REVENUE IMPACT OF ADDITIONAL AUDITORS AND COLLECTORS

A REPORT TO THE EXECUTIVE APPROPRIATIONS COMMITTEE

OFFICE OF THE LEGISLATIVE FISCAL ANALYST
OFFICE OF THE LEGISLATIVE AUDITOR GENERAL

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EXECUTIVE SUMMARY

During the 2006 General Session, the Utah State Tax Commission requested of the Legislature funding for additional auditors and collectors in fiscal year 2007. Tax partially justified its request with the prospect of additional revenue to be generated by the additional positions.

Average impact cannot be detected in total revenue variance

The Legislature did not fund the Tax Commission's request for additional employees. Instead it directed the Office of the Legislative Fiscal Analyst (LFA) and Office of the Legislative Auditor General (LAG) to study the impact of additional auditors and collectors on revenue. It further directed staff to develop performance measures for tracking the productivity of auditors and collectors.

In this report, legislative staff first analyzes whether average assessments and collections that the Tax Commission claims will be associated with additional positions can be detected in total revenue streams. The analysis determines that margins of error inherent in revenue estimates will eclipse any potential new revenue attributable to new auditors and collectors.

Intervening variables mask impact of FTE on assessments and collections

The report next analyzes whether past fluctuations in full-time equivalent (FTE) employment levels correlate with or predict changes in audit assessments and delinquent collections. It finds that other variables – like economic trends and ability to pay – impact assessments and collections to a much greater degree than does the number of auditors and collectors. The report concludes that a statistical analysis can neither prove nor disprove whether additional auditors and collectors will generate additional revenue.

While an increase in auditors and collectors at any given point in time may result in increased revenue over and above the cost of the additional positions, further analysis is required to determine how much additional revenue may be produced.

Additional auditors and collectors may pay for themselves, but not in amounts equal to historical annual averages

LFA and LAG suggest that cost/benefit analysis be applied to future investment decisions on auditors and collectors. The offices recommend developing an analysis that discounts current average collections for diminishing marginal returns, training time, and other factors.

As requested in Legislative intent, this report also documents a number of performance measures already in place, and recommends that LFA further refine these measures in its budget review process to continue providing information on auditor and collector productivity.

Finally, the report shows that, if collectors and auditors were Tax's highest priority, Tax could have invested in additional auditors and collectors without legislative action. Similarly, Legislators must weigh investment in additional auditors and collectors against other potential investments to achieve the best results.

REVENUE IMPACT OF ADDITIONAL AUDITORS AND COLLECTORS

OVERVIEW

On past occasions the Legislature has considered requests for additional auditing and collecting positions at the Utah State Tax Commission. These requests have been predicated on the concept that additional staff would increase revenue to the state. During the 2006 General Session, legislators asked the Office of the Legislative Fiscal Analyst and the Office of the Legislative Auditor General to investigate what impact additional auditors and collectors have on revenue and how best to measure the performance of additional auditors and collectors.

Questions Asked

This report investigates the potential impact of and prospective measurements for additional Tax Commission auditors and collectors by answering the following questions:

1. Can the dollar impact of changes in auditor/collector employment levels be detected in total revenue?
2. Have past fluctuations in auditor/collector employment levels significantly impacted the dollar amount of audit assessments and delinquent collections?
3. Have past fluctuations in auditor/collector employment levels significantly impacted the number of audits performed and/or number of delinquent accounts?
4. Does average dollar amount received per auditor/collector effectively measure the return on additional auditors/collectors?
5. What performance measures might be used to demonstrate the effectiveness of additional auditors/collectors?
6. Can the Tax Commission fund additional auditors and collectors without legislative action?

Conclusions

The report concludes that the impact on total revenue of additional auditors and collectors cannot be detected within the normal variance of revenue estimates. It further concludes that auditor and collector employment levels alone do not explain changes in audit assessments or delinquent collections and that other independent variables affect assessments and collections more than does the number of auditors or collectors. While additional auditors and collectors still may generate more revenue than they cost, the report demonstrates that they will not likely generate the same average return as existing auditors and collectors.

Recommendations

The Legislative Fiscal Analyst and Legislative Auditor General recommend performing a cost/benefit analysis should Legislators choose to pursue adding staff to the Utah State Tax Commission auditing and collecting functions. Staff notes that results from any cost/benefit analysis have to be weighed against other potential appropriations to arrive at an optimal investment decision. The offices further recommend that existing performance measures continue to be tracked and refined in the annual budget cycle.

BACKGROUND

In advance of the 2006 General Session, the Utah State Tax Commission requested funding for four additional auditors and four additional collectors. In doing so, Tax stated that "efficiency improvements have been made in past years to enhance productivity, though there still remains a good potential for increased revenue generation if staff were added to the audit and collection functions."

Legislators asked what impact additional auditors and collectors have on state revenue

The Legislature did not fund Tax's FY 2007 request. Instead, it directed legislative staff to investigate assertions that adding staff would increase revenue. Legislators included the following intent language in Item 140 of the *Appropriations Adjustments* act (H.B. 3, 2006 General Session):

> *It is the intent of the Legislature that the Executive Appropriations Committee, under JR 3.02 (13)(d), consider assigning the in-depth budget review to the Commerce and Revenue Appropriations Subcommittee. As part of the review, the subcommittee should specifically analyze the Auditing and Collection functions of the State Tax Commission to determine what impact the hiring of additional auditors and collectors has on new state revenues. It is anticipated that this review will include the establishment of acceptable performance and efficiency measures. Under the direction of the subcommittee, the Office of the Legislative Fiscal Analyst and the Legislative Auditor General should work together in the development of the performance and efficiency measures.*

The question of whether or not auditors and collectors generate revenue is not a new one. The Tax Commission has requested additional auditors and collectors in many budget cycles since fiscal year 1997, often citing increased revenue as a benefit associated with additional FTE.

Even in years when Tax did not request additional staff, it participated in discussions with the Governor's Office of Planning and Budget (GOPB) and the Fiscal Analyst's Office on the possibility of increasing audit and collection staff in order to enhance taxpayer compliance. Such discussions were considered as an alternative to greater budget cuts, with the assumption that increased compliance could help offset some portion of predicted revenue shortfalls.

Past legislative audits recommended increasing productivity before adding staff

In November 2003, The Office of the Legislative Auditor General issued *A Performance Audit of Utah Tax Commission's Division of Taxpayers Services*. Chapter V of this audit, "Tax Commission Needs to Improve Productivity of Collections Operations", addresses the issue of collector productivity. Due to productivity problems found in the collections operations, the audit recommended that "the Tax Commission not consider staff increases in collections until they have fully utilized existing staff."

The audit found that collectors should have been able to handle more cases at a time than they had been. The average case load at that time was 106 cases per collector. The auditors estimated that a collector could reasonably be

expected to carry about 200 cases. Although the Tax Payer Services Division has not quite achieved the 200 case mark, they have made significant improvement in this area with the current average caseload of collectors at 190 cases as of July 2006. Tax Payer Services Management has recently said they will ensure that the average caseload reaches 200 soon.

Past performance measures may have created perverse incentives

Part of the problem of staff utilization stemmed from the performance measure "quality contact" used by Tax Payer Services to measure collectors' productivity. According to the audit, quality contact was defined too broadly and "can be achieved too easily by an employee who does not want to work hard." This performance measure gave the incentive to touch a lot of cases but not necessarily to collect taxes and close cases. The audit recommended replacing "quality contact" as a performance measure with other measures, such as "cases closed" or "dollars collected." The Tax Payer Services Division has since switched to using the "cases closed" measure.

Another concern of the audit was that the cases were "pooled" instead of individually assigned. In order to increase the accountability of collectors and the sense of ownership in cases, the audit recommended assigning all cases to individual collectors in the districts rather than pooling cases. Tax Payer Services has implemented that recommendation.

During the 2003 Legislative audit, the Tax Commission was planning on requesting new collectors from the Legislature and had prepared an estimate of the additional revenue each collector would bring in. However, the Auditor concluded that Tax based the estimates on faulty calculations. For example, the additional revenue collectors would bring in was based on the total delinquent collections revenue divided by the number of collectors in the division. The Auditor's concern with this methodology was threefold:

Legislative Auditor raised concerns over using "average" delinquent collections as a measure of return from new collectors

1. The effect of a new automated billing system needs to be distinguished from the effect of collectors. Once tax dollars are considered delinquent, they become collections dollars and are collected in two ways. First, a sizable proportion of all collections dollars are paid late but before Tax takes action or after the tax payer is contacted through notices that are mailed out automatically by the system. This money is received by the Tax Commission before a tax collector ever gets involved. Second, collections dollars come in through the efforts of tax collectors. Collectors make phone calls to the taxpayers and other efforts to track down the taxpayer if the commission has an old address. In any calculation of additional revenue that would be brought in by an additional collector, only the second portion of money should be counted. An additional collector would have no effect on the portion that comes in on its own or from notices sent out by the system.
2. The principle of diminishing returns should be considered. With each additional collector, the collection dollars may become harder and harder to collect because the more productive cases (newer and higher

dollar) are already being worked. In theory, each additional collector would bring in less collections dollars than the previous.

3. New collectors won't be as effective as seasoned collectors. When collectors are hired, they have to be trained and then there is a learning curve for the first while on the job so they won't be as productive as the other collectors. Estimates of additional revenue should count on a new collector bringing in fewer dollars than would an experienced collector.

"Net" collections measure used to partially address Legislative Auditor concerns about collections that are paid without Tax Commission action

In an attempt to partially address concerns revealed by the Legislative Auditor in its November, 2003 audit, this report uses "Net Delinquent Collections" to measure the dollar value of collections. "Net Delinquent Collections" includes only those amounts collected after an automated collection letter is sent to taxpayers. This measure still does not completely isolate activity by collectors as it includes both amounts paid in response to the automated letter and amounts that result from collector activity.

Since the 2003 audit, Tax has modified its method for calculating return on auditors and collectors. In conjunction with its FY 2007 request, it reported an expected return on auditors and collectors of between $300,000 and $500,000 per position. This was a "best guess" estimate based partially on historical averages.

The Capital Facilities and Administrative Services Appropriations Subcommittee (CFAS) has also in the past reviewed performance of Tax Commission collectors. It has done so relative to the collection of debt in other state agencies. Other than the Office of Recovery Services, the Tax Commission and the Office of State Debt Collection (OSDC) are the only state entities with the ability to collect large sums of delinquent debt owed to the state.

Appropriators have also investigated collectors

The Tax Commission and the OSDC take different approaches to collecting debt (see Table 1). The OSDC uses private vendors to collect debt. The Tax Commission largely uses state employees paid by state funds. It contracts directly with some of the same private vendors as does OSDC, but for only about 2% of Tax's collections. OSDC contract collectors charge fees to debtors on top of the debt itself. OSDC's fees can add-up to almost 24 percent of the debt owed. Tax charges a ten percent penalty to debtors and the penalty accrues to the state fund to which receivables are due.

Comparison of Debt Collection Functions

	Tax Commission	OSDC
Collections FTE	111	5
Number of Accounts on June 30, 2005	57,948	48,112
Receivables Collected (FY05)	$155,647,400	$1,913,000
Debt Collected by Private Vendors (FY05)	$2,621,700	$1,913,000
Pct. Collected by Private Vendors (FY05)	2%	100%
Fees Charged to Debtors	10% ($20 min)	23.50% (No min)
Collection Program Funded by	State Funds	Debtor Fees

Table 1

The nature of the debt collected by Tax and OSDC also differs. The OSDC pursues debt that state agencies have written off (excluding the Tax Commission) or that has been assigned by the Courts. Hence OSDC debt is more difficult to collect than routine debt collected by other agencies. All Tax Commission receivables are considered delinquent the moment they are booked, so may not be as old and may be collectible without the same level of effort required for OSDC accounts.

During the 1999 General Session, CFAS expressed concern over the high number of delinquent accounts held by the Tax Commission. The Subcommittee added to items 59 and 96 of the *Annual Appropriations Act* (H.B. 1, 1999 General Session) intent language limiting funding for tax system modernization efforts to the Tax Commission's success in outsourcing and collecting delinquent accounts. The language also required the Tax Commission to report its outsourcing results to the OSDC.

Tax does not currently assign debt to OSDC

The *FY 2001 Budget Recommendations* of the Legislative Fiscal Analyst for the Office of State Debt Collection states that "the Office of State Debt Collection has been able to access more accounts from the Tax Commission and expects to have enhanced collections" as a result of the intent language added by appropriators the previous year.

Currently, however, the Tax Commission pursues its own accounts receivable without assigning them to the OSDC. Tax does so for a number of reasons including a policy against adding collections fees, like those charged by OSDC, to outstanding tax liability. Tax continues to report quarterly results to the OSDC.

CAN THE DOLLAR IMPACT OF CHANGES IN AUDITOR/COLLECTOR EMPLOYMENT LEVELS BE DETECTED IN TOTAL REVENUE?

A logical starting point in assessing what impact additional auditors and collectors have on revenue is to examine whether such impact can be detected in revenue streams.

In order to determine whether additional auditors and collectors change total revenue, one first must establish a baseline against which to measure that change. The best available baseline for future year revenue is the consensus revenue estimate jointly developed by the state's executive and legislative branches.

Economic cycles create large differences between revenue estimates and actuals

Figure 1, below, shows revenue estimates versus actual collections since FY 1997. Obviously, there is some level of error inherent in revenue estimating, as demonstrated by the difference in the two lines. While estimates come close to actual revenue in periods of moderate economic activity, past recessions and booms have resulted in variances of more than 10%.

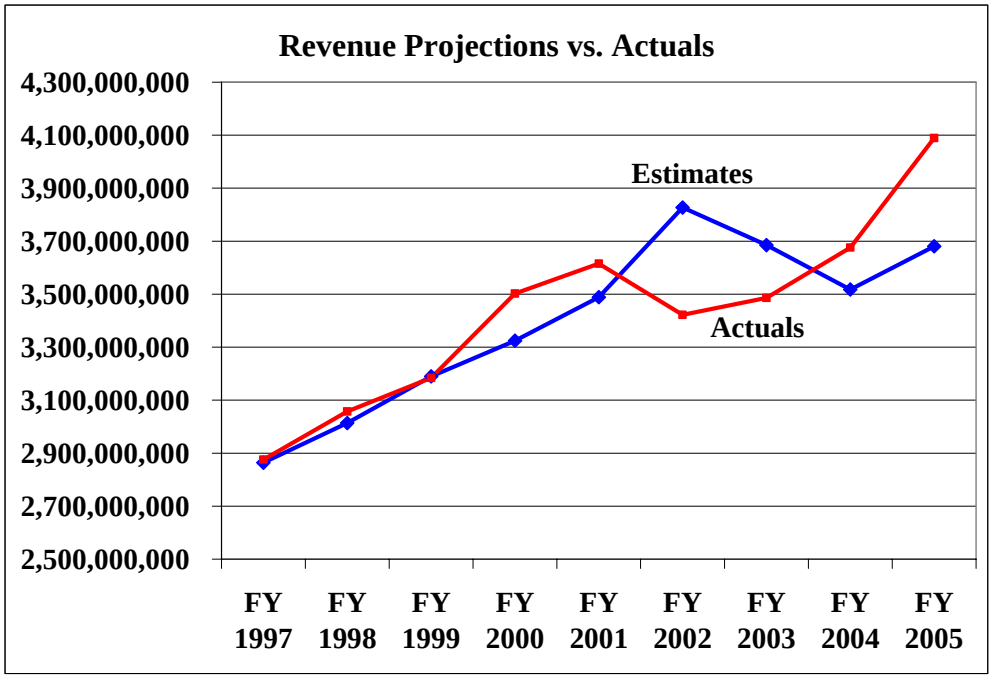


Figure 1

Baseline revenue estimates already have an assumed margin of error

For future estimates of total revenue state economists assume a margin of error of between 1 and 3%. Only if the revenue attributed to new auditors and collectors is more than this margin of error can the impact of the auditors and collectors be detected in total revenue.

According to the State Tax Commission, the annual average audit assessment per auditor is $500,000. The average annual dollar amount collected per collector is $950,000. For FY 2006, total sales and income tax collections is expected to be in the $4 billion range.

Using historical averages, the annual impact of a single auditor would be 1 basis point (0.0125%) of total revenue. The average annual impact of a single

Average assessments and/or collections are well within revenue estimating margins of error

collector would be about two basis points (0.0238%). Thus the average impact of a single auditor or collector would be less than one one-hundredth of revenue estimators' margin of error and would not be detectible in overall revenue collections.

The Tax Commission's last request for auditors and collectors was for four of each. Four average auditors would generate $2 million per year or 5 basis points (0.05%) of total revenue. Four average collectors would collect $3.8 million per year, or 10 basis points (0.095%). Even allowing for the addition of multiple auditors and collectors, the difference in revenue assuming Tax Commission averages would be within revenue estimating margins of error. Only if the Tax Commission added hundreds of auditors and collectors would the impact of those additional staff be noticeable in total revenue, and that is only if the average return of those additional employees remains constant.

Other independent variables – like economic growth and employment – impact total revenue much more than does the number of auditors and collectors

It is clear from this analysis that a change in the number of auditors and collectors alone is not easily detected in overall revenue collections. Other independent variables play a more important role.

Among the factors considered by economists in estimating future revenue are: measures of production and spending like gross domestic product, personal consumption, and output in specific industries; indicators of sales and construction like housing starts, dwelling permits, and retail sales; demographic and sentiment signals like population, migration, and consumer sentiment; profits and resource prices; inflation and interest rates; employment and wages; and income. For a thorough list of factors influencing overall revenue estimates, see Appendix A.

In order to detect the impact of additional auditors and collectors on overall revenue, one would have to control for many, if not all, of the factors listed in Appendix A. Even having controlled for these factors, the statistical variance of estimated revenue to actual revenue may exceed the anticipated impact of additional auditors and collectors.

Conclusion

While a combined $5.8 million from the average return on four additional auditors and four additional collectors is a significant amount of money, it is a small fraction of total revenue. Differences between estimated and actual revenues are so much larger than the average return from auditors and collectors that one would find it difficult to attribute changes in total revenue to the addition of auditing and collecting staff.

HAVE PAST FLUCTUATIONS IN AUDITOR/COLLECTOR EMPLOYMENT LEVELS SIGNIFICANTLY IMPACTED THE DOLLAR AMOUNT OF AUDIT ASSESSMENTS AND DELINQUENT COLLECTIONS?

As one cannot detect the impact of additional auditors and collectors in total revenue, the next logical step is to see whether additional auditors impact the dollar value of audit assessments or whether additional collectors impact the dollar value of delinquent collections. To do so, the authors of this report first looked at annual trends. Then, we investigated whether historical variations in auditor/collector full-time equivalent (FTE) employment levels had impact on monthly assessments/collections.

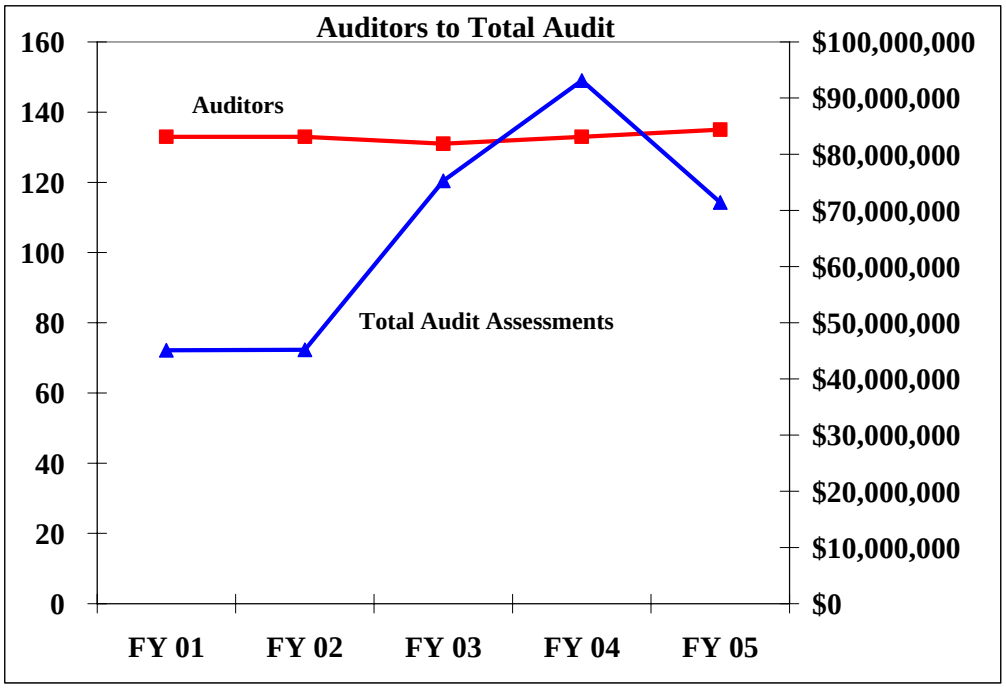


Figure 2

Average impact of Auditor/Collector FTE can at least be detected in annual assessments/ collections

Figure 2 displays five years of annual data on audit assessments and audit FTEs. The change in audit assessments from one year to the next has been as large as $30,000,000. Assuming average collections, adding four auditors (the amount of Tax's FY 2007 request) would generate $2,000,000 in additional audit assessments. This amount could be detected in annual assessments, but only if assessment variances could be predicted and isolated.

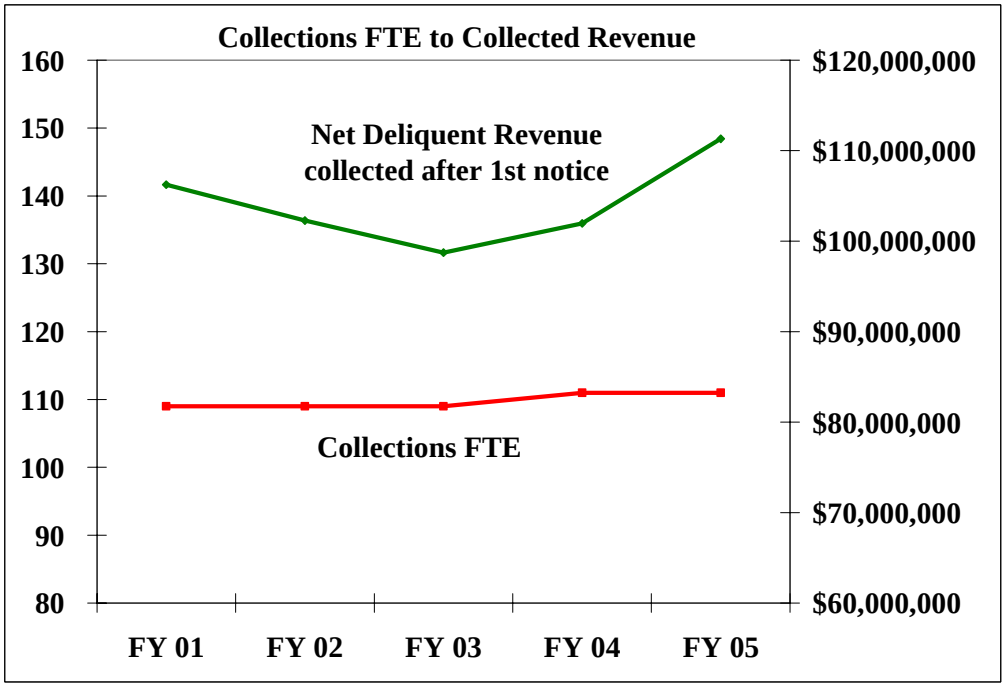


Figure 3

Figure 3 shows that annual amounts collected can vary by more than $9,000,000 from one year to the next and by more than $12,000,000 in a two year period. Again assuming historical averages, the additional revenue generated from four collectors should be about $3,800,000.

The dollar amounts of the variances in the above measures are much smaller than in the general revenue measurement. They begin to reveal the impact of the new employees and are preferable to the general revenue measurement.

However, the annual data presented above are not sufficient to determine whether changes in FTE level correspond to changes in dollar assessments/collections or whether changes in FTE level can be said to explain changes in dollar assessments/collections. To do so requires more data points with greater degrees of variation.

Monthly data on FTE and assessments/ collections used to test whether correlation exists

To establish whether FTE levels correlate with or predict dollar assessments/collections, the authors of this report analyzed monthly changes in FTEs and monthly changes in assessments/collections for a period of five fiscal years.

Assuming that taxpayers are allowed some period of time to pay audit assessments and delinquent accounts, the authors lagged monthly dollar returns such that the correlation between FTEs and returns was maximized. For auditors, a two month lag produced the highest correlation. For collectors, a three month lag produced the highest correlation.

This lag roughly corresponds with Tax Commission policies. According to Tax Commission managers, assessments are booked 30 days after statutory notice (an official letter) to allow for appeals. Collections become collectable the day after they are due, but each tax has its own monthly billing cycle and delinquent accounts are not sent to collections until after they are billed. When a delinquent account arrives in collections, the taxpayer still has 30 days before Tax starts collecting. So a taxpayer has anywhere from 31 to 61 days to pay a delinquent account.

Figure 4 compares the variance in auditor FTEs with the variance in audit assessments over time. One can see that, while monthly audit assessments vary widely, FTE levels do not. One cannot conclude from this representation that changes in FTEs correlate with changes in dollar assessments.

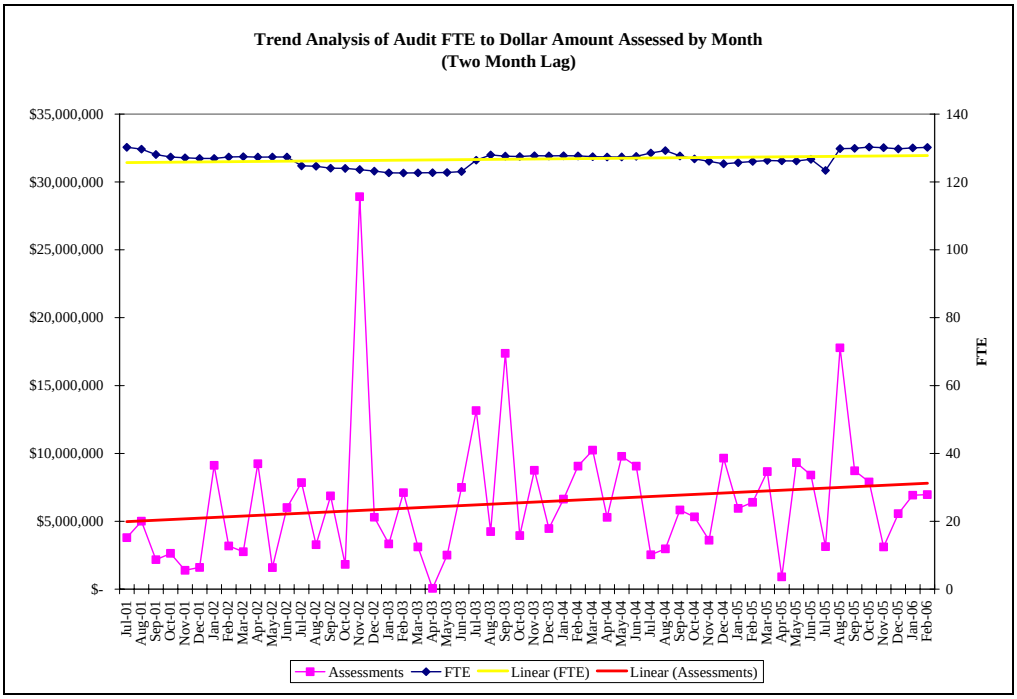


Figure 4

Statistical data does not support conclusion that FTE levels predict dollars assessed

Figure 5 is another graphical representation of changes in audit FTEs as they relate to changes in audit assessments. As you can see, the dots on the graph form no discernable trend or pattern. If FTE levels and assessments were highly correlated, the dots would fall along a line. If increases in FTEs led to increases in assessments, the line would be upward sloping.

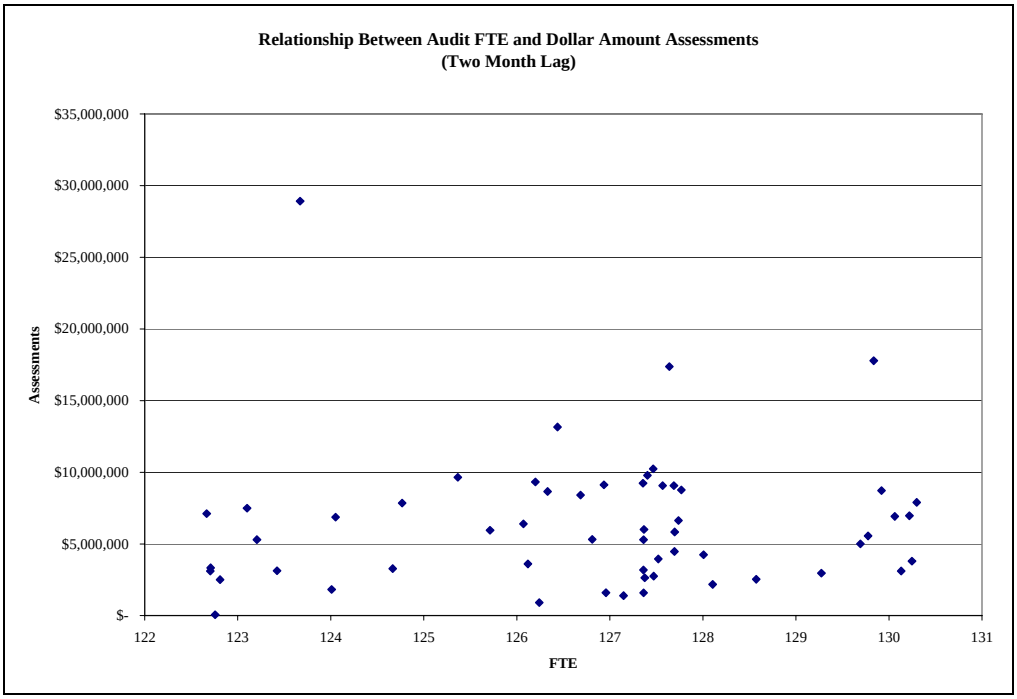


Figure 5

The lack of correlation shown in Figure 5 is born-out by statistical analysis. The maximum correlation coefficient between monthly auditor FTEs and

monthly assessments between FY 2001 and FY 2006 is 0.038. An "r-square" for these two data streams is only 0.001, meaning that only one-tenth of one percent change in assessments can be explained by a change in FTEs.

Similar results were found for collections history. Figure 6 shows collections FTEs versus dollars collected over time.

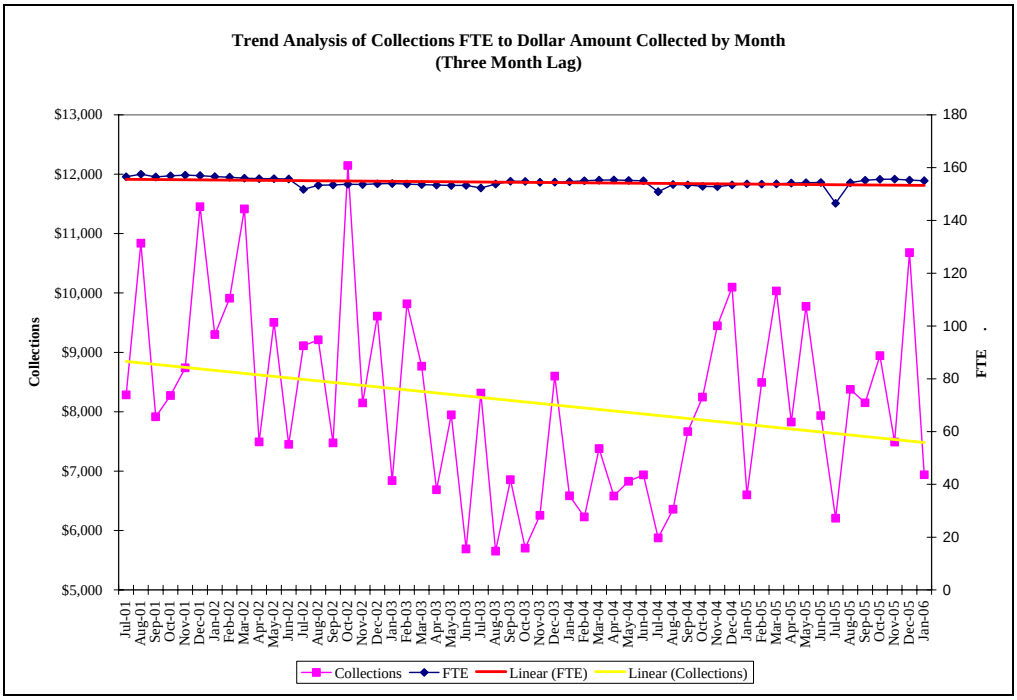


Figure 6

Authors cannot prove a connection between number of collectors and amount of delinquent collections

Figure 7 is a scatter-plot of FTE levels to dollars collected three months later.

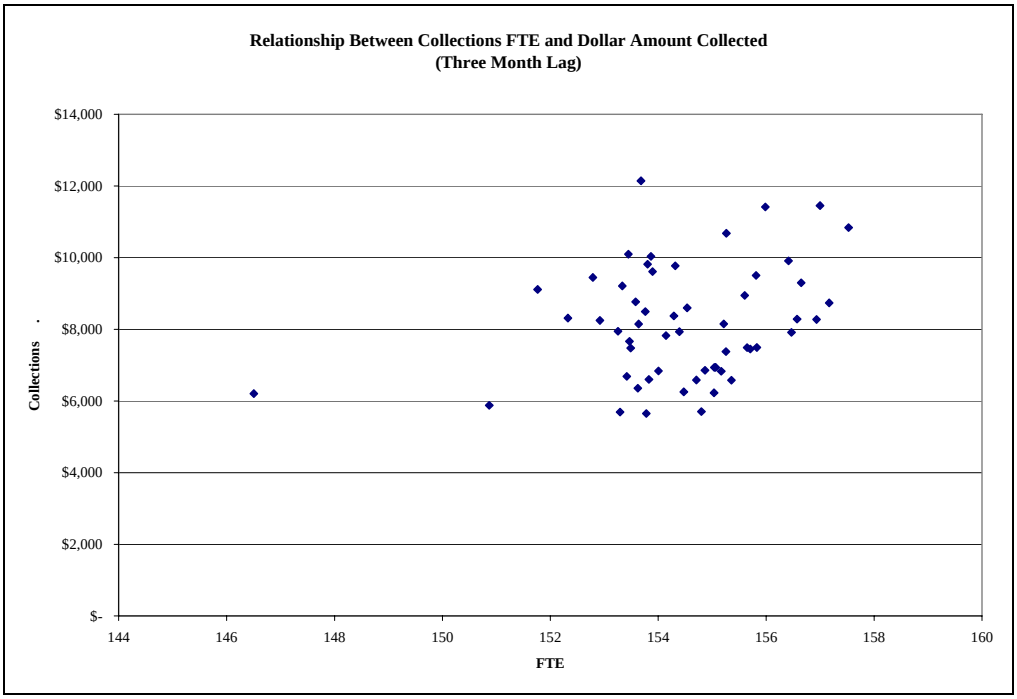


Figure 7

The maximum correlation coefficient between monthly collector FTEs and monthly delinquent collections between FY 2001 and FY 2006 is 0.19. An "r-square" for these two data streams is 0.036. While these statistics are greater than that for auditors, they still are not sufficient to conclude that FTE levels alone drive dollars collected.

As an example, Figure 6 shows that while collector FTE levels have remained relatively constant, collection amounts trend downward. This does not necessarily mean that collectors are working less or are less diligent. In fact, Figure 9 shows that those same FTEs are settling an increasing number of delinquent accounts. It could mean instead that as the economy grows, taxpayers are more able to pay and therefore the dollar amount of delinquent accounts is less. At the same time, the increase in assessments in Figure 4 may be attributable to increasing productivity or actual hours worked, but it could also be attributed to growth in total tax liability and therefore total potential audit assessments.

Isolating intervening variables – like actual audit findings and taxpayer ability to pay – may produce a more direct connection between FTE and dollars

There are a number of independent variables other than auditor/collector employment level that impact collection and assessment amounts. The Tax Commission points to these factors in its reporting of average collections stating that "results can fluctuate above or below the average" depending upon changes in these factors.

Other than the number of auditors, audit assessments are influenced by tax type audited, actual audit findings, economic conditions, changes in the tax base, employee turn-over rates, and employee training proficiency. Beyond collector employment numbers, average collections are influenced by type of collection function, delinquency of debt, taxpayer ability to pay, economic conditions, employee turn-over rates, and employee training proficiency.

A multivariate regression analysis of auditor/collector employment levels on assessments/collections which controls for the above factors may result in stronger data regarding the relationship between auditor/collector FTEs and assessments/collections. Such an analysis could neutralize those other independent variables that also impact collections/assessments and show a stronger causal relationship between FTEs and collections/assessments. It could provide more conclusive evidence on the degree to which auditors and collectors impact revenue.

Conclusion

Given historical evidence, the authors of this report cannot prove or disprove that changes in FTEs alone will result in increased assessments and/or collections. While it would seem logical that more auditors and collectors would produce more assessments and collections, it appears that other variables impact dollars assessed or collected much more than does the number of FTEs.

HAVE PAST FLUCTUATIONS IN AUDITOR/COLLECTOR EMPLOYMENT LEVELS SIGNIFICANTLY IMPACTED THE NUMBER OF AUDITS PERFORMED AND/OR NUMBER OF DELINQUENT ACCOUNTS?

It is clear from the preceding analysis that variables other than auditor and collector employment levels drive the dollar value of assessments and

collections. In an attempt to remove some of those intervening variables, the authors of this report also investigated the impact of auditor and collector FTE levels on numbers, rather than dollar value, of audits and delinquent accounts.

An analysis of the past five fiscal years reveals that auditor and collector FTE levels have fluctuated very little, while the number of delinquent accounts, the number of delinquent accounts settled, and the number of audits completed have all fluctuated to greater degrees. A statistical analysis shows practically no correlation between the fluctuations in FTE levels and the greater fluctuations in account and audit numbers.

Even absent monetary factors, authors did not find strong statistical correlation between FTE and number of audits/delinquent accounts

As demonstrated in Figure 8, the number of FTEs has maintained a fairly steady trend line over the past five years. However, the number of delinquent accounts appears to be cyclically driven, with the number spiking each April and then gradually declining throughout the year. While the spikes appear to be increasing during the last four years, the trend continues to be relatively flat over time. In any event, the number of FTEs is not a good predictor of the number of delinquent accounts, so some other factors are more strongly influencing the changes in delinquent account volume.

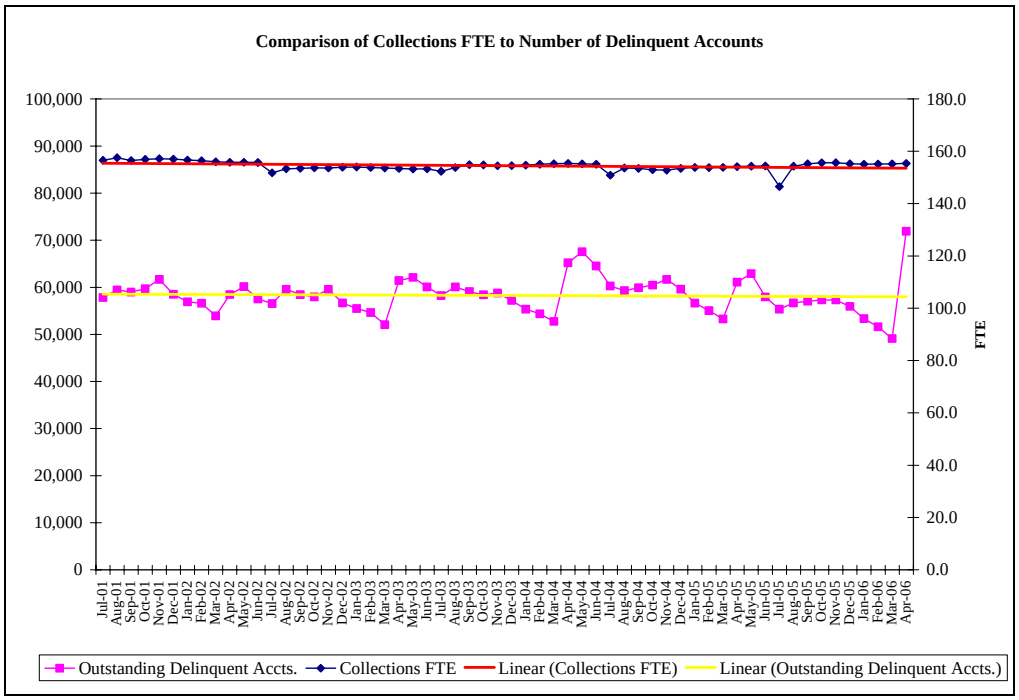


Figure 8

Figure 9 shows that the number of delinquent accounts settled through the past five years fluctuates but is trending upward in spite of a steady FTE level. The fluctuations also appear to be cyclical with spikes between April and June, coinciding with the personal income tax season. As noted earlier, the number of accounts settled is trending upward, but the dollar amount collected as shown in Figure 6 is trending downward.

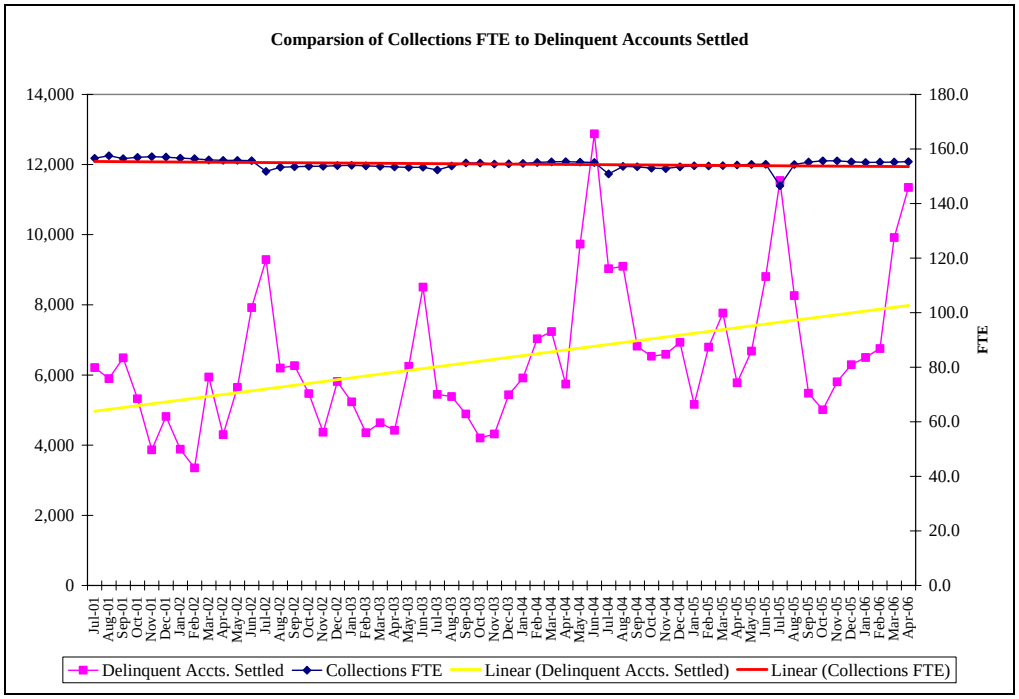


Figure 9

Figure 10 shows that the number of audits completed is trending upward while the level of audit FTEs remains fairly constant. Therefore, as with the previous two charts, the level of FTEs is not a good predictor of completed audits. Other factors are probably responsible for the increase in audits; these factors may include improved work processes, more emphasis on easier audits, and/or other variables.

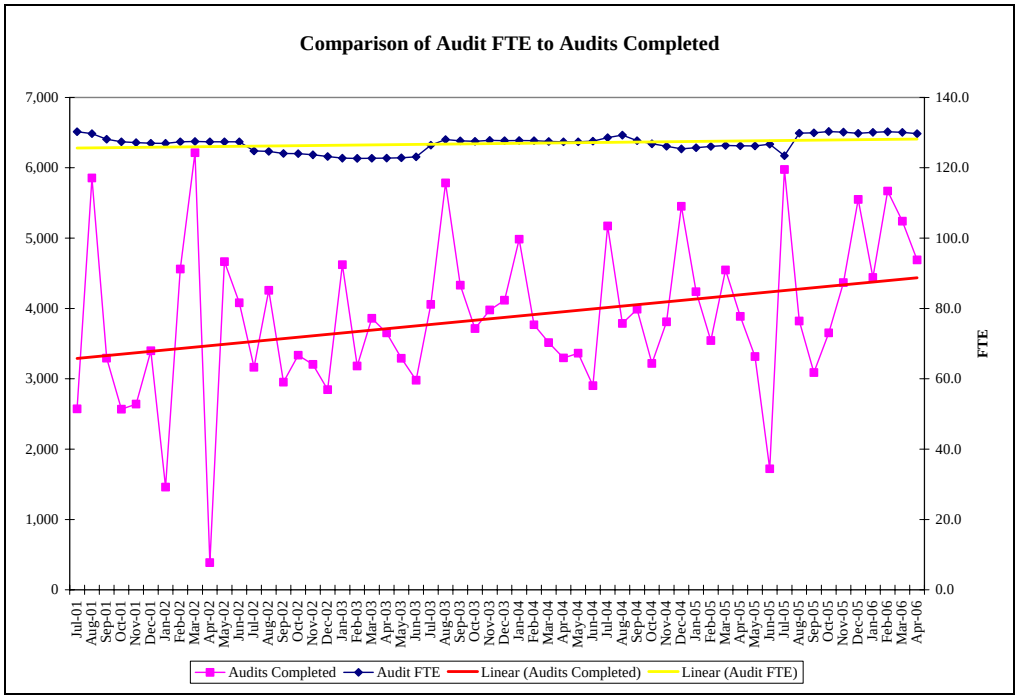


Figure 10

Conclusion

While an increase in FTEs may allow more audits or settled accounts, historical data cannot predict whether a marginal FTE increase alone would have the desired outcomes of increased audits and settled delinquent accounts.

DOES AVERAGE DOLLAR AMOUNT RECEIVED PER AUDITOR/COLLECTOR EFFECTIVELY MEASURE THE RETURN ON ADDITIONAL AUDITORS/COLLECTORS?

While this report cannot prove that additional auditors and collectors will drive additional revenue, it is logical to surmise that if average annual assessments per auditor and/or average annual delinquent collections per collector are greater than the cost of an additional auditor and/or collector the state should invest in the additional auditors or collectors. One might assume that the Legislature should add FTEs and, after training, compare assessment/collections averages to additional costs and previous averages.

Using average assessments/audits to decide investment ignores the law of diminishing marginal returns

As noted by the Legislative Auditor and summarized above, the use of average collections present a number of difficulties, not the least of which is diminishing marginal returns.

While averages per employee are easy to measure, only to a point would using averages for investment decisions prove efficient – even if all changes in assessments and collections could be attributed to employment levels.

Clearly, if a manager added employees and for each additional employee the average return of all employees increased, then the manager should continue adding employees. In this case, the manager has not yet met what economists call the "point of diminishing marginal returns".

However, if a manager continued to add employees until average revenue equaled average cost, the manager would incur unnecessary costs. At some point, the increase in costs per additional employee would be greater than the increase in revenue resulting from that employee. Beyond this point, the manager would be merely inflating costs (the denominator in this equation) to meet average revenue, rather than augmenting revenue itself.

Using marginal costs and benefits would avoid unnecessarily inflating costs

A more efficient measure of return would be marginal revenue for each additional employee. If Tax could isolate the additional assessments and/or collections attributed to the addition of auditors and collectors, Tax could use those measures, rather than average productivity, to justify budget requests.

Another way to help policy makers decide upon investment in additional auditors and collectors is to use cost/benefit analysis. In a cost/benefit model, one could start off with the average benefit per employee and then discount that benefit for various factors, some of which have been discussed already in this report. For example, in the case of auditors, the $500,000 average in assessments per auditor could be discounted for the following factors, among others:

- **Diminishing marginal returns.** Depending on the quality and quantity of audits that are flagged but simply waiting for staff to become available, each additional auditor could bring in less than the previous auditor because less productive audits are remaining.

- **Training time and the learning curve for new auditors.** It takes time for auditors to be trained before they begin producing new assessment dollars. Even once they are trained it may take longer before they have the same ability of more seasoned auditors. A Michigan study used a learning period factor which equated to a 32% discount in their estimate of the additional revenue new business tax auditors would bring in during the first three years.
- **The percent of assessments eventually paid.** The end product of an auditor is a tax assessment, or a legal determination of taxes that are owed but have not yet been paid. A portion of those assessments may never be collected. For example, in one study done by the Tax Commission, 7 to 8 percent of sales tax assessments were not paid after 3 years.

A cost-benefit analysis could discount averages for known anomalies

In the case of collectors, the $950,000 average delinquent dollars per collector would be discounted for many of the same factors as applied in the auditor analysis. However, the percent of assessments actually paid wouldn't be needed because the dollars collected by collectors are actual dollars not assessments. Three discount factors applicable to collections dollars are listed below.

- **Diminishing marginal returns.** Depending on the quality and quantity of the delinquent accounts, each additional collector could bring in less than the previous collector because harder collections cases would be the remaining cases.
- **Training time and the learning curve for new collectors.** It takes time for collectors to be trained before they begin producing new collections dollars. Also, as in the case with auditors, it may take some time before they can produce what seasoned collectors produce.
- **Revenue earned through automatic notices.** The benefit of collectors would need to be discounted for dollars that come into the system because of automatic collection notices before collectors themselves ever become involved.

In both analyses, the additional cost per employee (compensation, computers, and other factors) would be taken into account. Finally, total costs would be subtracted from the total benefits to calculate a net benefit for adding additional auditors and a net benefit for adding additional collectors.

WHAT PERFORMANCE MEASURES MIGHT BE USED TO DEMONSTRATE THE EFFECTIVENESS OF ADDITIONAL AUDITORS/COLLECTORS?

While statistical analysis cannot prove or disprove that the addition of auditor and collectors will result in additional revenue, policy makers may find compelling evidence in cost/benefit analyses to justify investing in additional auditors and collectors. Should they do so, a number of performance measures have been developed to track auditor and collector productivity.

Currently, the Tax Commission tracks dollars assessed by individual auditor and dollars collected by individual collector. In addition, Tax reports a number of other productivity measures.

LFA currently monitors performance of auditors & collectors

In the past two legislative cycles, the Office of the Legislative Fiscal Analyst (LFA) has attempted to inject performance data into the budgetary decision making process. Working closely with the Tax Commission the LFA has documented in its *Compendium of Budget Information* a number of performance measures that are applied to Tax Commission auditing and collecting functions. They include:

- Number of audit appeals cleared;
- Number of audits;
- Audit satisfaction rating;
- Unlicensed taxpayers assessed;
- Collection costs per dollar collected;
- Prior year delinquent collections;
- Ratio of delinquent collections to net receivables available.

A summary of these measures is attached at Appendix B.

Office of State Debt Collection monitors state agency collections activities with various measures

Utah already has in place a number of performance metrics for tracking collections activity. The measures are collected quarterly and compiled annually by the Office of State Debt Collection. They are valid measures, and can be used to monitor Tax Commission collectors.

The state's established debt collection performance measures are:

- Average cost to collect one dollar;
- Average collections as a percent of billing;
- Average number of days to collection;
- Collectable receivables as a percent of gross receivables;
- Receivables over 90 days past-due as a percent of all past-due receivables;
- Write-offs as a percent of past-due receivables.

A summary of these measures for the Tax Commission, as well as other collectors of comparable debt, can be found at Appendix C.

The Legislative Fiscal Analyst compiled a list of performance measures used by other states. This compilation of measures was provided to members of the Commerce and Revenue Appropriations Subcommittee in October of 2005. A summary of the measures as they apply to auditors and collectors is included at Appendix D.

CAN THE TAX COMMISSION FUND ADDITIONAL AUDITORS AND COLLECTORS WITHOUT LEGISLATIVE ACTION?

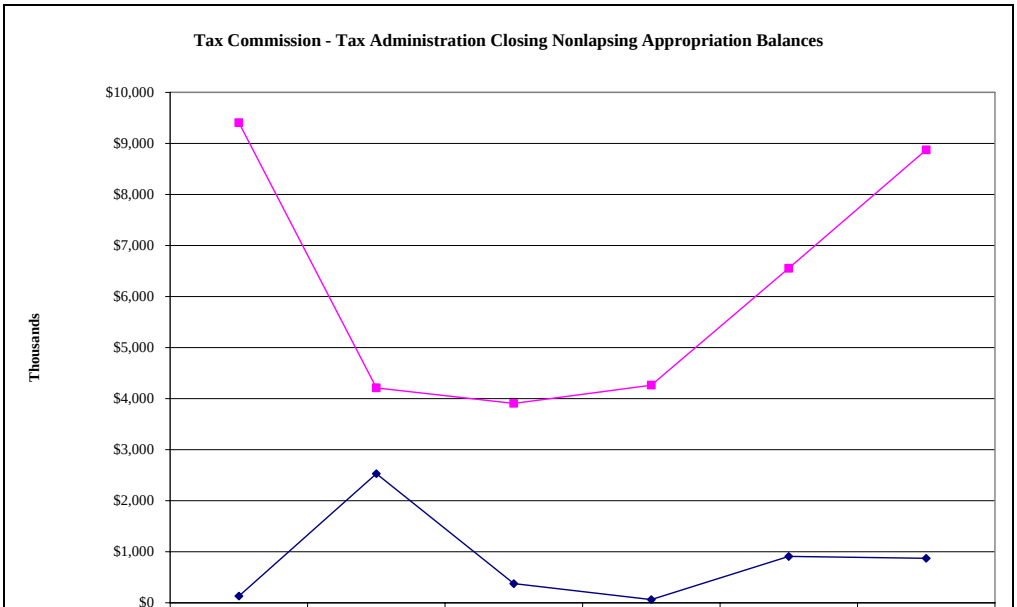
Beyond the question of how much additional revenue additional auditors and collectors produce is a question of whether investment of limited resources in additional auditors and collectors would provide a bigger return than investment in other parts of the Tax Commission. For example, using assumptions provided by the Tax Commission in its FY 2007 budget request, a $200,000 investment in collectors could yield $2 million in new revenue, or a 10 to 1 return. But, how big a return would result from investing $200,000 somewhere else at Tax, say in a modernized tax processing system or in simplifying tax forms?

Budget law allows agencies to move money within line items. Almost all of Tax is one line-item.

Utah's *Budgetary Procedures Act* (UCA 63-38-3) states that "Monies may not be transferred from one item of appropriation to any other item of appropriation." However, the Act further states that a department, agency or institution may request "the transfer of moneys appropriated to it from one purpose or function to another purpose or function within an item of appropriation," and, having met certain reporting requirements, may transfer money within the line-item without legislative action.

For at least the past ten years, the auditing and collecting functions of the Tax Commission have fallen within a single line-item with most all of the Tax Commission's other functions. Funding for the "Tax Administration" line-item equals $73 million in FY 2007, of which less than one-third is attributed to auditing and collecting.

Since FY 2001, the Tax Administration line-item has accumulated $4.7 million in year-end balances. As shown in Figure 11 below, balances grew by more than $2 million per year in fiscal years 2004 and 2005.



	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Appropriated	$132	$2,528	$374	$62	$907	$871
Actual	$9,406	$4,211	$3,907	$4,265	$6,554	$8,874

Figure 11

Tax attributes a portion of those balances to credit card transaction processing fees and the delay of streamlined sales tax implementation, and states that only $5.4 million of the FY 2005 balance are discretionary. Excluding credit card processing fees and streamlined sales tax, Tax Commission nonlapsing balances grew by around $600,000 per year in fiscal years 2004 and 2005.

Multi-year growth in balances indicates available ongoing resources

While nonlapsing balances themselves are one-time, growth in balances can be considered on-going if the growth recurs year after year. Recurring growth in balances can be attributed to the Tax Commission's ability to control its cost of operations.

In each of the years shown above, the Tax Commission has requested from the Legislature authority to keep its nonlapsing balances, some of which is earmarked for modernizing its computer systems. Each year the Legislature has granted this request.

Tax has demonstrated an ability to manage resources internally, and could do so with auditors/collectors

Instead of accumulating balances year over year, Tax could have increased its spending on auditors and collectors. As it has opted instead to invest in Tax System Modernization among other things, one can only conclude that system modernization promised a greater return on investment – or at least a lower opportunity cost – than did investment in auditors and collectors.

The Legislature did not appropriate additional money for auditors and collectors for fiscal year 2007 as requested by the Tax Commission. But appropriators reached the same investment prioritization decision as did the Tax Commission and provided $7 million in new money for Tax System Modernization.

Perhaps other operations within Tax Administration can be considered lower priorities than both Tax System Modernization and additional auditors and collectors. If so, Tax has already demonstrated its ability manage its resources internally and could so again to add auditors and collectors without further legislative action.

CONCLUSIONS AND RECOMMENDATIONS

In attempting to assess the impact of additional auditors and collectors on revenue, this report concludes the following:

1. The direct impact of additional auditors and collectors on total revenue cannot be detected in total revenue streams because of the margin of error inherent in revenue estimating.
2. A post-performance analysis of fluctuations in FTE and corresponding fluctuations in dollar amounts assessed and/or collected cannot prove or disprove that adding auditors and collectors will result in increased assessments and collections.
3. A post-performance analysis of fluctuations in FTE and corresponding fluctuations in the number of audits or delinquent accounts cannot prove or disprove that adding auditors and collectors will result in increased audits or delinquent account settlements.

4. Decision making tools like cost/benefit analysis may better inform auditor and collector investment decisions.
5. Potential positive net benefits from additional auditors and collectors should be compared against potential positive net benefits from other investments, like tax system modernization or tax simplification, to achieve optimal investment outcomes.
6. A number of performance measures already exist for tracking the productivity of auditors and collectors.

Should the Executive Appropriations Committee wish to further pursue investment in additional auditors and collectors, the Office of the Legislative Fiscal Analyst and the Office of the Legislative Auditor General recommend the following:

1. Direct the Commerce and Revenue Subcommittee, with assistance from the Fiscal Analyst and Auditor General, to develop detailed cost/benefit analysis of additional tax auditors and collectors including appropriate discount factors, anticipated future costs, and projected returns.
2. Direct the Commerce and Revenue Subcommittee and the Fiscal Analyst to continue tracking and refining measures currently used to assess the performance of Tax Commission auditors and collectors.

APPENDIX A: ECONOMIC FACTORS INFLUENCING REVENUE ESTIMATES

PRODUCTION AND SPENDING

- U.S. Real Gross Domestic Product
- U.S. Real Personal Consumption
- U.S. Real Fixed Investment
- U.S. Real Defense Spending
- U.S. Real Exports
- Utah Exports (NAICS, Census)
- Utah Coal Production
- Utah Crude Oil Production
- Utah Natural Gas Production Sales
- Utah Copper Mined Production

SALES AND CONSTRUCTION

- U.S. New Auto and Truck Sales
- U.S. Housing Starts
- U.S. Residential Investment
- U. S. Nonresidential Structures
- U.S. Repeat-Sales House Price Index
- U.S. Existing F.F Home Prices (NAR)
- U.S. Retail Sales
- Utah New Auto and Truck Sales
- Utah Dwelling Unit Permits
- Utah Residential Permit Value
- Utah Nonresidential Permit Value
- Utah Additions, Alterations and Repairs
- Utah Repeat-Sales House Price Index
- Utah Existing S.F. Home Prices (NAR)
- Utah Taxable Retail Sales

DEMOGRAPHICS AND SENTIMENT

- U.S. July 1st Population (BEA, Census)
- U.S. Consumer Sentiment of U.S. (UofM)

- Utah July 1st Population (UPEC)
- Utah Net Migration (UPEC)
- Utah July 1st Population (Census)

PROFITS AND RESOURCE PRICES

- U. S. Corporate Before Tax Profits
- U.S. Before Tax Profits Less Fed. Res.
- West Texas Intermediate Crude Oil
- U.S. Coal Price Index
- Utah Coal Prices
- Utah Oil Prices
- Utah Natural Gas Prices
- Utah Copper Prices

INFLATION AND INTEREST RATES

- U.S. CPI Urban Consumers(BLS)
- U.S. GDP Cahined Price Indexes
- U.S. Federal Funds Rate
- U.S. 3-Month Treasury Bills
- U.S. T-Bond Rate, 10-Year
- 30 Year Mortgage Rate (FHLMC)

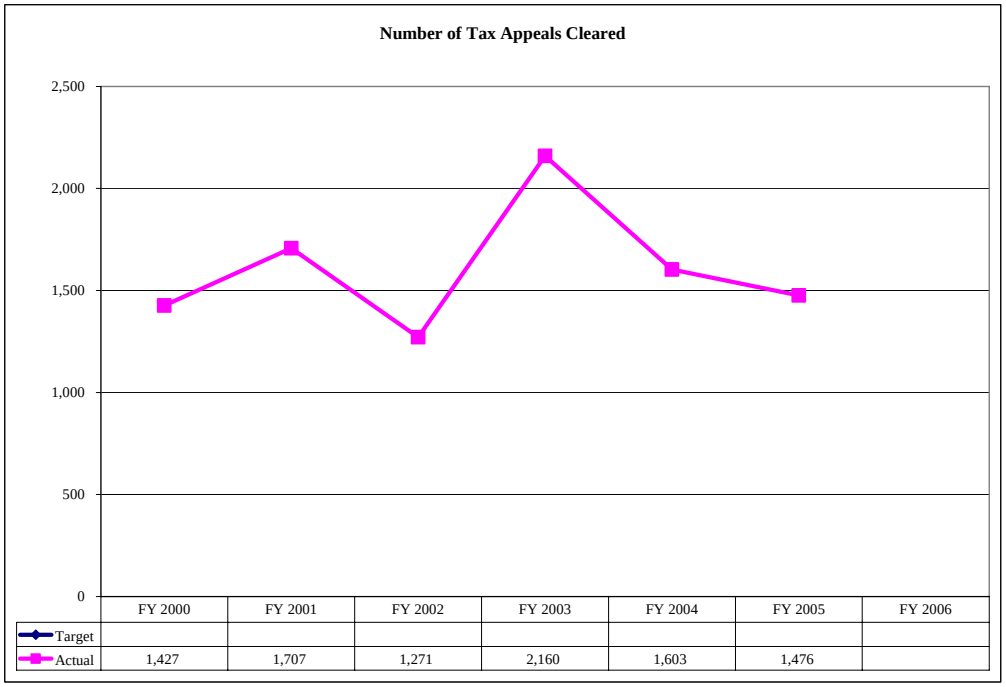
EMPLOYMENT AND WAGES

- U.S. Establishment Employment (BLS)
- U.S. Average Annual Pay (BLS)
- U. S. Total Wages & Salaries(BLS)
- Utah Nonagricultural Employment (WS)
- Utah Average Annual Pay (WS)
- Utah Total Nonagriculture Wages (WS)

INCOME AND UNEMPLOYMENT

- U.S. Personal Income (BEA)
- U.S. Unemployment Rate (BLS)
- Utah Personal Income (BEA)
- Utah Unemployment Rate (WS)

APPENDIX B: LFA AUDITOR AND COLLECTOR PERFORMANCE MEASURES

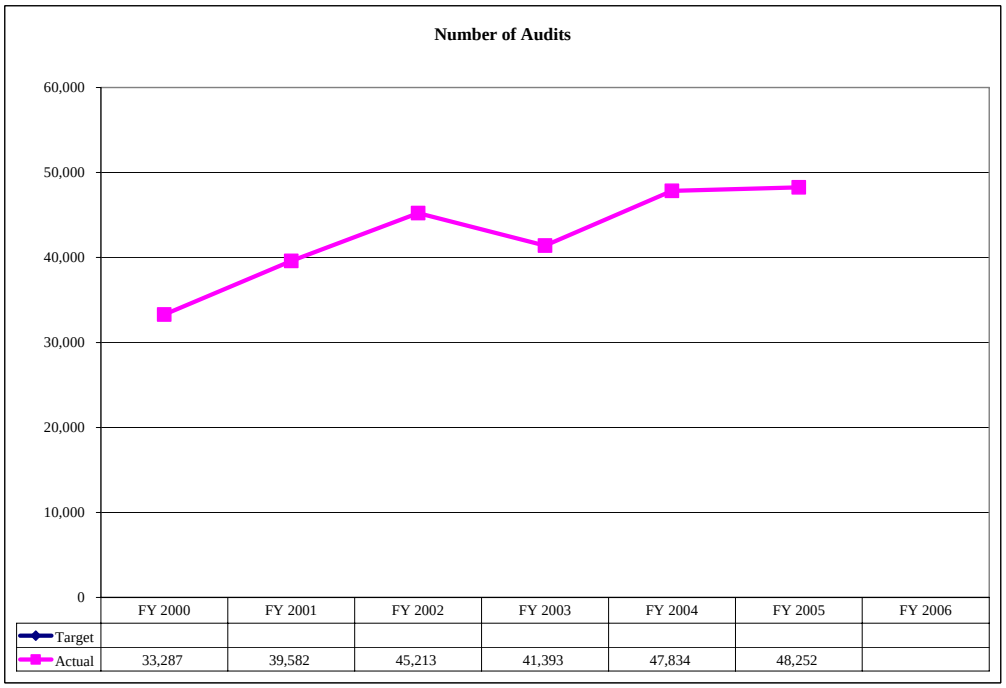


Measure: Number of Tax Appeals Cleared

Goal: Reduce appeals backlog.

Methodology: Count the number of appeals cleared.

Measure Type: Output.

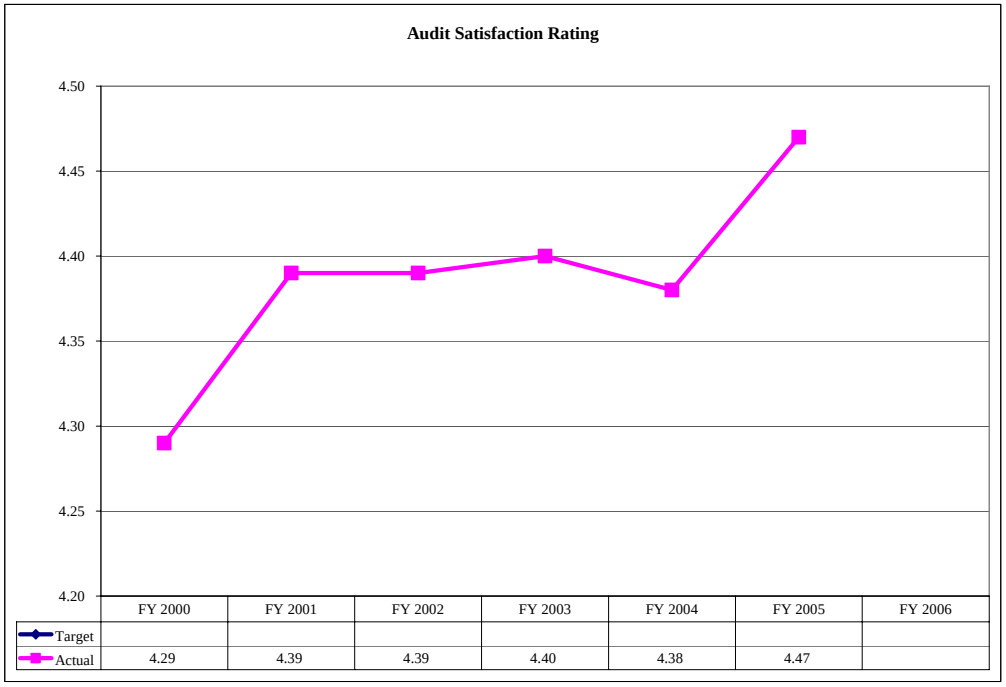


Measure: Number of Audits

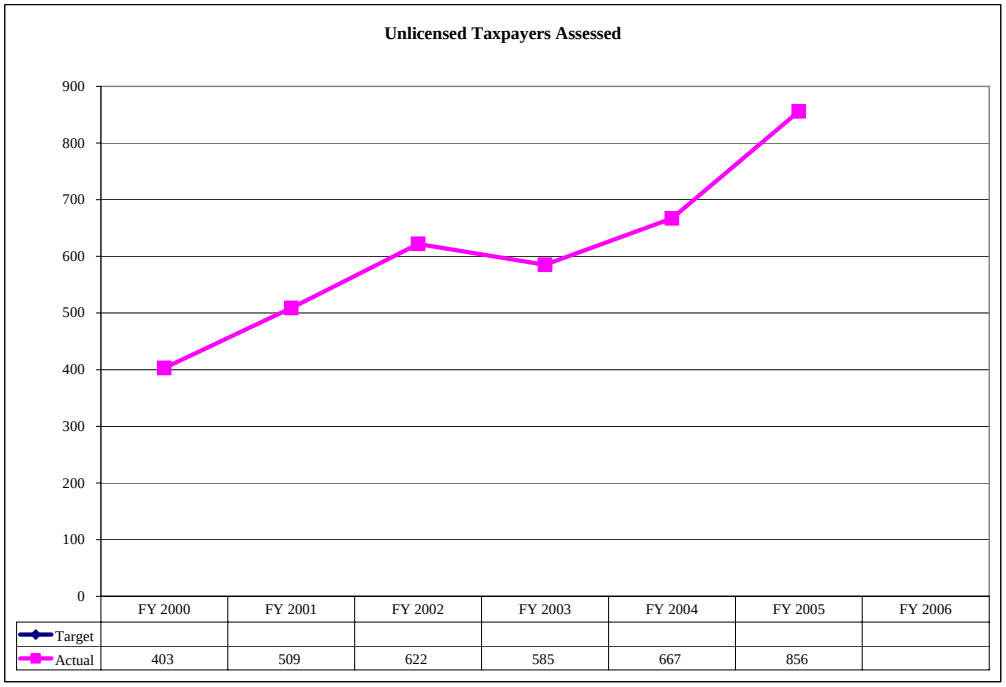
Goal: Although the total number of audits completed is a key measure, it can vary greatly from year to year depending on factors such as a shift in program emphasis, employee turnover, or complexity of the audits. So, audit goals are set each year based on current circumstances, rather than simply trying to out perform the previous year.

Methodology: Count the number of audits.

Measure Type: Output.



	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Target							
Actual	4.29	4.39	4.39	4.40	4.38	4.47	



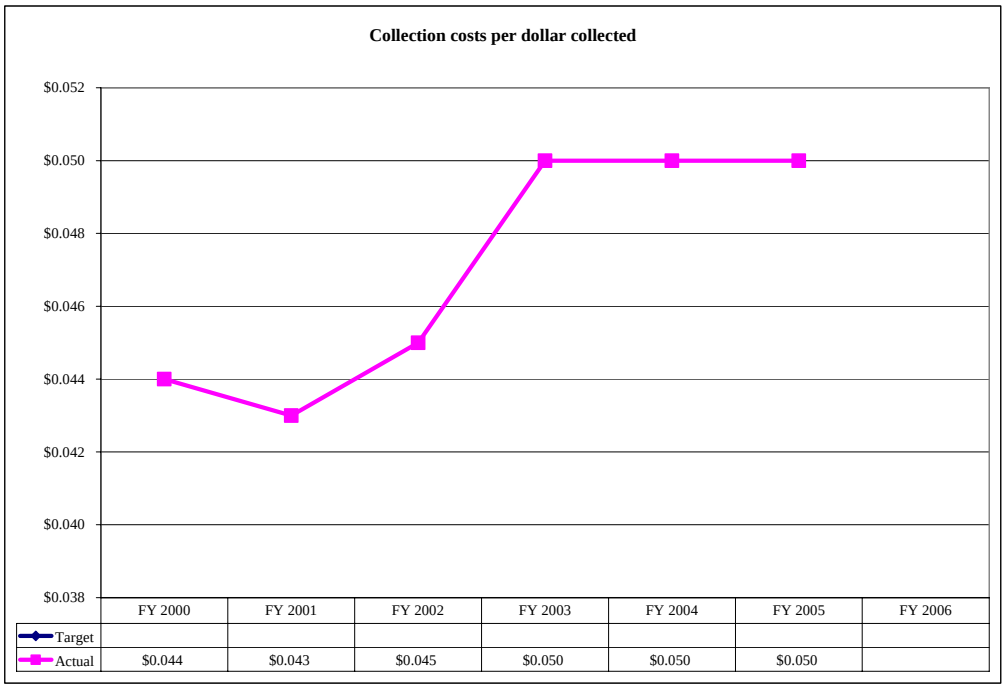
	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Target							
Actual	403	509	622	585	667	856	

Measure: Unlicensed Taxpayers Assessed.

Goal: Have all taxpayers pay their fair share.

Methodology: This number represents discovery and audit of unlicensed sales tax and corporate franchise tax liabilities.

Measure Type: Outcome.



Measure: Collection cost per dollar collected.

Goal: Keep collection costs low.

Methodology: This graph shows that the cost of collections has stabilized at $0.005 per dollar. This is an "FYI" measure. Too much emphasis on the measure might result in the division avoiding difficult to collect cases.

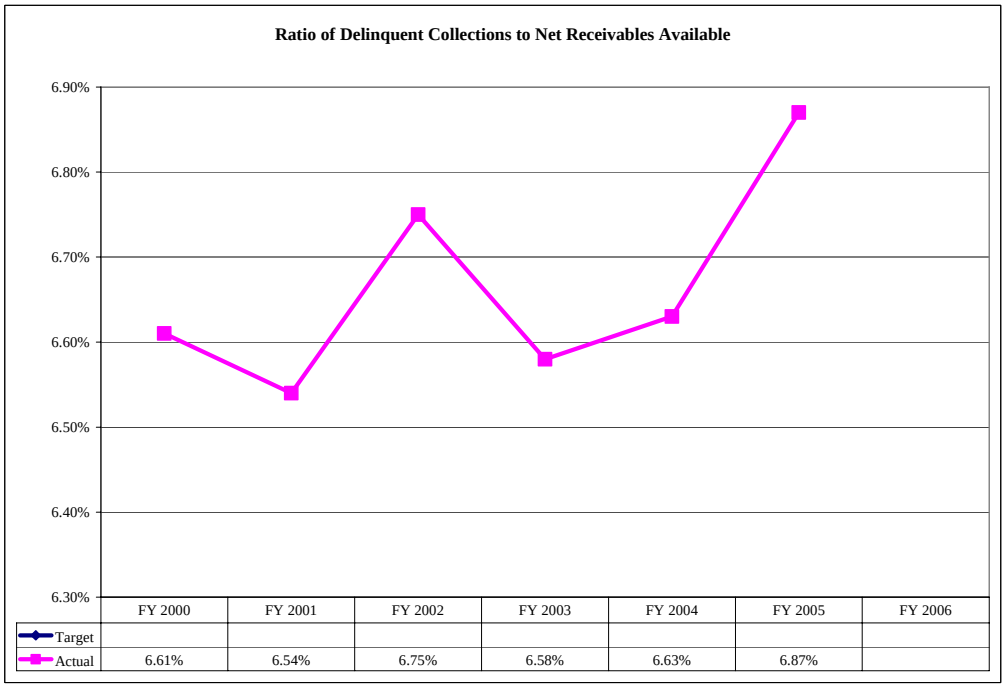
Measure Type: Output

Measure: Prior Year Delinquent Collections.

Goal: Taxpayers pay their fair (legal) share. Goals should be set for reducing the number of accounts that go from 30 to 60 to 90 days past due.

Methodology: Count prior year delinquent collections.

Measure Type: Output.



Measure: Ratio of delinquent collections to net receivables available.

Goal: Taxpayers pay their fair (legal) share.

Methodology: Divide prior year delinquent collections by net receivables available.

Measure Type: Output.

APPENDIX C: STATEWIDE DEBT COLLECTION PERFORMANCE MEASURES

The Office of State Debt Collection (OSDC) uses performance measures to gauge the effectiveness of all state agencies' debt collection efforts. The OSDC has set statewide goals for each measure except for the average cost to collect one dollar. Debt collection is more difficult for certain agencies, such as those that collect delinquent taxes, public assistance overpayments, child support, court fines, and other types of fines. For comparison purposes, the Analyst has opted to group the Tax Commission with other agencies whose receivables represent the greatest collection challenges.

Average Cost to Collect One Dollar

	FY 2004	FY 2005
Juvenile Courts	$0.05	$0.32
Office of State Debt Collection	$0.06	$0.09
Tax Commission	$0.05	$0.09
Human Services - ORS	$0.64	$0.65
Department of Corrections	$0.02	$0.01

Statewide Goal: Not Set

ORS includes only delinquent debt collected; if we also include current debt collected, cost per dollar drops to about $0.24. ORS collections costs include all costs to operate the division.

Average Collections as a Percent of Billings (Agencies with Current Receivables Greater than $1M)

	FY 2004	FY 2005
District Courts	59.6%	30.3%
Tax Commission	140.6%	108.0%
Human Services - ORS	42.1%	41.4%
Department of Corrections	53.6%	52.1%

Statewide Goal: 90%

OSDC is excluded from this report since all OSDC receivables are old (not current).

Average Number of Days to Collection

	FY 2004	FY 2005
Juvenile Courts	393.0	2,727.0
Office of State Debt Collection	3,569.9	3,939.8
Tax Commission	447.7	396.9
Human Services - ORS	2,089.1	1,995.8
Department of Corrections	3,163.5	2,083.6

Statewide Goal: 90 Days

Collectible Receivables as a Percent of Gross Receivables		
	FY 2004	**FY 2005**
Juvenile Courts	75.0%	75.0%
Office of State Debt Collection	10.0%	6.2%
Tax Commission	29.8%	30.4%
Human Services - ORS	63.3%	63.1%
Department of Corrections	76.6%	76.9%
Statewide Goal: 95%		
Collectible Receivables equal gross receivables minus allowance for doutbful accounts (per GASB 34).		

Receivables Over 90 Days Past-Due as a Percent of All Past-Due Receivables		
	FY 2004	**FY 2005**
Juvenile Courts	83.4%	84.0%
Office of State Debt Collection	99.2%	99.2%
Tax Commission	85.3%	51.1%
Human Services - ORS	46.7%	47.4%
Department of Corrections	95.2%	95.0%
Statewide Goal: 20% (Lower is Better)		

Write-Offs as a Percent of Past-Due Receivables		
	FY 2004	**FY 2005**
Juvenile Courts	0.00%	0.00%
Office of State Debt Collection	9.86%	17.91%
Tax Commission	0.47%	0.74%
Human Services - ORS	0.00%	0.00%
Department of Corrections	0.00%	0.00%
Statewide Goal: 2% (Lower is Better)		
Write-offs equal debt that is considered uncollectible.		

APPENDIX D: PERFORMANCE MEASURES FROM OTHER STATES

The following measures are taken from a compilation of measures from eight states: Alaska, Arkansas, Florida, Louisiana, New Mexico, Oregon, Texas, and Virginia. These states were selected because they are serious about measures and have been doing it long enough that we can benefit from their experience.

ADMINISTRATION & GENERAL

% of taxes collected.

Administrative costs as a percent of total agency costs.

Administrative FTE as a percent of total agency FTE.

% of taxpayer correspondence answered within 30 days.

# of tax protest cases resolved.

DUI drivers' license revocations recinded due to failure to hold hearing within 90 days.

Taxpayer assistance contacts per employee.

Employee work environment satisfaction.

% employees receiving 20 or more hours training per year.

Abandon rate for telephone calls.

PROPERTY TAX

% refund and tax certificate applications processed within 30 days.

Refund requests per 100,000 parcels.

refund and tax certificate applications processed

% classes studied found to have a level of at least 90 %.

Tax roll uniformity – average for coefficient of dispersion.

# of subclasses of property studies with feedback to property appraisers.

Accuracy of initial revenue distributions to local governments.

fund distributions

property appraisals.

assessors filing tax rolls electronically.

assessors filing change orders electronically.

% resolved accounts resulting from delinquent property tax sales.

counties achieving 85% minimum ration of assessed value to sales price.

appraisals or valuations for corporations conducting business in-state.

% property taxes collected.

Assessor satisfaction of service.

% assessor's maps digitized.

ALCOHOL & TOBACCO

Alcohol non-compliance rate.

Tobacco non-compliance rate.

compliance checks.

inspections.

RETURN PROCESSING

Collections per dollar spent.

Voluntary collections as a percent of total dollars collected.

% sales tax returns filed substantially error free and timely.

accounts.

Average days between processing a sales tax return and first notification of an error.

% delinquent sales tax return and filing error or late return notices issued accurately.

tax returns processed.

%,# returns files electronically.

days to issue refund.

days to issue refund for a paper return.

days to issue refund for an electronically filed return.

Average tax return processing time.

% taxpayer claims, applications, and requests processed within 30 days.

% total business tax revenue collected electronically.

% total individual tax revenue collected electronically

% total revenue deposited within 24 hours.

electronically-filed tax returns processed through the oil and gas administration and revenue database, by data lines.

% individual income tax electronic filing.

% business returns electronically filed.

ADDENDUM: NET BENEFITS OF ADDITIONAL AUDITORS AND COLLECTORS

In their report entitled "Revenue Impact of Additional Auditors and Collectors", staff of the offices of the Legislative Fiscal Analyst and Legislative Auditor General recommended cost/benefit analysis as a useful tool in evaluating the addition of auditors and collectors at the Utah State Tax Commission. Since the report's publication in July, 2006, staff has had an opportunity to perform such analyses. Results are included in this addendum. In short, staff concluded that, all other things being equal, new auditors may produce a net benefit of between $120,000 and $2.3 million per auditor, and that new collectors may return a net benefit of around $510,000 per collector.

Net benefits cannot be assured, but, all other things being equal, can serve as a valid measure of return on additional staff

As stated in the original report, legislative staff cannot prove that investment in additional auditing and collection staff will result in the returns detailed below. Factors such as economic cycles, ability to pay, and actual audit results may influence assessments and collections to a greater degree than does the number of auditors and collectors.

For example, in fiscal year 2004, the Tax Commission hired four new auditors to fill vacant positions. The assessments booked by those four individuals in the second quarter of FY 2004 ranged from more than $500,000 in new revenue (owed to the state) to less than a negative $17,000 in revenue (owed to the taxpayer). Of two new auditors working on the same tax type – income tax – one assessed $214,900 and the other assessed $541,300.

Any cost/benefit analysis is only good for a snap-shot in time. Changes in independent variables, costs, and returns to scale will change the results of the analysis shown below. If the Legislature decides to provide funding for additional auditors and collection agents, staff recommends that another cost benefit analysis be completed after the first year.

While the numbers below are not assured, if one assumes that all other factors remain the same, they can be used as a valid measure of net benefit from additional auditors and collector.

NET BENEFIT FROM ADDITIONAL AUDITORS

In an attempt to ascertain potential benefits associated with additional auditors, the Office of the Legislative Fiscal Analyst (LFA) looked at five years of audit assessments between 2002 and 2006. As assessment amounts vary significantly by tax type, the office analyzed each tax type separately.

LFA took the five-year average of assessments for each tax type and discounted them for two phenomena:

Authors adjusted average assessments for auditor learning curve and for taxpayer delinquency

- Education and training of new auditors; and
- Delinquency on collection of assessments.

According to the Utah State Tax Commission, new auditors assess between 70% and 85% of the amount assessed by seasoned auditors. Tax also reports that about 98% of assessments are collected. These figures correspond roughly to those in a 2004 report done by the Michigan Auditor General.

According to the report, new auditors in Michigan are expected to return about 68% of what an average auditor assesses.

LFA considered a third discount factor for diminishing marginal returns. As Tax prioritizes its audits based partially on potential revenue, one could expect that as Tax moves down its prioritization list, the return on each additional audit will decrease. According to the Tax Commission, due to its current level of audit penetration and growth in the number of returns, diminishing marginal returns is not currently a significant factor. As such, LFA did not correct for diminishing returns in its analysis of additional auditors.

After adjusting average audit assessments by tax type for the above factors, LFA compared the average return to the cost of new auditors. This cost includes salary, benefits, supervisory staff, equipment, and current expenses. The cost does not include assumed sunk costs like facilities, furniture, and utilities.

Assuming all other things are equal, additional auditors could return between $120,000 and $2.3 million per year

The results of LFA's cost/benefit analysis are shown in the table below. Assuming all other variables remain constant, investment in an additional auditor could result in net positive benefit of between $120,000 and $2.3 million depending upon auditor productivity, tax payer delinquency, and tax type.

Net Benefit for Additional Auditors

	Low	High
Sales Tax	$119,900	$155,800
Income Tax	$779,000	$955,800
Corporate Tax	$1,924,000	$2,346,500

NET BENEFIT FROM ADDITIONAL COLLECTORS

The Office of the Legislator Auditor General investigated net benefit derived from additional collectors. LAG focused on adding collectors in the Tax Commission's call center, as opposed to collection districts, because that is where the Tax Commission has said it would probably put additional staff.[1]

The Auditor based its conclusions on evidence that of the 44,400 cases that are unassigned, there are about 8,100 cases the Tax Commission considers higher priority, many of which have not yet been worked at all by collection agents. Those cases would provide enough work for five additional call center collection agents during the first year. The remaining 36,300 cases are more difficult cases that have already been worked, many of which have been through outside collection agencies already and are back in the Tax Commission inventory or are smaller dollar cases of less than $500. Of the 36,300 cases, 26,200 have balances less than $500.

LAG applied two discount factors to the three-year average annual call-center collections of $955,000 per collector:

[1] Although most of this analysis is based on actual data, we acknowledge some limitations to this study because some data was not available and estimates were used instead.

- diminishing marginal returns
- education and training

Assuming all other things are equal, additional collectors could result in $510,000 in net benefits per collector

First, some of the 8,100 cases had smaller debts than the typical call center case and thus the expected amount of collections was discounted for that difference. Then for education and training, the analysis found that new collectors during their first year clear 13% fewer cases than existing collectors. After correcting for these two phenomena, LAG estimates that up to five additional collectors could generate additional revenue of about $560,000 per collector the first year.

Assuming average annual costs per collection agent of about $50,000, assuming that new collectors are placed in the call center and additional effort is placed on higher-priority cases, and assuming that all other independent variables remain constant, LAG concludes that the net benefit for additional collectors of delinquent tax is about $510,000 per collector.

CONCLUSIONS

Legislative staff cannot prove nor disprove whether additional auditors and collectors will produce revenue above and beyond amounts included in revenue estimates. Further, the results of any cost/benefit analysis are limited by available data at any given point in time and should be revisited as data underlying the analysis changes. However, if one assumes that all variables other than the number of auditors and collectors remain constant, the addition of auditors may produce between $120,000 and $2.3 million in net benefits per auditor, and the addition of collectors could produce as much as $510,000 per collector.