

Chapter 5

Funding State and Local Budgets

Chapter Five Overview

While the previous chapters have more or less centered on the expenditure side of the budget, this chapter concentrates on *revenue*. Revenue is the lifeblood of governments and a very important factor for government officials and citizens. In FY 2017, thirty one states began the year predicting budget shortfalls (Gleason, 2017). In some cases, these deficits were projected well into the 100s of millions of dollars. Hence, it is quite important that government officials closely examine potential revenue sources and spend quality time conducting accurate revenue forecasts. Due to limited revenue sources it is also important that government engage in *revenue management*. This chapter begins with a general discussion of revenue sources for all levels of government followed with a more detailed examination of state and local revenue sources. This includes the newest form of revenue sources: lotteries and gambling.

Sources of Revenue

The number one source of revenue for state and local governments is *taxes*. Taxes are “compulsory charges made against the public by a government to obtain the money it needs to finance its activities” (Mendoza 1983, p. 63; see also Rose 2010). Taxes come in various forms and differ somewhat from one governmental unit to the next. For example, the federal government depends heavily upon *federal individual income taxes* and *social insurance* receipts while state governments depend a lot on *sales* and *individual state income taxes*. Local governments are more dependent upon *property taxes* (Bartle, Kriz, and Morozov 2011). Some taxes are considered *regressive* while others are considered *progressive*.²⁷ However, taxes are not the only source of revenue for state and local governments. Revenues are also collected from *user fees*; *intergovernmental transfers*; *licenses and permit*; and *excise taxes on motor fuels, alcohol sales and tobacco sales*; and various other charges (fines, forfeitures). Many cities work under the auspices of a charter and this document dictates what sort of taxes will be collected. For example, some cities collect income from earning.²⁸ However, legislative approval is often needed to add an additional tax. Table 5.1 shows the major categories of revenues for the federal, state and local government along with budget representation estimates.²⁹ These estimates can differ by

state and local governments for any particular year (Carroll 2009; Kioko 2011; Mikesell 2014).

As shown, the federal government is heavily dependent upon individual income taxes and social insurance payments. However, social insurance is not used to fund any federal program, it is considered a trust. State and local governments are much more diverse and balanced in their sources of revenue. Most notable with these latter two levels of government is the dependence upon inter-governmental transfers.

Table 5.1 Major Sources of Revenues in the US

	<u>Federal</u>	<u>State</u>	<u>Local</u>
1. Individual Income Taxes	44%		
2. State Income Taxes		17%	
3. Corporate Income Taxes	11%	3%	
4. Sales Taxes		21%	6%
5. Property Taxes			28%
6. Excise Taxes	3%		
7. Social Insurance	36%		
8. Intergovernmental Transfers		22%	38%
9. Insurance Trust Revenues		20%	
10. Charges, Fees and Miscellaneous			23%
11. All Other	6%	17%	5%

Note: These are all rough yearly estimates. The exact dollar amounts can be found at the following websites: US Census and Center on Budget and Policy Priorities.

Further, state governments are modestly dependent upon sales and income taxes, and *insurance trust revenues*. Insurance trust revenues are “taxes and fees that finance various insurance trusts to support unemployment compensation programs, state employee pensions, and other programs” (Nice 2002, p. 26). Lastly, local governments depend on property taxes, charges and fees. Taxes are traditionally evaluated using the following dimensions:

- A. Yield - How much money can be raised using the tax?
- B. Stability – How much does the revenue fluctuate based on changes in the economy?
- C. Equity - Do similarly situated people pay the same level of tax? Do those who have a greater ability to pay more contribute more?
- D. Efficiency – Does the tax distort economic activity? How much does it cost to administer the tax and who covers those costs?

Given the fact that states and local governments have a plethora of revenue sources at their disposal, one can use the following formula to determine the level of revenue needed:

$$\text{Yield} = \text{Rate} * \text{Base}$$

A. Yield = Revenue.

B. Rate = The rate is levied against the base (i.e. higher incomes are taxed at a higher rate).

C. Base = Property value, income, subject sales, etc.

In order to change the yield, you simply need to change the definition of the base as well as the rate.

Taxes

Taxes fall into three basic categories: income, consumption, and wealth. In some cases, several categories may be involved in a transaction. Taxes here are split into four general categories: A. Property, B. Income Taxes, C. Sales Taxes, D. Alcohol, Tobacco and Petroleum (see also Gravelle 1999, and Swain and Reed 2010).

A. Property Taxes

A major source of revenue for local governments is *property taxes*. These are taxes levied against real property, personal property and the property of a privately owned utility. Real property consists of land, homes, businesses, and other permanent fixtures. Personal property is property that can be moved from one location to another. It can be inventory, vehicles, and equipment. Privately owned utilities include real and personal property (Mikesell 2014; Kittredge and Quart 2005; Rubin 2006). The assessed value of these categories is usually determined by a state or local government or by judicial decision. Under normal circumstances, the market will play a role in this value. This process is very complicated to say the least.³⁰ However, Mendosa (1983) offers the following principles when assigning value to property.

- Uniform procedures should be in place when assigning value to property. Property that are similar should be assessed the same. That is, property that have “equal market value should be assigned approximately equal taxable values” (p. 63).
- Assessed values should be adjusted periodically to keep pace with market value. When market values decrease, the assessed value should likewise decrease and vice versa.
- Officials should make every effort to tax all property. This includes using “aerial photographs, field surveys, comparing utility customer records with personal property tax rolls, and

other search and find techniques” (p. 64).

According to Gianakis and McCue (1999) property taxes is one of the most unpopular taxes in the U.S. even though it is considered by most to be progressive.³¹ One reason for such a poor ranking is based on the principle of capital gains. That is, as the value of the property increases, so does the amount of the tax unless the rate is reduced. Since the gain in wealth is not realized until the property is sold the tax seems unfair since the property tax is paid each year. The tax can also be used to balance the budget of a local government when other options do not appear to be feasible.³² Even though a large number of tax bills are escrowed, the bill comes once a year and thus is highly visible to the taxpayer. Infrequent reassessments may also have a negative impact on property during periods of economic downturn. Lastly, taxpayers see the value of their property as subjective and arbitrarily set by the government (Smith, Sun, and Lynch 2017).

Setting the Property Tax Rate

There are quite a few items that are considered when setting the property tax rate. These include items such as the location (city v. rural) of the property and what the property is used for (business v. residential). There are three basic operations used when setting the tax rate: *assessment of property value (tax assessor)*, establishing the *tax rate (millage rate)*, and collecting the tax (*tax collector*). The legislative body sets the tax rate while assessment and collection can be done by the same or separate institutions.

Tax Assessments and Tax Rates

The *tax assessor* office normally identifies and classifies property. Property can be classified as: residential versus business; farm versus non-farm; or farm, residential, commercial or industrial. Farmland is taxed at a much lower rate than non-farm land and businesses tend to be taxed at a much higher rate than residential areas unless they are new to the area (Smith, Sun, and Lynch 2017). Another important characteristic in this process is to determine the role of exemptions. An exemption is the “amount deducted from the assessed value of property for tax purposes” (Riley and Colby 1991). Homestead exemptions are very common. However, there could be exemptions for widowers, senior citizens, handicap residents, etc.

The *market price/value* of the property is also very important when establishing the tax rate. Market price is the price that a seller and buyer are willing to accept without coercion. Normally, this is the price used in the assessment. After the assessor places a value on the property, the tax rate is established. While the

government expects other revenue, the tax rate is still influenced by the amount of revenue needed to run the government. If expenditures are not balanced, the property tax rate can increase or the budget can be cut (Raphaelson 2004).

A local government can either decide how much money it needs from property taxes or simply set the property tax rate. In method one, let's assume that the government needs \$200,000.00 from individual property taxes and the tax assessor has determined the total assessed value of individual property taxes is \$4,000,000.00. So, if you divide the amount of funds needed by the total assessed value, you will get the *fixed or nominal tax rate*. In this case, the rate would be .05 or 5% ($\$200,000.00 / \$4,000,000.00$). Therefore, a home assessed at \$55,000.00 would yield \$2,750.00 in property taxes ($.05 \times \$55,000.00$). The tax rate typically changes for business and personal property.

In the second method, property tax rates are set up front and then applied to property. This rate is commonly assessed using a *millage rate* or a "cents on the dollar method. A millage rate is expressed in terms of mills. One mills yields (1/1000 of one dollar) \$1.00 of tax liability for every \$1,000.00 of assessed value. Again, the rate would vary depending on the type of property assessed. For example, let's consider a business that has a market value of \$100,000.00 and an assessed value of \$45,000.00. The millage rate is 5% (or 50 mills/dollar). So, you multiply the assessed value by the millage rate and determine the estimated tax ($\$45,000.00 \times .05 = \$2,250.00$). Another way of looking at this assessment is to use the following calculation: Taxes = 50 mills / \$1 x \$45,000.00 = 2,250,000 mills = \$2,250.00.³³

The *most effective tax rate* (METR) can be calculated by dividing the tax assessment (estimated) by market value ($\$2,250.00 / \$100,000.00 = 0.0225$ or 2.25%). When calculating multiple units, add all of the tax rates (METRs) together and divide by the total number of properties. All calculations are done after all exemptions are considered (Rabin, Hildreth, and Miller 1996).

Consider the Jefferson City Autoplex in Table 5.2. As shown, the applied millage rate is 3%, but the question is: what is the most effective tax rate? The table shows that the METR is 2.32% for the cities' autoplex.

Table 5.2 Most Effective Tax Rate Jefferson City Autoplex

Business Entity	Market Value	Assessed Value	Millage Rate	Est. Tax	METR
A&B Auto	\$135,000	\$90,000	3%	\$2,700	2.00%
Amido's Car Repair	\$200,000	\$155,000	3%	\$4,650	2.33%
Amber's Autos	\$175,000	\$150,000	3%	\$4,500	2.57%
Hybrid Express	\$355,000	\$300,000	3%	\$9,000	2.53%
McClain's BMW	<u>\$650,000</u>	<u>\$475,000</u>	<u>3%</u>	<u>\$14,250</u>	<u>2.19%</u>
<i>Total</i>	\$1,515,000	\$1,170,000		\$35,100	2.32%

In the above example, the estimated tax is the sum of the assessed value multiplied by the millage rate (in Excel: $=90,000*.03$). The METR for A&B Auto is calculated by dividing the estimated tax times the market value (In Excel: $"=2,700/135,000"$). The total METR is calculated by adding each of the individual METR together and dividing them by the total ($2.00 + 2.33 + 2.57 + 2.53 + 2.19 = 11.62$; $11.62/5 = 2.32\%$).

An extremely important event in property tax administration involves the date on which the property value is to be fixed. Property changes hands constantly. As a result, failing to fix a date means the government is aiming at a moving target. So, a government specifies that the value of the property will be determined as of a particular date, such as January 1st. This is known as the lien date. The government places a lien on the property as of that date. Thus, the government is entitled to the tax. The date on which the actual levy of the tax is made by the legislative body is usually later in the year. For example, the levy date might be April 1st. Unlike virtually all other taxes, a property tax is levied to support the activity of the government for the fiscal year. In this example, the fiscal year is July 1-June 30.

Another event that takes place is the reappraisal. Governments have different ways of reappraising property. Some require that an actual appraisal take place by an appraiser. This might be done every three years or more. Others allow for estimates every two or three years followed by an actual appraisal the next cycle. Estimates are usually done by analyzing housing sales in the neighborhood during the past two years. The assessor would also look at permits to see if any improvements were made.

The reappraisal was one of the most unpopular actions that affected a property owner. An increase in the property tax bill resulted from the inflationary increase in the value of the property without any increase in the rate. For example, a home that had a value of \$100,000 and a rate of \$20 per thousand would receive a bill for \$2,000. When the property was reappraised, it was valued at \$120,000. Now the bill was \$2,400. The most famous instance of taxpayer revolt was Proposition 13 in California. Its passage required the rate to be reduced so that the amount paid after appraisal was substantially the same as the amount paid before. Many states have enacted similar provisions.

Coefficient of Dispersion

Let's assume for a moment that the tax assessments are questionable. That is: Were the properties assessed based on market price? Are there biases in the assessment based on the type of property? Are some properties under or over assessed? In order to answer the first question, the *coefficient of dispersion* should be checked. This test allows the examiner to determine how close are assessed values are to each other, relative to the market. Exhibit 5.1 provides an

example of this test (partially excerpted from (Smith, Sun, and Lynch 2017).

Exhibit 5.1 Coefficient of Dispersion Test

	Sales Price	Assessed Value	Assessment Ratio	Average Deviation
Property 1	\$100,000.00	\$55,000.00	55%	55%-63%=[-8%]
Property 2	100,000.00	64,000.00	64%	64%-63%= 1%
Property 3	<u>100,000.00</u>	<u>70,000.00</u>	<u>70%</u>	<u>70%-63%= 7%</u>
	\$300,000.00	\$189,000.00	189%	16%

- *Step 1: Individual Assessment Ratios:*
 $\$55,000 / \$100,000 = .55$ or 55%
 $\$64,000 / \$100,000 = .64$ or 64%
 $\$70,000 / \$100,000 = .70$ or 70%
- *Step 2 : Average Assessment Ratio of Properties:*
 (Total Assessment Ratio / Total Number of Properties) = Average Assessment Ratio (189 % / 3) = .63 or 63%
- *Step 3: Average Deviation:*
 (Sum of the Absolute Value of Average Deviation / Number of Properties) = Average Deviation 8% + 1% + 7% = 16%, 16% / 3 = 5.3%
- *Step 4: Coefficient of Dispersion:*
 (Average Deviation / Average Assessment Ratio of Properties) = 5.3% / 63% = .08 or 8%

A coefficient of dispersion less than 10% suggest a minor problem with the assessed values. A coefficient higher than 10% suggests a problem and the magnitude of the problem increases as the coefficient increases. Hence, a coefficient of 8% does not indicate a substantial problem with the assessed values in the Exhibit 5.1. The closer the coefficient is to zero the better the assessments are to each other.

Price Related Differential

Another test that can be used with the coefficient of dispersion is the *price-related differential*. This test determines if higher priced properties are under assessed. Exhibit 5.2 provides an example of this procedure (The example and subsequent steps in Exhibit 5.2 were excerpted from Smith, Sun, and Lynch

2017, p. 348).

Exhibit 5.2 Price Related Differential Test

- *Step 1:* Calculate the individual aggregate assessment-sales ratios which are weighted by the values of the parcels in the sample. In the example below, you divide the assessed value by the sales price (i.e. $\$20,000/\$100,000.00 = .20$ or 20%/ assessed value/sales price).

	<u>Sales Price</u>	<u>Assessed Value</u>	<u>Assessment Ratio</u>
Property 1	\$100,000.00	\$20,000.00	20%
Property 2	10,000.00	4,000.00	40%
Property 3	10,000.00	4,000.00	40%
Property 4	<u>10,000.00</u>	<u>4,000.00</u>	<u>40%</u>
	\$130,000.00	\$32,000.00	140%

- *Step 2:* The aggregate assessment-sales ratio is: $(\$32,000.00/\$130,000.00) = 0.246$ or 24.6%.
- *Step 3:* Calculate the average of the assessment ratios of the separate parcels. The average assessment ratio of properties is: $140\% / 4 = 0.350$ or 35%.
- *Step 4:* Divide the mean of the assessment ratios by the aggregate assessment-sales ratio to determine the price-related differential. The price-related differential is: $35 / 24.6 = 1.42$ or 142%.
- *Step 5:* Interpreting the results. Deviation from 100% is the important figure in this analysis. A price-related differential that is 100% indicates that there is neither over assessment nor under assessment. However, if the differential is more than 100% then there is under assessment of the higher priced properties. If the differential is less than 100% then there is an under assessment of the lower priced properties. In this case, the deviation is 142% indicating the higher priced property is significantly under assessed. Mathematically, the differential indicates that the collective disparity between the sales price and the assessed value of the higher priced properties is greater than the collective disparity between the sale price and assessed value of the lower priced properties.

Tax Collection

The last step in the process is tax collection. In a lot of local governments,

tax collection is handled by the Tax Collector or in some instances the Sheriff's office. The Sheriff's office becomes particularly important when property is foreclosed. If property taxes are not paid, the property can be sold in order to collect the taxes. Delinquency rates normally do not exceed 5%. However, it is wise to assume that everyone is not going to pay their taxes when preparing revenue estimates.

Tax assessors assume that the property tax will be paid yielding a one to one ratio. That is, if your taxes are \$956 then you will pay \$956. However, property tax payments frequently come in schedules based on months. For example, let's say that your payment is due by November 30th. The bill might have a payment schedule for October, November, December, and January. The property owner could save money by paying the bill early (October date) or pay the actual tax amount by the November 30th deadline. By delaying payment, the property owner can be penalized with a 1% penalty in December, 2% in January and then become delinquent in February with a flat 3-5% penalty. Although it is not a good accounting practice, you can budget for the penalties. Arguments for doing so should be based on strong historical trend analysis.

B. Income Taxes

For a lot of states, *income taxes* make up a large proportion of taxes collected. In 2017, 43 states collected state income taxes.³⁴ These taxes tend to follow the same format as federal income taxes. That is, income is defined as all income rather than just wages. An income tax is considered to be a *progressive tax*: the greater the income, the higher the tax rate. Individual income taxes make up about 13% of all revenue collected in a state (Nice 2002; Rubin 2006, Swain and Reed 2010).

Local governments can also levy and collect income taxes (*payroll taxes*). Some local governments limit the tax to earned income, such as salary and wages, rents and royalties; and lottery and other gambling winnings. In other instances, the tax is only applied to wages and salaries earned and are deducted directly from individual earnings. The tax rate is usually 1-2% of earned wages. Generally speaking, these taxes are considered to be *regressive taxes* because all individuals pay the same rate regardless of their salaries or wages. Thus, the rate for the CEO is the same as the rate for the mail clerk. Hence, the impact is more significant for the lower income individual. Payroll taxes also have an impact on commuters who do not live in the jurisdiction where they work, since they are also required to pay the tax. Commuters essentially pay a tax for services that they receive associated with their place of employment, such as police, fire, and road maintenance. This is particularly important for cities that have large employment centers, but whose employees live in suburbs.

Since income and payroll taxes are taxpayer assessed, they have a low administrative overhead. The tax is collected by the employer and sent to the state

or local government. Some state governments also allow local governments to collect a *corporate income tax*. However, this tax can be detrimental to promoting the business industry unless other local governments also have the tax (Bland 2005). Payroll taxes are not as stable as property taxes and are very susceptible to the business cycle. The majority of local governments do not collect payroll taxes. However, this aspect is very regional in nature.³⁵

In 2018, as in most years, tax rates shift. Exhibit 5.3 shows the tax rates for the federal government and an example of what a state and a local government tax rate could resemble.

Exhibit 5.3 Federal Tax Rates in 2018

Married Individuals Filing Joint Returns and Surviving Spouses	
If Taxable Income is Between:	The Tax Due Is:
0-\$18,650	10% of taxable income
\$18,651-\$75,900	\$1,865+ 15% of the amount over \$18,650
\$75,901-\$153,100	\$10,452.50+ 25% of the amount over \$75,900
\$153,101-\$233,350	\$29,752.50+ 28% of the amount over \$153,100
\$233,351-\$416,700	\$52,222.50+ 33% of the amount over \$233,350
\$416,701-\$470,700	\$112,728+ 35% of the amount over \$416,700
\$470,701+	\$131,628+ 39.6% of the amount over \$470,700

Individual Taxpayers	
If Taxable Income is Between:	The Tax Due Is:
0-\$9,325	10% of taxable income
\$9,326-\$37,950	\$932.50+15% of the amount over \$9,325
\$37,951-\$91,900	\$5,226.25+25% of the amount over \$37,950
\$91,901-\$191,650	\$18,713.75+28% of the amount over \$91,900
\$191,651-\$416,700	\$46,643.75+33% of the amount over \$191,650
\$416,701-\$418,400	\$120,910.25+35% of the amount over \$416,700
\$418,401+	\$121,505.25+39.6% of the amount over \$418,400

Let's consider the example in Exhibit 5.4. There are four employees listed in Jefferson City's legal affairs office. Note that two of the employees are listed by name while the other two are not. If you have several employees who make the same salary, it is easier to put them into one category listed by their title rather than listing them separately. This format does not work if you want to iden-

tify a person by name, nor does it work if and when their salaries change.

Exhibit 5.4 Income Tax Payments

Employee	FTE	Salary	Fed. Income Tax	State Income Tax	Payroll Tax
Lei Nie	1	\$97,000.00	\$20,141.74	\$5,290.00	\$1,697.50
Lincoln Brown	1	90,000.00	18,238.75	4,905.00	1,575.00
Exec. Asst.	2	100,000.00	16,477.49	5,410.00	1,750.00
	4	\$287,000.00	\$54,857.98	\$15,605.00	\$5,022.50

In this example, there are two executive assistants who make the exact same salary. Therefore, the amount of taxes owed would be the same after any exemptions. This method is much more efficient and effective than listing each employee.

Income taxes are normally graduated. As salary increases, so does the tax rate. For example, the following tax rates were used with the example in Exhibit 5.3 (all of the calculations are rounded to two digits to the right of the decimal).

While this process may seem complicated, it is really quite easy. The one thing that you should remember is that employees who make lower salaries pay fewer taxes and as their salaries increase, so does the rate on the tax. However, do not make the mistake of taking the entire salary and applying one tax rate. For example, Lei Nie's federal income tax, in the above example, was calculated in a three-step process. First, take the first \$9,325.00 of his salary and apply a 10% tax rate to that amount. Second, apply a 15% tax rate to the next \$26,649.99 (\$37,950-\$9,325) of his salary, then, apply a 25% rate to the next \$48,300.00, and finally apply a 28% tax rate to the last \$11,349.00 (\$97,000.00-\$46,700.00) of his salary. If you calculate the math, it would essentially look like this:

<u>Salary Range</u>	<u>Calculations</u>	<u>Taxes Owed</u>
\$0-\$9,325	= \$9,325 x 10%	= \$932.50
\$9,325.01-\$37,950	= \$28,624.99 x 15%	= \$4,293.75
\$37,950.01-\$91,900	= \$53,949.99 x 25%	= \$13,487.50
\$91,900.01-\$191,650	= \$99,749.99 x 28%	= \$27,930.00
\$191,650.01-\$416,700	= 225,049.99 x 33%	= \$74,266.50
\$416,701.01-\$418,400	= 1,698.99 x 35%	= \$594.65
\$418,400.01+	= ? x 39.6%	= ?

In Excel, you can use the formula: "=(9325*10%+(37950-9325.01)*15%+(91900-37950.01)*25%+(C8-91900.01)*28%" to calculate Mr. Nie's taxes. As a point of reference, C8 in this formula is the employee's maxi-

mum salary (\$97,000). If there are multiple persons considered on the salary line, you cannot use the cell number (C8), you must divide the salary by the number of people. Hence, you should write a formula to determine the taxes owed by one person and then multiply the total by the number of individuals.

An example of a formula in Excel with two persons, who make the same salary (\$50K), on one line could look like this: $=(9325*10\%+(37950-9325.01)*15\%+(50000-37950.01)*25%)*2$; or you could use: $=(9325*10\%+(37950-9325.01)*15\%+((C9/B9)-37950.01)*25%)*2$, where C9 is the total salary and B9 is the number of persons on the line/in the position description. The second formula is more efficient and effective because you do not have to change the formula to compensate for changes in the number of persons or the salary in the future.

Note the differences between the two Excel formulas listed above (one person versus multiple persons). First, note the point that is noted above, the tax is calculated for one person and then multiplied by 2. Second, the maximum salary of the employees is \$50,000 so, you do not need the latter part of the formula $(C8-91900)*28\%$.

In order to calculate state income taxes you would follow the same format as the federal model. Last, since the payroll tax is a flat rate, it can be computed by simply multiplying the rate times the total salary for each employee. With all of these examples rounding is an issue, so make sure that you include two digits to the right of the decimal whenever it is necessary and it is always necessary when calculating taxes.

C. Sale and Use Taxes

One of the largest sources of income in a state is the *sales tax*. Sales taxes are funds collected at the retail transaction stage. They are collected when goods and services are sold. One advantage for the government is that retailers bear the burden of handling most of the paperwork. The government is concerned with timely and accurate payments from the retailer. Once the taxes are collected by the state, they redistribute the funds to the appropriate local government. Many local governments also have the discretion to levy a local option sales tax (Wang and Zhao 2011). In many states, only counties are able to levy a sales tax. In others, a municipality may levy a tax if the county chooses not to. In still others, both the county and municipality may levy the tax. Local governments should consider all other options prior to making this decision because it could have a negative impact on revenue collections.³⁶ To lessen the burden on retailers, local government sales taxes are added to state sales taxes and remitted to the state.

Sales taxes are *regressive taxes* because citizens pay the same sales tax rate regardless of their income level. They also are not as stable as property because of fluctuating business cycles. Citizens will stop buying "luxury items" and reduce discretionary purchases when the economy slows down. Each state sets its

own sales tax rate. States and localities also have some discretion as to what sales taxes will be applied to. For example, sales taxes are not applied to the sale of un-prepared food in Kentucky. Other products that may be exempt from sales taxes are medicines and clothing. An additional item for a state to consider is collecting the tax from the retailer. The Department of Revenue in the state of Tennessee has officers who are charged with collecting delinquent sales tax payment from retailers who choose not to send in the payments.

A *use tax* differs slightly from a sales tax. A use tax is imposed by a state to compensate for the sales tax lost when an item is purchased outside of the state, but is used within the state. For example, let's say that you buy a car in a state that has no sales tax, but you live across the border in a state that does have a sales tax. When you bring your car home and register it in your state, the state taxing authority will bill you for the sales tax it would have collected had you bought the car within the state. Otherwise, you are not able to "use" the car in the state where you live (Kittredge and Ouart 2005).

D. Alcohol, Tobacco and Motor Fuel Taxes

Alcohol, tobacco, and motor fuel taxes are also collected at the time of sale. These are also called *excise taxes* because a rate is applied to a specific product on a per unit basis. In many cases, such as alcohol and tobacco, the purpose of the tax is to curtail the use of the product. Excise taxes are also applied to luxury items such as luxury boats and cars and hotel rooms. In some cases, these funds are also returned to the locality where they were collected. Further, they may be *earmarked* for a specific purpose. For example, motor fuel taxes are commonly used for building and maintaining roads and highways. The advantage to this tax is that it is benefit-based. The citizens that pay the tax reap the benefit of improved highways and roads. Unfortunately, these funds may be needed in other areas, but there is no chance of diversion given the rigid nature of the funds (Mikesell 2014, 2004).

E. User Charges and Impact Fees

A *user charge* is a fee charged to individuals who voluntarily use a publicly provided service. For example, large municipalities may implement a toll charge to pay for the construction of a new road. If you do not use the new road, then you do not pay the charge. The purpose of a user charge is to relieve the financial burden placed on the general revenue system. In most cases, user charges are geared toward the population that is benefiting from public service. User charges are useless if they are not enforceable and the charge must cover the cost of the service without disrupting other revenue sources.

A more common example of a user fee is the funds collected for police and fire protection or a school district. Charges for this service will often appear on a

utility or cable television bill. The address on the utility bill essentially alerts government officials that a new customer has moved into the jurisdiction.³⁷ Likewise, small towns often operate one or more utilities where they can charge fees. This includes water, gas, and electrical utilities. These government businesses have little or no competition (*monopoly*). Mendosa (1983) points out that "utility charges are calculated by applying a predetermined rate to a measured volume of service received by a utility consumer. Thus, the amount of revenues due from the utility charges is known before the payments are actually received" (p. 66).

Impact fees are charges that are passed on to developers in order to offset the cost to community resources and the infrastructure. According to Smith, Sun, and Lynch (2017) these fees are more popular in high-growth areas and larger cities. Development frequently causes wear and tear on the roads in these areas, requires additional water resources, sewage and so forth. Further, the increase in the population that results from development impacts the local parks, community centers, and libraries.

Setting a User Fee Rate

While it may be clear to government officials that they should implement a user fee, it might not be clear how much that amount should be. One method to determine the amount is to use *cost-volume profit (CVP)* or *break-even analysis*. This tool assesses how price, volume, and variable and fixed costs interface. At some point, revenue and cost equal (Bierhanzl and Downing 2004; Smith, Sun, and Lynch 2017).

Let's consider an example. A local government has decided to charge individuals driving a motor vehicle a fee to use a newly constructed four-lane road that will save the user 100 miles of travel. Government officials expect that 75,000 vehicles will pass through the road on a yearly basis, the traceable fixed costs (for example, permanent salaries, insurance equipment, and utilities) are projected at \$400,000, and the allocated fixed costs (for example toll overhead and general government overhead) are \$80,000. The variable costs (for cleanup, supplies, and part time workers) are projected at \$3 per car. A subsidy of \$100,000 is budgeted from the city's general fund.

The CVP equation is:
$$P = VC + \frac{[(TFC + AFC) - S]}{Q}$$

P = The correct user fee charge per vehicle

VC = Variable Cost per car

TFC = Traceable Fixed Costs (\$400,000)

AFC = Allocated Fixed Costs (\$80,000)

S = Subsidy (\$100,000)

Q = Total number of vehicles (75,000)

$$P = 3 + \frac{[(400,000.00 + 80,000.00) - 100,000.00]}{75,000}$$

$$P = 3 + \frac{380,000.00}{75,000}$$

$$P = 3 + 5.07$$

P = 8.06 or \$8.07 per car

Let's go a step further and add another caveat to this scenario. For 12 weeks in the summer, city officials perceive that the amount of traffic on the highway will increase by 100,000 cars per week. In the past, the city has used its current police force to manage any increases in traffic. However, they have concluded that they cannot continue with this practice. As a result, they are interested in hiring more police officers to two of the shifts 7 days a week for the twelve-week period. So, how many policemen will be needed to provide 16-hour coverage for the 3-month period or 90 days?

The first thing that we must do is calculate the number of hours that could be gained by each additional employee over the 3-month period. If each employee works 40 hours per week for 12 weeks, the number of paid hours (P) is 480. Let's also provide the following benefits over the period: 1.) 2 sick days, 2.) 1 paid holiday, and 3.) 4 paid days off. Assuming that the five paid days are taken, the following would apply: 5 x 8 hours = 40 hours (A). Hence, the effective hours per employee (E) is:

<i>Effective Hours Per Employee</i>	= P - A
	= 480 - 40
	= 440 Effective Hours

The formula for calculating a single shift is:

$$\begin{aligned} \text{Staffing Factor} &= \frac{\text{Hours per year of operation}}{E} \\ &= \frac{8 \text{ hours per day} \times 90 \text{ days}}{440} \\ &= \frac{720}{440} \\ &= 1.64 \text{ (single shift)} \\ &= 3.28 \text{ (double shift } 1.64 \times 2) \end{aligned}$$

If you want to double the shift, you simply need to double the number of hours to 16 per day. This would bring the total to 3.28 officers per day (see also Ammons 2002). Unlike other numbers (such as income or average age), it is more difficult to round people. For example, if we use the data in the above example and traditional rounding methods, we would round 1.64 to 2 employees

and 3.28 to 3 employees. However, if the formula is indeed valid we would have too many employees or not enough. So, what do you do in these circumstances? Research by Ammons (2002) suggests that you round to the nearest whole number (i.e. 1 full time employee) or a part time employee. In the above example, 1.64 would be rounded to 1.5 persons and 3.28 would be rounded to 3.5 persons. If the number of person is less than .5, it may be more feasible to simply provide overtime to the new or existing employees rather than place resources into hiring an additional person. A cost-benefit analysis can help you to make this decision.

F. Intergovernmental Transfers

A large percentage of a state's revenue comes in the form of *federal grants*. The amount of a grant varies and is quite dependent on federal activities. During the 1960s and 70s federal grants to states increased as the federal government sought to expand the role of the states. By the 1980s, grants leveled out and then rose again in the late 1980s. Grants come in two major forms: categorical and block. *Categorical grants* make up the largest type of grants that a state receives. A categorical grant is used for a specific program and has very strict guidelines for the activities to be carried out within a specific time period. Medicaid and food stamps are included in this category. Categorical grants exploded during Johnson's Great Society programs in the 1960s. Formula and project grants fall within the umbrella of categorical grants. *Formula grants* use a distribution formula to determine the amount to be allocated to the state or locality. Population, geography, income and education are variables that are used in formula grants. A *block grant* is used for broad policy areas. It can be used in a variety of programs and activities by state and local governments. States prefer this type of grant due to fewer restrictions on the funds (Riley and Colby 1991; Axelrod 1995).

Local governments receive grants directly from the federal government or passed through from the state government. Local governments also receive grants from the state. In many cases, the grants from the state are a form of revenue sharing. For example, the state will share income and sales tax collections with local government on some formula basis. School districts receive major funding from the state, along with additional funding from the federal government. Transportation agencies receive significant funding from the federal government to purchase capital equipment.

G. Licenses, Permits, and Franchise Fees

Another source of revenue for local governments comes from licenses and permits. A *license* or *permit* is defined as "special rights or privileges granted to an individual or business by a governmental unit in return for the payment of

designated fees" (Mendoza 1983, p. 65). Licenses are provided to businesses and individuals to conduct an array of different activities. These include, operating a street side kiosk to operating a restaurant. Permits allow individuals and businesses to build structures and to authorize other regulated actions. The cost of the license fee differs by activity. For example, the cost of a hunting license is different from that of a license to operate a restaurant. Without a license, an individual or business is forbidden to engage in the activity legally. The owner of a license does not receive any specific government service by having the license. Under normal circumstances, everyone who applies for a license receives it if they are qualified. However, a person does receive services from a permit. For example, the issuance of a building permit will result in a number of inspections by the government. The purpose is to ensure that the building or improvement meets the building code requirements established by the government.

One positive aspect of a license and permit is that they are easy to track. Because each license and permit is numbered; government officials can monitor, measure and control the process. It also allows the government to audit the revenue source with little effort. When problems occur, they can be easily pinpointed. For example, if building permits are decreasing, officials can determine whether the drop is the result of a dip in the economy or some other factor.

A *franchise fee* is closely related to a license fee, but there are some subtle differences. Franchises are provided on a limited basis. A franchise presupposes that the business will serve the entire community, operate with a certain quality and rate, and outline the responsibility of the owner and the government. It also may involve the use of the government's rights-of-way. In certain parts of the country cable companies operate on a franchise fee basis. Other examples could include telephone services. These fees can generate large amounts of funds.

H. Gaming

States and local governments began dabbling in games of chance in the mid-1960s, but in the last 15 years they have become very popular as an alternative source of revenue as a result of opposition to tax increase. Since New Hampshire adopted the lottery in 1964, forty-three states and the District of Columbia have legalized some form of gaming (Menifield 2012). These institutions come in the form of state lotteries, bingo, riverboat gambling, casinos, and slot machines. Despite the social and moral concerns that residents have with gaming, they tend to support these measures because they raise funds voluntarily versus compulsory taxes. In addition, proponents of lotteries often argue that lotteries are preferable to raising taxes when it comes to issues such as funding education. As a result, states have been able to generate millions of dollars in revenue. However, there is a fair amount of overhead associated with the gaming industry. In each case, state and local governments have established bureaucratic structures to regulate the industry. Some states, however, see minimum

economic benefits from casino operations. This is the case in states where casinos are owned and operated by American Indians on reservations. They are exempt from taxes and other fees.³⁸ However, these states do reap benefits in other ways. Many Indian casinos contribute payments-in-lieu-of-taxes to the government. Others provide substantial support to schools within the reservation, thus reducing state support.

I. Other Revenues

Occasionally governments will receive funds from sources that do not fit into any of the above-mentioned categories. For example, gifts, donations, and sales of equipment and assets fit into this category. There are no tax levies and there is no method to distributing the funds. Cities and states can also collect funds from investments and leasing of property to the private sector or other governments. Governments that operate jails may charge smaller governments that do not have such facilities for the housing of prisoners.

Governments also receive monies from fines, forfeits, and penalties. These funds usually come from the actions of police and the courts. Since these activities are well documented and are standardized, it is fairly easy to keep track of them (Mendoza 1983).

Revenue Management

Gianakis and McCue (1999) define revenue management as “the assessment and maintenance of a local government’s capacity to generate sufficient funds from all available sources to support policy decisions regarding service levels” (p. 102). Revenue management attempts to establish revenue performance standards, compare actual with expected performance, record revenue performance, initiate corrective change, and constructs a support system that facilitates that model. There are three general components to proactive revenue management: *revenue development*, *revenue analysis* and *revenue support systems*. Revenue development is mainly concerned with developing a tax structure that considers short and long term funding. A lot of revenue management techniques are time limited and tend to reflect election cycles and short term political needs rather than long term strategic planning. Revenue analysis systematically examines each revenue source with an eye to achieving the optimal benefit from the source. This includes issues such as equity, yields, and the cost of administration. Lastly, revenue support systems examine the day-to-day management of revenue (Gianakis and McCue 1999).

Let’s consider a simple example. Jefferson City was considering passing a law increasing the millage rate on business property for FY 2018 in order to balance the proposed budget. If passed, the law would increase the amount of

property taxes by \$598,000.00. However, when the law was examined, it was found that it would have a negative impact on the tax structure for small businesses. The city has 35 businesses, but one business (Business X) employs 65% of the private workforce. As a result of the increase, Business X would see a 3% increase in taxes owed while the remaining 34 businesses would owe the balance. So, is it feasible to pass on 97% of the cost to the remaining small businesses despite the fact that they represent only 35% of the private workforce? Businesses can pass on tax increases to customers or the land owner, but this can also have a negative domino effect on the cost of doing business. In this example, the equity issues raised by the law did not seem to affect the city council since small businesses were the fastest growing industry in the city.³⁹ While the decision on paper would have a positive impact on the city's budget, the council members did not consider the long-term effect of the law on the city's small business sector.

Situations like this one bring value to revenue management. It is crucial that a budget manager communicate to elected officials the value of revenue management. In order to properly implement a revenue management system, it is important that the organization's culture is understood. That includes a good understanding of the social, political and economic dynamics associated with a city or state.

Revenue management is a proactive approach concerned with "establishing revenue performance standards, documenting revenue performance, comparing actual with expected performance, initiating corrective action and creating a support structure that facilitates the approach" (Gianakis and McCue 1999 p. 103). This means that elected officials and agency heads need to:

- Develop a commonly accepted method for funding services in the short and long term.
- Identify where the city currently stands in relation to its revenue capacity.
- Explore other options for achieving vision.
- Institute a program for measuring progress.

There are several items that must be considered when evaluating revenue structures and determining the revenue management strategy. Consider the questions in Exhibit 5.5 when thinking about the previous example. Essentially, as a budget officer, you are asking yourself whether any particular factor will affect the tax structure and vice versa. For example, if we consider the current example, the budget director would want to know: will the increase in the rate generate the needed funds, who is going to be affected by the property tax increase, how that change will affect their ability to pay and still make a profit, will that cost be passed on to other individuals, will it hurt our tax structure and so on. As an elected official, you want to know if your chances of reelection will be im-

pacted, will you get support from other elected officials, will the tax adversely impact your constituents and so on.

Exhibit 5.5 Developing a Revenue Management Plan

Political Questions

1. What are the dominant political attitudes (party/council unity)?
2. What is the dominant political culture (mixed or unified)?
3. Is raising taxes feasible right now (election year)?

Tax Questions

4. Can user fees or special districts solve the tax deficit?
5. Should funds be earmarked from the current budget?
6. Can taxes be raised legally?

Demographic Questions

7. Is a particular group benefiting from the tax increase?
8. Will increasing taxes have an adverse economic impact on a particular sector (business, personal, education, etc)?
9. What is the level of education in the city? ⁴⁰
10. What is the age of residents? ⁴¹
11. What type of industries exists and are we facilitating their growth?

Administrative Questions

12. Is there a cost associated with the decision?
13. If yes, what kind (payer cost, convenience cost, administrative cost)?

These and other questions address political, efficiency, effectiveness and equity issues. However, equity and equality are not synonymous. Decision makers can also: A.) Divide the number of users by the total cost and spread the burden evenly without concern for impact. B.) Apply the *ability to pay rule* where those who can afford to pay more are taxed at a higher rate and C.) Apply the *benefits received principle* where those that receive the benefit bear the cost associated with the benefit.

Conclusion

The chapter shows that there are several different ways in which state and local governments finance the administration of government. Some of the methods discussed are political in nature while others apply across the board to everyone. Effective revenue management models must consider a plethora of important political, cultural, economic, demographic and administrative questions.

Even though no one really wants to pay more taxes, financial decisions are more palatable when the decisions that led to the tax structure are well thought out and developed based on good questions and answers.