

Missouri's Third Class County Budget Trend Analysis: Workbook User's Manual

The electronic workbook "Third Class County Budget Trend Analysis" is a spreadsheet that enables Missouri third class counties to analyze county fiscal trends from 1996 to 2009. A county can carry out a detailed study of its own budget and fiscal performance to identify factors contributing to fiscal stress and to consider actions it may want to take. The workbook also allows a county to benchmark itself against a set standard, its own past performance or the record of another county as a gauge of fiscal performance.

This manual is divided into three main sections:

1. The manual begins with a general discussion of trend analysis and benchmarks.
2. The second section discusses interpretation of each graph, using actual examples from third class counties.
3. The final section of the manual is a tutorial for using the electronic workbook. If you are not familiar with the use of drop-down boxes in an Excel spreadsheet, you may wish to turn to that section first for a refresher on using the spreadsheet. We suggest that as soon as you open the workbook you make a copy and store it. Use that backup copy of the original if the one you are using is damaged.

The budget data in the spreadsheet come from the Office of the Missouri State Auditor. Data for 1996 to 2004 come from the published "Third Class County Audits," and data for 2005 to 2009 are from spreadsheets obtained from the auditor's office. The data on assessed property values and taxable sales are from the Missouri State Tax Commission and the Missouri Department of Revenue. The Municipal Cost Index is from American City and County Magazine. Population and income data are from the Bureau of Economic Analysis of the U.S. Census Bureau. The Consumer Price Index is from the Bureau of Labor Statistics, U.S. Department of Labor.

Budget analysis

When a county builds its budget each year, it has options for analysis. Many counties build a new budget using the previous year's budget as a base and then increasing or decreasing revenue and expenditure projections for individual items. Additional insights into the budget can be gained by taking a longer-term view of trends in a county's total revenues and expenditures and in individual budget items. This analysis can be useful to determine whether a drop in revenues, for example, is a short-run or longer-run issue. Further insights might be gained by comparing the fiscal performance of carefully chosen counties.

This manual accompanies the "Third Class County Budget Trend Analysis" electronic workbook, which is designed to enable third class counties to make such comparisons. The graphs in the workbook are for the General Revenue Fund. The data for the Road and Bridge Fund and the totals of the Special Sales Tax Funds are included in the data sheets, but are not graphed. Because these funds rely on the same tax bases as the General Revenue Fund, their general trends will be similar to those of the General Revenue Fund.

Numbers by themselves tell only part of the story. Understanding what is behind the numbers is equally important. In the discussion below, possible interpretations of trends and anomalies will be suggested, but local knowledge is needed to understand the full story. In addition, the numbers may suggest questions to be further investigated.

The annual budget

For a given year, it is possible to analyze how the budget is allocated among various functions or how much each revenue source contributes to the budget. This is an indicator of the importance of an expenditure or revenue source for the county. For example, a pie chart helps visualize how the various components of revenues or expenditures contribute to the total. A pie chart shows the percentage of total revenues or expenditures due to individual items. The graphing software allows the dollar values to be included on the chart.

Examples of pie charts for expenditures and revenues can be found in the sheet labeled County Budget Trends.

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Trend analysis

A trend traces a budget item over time. In the workbook, a trend might be measured as the total value, the per capita value, or the percentage change in revenues, expenditures or tax bases. Trend analysis offers four ways for a county to examine its fiscal trends:

1. Trends in the dollar value of total or individual expenditures, revenues or tax bases can be examined over the 1996–2009 period.
2. The growth rates of total or individual expenditures, revenues or tax bases can be examined using annual or cumulative growth rates over the 1996–2009 period.
3. Total or individual expenditures, revenues or tax bases can be examined on a per capita basis over the 1996–2009 period.
4. Real (adjusted for inflation) total or individual expenditures, revenues or tax bases can be examined over the 1996–2009 period. The per capita graphs in the workbook use real dollars. All other graphs use current or nominal dollars.

If data are missing for a year, the spreadsheet and the graph will show zeros.

Trend analysis of dollar amounts

A pie chart is useful for visualizing the allocation of an annual budget, but can not show changes over time. An area chart, such as the one labeled County Detailed General Revenue Receipts in the County Budget Trends spreadsheet shows how dollar values of receipts or revenues changed from 1996 to 2009.

Trend analysis of growth rates

Another option for analyzing budgets is the use of growth rates: annual growth rates and cumulative growth rates. Using a growth rate allows comparison of budget items that differ in magnitude because they are both measured as percentages. For example, growth rates are useful when comparing the sales tax base and the sales tax revenues. Because the revenues are a percentage of the base, if their totals were graphed, the revenues would look like a flat line at the bottom of the graph, which does not convey useful information.

Annual growth rates. An annual growth rate compares the percentage change in an account or item from one year to the next.

An annual growth rate is calculated by subtracting the previous year's value from the current year's value and then dividing this number by the previous year's value. This rate shows the percentage change from one year to the next. Using 2005 and 2006 as an example, the formula for the annual percentage change is $(\$ \text{ in } 2006 - \$ \text{ in } 2005) / \$ \text{ in } 2005$. If the item is less in 2006 than it was in 2005, the percentage change is negative and the line on the graph will fall below zero.

Care must be taken in interpreting an annual growth rate graph; it can be visually deceiving. A downward movement does not signify absence of growth but, rather, that growth is not as fast as it was in the past. Only if the growth rate is negative, that is, the line drops below zero on the graph, does it signify a decline in the total value tax base, the tax revenue or the expenditure.

An annual growth rate graph is especially useful in showing the volatility of a budget item or of a revenue source. Annual growth rates are used in the Base Trends spreadsheet.

Cumulative growth rates. A cumulative growth rate compares the percentage change in an account from the base year to any given year, such as the percentage change from 1996 to 2000 or from 1996 to 2005.

A cumulative growth rate is calculated by subtracting the base year's (1996's) value from the given year's value and then dividing this number by the original, base year's value. This rate shows the cumulative change from the base year (1996) to the new year (for example, 2000) as a percentage of the base year's value. The formula for the percentage change would be $(\$ \text{ in } 2000 - \$ \text{ in } 1996) / \$ \text{ in } 1996$. For 1996 this number is 0 percent.

Implicitly, the cumulative growth rate is using 1996 as the benchmark. The graph of the cumulative growth rate shows how something has grown, not only from one year to the next, but also from the beginning to the end of the period of analysis. While the annual growth rate must fall below zero to indicate a decrease in the absolute amount, a simple decline in the cumulative growth rate indicates a decrease in the absolute amount.

Real dollar trend analysis

"A dollar doesn't buy what it used to," is a common refrain. To take the impact of inflation into account, nominal or current dollars are converted into real dollars by using an index of inflation. The index used in the spreadsheet is the Municipal Cost Index. It is a weighted combination of the construction index, the producer price index and the consumer price index. The construction index is used to reflect changes in construction costs. The producer price index reflects changes in many of the operational and nonconstruction costs. The consumer price index is used to reflect wage costs. While the weights reflect municipal costs, this index is the closest of those that are available to reflecting county costs.

The graphs based on total dollar amounts in the workbook use current dollars so that the dollars can be read from the county budgets. The graphs in the County Real per Capita sheet use real dollars.

Per capita trend analysis

County populations change, and it is likely that revenues or expenditures are affected by population changes. For this reason, comparing totals may not always give the complete picture of what is happening in the county. If the given

expenditures are divided by the number of people living in a county, then a per resident or a per capita number is calculated. Per capita analysis is a convenient way to compare county budgets, even though a county's population changes over time. Counties that are losing population may find that their per capita costs increase because, for example, they must maintain the same number of miles of roads regardless of the population. The sheet County Real per Capita contains per capita graphs. The graphs in this sheet are also in real dollars.

Per capita comparisons are also useful if a county wishes to compare itself with another county. If the counties are not similar in size, comparing the total dollar amounts would be meaningless.

Fiscal benchmarks

At its simplest, a benchmark is a standard for comparison. To use a benchmark as a tool for evaluation, the county must have goals and then set benchmarks for those goals. For budgets, the goals may be a service that is provided at a chosen level, and the benchmark might be the cost of providing the service. An example of the use of a benchmark is comparing the county's costs to those of another county. Depending on the goals, there are several useful fiscal benchmarks: (1) absolute benchmarks, such as maintaining per capita expenditures at a given level in a certain area, (2) measures of an account over time compared with a chosen year, and (3) comparisons with other counties.

An example of an absolute fiscal benchmark is spending less than \$100,000 per year on buildings and grounds. This type of benchmark sets an upper limit that is not to be exceeded. Alternatively, the benchmark could be to spend at least \$300,000 on the sheriff's department. These types of benchmarks should be used with caution. For example, setting a benchmark of less than \$50,000 per year on jail expenditures could put the welfare of county residents at risk. Alternatively, setting a minimum expenditure could result in overspending. A more useful absolute benchmark is the recommendation by the State Auditor that counties carry cash balances of approximately 30 percent of expenditures. Other examples of absolute benchmarks include certain financial ratios that are used to measure management practices.

A second type of benchmark can be a trend analysis that looks at how receipts and expenditures have changed over a chosen period of time. In fact, trend analysis often is used for benchmark analysis. For example, if a county's expenditures on fringe benefits accounted for 10 percent of the county budget in 2008, but increased to 15 percent of the budget in 2009, the county might wish to investigate the cause of the change.

The last type of benchmark is a comparison with other counties. A county can choose to compare itself with a neighboring county, a county of similar size, or a particularly well run county. The comparison might be meaningless without taking population differences into account. Populations of third class counties ranged from 2,011 to 52,726 persons in 2009. For example, Howard

County spent \$182,302 on health and welfare in 2009 while Lawrence County spent \$531,085, almost three times as much. When population is taken into account, Howard County spent about \$18.51 and Lawrence County spent \$14.11 per resident on health and welfare in 2009. Comparing Howard County to a county with similar population might be more useful. It should be noted that per capita measurement can obscure certain details, such as base costs that do not differ significantly whether 10,000 or 40,000 are served. For example, once a jail is built, certain costs are necessary whether the jail is empty or full.

Another option is to choose what is considered to be a well-managed county with a similar population. With the comparative approach, any of the above comparisons can be used as a benchmark for evaluating one county's budget against that of another. Once the comparison is made, a county can use the information in choosing what action, if any, it wants to take in its budgeting practices. The county comparisons can be made using the County-to-County Budget Trends, County-to-County Base Trends, and County-to-County per Capita sheets in the workbook.

Using the charts in the workbook

This section provides a general explanation of how to interpret each graph in the workbook. If you have not yet opened the workbook, you may want to go to the final section of the manual for a tutorial. Be sure to make a copy of the original and store it so that if the workbook is damaged, you have an easily accessible copy.

The general explanations will be provided using examples of specific counties. These counties were chosen simply for their convenience in illustrating the discussion.

Budget trends

The following discussion of the charts in the County Budget Trends spreadsheet uses Audrain County as the example. Each chart is discussed.

This sheet includes the following charts:

- 2009 General Revenue Receipts
- 2009 General Revenue Expenditures
- General Revenue Receipts and Expenditures
- General Revenue Cash Balance
- Detailed General Revenue Receipts
- Detailed General Revenue Expenditures

Audrain County 2009 General Revenue Receipts

The pie chart provides a simple way to visualize the proportion of Audrain County's general revenues collected from each of the six revenue sources: sales tax, property tax, intergovernmental transfers, charges for services, interest and other. The chart provides both the dollar amount and the percentage of general revenues from each source. A wider mixture of receipts tends to provide more stable revenues because the county is not completely dependent on any single source of revenue that is affected by the economy, such as declining sales or property values. Generally property taxes are a more stable source of

revenue than sales, however, when property values fall, they may be slower to recover than sales tax revenues.

The chart illustrates that Audrain County is generating minimal receipts from interest and small amounts from interest and from other revenues. Property taxes are 22 percent of revenues; sales taxes, 34 percent; intergovernmental revenues, 21 percent; and charges for services, 20 percent. This revenue portfolio is not overly dependent on a single source of revenue.

Audrain County 2009 General Revenue Expenditures

In this pie chart, eight general revenue expenditures are displayed: general government, law enforcement, court, fringe benefits, prosecuting attorney, public administrator and coroner, health welfare and “other,” and operating transfers. These eight expenditure categories were merged from the 20 categories found in the Missouri State Auditor’s report.

The eight categories were created based on recommendations from local officials because 20 categories could not be displayed well.

1. General government includes the County Commission, County Clerk, Elections, Buildings and Grounds, Treasurer, Collector and Recorder.
2. Law enforcement includes the Sheriff and Jail.
3. Court expenditures include the Circuit Clerk, Associate Clerk, Court Administration and Juvenile Officer.
4. Health and Welfare is combined with “Other.”
5. Public Administrator and the Coroner are combined.
6. Fringe Benefits.
7. Prosecuting Attorney.
8. Operating Transfers were not aggregated.

The disaggregated data can be found in the data sheets in the spreadsheet.

This pie chart displays the amount and percentage spent for each category. The county may wish to examine each in detail and question whether expenditure levels appear reasonable. For example, operating transfer makes up 25 percent of Audrain’s expenditures. Typically, operating transfers tend to make up a small percentage of a county budget, averaging 7 percent (Missouri Auditor’s Report, 2005). Hence, it might be prudent to inquire why this category is so large and where the transferred funds are used. Last, it is notable that law enforcement accounts for 0 percent of Audrain’s general revenue expenditures, and it appears that special sales taxes are being used to fund certain expenditures, such as law enforcement.

Audrain County General Revenue Receipts and Expenditures

The line chart depicts the relationship between Audrain County’s expenditures and receipts, 1996-2009. These are nominal or current dollars; they have not been adjusted for inflation. There is an upward trend in the growth of expenditures and receipts, as well the tendency for receipts to exceed expenditures, except for 2003-2005. It is important to note that Missouri counties are bound by law to have a balanced budget. This explains why the receipts and expenditures tend to remain close. Cash balances from a previous year may be used to finance expenditures in later years.

Audrain County Cash Balance

The line chart traces the size of Audrain County’s cash balance from one year to the next. A cash balance helps buffer possible budget shortfalls in the future. Missouri third class counties tend to have a cash balance that will cover about three months of future expenditures (Missouri Auditor’s Report, 2005). Audrain frequently had more than a six-month budget surplus. The increasing balances through 2003 suggest that the county may have been anticipating a one-time expenditure. In 2003 and 2004, expenditures exceeded revenues, but the county still had relatively large cash balances. As can be seen, the cash balance shrank between 2004 and 2006 but is now rebuilding. A cash balance that generally declines can be a sign of fiscal stress.

Audrain County Detailed General Revenue Receipts

The pie chart provides a one-year snapshot of Audrain County’s general revenue receipts. This area trend chart shows the sizes of those receipts and how they have changed from 1996 to 2009. The six categories are the same as those used in the pie chart: sales tax, property tax, intergovernmental transfers, charges for services, other and interest. Note that the numbers do not take into account inflation or population growth.

Rapid growth as well as slow or no growth can raise questions for local officials. A large change that lasts only one year might indicate a data error, or it might indicate an unusual year with a one-time expenditure. Only investigation can determine which. (See the third section of this manual if you need to correct a data error.)

Referring to the graph and the data table in the sheet, property tax revenues more than doubled between 1996 and 2009 while sales tax revenues increased by about \$200,000. Why are sales tax receipts relatively flat? Is it due to low income growth in the county, loss of some businesses, increased shopping outside the county, or other reasons? Was the increase in property tax revenues due to increasing property values (an indicator of growth in the county), increasing tax rates, or both?

Intergovernmental transfers more than doubled. A question for consideration is whether cuts in state funding in the future might potentially leave the county vulnerable.

Charges for services also grew. Was this a result of a decision by the county to increase fees or to acquire or to offer a new service for which fees are charged?

While Audrain County's mixture of revenues is relatively stable, other counties exhibit shifting in the mixture of receipts. Officials might want to consider whether changes in the revenues mixture will make the county more or less fiscally stable, and will the changes prepare the county for future economic recessions?

Audrain County Detailed General Revenue Expenditures

Like the revenue chart above, this chart shows the size of expenditures and how they changed during the period 1996–2009. The eight categories are the same as those used in the pie chart: general government, law enforcement, court, fringe benefits, prosecuting attorney, public administrator and coroner, health and welfare and other, and operating transfers. Again, the numbers do not take into account inflation or population growth, and a large change that lasts only a year might indicate either a one-time expenditure or a data error. Only investigation can determine which.

Audrain County's funding for law enforcement expenditures dropped to zero in 1998. This is probably due to either a new special sales tax measure or an increase in an existing special sales tax levy, which shifted the funding from the General Revenue Fund to a dedicated fund.

Operating transfers increased significantly, rising from zero in 1996–1997 to \$1.3 million in 2008 and \$700,000 in 2009. Is this a fiscal concern? Is it simply a question of how to account for certain expenditures? Or are the funds being transferred perhaps to the law enforcement fund?

Trend analysis: Base trends

The following sections explain how to interpret the charts found in the County Base Trends spreadsheet, using Audrain County as an example.

The six charts are as follows:

- Tax Bases: Property Assessed Values and Taxable Sales
- Per Capita Tax Bases: Property Tax Assessments and Taxable Sales
- Annual Growth Rates: General Revenue Property Tax Receipts and Property Assessed Values
- Annual Growth Rates: General Revenue Sales Tax Receipts and Taxable Sales
- Cumulative Growth Rates: General Revenue Property Tax Receipts and Property Assessed Values
- Cumulative Growth Rates: General Revenue Sales Tax Receipts and Taxable Sales

Audrain County Tax Bases: Property Assessed Values and Taxable Sales

This chart shows the trend in the property tax and sales tax bases for Audrain County. The small peaks and valleys in the assessed values every few years are probably due to

the reassessment cycle. The larger increase in 2007 could be due to a business location or a general increase in property values. In general, there is a steady growth of the property tax base. This demonstrates a common characteristic of the property tax. The taxable base tends to be stable; it neither increases nor decreases quickly.

The blue line indicates that taxable sales were flat until about 2004, when they began to increase. Taxable sales flattened at the end of the period, most likely due to the economic recession. A county with slow growth of taxable sales might investigate the reasons — such as slow population growth or population loss, slow income growth, increased “outshopping” (online or other purchases made outside the local area) by residents, or loss of retailers.

Audrain County per Capita Tax Bases: Property Tax Assessments and Taxable Sales

Property values are a reflection of the economic activity in an area. The property tax base tends to respond more slowly to changes in economic activity than do taxable sales, making it a more stable tax base. If the tax base is decreasing per capita, it is likely that economic growth is not keeping pace with population growth, so there are fewer resources per capita to provide services unless tax rates are raised or cost-savings are instituted. An increasing base per capita indicates one of two situations. In the first case, the base is growing faster than population, an indicator of economic growth. The second case is common in counties losing population; because property values tend to move slowly, assessed values are not decreasing as rapidly as population, leading to higher assessed values per capita. In the longer run, it is likely that the value of properties will decline because businesses begin to close and there is less demand for housing. If property values decline more rapidly than the population, there will be declining property values per capita. This means that the county will have fewer revenues per capita to provide services.

The data sheet Population and Income shows that Audrain's population has grown slowly, 2.25 percent over 14 years and has decreased since 2006.

Population estimates can be found in the Population and Income sheet and in the County per Capita sheet.

A declining population can be a consequence of insufficient economic activity to maintain the population.

The chart indicates that assessed property values per capita have increased every year and most rapidly after 2006, when the county began losing population. The previous graph showed that property values increased during this period, but population decreased, causing an increase in property values per capita. Taxable sales per capita are flat until 2004 and show steady increase since then.

Audrain County Annual Growth Rates: General Revenue Property Tax Receipts and Property Assessed Values

This chart compares the annual growth rate of the tax base and its revenues. Care must be taken in interpreting an annual growth rate graph; it can be visually deceiving. A downward movement means that growth still occurs but is not as fast as it was in the past. Only if the rate is negative, that is, the line drops below zero on the graph, does it mean that there was a decline in the total tax base or total tax revenues.

Audrain County shows slowing growth of assessed values from 2001 to 2004 with faster growth from then through 2007. The somewhat regular small “bumps” in odd-numbered years are probably due to the two-year reassessment cycle. The slow growth in property values in 2008 and 2009 are most likely a result of the financial crisis and the recession.

The change in property tax receipts from one year to the next is more volatile than the tax base, especially at the beginning of the period. The decrease in property tax revenues from 2004 to 2005 (the percentage change is negative) could be due to a reduction in property tax rates. Another possibility is that property taxes were not paid and back taxes were collected in later years. Local officials may wish to investigate why receipts are more volatile than assessed values.

Audrain County Annual Growth Rates: General Revenue Sales Tax Receipts and Taxable Sales

The property tax base is typically more stable than the sales tax base, or taxable sales, and this is true in Audrain. Because the base is volatile, receipts are also expected to be volatile. When the sales tax base and receipts move together, it implies that the sales tax rate is constant. Here, the receipts are more volatile than the base and do not appear to follow it closely. The drop at the end of the period is most likely due to the recession. It may be worthwhile to investigate why the receipts do not seem to follow the tax base more closely.

Audrain County Cumulative Growth Rates: General Revenue Property Tax Receipts and Property Assessed Values

Whereas previous the charts showed the annual growth rates of the taxes and their bases, this chart compares the cumulative growth rate of the property tax assessments and the tax receipts collected. A cumulative growth rate may offer a more intuitive and easier way to observe growth trends over time than an annual growth rate. The cumulative growth rate compares the growth rate from 1996 to any given year. Another way of thinking of the cumulative growth is as the sum of all the previous annual growth rates.

In this chart, Audrain County has a relatively stable cumulative property tax assessment growth rate. Steeper segments (2006–2007) of the line indicate faster growth rates, while flatter sections indicate slower growth.

When comparing cumulative growth rates for tax bases and tax revenues, it is important to look for years in which

they do not move together. In 2001 receipts grew more rapidly than the base, suggesting there was a tax rate increase and perhaps another in 2006.

Audrain County Cumulative Growth Rates: General Revenue Sales Tax Receipts and Taxable Sales

Sales tax receipts grew faster than taxable sales in 1999–2000, suggesting a tax rate increase. There may have been a tax rate decrease in 2007 because the base grew much faster than the receipts.

County real per capita trends

The following sections explain how to interpret the charts found in the County Real per Capita sheet, using Audrain County as an example. The previous charts did not take inflation into account, and only the per capita chart in the County Base Trends sheet took population into account. This sheet adjusts for both inflation and population.

As a county gains population, we might expect total property values and taxable sales to increase, resulting in an increase in tax revenues. If the values increase faster than population, there will be an increase in per capita tax bases and per capita taxes (if tax rates are constant). If the values increase more slowly than population, there will be a decrease in the per capita tax bases and a decrease in tax revenues.

Conversely, if a county is losing population, its tax bases may decline more slowly than population, leading to an increase in the base and taxes per capita. If the base declines more rapidly than population, this will lead to a decline in the per capita base and per capita taxes. Thus, an increasing or decreasing base per capita must be investigated to determine the factors driving the change. An increase in bases per capita can be due to increased assessed values or decreased population.

In addition, a common problem faced by areas losing population is that service costs per person increase. For example, a water plant has a fixed capacity and will incur approximately the same operating costs even as population declines. Consequently, the county could experience higher per person costs for services. Many counties respond to this dilemma by increasing tax rates. Thus, in a scenario of depopulation, each person may pay more in order to sustain the current level of governmental services.

Tax bases or revenues may appear to be growing, but to be able to purchase the same amount of goods, they need to grow at least as fast as inflation. In a slow-growing county, tax bases and tax revenues may not grow as fast as inflation, which can result in fiscal stress for the county, because the costs of what it purchases will be increasing. All current or nominal dollars are converted to the equivalent of 1996 dollars, using the Municipal Cost Index as the index of inflation. While the index is for municipalities, as discussed above, it is the only index available for local governments and is likely to be a better fit than the Consumer Price Index alone.

The following charts are included in this sheet:

- County Population

- County Real per Capita Income
- General Revenue Receipts and Expenditures: Real per Capita
- General Revenue Tax Bases: Real per Capita
- General Revenue Property and Sales Tax Receipts: Real per Capita
- Detailed General Revenue Receipts: Real per Capita
- Detailed General Revenue Expenditures: Real per Capita

Audrain County Population

Audrain's population in 1996 was just under 25,000. There was relatively strong growth for several years and then the population leveled out. The population declined in 2003 and 2004, a recession period, and then grew again. Population has fallen since 2006. Overall, Audrain's population grew 2.25 percent from 1996 to 2009, very slow growth. Factors that contributed to both the periods of growth and the periods of decline might be investigated.

Audrain County Real per Capita Income

Per capita income is adjusted for inflation using the consumer price index. There is volatility in per capita income in Audrain County, with fluctuations of up to \$1,000 per capita from one year to the next. For a family of four, this would be a \$4,000 change in the purchasing power of family income. The drop in 2002 is in part due to a recession. Even with the volatility, real per capita income increased from 1996 to 2009.

Audrain County General Revenue Receipts and Expenditures: Real per Capita

Audrain's real general revenue receipts increased per capita through 2002. They decreased and did not recover the 2002 level until 2007. In general, the real per capita receipts show variability.

Real expenditures per capita were lower than receipts in the early years and exceeded receipts from 2004 to 2007. This may indicate fiscal stress and the need to use cash balances, or it may indicate that the county was planning a one-time expenditure for which it used the cash balances accumulated in the earlier years.

Audrain County General Revenue Tax Bases: Real per Capita

Audrain's real property tax base per capita increased until 2001 and then decreased. It has not yet recovered to its 2001 level. The real taxable sales per capita have also declined. While recent sales show a recovery, they have not regained their 1996 levels. The decline of the real tax bases per capita suggests that Audrain County may be facing fiscal stress.

Audrain County General Revenue Property and Sales Tax Receipts: Real per Capita

Real property tax receipts per capita increased from 1996 to 2009. Because the real per capita tax base decreased through much of the period, tax rates had to be raised for

receipts to increase. The need to raise tax rates to maintain services may be a sign of fiscal stress.

The real sales tax receipts per capita declined over the entire period. Declines could be due to loss of businesses, consumers shopping outside the county, both consumers and businesses using the Internet for purchases, or persons who used to come to Audrain to shop now shopping elsewhere.

Audrain County Detailed General Revenue Receipts: Real per Capita

The trends for property tax and sales tax are the same as those displayed in the previous line graph. Real intergovernmental transfers per capita reached a high in 2000 and recovered to this level only in 2009. Charges for services reached their highest real per capita level in 2002 and 2003 and only recovered that level in 2007, when they fell again. The property tax appears to be the reason for the increase in real per capita revenues over this period. With a declining real per capita property tax base, the revenue increase was achieved by raising tax rates.

Audrain County Detailed General Revenue Expenditures: Real per Capita

Costs for purchases increase with the rate of inflation. If tax bases per capita are not keeping pace with inflation, a county will have difficulty financing its normal services. One adjustment that Audrain County made was to cease funding of law enforcement completely from general revenue. The large operating transfer, which increased at the time of the removal of law enforcement from the general fund may indicate that some general funds are being transferred to the law enforcement fund. Real court expenditures per capita have decreased while the real per capita spending for the county attorney has increased. Real health, welfare and other spending per capita has also decreased.

Benchmarking using county-to-county budget comparisons

For the following sections, Livingston and Macon counties are compared in all the County-to-County sheets. Livingston and Macon counties were selected for three reasons: (1) they have similar county populations; (2) they are both located on U.S. Highway 36; and (3) their general revenue budgets are of a similar size.

The discussion focuses on differences between Livingston County and Macon County, but there is not necessarily a particular standard to look for when comparing county budgets. That is, differences are neither good nor bad. Rather, county-to-county comparisons offer alternatives for consideration, point out questions that might be investigated, and provide useful insights about other counties that may allow local officials to modify their budgets.

The charts found in this sheet are as follows:

- County #1 2009 General Revenue Receipts
- County #2 2009 General Revenue Receipts

- County #1 2009 General Revenue Expenditures
- County #2 2009 General Revenue Expenditures
- County General Revenue Receipts and Expenditures
- County General Revenue Cash Balance
- County #1 Detailed General Revenue Receipts
- County #2 Detailed General Revenue Receipts
- County #1 Detailed General Revenue Expenditures
- County #2 Detailed General Revenue Expenditures

Livingston County and Macon County 2009 General Revenue Receipts and Expenditures

The following discussion integrates the first four charts in the sheet. To compare the pie charts, focus on the percentage of total revenues (the share of the pie) that each revenue source contributes in each county. There is one caution to keep in mind when comparing pie charts. Because the percentages must sum to 100 percent, if a county has a very high percentage from one revenue source, then the percentages from other sources necessarily must be lower.

There is major difference between the two counties in their use of the property tax. Property taxes are 1 percent of Livingston's total revenues and 26 percent of Macon's. As a result, Livingston must rely more heavily on other revenues. Intergovernmental revenues are 24 percent of general revenues for Livingston and 6 percent for Macon. Both counties receive a similar percentage of revenues from charges for services. Macon receives 10 percent of revenues from other sources compared with 3 percent for Livingston. Interest is a small source of revenue in both counties.

Intergovernmental revenues could be a source of fiscal vulnerability if state government reduces transfers to the local level. It will depend on where the funds originate and how likely a particular source of funds is to be cut. The women's prison in Livingston County may be the reason for the larger share of intergovernmental transfers. A transfer is money that goes directly to the local government; it is not the money that the state government directly spends, such as wages for guards or paying for meal service.

The most noticeable difference in expenditures between the two counties is in fringe benefits. Macon County's fringe benefits make up 16 percent of its general fund budget, while Livingston County's fringe benefits are less than 1 percent. This difference is neither a positive nor a negative factor; it simply suggests that the two counties have different approaches for funding benefits. Livingston allocates a higher percentage of general revenues to both general government and law enforcement.

Livingston County and Macon County General Revenue Receipts and Expenditures and Cash Balance

The line chart compares trends in total expenditures and receipts between the two counties. The levels of receipts and expenditures are similar (one reason for which the two were selected for comparison). Livingston's receipts and

expenditures flatten in the middle of the 1996-2009 period, and expenditures are larger than receipts during this time.

Counties carry cash balances for several reasons: to fund the government for several months because tax revenues are not smooth from one month to the next, to have a fiscal cushion, or to save money for an anticipated one-time expenditure.

Initially Livingston County had roughly twice the cash balance of Macon County. Since 2004, Macon's cash balance has grown rapidly. This could be due to any of several factors, including a change in budget policy by the county. A cash balance that generally declines can be a sign of fiscal stress. The office of the Missouri State Auditor recommends that counties carry cash balances of approximately 30 percent of expenditures.

Livingston County and Macon County Detailed General Revenue Receipts

This following discussion compares the county detailed general revenue receipts of the two counties. The two charts allow a comparative trend analysis of two counties' receipts over the 14-year period from 1996 to 2009. The six categories are the same as those used in the pie charts. Depending on the counties being compared, the vertical scales of the two graphs may differ. (For Livingston and Macon counties, the vertical scales are the same.)

The trend graphs and the data table show that Livingston's total receipts increased 54 percent over the period 1996-2009, while Macon's total receipts only increased 28 percent. What stands out most is the difference in property tax payments. Much like in the discussion of Livingston's and Macon's 2009 receipts in the pie charts, property tax revenues are a minor source of general fund revenues for Livingston. Livingston instituted a small property tax in 2001.

Both counties showed consistent growth in their sales tax receipts. Macon's total sales tax receipts were less than Livingston's in all years, but this probably reflects Livingston's overall greater reliance on sales tax receipts rather than property taxes.

Both counties show a spike in intergovernmental transfers in 2000. Macon's spike is larger and may indicate an error or it may be a special circumstance. Since 2004, Macon's intergovernmental transfers have fallen and are now less than half of what they were in 1996 (see the data chart on this page also). Conversely, intergovernmental transfers for Livingston more than doubled.

Macon has maintained a fairly constant level of receipts from charges for services. Livingston maintained a fairly constant level of receipts for charges for services from 1996 to 2007, but these receipts nearly doubled in 2008.

Neither county received a significant portion of its general revenue receipts from interest payments. Finally, it should be noted that "other" receipts rose during the period 1996-2001 for Livingston County before reverting to their 1996 levels from 2002 onward. Macon's "other" receipts remained relatively stable over the period 1996-2009 with annual up- and downswings.

Livingston County and Macon County Detailed General Revenue Expenditures

The two charts allow a comparative trend analysis of two counties' expenditures over the 14-year period. The eight categories are the same as those used in the pie charts for 2009. The vertical scales on the two graphs differ slightly; the maximum value for Livingston is \$2,500,000 and for Macon is \$2,000,000. The counties fund some expenditures from special sales taxes, which are not included in the graph.

The two counties have very different expenditure patterns. First, it may be noticed that total expenditures in Macon County increased more than in Livingston. Based on the data chart, Livingston began with larger expenditures and they increased about \$400,000. Macon began with lower total expenditures and they increased about \$500,000. Remember that inflation and population growth are not taken into account.

General government expenditures increased at a steady rate in Macon. Livingston's general government expenditures decreased in 1997 and did not regain their previous level until 2004. After that they grew more rapidly.

A major difference between the two counties, as shown in the pie charts also, is expenditures for fringe benefits. In 2001, Livingston's expenditures on fringe benefits dropped by more than half.

Macon spends more on health and welfare than does Livingston. Macon shows a spike in spending in 2000 that seems to correspond to the spike in intergovernmental transfers for that year. Livingston has a spike in health and welfare spending in 2001.

Benchmarking using county-to-county tax base comparisons

To begin it is best to look for both the commonalities and differences between the two counties in the charts. The following charts are included in this sheet:

- County Tax Bases: Property Assessed Values and Taxable Sales
- County per Capita Tax Bases: Property Assessed Values and Taxable Sales
- County Cumulative Growth Rates: General Revenue Property Tax Receipts and Property Assessed Values
- County Cumulative Growth Rates: General Revenue Sales Tax Receipts and Taxable Sales

Livingston County and Macon County Tax Bases: Property Assessed Values and Taxable Sales

The counties began with similar property assessed values. In 2003 Macon's assessed values began to exceed those of Livingston. Livingston began with higher taxable sales than Macon, but both have similar growth.

Livingston County and Macon County per Capita Tax Bases: Property Assessed Values and Taxable Sales

While in the previous chart the two counties' total tax bases are compared, this chart compares their respective

tax bases on a per capita basis. It is possible for the taxable base to increase, but not as rapidly as population, in which case the per capita base would decline. For a similar graph that includes inflation, see the County-to-County Real per Capita sheet.

The two counties have similar per capita property assessments. However, the taxable sales per capita in Livingston County are nearly double those of Macon County.

Livingston County and Macon County Cumulative Growth Rates: General Revenue Property Tax Receipts and Property Assessed Values

This chart compares the cumulative growth rates of the property tax assessment base and the associated receipts for both Livingston County and Macon County. Assessed values grew more rapidly in Livingston early in the period, but Livingston's growth slowed down between 2002 and 2005 while Macon began to catch up.

When considering the two counties' receipts, a different trend emerges. Macon's property tax receipts grew faster than the assessments. The jumps in some years most likely indicate a property tax rate increase. The decline in Macon's receipts in 2005 is a bit puzzling. At first glance it may seem that the graph is missing Livingston's property tax receipts. They are the blue line that runs along the horizontal axis. The county's property tax receipts appear this way because at the beginning of the period Livingston did not have a property tax and now has only a minimal property tax. Given the scale of the graph, the growth rate appears as a flat line.

Livingston County and Macon County Cumulative Growth Rates: General Revenue Sales Tax Receipts and Taxable Sales

This chart compares the cumulative trends of the taxable sales base and the associated receipts for Livingston and Macon counties. Taxable sales in Macon have grown more rapidly than in Livingston. Both counties show a decline in taxable sales beginning in 2007. (Because the cumulative growth rate measures growth each year from 1996, a decline in the growth rate indicates a decline in the total.) Macon's growth also is steadier than Livingston's.

The growth of sales tax receipts mirrors the growth of the taxable base for each county. When the two move together, it suggests that tax rates have not increased. The receipts decline sooner in Macon than does the base, suggesting a sales tax decrease or the decision not to renew a sales tax.

Benchmarking using county-to-county real per capita analysis

This sheet is similar to the County Real per Capita sheet, but allows the comparison of two counties. The graphs in this sheet are as follows:

- County Population
- County Real per Capita Income

- General Revenue Receipts and Expenditures: Real per Capita
- General Revenue Tax Bases: Real per Capita
- General Revenue Property and Sales Tax Receipts: Real per Capita
- County #1 Detailed General Revenue Receipts: Real per Capita
- County #2 Detailed General Revenue Receipts: Real per Capita
- County #1 Detailed General Revenue Expenditures: Real per Capita
- County #2 Detailed General Revenue Expenditures: Real per Capita

Livingston County and Macon County Population

Livingston's population slowly and steadily declined from 1996 to 2009 for a population loss of 3.44 percent. Macon had small population increases for some years and small declines since 2003 for an overall loss of 0.32 percent. Macon may wish to investigate the factors causing population growth early in the period and those causing decline later. Livingston may want to investigate the causes of its declining population.

Livingston County and Macon County Real per Capita Income

Real per capita incomes have increased in Livingston and Macon counties. In addition, they do not have the volatility shown in Audrain. Real per capita income in Livingston continues to be higher than in Macon, but the gap is narrowing.

Livingston County and Macon County General Revenue Receipts and Expenditures: Real per Capita

For both counties, the highest real per capita general revenue receipts were in 2000. It should be recalled that both counties had a spike in total receipts that year and the reason bears investigating. Both counties show an increasing trend through 2000 with a decreasing trend for several years after, meaning the purchasing power per capita declined. The years 1996 and 2005 show the low real per capita receipts for Livingston, and 1996 and 2006 show the lows for Macon. Both counties show growth from that recent low, but Livingston drops from 2008 to 2009.

Macon's real per capita expenditures exceed receipts through 1999 and have generally been less than receipts since that time. This is also reflected in its growing cash balances in the County-to-County Budget Trends sheet. Livingston's real per capita expenditures more often exceeded receipts than did Macon's.

Livingston County and Macon County General Revenue Tax Bases: Real per Capita

Real assessed values per capita in Livingston were higher than in Macon until 2007. Both counties have a general downward movement from 2002 to 2007.

Real per capita taxable sales in Livingston are consistently above those of Macon. The gap between the two narrowed

for some years but recently widened. Taxable sales fell due to the recession sooner in Macon than Livingston.

Livingston County and Macon County General Revenue Property and Sales Tax Receipts: Real per Capita

In only two years have real per capita sales tax receipts in Livingston exceeded 1996 and 1997 levels. Macon's real per capita sales tax receipts increased slowly until 2006 and currently are below 1996 levels.

Macon's real per capita property tax receipts show a slowly increasing trend which seems to match the trend in its tax base, suggesting the increase is not mainly due to tax rate increases. Livingston's choice to have a minimal property tax is reflected in the nearly horizontal line at the bottom of the graph.

Livingston County and Macon County Detailed General Revenue Receipts: Real per Capita

Macon's total real per capita general revenue receipts have declined. Real per capita property tax receipts increased while those from sales taxes decreased. In addition real per capita intergovernmental receipts have decline from approximately \$13 in 1996 to just over \$4 in 2009. Real per capita receipts from charges for services, while increasing at some points are now lower than in 1996.

Livingston's real per capita general revenue receipts are higher now than at the beginning of the period. Real sales tax receipts per capita have declined while intergovernmental and charges for services have increased.

Livingston County and Macon County Detailed General Revenue Expenditures: Real per Capita

Livingston's real per capita expenditures for general government vary over the period, and currently are just above 1996 levels. Macon's general government expenditures show less variability and a downward trend overall. Both counties had their highest real per capita expenditures on law enforcement 2002-2003. A major expenditure difference is fringe benefits. Clearly in 2001 Livingston changed its policy on how it funds fringe benefits.

Summary

The workbook is a tool for use by government officials in Missouri third class counties as they assess long-term budget trends and benchmark one county's performance with that of another. The graphs are meant to raise questions, the investigation of which may provide deeper insight into the county budget and the factors that influence it, including the local economy, population change and particular characteristics of the county and its residents. When comparing counties, it is important to recall that despite similarities between any two counties, each has unique needs that vary from year to year. With care in interpreting the data presented here, this workbook can be a useful guide in helping counties achieve their fiscal goals.

How to use this workbook

In the Excel file “Third Class County Budget Trend Analysis,” the fiscal analyses can be found in the six tabbed sheets.

1. County Budget Trends: individual county budget trends in the general revenue receipts and expenditures.
2. County Base Trends: individual county trends for both the property tax receipts and its base and the sales tax receipts and its base.
3. County Real per Capita: individual county tax bases and budget trends on a per capita basis, controlling for inflation.
4. County-to-County Budget Trends: allows a county-to-county comparison of the general revenue receipts and expenditures budget trends.
5. County-to-County Base Trends: allows a county-to-county comparison for both the tax receipts and their tax bases.
6. County-to-County Real per Capita: allows a county-to-county comparison of tax bases and budget trends on a per capita basis, controlling for inflation.

To review county fiscal data and trends

- Left click on the tab: County Budget Trends sheet.
- Go to the cell below the County Selection Box and left click once on the green cell at the top left side of the screen. A little box with a black arrow appears on the right side of the green cell.
- Left click once on the arrow and a list of the third class counties appears. (Lincoln County is included because it was third class until 2009.)
- Left click on the scroll bar on the right side of the list. Scroll through the list until the appropriate county appears.
- Left click once on the appropriate county. The charts on the screen will change and will include the name of the selected county in the titles.
- Scroll right and down to view the available charts.

The process can be repeated for any of the other trend sheets by clicking on the tab and repeating the process above.

To print a graph

Excel 2007

- Select a graph by left clicking on it once.
- Go to the round Office Button and left click it once.
- Now go the print option and left click the print preview from the drop-down menu that appears.
- Check to see if the chart will print as you wish.
Note: If the chart is distorted or does not fill the paper space properly, then proceed to the following steps.
- Go to the round Office Button and left click it once.
- Go to the print option and left click print from the drop down menu.
- Select the Properties button by left clicking once.
- Next left click once on the Basics tab.
- Left click the Landscape option.
- Click ok.
- Click ok.

Excel 2003

- Select a graph by clicking on it once.
- Go to the File menu and select the print option from the set of operations.
- Select preview to check to see if the chart will print as you wish.
Note: If the chart is distorted or does not fill the paper space properly, then proceed to the following steps.
- Left click once on the setup menu (at the top of the screen). Under the page option there is a portrait and a landscape option.
- Left click and select the landscape option.
- Click ok.
- Click on print at the top of the screen.

Data

Sources

The data in this workbook comes from a several sources. See the Data Sources sheet in the workbook for detailed information on the source of each data item. The general data sources are also cited below.

The data are presented in the following sheets at the end of the workbook:

- Property Base
- Sales Base
- 3-A GF Receipts and Balances
- 4 GF Expenditures,
- 3-B Road Fund
- Special Sales Tax
- Population and Income
- MCI (Municipal Cost Index)

Data problems

Substantial portions of the data are unaudited and cannot be guaranteed to be accurate or complete. The data in these sheets are protected to avoid inadvertent data corruption. However, if you suspect there is an error, you can correct the data by following the instructions below.

To correct the data, first, make sure that you have saved a copy of the sheet. If you should make a mistake, you can go back to the original, make another copy, and try again.

1. Right click on the tab of the sheet.
2. Click unprotect from the drop-down menu.
3. Select the cells containing errors by right clicking and highlighting the cells.
4. Move the mouse pointer over the highlighted cells and right click once.
5. Select format cells from the drop-down menu.
6. Click on the protection tab.
7. Click the box next to the locked option to toggle off the lock.

8. Click ok.
9. Correct the data.
10. Return to the charts and view the charts to ensure that they have been recalculated.
11. Repeat the process above to lock the cells that were corrected and to protect the sheet.

Be very careful when making changes in the data and be sure not to make unintended changes. Also, make the same data correction in the spreadsheet that you have stored. Record any data corrections that were made in the “Notes” sheet found in the workbook.

If you find an error, please contact us at stallmannj@missouri.edu so that we may update our data records.

General data sources

Regional Economic Information System. “Local Area Personal Income.” Bureau of Economic Analysis, US Census Bureau. <http://www.bea.gov/regional/reis/>. Accessed April 12, 2011.

Missouri Department of Revenue. Taxable Sales. <http://www.dorx.mo.gov/publicreports/> Accessed April 12, 2011.

Missouri State Tax Commission. Assessed values were obtained in spreadsheets.

Missouri State Auditor’s Office. “Missouri 3rd Class Counties.” Jefferson City, Missouri. Various years. <http://www.auditor.mo.gov/auditreports/counties.htm>

Missouri State Auditor’s Office. 2004-2009 data were obtained in spreadsheets from the Office.

Penton Media, Inc. “Municipal Cost Index.” American City and County. 2011. <http://americancityandcounty.com/mciarchive/> Accessed June 11, 2011.

The charts in the workbook

Budget Trends

County 2009 General Revenue Receipts
County 2009 General Revenue Expenditures
County General Revenue Receipts and Expenditures
County General Revenue Cash Balance
County Detailed General Revenue Receipts
County Detailed General Revenue Expenditures

Base Trends

County Tax Bases: Property Assessed Values and Taxable Sales
County per Capita Tax Bases: Property Tax Assessments and Taxable Sales
County Annual Growth Rates: General Revenue Property Tax Receipts and Property Assessed Values
County Annual Growth Rates: General Revenue Sales Tax Receipts and Taxable Sales
County Cumulative Growth Rates: General Revenue Property Tax Receipts and Property Assessed Values
County Cumulative Growth Rates: General Revenue Sales Tax Receipts and Taxable Sales

County Real per Capita

County Population
County Real per Capita Income
General Revenue Receipts and Expenditures: Real per Capita
General Revenue Tax Bases: Real per Capita
General Revenue Property and Sales Tax Receipts: Real per Capita
Detailed General Revenue Receipts: Real per Capita
Detailed General Revenue Expenditures: Real per Capita

County-to-County Budget Trends

County #1 2009 General Revenue Receipts
County #2 2009 General Revenue Receipts
County #1 2009 General Revenue Expenditures
County #2 2009 General Revenue Expenditures
County #1 and #2 General Revenue Receipts and Expenditures
County #1 and #2 General Revenue Cash Balance
County #1 Detailed General Revenue Receipts
County #2 Detailed General Revenue Receipts
County #1 Detailed General Revenue Expenditures
County #2 Detailed General Revenue Expenditures

County-to-County Base Trends

County #1 and #2 Tax Bases: Property Assessed Values and Taxable Sales
County #1 and #2 per Capita Tax Bases: Property Assessed Values and Taxable Sales
County #1 and #2 Cumulative Growth Rates: General Revenue Property Tax Receipts and Property Assessed Values
County #1 and #2 Cumulative Growth Rates: General Revenue Sales Tax Receipts and Taxable Sales

County-to-County Real per Capita

County Population
County Real per Capita Income
General Revenue Receipts and Expenditures: Real per Capita
General Revenue Tax Bases: Real per Capita
General Revenue Property and Sales Tax Receipts: Real per Capita
County #1 Detailed General Revenue Receipts: Real per Capita
County #2 Detailed General Revenue Receipts: Real per Capita
County #1 Detailed General Revenue Expenditures: Real per Capita
County #2 Detailed General Revenue Expenditures: Real per Capita