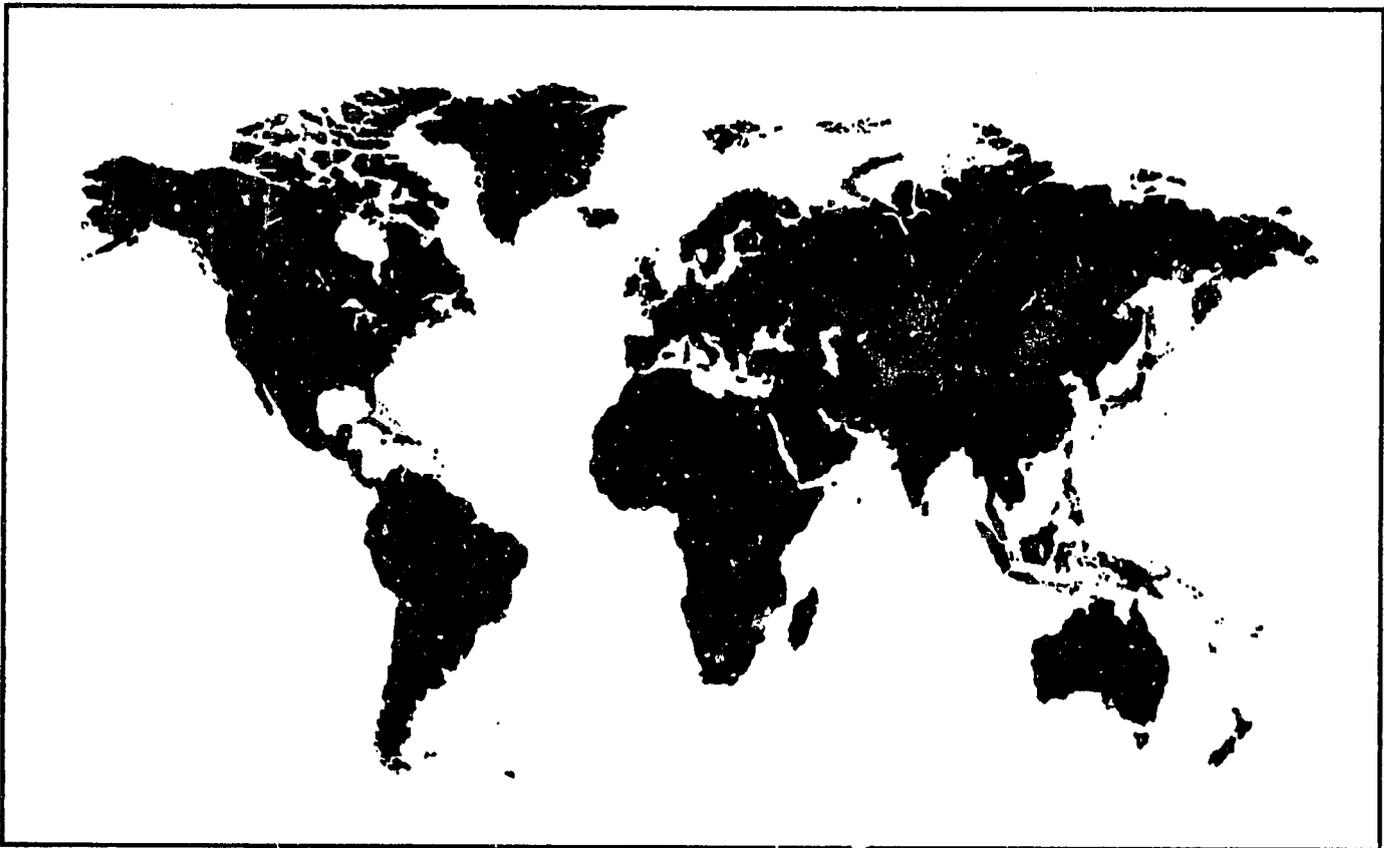


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Urban Financial Management

Phase II: Local Government Financial Management Workbook for the Philippines

Final Report



Research Triangle Institute

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**Urban Financial Management
Phase II Report**

**LOCAL GOVERNMENT
FINANCIAL MANAGEMENT WORKBOOK
FOR THE PHILIPPINES**

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**Research Triangle Institute
Research Triangle Park
North Carolina**

July, 1983

PREFACE

This workbook is intended for use by local government officials responsible for local government financial management functions, including revenue forecasting, analysis of financial conditions, program or project planning, and resource allocation. The version presented here was written for use by local government officials in the Republic of the Philippines. The historical data for select Philippine municipalities have been taken from the work of Mr. John Porter of Development Associates, Incorporated, conducted in conjunction with the Rural Services Center Project under contract with U.S.A.I.D./Philippines. This workbook was prepared under contract AID/SOD/PDC-C-3092. It is the work solely of the authors and does not represent the policy or position of the U.S. Agency for International Development or the Government of the Philippines.

In addition to the financial information on municipalities from the Rural Services Center project, this workbook is based on site visits to the Philippines by Selly S. and Ronald W. Johnson. James S. McCullough drafted the third chapter and directed the revenue analyses carried out by Richard K. Harper, who also carried out analyses for other chapters. We express appreciation to George Flores and Jerry Edwards of USAID/Manila for their interest, involvement and support. We also express appreciation to Dr. Romeo B. Ocampo, Director of the Local Government Center, University of the Philippines, for his time and that of his staff. Finally, to the Mayors and Treasurers of the municipalities of Tibiao, Libertad, and San Jose, and of

Antique Province, whose insights into the utility of the basic worksheets saved us from many errors, we extend our thanks.

We also pay a special tribute to Mr. Albert M. Votaw, the Regional Housing and Urban Development Officer for Bangkok before his untimely death in Lebanon. His assistance, courtesy, and interest representing the Housing Office during our site visits to Manila were greatly appreciated. More than that, he showed himself to be in every respect a gentleman and a true development scholar.

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INTRODUCTION

The purpose of this workbook is to assist local government officials and others interested in the financial conditions of local governments to collect and interpret financial information about a single local government or a group of local governments.

It will provide you with:

- a way to compile and analyze local financial information; and
- an orientation toward the need and use for standardized financial information.

And, it should help guide the reader's thinking about the uses to which such information can be put for planning and forecasting the financial conditions of local governments. The possibilities are many.

The approach is based on making use of information readily available at the local government level rather than extensive and expensive survey or other research methods. In addition, most of the analyses suggested are carried out easily by hand calculations, although relatively inexpensive, small computers that are becoming more widely available will enhance the comparative aspects of the approach. Where we suggest techniques that require more extensive calculations, we provide technical footnotes to explain the easiest methods. In addition, we provide alternative methods requiring less calculation where possible.

This workbook may be used alone by individual local officials. But, for the most effective use, we recommend this workbook be used in conjunction with assistance from a source outside the municipality, utilizing information from a large number of municipalities, and preparing in advance comparative information such as averages by size of local government. The examples we use are based on the fourteen municipalities included in the Rural Services Center project. They are intended to be illustrative since the fourteen are not a representative sample. We have restricted our examples to the municipalities because there were too many missing items of information for provinces and charter cities. The workbook, however, is just as appropriate for these other local governments.

Although any individual local government will find it helpful to look at its own fiscal condition over a several year period as is illustrated here, comparisons of your own local government with others also are extremely useful. The illustrations used in this workbook demonstrate this comparative approach with information from the fourteen municipalities. An individual local government can organize its own information and plot it against the averages for other similar local governments. Looking only at your own local government, for example, may show an increase in property tax collections, which may be good news. Compared with other similar local governments, however, your increase may be much smaller, and therefore not as good as assumed. More centralized resources, whether at the province, region, or national level can be especially useful in combining information from a number of similar local governments to expand upon the comparative base.

This workbook provides both discussion of the principles of local government financial analysis and a

series of exercises to lead the user through the analysis steps. Worksheets are provided for the individual user to record data from his or her local government and to carry out the analyses.

The analyses are designed to be carried out by hand, hand calculator or by readily available programs on a microcomputer. Some of the analyses, such as the trend line projections using a regression model, are most easily performed on the microcomputer for which simple-to-use software packages already exist. Examples of these types of analyses are provided in the workbook. For the more complex analyses which would be helped by a microcomputer, an outside source of assistance might work with the municipality. Although all the data used for illustrative purposes in the workbook were collected at the local government level, the same information is available at the Philippine Ministry of Finance, making it possible for a central government or other source of assistance to prepare assistance to one or more local governments without extensive data collection.

Where we have subdivided the fourteen municipalities into size groups, we used the following population cutoffs. Small to medium means a population of less than 30,000; large means in excess of 30,000.

WHO CAN USE THIS WORKBOOK?

Local government officials, particularly mayors, budget officers and treasurers will find this workbook useful:

- To examine fiscal data for their own communities;
- To compare themselves to other local governments;
- To analyze their situation and plan for the future;
- To make data collection easier and more routine.

Province level, regional and national level administrators can use this book:

- To develop a picture of fiscal conditions across municipalities or provinces;
- To identify local governments for which special assistance may be directed.

This manual also can be used by students and analysts of fiscal conditions and public finance. Technical assistance providers, whether governmental, university, or privately based, also have a useful role in the process described by this workbook.

I. AN OVERVIEW OF THE SYSTEM

A. INTRODUCTION

The basic approach is both historical and comparative. Information about all major sources of revenue and all major types of expenditures for each of the fourteen municipalities used as examples are gathered for the five year time period from 1977 through 1981. Information from earlier years was not included because comparable categories and comparable definitions were not used prior to 1977. 1982 information was not available at the time field visits to the Philippines were conducted. Ideally, as information for each year becomes available, a local government would add the new year, extending the information base and increasing the accuracy of some of the analyses, especially the trend line projections.

The historical data provides a useful basis for comparing how you are doing in the current year with your previous experience. You can spot likely trouble spots or particular successes by noting any unusual increases or decreases which you were not expecting. However, the historical comparisons alone leave many questions unanswered. Your most pressing concern may be not how well are you doing this year compared to last, but how well are you doing compared to what you might be able to accomplish. For this type of question, comparing yourself with other similar local governments may be most helpful. For some of the illustrations in this workbook, we calculate averages for the "best" three municipalities. You can then compare your own situation with this rough indicator of where you

might be if you were reaching the same level as these three "best". While you should be cautious in interpreting these comparisons--they only give you an indication of the possibilities, not a certainty that you can or should be at the same level--they do provide some clues about possible changes you could make.

B. DEFINITIONS

To make the best use of this workbook it is important to use consistent definitions of local government finance. You should use the audit definition for each category of information as specified by statute and by the regulations of the Ministry of Finance.

Revenues are any source of monies to the local government that may be expended for or by that government, including receipts turned over to the national or provincial government. They also include receipts from the provincial or central government to the local government.

Similarly, expenditures include the payment of monies for the functioning of the government, the delivery of services, or payments to some other government.

The balance is the result of subtracting expenditures from revenues for the total government as a whole or for individual funds within the government budget. A surplus occurs when not all revenues are expended and the balance is positive. A deficit occurs when the balance is negative--when expenditures exceed revenues.

For the purposes of comparing the revenue, expenditure and balance conditions of more than one local government, revenue and expenditure information is more useful when the

size of the population of the government's jurisdiction is taken into account. Dividing the revenues by the number of people in the jurisdiction creates a figure called revenues per capita. Such standardization makes a comparison more meaningful, for example: Municipality A generates 1,000,000 pesos annually, Municipality B generates 100,000 pesos. However, Municipality A is a city of 100,000 while Municipality B is a town of 5,000. Municipality A's per capita revenues are 10 pesos per person. For Municipality B the per capita revenue is 20 pesos per person. Thus, Municipality B, which collects many fewer total revenues actually collects twice as much from each resident of its town. Each of these definitions should be kept in mind throughout the remainder of this workbook.

C. BASIC DATA NEEDS

You will need three kinds of data to begin analyzing your fiscal conditions. First is basic information about the revenues and expenditures in your own government. This information is found in the annual budget submitted to the Ministry of Finance and used in your local government. Individual pieces of information are described under the specific headings in the chapters that follow.

The second type of information are the results of calculations performed on the basic information. This will allow you to make the kind of comparisons across categories of information in per capita terms. The computations will also enable you to examine the surplus/deficit situation for the overall financial condition of the local government and within special funds. How to perform these calculations are also contained in the following sections.

The third type of data you may need is information

about other local governments to enable you to compare your situation with theirs. Such information is provided for you in many of the illustrations. If this workbook is used in a workshop type setting with several local governments present, the comparative features can be enhanced. Above all, remember that the analyzes provided in this workbook should be looked at as questions for you to answer rather than the answers themselves.

D. FINANCIAL MANAGEMENT RELATIONSHIPS

The key local officials to be involved in the process described by this workbook are the Mayor, the Mayor's chief financial assistants, and the Treasurer. Since the Treasurer is an employee of the Ministry of Finance rather than the local government, it is especially important that everyone view this as a process of information sharing that can benefit each participant. Our experience pretesting this workbook with several municipalities in Antique Province provided convincing evidence that this is indeed the case.

However, the process we describe can involve more than just the officials of local governments and national ministries. Ultimately, the revenues raised and the subsequent expenditures are for the provision of public services and benefits to the citizens of the local governments. Effective local government management includes examining the services actually provided and assessing their value to the citizens. Therefore, the process described in this workbook of analyzing the financial conditions of local governments should be seen only as a first step in improving local government management. As a better understanding of financial conditions emerges, local officials should begin to collect information on the amounts of services provided,

the population receiving the benefits of those services, and the improvements in public conditions achieved. This kind of information goes beyond the records normally kept for financial management, but should be viewed as a part of the overall financial management process. Even though this workbook is limited primarily to the financial side, we hope that the process as it is practiced by local governments stimulates further thinking about these more general management issues.

II. GETTING STARTED

A. DATA NEEDS

This chapter presents the basic worksheets for collecting the revenue, expenditure and demographic data to support the analyses in subsequent chapters. The worksheets provide the basic profile of a municipality's financial condition and contain the necessary information to carry out both the historical and comparative analyses. The worksheets at the end of this chapter are in two column format with revenues on the left and expenditures on the right. All sources of revenue and all categories of expenditure are included, although only the summary line for many small items is included. Two important notes should be remembered:

- Figures to be entered on the worksheets are actual revenues or expenditures from the most recent, complete year, not the estimates for the current year;
- For a tax collected by one local government for another level, for example, by a municipality for the province (occupation tax), only that portion retained by the collecting government's own use should be recorded on the worksheet.

1. Revenues

Local revenues are divided into General Fund and Infrastructure Fund revenues. General Fund (GF) revenues are composed of the following categories of revenue sources:

- Property tax, including: (1) current year

collections, (2) collections of past year's taxes paid in the current year, and (3) penalties collected.

- Business tax.
- Market related fees, including: (1) public market use fees and (2) public slaughterhouse use fees.
- Utility use fees.
- License fees, including: (1) fishing lease fees, (2) building permit fees, and (3) occupation taxes.
- Central government transfers, composed of the Internal Revenue Allotment (IRA).

The Infrastructure Fund (IF) is composed of two main categories of revenues:

- Transfers from the General Fund.
- Transfers from the Central Government: including (1) the Specific Tax Allotment (STA) and (2) National Aid.

Not all municipalities, of course, will have revenues in all categories. Some municipalities do not have utility fees. Many municipalities do not have the opportunity to collect fishing leases.

2. Expenditures

Expenditures are similarly divided into General and Infrastructure Funds. An important limitation is noted in the information available to us in preparing this workbook. For Infrastructure Fund (IF) expenditures, expenses are divided into three categories with the third being capital outlay. However, for most of the municipalities included in the Rural Services Center Project which provided the data base, only the total IF was reported. This poses a serious limitation in that it becomes impossible to separate current

operating expenditures from capital investments. While this will be discussed in detail in the chapter on expenditures, note is made here to stress the importance in filling out the worksheet to include all information items.

General Fund expenditures are composed of the following main categories:

- Assessor's office.
- Treasurer's office.
- Public markets and slaughterhouses.
- Public utilities.
- 100 Account--personal services.
- 200 Account--maintenance and operation.
- 300 Account--capital outlay.

Infrastructure fund expenditures are subdivided into three categories:

- 100 Account--personal services.
- 200 Account--maintenance and operation.
- 300 Account--capital outlay.

3. Characteristics of the Local Government

In addition to the financial information captured by the worksheets, certain basic demographic and socio-economic information is necessary in order to assess your local government's financial condition. Most important is population, which serves as the main basis for comparisons with other local governments. Most of the analyses we will suggest will use one or more of the financial indicators divided by population to form per capita measures.

Other measures, however, are nearly as important. In order to assess the performance of property tax collections, the number of taxable parcels is an important piece of

information. Similarly, it is useful to know the number of businesses subject to the business tax, the number of market stalls in the public market, and so forth, in order to standardize each revenue or expenditure item. Although few non-financial measures were included in the data set on which our examples are based, in the analysis chapters we suggest other analyses that could be carried out if the appropriate information is available.

B. SOURCES OF INFORMATION

Most of the information required for the worksheets at the end of this chapter is available either from the offices of the Treasurer or the Assessor at the municipal and province levels. They are a part of the required reporting process for providing local government financial and budgetary information to the Ministry of Finance. Other demographic and socio-economic data, such as population, per capita income, proportion of the population in urban areas, typically are available in the municipality or from census information. Sources are identified on the worksheets.

C. WORKSHEETS

The basic worksheet on the following pages is divided into five parts:

- General Fund
- Infrastructure Fund
- Real Property Tax
- Municipal Employees
- Fund Transfers

In addition, spaces are provided for identifying the municipality, province, year, and population. No calculations are normally necessary for the items included

on the worksheet because they come primarily from material reported by the Treasurer to the Ministry of Finance. Not all elements on the Treasurer's reports are included on the worksheets. Therefore, the individual items would not in all cases sum up to the total. However, we do provide space in each worksheet section to include the total. You should copy this directly from the original sources. At other points in the analyses, we will make use of this total to calculate the percentage some of the major categories make up of the total.

In filling out the worksheet, it is important to attempt at least a five year profile. If only the most recent one or two years are included, it will be impossible to assess how your municipality is doing compared with previous years.

MUNICIPAL FINANCIAL PROFILE DATA COLLECTION SHEET

Name of Municipality _____ Year _____

Name of Province _____ Population _____

The information for this sheet should be available from the annual trial balance sheet or actual budget documents. The information is kept by the Municipal Treasurer, or in the case of property tax information (Part III), by the Tax Assessor.

I. THE GENERAL FUND

A. TOTAL GENERAL FUND REVENUES	_____	B. TOTAL GENERAL FUND EXPENDITURES	_____
1. REAL PROPERTY TAXES		1. ASSESSOR'S OFFICE EXPENSES	
-Current Year	_____		_____
-Previous Years	_____	2. TREASURER'S OFFICE EXPENSES	_____
-Penalties	_____		_____
TOTAL	_____	3. EXPENSES FOR PUBLIC MARKETS & SLAUGHTERHOUSES	_____
2. BUSINESS TAX	_____		_____
3. RESIDENCE TAX	_____	4. EXPENSES FOR PUBLIC UTILITIES	_____
4. INTERNAL REVENUE ALLOTMENT	_____		_____
5. BUILDING PERMITS	_____	5. 100 ACCOUNT: Personal Services	_____
6. PUBLIC MARKETS	_____		_____
7. PUBLIC SLAUGHTERHOUSE	_____	6. 200 ACCOUNT: Maintenance & Operation	_____
8. PUBLIC UTILITIES	_____		_____
		7. 300 ACCOUNT: Capital Outlay	_____

MUNICIPAL FINANCIAL PROFILE DATA COLLECTION SHEET, Cont.

I. THE INFRASTRUCTURE FUND

<p>A. TOTAL INFRASTRUCTURE FUND REVENUES _____</p> <p>1. SPECIFIC TAX ALLOTMENT _____</p> <p>2. NATIONAL AID _____</p>	<p>B. TOTAL INFRASTRUCTURE FUND EXPENDITURES _____</p>	<p>1. 100 ACCOUNT: Personal Services _____</p> <p>2. 200 ACCOUNT: Maintenance & Operation _____</p> <p>3. 300 ACCOUNT: Capital Outlay _____</p>
--	--	---

II. REAL PROPERTY TAX as of DECEMBER 31

<p>A. VALUATIONS:</p> <p>1. TAXABLE VALUE _____</p> <p>2. EXEMPT VALUE _____</p> <p>TOTAL Value _____</p>	<p>B. PARCELS:</p>	<p>1. NUMBER TAXABLE _____</p> <p>2. NUMBER EXEMPT _____</p>
		<p>C. MUNICIPAL TAX RATE _____</p>

III. NUMBER OF MUNICIPAL EMPLOYEES

<p>A. GENERAL FUND</p> <p>1. Permanent _____</p> <p>2. Temporary _____</p> <p>3. Casual _____</p>	<p>B. INFRASTRUCTURE FUND</p>	<p>1. Permanent _____</p> <p>2. Temporary _____</p> <p>3. Casual _____</p>
---	-------------------------------	--

IV. FUND TRANSFERS

A. EXCESS SEF to GENERAL FUND _____
B. GENERAL FUND TO INFRASTRUCTURE FUND _____
C. INFRASTRUCTURE FUND TO GENERAL FUND _____

COMPUTATION WORKSHEET

I. REVENUES

GENERAL FUND

1. GENERAL FUND REVENUES PER CAPITA (Rev.per cap)

$$\frac{\text{Total GF Revenue}}{\text{Population}} = \text{Rev.per cap}$$

2. TOTAL PROPERTY TAXES (Total P.T.)

$$\begin{array}{r} \text{Current Year} \\ + \\ \text{Previous Years} \\ + \\ \text{Penalties} \\ \hline \text{Total P.T.} \end{array}$$

3. PROPERTY TAX AS A PERCENT OF GENERAL FUND REVENUE

$$\frac{\text{Total P.T.}}{\text{Total GF Revenue}} = \text{P.T.\% of Revenue}$$

4. IRA AS A PERCENT OF GENERAL FUND REVENUE

$$\frac{\text{IRA}}{\text{Total GF Revenue}} = \text{IRA \% of Revenue}$$

INFRASTRUCTURE FUND

1. INFRASTRUCTURE FUND REVENUES PER CAPITA (IF per cap)

$$\frac{\text{Total IF Revenue}}{\text{Population}} = \text{IF per cap}$$

2. TOTAL NATIONAL AIDS TO INFRASTRUCTURE (AID to IF)

$$\begin{array}{r} \text{STA} \\ + \\ \text{Nat'l Aid to IF} \\ \hline \text{AID to IF} \end{array}$$

3. TOTAL AIDS TO INFRASTRUCTURE AS A PERCENT OF INFRASTRUCTURE REVENUE

$$\frac{\text{AID to IF}}{\text{Total IF Revenue}} = \text{AID \% of IF Rev}$$

COMPUTATION WORKSHEET
Continued

MUNICIPAL REVENUES

1. MUNICIPAL REVENUE (Munic.Rev.)

$$\frac{\text{Total GF Revenue}}{\text{Total IF Revenue}} + \frac{\text{Total IF Revenue}}{\text{Munic. Rev.}} = \frac{\text{Total GF Revenue}}{\text{Munic. Rev.}}$$

2. MUNICIPAL REVENUE PER CAPITA (M.R.per cap)

$$\frac{\text{Munic. Rev.}}{\text{Population}} = \text{M.R. per cap}$$

3. NATIONAL AIDS TO MUNICIPALITY (NA to Munic.)

$$\frac{\text{IRA}}{\text{Total AID to IF}} + \frac{\text{Total AID to IF}}{\text{NA to Munic.}} = \frac{\text{IRA}}{\text{NA to Munic.}}$$

4. NATIONAL AID AS A PERCENT OF MUNICIPAL REVENUE

$$\frac{\text{NA to Munic.}}{\text{Munic. Rev.}} = \text{NA \% of M.Rev.}$$

LOCAL REVENUES

1. LOCAL REVENUE (Local Rev.)

$$\frac{\text{Munic. Rev.}}{\text{NA to Munic.}} - \frac{\text{NA to Munic.}}{\text{Local Rev.}} = \frac{\text{Munic. Rev.}}{\text{Local Rev.}}$$

2. LOCAL REVENUE AS A PERCENT OF MUNICIPAL REVENUE

$$\frac{\text{Local Rev.}}{\text{Munic. Rev.}} = \text{Local Rev.\% of Munic. Rev.}$$

**COMPUTATION WORKSHEET
Continued**

EXPENDITURES

1. GENERAL FUND EXPENDITURES PER CAPITA (GF Exp. per cap)

$$\frac{\text{Total GF Expenses}}{\text{Population}} = \text{GF Exp. per cap}$$

2. INFRASTRUCTURE FUND EXPENDITURES PER CAPITA (IF Exp. per cap)

$$\frac{\text{Total IF Expenses}}{\text{Population}} = \text{IF Exp per cap}$$

3. MUNICIPAL EXPENDITURES (Munic. Exp)

$$\text{Total GF Expenses} + \text{Total IF Expenses} = \text{Munic. Expenses}$$

4. MUNICIPAL EXPENDITURES PER CAPITA

$$\frac{\text{Munic. Expenses}}{\text{Population}} = \text{Munic. Exp. per capita}$$

---BALANCE---

1. GENERAL FUND BALANCE (GF Balance)

$$\text{GF Revenue} - \text{GF Expenses} = \text{GF Balance}$$

2. INFRASTRUCTURE FUND BALANCE (IF Balance)

$$\text{IF Revenue} - \text{IF Expenses} = \text{IF Balance}$$

3. MUNICIPAL BALANCE (Munic. Bal.)

$$\text{Munic. Revenue} - \text{Munic. Expenses} = \text{Munic. Bal.}$$

III. THE REVENUE SIDE

A. REVENUE ANALYSIS

We begin our actual analysis with local government revenues. The purpose of analyzing local revenue data is twofold:

- to help local governments identify where improvements can be made in raising local revenue;
- to help central government agencies identify where assistance may be required and to assess trends in local government finance that demand national attention.

We are particularly interested in the ability of the local government to become more self sufficient in generating its own revenues, the growth of revenue sources over time, and the efficiency of local governments in realizing the full potential of the sources that they have.

The analysis of local revenues focuses mainly on General Fund sources since these are the ones that are under some degree of control of the local government. The following analyses use examples from the 14 municipalities included in the Rural Services Center project to illustrate the analytical techniques. It must be emphasized that this is not a representative sample of all municipalities. Thus the analyses conducted on these aggregate data are not generalizable to all municipalities in the country.

Our analysis begins by constructing performance measures of revenue collection. To standardize these

measures we use per capita figures, dividing the revenue collected by the population of the municipality. To provide an overview of how revenue sources have been performing, we first construct a table showing the per capita revenue collections by source of revenue over a five year period, 1977 through 1981. We do this first for all cities in the sample to see what the overall trends are (Table III.1).

TABLE III.1

PER CAPITA GENERAL FUND REVENUE SOURCES FOR ALL CITIES, 1977-1981

YEAR	Property Tax Total	Business Tax	Utilities	Markets & Sl'House	IRA	TOTAL
1977	1.12	2.28	.65	3.35	5.29	12.46
1978	1.02	2.69	.70	3.96	5.10	13.21
1979	1.42	3.01	.75	3.86	5.10	13.87
1980	1.56	3.04	.75	4.67	5.00	14.64
1981	2.69	3.42	.74	4.97	6.28	17.78

The table reveals the following:

- All revenues are growing in "current" pesos (not adjusted for inflation) except for the public utility revenues. However, since the data on utility revenues is spotty for some of our municipalities, you should be cautious in interpreting the utility figures in the table.
- Most revenue sources are growing at a fairly

constant rate with the exception of the property tax, which experienced a sizeable jump in the last year. In fact, the performance of the property tax (which declines slightly in alternate years and advances by about fifty per cent in the other years) is showing a "classic" pattern caused by revaluation.

- Local revenue sources are growing at a much faster rate than the central government transfer (IRA) -- the total of local sources has increased about 57% over the period while the percapita IRA has risen only 20%. However, the Specific Tax Allotment (STA) and other central government aid to the Infrastructure Fund has increased as fast as local revenues.
- While local revenues are becoming more important in the General Fund revenues, they are not quite keeping up with inflation; the period of 1977-1981 was a period of high inflation, cumulatively amounting to about 73% over the period in the Philippines. Only the property tax, which increased 114% from 1977 to 1981, matched inflation.

This first analysis gives you a benchmark with which to examine your own individual municipality's performance. To make your comparison with these municipalities more meaningful, we first have divided the fourteen into two size categories, above 30,000 population and below 30,000. Table III.2 is identical to Table III.1, but is subdivided by these two size groups.

TABLE III.2

PER CAPITA GENERAL FUND REVENUE SOURCES FOR ALL CITIES, 1977-1981

	YEAR	Property Tax Total	Business Tax	Utilities Tax	Markets & SI'House	IRA	TOTAL
Small Cities	1977	1.18	.94	.56	.91	5.80	9.39
	1978	1.10	1.21	.34	1.17	5.49	9.32
	1979	1.27	1.37	.64	1.48	5.63	10.38
	1980	1.59	1.58	.68	1.55	5.72	11.12
	1981	2.05	1.81	.63	1.56	6.97	13.02
	YEAR	Property Tax Total	Business Tax	Utilities Tax	Markets & SI'House	IRA	TOTAL
Large Cities	1977	1.07	3.41	.96	5.57	4.84	15.86
	1978	.91	3.73	1.15	7.10	4.74	17.63
	1979	.98	4.04	1.54	6.39	4.64	17.59
	1980	1.57	3.86	1.51	7.88	4.55	19.36
	1981	2.90	4.32	2.04	8.05	5.55	22.87

An examination of Table 2 shows that business taxes and market related fees are much more important revenue sources in the larger municipalities than in the smaller ones.

Somewhat surprisingly, the property tax appears to yield about the same per capita in both sizes of cities, except for the year 1981 when it recorded a large increase in the larger municipalities in the sample.

Now set up your own table for per capita per capita revenue amounts for the different revenue sources. The table should be set up in the form of Tables III.1 and III.2 above, although the data may be from years other than 1977 to 1981.

Worksheet A shows the calculation of per capita revenue amounts and the calculation of growth percentages in revenues from year to year.

WORKSHEET A

PER CAPITA GENERAL FUND REVENUE SOURCES FOR ALL CITIES, 1977-1981

YEAR	Property Tax Total	Business Tax	Utilities	Markets & S1'House	IRA	TOTAL
1977	-----	-----	-----	-----	-----	-----
1978	-----	-----	-----	-----	-----	-----
1979	-----	-----	-----	-----	-----	-----
1980	-----	-----	-----	-----	-----	-----
1981	-----	-----	-----	-----	-----	-----
Percent Change 1977-1981	-----	-----	-----	-----	-----	-----

Now that your own table is constructed, you should be able to answer the following questions:

- Which revenues are growing fastest? Are there any obvious circumstances in your municipality to explain why one source of revenue is growing faster than another?
- Is the growth in revenues steady or staggered? If there are sharp changes in the pattern of growth percentages, are there any obvious explanations for this in your municipality?
- Is the percentage growth in locally collected revenues faster or slower than the growth in the IRA?
- Is the percentage growth faster or slower than the rate of inflation? Is the growth rate faster or slower than the growth rates for cities of comparable size, as shown in Table III.2 above?

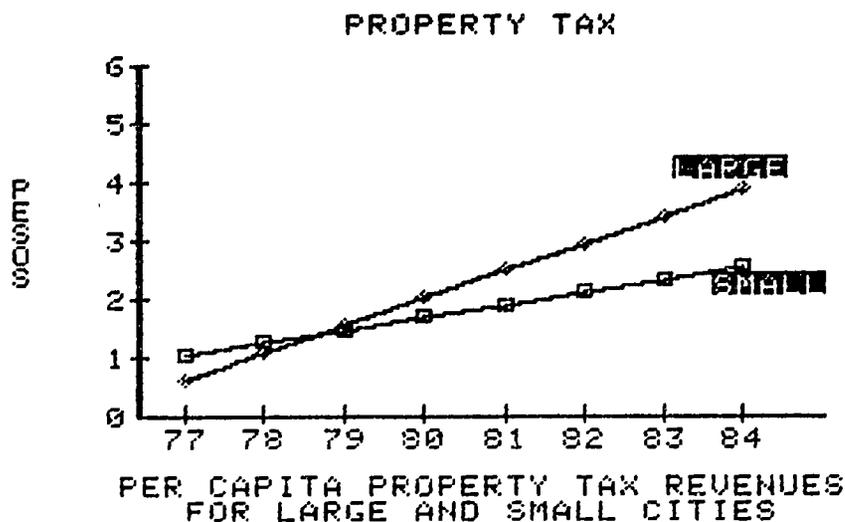
B. IDENTIFYING THE UNDERLYING PATTERNS IN REVENUE GROWTH

The preceding exercise has shown that we are interested in the rate of growth as well as the amount of revenue collected. The best way to see the pattern of change in revenues from year to year is to plot that change on a graph. The trend line described on a graph shows the pattern of change. To see if there is an underlying pattern to the trend, we can use simple statistical techniques to plot a trend line on the basis of several years' data. The trend line smoothes out the fluctuations in the data and makes it easier to see the direction and consistency of growth in revenues.

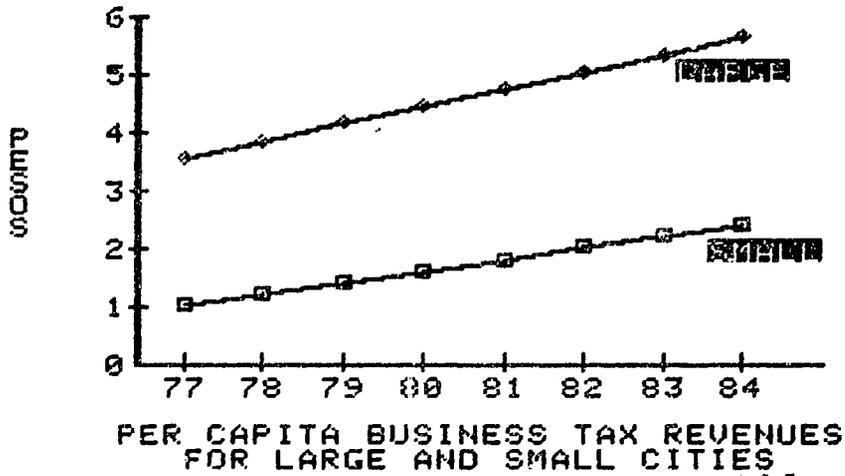
There are several ways to construct a trend line. In this chapter we use a simple linear regression model

available on the Visitrend software for the Apple II personal computer and other microcomputers. This analysis can be done by a hand calculator which has a programmed linear regression function; it does require, however, several more steps than that required on the microcomputer. A technical note at the end of this workbook shows the formula for calculating the trend line and explains how to determine if the computed trend line matches the actual data closely. In Chapter V, we illustrate a different technique for computing a trend line, one which is easier to calculate by hand.

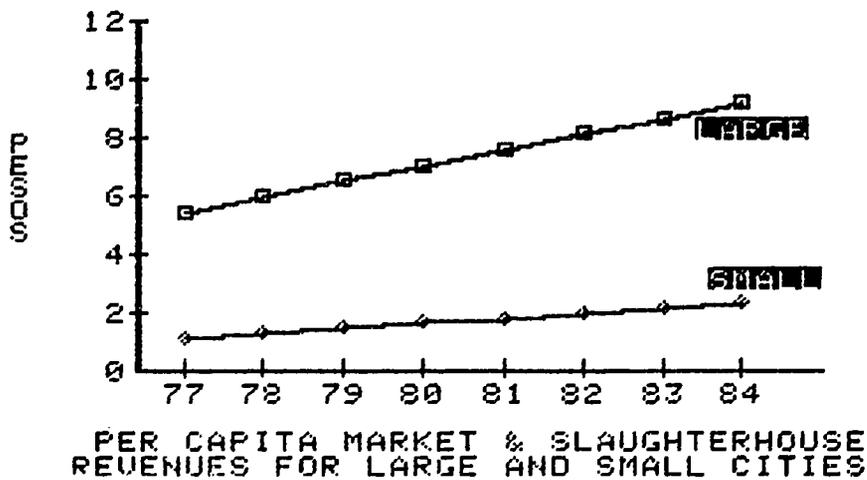
Using this model, we show below trend lines for the per capita growth in several of the key revenue sources for large and small cities in the sample: property taxes, business taxes, market related fees, the IRA, and total General Fund revenues. The trend line is fitted to the recorded data for 1977 through 1981 and then projected for the following three years.

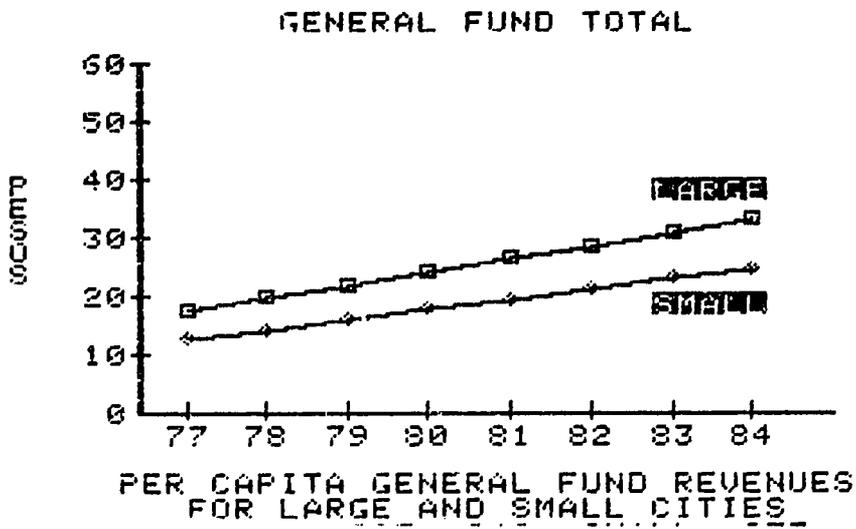
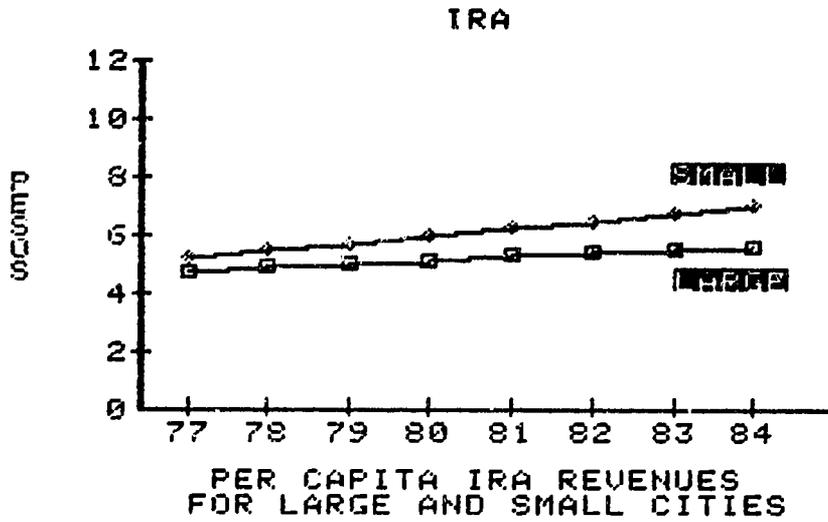


BUSINESS TAX



MARKETS AND SLAUGHTERHOUSES





An examination of the trend line reveals the following:

- Property taxes and market fees per capita are growing at a faster rate for larger municipalities than for smaller ones.
- Business taxes are growing at about the same rate for both, but with the per capita amounts at a considerably higher level for the larger cities.
- Total General Fund revenues are growing at about the same rate for both sizes of cities with the larger cities enjoying the higher level per capita; however, the central government transfer (IRA) is growing faster for smaller cities, compensating for the slower growth rate in their local revenues.

Now plot your own changes in General Fund revenues over a several year period on the same graph in our illustration. If you have access to a regression program on a computer or wish to calculate a trend line by hand as described in the Appendix, you may wish to plot the trend line instead of your actual data. For a five year series, it should take you about half an hour to calculate the points for the trend line using a calculator (non-programmed).

In either case, as you look at your own figures and at the other municipalities' average:

- Which revenues appear to be growing at the fastest rates?
- Are there revenue sources which have declining trend lines?
- Do any of the revenue sources fluctuate widely from a straight line trend? Are there any ready explanations for such fluctuations?
- How does your municipality compare with the others?

C. COMPARING TREND LINES TO INFLATION

Working with the same graph you just constructed, you also can examine how your revenue sources are doing compared with inflation. Since the costs of goods and services are rising almost everywhere, per capita revenues must also rise year to year simply to keep providing the same quality of public services. In addition, most local revenue sources should reflect the rising inflation in costs and values--that is, the revenue bases should also be increasing partly as a result of inflation.

We may easily estimate the growth required to match inflation by applying a yearly inflation rate to the amount recorded in any given year. For example, if the per capita business tax revenue is 5.00 pesos in 1977 and the inflation rate from 1977 to 1978 is 10%, then the business tax revenue amount per capita should grow to 5.50 pesos in 1978 just to keep up with inflation.

You can see the impact of inflation graphically by plotting an inflated growth rate for one of your revenue sources on the graph which you constructed above. Start with the first year's revenue amount and then increase it by the inflation rate for each of the four additional years.

D. IDENTIFYING WHERE REVENUES CAN BE INCREASED

In order to identify where revenues can be increased, we have to establish targets for the level of revenue that a municipality should be able to collect. Establishing targets can be done in two different ways.

The first way to establish revenue targets is to estimate the REVENUE BASE of a particular revenue source.

The most common base in local government revenues is the property tax base which is defined as the taxable valuation of real property within the municipality. Unfortunately, for other types of local revenues there is usually no record of the tax base comparable to the recorded taxable valuation. In addition, property tax assessment can vary greatly between municipalities so that the recorded taxable valuation may not be a good indicator of the true revenue base for that tax.

Since we lack good estimates of the bases of the local revenue sources, we need an alternative method of estimating what the potential base of any given revenue source is. A proposed alternative is to develop PER CAPITA TARGETS for individual revenue sources based on what other municipalities are collecting. This approach necessarily ignores some of the differences among cities in terms of their actual resource bases. It does, however, provide a means of establishing targets and a way of identifying how municipalities are performing well or poorly when compared to other municipalities.

In selecting the revenue targets, we may use either the average per capita figures for our sample, or we may choose targets based on the better performing municipalities. Since we are interested in the potential revenue base, we should examine how the best municipalities are performing. Therefore, we use as our target revenue per capita the average of the three best municipalities in each of the five years for each of the GF revenue sources. Since we have some indication that the small and large municipalities differ in terms of their resource bases, we should construct target figures for the two groups separately. Table III.4 shows the target per capita figures for the small and large municipality groups.

TABLE III.4

TARGET PER CAPITA REVENUES FOR LARGE AND SMALL CITIES, 1977-1981

	YEAR	Property Tax Total	Business Tax	Utilities Tax	Markets & Sl'House	IRA	TOTAL
Small Cities	1977	1.93	2.25	1.09	2.34	7.39	15.01
	1978	1.56	3.17	1.02	2.31	7.25	15.31
	1979	1.88	3.39	1.45	2.68	7.11	16.51
	1980	2.49	4.16	1.51	2.78	6.98	17.92
	1981	3.51	4.11	1.25	2.72	8.83	20.41
	YEAR	Property Tax Total	Business Tax	Utilities Tax	Markets & Sl'House	IRA	TOTAL
Large Cities	1977	1.32	4.08	1.42	7.88	5.58	20.28
	1978	1.04	4.94	1.58	10.28	5.45	23.29
	1979	1.16	5.29	1.54	8.71	5.33	22.03
	1980	1.70	5.66	1.51	11.37	5.20	25.44
	1981	4.06	6.49	2.04	11.30	6.35	30.24

The figures in the table show what a municipality could reasonably be able to collect for a given revenue source in

light of what other municipalities have been able to achieve. To translate this figure into total amounts of revenue that a local government could realize if they improved to the target amount, we perform another calculation. This calculation simply multiplies the target revenue per capita by the population to produce the total target revenue. We then subtract the actual revenue collected from the target amount to show the amount that the municipality "missed" by not performing up to its potential target. The size of this amount indicates the potential payoff for investments in improved revenue collection.

The following Table III.5 shows this target revenue and potential payoff for several municipalities in our sample.

TABLE III.5

REVENUE POTENTIAL FOR SELECTED CITIES

CITY	YEAR (Pop.)	Property Tax Total	Business Tax	Utilities Tax	Markets & SI'House	IRA	TOTAL
SAPIAN	1977 (17900)	-1495	37649	19502	21689	61072	138413
	1981 (19000)	-1814	47954	23666	14017	78787	162250
CULASI	1977 (24400)	27308	36295	23366	33493	35209	155670
	1981 (26100)	46782	79454	22910	8708	34606	199460
SOGOD	1977 (25100)	14038	6985	27346	5763	43686	97820
	1981 (26600)	51185	-9073	23177	16626	57664	139579

This potential payoff analysis shows, first of all, where individual municipalities should focus their attention. For example, Table III.5 indicates that Sapien should focus first on the business tax which shows the greatest potential. In the same manner, Sogod should concentrate on the property tax; while Culasi should focus

on the business and property taxes.

In addition to identifying where payoff potential appears to be greatest, these tables also reveal some anomalies which require further investigation. For example, we would expect business taxes and market fees to parallel each other roughly since they should both be correlated with the level of economic activity in the individual municipalities. However, in examining the performance of Culasi, we see that the market related fees are performing well while business taxes are well below target for 1981. Furthermore, we might expect property taxes and business taxes to be similarly correlated. However, we see in Sapián and Sogod that this is not the case, although the differences occur in opposite directions for these two municipalities.

It should be emphasized that the analysis above is used as a starting point for further investigations into the reasons for poor performance on a given revenue source. It is not a critical evaluation of performance and should not be used to judge municipal performance. It should be used as a tool to help direct attention to points where improvement appears most likely to be made. Indeed, for many municipalities there may be very valid reasons for not performing at a higher level; some communities may simply not have the tax base.

Now use the following Worksheet B which shows the steps in the calculation of the target revenue amount and the potential payoff analysis for individual revenue sources for a given municipality. This worksheet allows you to perform the same type of analysis as that carried out to produce the figures in Table III.5.

WORKSHEET B

**CALCULATING REVENUE POTENTIAL : 1981
(Per Capita)**

	Property Tax Total	Business Tax	Utilities	Markets & SI'House	IRA	TOTAL
Small Cities	3.51	4.11	1.25	2.72	8.83	20.41
Large Cities	4.06	6.49	2.04	14.30	6.35	30.24
Your City	-----	-----	-----	-----	-----	-----
Difference (Subtract your figure from either Small or Large	-----	-----	-----	-----	-----	-----
TOTAL (Multiply Difference by Your Popu- lation)	-----	-----	-----	-----	-----	-----

Once you have completed the worksheet, you should attempt to answer the following questions:

- Which revenue sources provide the largest potential payoff for improved revenue generation in the municipality?
- If data are used for several years(as in Table III.5 above), what are the trends in the amount of

potential payoff from year to year?

- Does anything unusual occur when the figures for the different revenue sources are compared? If there are any such unusual observations, are there any ready explanations?

E. SUMMARY

Although we have not attempted to answer a large number of questions in this chapter, we have introduced several important concepts and techniques which you can now use aided by your own municipality's most pressing questions and your own imagination. You should now be familiar with:

- The importance of using per capita figures in order to be able to compare with other municipalities.
- The usefulness of a several year base of information to help you spot important changes and to project future trends.
- The usefulness of one technique, linear regression, for illustrating the underlying trend in a several year data series and for projecting that trend into the future (another technique for doing this will be introduced in Chapter V).
- A method for estimating the revenue potential if your own municipality were performing as well as other municipalities in raising revenue.

IV. THE EXPENDITURE SIDE

In the previous chapter, you took information on revenues from the basic information collection worksheets introduced in Chapter II and performed several analyses designed to increase your understanding of revenue sources and revenue growth potential. This chapter focuses on expenditures, and leads you through several exercises to further your understanding of the implications of various patterns of expenditures over a five year period. Section A includes general introductory material on the basic expenditure categories and discusses how the worksheet information can be used. Section B then takes you through three exercises and discusses the implications of each example.

A. GENERAL AND INFRASTRUCTURE FUNDS

The basic accounts required for Philippine municipalities maintain an important distinction between the General Fund and the Infrastructure Fund. Although the distinction is not a complete one, the items of expense that are included in the General Fund basically are expenditures for the current operating expenses of the municipality. Items included in the Infrastructure Fund generally can be interpreted as investment expenditures.

The current versus investment distinction is an important focal point of the expenditure analyses that you will carry out. Regular services provided by the municipality should be recorded in the General Fund, and the conditions of the General Fund at any point in time should

tell the municipality something about the general level of services. That fund is further subdivided on your worksheets into several major categories. Two of the categories reflect the expenses for the municipal offices responsible for finance, the Assessor's and the Treasurer's offices. Two other categories summarize the public enterprises or revenue generating operations of the municipality including public markets, slaughterhouses, utilities, and other municipal enterprises. The remaining categories cover all additional expenditures for personnel, operation and maintenance and capital outlays.

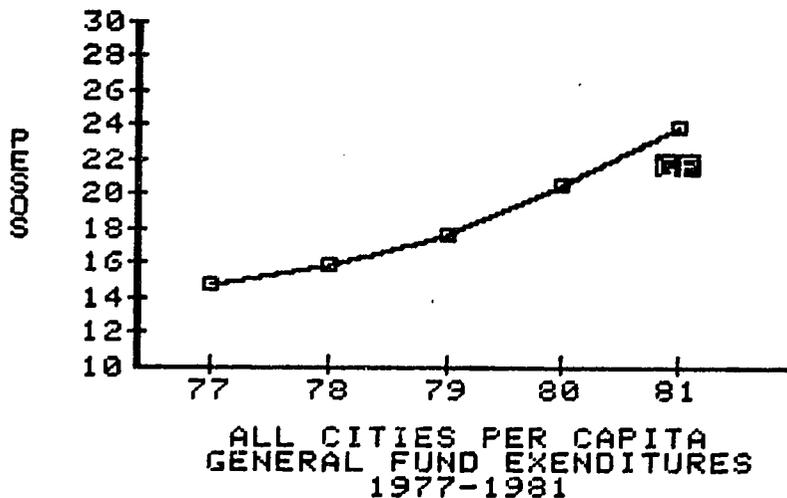
The Infrastructure Fund expenditures are not broken out by type of investment (such as water system, roads, and so forth). It would be helpful, however, if the municipality kept records at that detail in order to distinguish among the costs for different types of infrastructure expenditures. For Infrastructure expenditures, you generally expect the benefits to recur over many years. Thus, the installation of a water system that causes expenditures over a two or three year period would be expected to provide benefits for a much longer period of years. For this reason, you should examine the pattern of infrastructure expenditures over a several year period, bearing in mind that the services represented by those expenditures will continue beyond the specific years in which the expenses occurred. General Fund expenditures, on the other hand, generally provide benefits or services only in the time period near the actual expenditures.

B. EXPENDITURE ANALYSES

1. General Fund Expenditures

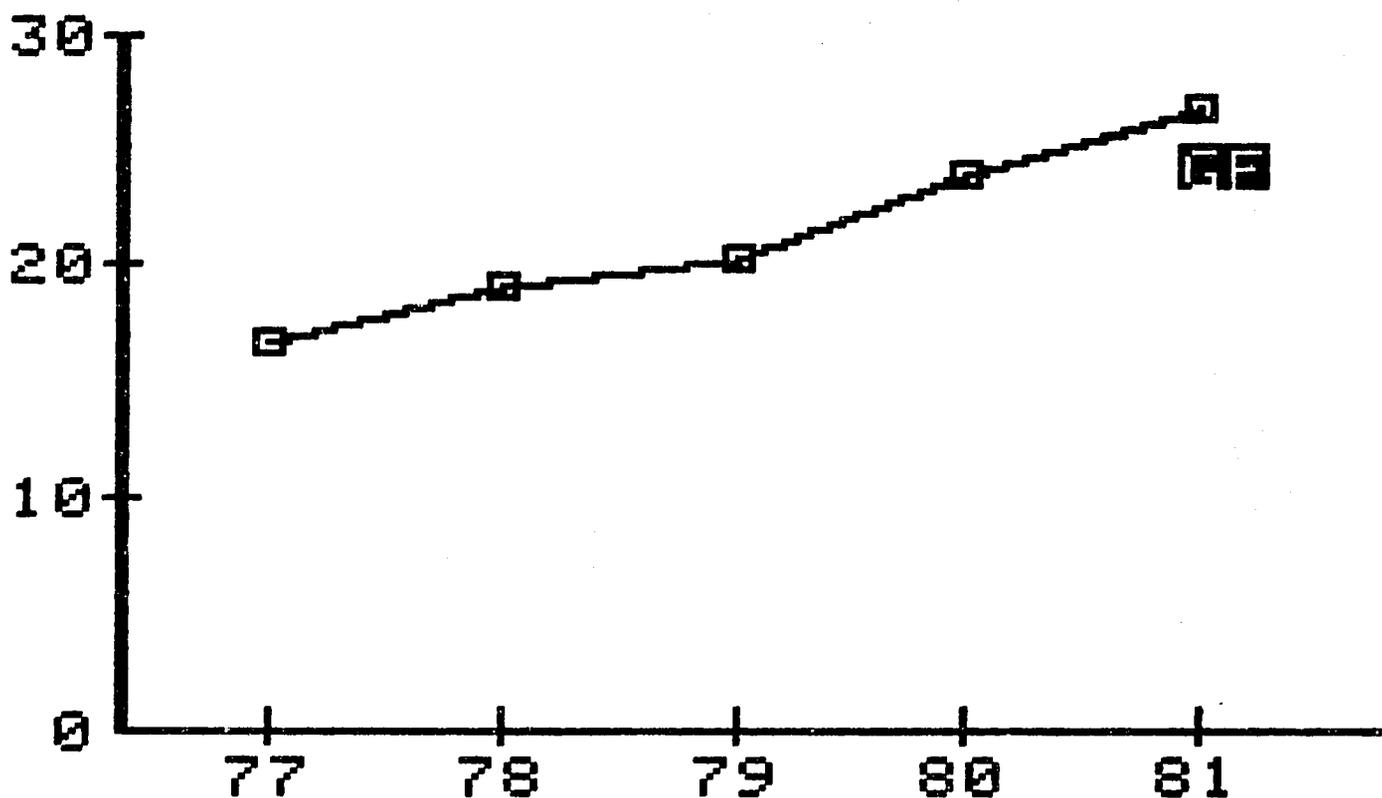
Several very general questions can be addressed by

simple comparison graphs over time. The workbook provides three comparison points for General Fund expenditures from 1977 through 1981-- small to medium size municipalities, large municipalities, and the full fourteen municipalities used in preparing our illustrations. Examine the first graph which shows the average General Fund expenditures for the entire fourteen municipalities.

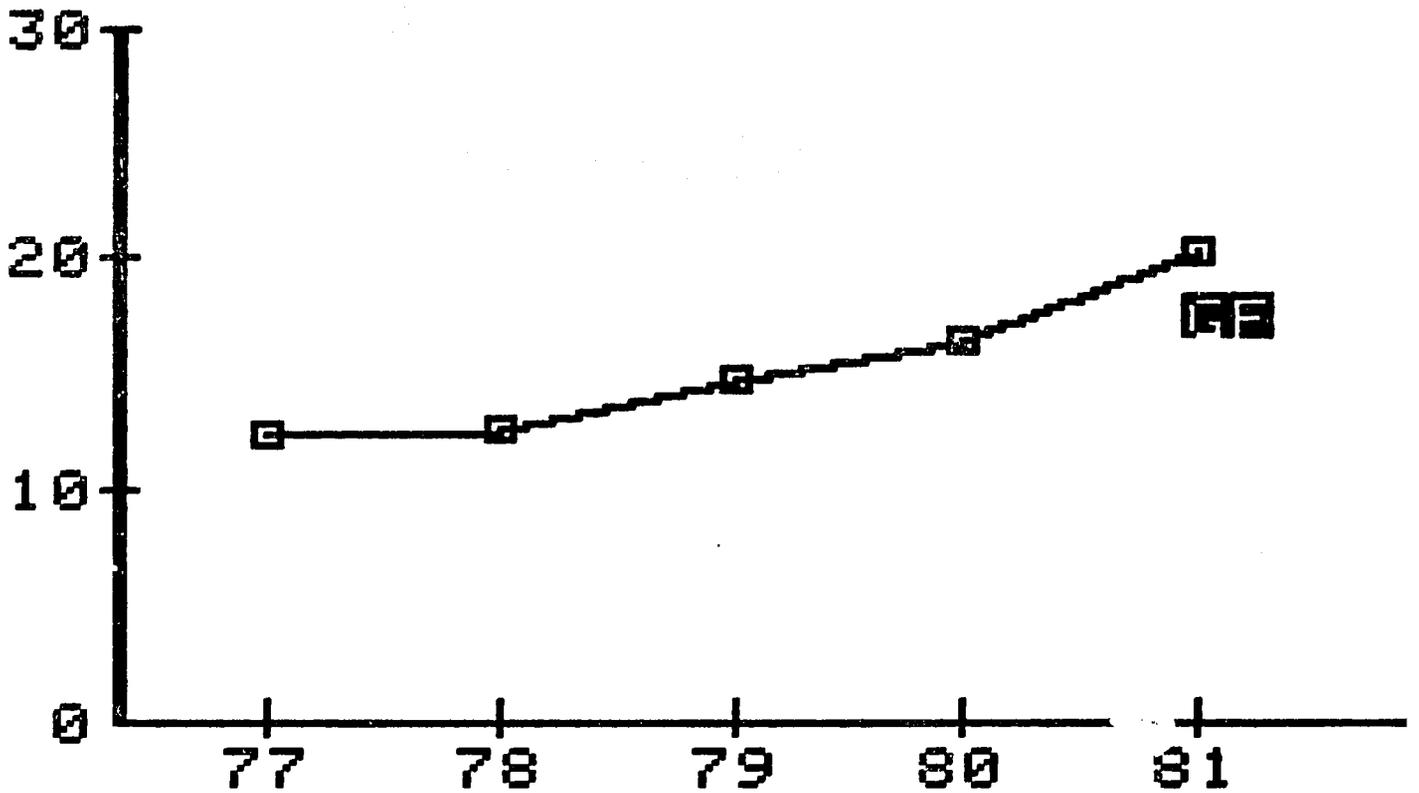


Note that each graph uses per capita pesos in order to standardize for large size differences. Since we are using per capita figures, you will note that the patterns of expenditures over time are not very different for the different size classifications because we already have controlled for population. For your own use, you should take the General Fund per capita expenditure from page 3 of the Computation Worksheet in Chapter II for each of the five years. Use the appropriate graph (small to medium municipalities or large) below and plot your own figures to

see how your municipality compares with others. Remember our earlier warning that the fourteen municipalities are not necessarily representative of all municipalities, but are used only to illustrate.



LARGE CITIES PER CAPITA
GENERAL FUND EXPENDITURES
1977-1981



SMALL CITIES PER CAPITA
GENERAL FUND EXPENDITURES
1977-1981

The first question to ask is about your own municipality, independent of how it looks against the others. Are your General Fund expenditures keeping up with population growth? If your own line is flat (horizontal), that would indicate that your GF expenditures are unchanged on a per capita basis, which means that population changes are being matched by changes in expenditure levels. It may also mean that the service levels you are providing are unchanged as well, ignoring Infrastructure Fund expenditures. However, you should be careful about assuming that spending the same amount from one year to the next means that services also remain unchanged. The amount your municipality spends does not automatically measure how much service you are providing.

A further consideration is the effects of inflation. If your own line is flat across the five years and you consider that the period 1977-1981 was one of high inflation, then spending the same amount for current services on a per capita basis means in all likelihood that the absolute amount of services your municipality is providing citizens actually is declining. And if your own line shows a decline from left to right, it is a near certainty that your service levels are declining (unless your bookkeeping practices are recording regular expenditures for services as investment expenditures in the Infrastructure Fund).

Now examine your own line on the graph compared with the municipalities whose figure is graphed for you. First look only at the pattern, not how close your line is to the line provided. The steadily increasing level of expenditures shown for them, and the somewhat sharper rise from 1979 through 1981, indicates a rising level of General Fund expenditures which matches the pace of inflation. If your own line more or less matches that same pattern, your

expenditures basically are keeping up with inflation, but probably not providing any higher level of services than several years ago. For your General Fund expenditures to exceed the rate of inflation, and thus show perhaps that services are increasing, your line would have to rise at a somewhat faster slope than those graphed. This is because the graphs provided here happen to pretty closely correspond with inflation.

Now examine the absolute level of your own line relative to the other. If it is higher or lower, then of course it means that your municipality is spending more or less than the other comparable municipalities. Since we do not have information available for this workbook on actual services, you should be cautious in interpreting a difference to mean you are providing more or fewer services. However, if this workbook is used in a workshop type setting in which several municipalities are working through the exercises at the same time, start to ask questions of each other about the amount of services each provides to see what is behind some of these numbers. Is your own municipality spending more than other municipalities? Are you providing more services, or higher quality services, for this higher expenditure? Or are other municipalities providing the same services, but doing so more efficiently?

Determining how efficiently you are providing services compared with other municipalities is not an easy task. However, if you and other municipalities collect a small amount of additional information, you can begin to address that question too. The easiest measures of service to collect are those that tell how many. How many market stalls or spaces for sellers does your public market have? The number of spaces divided into the amount you spend on public markets will give you a rough measure of cost per

unit of service.

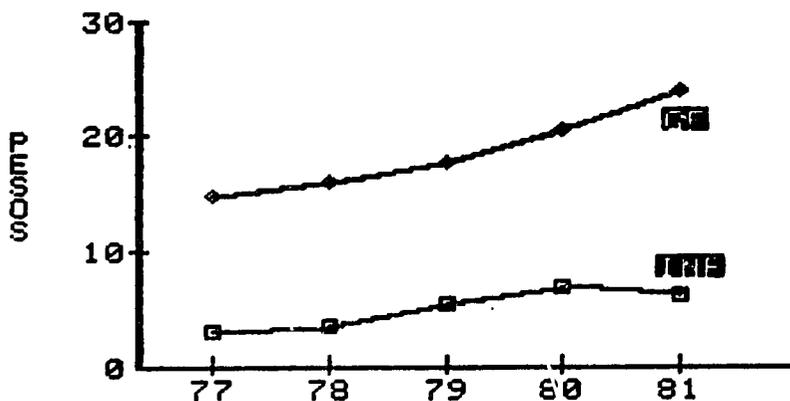
$$\frac{\text{Amount Spent on Market}}{\text{Market Space}} = \text{Cost per Space}$$

You can come up with your own service measures in the same manner. The number of water connections, the kilometres of roads maintained, the number of citizens served, all provide useful measures to compare with cost. And when compared with cost as in the market example, they provide a basis for comparison with other municipalities to see whether the expenditure comparisons provided by the graphs above tell you that you are providing more or less service for the same, more, or less expenditures.

Where the amount of a specific service is hard to measure (for example, if water is not metered and you cannot measure the amount of water each customer receives), you can still develop a very useful measure just by knowing how many people are receiving the service. In addition, if you divide the number of people receiving the service by the total population of your municipality, you have the percentage served which tells you how much of the need is being met. While the information was not available to provide actual measures in this workbook, we encourage you to begin looking at your expenditures not only in absolute amounts but also in terms of how much service you are providing for those expenditures. You also do not have to ignore quality measures. Noting the presence of electricity and running water in the public market gives you a measure of quality in addition to the amount of service measure.

2. General Fund versus Infrastructure Fund

In Section A of this chapter, we made a distinction between General Fund expenditures and Infrastructure Fund expenditures. We stated that in general, the Infrastructure Fund can be treated as basic investments in facilities; these facilities will have benefits that will continue for years beyond the initial costs of construction. General Fund expenditures, on the other hand, are mainly those expenses for every day services that do not involve long term investment. In this analysis section, we want to compare those current expenditures with the investment expenditures of the Infrastructure Fund.

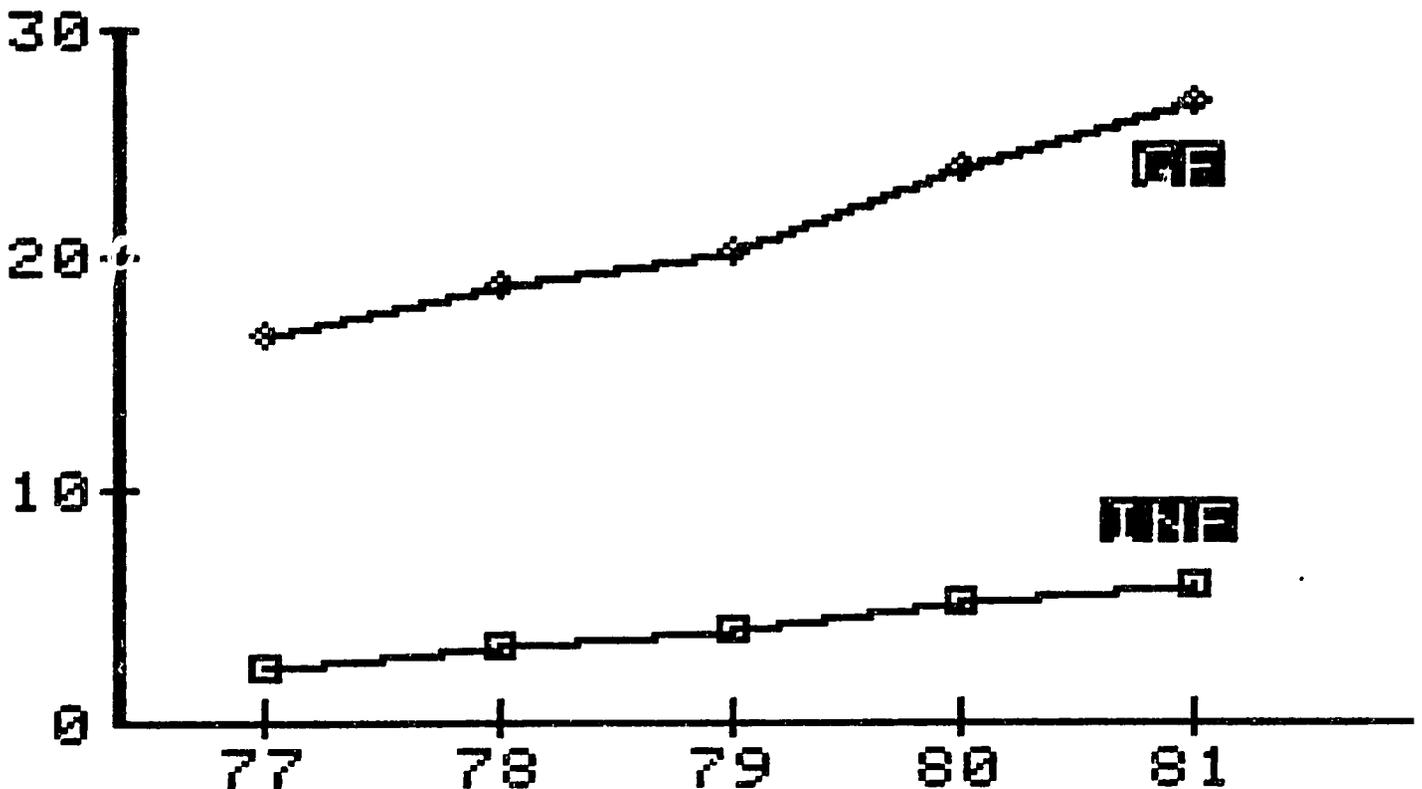


ALL CITIES PER CAPITA EXPENDITURES
GENERAL AND INFRASTRUCTURE FUNDS
1977-1981

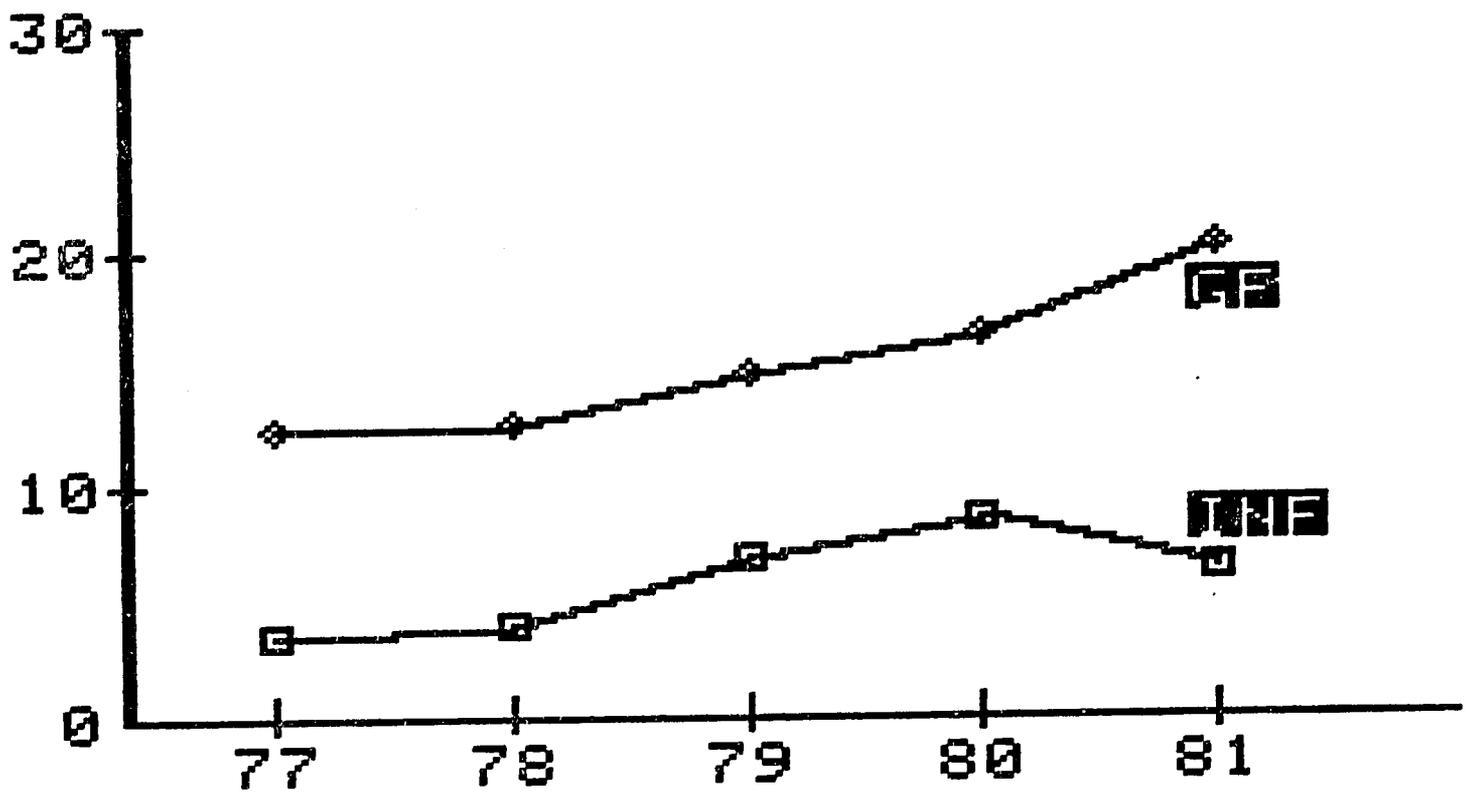
Examine the first graph. It shows for all fourteen municipalities in our data set the average General and Infrastructure Fund expenditures for 1977 through 1981. The first thing to note is the almost flat pattern for IF expenditures. Whereas GF expenditures seem at least to be keeping up with inflation during that period, IF

expenditures apparently are not. In fact, there is a very slight decline from 1980 to 1981. Without more detailed knowledge of the municipalities, it is difficult to say whether the decline is due to decreasing funds available for IF investments, or if the need for additional IF investments lessened in that period.

Now take your own municipality's IF expenditures, convert them to per capita by dividing by population, and plot them on one of the following graphs (the one most appropriate to your size).



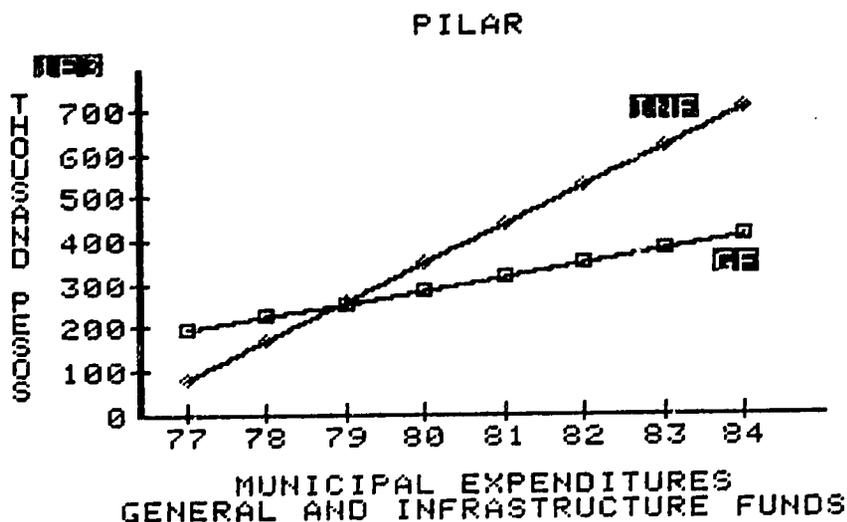
LARGE CITIES GENERAL AND
INFRASTRUCTURE FUNDS
1977-1981



SMALL CITIES GENERAL AND
 INFRASTRUCTURE FUNDS
 1977-1981

If you are one of the smaller municipalities, does your own line show the same distinct drop from 1980 to 1981? Note that that drop does not occur for the larger municipalities. You are in the best position to know why the drop occurs for your municipality. Does it reflect a declining need for infrastructure, a temporary slowdown in construction, or are General Fund expenses rising at a higher rate, absorbing available funds? This simple graphic comparison does not provide fundamental answers, but rather alerts you to ask about the relationship between general and infrastructure expenditures.

Suppose your own pattern does not show the same rise in GF and level or declining IF. In the graph below, a single municipality is shown in which both GF and IF expenditures are increasing, but IF expenditures are going up faster. Using the projection technique introduced in Chapter III, we have projected this municipality three additional years.



What is the implication of this pattern? First, remember that IF expenditures mean investment in long term capital facilities such as road construction or public facilities construction. Once the initial construction costs are completed, there will still be regular maintenance and operation costs for the facilities. For the first few years after construction, these may be primarily maintenance, but after several years, repairs will be required. Typically, the budget for these maintenance and repair expenses is part of the General Fund. If your own municipality has a pattern similar to the single municipality shown here, you should ask where the funds are going to come from in the future to pay for the needed repairs and maintenance for infrastructure investments being made now. If GF expenditures do not increase at close to the same rate, then three to five years beyond the infrastructure investments, you will be faced with a choice between decreasing some level of regular service or not providing adequate repair or maintenance of facilities being constructed now.

3. Decomposition of Total Expenditures

Up to now you have been looking only at total General Fund or total Infrastructure Fund expenditures. Although the data available for preparation of this workbook did not have sufficient information to carry out many analyses at a more detailed level, we did include in the worksheets provision for breaking the totals down into more detailed categories. An important question to ask yourself now in comparison with other municipalities is about the patterns of expenditures by the different subcategories.

The most obvious comparison is how much is being spent for personnel. Take your personnel category from both the

General and Infrastructure fund, add them together, and divide by population. You now have the per capita expenditure for personnel. How does that compare with other municipalities? Are you more heavily loaded with personnel than other municipalities? If your expenditures for personnel are higher, are you getting more or fewer services delivered to citizens? Are other municipalities able to provide about the same amounts of services, but with lower personnel costs? Comparative information for many municipalities is helpful in answering these kinds of questions, but even for your own municipality, you can compare with yourself over time. Are your own personnel costs rising faster than the amount of service you are providing. Construct a simple graph just like the ones we have been using in which you plot two lines--one for total expenditures (add GF and IF) and one for personnel. Are your personnel costs rising at a faster rate than the budget? If they are, it does not necessarily imply a problem. If the increasing personnel costs are for personnel who are directly providing services to citizens, it may mean simply that more services are being provided. If the personnel being added are in more administrative positions, however, you should ask whether they all are really required.

Look next at operation and maintenance costs. You should add these together from the GF and IF classifications. Are your costs for this category going up? If the previous several years of Infrastructure Fund expenditures have been increasing, you should expect your operation and maintenance costs to start increasing soon, if they have not already. If this does not occur, it may mean that you are allowing problems to build up in infrastructure facilities that are not being maintained properly. Construct another simple graph in which you show

Infrastructure Fund expenditures and operation and maintenance expenditures (be sure and use the total 200 account O and M costs from both GF and IF). You already plotted your own IF expenditures on an earlier graph, so just add operation and maintenance to that (since O and M may be much smaller, you may have to redraw the graph with more points on the vertical line between O and 30). This simple plot will tell you if your operation and maintenance expenditures are increasing as much as the Infrastructure expenditures. Remember that there is a time lag between an infrastructure construction activity and the operation and maintenance costs. What you are looking at for say 1981 in operation and maintenance costs is for maintaining facilities built most likely in 1978 or earlier. Therefore, you can expect as you add additional years to your own graphs to see operation and maintenance costs to follow the same pattern as Infrastructure expenditures, but to occur three to five years later.

C. SUMMARY

The focus of the expenditure analyses carried out in this chapter is on two features:

- The level of services implications of expenditure patterns, and
- The future implications of current expenditure patterns.

We have used the General Fund and Infrastructure Fund classifications to distinguish between current services (GF) and investment type activities, such as facilities' construction (IF). This distinction is important because investment type expenditures also mean a future demand on the GF budget to provide repairs and maintenance.

Following through the exercises and discussion included here, you now should be familiar with:

- The idea of developing simple measures of amount of service to use with expenditure information to answer the question "How much service are we providing for the amount of money?"
- The idea of projecting GF and IF expenditures into the future to assess whether your IF expenditures will cause future, higher demands on the GF budget.

V. BALANCING FISCAL CONDITIONS

In this chapter you will be asked to put together revenues and expenditures. The fundamental question to be addressed here is how your revenue patterns from 1977 through 1981 compare with your expenditure patterns. We will be concerned first with the overall question of balance between revenues and expenditures. Are there any signs that there are potential problems caused by an imbalance between revenues and expenditures? Next, we will carry out what we call a flow of funds analysis which asks questions about the sources of revenues and the purposes of expenditures. In that section we will examine the role of the Central Government in providing infrastructure support and the municipalities' role in providing revenues to support infrastructure investments.

A. BUDGET BALANCE

Generally it is taken for granted that revenues must equal expenditures, at least in the long run. To a large extent, this assumption is built into requirements imposed on municipalities with budget deficits permissible only on a temporary basis. The question addressed here, therefore, is not the simple presence or absence of a budget deficit, but simple tools for anticipating a budgetary deficit and for determining why it may occur. First, recall the discussion in the previous chapter about the relationship between Infrastructure Fund expenditures and future requirements for operation and maintenance expenditures. If you plotted your own municipality's Infrastructure Fund expenditures and total operation and maintenance expenses as suggested in

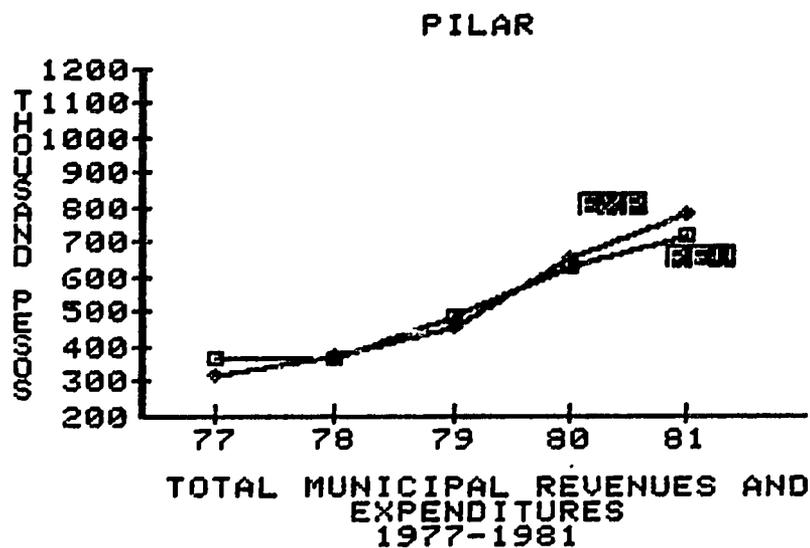
Chapter IV, get that graph out and add total revenues to it. You may have to redraw it in order to get a useful scale for the vertical axis on the graph.

What does your pattern look like? If your IF expenditures are rising, are your operation and maintenance expenditures also rising (although remember they may lag behind three or more years)? If the O and M expenditures are not rising at the same rate (the two lines would be parallel to each other), you may have a future problem with deteriorating facilities. Now look at the revenue line. It also should be rising at the same rate. If it is not, that suggests you will be running out of funds to pay for operation and maintenance. To complicate it a little more, add one more line to the graph--General Fund revenues. Suppose support from the Central Government for IF investments stopped or decreased substantially. You would still have to find a way to pay for the operation and maintenance expenses along with continuing the regular services of your municipality. If your General Fund revenue line does not go up at the same rate as your Infrastructure Expenditures, you may be facing a future revenue shortfall.

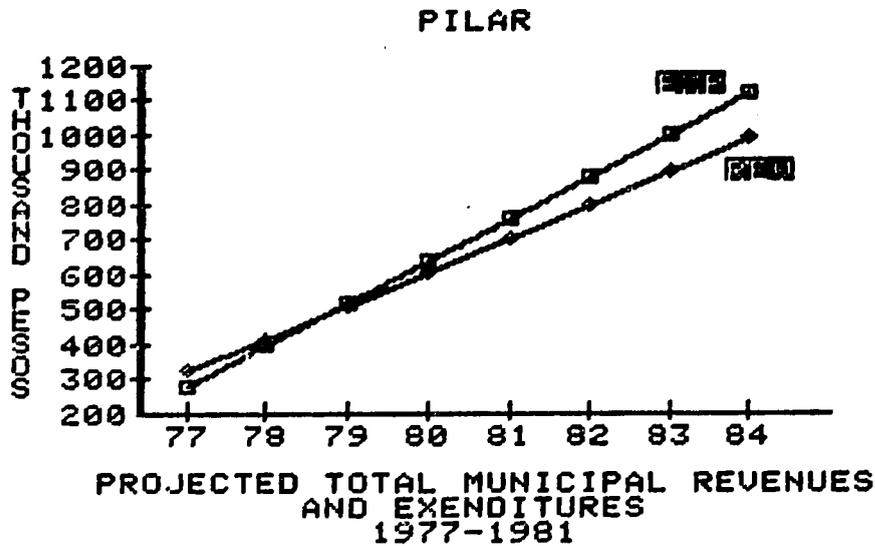
The important feature of this type of analysis is the kinds of questions it should get you to start asking. Each municipality is unique. We cannot generalize about what each pattern may mean because your own municipality will have its own reasons for the ways your revenues and expenditures change over time. What we are encouraging you to do with these exercises and questions is to take just the most readily available information and begin to look at it over time and in comparison with other municipalities. What we have just done in the previous paragraph is to look at Infrastructure expenditures and ask the simple question about where will future revenues to pay for the expected

operation and maintenance costs come from. Similar questions related particularly to your own municipality will occur as you work through these exercises.

Now take a still more general question about total revenues and total expenditures. In Chapter III we introduced a technique for making projections into the future based on several years of data. Using that same technique, we selected one municipality from the fourteen and projected both revenues and expenditures.



In 1977 Pilar had total expenditures slightly over three million pesos and revenues slightly under four million. In 1978, revenues equaled expenditures, and in 1979 slightly exceeded expenditures. In both 1980 and 1981, expenditures exceeded revenues, and by a growing amount. The next graph takes that same information and uses the linear regression technique to project for three more years.



If the trend represented by the years 1977 through 1981 continues, Pilar will face a growing budget deficit. You might now try your own projection. Using the step by step formula given in the appendix and a calculator, you can perform your own linear projection. Or, you may use a still simpler technique called a moving averages projection. First for total revenues, take 1977, 1978 and 1979, add them together, and divide by three. This is the average for 1977-79. Then take 1978, 1979, and 1980 and do the same thing. Repeat for 1979 through 1981, and since 1982 and beyond should be available to you as you use this workbook, continue to compute these three year averages until you no longer have three years to work with. Now do the same for total expenditures. On the same type of graph you have been producing, plot these averages for revenues and expenditures. Extend the lines beyond the last average you computed following the same pattern. Although you will have

a few computations to perform, you will be able to do this with paper and pencil. The result is a projection of your own municipality's revenues and expenditures. Are you heading for an increasing problem with budget deficits?

Or, do you project increasing budget surpluses? This could indicate a general fiscal conservatism whereby you may be foregoing opportunities to expand or provide needed services or to provide tax relief.

Of course, these projection methods assume that no major changes will occur; they assume that future years will be more or less a continuation of the present trends. For that reason, you should be cautious about projecting more than three or four years, and you should not bother to use the methods at all if you know that major changes in finance are occurring. What these methods will help you to do is understand what the future two or three years will be like if present trends do continue without change.

B. FLOW OF FUNDS ANALYSIS

The analysis in this section makes certain assumptions about the source of funds and the relationship between the Central Government and municipalities. First, it is assumed that the main purpose behind Central Government transfers to local governments is to provide support for basic capital improvements. That is, the role of local governments is assumed to be to provide certain basic services to citizens with the Central Government stepping in to help with the more expensive capital investments that require funding for construction and major equipment purchases. Many Philippine (and other developing country) local governments otherwise would not be able to raise the needed capital for large investments. This assumption is not a value judgment on our

part about what the roles of Central and Local governments are. It is a reflection of the announced intent of the Government of the Philippines (and other governments as well). The other side of the assumption is that local governments will provide from their own revenue sources the funds to pay for continued operation, maintenance and repair of such facilities.

With these assumptions in mind, let us proceed to the flow of funds analysis. For this, you will need several pieces of information from the worksheet and a few calculations. For your most recent year, fill out the following table.

REVENUE		EXPENDITURE	
Total Revenue	_____	IF Expense	_____
Nat'l Aid	_____	GF Expense	_____
Local Revenue	_____		
Borrowing	_____	Interest	_____

Most of these figures come straight off the Computation Worksheet in Chapter II. Borrowing and interest payments were not included in the data set we have been using, but include them if you have them available to you. The only calculation you have to perform is to get the figure Own Revenues which is a simple subtraction of total national aid from total revenues. You may have to add together the

transfers from the national government if you have not already done so on your original worksheet. These would be the Internal Revenue Allotment (IRA), the Specific Tax Allotment (STA) and other national government aid.

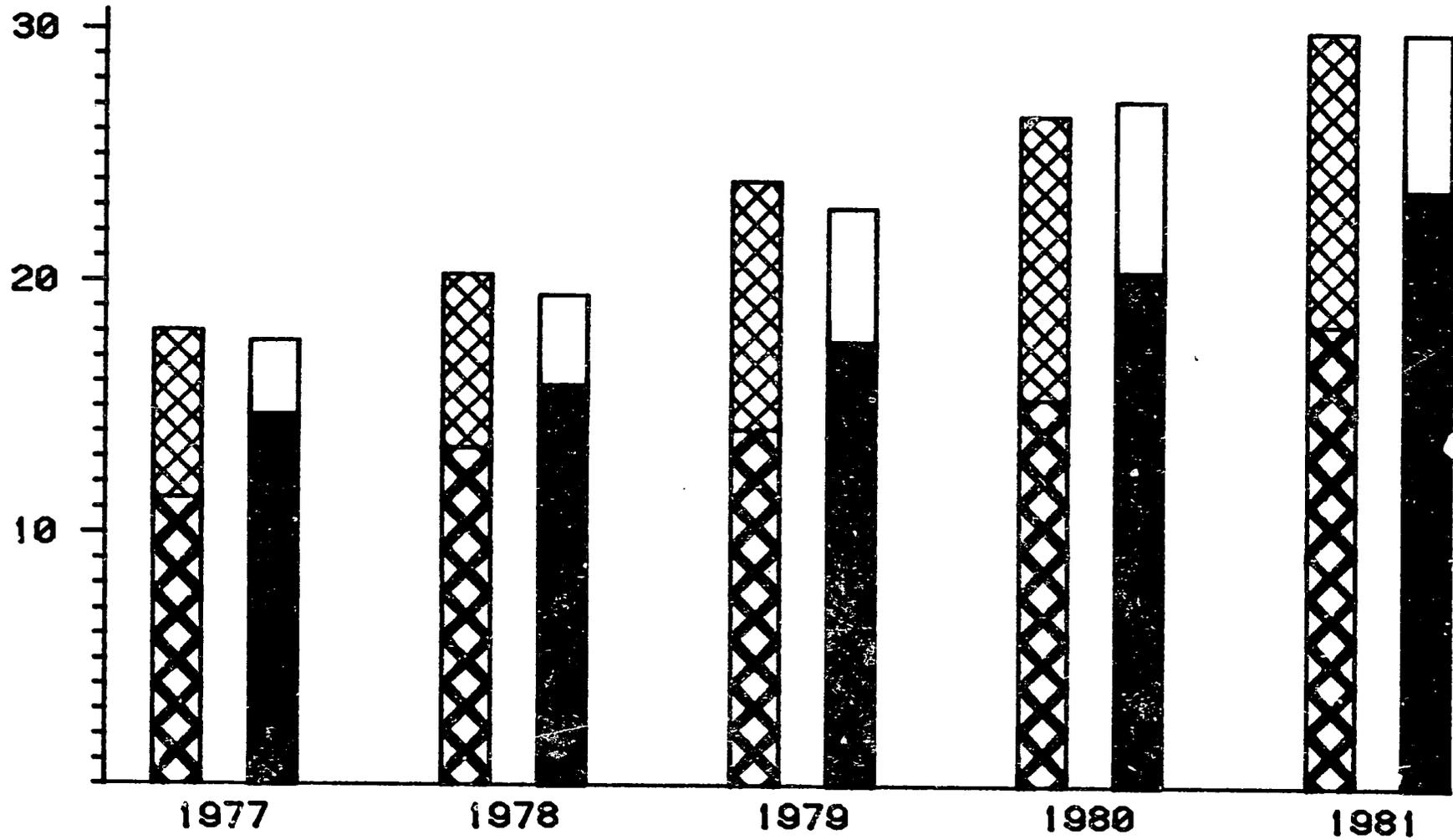
Below is a table which completes this information for the average of the fourteen municipalities (using per capita figures) for 1981.

REVENUE		EXPENDITURE	
Total Revenue	30.00	IF Expense	6.20
Nat'l Aid	11.63	GF Expense	23.71
Local Revenue	18.37		
Borrowing		Interest	

Following the general assumptions we stated at the beginning of this section, what does analysis of this table now tell you? First, aid from the Central Government clearly is considerably more than what is being spent on Infrastructure investments. Second, it also is clear that municipalities are not raising sufficient revenues from their own sources to pay for the current expenses of the General Fund. What this sums up to is that the Central Government, in addition to providing support for Infrastructure investments, also is providing a basic budgetary subsidy for local government finances. We stress that this is not automatically wrong, if it is deliberately

chosen public policy to provide that basic level of subsidy. However, current policy is to have local governments increase their level of local revenues at least sufficient to pay for the General Fund portion of the budget. On the following page, a set of bar graphs show the pattern for all five years from 1977 through 1981.

CAPITAL VS CURRENT ACCOUNT ANALYSIS



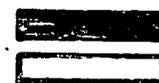
LEGEND:



OWN SOURCE



TOTAL NATL AID



GF EXP



INF EXP

If you look from left to right at the heavy cross hatched area which shows own source revenues and the solid bar which shows General Fund expenditures, you can see that in every year local government revenues fall short of meeting General Fund expenditures. The gap, the height difference from the top of the heavy cross hatched section to the top of the solid bar, is the amount of Central Government subsidy every year going not for investment in facilities or infrastructure but to basic budgetary subsidy. Again, a deliberate policy decision may be made to provide a general level of subsidy for other than capital or infrastructure type investments. But, in the absence of such a decision, the gap reflected in the bar graphs indicates the extent to which local revenues are not sufficient to cover general services. As a consequence, capital investment may be less than it otherwise might be.

C. SUMMARY

Two main ideas have been introduced in this chapter. First, we have discussed the idea of projecting a budget deficit, especially by looking at the relationships among Infrastructure Fund expenditures, future operation and maintenance costs, and the availability of local revenues. Second, we have suggested a flow of funds analysis which looks at the relationship between locally raised revenues and Central Government transfers. Using the materials in this chapter, you now should be familiar with:

- Projecting anticipated budget deficits and surpluses
- The use of a second projection method, moving averages, and
- The construction and analysis of a simple flow of funds account.

VI. MAKING THE BEST USE OF THIS WORKBOOK

Nothing suggested for individual local governments in this workbook absolutely requires assistance outside the local government itself. More centralized resources, as suggested, can contribute by preparing the tables, graphs, and comparative data that make the process easier and more meaningful. However, the heart of any successful program of financial management improvement is learning from not only your own experience but also the experience of other local governments. Much is lost if individual local officials and individual local governments work through the process alone or only with an outside technical assistance provider. Therefore, it is highly recommended that some form of province or regional workshops be used as a part of the workbook process. With individual local governments receiving the workbook material in advance, recording the information required on the worksheets, and bringing the material to a workshop session, much can be accomplished in a workshop to analyze the information comparatively.

It should be recognized that comparative examination of fiscal conditions is sometimes threatening, but most local government officials will find that the comparative process carried out in a workshop with their colleagues from other local governments is much more of a learning than a threatening situation. In that setting there is the opportunity to learn not only the fact that some local governments look on paper to be more effective at some aspect of financial management than you are but also to ask them how they achieve it. And, as is so often the case, when you find that there also are some areas in which you are

more effective than many other local governments, the workshop setting provides an opportunity to share with pride your own techniques and accomplishments.

TECHNICAL APPENDIX

A. PREPARATION OF THE MANUAL

This workbook was prepared utilizing exclusively a microcomputer and standard, commercially available software. The workbook may be modified to fit changing circumstances within a country or adapted to other countries. Implementation on the microcomputer serves the purpose of maintaining flexibility, encourages the audience for the workbook to treat it as a modifiable, usable tool rather than a permanently printed text, and the technology is well within reach of developing country central governments or other technical assistance providers and even larger local governments.

A five and one quarter inch floppy disk with this workbook on it in Apple DOS text files is available from the Research Triangle Institute. Users may access these files with any Apple II, II+, IIe word processing software. Applewriter was used in preparing the files and may be used to print a copy of the workbook directly. Other word processing software would have to change the embedded print controls first.

B. PROCEDURES FOR ESTIMATING A TREND LINE

Two methods are used in the workbook to use your time series of financial data to estimate the trend and future direction. One is to use the data to fit a regression line, which is a straight line that best fits your data. The other is to smooth out the fluctuations in your data series

by calculating a moving average. The regression method produces a straight line which simply continues into the future two to three years (with only a few years of data, you should be very cautious about extending the line more than two or three years). The moving averages method reduces some of the up and down changes in your data series. To extend it into future years as a projection method, you will have to hand draw the line. It is useful as a rough trend estimate, but not as a precise prediction.

1. Regression Method

To determine your regression line by hand or hand held calculator, develop a table as below. The first column is simply the years over which the time series will be plotted from 1 to n. The second column is the actual data for the variable you wish to plot (such as General Fund expenditures per capita). The remaining columns are all calculations based on the first two columns.

Year (X)	Pesos(Y)	X - Average X (x)	Y - Average Y (y)	x Squared (xsq)	y Squared (ysq)	(x times y) (xy)
_1/	_2/					
1	30	-2	-5	4	25	10
2	35	-1	0	1	0	0
3	28	0	-7	0	49	0
4	37	1	2	1	4	2
5	45	2	10	4	100	20
-----	-----			-----	-----	-----
Sum 15	175			10	178	32
Average 3	35					

_1/ For Example. 1977 through 1981, listed as 1,2,3,4,5.

_2/ The data you are plotting such as General Fund Expenditures per capita.

Substitute your own values in the Y (Pesos) column and perform the calculations as illustrated. With the values in your table, you can now calculate your new, predicted values for the Y column which you will then plot as your trend line. To calculate the predicted Y values, use the formula:

$$\text{Predicted } Y = a + bx$$

where $b = \frac{\sum xy}{\sum x^2}$

and $a = \text{average } Y - b \text{ times average } X$

In our example, the predicted values for Y would be:

$$a = 35 - (3.2)(3) = 25.4$$

$$b = 31/10 = 3.2$$

Year 1	$Y = 25.4 + (3.2)(1) = 28.6$
Year 2	$Y = 25.4 + (3.2)(2) = 31.8$
Year 3	$Y = 25.4 + (3.2)(3) = 35.0$
Year 4	$Y = 25.4 + (3.2)(4) = 38.2$
Year 5	$Y = 25.4 + (3.2)(5) = 41.4$

2. Moving Averages Method

To calculate a moving average on the same data, add your actual values in the Y column for years 1, 2 and 3 and divide by 3. This becomes your first predicted value for Y. Then add the values for years 2, 3 and 4 and divide by 3. Then add values for years 3, 4 and 5 and divide by 3. This would be a three year moving average. A two year moving average would add years 1 and 2, divide by 2, add years 2 and 3, divide by 2, and so forth.

As you can see, the moving average method is easier to calculate by hand, but it is very limited when you have only a few years with which to work.

C. CONSTRUCTING YOUR OWN GRAPHS

Where we have instructed you to plot your own figures against other municipalities in this workbook, we have provided a graph with the other municipalities' figures in the text for you to use. In constructing your own graphs other than those specifically called for in the text, we have provided several blank graphs following this text from which additional copies may be made. The horizontal axis or line will always be years for plotting information over time. We have provided room for up to 10 years. The vertical axis will be the information category you select. Examine your data before you plot it to determine the highest value. Take that highest value and divide by 20. The resulting number will be the value for each interval on the vertical axis (because we plotted 20 points on the following blank graphs for you to use).

For example, if you were plotting some per capita data, and the highest value you had was 60, divide 60 by 20 to get a value of 3. The bottom of the vertical axis would be 0, the first point 3, the second point 6, and so forth. If the scale looks peculiar, you might use every other point. Then your vertical scale would be 0,3,6,9, and so forth, but two intervals would be used for each number.