual budgets are based.	4	4	4	4
	2.3 Formalised pricing policies for the different municipal services	2	2	2	2
C	ENVIRONMENTAL INDICATORS				
	1 SOCIO-ECONOMIC				
	1.1 Needs/Resources	10	10	10	10
	2 ECO-POLITICAL				
	2.1 Intergovernmental support	5	5	5	5
	3 DEPENDANCY FACTOR				
	3.1 Dependency risk	10	10	10	10

CREDITWORTHINESS ANALYSIS		START YEAR 0 95/96	START YEAR 0 95/96	START YEAR +1 96/97	START YEAR +1 96/97	START YEAR +2 97/98	START YEAR +2 97/98	START YEAR +3 98/99	START YEAR +3 98/99	SCORE PER ANNUM (TRENDS EXCLUDED)				EQUI-VALENT SCORE	EQUI-VALENT VALUE	START JR 95/96	START +1 96/97	START +2 97/98	START +3 98/99	BREAK EVEN	CREDITWORTHINESS SCORE			
MUNICIPALITY E		NORM	VALUE	NORM	VALUE	NORM	VALUE	NORM	VALUE	95/96 SCORE	96/97 SCORE	97/98 SCORE	98/99 SCORE	NORM	MULTIP	95/96	96/97	97/98	98/99		95/96 SCORE	96/97 SCORE	97/98 SCORE	98/99 SCORE
A	FINANCIAL INDICATORS																			62,50	41,500	47,350	72,850	61,922
	LIQUIDITY:																			25,00	8,000	8,300	15,720	15,960
	Acid Test	1,94	1,6987	1,94	1,8914	1,94	3,6904	1,94	4,5066	3	3	7	7	5	6	1,25	1,375	1,45	1,4875	7,50	4,500	4,950	12,180	12,495
	Working Capital Coverage	1,00	0,1593	1,00	0,0946	1,00	0,1689	1,00	0,2218	1	1	1	1	5	6	1,25	1,125	1,45	1,4875	7,50	1,500	1,350	1,740	1,785
	Debtors Collection Period	54,00	131	54,00	144	54,00	150	54,00	166	1	1	1	1	5	4	1,25	1,125	1,05	1,0125	5,00	1,000	0,900	0,840	0,810
	Debt/Cash Ratio	5,00	(1,8424)	5,00	1,2441	5,00	0,9245	5,00	(1,4571)	1	1	1	1	5	4	1,25	1,375	1,2	1,0875	5,00	1,000	1,100	0,960	0,870
	SOLVENCY:																			25,00	31,000	36,300	38,280	37,450
	Debt ratio	56,20	20,58	56,20	5,49	56,20	3,64	56,20	5,10	7	7	7	7	5	4	1,25	1,375	1,45	1,2375	5,00	7,000	7,700	8,120	6,930
	Debt-Equity ratio	1,00	0,70	1,00	0,16	1,00	0,09	1,00	0,12	6	7	7	7	5	8	1,25	1,375	1,45	1,2375	10,00	12,000	15,400	16,240	13,860
	Loan servicing %	15,86	14,81	15,86	14,51	15,86	13,43	15,86	10,58	6	6	6	7	5	8	1,25	1,375	1,45	1,4875	10,00	12,000	13,200	13,920	16,660
	OPERATING:																			12,50	2,500	2,750	18,850	8,513
	Operating surplus/deficit as % of accumulated surplus/deficit	74,00	(1,21)	74,00	14,20	74,00	150,82	74,00	4,14	1	1	7	1	5	5	1,25	1,375	1,45	1,0875	6,25	1,250	1,375	10,150	1,088
	Accumulated surplus/deficit as % of total operating income	4,91	(17,96)	4,91	(13,73)	4,91	6,28	4,91	6,14	1	1	6	6	5	5	1,25	1,375	1,45	1,2375	6,25	1,250	1,375	8,700	7,425
B	INSTITUTIONAL INDICATORS																			25,00	16,000	25,350	25,360	18,245
	1 GENERAL MANAGEMENT																			17,50	10,500	17,350	17,560	10,595
	1.1 Internal audit function	7,00	7	7,00	7	7,00	7	7,00	7	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,50	2,500	2,500	2,500	2,500
	1.2 Management information	2,00	2	2,00	2	2,00	2	2,00	2	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,50	2,500	2,500	2,500	2,500
	1.3 Financial administration	3,00	2	3,00	2	3,00	2	3,00	2	3	3	3	3	5	4	1,25	1,25	1,25	1,25	5,00	3,000	3,000	3,000	3,000
	1.4 Efficient budgetary control	5,00	7,48	5,00	2,32	5,00	2,06	5,00	16,50	1	7	7	1	5	4	1,25	1,375	1,45	1,0125	5,00	1,000	7,700	8,120	0,810
	1.5 Salaries, Wages and Allowances %	28,00	28,29	28,00	29,20	28,00	28,74	28,00	29,44	3	3	3	3	5	2	1,25	1,375	1,2	1,4875	2,50	1,500	1,650	1,440	1,785
	2 MISSION/STRATEGIES/POLICIES																			7,50	5,500	8,000	7,800	7,650
	2.1 Formal organisation structure	4,00	4	4,00	4	4,00	4	4,00	4	5	5	5	5	5	2	1,25	1,25	1,25	1,25	2,50	2,500	2,500	2,500	2,500
	2.2 Integrated development planning	5,00	4	5,00	5	5,00	5	5,00	5	3	5	5	5	5	2	1,25	1,375	1,325	1,2875	2,50	1,500	2,750	2,650	2,575
	2.3 Pricing policies	3,00	2	3,00	3	3,00	3	3,00	3	3	5	5	5	5	2	1,25	1,375	1,325	1,2875	2,50	1,500	2,750	2,650	2,575
C	ENVIRONMENTAL INDICATORS																			12,50	11,000	11,900	10,400	12,350
	1 SOCIO-ECONOMIC	10,00	21	10,00	21	10,00	21	10,00	23	1	1	1	1	5	4	1,25	1,125	1,45	1,0125	5,00	1,000	0,900	1,160	0,810
	2 ECO-POLITICAL	5,00	4,55	5,00	3,56	5,00	4,68	5,00	3,60	6	6	6	6	5	2	1,25	1,375	1,05	1,3375	2,50	3,000	3,300	2,520	3,210
	3 DEPENDANCY FACTOR	10,00	0,15437	10,00	0,14968	10,00	0,15414	10,00	0,14688	7	7	7	7	5	4	1,25	1,375	1,2	1,4875	5,00	7,000	7,700	6,720	8,330
																				100,00	68,500	84,800	108,810	92,517

DEVELOPMENT BANK OF SOUTHERN AFRICA

MEMORANDUM



TO: DEON SCOTT (UNISA)

FROM: Dr. OSCAR SOMERS

DATE: 2001/03/26

TESTING OF RESULTS OF RATING MODEL.

You have requested that DBSA determine the credit ratings of your five sample municipalities using DBSA's credit rating methodologies.

The rating model of DBSA is used to determine the risk level of a municipality. The rating score is then used to price for risk (interest rate) and to mitigate some of the risk by calling for collateral (security). The risk rating determines what per centage of a loan should be covered by collateral.

DBSA apply six risk levels. Two levels of low risk, two levels of medium risk and two levels of high risk as follows:

Low:	Very Good
Low:	Satisfactory
Medium:	Acceptable
Medium:	Vulnerable
High:	Weak
High:	Unacceptable

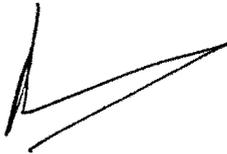
The following table compares DBSA's results for the five municipalities with the results of your model: (The highest score possible with DBSA rating model =100)

Municipality	1997/98: Scott	1997/98: DBSA	1998/99: Scott	1998/99: DBSA
A	91,9	65: Low Satisfactory	81,5	60: Medium Acceptable
B	61,3	37: Medium Vulnerable	64,0	40: Medium Vulnerable
C	98,3	68: Low Satisfactory	88,4	64: Low Satisfactory
D	103,9	72: Low Satisfactory	103,8	72: Low Satisfactory
E	108,6	75: Low Satisfactory	92,5	65: Low Satisfactory

It is clear from the results that your model and the DBSA model are providing consistent results. Where your model shows a decline in the creditworthiness of a municipality DBSA model also indicates towards a higher risk level (a lower rating score).

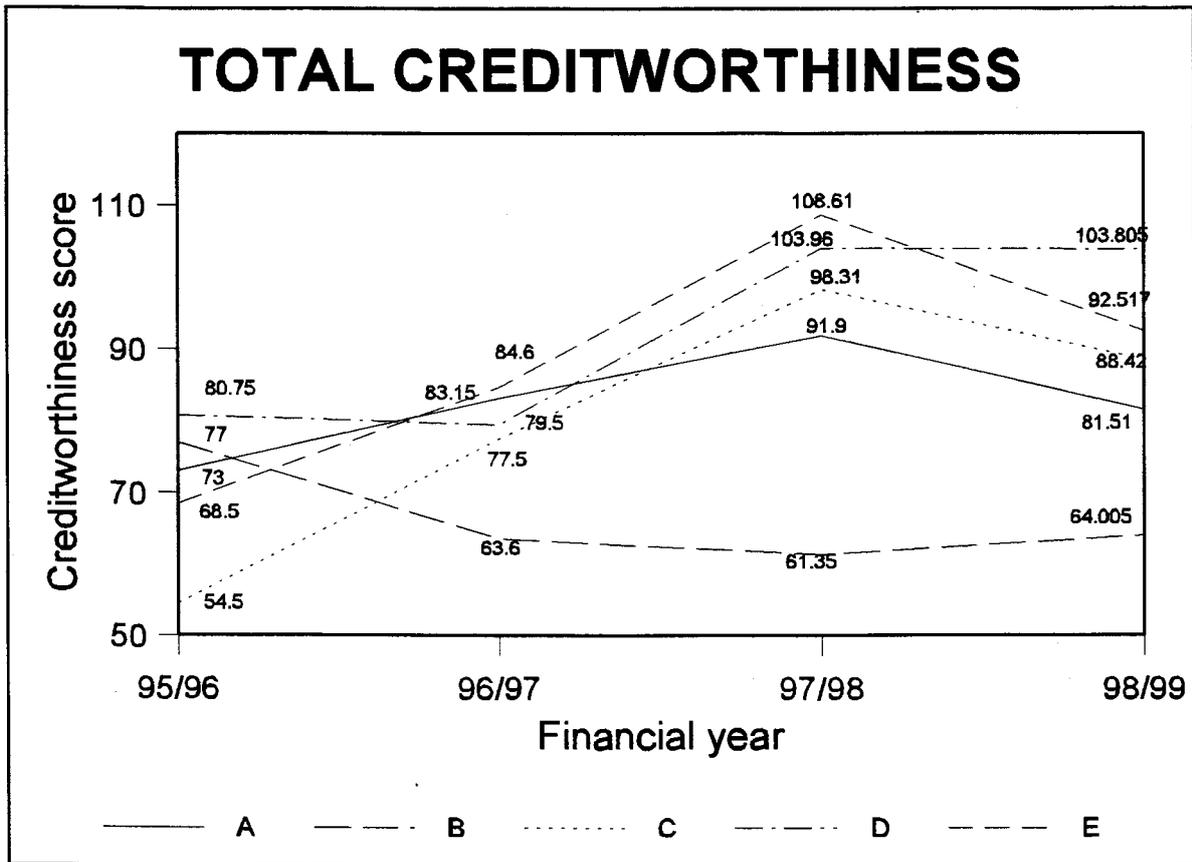
The DBSA credit rating model for municipalities is a fourth version of the model that was implemented more than five years ago. We constantly are updating the model by adjusting the indicator norms or the weights of an indicator in the model, as our experience and research demand that. There is no universal set of indicators or norms that is applicable to all types of clients. Although DBSA uses the same methodology in determining the risk profiles of different categories of clients, the indicators, norms for the same indicator and the weights of the indicators in the different rating models can and do differ. DBSA has four different credit rating models in use: municipalities, utilities, parastatals and universities.

Please contact me should you need more information on the risk methodologies applied by the DBSA.



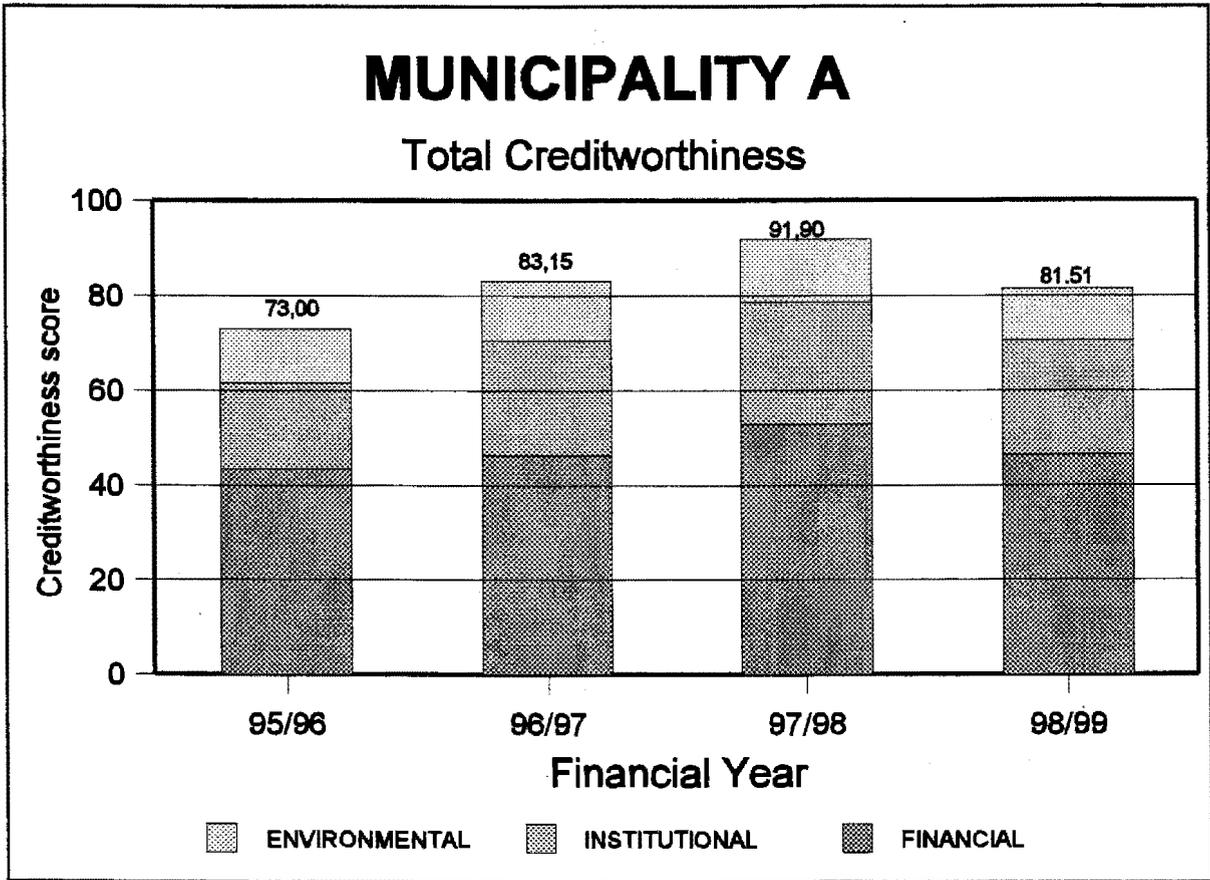
Dr. Oscar Somers
Specialist: Public Finance

FIGURE A



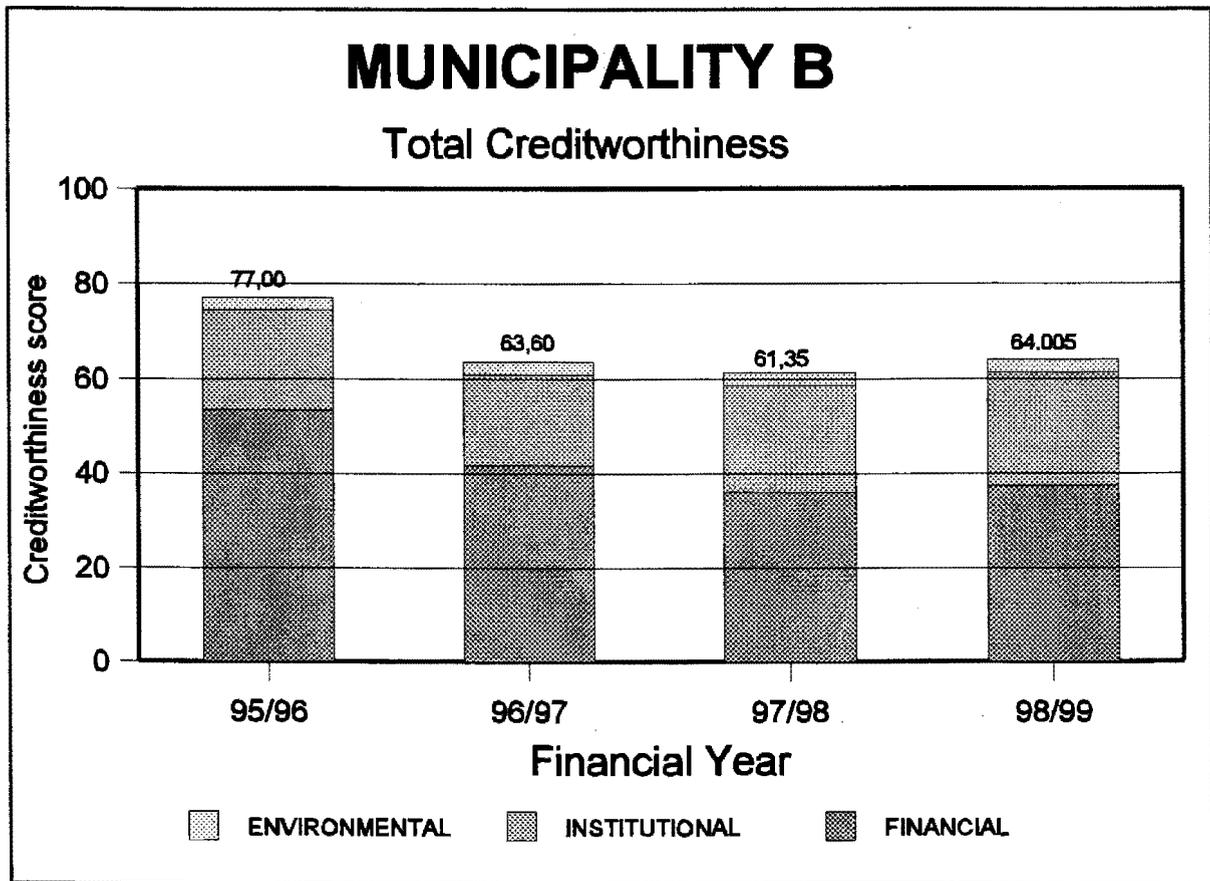
TOTAL CREDITWORTHINESS: ALL MUNICIPALITIES

FIGURE B



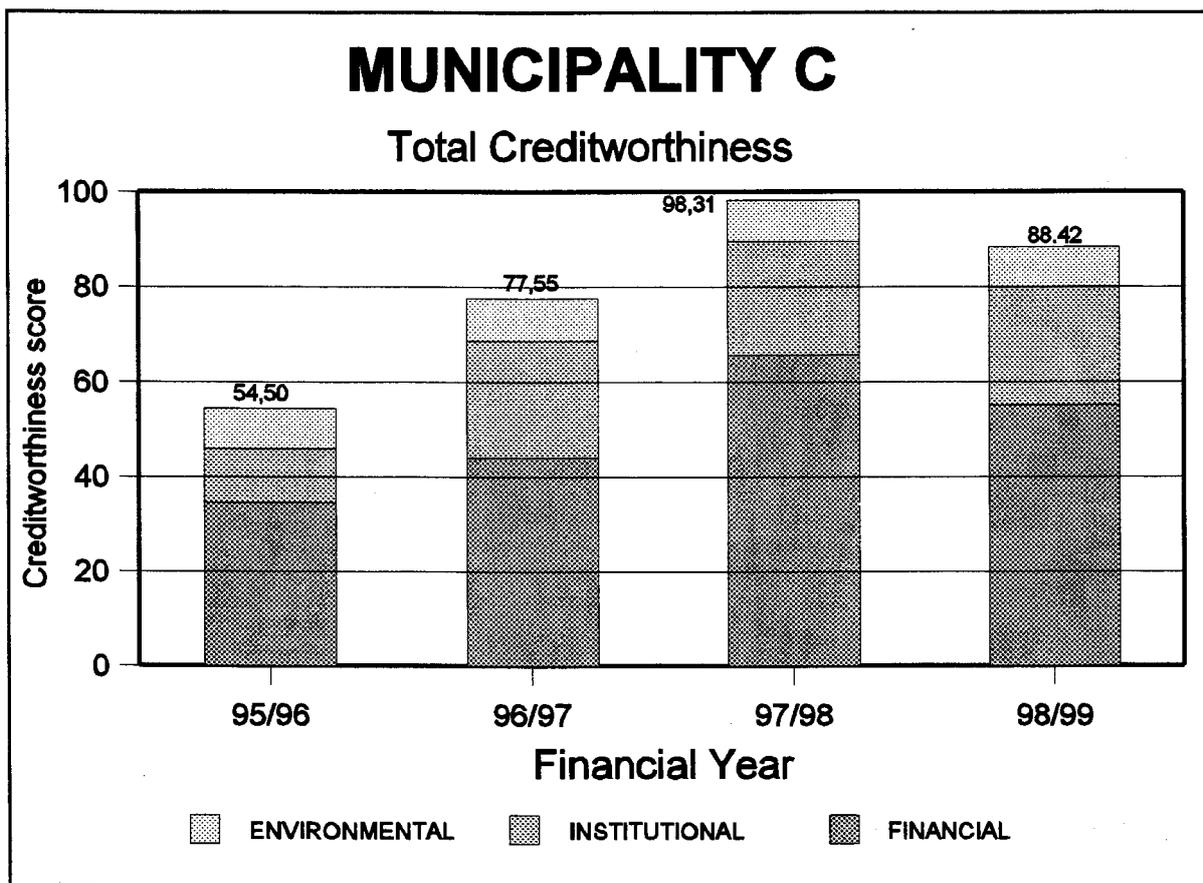
TOTAL CREDITWORTHINESS: MUNICIPALITY A

FIGURE C



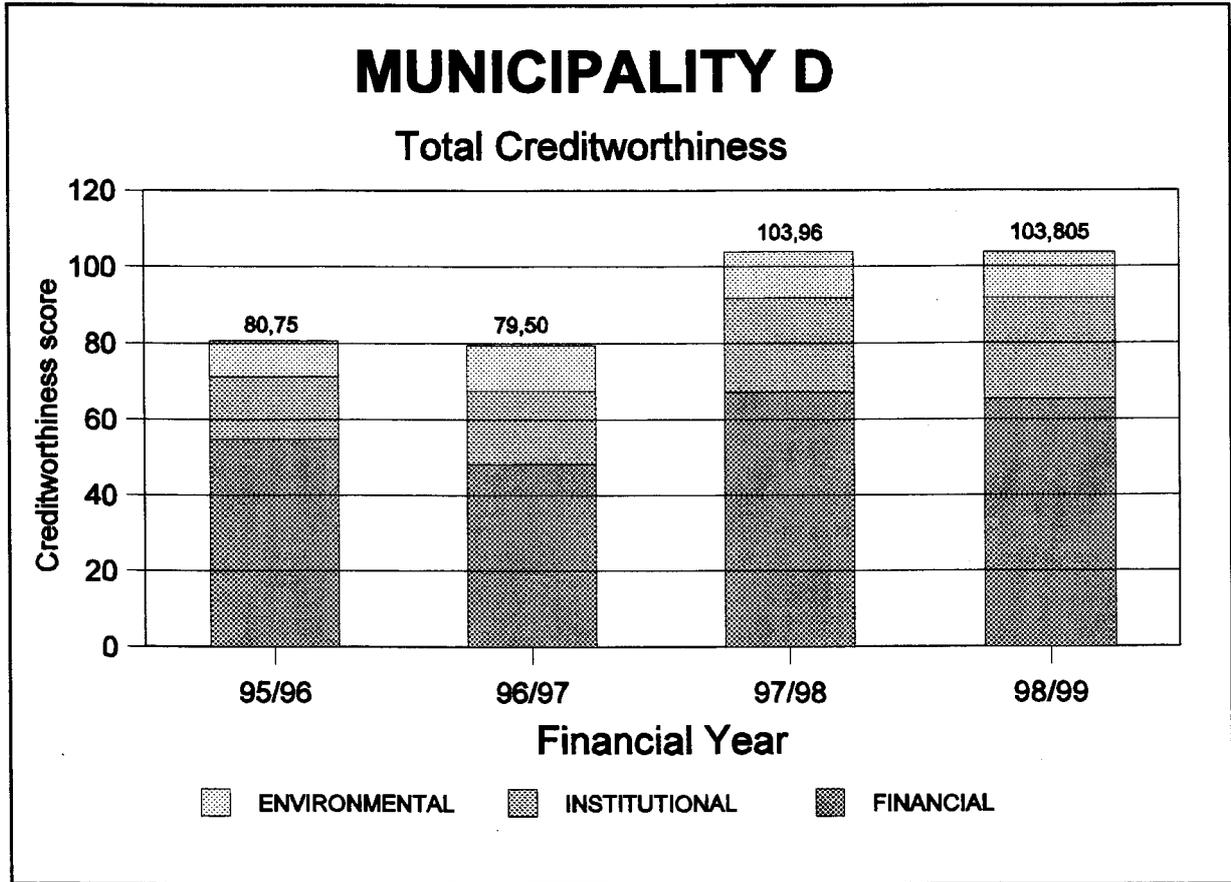
TOTAL CREDITWORTHINESS: MUNICIPALITY B

FIGURE D



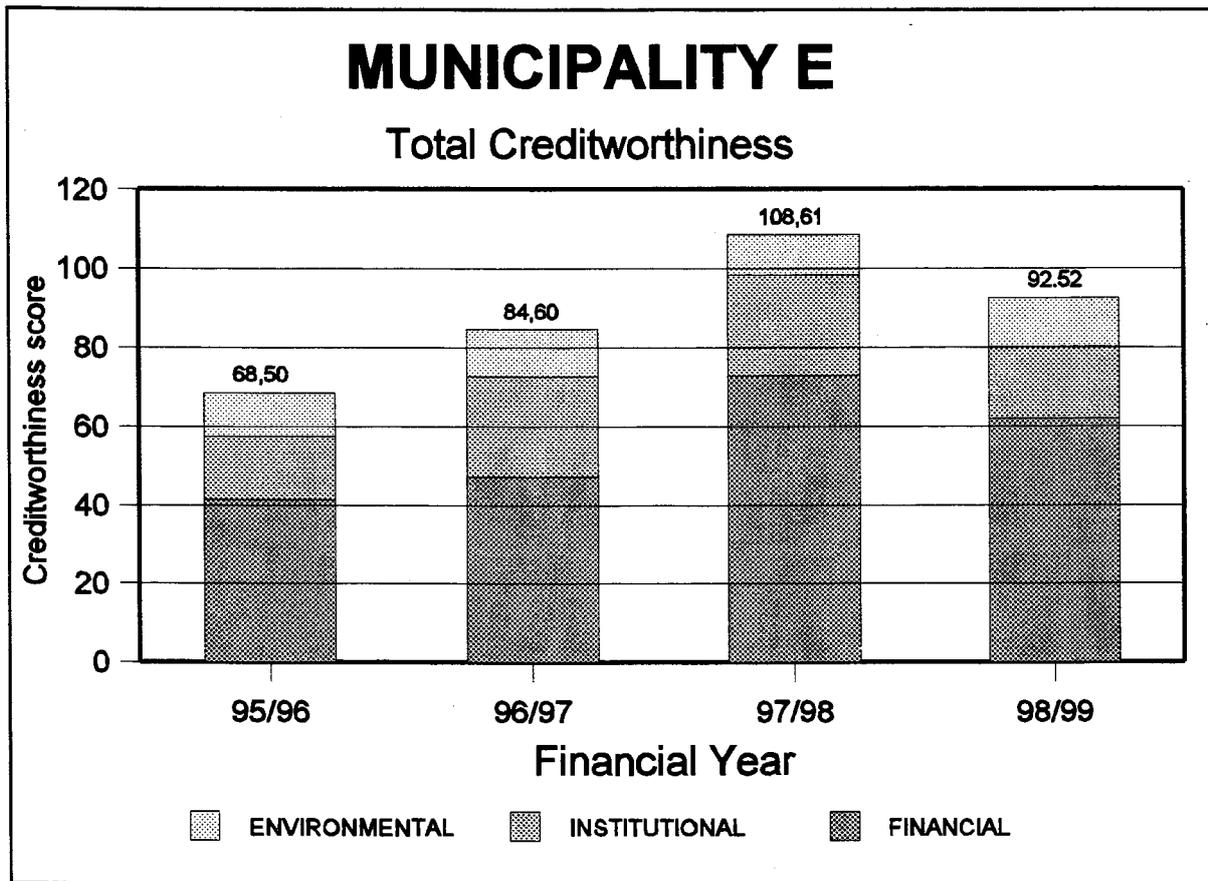
TOTAL CREDITWORTHINESS: MUNICIPALITY C

FIGURE E



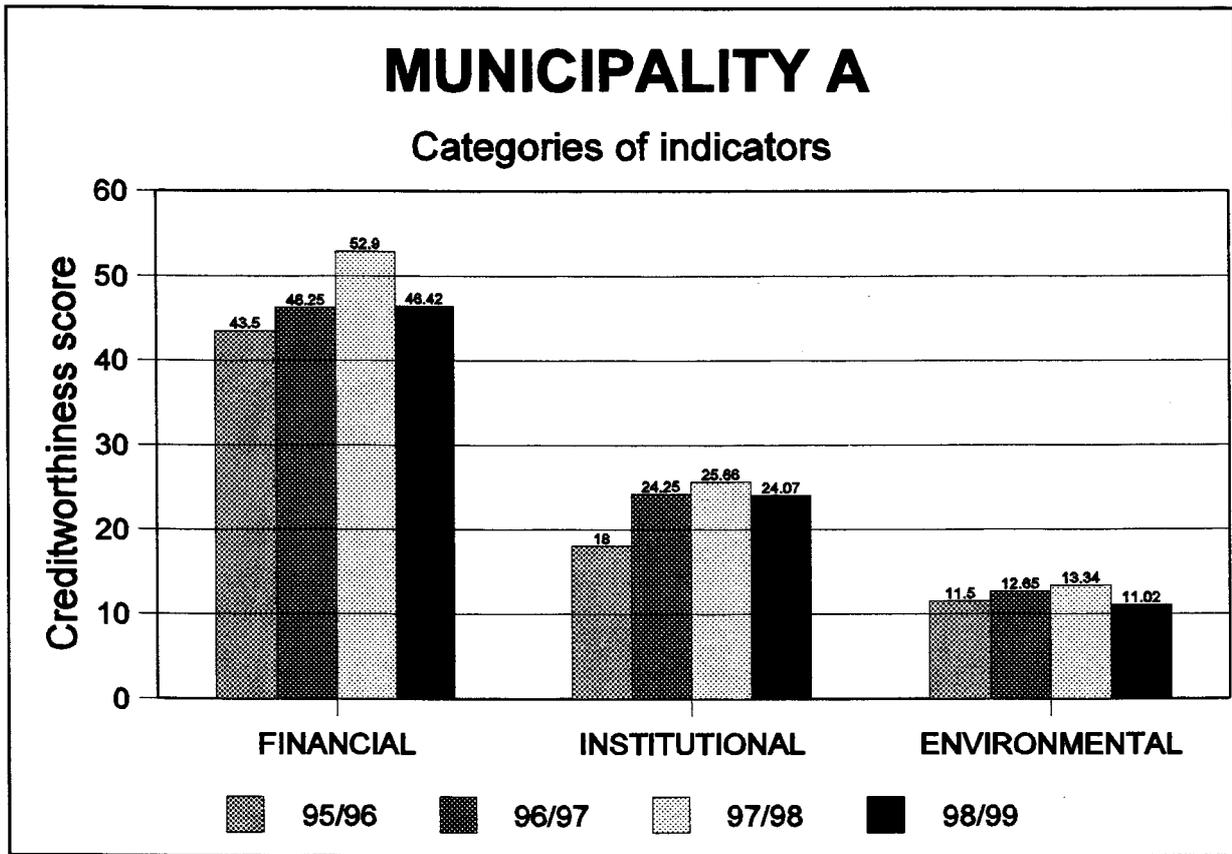
TOTAL CREDITWORTHINESS: MUNICIPALITY D

FIGURE F



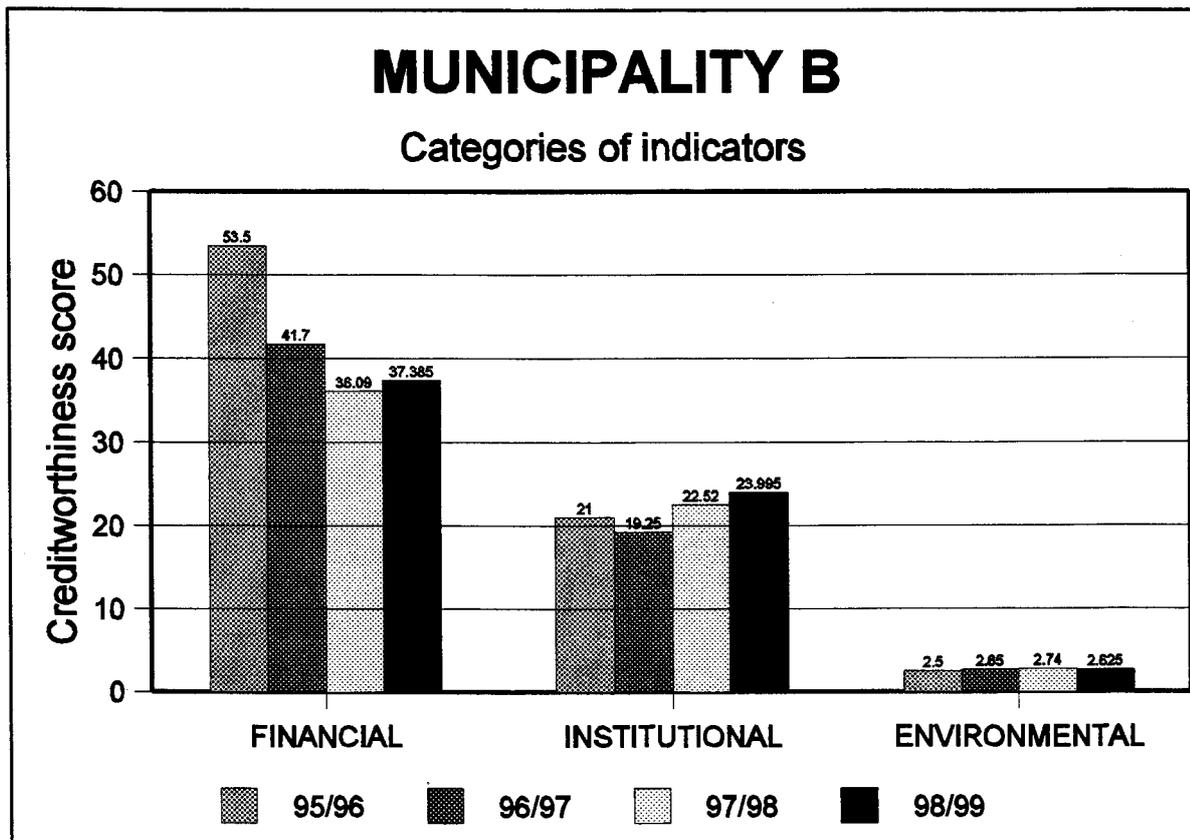
TOTAL CREDITWORTHINESS: MUNICIPALITY E

FIGURE G



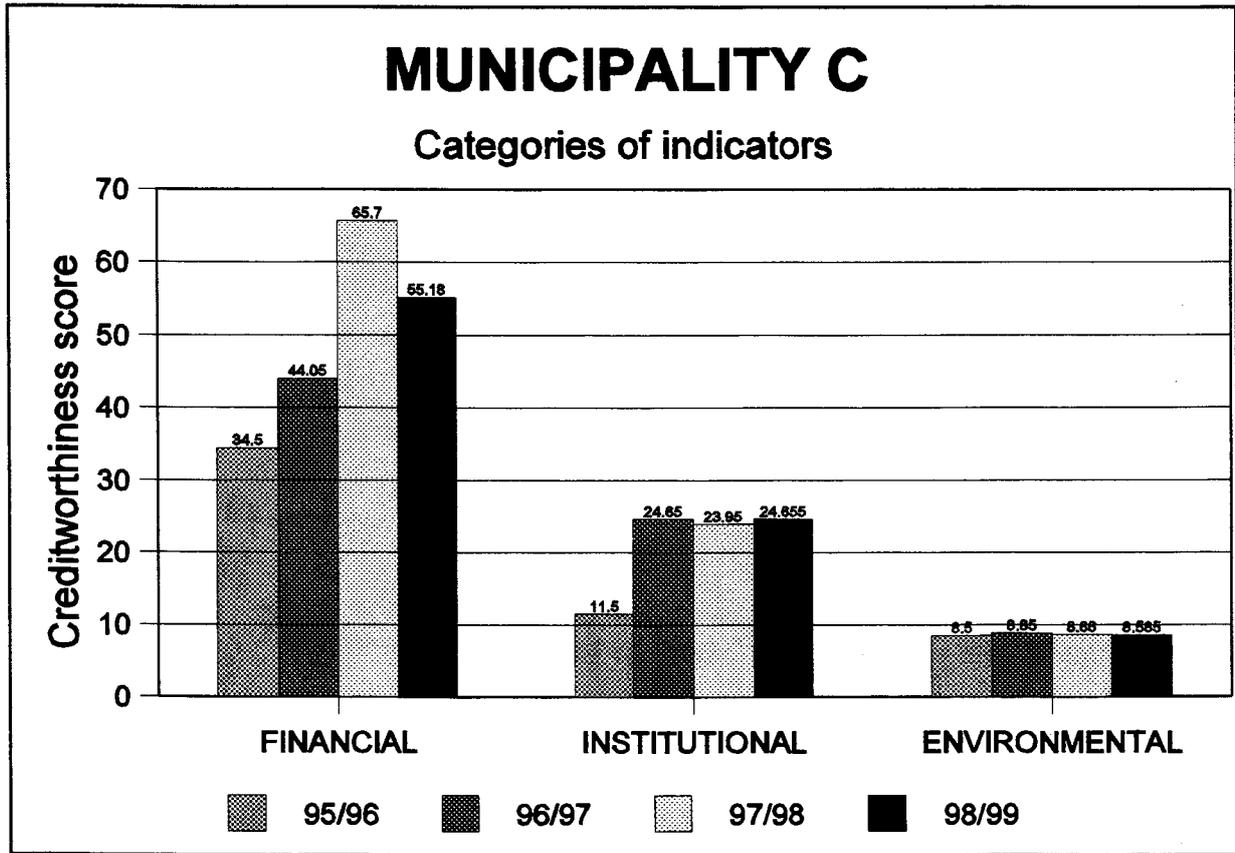
CREDITWORTHINESS SCORE FOR CATEGORIES OF INDICATORS:
MUNICIPALITY A

FIGURE H



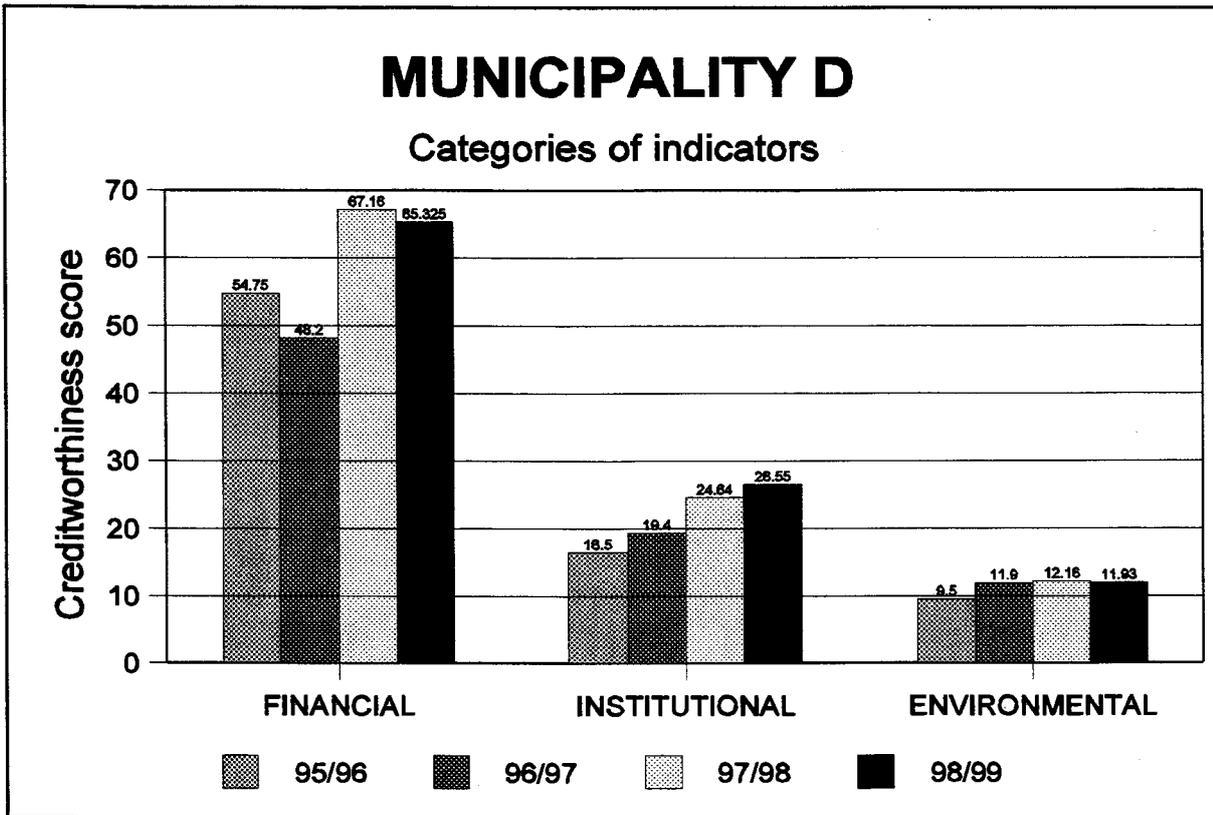
CREDITWORTHINESS SCORE FOR CATEGORIES OF INDICATORS:
MUNICIPALITY B

FIGURE I



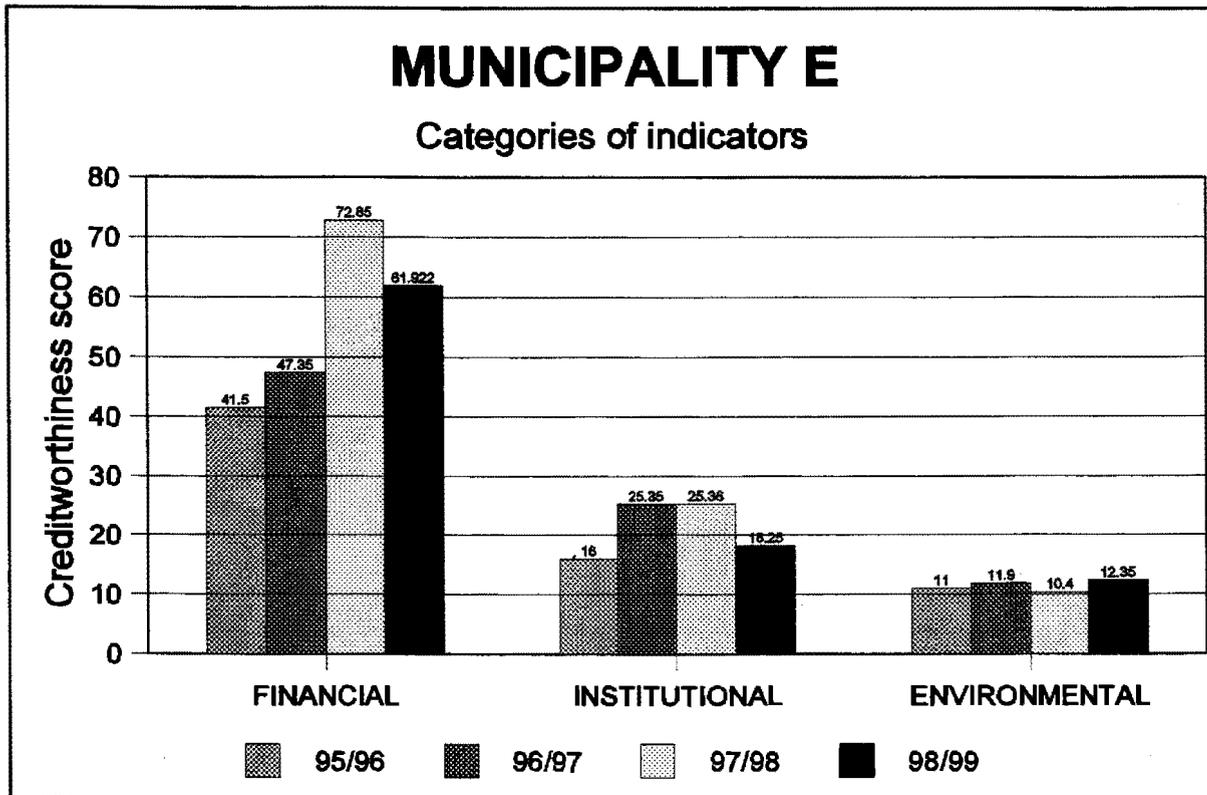
CREDITWORTHINESS SCORE FOR CATEGORIES OF INDICATORS:
MUNICIPALITY C

FIGURE J



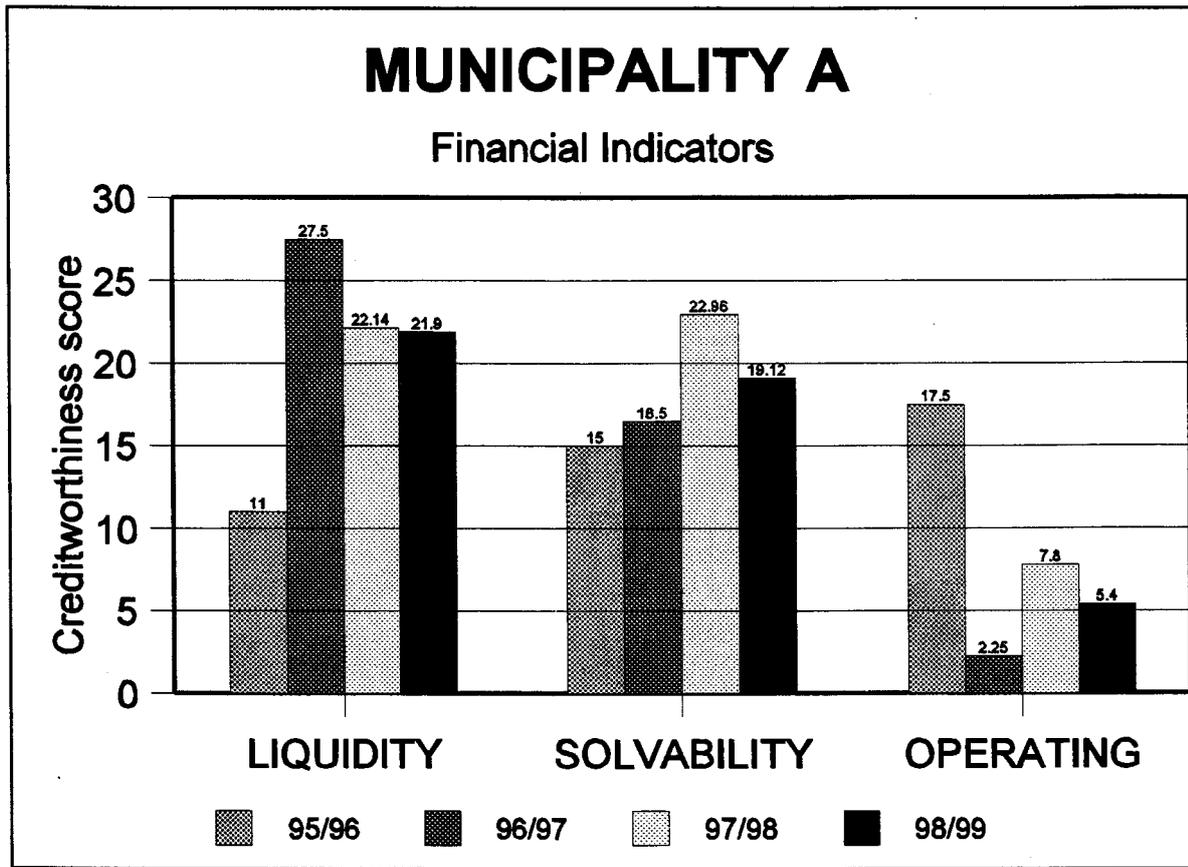
CREDITWORTHINESS SCORE FOR CATEGORIES OF INDICATORS:
MUNICIPALITY D

FIGURE K



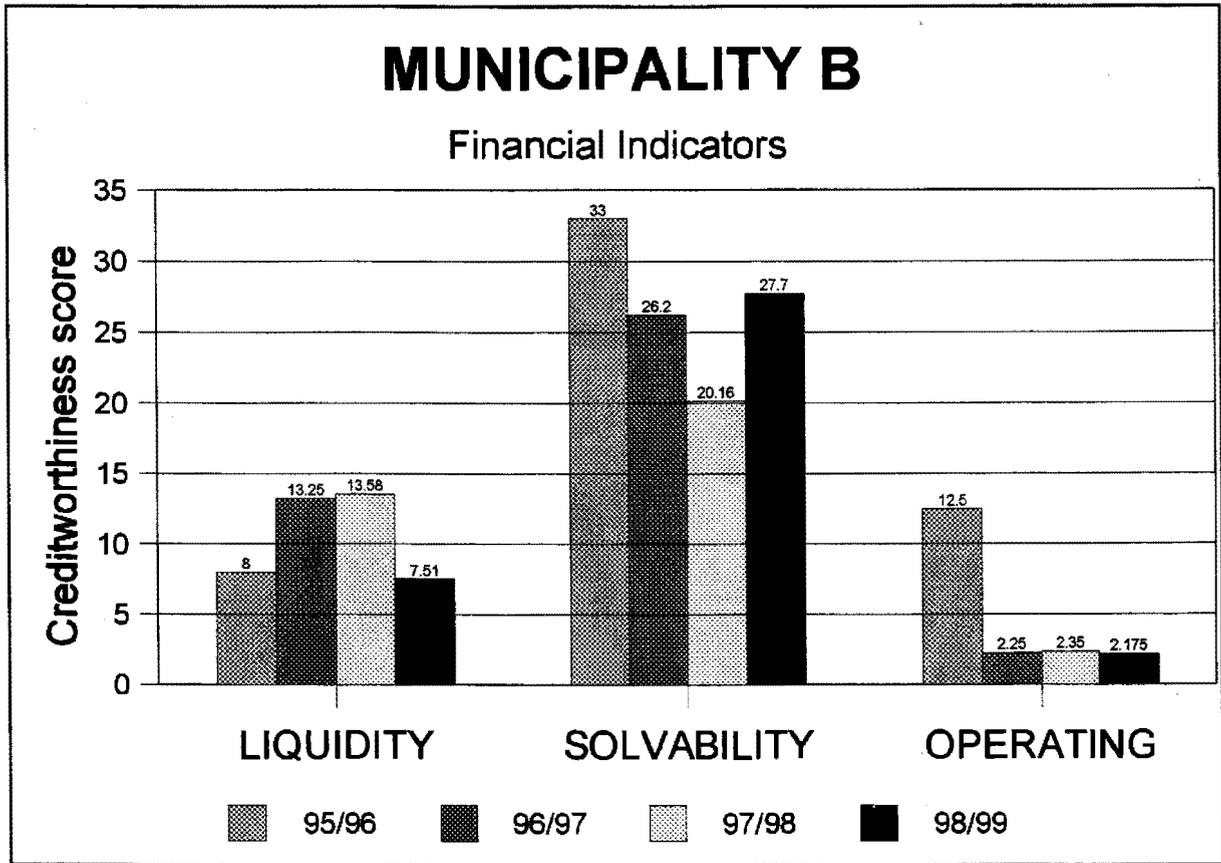
CREDITWORTHINESS SCORE FOR CATEGORIES OF INDICATORS:
MUNICIPALITY E

FIGURE L



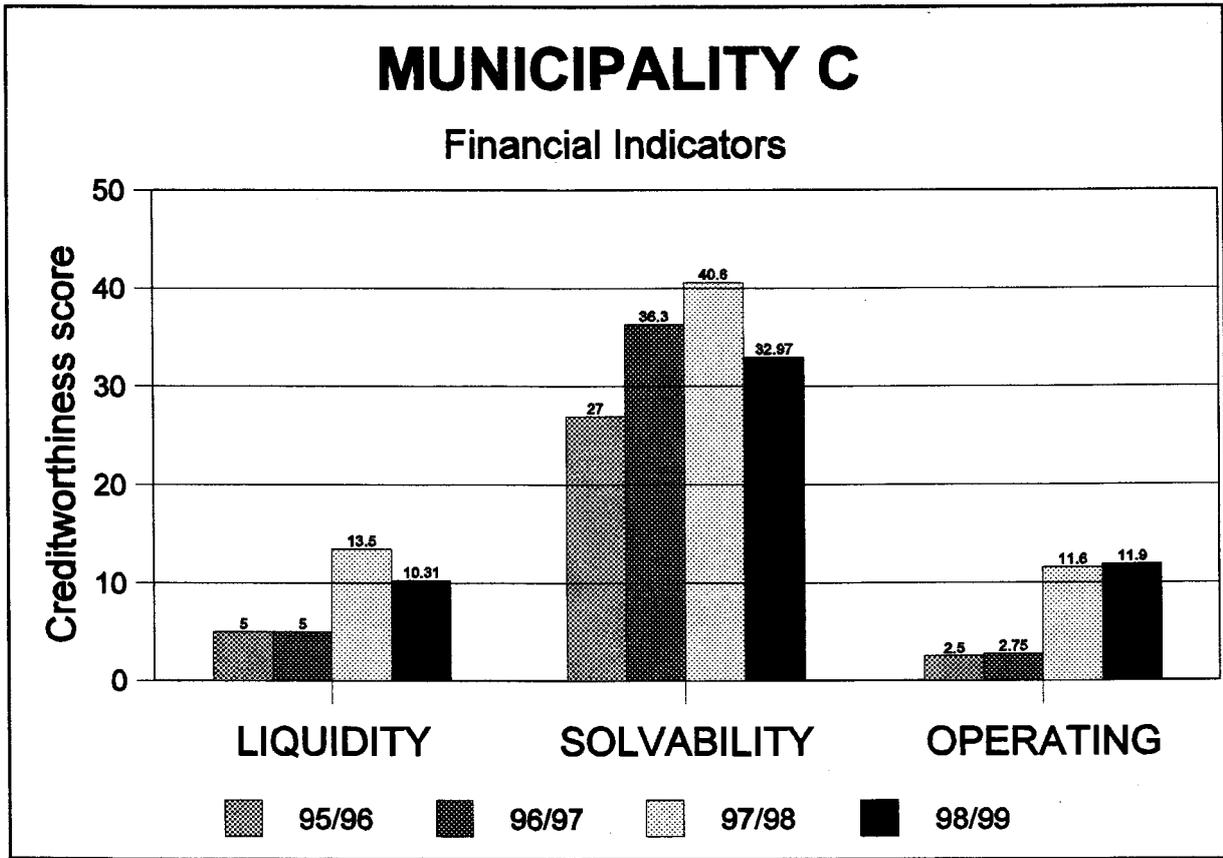
CREDITWORTHINESS SCORE FOR FINANCIAL INDICATORS:
MUNICIPALITY A

FIGURE M



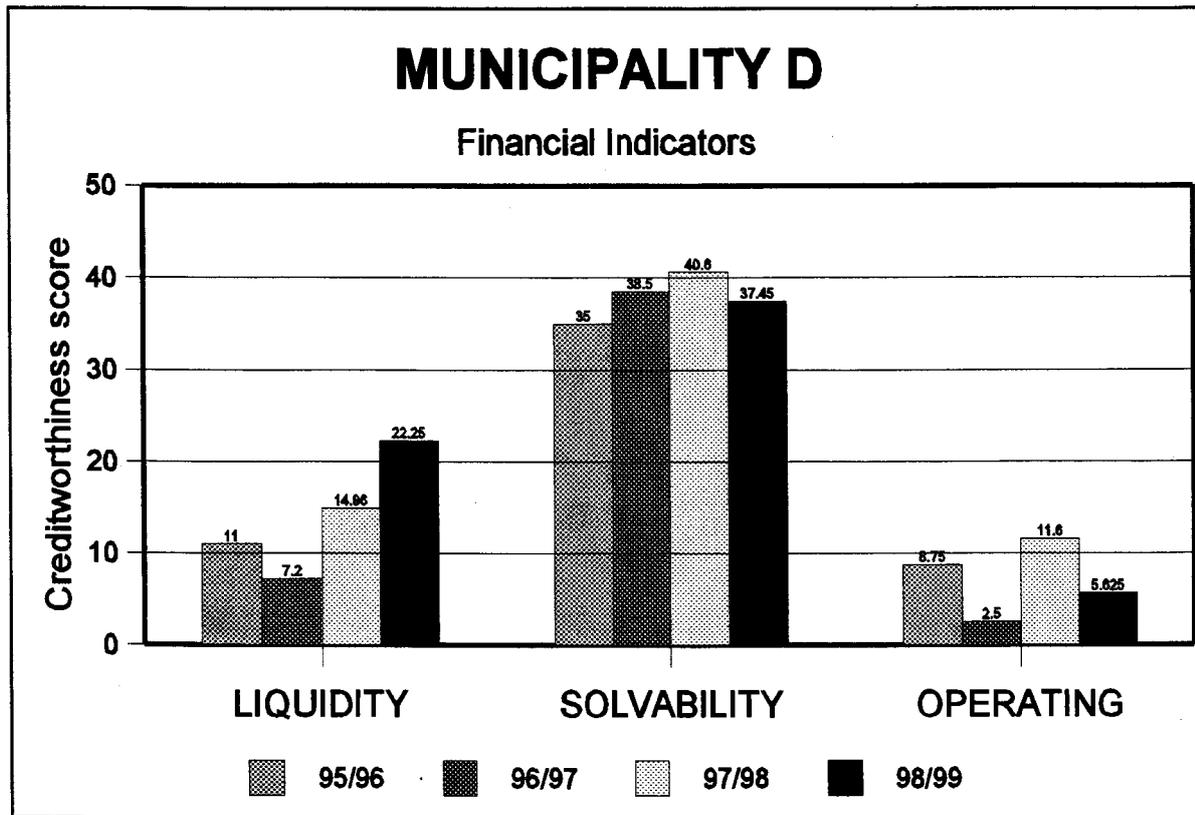
CREDITWORTHINESS SCORE FOR FINANCIAL INDICATORS:
MUNICIPALITY B

FIGURE N



CREDITWORTHINESS SCORE FOR FINANCIAL INDICATORS:
MUNICIPALITY C

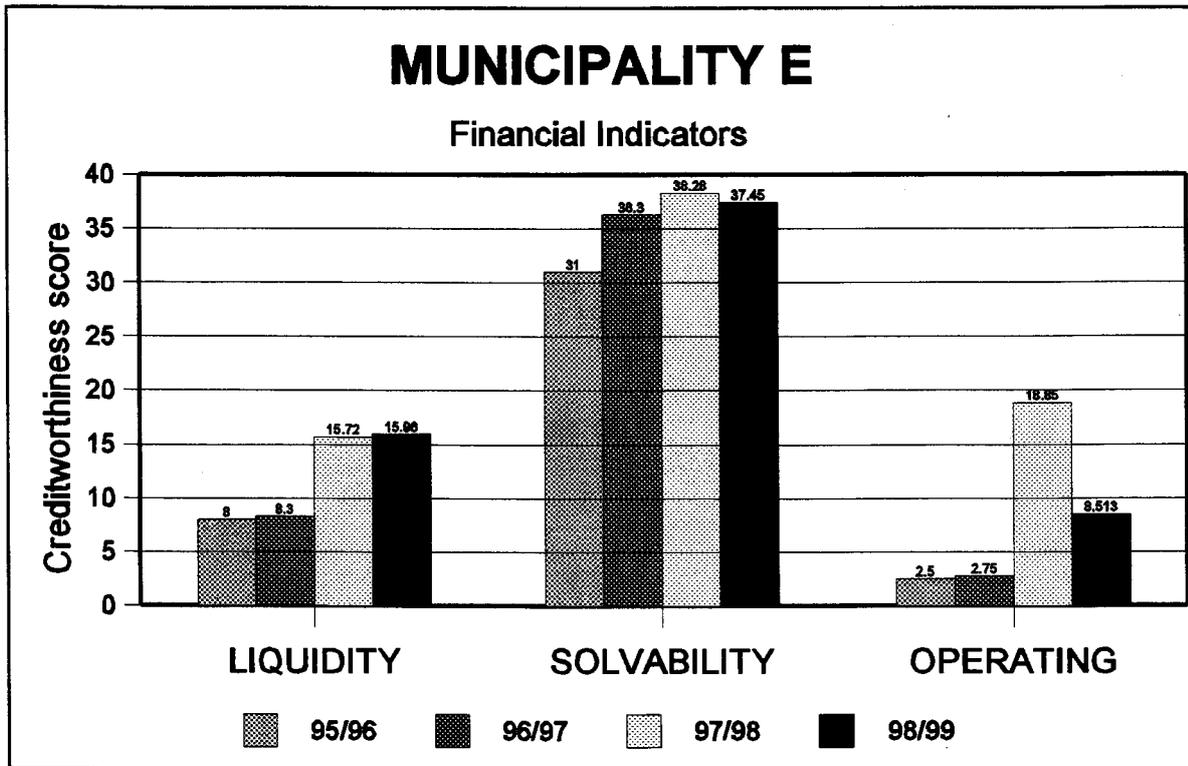
FIGURE O



CREDITWORTHINESS SCORE FOR FINANCIAL INDICATORS:

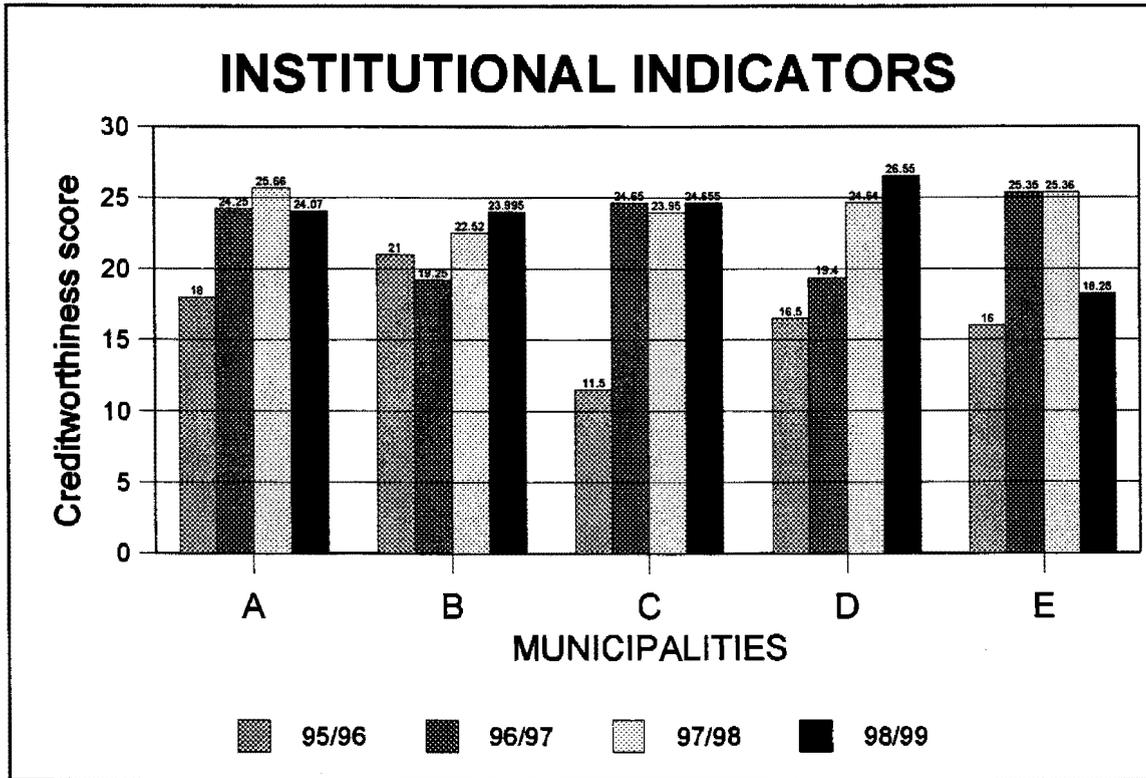
MUNICIPALITY D

FIGURE P



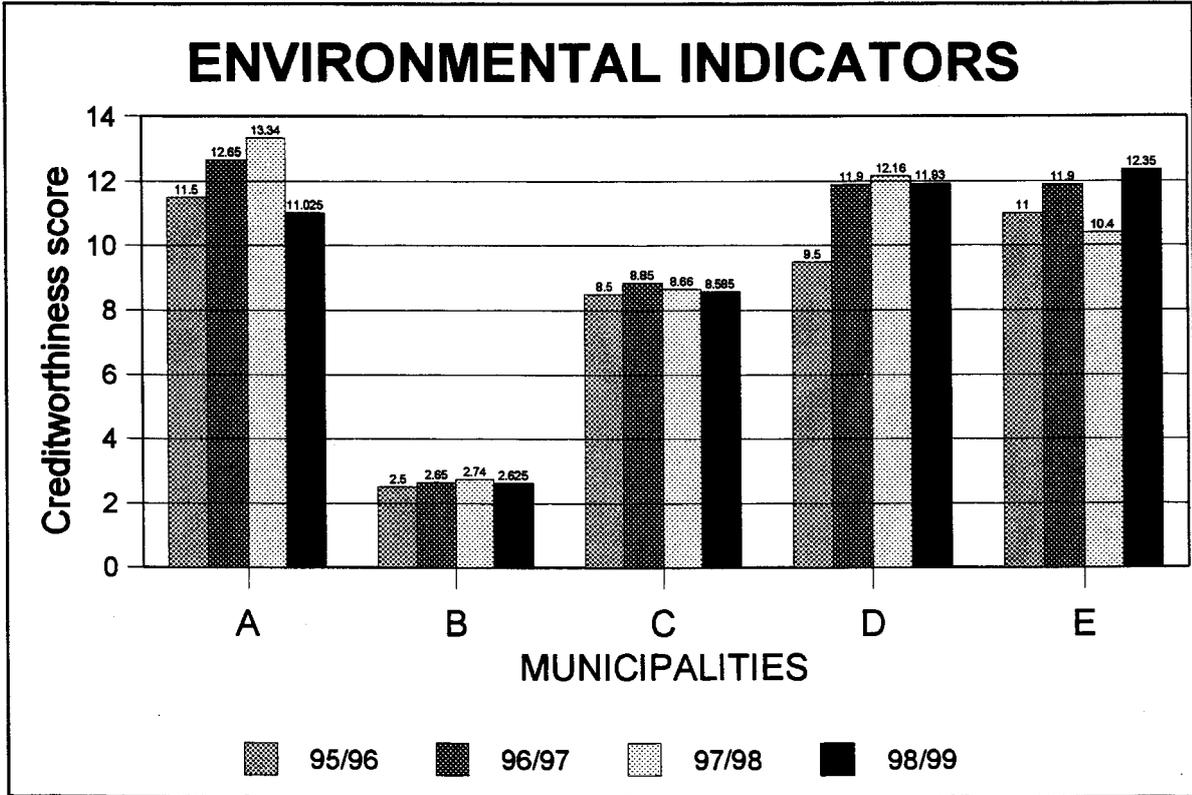
CREDITWORTHINESS SCORE FOR FINANCIAL INDICATORS:
MUNICIPALITY E

FIGURE Q



CREDITWORTHINESS SCORE FOR INSTITUTIONAL INDICATORS:
ALL MUNICIPALITIES

FIGURE R



CREDITWORTHINESS SCORE FOR ENVIRONMENTAL INDICATORS:
ALL MUNICIPALITIES