MANUAL OF OPERATIONS FOR IMPROVED DISBURSEMENT OF MUNICIPAL FUNDS

MUNICIPALITY OF VIDIN, BULGARIA

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CASH FLOW MANAGEMENT

"The best advice I can give you is to keep things simple. Steer clear of big and complicated transactions, and enormous interest rates. Even if you didn't, legal restrictions and the shortage funds would block your way. Utilizing and investing your cash surpluses properly, even at a low interest rate, will earn you an income that might surprise you... so, keep it simple and make money work."

THE IMPORTANCE OF CASH FLOW MANAGEMENT

Program Objectives

The ultimate objective of a cash flow management program is to ensure the increase of non-tax municipal revenue through the investment of funds not required for current operating costs. This is a rather ambitious task that places demands on the financial manager's time and efforts. He must:

- Make a thorough assessment of the current state of cash flows, their meaning, their timing and their sources.
- Study carefully future cash flow trends on the basis of past experience.
- Become profoundly familiar with short-term money markets, where the funds could be invested until they become necessary again to meet municipal costs.
- Do short-term investment of excess funds.

In order to ensure maximum yield, the financial manager must spread the maturities over time in such a way that:

- Outlays are made as due, without the need to sell any securities held before they have matured.
- The maximum yield allowed by the market is obtained on longer-term securities.
- Disposable cash is kept within pre-determined minimums.

Program Benefits

The obvious benefit of cash flow management for the city is that it results in greater non-tax revenue. In addition, it enhances people's understanding of revenue and expenditure. As more funds become available through the program, the city's governance will be in a position to better assess present and future policies in terms of their cash flow effect.

The city's financial managers will establish a closer working relationship with local and national bankers. The program's success will strengthen the city's ties with the financial community. These will prove especially important when the time comes for a major capital development project, together with the need to float a municipal bond, or when the city needs to borrow on a short-term basis.

Admittedly though, the benefits of a cash flow management program are above all financial, i.e., better investment performance and reduced cost of borrowing. What should also be borne in mind is that, sometimes, social, economic or political considerations may prevail over the financial ones. In those circumstances, the financial manager should be capable of expressing the financial cost of such a shift of emphasis as a loss of financial benefit. If, on the other hand, the city's decision is likely to result in any long-term economic benefit, like the growth of a certain business sector, the financial manager should again be capable of assessing its positive financial repercussions.

RELATIONSHIP WITH THE BANKS

The efficiency of a municipal cash flow management program depends, in part, on the strength of the city's ties with the banking community. In developing such ties, the financial manager should take the following elements into account.

Banks Are in Business to Make a Profit

Banks run into costs in order to serve their customers and if they cannot generate enough revenue from a customer to cover those costs and make a reasonable profit, they will prefer not to deal with that customer. Banks earn their revenue from:

- Service fees, which do not always cover the related costs.
- Investing depositors' money for a return. (That is why banks would rather have customers keep their money in non-interest bearing accounts; to them, such funds are "money for nothing"; and even when they do pay interest to depositors, banks usually invest the funds at a higher interest rate than the one at which they have to pay.).
- Loans made to customers at interest rates that exceed the cost of funds lent.

Banks Work in a Competitive Environment

It must be remembered that banks compete with one another in order to attract customers. Within one and the same community, two banks may have different policies with respect to:

— Service fees;
— Minimum required balances on non-interest bearing accounts;
— Deposit interest rates; and
— Short-term lending rates

Available Banking Services

The financial manager must identify the banks with which the city would wish to establish a working relationship. If there are no more than one or two banks within the municipality, available facilities in the nearest large towns should be studied, as branch networks do not have the same level of penetration. The existing legal bans and restrictions must also be considered. Thus, Section 6 of the Transitory & Final Provisions of the National Budget Act for 1996 prohibits the servicing of Budget funds by private financial undertakings. In addition, a joint BNB/MoF circular requires municipalities to be served by a single bank, for both budget and off-budget funds.

Exhibit 1 provides a sample check-list on which financial managers could base their evaluation of the various banking services and their choice of a servicing bank. In addition to the standard customer services, the city may require special ones to provide for non-recurrent needs or contingencies.

In many cases, the servicing bank would become the city's main financial advisor. Bankers may be of help in developing municipal investment strategies or as a source of information about investment opportunities. Also, they could greatly facilitate municipal borrowing or the floating of municipal bonds.

The financial manager should discuss with the bank the size and timing of future investment, long before a cash surplus has become available, so that the best investment opportunity may be seized when it arises.

Choice of Servicing Bank

The choice of a servicing bank depends on a number of factors. The most important of them are:

— The specific services offered and their price;
— The bank's size and reputation;
— Quick and easy access to City Hall;
— Adequate branch network to serve municipal entities; and

— The bank that serves the Local Tax Authority (it is desirable that the city and the tax authority use the same bank).

The final choice itself should be made on the basis of competitive bidding, with clear and stable requirements over the long run being put forward to the participating banks.

Start of the Cash Flow Management Program Accounts

The first step in the program is a critical review of each of the city's existing bank accounts. In most cases, cities maintain a large set of bank accounts, off-budget ones in particular, in order to distinguish among funds of various uses. Another explanation of this is that double-entry book-keeping is not applied.

The financial manager must review each existing account and:

— Establish the reason for its existence;
— Calculate the average balance;
— Establish the source and type of payments to the account; and
— Establish the source and type of payments from the account.

The main purpose of this exercise is to determine which accounts, if any, could be closed. In the interest of the program's efficiency, the number of bank accounts should reduced to the workable minimum. It is not at all irrelevant whether the city has four bank accounts of BGL 1,000,000 each or just one of BGL 4,000,000. In the event of an investment opportunity, the latter scenario would offer clear advantages:

— Easy and simple arrangements;
— Higher yields; and
— Lower administrative costs.

Accelerating Cash Payments

Once the number of bank accounts is brought to a minimum on the basis of the above financial and legal analysis, the next step is to try and speed up the transfer of cash payments. The arrangement to be sought must make sure that the funds are credited to the city's accounts on the same day as the cash payment is made by a taxpayer. For that purpose, the practices of the tax administration should be analyzed and efforts should be made to convince the tax authorities of the benefits of accelerating the process by the adoption of common procedures.

Payments Schedule

The more important spending items should be outlaid on a pre-set regular basis. The wage-bill, for example, is budgeted on a monthly or weekly basis. Some regularity should be introduced also in other payments towards services provided to the city, even though some of them must be offset by earmarked revenue.

It would be a good idea to develop a flow-chart of payment procedures and make sure that it is observed by all heads of departments and services. A similar arrangement should be made for non-recurrent or contingent spending with an emphasis on the exceptional nature of such payments.

The flowchart should also cover the operations of single budget accounting units and should fit in with the overall municipal schedule.

Payments on bills and invoices should be delayed as long as possible within the agreed terms. On the other hand, if an attractive price discount is offered for early payment, the opportunity should not be ignored. In any case, the benefit of the price discount should be weighed against the opportunity cost of bank interest lost on the money, and vice versa. Thus, a 2 percent discount if payment is made within 10 days makes no difference in comparison with the full price payment within 30 days, if the annual interest rate is 36 percent.

Choice of Time Period

Once the schedule is made, a time period should be selected for the purposes of the program Thus, if wages are paid on a monthly basis, the period could be set at 30 days. This would imply that all inflow, outflow, and net cash flow projections should span 30-day periods.

In most cases, if the chosen period matches the regularity of wage payments, the program. mechanism becomes simpler. That is because wages are the most significant cash payments from a city's budget and the necessary funds should be provided for in the cash flow projection. For example, it would be desirable to match the maturities of short-term bonds with the "maturity" of the city's wage liabilities, i.e., the pay-day.

Number of Cash Flow Periods

As a rule, cash flows are projected within the financial year and, so , the number of cash flow periods within a year depends on the chosen length of period. Thus, since one the main budget revenue sources is the profits tax paid on a quarterly basis, cash flow projections may be done four times a year.

The main disadvantage of such a practice is that the timings of revenue and expenditure do not match within any single period, even though the discrepancies may balance out over several periods. While this may cause difficulties in the management of investment or debt

service maturities that go beyond the chosen cash flow period, there should be no problem in matching assets and liabilities within any given year. It is therefore recommended that cash flow projections be done on a financial-year basis.

Communication of the Program to Municipal Staff

Once all of the above tasks are completed, the next step is to communicate the program to the other municipal officers and staff, i.e., members of the Council, the Mayor, heads of departments and services, and heads of functional units. Each of those should form a clear understanding of the importance of higher non-tax revenue and of his/her own contribution to particular phases in the process. For example, the head of the Education Department should bear the program in mind when scheduling education related contract payments and when drafting the arrangements with independent contractors. The Mayor and the City Council should understand the economic benefit to the city of using a variety of banking practices.

MAKING REVENUE ESTIMATES

Budget Revenue

As already mentioned, the financial manager must have a detailed knowledge of the nature, timing and sources of municipal revenue so that it can be budgeted realistically. Exhibit 2 provides a sample tabular form for revenue projections. While column headings and their relative weight may differ from one city to another, the purpose of the exercise would be the same: reach a realistic estimate of municipal revenue for each time period.

Local Tax Revenue

Personal Income Tax

This local tax source accounts for over 30 percent of total revenue and for some 70 percent of tax revenue. Taxpayers should be divided into wage-earners (under an employment agreement, Article 4 of the Personal Income Tax Act) and self-employed (or "liberal professionals" under Article 13 of the Personal Income Tax Act). The first group should be divided further into wage-earners employed in the so called budget sector (public services and administration) and those employed in the economic sector (State-owned or private business). The following sets of data should be obtained in cooperation with the tax administration:

- **Article 4: Taxpayers in the Economic Sector**

  — Number of persons employed
  — Number of persons by income bracket
  — Wage payment schedules of main employers in the municipal territory
  — Application of government resolutions concerning periodic pay indexation

— "Problem" employers and size of outstanding wage payments, delayed because of financial difficulties

! Article 4: Taxpayers in the Budget Sector[1]

— Number of persons employed
— Number of persons by income bracket
— Wage payment schedules
— Application of government and municipal resolutions concerning periodic pay indexation

! Article 13: Taxpayers

— Amount of current tax payments
— Analysis of annual tax returns
— Projected revenue schedules based on previous year

Profits tax

Taxpayers under the Profits Tax Act should be divided into two groups by type of ownership, i.e., municipal and all others.

! Municipal Companies and Enterprises

— Coherent accounting and control system
— Adoption of city ordinance concerning the management of the city's share in corporate capital pursuant to the Municipal Property Act
— Management contracts tied to financial and fiscal performance

[1]This one is easy to calculate as the tax base is in fact a city expenditure item.

! **Other Profits Taxpayers**

— Detailed analytical performance indicators
— Comparison of business plan projections with tax inspection findings
— Account taken of privatization developments and statutory tax incentives

Real Property Tax

! Detailed study of tax assessment techniques

! Account taken of uneven distribution over the fiscal year

! Close cooperation with the Territorial and Urban Development Department as a source of adequate information about new construction and tax base enlargement

Amounts Carried Forward

! Coordination with the Local Tax Administration Office concerning major revenue arrears

! Projection basis beyond the chosen time period

Local Charges

Municipalities enjoy increasing discretion in the rate-setting of local charges for public services, garbage collection being the most highly liberalized. The proportion of local charges in municipal budget revenue has been rising steadily and has reached 10 percent (from the 2-4 percent during the 1991-1993 period). In addition to accounting for them in terms of cash flow, the rate-setting techniques for local charges should be analyzed. Failure to apply consistent and objective cost accounting methods to the various services and the respective charges may cause negative effects, such as:

— Service unaffordability;
— Emergence of alternative supply;
— Deteriorated collection ratios;
— Poor service quality; and
— Reduced charge revenue.

In terms of cash flows, there is a need to:

— Identify precisely the points of service provision and the related procedures;
— accelerate cash payments; and
— develop clear and coherent rules concerning overpaid or inappropriately paid charges.

Municipal Assets Revenue

The size and types of this revenue depend on the size and types of municipal assets, and their uses in accordance with city policies and approved procedures, etc. Revenue items may include: rent, disposal of real and personal property.

Leases are the most common method of municipal asset management:

— Develop a contract monitoring system.
— Apply adequate and timely measures in cases of non-performance.
— Coordinate with the tax administration to avoid untimely inflows.
— Update the program to allow for rent adjustment pursuant to Council resolutions.

Asset disposal does not result in any significant budget revenue and the proceeds are easy to estimate given a well functioning municipal administration.

Central Budget Transfers

The total amount is divided into a general and a special subsidy. The general subsidy is appropriated towards the city's current operating costs within the framework of its mandate, while the special subsidy funds selected local projects of regional or national importance. In addition, and greatly significant for the purposes of cash flow projection is the established practice of passing the current National Budget Act some time during the financial year. This entails the adoption of two different approaches for the respective periods before and after the Budget's effective date. On the other hand, the general subsidy forms a significant proportion of most municipal budgets and the late passing of the National Budget Act, together with the irregular disbursement of the subsidy, causes a lot of financial problems at the local level.

General Subsidy

- Become familiar with the method of its allocation under the current National Budget Act.

- Reach an agreement with MoF on a time interval for disbursements to the local budget account.

- Analyze the timing and proportion of disbursements in previous years, and adjust current year estimates accordingly.

Special Subsidy

- Become familiar with the projects receiving the funding.
- Become familiar with the existing contractor arrangements.
- Reach an agreement with MoF on a time interval for disbursements to the local budget account in accordance with the existing project contracts and established MoF procedures.

Municipal Bonds Revenue

The legal opportunities for this kind of revenue (provided by the Local Self-Government and Local Administration Act (LSGLA)) have not been fully used so far. The few attempts have failed to produce positive results, either because of inadequate conformity to the main requirements of bond issues or because the funds raised have been channelled to unreasonable municipal programs. Still, during the continual transition period, coupled with a persistent financial crisis, the community funding of development projects, focused above all on public services, is likely to remain the only viable option. In terms of general cash flow projections, bonds revenue will continue to be irrelevant for quite some time into the foreseeable future. The instrument is likely to be used for financing long-term capital development, like new schools or the completion of water and sewer systems. Thus, the purpose of municipal bond issues being largely non-recurrent, separate cash flow management programs should be developed for them to account for project-specific revenue and expenditures. Every issue should also be supported by a specific investment strategy.

Off-Budget Revenue

What has been said about bond issues, in terms of cash flow management, largely holds true for off-budget funds as well. Each of those has been set up for a special purpose and is governed by its special rules of appropriation and obligation. A somewhat different case is presented by the Housing Development Fund and the one to which municipal privatization proceeds are appropriated. Pursuant to the Transformation and Privatization Act of State-Owned and Municipal Enterprises, 88 percent of proceeds must be spent on investment. Various projects may be funded from the same fund and specific cash flow projections should be developed. In some cities, investment in infrastructure development prevails, while others focus on the reorganization of municipal companies, and still others prefer venture capital investment. Despite the variation among the specific cases, some basic cash flow management rules could be defined:

- Detailed study of the nature of each fund
  - — Founding documents
  - — Funding target areas

— Fund-raising arrangements
— Spending arrangements
— Bank account type

! Average balance and velocity of circulation

! Contractual arrangement for projects being funded

! Possibilities for free budget financing under City Council rules

! Other short-term investment opportunities under the law

MAKING EXPENDITURE ESTIMATES

Many financial managers would find making expenditure estimates a rather easy task. On the other hand, it is not one to be underestimated, especially where outlays depend on short-term investment maturities and if current payables tend to rise. Exhibit 3 provides a sample tabular form for expenditure projections by future period. As in Exhibit 2, column relative weights may differ from one city to another but the purpose of the exercise would be the same: reach a realistic estimate of municipal expenditure for each time period.

The estimate is made much easier and will be much more realistic if based on types of cost, rather than on the related funding sources. Monthly wages, for example, may be funded from a variety of sources, but in order to reach a more accurate estimate of how much each payment will involve, they should be grouped together as a single cost item, rather than by source of funding for the period.

Wages

As a rule, the frequency of wage payments determines the cash flow projection period. The reason for this is that wages are the largest recurrent cost item and the necessary funds must be budgeted for each payment. The financial manager should estimate the actual cash amount for wages net of any amounts withheld. This is more accurate than working on a gross basis (i.e., wages plus social security contributions), as there is a time lag between the pay-day and the due dates of the various deductions and charges (i.e., taxes, savings and checking account remittances, social security contributions). The projection process starts from the net amount paid in a recent past period, which is then adjusted for:

— Expected pay-roll increases or decreases
— Expected pay raises or cuts
— Seasonal fluctuations in amounts withheld
— Paid leave allowances
— Seasonal and extraordinary/overtime payments

Withholding Tax on Wages

The amount of withholding tax should be estimated for each period. Present payment practices should be reviewed so that the tax is remitted on the latest date allowed by the law. The amounts credited to the local budget should be included in the estimate, as well as in the revenue estimate for the same period and on the same base amount.

Debt Service

The funds required for interest and principal payments to bondholders, and the respective due dates, can be determined in advance. If a broker is involved, the estimate must be based on the due dates agreed with him, which may not necessarily be the same as those on the bonds.

Capital Expenditure

To estimate capital project expenditure, the financial manager cannot rely on past terms. Those will be different in each specific case. Therefore, with the help of the relevant officers, the financial manager must become familiar with the details of each development contract. In addition, he must find out which projects are scheduled to commence during the projection period (e.g., the financial year) and break the expenditure down accordingly. It is recommended that a separate cash flow projection be prepared for each capital development project with reference to its specific funding sources.

Purchases

Often, the financial manager may look back to previous periods in order to estimate the amounts spent on purchases (supplies and equipment). Where supplies fluctuate on a seasonal basis, separate estimates may be made; in most cases, however, past records will do. Purchases include:

— Office supplies;
— Computer supplies;
— Equipment;
— Postage;
— Stationery;
— Fuels;
— Maintenance supplies; and
— Textbooks and teaching aids.

Outside Services

Past experience may also provide the basis here, but adjustments should be made for price changes and absorption. Typically, this category includes all the utility charges.

Other Operating Costs

There are also strongly fluctuating or extraordinary costs, in terms of both nature and amount, like:

— Travel expenses;
— Customs duties, fees and dues;
— Professional fees, e.g., legal, accounting, consultant;
— Per diems related to committee work, elections and other local events; and
— Insurance, which can, however, be budgeted and should be projected in terms of cash flows.

CASH FLOW AND INVESTMENT REVENUE PROJECTIONS

Once the period estimates of revenue and expenditure are ready, the financial manager can proceed with the cash flow projection. The first step is to fill in the form provided in Exhibit 4 with total estimated revenue and expenditure by period from Exhibit 2 and 3, respectively. The net cash flow for each period results from subtracting total expenditure (outflow) for the period from total revenue (inflow). If inflows exceed outflows, the city has a positive cash flow. A negative cash flow results from the opposite situation. Column totals must be worked out for each period. To check for any calculation errors, the sum of net cash flows for all periods must equal the sum of column totals by period.

Next, the financial manager must determine how acceptable and feasible the cash flow is. If the projection is made on an annual basis, it must be compared with the cash flows resulting from the approved city budget for the year. The two may not be immediately comparable if a different approach has been used to draft the budget; still, the "bottom lines" should match fairly closely. The following considerations should also be borne in mind when trying to reconcile the cash flow projection with the city budget:

! The cash flow projection does not include investment interest revenue and the cost of borrowing.

! If the accounting system behind the city budget is accrual-based, there is bound to be a time discrepancy between the budget and the cash flow projection. Thus, for the purposes of the budget, a revenue may be recorded when accrued (i.e., prior to payment), while the cash flow projection, as its name suggests, is cash-based and the same revenue amount will be projected for the time when it will be credited to the city's bank account.

! Some costs, notably, asset depreciation, may be included in the budget but not in the cash flow projection.

- Some outlays, like transfers between two municipal funds, will show in the cash flow projection but not in the city budget.

Determining the Size and Timing of Investment

A positive net cash flow for a given period (shown in Exhibit 4) may indicate a short-term investment opportunity. On the other hand, if the opportunity is seized, the investment maturity must be scheduled so that it comes at a time of negative cash flow, if one is projected for a subsequent period. In most cases, the dates to watch will be pay-days and the due dates of other large spending items.

Investment and Short-Term Borrowing in Exhibit 4 illustrate a method of planning which seeks to ensure an appropriate cash balance at the end of each period. Short-term investment interest and the cost of short-term borrowing are also included in the section.

Determining Investment Revenue by Accounting Period and Fund

Exhibit 5 is a sample form used to record investment revenue by accounting period. It is important to note that what it shows is revenue accrued for the period, not revenue actually received. The financial manager must be aware of revenue accrued for each period in order to be able to maximize the end result and post the amounts, which may come from a variety/mixture of instruments, to the appropriate funds.

MAKING THE ACTUAL INVESTMENT

At this point, the cooperation of the city's legal department should be sought. If there is already a locally prescribed procedure, and if it happens to be unreasonably restrictive, the financial and the legal department should combine their efforts to try and amend it. Before investing what temporary cash surplus is available in short-term securities, the relevant legal framework must be studied with attention to existing national and local restrictions. Not until what the law allows is determined should the other relevant criteria be assessed, i.e., risk, liquidity, and yield.

Legal Framework

The current legal framework has been laid down in the LSGLA. Article 21(1.6) defines the City Council's budgetary authority; Article 51(4) provides for the investment of cash surpluses in what is termed "economic activity." No express provision exists for investment in securities but "economic activity" does imply that as well, and is in fact the more appropriate term to use.

The draft Local Finance Act makes no mention of municipal investment either, and that is one of its deficiencies. It is normal practice, on the other hand, for cities to enact Ordinances concerning their investment policy and debt management, as well as various Rules of Procedure

governing the administration and/or the Council. Given the absence of any special primary legislation and the risk involved in investment activities, it would be a good idea not to rely on the common statutory provisions but make a local enactment instead, featuring:

- A definition of the circumstances in which investment in assets or other issuers would be allowed.
- A list of appropriate investment instruments.
- An investment selection procedure.
- A procurement procedure concerning financial services.
- A management procedure for the entire investment process.
- Objective criteria to ensure the city's financial stability.

Risk

The risk of financial loss must always be considered by the city in its short-term investment activities. High-risk or speculative investment should be avoided, even when perfectly legal. For example, while government securities are usually regarded as an almost zero-risk guaranteed-return investment, cities should avoid investing in corporate securities on the secondary stock market. In some countries, the law prohibits the investment of taxpayers' money in stock market instruments.

Liquidity

Once an investment opportunity has been analyzed in terms of legal restrictions and financial risk, the next step is to determine its liquidity. The liquidity of an investment is the degree to which it can readily be transformed into cash without any loss of principal or interest. Usually, financial managers who are beginners in cash flow management lay a stronger emphasis on liquidity than their more experienced colleagues. Experience, on the other hand, is not a perfect guarantee against the occasional liquidity shortfalls. That is why an investment portfolio should always feature a proportion of highly liquid instruments to ensure that all outlays are made as due, even though they may not have been included in the cash flow projection.

Yield

The next step is to look for the highest return/yield that the investment could produce, bearing in mind that the various types of instruments often differ in this respect. The comparative analysis of similar instruments may produce good results in trying to determine the highest yield available on the market. For example, securities of similar face terms may produce different yields if purchased from different banks.

In some cases, the instrument's maturity affects both its yield and its liquidity. The general rule is that the longer the maturity the higher the yield and the lower the liquidity.

Securities can be purchased at their face value, at a premium, or at a discount:

- If the investor purchases at face value, the amount he/she must pay, and the amount he receives at maturity, is that inscribed on the instrument.

- If the investor purchases at a premium, what he/she must pay is the face value plus the premium, but what he gets at maturity is only the face value.

- If the investor purchases at a discount, the price he/she pays is the difference between the instrument's face value and the discount, and what he/she gets at maturity is greater, by the discount amount, than what he has paid.

Investment Alternatives

— Commercial bank savings
— Savings accounts with savings institutions
— Time deposits
— Securities; REPO
— Commercial paper
— Investment insurance

SHORT-TERM BORROWING

There are practical situations in which short-term borrowing to cover certain costs is preferable to using available funds earmarked for other purposes. For example, there may be a need to bridge the gap in time between the decision to float a municipal bond to finance capital development and the actual proceeds from the offering. If during that gap some construction costs fall due, it would be more appropriate, instead of resorting to other city funds, to contract a bank loan (a "bridging loan") to be paid off from the bond proceeds.

A similar situation may arise when the city has to incur costs which are to be funded from a national program and for which the city will be reimbursed at a later date. In the meantime, a bank loan could be used to cover those costs, while the reimbursement will be applied to the loan repayment.

Tax revenue fluctuations over the financial year may result in negative cash flows for certain months and vice versa. Short-term borrowing may also be used to finance cash shortfalls in any given period. Unfortunately, LSGLA Article 52(5) prohibits municipal borrowing to finance general spending, e.g., wages, current operating costs, etc. This places municipalities at a disadvantage vis-à-vis the central government, which has for several years now financed its budget deficit by direct borrowing or by increasing the domestic debt.

There are also economic reasons why municipalities should avoid short-term borrowing to finance current deficits: they may eventually be unable to service their debt, try to finance debt payments by contracting new loans, and come under an increasingly high interest rate burden.

On the other hand, borrowing as such is a perfectly normal financial operation and, the legal restrictions apart, there are quite a few other situations in which a short-term loan is the best option that a city could choose.

In addition, existing regulations may further limit or restrict short-term borrowing. According to LSGLA Article 21(1.10), the City Council is solely authorized to make borrowing decisions. Locally, this provision is applied in various ways:

- Some City Councils set borrowing ceilings as a proportion of the city's own revenue and delegate the concrete decision-making authority to the local administration.
- Others may strictly define the purposes for which loans may be contracted.
- Still others prefer to keep their exclusive power of voting on each particular borrowing proposition, while the administration does all the preparatory work.

As a general recommendation, cities should avoid short-term capital development borrowing, except in the above cases. Long-term capital projects should be funded from accumulated reserves, special government subsidies or long-term municipal bonds.

APPROACH TO COST CENTER ASSESSMENTS

The following overview of the status of education and health care in 1996 does not provide sufficient basis for any final conclusions regarding the processes as a whole. There are two more significant aspects to these processes which are beyond the scope of the present study and which are vital for any objective evaluation to be made. If the beneficiaries of the project find the other two components of the approach acceptable, i.e., the need for education and health care and their results, then the proposed scheme for measuring the resources input does allow an objective evaluation of this status.

In any case, a systematic approach should include three components:

- **Evaluation of the need for educational and health services.** The officers from the education and the health care departments, with the assistance of the community and on the basis of reliable data and forecasts, must perform regular analyses of the demographic and other social processes and define the needs for at least a year ahead. The results of this activity need to be considered also as a starting point for the budgeting process in the municipality.

- **Evaluation of the efficiency of educational and health services.** Here attention should focus on the cost of the service, i.e., how much it costs to the funding authority. Also, the existing financial and accounting system should be analyzed and evaluated as to its ability to provide timely and reliable information. Management and information flows need to be reconsidered and streamlined to ensure clear authority and performance evaluation criteria.

- **Evaluation of the effectiveness of educational and health services.** The result of educational services should not be measured within the municipal administration, regardless of the management system applied. What is needed is an effectiveness monitoring system that excludes the influence of the funding authority. Thus, for instance, the fact that the municipality has increased our planned outlays for the following year by 50 percent does not necessarily mean the municipality has improved the quality of education as a whole. It is useful to involve school trustees, NGOs, citizen committees, etc. in the process.

This study focuses mainly on establishing criteria for measuring efficiency, which can be assumed to be objective and be used throughout the budgeting process for both spheres.

The goals of the assessment include:

- To illustrate the present situation of the cost involved in the education and health care processes.
- To apply systematic criteria measuring the results of managing these processes and the interaction between the municipal leadership and the management of the respective establishments.
- To readjust the accounting system in a way allowing timely and reliable cost accounting at the class level in schools and the ward level in regional hospitals.
- To set up a reliable and objective system for prescribing and administering pharmaceuticals both for hospitals and to individuals under the Free Medication Regulation.
- To develop a system monitoring the indicators in the various educational and health establishments.
- To determine the need for centralizing certain procurements for education and health care with the purpose of reducing shared costs such as heating fuel, pharmaceuticals, etc.
- To set up a clear cut system for keeping taxpayers informed about the cost of services delivered by the municipality.

EDUCATION COST CENTER ASSESSMENT

GENERAL

The educational system in the Municipality of Vidin includes the following 61 establishments and units:

— 27 full-day kindergartens;
— 4 half-day kindergartens;
— 6 secondary schools;
— 13 elementary schools (age 6 - 14);
— 2 primary schools (age 6 - 10);
— 1 foreign language secondary school;
— 1 natural sciences and mathematics high school;
— 1 student hostel in Vidin;
— 1 student hostel in Inovo;
— Municipal Children Center;
— Handicraft Center, used by all schools for handicraft classes; and
— Other activities.

In this analysis, a differentiation will often be made between village and city educational establishments. Other classifications will also be applied as necessary.

Educational establishments have over 71,000 square meters of total built-up area and over 163,000 square meters of open land. These include 393 classrooms and 6 after-classes study rooms. The academic process is organized in 483 classes, involving 9,537 students and a personnel of 1,235, including 934 teachers.

Kindergartens have 27.5 thousand square meters of built-up area and almost 105,000 square meters of open land. They include 109 study rooms for children aged 3 to 6.

SCHOOL ACTIVITY

The academic process cost the municipality 207 million leva.[2] In 1996, costs included 154 million for schools in the city and 29 million for village schools. City schools educate 8,923 children, and 614 attend school in villages (see Attachment 1 in Appendix B).

[2]School activity costs include costs for the Handicraft Center, hostel, the Municipal Children Center and the Central Educational Accounting Department.

School Activity in the City: The educational process in city schools involves 11 schools and the associated expenses account for almost 75 percent of the total expenditure for school activities in the Municipality of Vidin. The more significant expense lines include the following:

	Leva	Percent
Salaries	90,388,000	59
Social security	35,042,000	23
Office and supporting costs, including	21,298,000	14
Heating	15,876,000	10
Water	763,000	0.5
Electricity	484,000	1
Other	7,472,000	4
Total	154,200,000	

Note: See Attachment 1 for a complete overview of cost center expenditures.

The training process is carried out in 234 classrooms in 398 classes, and the average number of student per class is approximately 22. In the following section, we will look at the financial situation of schools and subdivide the cost centers in terms of a number of criteria describing the cost of education.

! **Number of classes (see Attachment 3)**

— More than 50 classes
— Between 30 and 50 classes
— Up to 30 (29) classes

The groups of schools are almost identical to those discussed under the previous feature.

! **Number of students (see Attachment 5)**

— Over 1,000 students
— 600 to 1,000 students
— Less than 600 students

Groups coincide with those under the sorting above.

! **Number of students per staff person (see Attachment 7)**

— Exceeds 10 students
— From 9 to 10
— Less than 9

! **Total expenses (see Attachment 2)**

— Exceeds 22 million leva
— Between 10 million and 22 million leva
— Less than 10 million leva

The first group includes secondary and elementary schools for students aged 6 to 14; the Mathematics School falls into Group 3.

! **Expenses per student (see Attachment 4)**

Under this indicator, the examined schools can be divided into three groups again. Annual expenses associated with maintaining one student in school at a level:

— Exceeding 18,000 leva
— Between 15,000 and 18,000 leva
— Below 15,000 leva

In addition to the grouping trends already identified, the Otets Paisiy Elementary School clearly stands out at the peak with costs at 19,600 leva, which sends it into the group of large schools. The situation is similar with the Kliment Ohridski Elementary School, with 18,000 leva.

! **Expenses per class (see Attachment 9)**

The three groups revealed under this criteria are the following, schools with class expenses:

— Over 400,000 leva
— Between 350,000 and 400,000 leva
— Under 350,000 leva

Again, as with the previous grouping, the most expensive school is Kiril I Metodiy Secondary School, with approximately 15 percent higher expenses than the second school in this group. The difference between the second most expensive school and the rest of the schools in this group is more reasonable—up to 5 percent.

On the other hand, one of the largest schools, the P.R. Slaveikov Elementary School has the lowest cost of maintaining a class of students, at 332,300 leva

! **Expenses per staff person (see Attachment 6)**

— Over 180,000 leva
— Between 170,000 and 180,000 leva
— Less than 170,000 leva

! **Expenses for salaries and social security contributions per student (see Attachment 8)**

This indicator shows the level of distribution of expense items with the highest relative share under Education—over 78 percent.

— More than 14,000 leva per student
— 13,000 to 14,000 leva per student
— Under 13,000 leva per student

! **Expenses for salaries and social security contributions per class (see Attachment 11)**

— Over 320,000 leva
— Between 300,000 and 320,000 leva
— Less than 300,000 leva

The Mathematics School falls into the first group since it has the lowest number of classes—20.

! **Expenses for salaries and social security contributions per staff person (see Attachment 12)**

— More than 143,000 leva
— Between 135,000 to 143,000 leva
— Less than 135,000 leva

! **Heating expenses per student (see Attachment 10)**

— Over 3,000 leva
— Between 1,500 leva to 3,000 leva
— Below 1,500 leva

GROUPING

Under the criteria listed above, including three physical and eight financial, we can group the schools in the three groups which describe them in different terms. (See Attachment 7) The table shows all schools according to the frequency of their occurrence, their rating in the various groups, and by each of the criteria listed. The data obtained is sufficient for the purposes of a general assessment as to the appropriateness of spending municipal funds on education. It is a matter of local policy for local government leaders to select a behavior model appropriate for attaining the desired results.

Group 1

 # Typical representatives. The Kiril I Metodiy and the Lyuben Karavelov Secondary Schools.

 # Others. Mathematics School and the Kliment Ohridski Elementary School.

The first two are characterized by the fact that they have the largest number of students and hence have the highest expenses. The second two are also representative of the third group under physical indicators and in terms of maintenance cost (the lowest values); in terms of unit costs, however, they fall into this group, i.e., education in these schools is the most expensive.

Group 2

 # Typical representatives. The Simeon Veliki and the Hristo Botev secondary schools, the Ivan Vazov Elementary School, and the Foreign Languages School.

These are characterized by indicator values that are average for the municipality, both with regard to physical and financial indicators.

 # Specifics. The Hristo Botev secondary school and the Ivan Vazov Elementary School differ from the rest in the expenses for salaries per student, per class and per staff person, which ranks them in Group 1, that of the expensive schools. The Mathematics School also falls into the expensive group in terms of total expenses per student, per class and per staff person. Additional analysis is needed to identify reasons for his difference.

 # Others. The P.R. Slaveikov Secondary School and the Otets Paisiy Elementary. The former has below average values for the following indicators: students per staff person and unit costs. (*Note: No data provided for heating costs*). Otets Paisiy Elementary has the smallest number of students, which accounts for its high costs per student and high salary expenses per student; hence it falls into the first group. On the other hand, in terms of physical indicators and total expenses, it belongs with the third group. Under five unit cost indicators, it is ranked in the second group of schools.

Group 3

 # Typical representatives. Sophroniy Vrachanski Elementary School falls into the second group only in terms of number of students per staff person and can be assumed as an insignificant factor.

 # Others. The P.R. Slaveikov Secondary School and the Kliment Ohridski Elementary School.

See earlier discussion of these schools.

HEALTH CARE COST CENTERS ASSESSMENT

INTRODUCTION

Under the Socialist regime, the Municipality of Vidin was a district center. The health care system left over from those days is typical both in terms of structure and the types of services provided. Last year the Vidin Municipality spent 407,576,000 leva on health care. They support a staff of 1,840 people. The structure includes the following entities: a regional hospital, a polyclinic, the Worker's Polyclinic, village medical service centers, emergency wards, a center for labor hygiene, an orphanage, a dental clinic and a technical laboratory, and the social activities and accounting departments. Many of these organizations are the only providers of a their respective services in the region, bringing in non-residents from other districts. As a result the Vidin taxpayers pay for non-Vidin residents. Until this is resolved the municipal debt will continue to increase, but currently there is no legal way to solve this dilemma.

In talking with the administrator of the regional hospital it was discovered that it is in such serious financial condition that it has had a major impact on the health and well being of municipal residents. The main financial problem of the hospital is that the revenues it obtains from the municipal government are insufficient and irregular. The result is that the hospital's stocks of pharmaceuticals and other supplies are seriously depleted, with the outlook for replenishment poor. Furthermore, the hospital does not appear to be adequately heated due to both the shortage of fuel in the country and their inability to pay for what is available.

As the result of the financial crisis, only 300 of the 1,000 beds in the hospital are presently occupied because the hospital can handle only emergency patients, and only emergency surgeries are performed due to a lack of funds. It was mentioned to the administrator that the hospital might be able to reduce costs by reducing the number of wards that serve patients and he indicated that it had been discussed with the Mayor.

The organization and financial structure of the hospital system is strongly centralized, giving the municipality minimum legal control over the hospital management. The Ministry of Health (MH) determines basic standards such as numbers and types of wards, number of beds per ward, number and type of staff, and levels of salaries and social security. Making changes within the system is very cumbersome and requires the MH's approval. On the other hand the municipality is obliged to fund any decisions made by the ministry.

The existing accounting system is organized in a way that provides little analytical information. Expenses can be examined only by looking at the regional hospital as a whole, not by ward, bed or patient. While salaries are available for examination, no record of how staff members spend their time is kept.

Objectives

The objectives of this report are as follows:

— To help municipal officials begin to restructure the hospital system using the current accounting system; and
— To raise the awareness of the need for implementation of cost analysis and performance measurement systems.

Available Accounting and Statistical Data

The expenses of the hospital are accounted for in the following way:

— Expenses for the hospital as a whole;
— Line-item expenses under the Uniform Budget Classification (e.g. salary, social security, food, medication);
— Staff duties; and
— Types of prescribed medicines.

The existing accounting and statistics systems do not provide managers with adequate and analytical information. The accounting system lags significantly behind the economic events and is at the hospital level, and although containing valuable information, its preparation and submission do not serve the needs of the hospital management. Definitely, much can be done to improve its reliability. Two clear needs for data to accurately analyze the efficiency of hospital operations at the ward level are:

— Tracking hospital costs at the ward level (directly where costs can be attributed directly, such as for ward staff, medicine, and supplies, and indirectly through development of an overhead structure for costs associated with the hospital as a whole which are not easily allocated to individual wards (administration and maintenance, for example); and
— Utilization rates (expressed a the number of patient-days per bed) to indicate how efficiently the capacity in each ward is being used.

Data available for this study did not include this information. As a result, the analysis presented below utilizes a crude "synthetic' cost function to estimate costs per ward. (The derivation of the estimated ward costs is explained in the notes to Attachment 2.)

Before presenting the analysis, two other caveats about the results must be stressed. Making judgements about the relative efficiency of wards in the hospital must also take into account the unique nature of the supply and demand for medical care. First, health care decisionmakers may optimally choose a relatively high level of supply of a particular health care service in order to ensure adequate supply in response to peak demand for that service. (For example, because of the seriousness of cardiovascular conditions, the hospital may choose to provide facilities to deal with three emergency cases simultaneously, even if the usual level of demand is only two simultaneous cases; i.e., the risk of the potential loss of life associated with not having a third facility available may be unacceptably high.) Thus, comparing average measures of cost and utilization may understate the effective utility of the ward.

Second, the level and intensity of treatment to avoid serious disability or loss of life is likely to vary significantly across wards; i.e., each ward is likely to have a different supply (cost) function to meet a common level of demand (avoidance of serious disability or loss of life). Thus, because the objective for the health care decisionmakers likely to be primarily based on meeting a common level of demand (rather than equalizing costs per patient or bed across wards), it is also likely to be acceptable for wards to demonstrate varying costs per patient or per bed.

In summary, the analysis presented below is merely a first step at identifying the varying cost patterns displayed by the current service structure at the hospital. Moving to the next step of determining the relative efficiency of the various wards requires comparing those costs with the relative contribution of each ward to meeting the demand for health care. In economic theory, this analysis would be carried out by comparing the consumption of health care in each ward with a social welfare function to achieve a uniform contribution by each ward to society's marginal utility. In more practical terms, this evaluation is often done through cost-benefit analysis, comparing the value of life preserved with the cost of providing health care. (It should be noted, though, that strict cost-benefit analysis often shows that the provision of health care services does not maximize social welfare as measure by the cost-benefit approach, suggesting that there are significant non-monetary contributions to social welfare by avoiding serious disability or death through the provision of health care.) Thus, the economic data presented here has to be weighed with medical and social judgements to achieve an efficient allocation.

What the economic data can do, however, is to highlight areas—say, where costs are very high or very low compared to the norm—upon which the discussion ought to focus in order to satisfy decision makers that an optimal level of care is being made available. Given that the structure of the wards, the beds in each ward and the staff employed under the list of job categories are the result of obsolete and inapplicable standards currently required from health care establishments of a certain type, and that these are uniform for the whole country, it seems likely that there is scope, at the local level, for making changes to hospital structure to provide the desired level of health care more efficiently.

RESULTS

Attachment 1 shows some basic data about the more significant health care establishments which expend 80 percent of the total expenses for this activity, house 100 percent of the hospital beds, and employ 1,450 people. In the structure of expenses, salaries, and social security contributions account for 60.2 percent, food is 6 percent, pharmaceuticals—13.7 percent, and office and supporting costs are 17.1 percent. In 1996, 20,353 patients have been hospitalized and 1,196,000 visits for ambulatory treatment were made.

Regional Hospital

The services offered at the hospital are listed in Attachment 2 under 28 wards and two satellite hospitals. In addition, there are non-medical units such as a hospital pharmacy, a

reception and a management unit employing 20 people, which are connected to the overall functioning of the hospital. In 1996, operating costs amounted to 180,809,000 leva and accounts for over 44 percent of all health care costs in Vidin. From that, 54.6 percent is salaries and social security contributions, 9.2 percent is food, pharmaceuticals are 16.6 percent, and office and supporting costs are 15.7 percent. The hospital management believes that insufficiency of funds is the only reason for the deteriorated quality of medical services and has brought 1996 indicators to the following levels:

- Turnover per hospital bed - 16 patients
- Average days spent in hospital - 13
- Number of efficiently used beds - 250 to 300
- Planned surgery suspended
- Administering of medical drugs suspended (with the exception of ampoules)

Both municipal and hospital leadership are seriously concerned that a situation like this should not be allowed to continue. On the other hand, there are no objective criteria, the application of which would lead to management decisions corresponding to the real volume and quality of medical services. At the moment, attention is focused on finding resources to keep the system in operation, and the results of that system are not studied or analyzed. Jobs, hospital beds, and buildings are being maintained while they do not match the financial capacity of the municipality, nor the need for medical services. Difficult, yet immediate decisions are needed, requiring a clear and objective argumentation.

In the following paragraphs we will examine a number of financial indicators for the regional hospital (using the "synthetic" cost data described above, as the reporting system as currently constituted does not provide sufficiently detailed information). This presentation hopefully offers a convincing argument for the need to make changes in the system, so that in the future it will generate useful data pertaining to the costs of medical services.

The structure of the individual wards are the result of uniform standards currently required of health care establishments all over Bulgaria. It is clear that these standards have become obsolete and inapplicable. Attachments 3 through 8 examine, respectively, the following ward cost/activity indicators:

- Attachment 3: Beds per staff;
- Attachment 4: Patients per staff;
- Attachment 5: Ward cost;
- Attachment 6: Ward cost per bed;
- Attachment 7: Ward cost per patient; and
- Attachment 8: Ward cost per staff.

For each indicator, those wards showing costs with a variance of more than one standard deviation from the mean cost are highlighted (by shaded rows in the table). As noted above, the purpose of this analysis is not to mechanically push any of these cost indicators to a particular level, but to examine the variation of these indicators to begin the process of identifying those

wards where resources and needs are ill-matched—a process that will require a dialog between medical personnel and health care system decision makers.

Attachment 9 summarizes the rankings of the wards under the five indicators discussed above, indicating which wards most frequently appeared to have costs above or below the range of costs spanning one standard deviation higher or lower than the mean. Using the "synthetic" ward costs developed for this report, it appears that there are several wards whose costs are consistent outside the specified range and whose operations are worth examining more closely. In some cases, such as the outpatient and patient day care wards, the explanation in the consistently low cost indicators may be due to the nature of illness and treatment administered (i.e., costs are less because treatments are simple and short and patients are not admitted to the hospital). In other cases, such as the #1 and # 3 Intensive Care wards, costs may be consistently high because of the intensive treatment required to alleviate life-threatening conditions (although it is worth examining why these wards show higher cost indicators than the other intensive care wards). Answers to these questions require looking at operations in each of these wards in more detail, particularly using actual expense and utilization data for each ward.

At their request, this report will be shortly given to municipal officials. The State Budget Law for FY 1997, passed in July, requires that by the end of the year the municipalities must cut hospital staff in by 10 percent. This means that the city councils must make decisions based on existing management and financial systems within the next few months.

The possible managerial decisions, based on the data presented in the report, are:

— Restructuring of staff in the regional hospital and the municipal health care in general;
— Optimizing the work-load of the staff through changes in the duty schedule; and/or
— Cutting staff in wards providing infrequently requested medical services.

The report will aid in preventing mechanical staff cutting in each ward, which has been the practice in the past. It will also provides tools for additional analysis when taking managerial decisions of such importance.

APPENDIX A

CASH FLOW MANAGEMENT
EXHIBITS

CASH FLOW MANAGEMENT
EXHIBIT 1
COMPETITIVE ANALYSIS OF BANKING SERVICES AVAILABLE AND THEIR ESTIMATED COST

	Bank 1	Bank 2	Bank 3
General Information			
Name of bank official who supplied data			
Telephone number			
Type of bank (i.e. Commercial, Savings)			
Deposits federally insured up to	$_____	$_____	$_____
Size of bank (total deposits)	$_____	$_____	$_____
Estimated annual municipal deposits drawn on bank	$_____	$_____	$_____
Checking Account Costs			
(based on ___ checks issued and ___ deposits per month)			
Minimum balance required	$_____	$_____	$_____
Charge by bank per transaction:	$_____	$_____	$_____
Charge per check issued	$_____	$_____	$_____
Charge per deposit	$_____	$_____	$_____
Flat monthly charge	$_____	$_____	$_____
Credit for maintaining minimum balance	$_____	$_____	$_____
Estimated monthly cost for checking account:	$_____	$_____	$_____
Interest imputed (at ____%) on minimum balance	$_____	$_____	$_____
Transaction charges	$_____	$_____	$_____
Other	$_____	$_____	$_____
Total estimated monthly cost	$_____	$_____	$_____
Percent Yield on Interest Bearing Deposits			
Regular savings account	%_____	%_____	%_____
Six month (180 day) time deposits	%_____	%_____	%_____
Certificates of Deposit ($100,000 CD on ___/___/97)	%_____	%_____	%_____
30-day	%_____	%_____	%_____
60-day	%_____	%_____	%_____
180-day	%_____	%_____	%_____
270-day	%_____	%_____	%_____
Cost of Short-Term Borrowing			
Interest rate to the municipality (on ___/___/97)	%_____	%_____	%_____
Certificates of Deposit ($100,000 CD on ___/___/97)	%_____	%_____	%_____
Estimated Cost for Data Processing Services			
Payroll cost per quarter --			
(_____employees paid _____times during quarter)	$_____	$_____	$_____
Accounts payable per month (_____checks per month)	$_____	$_____	$_____
Check reconciliation (per month)	$_____	$_____	$_____
Lockbox (per cycle)	$_____	$_____	$_____
General ledger accounting (per month)	$_____	$_____	$_____
Revenue and receivables accounting --			
tax and utility bills (per month)	$_____	$_____	$_____
Act as Municipal Treasurer (annual fee)	$_____	$_____	$_____

CASH FLOW MANAGEMENT
EXHIBIT 2
ESTIMATED CASH RECEIPTS
FISCAL YEAR ENDING DECEMBER 31, 19___

Period	Total Cash Receipts		Local Taxes		Other Local Receipts		Receipts from State Government	
Ended	Estimate	Actual	Estimate	Actual	Estimate	Actual	Estimate	Actual
Column Ref.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
Period 1								
Period 2								
Period 3								
. . . .								
Period X								
Total for Year								

Instructions for using this worksheet

1. Each major source of cash receipts for the municipality should de identified and established as a column heading. It is suggested that in setting up the worksheet, provision be made to record actual cash receipts for each period next to the cash receipts which were estimated so that the cash manager can readily identify those areas where future cash receipts estimates can be improved, either by period or in total.
2. The "period ended" date in the cash receipts estimate will normally be the date that payroll checks are issued to municipal employees during the year.
3. The amount of cash to be received from each source of cash established on the worksheet should be estimated for each period established.
4. When cash receipts from each source of cash have been estimated for each time period the columns should be added across to develop a total cash receipt for each time period.

CASH FLOW MANAGEMENT
EXHIBIT 3
ESTIMATED CASH EXPENDITURES
FISCAL YEAR ENDING DECEMBER 31, 19___

Period	Total Cash Expenditures		Net Salaries/ Wages		Payroll Taxes		Debt Service		Capital Expenditure		Materials/ Supplies		Utilities	
Ended	Estimate	Actual	Estimate	Actual	Estimate	Actual	Estimate	Actual	Estimate	Actual	Estimate	Actual	Estimate	Actual
Column Ref.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	)M)	(N)
Period 1														
Period 2														
Period 3														
. . . .														
Period X														
Total for Year														

Instructions for using this worksheet

1. Each major source of cash receipts for the municipality should de identified and established as a column heading. It is suggested that in setting up the worksheet, provision be made to record actual cash receipts for each period next to the cash receipts which were estimated so that the cash manager can readily identify those areas where future cash receipts estimates can be improved, either by period or in total.
2. The "period ended" date in the cash receipts estimate will normally be the date that payroll checks are issued to municipal employees during the year.
3. The amount of cash to be received from each source of cash established on the worksheet should be estimated for each period established.
4. When cash receipts from each source of cash have been estimated for each time period the columns should be added across to develop a total cash receipt for each time period.

CASH FLOW MANAGEMENT
EXHIBIT 4
ESTIMATED CASH FLOW
FISCAL YEAR ENDING DECEMBER 31, 19___

Period Ended	Beginning Cash	Estimated Cash Available/(Required)				Short-Term Investments/(Borrowing)				Estimated Ending Cash	Memo for Interest		
		Cash Receipts	Cash Expenditures	Net Cash Flow	Cash Available/ (Required)	(Invested)/ Matured	Borrowed/ (Repaid)	Interest Income	Interest (Expense)		Number of Days	Interest Rate (%)	Principal Amount
Column Ref.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
Period 1													
Period 2													
Period 3													
. . . .													
Period X													
Total for Year													

CASH FLOW MANAGEMENT
EXHIBIT 5
INCOME EARNED ON INVESTED IDLE CASH
FISCAL YEAR ENDING DECEMBER 31, 19___

Period Ended	Date Purchased	Security Type/ Reference	Investment Record: Amount Invested	Investment Record: Yield	Term (days)	Due at Maturity: Date	Due at Maturity: Total	Due at Maturity: Income	Income Earned by Accounting Period: January	February	. . .	December
Column Ref.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(K)	(L)	(...)	(...)
Period 1												
Period 2												
Period 3												
. . . .												
Period X												
Total for Year												

Instructions for using this worksheet

1. Each investment of idle cash should be recorded at the time it is purchased. The investment record for each investment should include the following information (by column reference):
   (A) Date the investment is purchased
   (B) Type of security purchased (i.e., C.D., Repo., etc.) and the security certificate reference
   (C) The amount of cash invested
   (D) The calculated yield of the investment. As discussed in Chapter 6, if the security is purchased at par, the yield would be equal to the stated interest rate. However, if the security is purchased at a discount, the yield would be higher than the state
   (Income (Col. H) / Amount Invested (Col. C)) / (Term in days (Col. E) / 360) = Yield
   (E) The term, or the number of days from purchase date to maturity date
   (F) The date the investment will mature
   (G) Total cash to be received by the municipality for the investment on date it matures
   (H) Income from the investment includes interest earned adjusted for any discount or premium on the investment. It is determined by subtracting the amount invested (Col. C) from the total cash to be received at maturity (Col. G).
2. The income earned for each investment can then be determined by accounting period. For example, if the investment is made on July 15 and has a term of 180 days, 16/180 of the income would be earned in July, 31/180 in August, 30/180 in September, etc.
3. If an investment is liquidated or sold prior to its maturity date, income in the month of the sale will have to be recalculated, and income in subsequent months reduced to zero. The recalculated income in the month of the sale would be the actual inco
4. At the end of each accounting period, income earned on all investments can then be totaled for the period. It will be necessary to do this if the cash manager wishes to:
   (a) Allocate income earned on commingled cash which is invested to the respective funds maintained in the accounting records.
   (b) Accrue interest income earned each month in the appropriate accounting records.

APPENDIX B

EDUCATION COST CENTERS
ATTACHMENTS

EDUCATION COST CENTERS
ATTACHMENT 1
EXPENSES AND ENROLLMENT

		Social	Office and Supporting Costs (OSC)								Expenses		Enrollment	
	Salaries	Security	Water	Telephone	Heating	Transport	Electricity	Other	Total	Other	Total	Percent	Total	Percent
City Schools	90,388	35,042	763	349	15,876	642	1,484	2,184	21,298	7,481	154,209	74.53	8,923	93.56
Percent	*58.61*	*22.72*	*0.49*	*0.23*	*10.30*	*0.42*	*0.96*	*1.42*	*13.81*	*4.85*	*100.00*			
Village Schools	17,626	6,787	81	76	1,003	805	212	433	2,610	2,278	29,301	14.16	614	6.44
Percent	*60.15*	*23.16*	*0.28*	*0.26*	*3.42*	*2.75*	*0.72*	*1.48*	*8.91*	*7.77*	*100.00*			
Subtotal	108,014	41,829	844	425	16,879	1,447	1,696	2,617	23,908	9,759	183,510	88.69	9,537	100.00
Percent	*58.86*	*22.79*	*0.46*	*0.23*	*9.20*	*0.79*	*0.92*	*1.43*	*13.03*	*5.32*	*100.00*			
Kindergartens	13,634	4,845	230	132	2,848	136	374	543	4,263	661	23,403	11.31	-	-
Percent	*58.26*	*20.70*	*0.98*	*0.56*	*12.17*	*0.58*	*1.60*	*2.32*	*18.22*	*2.82*	*100.00*			
TOTAL :	121,648	46,674	1,074	557	19,727	1,583	2,070	3,160	28,171	10,420	206,913	100.00	9,537	100.00
Percent	*58.79*	*22.56*	*0.52*	*0.27*	*9.53*	*0.77*	*1.00*	*1.53*	*13.61*	*5.04*	*100.00*			

EDUCATION COST CENTERS
ATTACHMENT 2
EXPENSES AND STAFFING
(SORTED BY TOTAL EXPENSES)

								Staff			Expenses			Students	Salary and
		Salaries	Social Security	Total OSC	*Total Expenses*	Class-rooms	Classes	Students	Non-teaching	Teaching	Total	per Student	per Class	per Staff	per Staff	SS per Student
1	Kiril i Metody sec.	13,244	5,161	3,262	*22,639*	34	50	1,006	26	99	125	22.50	452.78	181.11	8.05	18.30
2	Lyuben Karavelov sec.	13,656	5,223	2,502	*22,362*	34	58	1,494	30	97	127	14.97	385.55	176.08	11.76	12.64
3	P.R. Slaveykov sec.	11,479	4,448	545	*17,277*	32	52	1,151	26	91	117	15.01	332.25	147.67	9.84	13.84
4	Simeon Veliki sec.	9,367	3,610	2,884	*16,566*	23	42	993	22	69	91	16.68	394.43	182.04	10.91	13.07
5	Hristo Botev sec.	7,547	3,029	2,744	*13,894*	23	38	754	21	58	79	18.43	365.63	175.87	9.54	14.03
6	Foreign Languages sch.	6,822	2,728	2,664	*13,171*	25	31	701	17	55	72	18.79	424.87	182.93	9.74	13.62
7	Ivan Vazov elem.	7,320	2,692	1,025	*11,307*	16	30	653	16	54	70	17.32	376.90	161.53	9.33	15.33
8	Sofroniy Vrachanski elem.	5,625	2,387	1,198	*9,881*	12	29	694	15	49	64	14.24	340.72	154.39	10.84	11.54
9	Kliment Ohridski elem.	4,943	1,989	2,486	*9,812*	15	25	544	14	36	50	18.04	392.48	196.24	10.88	12.74
10	Otets Paisiy elem.	5,281	1,901	1,258	*8,736*	16	23	445	13	38	51	19.63	379.83	171.29	8.73	16.14
11	Mathematics sch.	5,104	1,874	730	*8,564*	13	20	488	10	36	46	17.55	428.20	186.17	10.61	14.30

EDUCATION COST CENTERS
ATTACHMENT 3
EXPENSES AND STAFFING
(SORTED BY NUMBER OF CLASSES)

								Staff			Expenses			Students	Salary and
		Salaries	Social Security	Total OSC	Total Expenses	Class-rooms	*Classes*	Students	Non-teaching	Teaching	Total	per Student	per Class	per Staff	per Staff	SS per Student
1	Lyuben Karavelov sec.	13,656	5,223	2,502	22,362	34	*58*	1,494	30	97	127	14.97	385.55	176.08	11.76	12.64
2	P.R. Slaveykov sec.	11,479	4,448	545	17,277	32	*52*	1,151	26	91	117	15.01	332.25	147.67	9.84	13.84
3	Kiril i Metody sec.	13,244	5,161	3,262	22,639	34	*50*	1,006	26	99	125	22.50	452.78	181.11	8.05	18.30
4	Simeon Veliki sec.	9,367	3,610	2,884	16,566	23	*42*	993	22	69	91	16.68	394.43	182.04	10.91	13.07
5	Hristo Botev sec.	7,547	3,029	2,744	13,894	23	*38*	754	21	58	79	18.43	365.63	175.87	9.54	14.03
6	Foreign Languages sch.	6,822	2,728	2,664	13,171	25	*31*	701	17	55	72	18.79	424.87	182.93	9.74	13.62
7	Ivan Vazov elem.	7,320	2,692	1,025	11,307	16	*30*	653	16	54	70	17.32	376.90	161.53	9.33	15.33
8	Sofroniy Vrachanski elem.	5,625	2,387	1,198	9,881	12	*29*	694	15	49	64	14.24	340.72	154.39	10.84	11.54
9	Kliment Ohridski elem.	4,943	1,989	2,486	9,812	15	*25*	544	14	36	50	18.04	392.48	196.24	10.88	12.74
10	Otets Paisiy elem.	5,281	1,901	1,258	8,736	16	*23*	445	13	38	51	19.63	379.83	171.29	8.73	16.14
11	Mathematics sch.	5,104	1,874	730	8,564	13	*20*	488	10	36	46	17.55	428.20	186.17	10.61	14.30

EDUCATION COST CENTERS
ATTACHMENT 4
EXPENSES AND STAFFING
(SORTED BY EXPENSES PER STUDENT)

								Staff			Expenses			Students	Salary and
		Salaries	Social Security	Total OSC	Total Expenses	Class-rooms	Classes	Students	Non-teaching	Teaching	Total	*per Student*	per Class	per Staff	per Staff	SS per Student
1	Kiril i Metody sec.	13,244	5,161	3,262	22,639	34	50	1,006	26	99	125	*22.50*	452.78	181.11	8.05	18.30
2	Otets Paisiy elem.	5,281	1,901	1,258	8,736	16	23	445	13	38	51	*19.63*	379.83	171.29	8.73	16.14
3	Foreign Languages sch.	6,822	2,728	2,664	13,171	25	31	701	17	55	72	*18.79*	424.87	182.93	9.74	13.62
4	Hristo Botev sec.	7,547	3,029	2,744	13,894	23	38	754	21	58	79	*18.43*	365.63	175.87	9.54	14.03
5	Kliment Ohridski elem.	4,943	1,989	2,486	9,812	15	25	544	14	36	50	*18.04*	392.48	196.24	10.88	12.74
6	Mathematics sch.	5,104	1,874	730	8,564	13	20	488	10	36	46	*17.55*	428.20	186.17	10.61	14.30
7	Ivan Vazov elem.	7,320	2,692	1,025	11,307	16	30	653	16	54	70	*17.32*	376.90	161.53	9.33	15.33
8	Simeon Veliki sec.	9,367	3,610	2,884	16,566	23	42	993	22	69	91	*16.68*	394.43	182.04	10.91	13.07
9	P.R. Slaveykov sec.	11,479	4,448	545	17,277	32	52	1,151	26	91	117	*15.01*	332.25	147.67	9.84	13.84
10	Lyuben Karavelov sec.	13,656	5,223	2,502	22,362	34	58	1,494	30	97	127	*14.97*	385.55	176.08	11.76	12.64
11	Sofroniy Vrachanski elem.	5,625	2,387	1,198	9,881	12	29	694	15	49	64	*14.24*	340.72	154.39	10.84	11.54

EDUCATION COST CENTERS
ATTACHMENT 5
EXPENSES AND STAFFING
(SORTED BY NUMBER OF STUDENTS)

								Staff			Expenses			Students	Salary and
		Salaries	Social Security	Total OSC	Total Expenses	Class-rooms	Classes	*Students*	Non-teaching	Teaching	Total	per Student	per Class	per Staff	per Staff	SS per Student
1	Lyuben Karavelov sec.	13,656	5,223	2,502	22,362	34	58	*1,494*	30	97	127	14.97	385.55	176.08	11.76	12.64
2	P.R. Slaveykov sec.	11,479	4,448	545	17,277	32	52	*1,151*	26	91	117	15.01	332.25	147.67	9.84	13.84
3	Kiril i Metody sec.	13,244	5,161	3,262	22,639	34	50	*1,006*	26	99	125	22.50	452.78	181.11	8.05	18.30
4	Simeon Veliki sec.	9,367	3,610	2,884	16,566	23	42	*993*	22	69	91	16.68	394.43	182.04	10.91	13.07
5	Hristo Botev sec.	7,547	3,029	2,744	13,894	23	38	*754*	21	58	79	18.43	365.63	175.87	9.54	14.03
6	Foreign Languages sch.	6,822	2,728	2,664	13,171	25	31	*701*	17	55	72	18.79	424.87	182.93	9.74	13.62
7	Sofroniy Vrachanski elem.	5,625	2,387	1,198	9,881	12	29	*694*	15	49	64	14.24	340.72	154.39	10.84	11.54
8	Ivan Vazov elem.	7,320	2,692	1,025	11,307	16	30	*653*	16	54	70	17.32	376.90	161.53	9.33	15.33
9	Kliment Ohridski elem.	4,943	1,989	2,486	9,812	15	25	*544*	14	36	50	18.04	392.48	196.24	10.88	12.74
10	Mathematics sch.	5,104	1,874	730	8,564	13	20	*488*	10	36	46	17.55	428.20	186.17	10.61	14.30
11	Otets Paisiy elem.	5,281	1,901	1,258	8,736	16	23	*445*	13	38	51	19.63	379.83	171.29	8.73	16.14

EDUCATION COST CENTERS
ATTACHMENT 6
EXPENSES AND STAFFING
(SORTED BY EXPENSES PER STAFF PERSON)

								Staff			Expenses			Students	Salary and
		Salaries	Social Security	Total OSC	Total Expenses	Class-rooms	Classes	Students	Non-teaching	Teaching	Total	per Student	per Class	*per Staff*	per Staff	SS per Student
1	Kliment Ohridski elem.	4,943	1,989	2,486	9,812	15	25	544	14	36	50	18.04	392.48	*196.24*	10.88	12.74
2	Mathematics sch.	5,104	1,874	730	8,564	13	20	488	10	36	46	17.55	428.20	*186.17*	10.61	14.30
3	Foreign Languages sch.	6,822	2,728	2,664	13,171	25	31	701	17	55	72	18.79	424.87	*182.93*	9.74	13.62
4	Simeon Veliki sec.	9,367	3,610	2,884	16,566	23	42	993	22	69	91	16.68	394.43	*182.04*	10.91	13.07
5	Kiril i Metody sec.	13,244	5,161	3,262	22,639	34	50	1,006	26	99	125	22.50	452.78	*181.11*	8.05	18.30
6	Lyuben Karavelov sec.	13,656	5,223	2,502	22,362	34	58	1,494	30	97	127	14.97	385.55	*176.08*	11.76	12.64
7	Hristo Botev sec.	7,547	3,029	2,744	13,894	23	38	754	21	58	79	18.43	365.63	*175.87*	9.54	14.03
8	Otets Paisiy elem.	5,281	1,901	1,258	8,736	16	23	445	13	38	51	19.63	379.83	*171.29*	8.73	16.14
9	Ivan Vazov elem.	7,320	2,692	1,025	11,307	16	30	653	16	54	70	17.32	376.90	*161.53*	9.33	15.33
10	Sofroniy Vrachanski elem.	5,625	2,387	1,198	9,881	12	29	694	15	49	64	14.24	340.72	*154.39*	10.84	11.54
11	P.R. Slaveykov sec.	11,479	4,448	545	17,277	32	52	1,151	26	91	117	15.01	332.25	*147.67*	9.84	13.84

EDUCATION COST CENTERS
ATTACHMENT 7
EXPENSES AND STAFFING
(SORTED BY STUDENTS PER STAFF PERSON)

								Staff			Expenses			*Students*	Salary and
		Salaries	Social Security	Total OSC	Total Expenses	Class-rooms	Classes	Students	Non-teaching	Teaching	Total	per Student	per Class	per Staff	*per Staff*	SS per Student
1	Lyuben Karavelov sec.	13,656	5,223	2,502	22,362	34	58	1,494	30	97	127	14.97	385.55	176.08	*11.76*	12.64
2	Simeon Veliki sec.	9,367	3,610	2,884	16,566	23	42	993	22	69	91	16.68	394.43	182.04	*10.91*	13.07
3	Kliment Ohridski elem.	4,943	1,989	2,486	9,812	15	25	544	14	36	50	18.04	392.48	196.24	*10.88*	12.74
4	Sofroniy Vrachanski elem.	5,625	2,387	1,198	9,881	12	29	694	15	49	64	14.24	340.72	154.39	*10.84*	11.54
5	Mathematics sch.	5,104	1,874	730	8,564	13	20	488	10	36	46	17.55	428.20	186.17	*10.61*	14.30
6	P.R. Slaveykov sec.	11,479	4,448	545	17,277	32	52	1,151	26	91	117	15.01	332.25	147.67	*9.84*	13.84
7	Foreign Languages sch.	6,822	2,728	2,664	13,171	25	31	701	17	55	72	18.79	424.87	182.93	*9.74*	13.62
8	Hristo Botev sec.	7,547	3,029	2,744	13,894	23	38	754	21	58	79	18.43	365.63	175.87	*9.54*	14.03
9	Ivan Vazov elem.	7,320	2,692	1,025	11,307	16	30	653	16	54	70	17.32	376.90	161.53	*9.33*	15.33
10	Otets Paisiy elem.	5,281	1,901	1,258	8,736	16	23	445	13	38	51	19.63	379.83	171.29	*8.73*	16.14
11	Kiril i Metody sec.	13,244	5,161	3,262	22,639	34	50	1,006	26	99	125	22.50	452.78	181.11	*8.05*	18.30

EDUCATION COST CENTERS
ATTACHMENT 8
EXPENSES AND STAFFING
(SORTED BY SALARY AND SOCIAL SECURITY EXPENSE PER STUDENT)

								Staff			Expenses			Students	*Salary and*
	Salaries	Social Security	Total OSC	Total Expenses	Class-rooms	Classes	Students	Non-teaching	Teaching	Total	per Student	per Class	per Staff	per Staff	*SS per Student*
1 Kiril i Metody sec.	13,244	5,161	3,262	22,639	34	50	1,006	26	99	125	22.50	452.78	181.11	8.05	*18.30*
2 Otets Paisiy elem.	5,281	1,901	1,258	8,736	16	23	445	13	38	51	19.63	379.83	171.29	8.73	*16.14*
3 Ivan Vazov elem.	7,320	2,692	1,025	11,307	16	30	653	16	54	70	17.32	376.90	161.53	9.33	*15.33*
4 Mathematics sch.	5,104	1,874	730	8,564	13	20	488	10	36	46	17.55	428.20	186.17	10.61	*14.30*
5 Hristo Botev sec.	7,547	3,029	2,744	13,894	23	38	754	21	58	79	18.43	365.63	175.87	9.54	*14.03*
6 P.R. Slaveykov sec.	11,479	4,448	545	17,277	32	52	1,151	26	91	117	15.01	332.25	147.67	9.84	*13.84*
7 Foreign Languages sch.	6,822	2,728	2,664	13,171	25	31	701	17	55	72	18.79	424.87	182.93	9.74	*13.62*
8 Simeon Veliki sec.	9,367	3,610	2,884	16,566	23	42	993	22	69	91	16.68	394.43	182.04	10.91	*13.07*
9 Kliment Ohridski elem.	4,943	1,989	2,486	9,812	15	25	544	14	36	50	18.04	392.48	196.24	10.88	*12.74*
10 Lyuben Karavelov sec.	13,656	5,223	2,502	22,362	34	58	1,494	30	97	127	14.97	385.55	176.08	11.76	*12.64*
11 Sofroniy Vrachanski elem.	5,625	2,387	1,198	9,881	12	29	694	15	49	64	14.24	340.72	154.39	10.84	*11.54*

EDUCATION COST CENTERS
ATTACHMENT 9
EXPENSES AND STAFFING
(SORTED BY EXPENSES PER CLASS)

								Staff			Expenses			Students	Salary and
		Salaries	Social Security	Total OSC	Total Expenses	Class-rooms	Classes	Students	Non-teaching	Teaching	Total	per Student	*per Class*	per Staff	per Staff	SS per Student
1	Kiril i Metody sec.	13,244	5,161	3,262	22,639	34	50	1,006	26	99	125	22.50	*452.78*	181.11	8.05	18.30
2	Mathematics sch.	5,104	1,874	730	8,564	13	20	488	10	36	46	17.55	*428.20*	186.17	10.61	14.30
3	Foreign Languages sch.	6,822	2,728	2,664	13,171	25	31	701	17	55	72	18.79	*424.87*	182.93	9.74	13.62
4	Simeon Veliki sec.	9,367	3,610	2,884	16,566	23	42	993	22	69	91	16.68	*394.43*	182.04	10.91	13.07
5	Kliment Ohridski elem.	4,943	1,989	2,486	9,812	15	25	544	14	36	50	18.04	*392.48*	196.24	10.88	12.74
6	Lyuben Karavelov sec.	13,656	5,223	2,502	22,362	34	58	1,494	30	97	127	14.97	*385.55*	176.08	11.76	12.64
7	Otets Paisiy elem.	5,281	1,901	1,258	8,736	16	23	445	13	38	51	19.63	*379.83*	171.29	8.73	16.14
8	Ivan Vazov elem.	7,320	2,692	1,025	11,307	16	30	653	16	54	70	17.32	*376.90*	161.53	9.33	15.33
9	Hristo Botev sec.	7,547	3,029	2,744	13,894	23	38	754	21	58	79	18.43	*365.63*	175.87	9.54	14.03
10	Sofroniy Vrachanski elem.	5,625	2,387	1,198	9,881	12	29	694	15	49	64	14.24	*340.72*	154.39	10.84	11.54
11	P.R. Slaveykov sec.	11,479	4,448	545	17,277	32	52	1,151	26	91	117	15.01	*332.25*	147.67	9.84	13.84

EDUCATION COST CENTERS
ATTACHMENT 10
EXPENSES AND STAFFING
(SORTED BY HEATING EXPENSES PER STUDENT)

											Staff			*Heating*	Salary and	
				OSC			Total			Non-			*per*	Social Security per	
	Salaries	Social Security	Heating	Electicity	Other	Total	Expenses	Classes	Students	teaching	Teaching	Total	*Student*	Staff	Class
1	Hristo Botev sec.	7,547	3,029	2,318	181	245	2,744	13,894	38	754	21	58	79	*3.07*	133.87	14.03
2	Kliment Ohridski elem.	4,943	1,989	1,665	171	650	2,486	9,812	25	544	14	36	50	*3.06*	138.64	12.74
3	Foreign Languages sch.	6,822	2,728	2,043	128	493	2,664	13,171	31	701	17	55	72	*2.91*	132.64	13.62
4	Kiril i Metody sec.	13,244	5,161	2,706	182	374	3,262	22,639	50	1,006	26	99	125	*2.69*	147.24	18.30
5	Otets Paisiy elem.	5,281	1,901	1,101	2	155	1,258	8,736	23	445	13	38	51	*2.47*	140.82	16.14
6	Simeon Veliki sec.	9,367	3,610	2,032	157	695	2,884	16,566	42	993	22	69	91	*2.05*	142.60	13.07
7	Sofroniy Vrachanski elem.	5,625	2,387	975	62	161	1,198	9,881	29	694	15	49	64	*1.40*	125.19	11.54
8	Lyuben Karavelov sec.	13,656	5,223	1,736	338	428	2,502	22,362	58	1,494	30	97	127	*1.16*	148.65	12.64
9	Ivan Vazov elem.	7,320	2,692	745	82	198	1,025	11,307	30	653	16	54	70	*1.14*	143.03	15.33
10	Mathematics sch.	5,104	1,874	555	52	123	730	8,564	20	488	10	36	46	*1.14*	151.70	14.30
11	P.R. Slaveykov sec.	11,479	4,448	-	129	416	545	17,277	52	1,151	26	91	117	-	136.13	13.84

EDUCATION COST CENTERS
ATTACHMENT 11
EXPENSES AND STAFFING
(SORTED BY SALARY AND SOCIAL SECURITY EXPENSE PER CLASS)

			OSC							Staff			Heating	Salary and Social Security per	
	Salaries	Social Security	Heating	Electicity	Other	Total	Total Expenses	Classes	Students	Non-teaching	Teaching	Total	per Student	Staff	*Class*
1 Kiril i Metody sec.	13,244	5,161	2,706	182	374	3,262	22,639	50	1,006	26	99	125	2.69	147.24	*368.10*
2 Mathematics sch.	5,104	1,874	555	52	123	730	8,564	20	488	10	36	46	1.14	151.70	*348.90*
3 Ivan Vazov elem.	7,320	2,692	745	82	198	1,025	11,307	30	653	16	54	70	1.14	143.03	*333.73*
4 Lyuben Karavelov sec.	13,656	5,223	1,736	338	428	2,502	22,362	58	1,494	30	97	127	1.16	148.65	*325.50*
5 Otets Paisiy elem.	5,281	1,901	1,101	2	155	1,258	8,736	23	445	13	38	51	2.47	140.82	*312.26*
6 Simeon Veliki sec.	9,367	3,610	2,032	157	695	2,884	16,566	42	993	22	69	91	2.05	142.60	*308.98*
7 Foreign Languages sch.	6,822	2,728	2,043	128	493	2,664	13,171	31	701	17	55	72	2.91	132.64	*308.06*
8 P.R. Slaveykov sec.	11,479	4,448	-	129	416	545	17,277	52	1,151	26	91	117	-	136.13	*306.29*
9 Hristo Botev sec.	7,547	3,029	2,318	181	245	2,744	13,894	38	754	21	58	79	3.07	133.87	*278.32*
10 Kliment Ohridski elem.	4,943	1,989	1,665	171	650	2,486	9,812	25	544	14	36	50	3.06	138.64	*277.28*
11 Sofroniy Vrachanski elem.	5,625	2,387	975	62	161	1,198	9,881	29	694	15	49	64	1.40	125.19	*276.28*

EDUCATION COST CENTERS
ATTACHMENT 12
EXPENSES AND STAFFING
(SORTED BY SALARY AND SOCIAL SECURITY EXPENSE PER STAFF PERSON)

			OSC							Staff			Heating per	Salary and Social Security per	
	Salaries	Social Security	Heating	Electicity	Other	Total	Total Expenses	Classes	Students	Non-teaching	Teaching	Total	Student	*Staff*	Class
1 Mathematics sch.	5,104	1,874	555	52	123	730	8,564	20	488	10	36	46	1.14	*151.70*	348.90
2 Lyuben Karavelov sec.	13,656	5,223	1,736	338	428	2,502	22,362	58	1,494	30	97	127	1.16	*148.65*	325.50
3 Kiril i Metody sec.	13,244	5,161	2,706	182	374	3,262	22,639	50	1,006	26	99	125	2.69	*147.24*	368.10
4 Ivan Vazov elem.	7,320	2,692	745	82	198	1,025	11,307	30	653	16	54	70	1.14	*143.03*	333.73
5 Simeon Veliki sec.	9,367	3,610	2,032	157	695	2,884	16,566	42	993	22	69	91	2.05	*142.60*	308.98
6 Otets Paisiy elem.	5,281	1,901	1,101	2	155	1,258	8,736	23	445	13	38	51	2.47	*140.82*	312.26
7 Kliment Ohridski elem.	4,943	1,989	1,665	171	650	2,486	9,812	25	544	14	36	50	3.06	*138.64*	277.28
8 P.R. Slaveykov sec.	11,479	4,448	-	129	416	545	17,277	52	1,151	26	91	117	-	*136.13*	306.29
9 Hristo Botev sec.	7,547	3,029	2,318	181	245	2,744	13,894	38	754	21	58	79	3.07	*133.87*	278.32
10 Foreign Languages sch.	6,822	2,728	2,043	128	493	2,664	13,171	31	701	17	55	72	2.91	*132.64*	308.06
11 Sofroniy Vrachanski elem.	5,625	2,387	975	62	161	1,198	9,881	29	694	15	49	64	1.40	*125.19*	276.28

EDUCATION COST CENTERS
ATTACHMENT 13
SCHOOL GROUPINGS
(BY CRITERIA)

	Criteria										
	Number of	Number of	Students	Total	Expenses			Salary and Social Security			Heating
	Classes	students	per Staff	Expenses	per Student	per Class	per Staff	per Student	per Class	per Staff	per Student
Group 1 Schools											
1 Lyuben Karavelov sec.	n	n	n	n					n	n	
2 P.R. Slaveykov sec.	n	n									
3 Kiril i Metody sec.	n	n		n	n	n	n	n	n	n	
4 Simeon Veliki sec.			n				n				
5 Hristo Botev sec.					n						n
6 Foreign Languages sch.					n	n	n				
7 Sofroniy Vrachanski elem.			n								
8 Ivan Vazov elem.						n		n	n		
9 Kliment Ohridski elem.			n		n		n				n
10 Mathematics sch.			n				n	n	n	n	
11 Otets Paisiy elem.					n			n			
Group 2 Schools											
1 Lyuben Karavelov sec.						n	n				
2 P.R. Slaveykov sec.			n	n				n	n	n	
3 Kiril i Metody sec.											n
4 Simeon Veliki sec.	n	n		n	n	n		n	n	n	n
5 Hristo Botev sec.	n	n	n	n		n	n	n			
6 Foreign Languages sch.	n	n	n	n				n	n		n
7 Sofroniy Vrachanski elem.		n									
8 Ivan Vazov elem.	n	n	n	n	n	n				n	
9 Kliment Ohridski elem.						n				n	
10 Mathematics sch.					n						
11 Otets Paisiy elem.						n	n		n	n	n
Group 3 Schools											
1 Lyuben Karavelov sec.					n			n			n
2 P.R. Slaveykov sec.			n		n	n	n				n
3 Kiril i Metody sec.											
4 Simeon Veliki sec.											
5 Hristo Botev sec.									n	n	
6 Foreign Languages sch.										n	
7 Sofroniy Vrachanski elem.	n		n	n	n	n	n	n	n	n	n
8 Ivan Vazov elem.			n				n				n
9 Kliment Ohridski elem.	n	n		n				n	n		
10 Mathematics sch.	n	n		n							n
11 Otets Paisiy elem.	n	n		n							

APPENDIX C

HEALTH CARE COST CENTERS
ATTACHMENTS

HEALTHCARE COST CENTERS
ATTACHMENT 1
STAFF/EXPENSE RATIOS

	Staff				Expenses									
	Senior	Junior	Other	Total	Salary	Social	Food	Med.	Admin.	Support	Service	Repairs	Other	Total
Regional Hospital	103	297	188	588	72,011	26,743	16,719	30,007	224	28,344	307	3,915	2,539	180,809
Ratio	*17.5*	*50.5*	*32.0*		*39.8*	*14.8*	*9.2*	*16.6*	*0.1*	*15.7*	*0.2*	*2.2*	*1.4*	*55.4*
Polyclinic	124	259	212	595	43,644	16,297		14,332	113	21,511		105	859	96,861
Ratio	*20.8*	*43.5*	*35.6*		*45.1*	*16.8*	*-*	*14.8*	*0.1*	*22.2*	*-*	*0.1*	*0.9*	*29.7*
Working Hospital	22	41	16	79	9,242	3,447			7	61			266	13,023
Ratio	*27.8*	*51.9*	*20.3*		*71.0*	*26.5*	*-*	*-*	*0.1*	*0.5*	*-*	*-*	*2.0*	*4.0*
Regular Hospital	11	40	19	70	5,372	2,000			3	772		188	320	8,655
Ratio	*15.7*	*57.1*	*27.1*		*62.1*	*23.1*	*-*	*-*	*0.0*	*8.9*	*-*	*2.2*	*3.7*	*2.7*
Emergency				-	3,963	1,468			83	4,061		119	189	9,883
Ratio					*40.1*	*14.9*	*-*	*-*	*0.8*	*41.1*	*-*	*1.2*	*1.9*	*3.0*
Technical Support	2	11	5	18	1,426	529		268	32	344		7	268	2,874
Ratio	*11.1*	*61.1*	*27.8*		*49.6*	*18.4*	*-*	*9.3*	*1.1*	*12.0*	*-*	*0.2*	*9.3*	*0.9*
Social		44	46	90	6,359	2,360	2,881		1	534			248	12,383
Ratio	*-*	*48.9*	*51.1*		*51.4*	*19.1*	*23.3*	*-*	*0.0*	*4.3*	*-*	*-*	*2.0*	*3.8*
Subtotal					142,017	52,844	19,600	44,607	463	55,627	307	4,334	4,689	324,488
Ratio					*43.8*	*16.3*	*6.0*	*13.7*	*0.1*	*17.1*	*0.1*	*1.3*	*1.4*	
Accounting			13	13	1,364	506			1	99		3	126	2,099
Ratio	*-*	*-*	*100.0*		*65.0*	*24.1*	*-*	*-*	*0.0*	*4.7*	*-*	*0.1*	*6.0*	*0.6*
Total	262	692	499	1,453	143,381	53,350	19,600	44,607	464	55,726	307	4,337	4,815	326,587
Ratio	*18.0*	*47.6*	*34.3*		*43.9*	*16.3*	*6.0*	*13.7*	*0.1*	*17.1*	*0.1*	*1.3*	*1.5*	*100.0*

HEALTHCARE COST CENTERS
ATTACHMENT 2
1996 EXPENSES [REGIONAL HOSPITAL]

Wards	Beds	Patients	Turnover	Staff				Ward Cost
				Managers	Medical	General	Total	
1 # 1 Cardiovascular	50	1,252	25.0	1	15	7	23	8,472,255
2 # 1 Intensive Care	6	586	97.7		8		8	2,919,799
3 # 2 Gastroenterology	50	544	10.9	1	11	6	18	5,986,579
4 # 2 Intensive Care	4	157	39.3		5		5	1,353,442
5 # 3 Pulmonary	48	1,017	21.2	1	13	9	23	7,868,315
6 # 3 Intensive Care	6	193	32.2		9		9	2,191,640
7 # 4 Endocrynology	48	498	10.4	1	13	6	20	6,161,005
8 # 4 Intensive Care	3	99	33.0		2		2	670,074
9 Nephrology, Haemodyalis	16	158	9.9	1	19	5	25	5,199,490
10 Rehabilitation + Diagnosis	22	303	13.8	2	14	6	22	5,210,030
11 # 1 General Surgery	52	1,585	30.5	1	20	8	29	10,336,352
12 # 2 Children Vasc. Surge	50	1,467	29.3	1	19	8	28	9,827,983
13 Orthopaedy	45	453	10.1	1	15	8	24	6,650,240
14 Urology	30	602	20.1	1	10	6	17	5,293,679
15 Gynaecology	38	711	18.7	1	32	17	50	11,500,286
16 Phthisiatry	30	171	5.7	1	10	5	16	4,133,244
17 Isolator	50	440	8.8	1	13	8	22	6,438,575
18 Children Care	70	1,600	22.9	1	34	15	50	14,583,052
19 Children Care	40	1,167	29.2	1	18	6	25	8,295,995
20 Ophthalmology	36	348	9.7	1	9	5	15	4,562,308
21 Otic, Rhino, Larynx	30	640	21.3	1	8	5	14	4,863,003
22 Dermatology	32	304	9.5	1	7	3	11	3,640,450
23 Psychiatry	50	368	7.4	1	23	9	33	8,172,047
24 Neurology	60	967	16.1	1	15	11	27	8,836,024
25 Neurology, Intensive Care	6	153	25.5		9		9	2,099,961
26 Maternity	47	2,606	55.4	1	11	5	17	10,442,070
27 Pathologic Pregnancy	35	1,003	28.7				0	3,442,038
28 Premature Born Infant Ca	8	264	33.0	1	23	6	30	6,044,094
Subtotal	*962*	*19,656*	*20.4*	*23*	*385*	*164*	*572*	*175,194,029*
29 Outpatient Care Center	113	633	5.6					5,141,662
30 Patient Day Care Center	10	64	6.4					473,310
Subtotal	*1,085*	*20,353*	*18.8*	*23*	*385*	*164*	*572*	180,809,000
31 Reception						2	2	
32 Pharmacy				1	8	4	13	
33 Administration				4	1		5	
TOTAL	*1,085*	*20,353*	*18.8*	*28*	*394*	*170*	*592*	180,809,000

Note

Because actual costs per ward and patient-day data are not available, the analysis presented here uses ward costs calculated using the cost structure shown in Attachment 1 for the regional hospital. This approximation of actual ward costs was developed using the following assumptions:

1. Staff costs (salaries and social benefits; 54.6% of total) are allocated to each ward proportionate to the ward's share of total staff (572; staff in Reception, Pharmacy, and Administration are not included for the purposes of cost allocations to the wards).
2. Costs for food and medicine (25.8% of total) are allocated to each ward proportionate to the ward's share of all patients treated.

3. Other costs (support and administration, service, repairs; 19.8% of total) are allocated to each ward proportionate to the ward's share of all beds.

HEALTHCARE COST CENTERS
ATTACHMENT 3
1996 EXPENSES [REGIONAL HOSPITAL]
(SORTED BY BEDS PER STAFF)

1996 Expenses	180,809,000 BGL								
	Estimated				Beds per		Ward Cost		
Wards	Ward Cost	Beds	Patients	Turnover	Staff	Staff	Per Bed	Per Patient	Per Staff
1 Maternity + Pathologic Pregnar	13,884,108	82	3,609	44.01	17	4.82	169,318	3,847	816,712
2 Dermatology	3,640,450	32	304	9.50	11	2.91	113,764	11,975	330,950
3 # 2 Children Vasc. Surgery	5,986,579	50	544	10.88	18	2.78	119,732	11,005	332,588
4 # 4 Endocrynology	6,161,005	48	498	10.38	20	2.40	128,354	12,371	308,050
5 Ophthalmology	4,562,308	36	348	9.67	15	2.40	126,731	13,110	304,154
6 Isolator	6,438,575	50	440	8.80	22	2.27	128,771	14,633	292,662
7 Neurology	8,836,024	60	967	16.12	27	2.22	147,267	9,138	327,260
8 # 1 Cardiovascular	8,472,255	50	1,252	25.04	23	2.17	169,445	6,767	368,359
9 Urology	4,863,003	30	640	21.33	14	2.14	162,100	7,598	347,357
10 # 3 Pulmonary	7,868,315	48	1,017	21.19	23	2.09	163,923	7,737	342,101
11 Orthopaedy	6,650,240	45	453	10.07	24	1.88	147,783	14,680	277,093
12 Otic, Rhino, Larynx	4,133,244	30	171	5.70	16	1.88	137,775	24,171	258,328
13 # 1 General Surgery	10,336,352	52	1,585	30.48	29	1.79	198,776	6,521	356,426
14 # 2 Gastroenterology	9,827,983	50	1,467	29.34	28	1.79	196,560	6,699	350,999
15 Phthisiatry	5,293,679	30	602	20.07	17	1.76	176,456	8,793	311,393
16 Children Care	8,295,995	40	1,167	29.18	25	1.60	207,400	7,109	331,840
17 Psychiatry	8,172,047	50	368	7.36	33	1.52	163,441	22,207	247,638
18 # 4 Intensive Care	670,074	3	99	33.00	2	1.50	223,358	6,768	335,037
19 Children Care	14,583,052	70	1,600	22.86	50	1.40	208,329	9,114	291,661
20 Rehabilitation + Diagnostic	5,210,030	22	303	13.77	22	1.00	236,820	17,195	236,820
21 # 2 Intensive Care	1,353,442	4	157	39.25	5	0.80	338,361	8,621	270,688
22 Gynaecology	11,500,286	38	711	18.71	50	0.76	302,639	16,175	230,006
23 # 1 Intensive Care	2,919,799	6	586	97.67	8	0.75	486,633	4,983	364,975
24 # 3 Intensive Care	2,191,640	6	193	32.17	9	0.67	365,273	11,356	243,516
25 Neurology, Intensive Care	2,099,961	6	153	25.50	9	0.67	349,993	13,725	233,329
26 Nephrology, Haemodialysis	5,199,490	16	158	9.88	25	0.64	324,968	32,908	207,980
27 Premature Born Infant Care	6,044,094	8	264	33.00	30	0.27	755,512	22,894	201,470
28 Outpatient Care Center	5,141,662	113	633	5.60	-	-	45,501	8,123	-
29 Patient Day Care Center	473,310	10	64	6.40	-	-	47,331	7,395	-

TOTAL/AVERAGE	180,809,000	1,085	20,353	18.76	572	0.53	166,644	8,884	316,100

Note

Shaded areas indicate values for "Beds per Staff" +/- one standard deviation from the mean (mean = 1.74; standard deviation = 0.94).

HEALTHCARE COST CENTERS
ATTACHMENT 4
1996 EXPENSES [REGIONAL HOSPITAL]
(SORTED BY PATIENTS PER STAFF)

1996 Expenses		180,809,000 BGL							
	Estimated					Patients	Ward Cost		
Wards	Ward Cost	Beds	Patients	Turnover	Staff	per Staff	Per Bed	Per Patient	Per Staff
1 Maternity + Pathologic Pregnar	13,884,108	82	3,609	44.01	17	212.29	169,318	3,847	816,712
2 # 1 Intensive Care	2,919,799	6	586	97.67	8	73.25	486,633	4,983	364,975
3 # 1 General Surgery	10,336,352	52	1,585	30.48	29	54.66	198,776	6,521	356,426
4 # 1 Cardiovascular	8,472,255	50	1,252	25.04	23	54.43	169,445	6,767	368,359
5 # 2 Gastroenterology	9,827,983	50	1,467	29.34	28	52.39	196,560	6,699	350,999
6 # 4 Intensive Care	670,074	3	99	33.00	2	49.50	223,358	6,768	335,037
7 Children Care	8,295,995	40	1,167	29.18	25	46.68	207,400	7,109	331,840
8 Urology	4,863,003	30	640	21.33	14	45.71	162,100	7,598	347,357
9 # 3 Pulmonary	7,868,315	48	1,017	21.19	23	44.22	163,923	7,737	342,101
10 Neurology	8,836,024	60	967	16.12	27	35.81	147,267	9,138	327,260
11 Phthisiatry	5,293,679	30	602	20.07	17	35.41	176,456	8,793	311,393
12 Children Care	14,583,052	70	1,600	22.86	50	32.00	208,329	9,114	291,661
13 # 2 Intensive Care	1,353,442	4	157	39.25	5	31.40	338,361	8,621	270,688
14 # 2 Children Vasc. Surgery	5,986,579	50	544	10.88	18	30.22	119,732	11,005	332,588
15 Dermatology	3,640,450	32	304	9.50	11	27.64	113,764	11,975	330,950
16 # 4 Endocrynology	6,161,005	48	498	10.38	20	24.90	128,354	12,371	308,050
17 Ophthalmology	4,562,308	36	348	9.67	15	23.20	126,731	13,110	304,154
18 # 3 Intensive Care	2,191,640	6	193	32.17	9	21.44	365,273	11,356	243,516
19 Isolator	6,438,575	50	440	8.80	22	20.00	128,771	14,633	292,662
20 Orthopaedy	6,650,240	45	453	10.07	24	18.88	147,783	14,680	277,093
21 Neurology, Intensive Care	2,099,961	6	153	25.50	9	17.00	349,993	13,725	233,329
22 Gynaecology	11,500,286	38	711	18.71	50	14.22	302,639	16,175	230,006
23 Rehabilitation + Diagnostic	5,210,030	22	303	13.77	22	13.77	236,820	17,195	236,820
24 Psychiatry	8,172,047	50	368	7.36	33	11.15	163,441	22,207	247,638
25 Otic, Rhino, Larynx	4,133,244	30	171	5.70	16	10.69	137,775	24,171	258,328
26 Premature Born Infant Care	6,044,094	8	264	33.00	30	8.80	755,512	22,894	201,470
27 Nephrology, Haemodialysis	5,199,490	16	158	9.88	25	6.32	324,968	32,908	207,980
28 Outpatient Care Center	5,141,662	113	633	5.60	-	-	45,501	8,123	-
29 Patient Day Care Center	473,310	10	64	6.40	-	-	47,331	7,395	-
TOTAL/AVERAGE	180,809,000	1,085	20,353	18.76	572	0.53	166,644	8,884	316,100

Note

Shaded areas indicate values for "Patients per Staff" +/- one standard deviation from the mean (mean = 30.91; standard deviation = 17.35; excluding observation for maternity ward).

HEALTHCARE COST CENTERS
ATTACHMENT 5
1996 EXPENSES [REGIONAL HOSPITAL]
(SORTED BY WARD COST)

1996 Expenses		180,809,000 BGL							
	Estimated					Staff	Ward Cost		
Wards	Ward Cost	Beds	Patients	Turnover	Staff	Per Bed	Per Bed	Per Patient	Per Staff
1 Children Care	14,583,052	70	1,600	22.86	50	0.71	208,329	9,114	291,661
2 Maternity + Pathologic Pregnar	13,884,108	82	3,609	44.01	17	0.21	169,318	3,847	816,712
3 Gynaecology	11,500,286	38	711	18.71	50	1.32	302,639	16,175	230,006
4 # 1 General Surgery	10,336,352	52	1,585	30.48	29	0.56	198,776	6,521	356,426
5 # 2 Gastroenterology	9,827,983	50	1,467	29.34	28	0.56	196,560	6,699	350,999
6 Neurology	8,836,024	60	967	16.12	27	0.45	147,267	9,138	327,260
7 # 1 Cardiovascular	8,472,255	50	1,252	25.04	23	0.46	169,445	6,767	368,359
8 Children Care	8,295,995	40	1,167	29.18	25	0.63	207,400	7,109	331,840
9 Psychiatry	8,172,047	50	368	7.36	33	0.66	163,441	22,207	247,638
10 # 3 Pulmonary	7,868,315	48	1,017	21.19	23	0.48	163,923	7,737	342,101
11 Orthopaedy	6,650,240	45	453	10.07	24	0.53	147,783	14,680	277,093
12 Isolator	6,438,575	50	440	8.80	22	0.44	128,771	14,633	292,662
13 # 4 Endocrynology	6,161,005	48	498	10.38	20	0.42	128,354	12,371	308,050
14 Premature Born Infant Care	6,044,094	8	264	33.00	30	3.75	755,512	22,894	201,470
15 # 2 Children Vasc. Surgery	5,986,579	50	544	10.88	18	0.36	119,732	11,005	332,588
16 Phthisiatry	5,293,679	30	602	20.07	17	0.57	176,456	8,793	311,393
17 Rehabilitation + Diagnostic	5,210,030	22	303	13.77	22	1.00	236,820	17,195	236,820
18 Nephrology, Haemodialysis	5,199,490	16	158	9.88	25	1.56	324,968	32,908	207,980
19 Outpatient Care Center	5,141,662	113	633	5.60	-	-	45,501	8,123	-
20 Urology	4,863,003	30	640	21.33	14	0.47	162,100	7,598	347,357
21 Ophthalmology	4,562,308	36	348	9.67	15	0.42	126,731	13,110	304,154
22 Otic, Rhino, Larynx	4,133,244	30	171	5.70	16	0.53	137,775	24,171	258,328
23 Dermatology	3,640,450	32	304	9.50	11	0.34	113,764	11,975	330,950
24 # 1 Intensive Care	2,919,799	6	586	97.67	8	1.33	486,633	4,983	364,975
25 # 3 Intensive Care	2,191,640	6	193	32.17	9	1.50	365,273	11,356	243,516
26 Neurology, Intensive Care	2,099,961	6	153	25.50	9	1.50	349,993	13,725	233,329
27 # 2 Intensive Care	1,353,442	4	157	39.25	5	1.25	338,361	8,621	270,688
28 # 4 Intensive Care	670,074	3	99	33.00	2	0.67	223,358	6,768	335,037
29 Patient Day Care Center	473,310	10	64	6.40	-	-	47,331	7,395	-
TOTAL/AVERAGE	180,809,000	1,085	20,353	18.76	572	0.53	166,644	8,884	316,100

Note

Shaded areas indicate values for "Ward Cost" +/- one standard deviation from the mean (mean = 6,234,793; standard deviation = 3,590,041).

HEALTHCARE COST CENTERS
ATTACHMENT 6
1996 EXPENSES [REGIONAL HOSPITAL]
(SORTED BY WARD COST PER BED)

1996 Expenses		180,809,000 BGL							
	Estimated					Staff	Ward Cost		
Wards	Ward Cost	Beds	Patients	Turnover	Staff	Per Bed	Per Bed	Per Patient	Per Staff
1 Premature Born Infant Care	6,044,094	8	264	33.00	30	3.75	755,512	22,894	201,470
2 # 1 Intensive Care	2,919,799	6	586	97.67	8	1.33	486,633	4,983	364,975
3 # 3 Intensive Care	2,191,640	6	193	32.17	9	1.50	365,273	11,356	243,516
4 Neurology, Intensive Care	2,099,961	6	153	25.50	9	1.50	349,993	13,725	233,329
5 # 2 Intensive Care	1,353,442	4	157	39.25	5	1.25	338,361	8,621	270,688
6 Nephrology, Haemodialysis	5,199,490	16	158	9.88	25	1.56	324,968	32,908	207,980
7 Gynaecology	11,500,286	38	711	18.71	50	1.32	302,639	16,175	230,006
8 Rehabilitation + Diagnostic	5,210,030	22	303	13.77	22	1.00	236,820	17,195	236,820
9 # 4 Intensive Care	670,074	3	99	33.00	2	0.67	223,358	6,768	335,037
10 Children Care	14,583,052	70	1,600	22.86	50	0.71	208,329	9,114	291,661
11 Children Care	8,295,995	40	1,167	29.18	25	0.63	207,400	7,109	331,840
12 # 1 General Surgery	10,336,352	52	1,585	30.48	29	0.56	198,776	6,521	356,426
13 # 2 Gastroenterology	9,827,983	50	1,467	29.34	28	0.56	196,560	6,699	350,999
14 Phthisiatry	5,293,679	30	602	20.07	17	0.57	176,456	8,793	311,393
15 # 1 Cardiovascular	8,472,255	50	1,252	25.04	23	0.46	169,445	6,767	368,359
16 Maternity + Pathologic Pregnar	13,884,108	82	3,609	44.01	17	0.21	169,318	3,847	816,712
17 # 3 Pulmonary	7,868,315	48	1,017	21.19	23	0.48	163,923	7,737	342,101
18 Psychiatry	8,172,047	50	368	7.36	33	0.66	163,441	22,207	247,638
19 Urology	4,863,003	30	640	21.33	14	0.47	162,100	7,598	347,357
20 Orthopaedy	6,650,240	45	453	10.07	24	0.53	147,783	14,680	277,093
21 Neurology	8,836,024	60	967	16.12	27	0.45	147,267	9,138	327,260
22 Otic, Rhino, Larynx	4,133,244	30	171	5.70	16	0.53	137,775	24,171	258,328
23 Isolator	6,438,575	50	440	8.80	22	0.44	128,771	14,633	292,662
24 # 4 Endocrynology	6,161,005	48	498	10.38	20	0.42	128,354	12,371	308,050
25 Ophthalmology	4,562,308	36	348	9.67	15	0.42	126,731	13,110	304,154
26 # 2 Children Vasc. Surgery	5,986,579	50	544	10.88	18	0.36	119,732	11,005	332,588
27 Dermatology	3,640,450	32	304	9.50	11	0.34	113,764	11,975	330,950
28 Patient Day Care Center	473,310	10	64	6.40	-	-	47,331	7,395	-
29 Outpatient Care Center	5,141,662	113	633	5.60	-	-	45,501	8,123	-
TOTAL/AVERAGE	180,809,000	1,085	20,353	18.76	572	0.53	166,644	8,884	316,100

Note

Shaded areas indicate values for "Ward Cost per Bed" +/- one standard deviation from the mean (mean = 218,701; standard deviation = 142,713).

HEALTHCARE COST CENTERS
ATTACHMENT 7
1996 EXPENSES [REGIONAL HOSPITAL]
(SORTED BY WARD COST PER PATIENT)

1996 Expenses		180,809,000 BGL							
	Estimated					Staff	Ward Cost		
Wards	Ward Cost	Beds	Patients	Turnover	Staff	per Bed	Per Bed	Per Patient	Per Staff
1 Nephrology, Haemodialysis	5,199,490	16	158	9.88	25	1.56	324,968	32,908	207,980
2 Otic, Rhino, Larynx	4,133,244	30	171	5.70	16	0.53	137,775	24,171	258,328
3 Premature Born Infant Care	6,044,094	8	264	33.00	30	3.75	755,512	22,894	201,470
4 Psychiatry	8,172,047	50	368	7.36	33	0.66	163,441	22,207	247,638
5 Rehabilitation + Diagnostic	5,210,030	22	303	13.77	22	1.00	236,820	17,195	236,820
6 Gynaecology	11,500,286	38	711	18.71	50	1.32	302,639	16,175	230,006
7 Orthopaedy	6,650,240	45	453	10.07	24	0.53	147,783	14,680	277,093
8 Isolator	6,438,575	50	440	8.80	22	0.44	128,771	14,633	292,662
9 Neurology, Intensive Care	2,099,961	6	153	25.50	9	1.50	349,993	13,725	233,329
10 Ophthalmology	4,562,308	36	348	9.67	15	0.42	126,731	13,110	304,154
11 # 4 Endocrynology	6,161,005	48	498	10.38	20	0.42	128,354	12,371	308,050
12 Dermatology	3,640,450	32	304	9.50	11	0.34	113,764	11,975	330,950
13 # 3 Intensive Care	2,191,640	6	193	32.17	9	1.50	365,273	11,356	243,516
14 # 2 Children Vasc. Surgery	5,986,579	50	544	10.88	18	0.36	119,732	11,005	332,588
15 Neurology	8,836,024	60	967	16.12	27	0.45	147,267	9,138	327,260
16 Children Care	14,583,052	70	1,600	22.86	50	0.71	208,329	9,114	291,661
17 Phthisiatry	5,293,679	30	602	20.07	17	0.57	176,456	8,793	311,393
18 # 2 Intensive Care	1,353,442	4	157	39.25	5	1.25	338,361	8,621	270,688
19 Outpatient Care Center	5,141,662	113	633	5.60	-	-	45,501	8,123	-
20 # 3 Pulmonary	7,868,315	48	1,017	21.19	23	0.48	163,923	7,737	342,101
21 Urology	4,863,003	30	640	21.33	14	0.47	162,100	7,598	347,357
22 Patient Day Care Center	473,310	10	64	6.40	-	-	47,331	7,395	-
23 Children Care	8,295,995	40	1,167	29.18	25	0.63	207,400	7,109	331,840
24 # 4 Intensive Care	670,074	3	99	33.00	2	0.67	223,358	6,768	335,037
25 # 1 Cardiovascular	8,472,255	50	1,252	25.04	23	0.46	169,445	6,767	368,359
26 # 2 Gastroenterology	9,827,983	50	1,467	29.34	28	0.56	196,560	6,699	350,999
27 # 1 General Surgery	10,336,352	52	1,585	30.48	29	0.56	198,776	6,521	356,426
28 # 1 Intensive Care	2,919,799	6	586	97.67	8	1.33	486,633	4,983	364,975
29 Maternity + Pathologic Pregnar	13,884,108	82	3,609	44.01	17	0.21	169,318	3,847	816,712
TOTAL/AVERAGE	180,809,000	1,085	20,353	18.76	572	0.53	166,644	8,884	316,100

Note

Shaded areas indicate values for "Ward Cost per Patient" +/- one standard deviation from the mean (mean = 11,987; standard deviation = 6,647).

HEALTHCARE COST CENTERS
ATTACHMENT 8
1996 EXPENSES [REGIONAL HOSPITAL]
(SORTED BY WARD COST PER STAFF)

1996 Expenses		180,809,000 BGL							
	Estimated				Staff		Ward Cost		
Wards	Ward Cost	Beds	Patients	Turnover	Staff	Per Bed	Per Bed	Per Patient	Per Staff
1 Maternity + Pathologic Pregnar	13,884,108	82	3,609	44.01	17	0.21	169,318	3,847	816,712
2 # 1 Cardiovascular	8,472,255	50	1,252	25.04	23	0.46	169,445	6,767	368,359
3 # 1 Intensive Care	2,919,799	6	586	97.67	8	1.33	486,633	4,983	364,975
4 # 1 General Surgery	10,336,352	52	1,585	30.48	29	0.56	198,776	6,521	356,426
5 # 2 Gastroenterology	9,827,983	50	1,467	29.34	28	0.56	196,560	6,699	350,999
6 Urology	4,863,003	30	640	21.33	14	0.47	162,100	7,598	347,357
7 # 3 Pulmonary	7,868,315	48	1,017	21.19	23	0.48	163,923	7,737	342,101
8 # 4 Intensive Care	670,074	3	99	33.00	2	0.67	223,358	6,768	335,037
9 # 2 Children Vasc. Surgery	5,986,579	50	544	10.88	18	0.36	119,732	11,005	332,588
10 Children Care	8,295,995	40	1,167	29.18	25	0.63	207,400	7,109	331,840
11 Dermatology	3,640,450	32	304	9.50	11	0.34	113,764	11,975	330,950
12 Neurology	8,836,024	60	967	16.12	27	0.45	147,267	9,138	327,260
13 Phthisiatry	5,293,679	30	602	20.07	17	0.57	176,456	8,793	311,393
14 # 4 Endocrynology	6,161,005	48	498	10.38	20	0.42	128,354	12,371	308,050
15 Ophthalmology	4,562,308	36	348	9.67	15	0.42	126,731	13,110	304,154
16 Isolator	6,438,575	50	440	8.80	22	0.44	128,771	14,633	292,662
17 Children Care	14,583,052	70	1,600	22.86	50	0.71	208,329	9,114	291,661
18 Orthopaedy	6,650,240	45	453	10.07	24	0.53	147,783	14,680	277,093
19 # 2 Intensive Care	1,353,442	4	157	39.25	5	1.25	338,361	8,621	270,688
20 Otic, Rhino, Larynx	4,133,244	30	171	5.70	16	0.53	137,775	24,171	258,328
21 Psychiatry	8,172,047	50	368	7.36	33	0.66	163,441	22,207	247,638
22 # 3 Intensive Care	2,191,640	6	193	32.17	9	1.50	365,273	11,356	243,516
23 Rehabilitation + Diagnostic	5,210,030	22	303	13.77	22	1.00	236,820	17,195	236,820
24 Neurology, Intensive Care	2,099,961	6	153	25.50	9	1.50	349,993	13,725	233,329
25 Gynaecology	11,500,286	38	711	18.71	50	1.32	302,639	16,175	230,006
26 Nephrology, Haemodialysis	5,199,490	16	158	9.88	25	1.56	324,968	32,908	207,980
27 Premature Born Infant Care	6,044,094	8	264	33.00	30	3.75	755,512	22,894	201,470
28 Outpatient Care Center	5,141,662	113	633	5.60	-	-	45,501	8,123	-
29 Patient Day Care Center	473,310	10	64	6.40	-	-	47,331	7,395	-
TOTAL/AVERAGE	180,809,000	1,085	20,353	18.76	572	0.53	166,644	8,884	316,100

Note

Shaded areas indicate values for "Ward Cost per Staff" +/- one standard deviation from the mean (mean = 296,257; standard deviation = 50,689; excluding observation for maternity ward).

HEALTHCARE COST CENTERS
ATTACHMENT 9
WARDS WITH COST MEASURES BEYOND ONE STANDARD DEVIATION FROM MEAN
(SORTED BY FREQUENCY OF OCCURANCE)

Wards	Beds per Staff	Patients per Staff	Ward Cost				Frequency of Variance		
			Total	Per Bed	Per Patient	Per Staff	>SD (+)	<SD (-)	Total
1 Maternity	+	+	+		-	+	4	1	5
2 Pathologic Pregnancy	+	+	+		-	+	4	1	5
3 # 1 Intensive Care	-	+		+	-	+	3	2	5
4 Nephrology, Haemodyalisis	-	-		+	+	-	2	3	5
5 Premature Born Infant Care	-	-		+	+	-	2	3	5
6 Gynaecology	-		+	+		-	2	2	4
7 # 3 Intensive Care	-		-	+		-	1	3	4
8 Neurology, Intensive Care	-		-	+		-	1	3	4
9 Outpatient Care Center	-	-		-		-		4	4
10 Patient Day Care Center	-	-	-	-		-		4	4
11 # 2 Gastroenterology		+	+			+	3		3
12 # 1 General Surgery		+	+			+	3		3
13 # 4 Intensive Care		+	-	+			2	1	3
14 # 1 Cardiovascular		+				+	2		2
15 # 2 Intensive Care			-	+			1	1	2
16 Rehabilitation + Diagnosis				+		-	1	1	2
17 Otic, Rhino, Larynx		-			+		1	1	2
18 Psychiatry		-			+		1	1	2
19 # 2 Children Vasc. Surgery	+						1		1
20 Urology						+	1		1
21 Children Care			+				1		1
22 Dermatology	+						1		1
23 # 3 Pulmonary									-
24 # 4 Endocrynology									-
25 Orthopaedy									-
26 Phthisiatry									-
27 Isolator									-
28 Children Care									-
29 Ophthalmology									-
30 Neurology									-