



Legislative Council Staff

Nonpartisan Services for Colorado's Legislature

Memorandum

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TO: Interested Persons

FROM: Economics Staff, 303-866-3446

SUBJECT: Evaluating Tax Expenditure Legislation

Summary

This memorandum provides information intended to aid in evaluating legislation that would create a new or alter an existing tax expenditure. State law¹ defines a tax expenditure as a “tax provision that provides a gross or taxable income definition, exemption, credit, or rate for certain persons, types of income, transactions, or property that results in reduced tax revenue.” Put simply, tax expenditures reduce the tax liability of qualifying taxpayers. In doing so, tax expenditures reduce the amount of revenue state and local governments collect.

Contents

Checklist for Evaluating Legislation	1
History of Expenditure Evaluation	10
Estimates of Revenue Impacts	11

This memorandum begins with a checklist of items to consider when evaluating tax expenditure legislation. This is followed by a recent legislative history of tax expenditure evaluation in Colorado, including a description of the biennial Tax Profile and Expenditure Report published by the Department of Revenue and requirements for the Office of the State Auditor to evaluate and report on Colorado state tax expenditures. Finally, the memo discusses the methodology used by Legislative Council Staff to estimate the revenue impact of tax expenditure legislation and issues related to estimating revenue impacts.

Checklist for Evaluating Tax Expenditure Legislation

The following provides a list of items to consider when evaluating legislation that creates or alters a tax expenditure. Tradeoffs will exist among the considerations listed. Although most of the examples in this memorandum pertain to income, sales, and use tax expenditures, most considerations are also applicable to other types of tax expenditures, such as property, severance, excise, or insurance premium tax expenditures.

¹Section 39-21-302 (2), C.R.S.

Tax Expenditure Structure

- **Target population.** Which taxpayers qualify for the tax expenditure? Which taxpayers do not qualify?
- **Distribution of the tax burden.** How will the tax expenditure affect the distribution of the tax burden among taxpayers?

Will certain individuals or businesses benefit more or less from the tax expenditure? Will wealthier taxpayers benefit more than poorer taxpayers (regressive tax structure), or will poorer taxpayers benefit more than wealthier taxpayers (progressive tax structure)?

- **Expenditure type.** What type of tax expenditure is being created? Table 1 provides a description of common tax expenditures available for state income, sales, and use taxes and the timing of when these expenditures may be claimed. Similar types of expenditures exist for other taxes, such as excise, severance, or insurance premium taxes.

Tax Structure Definitions

A **proportional** tax structure requires all taxpayers to pay the same amount as a percentage of their income.

A **progressive** tax structure requires wealthier taxpayers to pay a larger percentage of their income than poorer taxpayers.

A **regressive** tax structure requires poorer taxpayers to pay a larger percentage of their income than wealthier taxpayers.

**Table 1
Common State Tax Expenditure Types**

Tax Base	Tax Expenditure	Description
Income Taxes	Deduction/ Subtraction	A deduction is subtracted from taxable income. Deductions reduce the amount of taxes owed by the amount deducted times the applicable tax rate, currently 4.63 percent for all income tax payers. Deductions are generally claimed on a taxpayer's annual income tax return.
	Credit	A tax credit reduces the amount of tax owed on a dollar-for-dollar basis. Credits may reduce or eliminate a taxpayer's income tax liability. Credits are generally claimed on a taxpayer's annual income tax return. A nonrefundable tax credit is limited to the taxpayer's income tax liability, whereas a refundable tax credit is not. If a tax credit exceeds the amount of income tax otherwise owed, a refundable credit will result in an income tax refund for the taxpayer. If the credit is transferable , the taxpayer can sell the credit to a taxpayer who has a sufficient tax liability to claim the credit. Generally, credits that are not refundable or transferable can be carried forward for a specific number of years.
	Exemption	Exemptions are sources of income that are not included in the calculation of taxable income.
Sales and Use Tax	Exemption	Exemptions exclude certain products or services from sales and use taxes, typically at the point of sale.
	Refund	Taxpayers may apply for a refund for sales taxes paid on products or services if the product or service is used for a specific purpose.
	Holiday	Sales tax holidays exempt sales from taxation on certain days (Colorado does not currently have any sales tax holidays).

- **Incentives.** What behaviors are incentivized and/or disincentivized by the tax expenditure?

Tax expenditures may reward certain taxpayer behaviors and discourage other behaviors. For example, allowing taxpayers to subtract charitable contributions from taxable income may encourage additional charitable contributions. Smaller incentives generally influence behavior the least, while larger incentives change behavior the most. The following considerations may affect the size of the incentive and its influence on taxpayer behavior:

- How much is the tax expenditure worth to a taxpayer relative to the cost of the behavior it promotes?
- How much time must the taxpayer wait to reap a monetary benefit?
- Is the tax expenditure duplicative of other federal, state, or local tax expenditures or government programs? For example, federal income tax deductions generally extend to the state level in Colorado because Colorado income tax is based on federal taxable income.

Budget Considerations

- **Revenue streams.** What source of funding does the tax expenditure affect? What will be the impact of a revenue reduction (or increase) on the state budget situation and the budgets for specific programs?

Income, sales, use, and tobacco and liquor excise tax expenditures reduce revenue to the General Fund, which is used for discretionary operational spending. Income tax deductions and exemptions (but not income tax credits) may also reduce revenue to the State Education Fund, which receives one-third of one percent of Colorado taxable income each year.

Expenditures affecting other taxes may affect revenue to cash funds, which are dedicated to specific programs. Severance tax expenditures reduce revenue that is distributed to local governments that are impacted by natural resource development activity and used to fund discretionary grants around the state.² Expenditures affecting gasoline and diesel fuel taxes reduce revenue to the State Highway Fund, the principal source of funding for the Department of Transportation.³ Marijuana tax expenditures reduce revenue for marijuana-funded programs via the Marijuana Tax Cash Fund, the State Public School Fund, and the Public School Capital Construction Assistance Fund (BEST Fund).⁴

²Section 39-29-108 (2), C.R.S.

³Section 43-4-205, C.R.S.

⁴Sections 39-28.8-203 and 39-28.8-305, C.R.S.

Finally, certain tax expenditures may affect revenue to local governments. These include expenditures reducing disbursements of severance tax and gasoline and diesel fuel excise tax revenue. Sales and use tax exemptions are by default applied to county and statutory municipal governments unless the implementing statute allows these governments to opt in or opt out.⁵ Property tax expenditures directly reduce revenue to counties, municipalities, school districts, and special districts; however, the state's authority to enact property tax expenditures other than for business personal property tax is constitutionally limited.⁶

- **Predictability.** Is there a cap on the aggregate or individual tax expenditure amount? If not, can the revenue impact of the tax expenditure be predicted reliably from year to year?
- **Duration.** Is the tax expenditure permanent, or does it include a repeal date?
- **Triggers.** Is the tax expenditure triggered on or off (e.g., by a forecast indicating revenue growth sufficient to allow some threshold rate of growth in appropriations, or by the presence or absence of a TABOR surplus)?
- **TABOR surplus situation.** Does the state have a TABOR surplus? If so, does the surplus exceed the amount expected to be refunded via reimbursements to local governments for property tax reductions attributable to the senior homestead and disabled veteran property tax exemptions?

Tax expenditures will impact the state budget situation differently depending on whether or not the state is in a TABOR surplus situation, whether the surplus exceeds the amount expected to be refunded via property tax reimbursements, and whether the expenditure affects General Fund or cash fund revenue. Table 2 shows how the TABOR situation affects the budget impacts of a General Fund or cash fund revenue change. These effects are detailed in the following paragraphs.

In general, tax revenue is subject to TABOR regardless of whether it is credited to the General Fund or to cash funds.⁷ However, TABOR refunds currently are paid entirely from the General Fund. For this reason, tax expenditures reducing cash fund revenue have a General Fund budget impact when the TABOR surplus exceeds the amount that can be refunded via property tax exemption reimbursements because they reduce the amount of the General Fund obligation for TABOR refunds. Tax expenditures reducing General Fund revenue correspondingly reduce the TABOR refund requirement, causing no net impact on General Fund revenue available for the budget. These effects are shown in the top row of Table 2. While income and sales tax expenditures have no budget impact in this scenario, it is important to note that permanent tax expenditures of these types will reduce the amount available for the budget in future years when the state does not collect a TABOR surplus.

⁵See Section 29-2-105 (1)(d).

⁶See Colo. Const. art. X, §§ 3 (1)(a) and 20 (8)(b). The senior homestead and disabled veteran property tax exemptions are exceptional because they are created in the constitution (Colo. Const. art. X, § 3.5). Further, because the constitution requires the state to reimburse local governments for any property tax loss attributable to these exemptions, changes to the exemptions affect state expenditures rather than local government revenue.

⁷Taxes exempted by voters as voter-approved revenue changes are not subject to TABOR. These include supplemental cigarette and tobacco taxes adopted under Amendment 35, supplemental gaming taxes adopted under Amendment 50, and retail marijuana excise and special sales taxes adopted under Proposition AA.

If there is no TABOR surplus, tax expenditures affecting General Fund revenue affect the General Fund budget, and tax expenditures affecting cash fund revenue affect the applicable cash fund(s) only. These effects are shown in the bottom row of Table 2.

Since FY 2017-18, state law has required that the TABOR surplus first be refunded via reimbursements to local governments for their property tax loss attributable to the senior homestead and disabled veteran property tax exemptions.⁸ These reimbursements are also made in years when a TABOR surplus is not refunded, in which case they are paid from General Fund revenue rather than the prior year TABOR refund obligation. Effectively, refunding a TABOR surplus via the property tax reimbursement mechanism has no impact on the amount of revenue available for other General Fund purposes over a two-year period. When a surplus is refunded via this mechanism only – i.e., when the TABOR refund obligation is less than or equal to about \$150 million – the budgetary effects of tax expenditures are similar to those that arise when the state does not collect a TABOR surplus. These effects are shown in the bottom row of Table 2.

**Table 2
General Fund and TABOR Impacts Resulting from Revenue Changes***

TABOR Situation in Any Given Fiscal Year ¹	Cash Funds Revenue ²		General Fund Revenue ³	
	\$1 Decrease	\$1 Increase	\$1 Decrease	\$1 Increase
TABOR Surplus Exceeds Property Tax Reimbursements	\$1 decrease in the TABOR refund; \$1 increase in available General Fund revenue.	\$1 increase in the TABOR refund; \$1 decrease in available General Fund revenue.	\$1 decrease in the TABOR refund; <i>No net General Fund impact.</i>	\$1 increase in the TABOR refund; <i>No net General Fund impact.</i>
No TABOR Surplus, or Surplus Below Reimbursement Amount	<i>No net General Fund or TABOR refund impact.</i>		<i>No TABOR refund impact.</i> \$1 decrease in available General Fund revenue.	\$1 increase in available General Fund revenue.

*This analysis assumes that the TABOR surplus is refunded using General Fund moneys.

¹Permanent revenue changes will occur when the state collects a surplus and when it does not.

²Cash fund revenue may be increased or reduced by severance tax, fuel tax, or marijuana tax expenditure changes, or by other tax or fee changes that impact revenue to cash funds.

³General Fund revenue may be increased or decreased by sales, use, and income tax expenditure changes, or by other tax or fee changes that impact General Fund revenue.

Other TABOR Considerations

- **Voter approval requirements.** Does a change in the tax expenditure directly cause a net tax revenue gain to the state or any local government?

⁸Section 39-3-209 (2), C.R.S.

The TABOR Amendment requires voter approval for “any new tax, tax rate increase[...] or a tax policy change directly causing a net tax revenue gain to any district.”⁹ The Colorado Supreme Court has issued two important rulings concerning the circumstances when a change to an existing tax expenditure requires voter approval.¹⁰ For legal advice concerning whether modification to a tax expenditure requires voter approval, legislators should contact the Office of Legislative Legal Services.

- **TABOR refund mechanisms.** Is the tax expenditure a mechanism to refund a TABOR surplus?

Any TABOR surplus is set aside in the budget during the fiscal year when it is collected and refunded during the following fiscal year. Currently, there are three TABOR refund mechanisms: the property tax exemption reimbursement mechanism, the six-tier sales tax refund, and the temporary income tax rate reduction. Each of these is a tax expenditure. Historically, income and sales tax exemptions have been used to refund the TABOR surplus. For a comprehensive history, see [this memorandum](#).¹¹

Administration

- **Workload and expenditure impacts.** How many departments are involved in administering the tax expenditure? Are personnel and/or are appropriations required to administer the tax expenditure?
- **Infrastructure.** Does the administering department have a process in place to administer the tax expenditure, or will a new process be required?

For example, the Department of Revenue already has a system in place to create a sales tax exemption, but not one to charge a different tax rate for a specific product. County property tax assessors already have a system to determine property values, but not one to determine the annual income of property owners.

⁹Colo. Const. art. X, § 20 (4)(a). This is not an exhaustive list of TABOR’s voter approval requirements.

¹⁰*Mesa County Board of County Commissioners. v. State*, No. 08SA216 (2009), and *TABOR Foundation v. Regional Transportation District*, No. 16SC639 (2018).

¹¹http://leg.colorado.gov/sites/default/files/history_of_tabor_refund_mechanisms.pdf

Sales and Use Tax Expenditure Administration Considerations

- **Sales tax base.** Does the expenditure complicate the sales tax base?

Under the Colorado Constitution, the state cannot require home rule municipalities to apply state sales and use tax exemptions. For this reason, enacting a state sales or use tax exemption may cause the exempted good or service to be untaxed in some jurisdictions and taxed in others, thereby complicating compliance for retailers.

- **Optional tax expenditures.** Is compliance with the tax expenditure optional for the retailer (e.g., based on the retailer's size)?

- **Ease for retailers.** For a sales tax exemption, is the exempted product easily identifiable to retailers?

If a retailer is not able to easily identify an exempt product, the retailer will charge the tax and require the customer to apply for a refund from the Department of Revenue, driving additional administrative costs for the department and the taxpayer. For example, a product that is exempt only when it is used for a specific purpose is not easily identifiable by the retailer.

- **Review and auditing.** Is there a review process or third party certification process to verify taxpayer eligibility for the tax expenditure?

Refundable and transferable income tax credits have been found to be more susceptible to fraud and therefore require greater scrutiny. Conversely, an income tax expenditure that is based on a federal tax expenditure may require less state compliance resources because these expenditures are already audited by the Internal Revenue Service.

- **Data reporting.** Does the legislature expect to know how many people are using the expenditure and how much revenue is lost?

The state's tax administration software (GenTax) has data reporting constraints. Modifying the system to allow for generating reports of tax expenditure-related data may require significant software changes, potentially at a significant one-time cost.

- **Data security.** Does administration of the tax expenditure require identifying taxpayer information to be shared with an agency other than the Department of Revenue?

Confirmation of taxpayer eligibility usually requires any agency tasked with administering or certifying a tax expenditure to share taxpayer information with the Department of Revenue. This may require a taxpayer to share a social security number or taxpayer identification number with the administering agency.

- **Effective dates.** Is there enough time to implement the tax expenditure prior to its effective date?

- Income tax deductions and exemptions cannot be enacted during the tax year for which they apply, because TABOR prohibits the state from changing the definition of taxable income during the tax year.¹²
- Income tax credits can be enacted during the tax year for which they apply; however the Department of Revenue requires sufficient lead time to update software systems before tax return forms are printed in the fall.
- Sales and use tax exemptions require 45 days prior to their effective date to be administered effectively. Effective dates of July 1 and January 1 provide the greatest ease of administration; alternative effective dates increase the administrative costs of providing sales tax refunds.

Taxpayer Considerations

- **Awareness.** How easy is it for the taxpayer to learn about the tax expenditure?
- **Ease.** How easy is it for the taxpayer to understand, claim, and comply with the requirements of the tax expenditure? Will compliance be costly for the taxpayer? With how many agencies must the taxpayer communicate to receive the tax expenditure? Is the process to claim the tax credit cumbersome? Must the taxpayer anticipate future complications because their claim will be reviewed or audited?
- **Certainty.** For purposes of tax planning, does the taxpayer have sufficient certainty that the tax expenditure will be available in the current and future tax years?
- **Tax structure interactions.** Are there local, federal, or other state tax expenditures that are either complementary to, or a substitute for, the tax expenditure?

Local Government Impacts

- **Revenue.** Which local governments, if any, are required to allow the tax expenditure? Is the impact of the tax expenditure consistent across different regions of the state?

Statutory municipalities, counties, and special districts statutorily have the same sales and use tax base as the state. Some home rule municipalities have also adopted the state tax base. By default, state sales and use tax exemptions will reduce revenue to these governments unless legislation allows governments to opt in or opt out. Making these exemptions optional for local governments may complicate compliance for retailers.

- **School finance impacts.** Will the tax expenditure impact the state or local share of K-12 funding?

¹²Colo. Const. art. X, § 20 (8)(a).

Property taxes are the primary source of local government K-12 school funding. Property tax expenditures, including those affecting the specific ownership tax, will reduce local government revenue and may increase school finance costs for the state as a result.

- **Administration.** Do local governments have a process in place to administer the tax expenditure? Does the tax expenditure require local government administrative costs? Does local government administration duplicate state administration?
- **Reimbursements.** Are local governments reimbursed for administrative costs or revenue reductions resulting from tax expenditures?

Tax Expenditure Evaluation

- **Purpose.** State law requires that the bill that creates the tax expenditure include a legislative declaration stating its intended purpose.¹³
- **Measurement.** Can the revenue impact and number of taxpayers claiming the tax expenditure be measured with ease? Can behavioral outcomes resulting from the tax expenditure be measured and clearly separated from behavior that would have occurred regardless of the tax expenditure? Does the administering agency have a process and adequate resources for collecting data regarding the tax expenditure?
- **Confidentiality.** Does (and should) the state and taxpayers have the ability to identify who benefits from the tax expenditure?

Taxpayer confidentiality is generally protected under federal and state law, though exceptions exist. For example, taxpayers are required to consent to the release of their taxpayer information to receive some state tax credits, such as the advanced industry investment tax credit.¹⁴

Legal Considerations

- **Office of Legislative Legal Services.** Changes to tax policy may result in legal considerations that are not addressed in this memorandum. Legal inquiries may be directed to the Office of Legislative Legal Services.

¹³Section 39-21-304, C.R.S.

¹⁴Section 24-48.5-112 (2)(d), C.R.S.

Legislative History of Tax Expenditure Evaluation

Tax Profile and Expenditure Report. Under Senate Bill 11-184, the Department of Revenue is required to produce a biennial Tax Profile and Expenditure Report (report) by January 1, 2013, and by January 1 of each odd-numbered year thereafter.¹⁵ Reports are available [online](#).¹⁶ Reports are produced by staff in the department's Office of Research and Analysis and include two parts: a tax profile study and a tax expenditure study.

The tax profile study includes information on state and local tax collections, the distribution of state and local taxes among households of different incomes, and other statistics that broadly capture the effects of state and local tax policy on taxpayers. The tax profile study was first conducted in 1973 and predates publication of the report.

The tax expenditure study estimates the amount of reduced state revenue for many state tax expenditures. The study includes expenditures related to sales and use, income, severance, fuel excise, cigarette and tobacco, and alcohol taxes. Revenue impact estimates are provided where possible given data availability and taxpayer confidentiality constraints.

Auditor's evaluation of tax expenditures. Under Senate Bill 16-203, the Office of the State Auditor (OSA) is required to conduct evaluations of all state tax expenditures.¹⁷ Evaluations must include discussions of:

- the expenditure's purposes and intended beneficiaries;
- whether the expenditure is accomplishing its goal;
- economic costs and benefits of the expenditure;
- similar expenditures in other states;
- other government, nonprofit, or business programs accomplishing the goals of the expenditure;
- recommendations for changes in administration or law to facilitate data collection;
- performance measures used to determine the extent to which the tax expenditure is accomplishing its goal; and
- whether the tax expenditure is a cost-effective use of resources, its effect on competition and business, opportunities to improve effectiveness, and the effect of state tax policies connected to local jurisdictions on the expenditure's goal, to the extent to which each of these features can be determined.

Every tax expenditure must be evaluated at least once every five years beginning in September 2018. The schedule for evaluations is available on the [OSA website](#).¹⁸ The Department of Revenue is required to furnish OSA with available data needed to complete its evaluations. The auditor is bound by the same requirements as the department concerning the confidentiality of taxpayer information.

¹⁵Section 39-21-303, C.R.S.

¹⁶<http://www.colorado.gov/pacific/revenue/colorado-tax-profile-and-expenditure-reports>

¹⁷Section 39-21-305, C.R.S.

¹⁸<http://leg.colorado.gov/node/1147261>

Evaluations that have been conducted to date are available at separate web locations for [2018 evaluations](#)¹⁹ and [2019 evaluations](#).²⁰

Tax Expenditure Evaluation Interim Study Committee. During the 2019 legislative session, the Legislative Council approved an interim committee request letter to create the Tax Expenditure Evaluation Interim Study Committee during the 2019 legislative interim. The committee is tasked with reviewing the evaluations and policy recommendations prepared by OSA pursuant to SB 16-203.

Evaluation of tax expenditures in other states. At least 30 states and the District of Columbia have adopted legislation requiring evaluation of state tax expenditures. Many of these are structured similarly to Colorado's SB 16-203.

Evaluations are generally conducted on multi-year schedules by the agencies that administer them, which may include the state auditor, the state chief financial officer, nonpartisan legislative staff, or a specifically authorized board or commission. Some states have established legislative committees responsible for determining whether expenditures should be continued, amended, or repealed. Rhode Island requires the Governor, in his or her annual budget request, to include policy recommendations for each tax expenditure evaluated in the past year. The State of Washington evaluates tax expenditures differently, enacting all tax expenditures with a ten-year sunset review and conducting evaluations in conjunction with the sunset review process.

Legislation concerning the evaluation of state tax expenditures is aggregated at the Pew Charitable Trusts [website](#).²¹

Estimating the Revenue Impact of a Tax Policy Change

Legislative Council Staff (LCS) produces two kinds of revenue estimates:

1. **Forecast revenue estimates.** Baseline estimates of state revenue are published quarterly and assume current law.²² Forecast revenue estimates reflect current expectations for Colorado and U.S. economic performance.
2. **Revenue impact estimates.** Estimates of the direct change in revenue resulting from legislation and ballot measures are published in fiscal notes.²³ This impact is estimated as the difference between revenue collections expected under current law and expected collections should the bill or ballot measure become law. Expectations under current law assume the most recent forecast for baseline revenue.

Revenue impact estimate methodology. LCS fiscal notes include static revenue estimates that quantify the change in revenue to the state directly resulting from the change in law. Many tax

¹⁹<http://leg.colorado.gov/node/1610401>

²⁰<http://leg.colorado.gov/node/1147266>

²¹<https://www.pewtrusts.org/en/research-and-analysis/articles/2017/05/03/state-tax-incentive-evaluation-ratings>

²²<http://leg.colorado.gov/agencies/legislative-council-staff/forecasts-calendar-year>

²³<http://leg.colorado.gov/agencies/legislative-council-staff/fiscal-notes>. LCS also publishes fiscal impact statements on citizen-initiated measures before the State Title Board and for ballot measures at coloradobluebook.com.

expenditures, however, are intended to incentivize changes in taxpayer behavior. For legislation that creates a strong incentive and where data are available to estimate the resulting change in behavior, the static estimate may be expanded to include the direct revenue impact of the estimated behavioral change. Staff does not currently have the resources to quantify the full dynamic impacts of a given policy change. When appropriate, indirect revenue impacts may be addressed qualitatively.

The methodology for estimating the direct revenue impact of a tax expenditure will differ depending on the structure of the tax expenditure and availability of data. In general, the methodology requires:

1. **Identifying available data.** When appropriate, staff will use data produced in the baseline quarterly revenue forecast. Staff will also gather data from primary sources such as the Colorado Department of Revenue, the Colorado Office of Economic Development and International Trade, the Internal Revenue Service, the Division of Property Taxation, or other agencies charged with administering tax expenditures. Primary data are not available for all existing tax expenditures. For example, the Department of Revenue is able to provide data to the extent data are captured on a tax form and do not violate state and federal confidentiality laws. When primary data are not available, staff will also conduct market research using publicly-available economic data or by contacting representatives of the applicable industry.
2. **Identifying taxpayer populations and/or the base of economic activity to which the tax expenditure applies.** Where appropriate, staff will estimate the number of taxpayers eligible to receive the tax expenditure and the estimated taxpayer impact (average impact per taxpayer or aggregate impact) of the tax expenditure. In some cases, staff will instead estimate the aggregate dollar value of economic activity eligible for the expenditure. For example, sales and use tax exemptions require determining the total value of sales of the exempted good.
3. **Adjusting for the tax structure.** The state and federal tax structure and the structure of the tax expenditure are applied to the estimated eligible activity to determine the maximum potential revenue impact. For example, the 2.9 percent state sales and use tax rate, adjusted by the sales tax vendor fee, will be applied to the estimated total value of sales of an exempted good to determine the revenue impact of exempting the good.

Adjustments may be required to account for the ability of taxpayers to take advantage of the tax expenditure. For example, some taxpayers may not have enough income tax liability to claim the full amount of an income tax credit. Adjustments may also be required for the interactions between taxes. For example, changes in the property tax will affect taxable income subject to the income tax, since property taxes are deductible at the federal level. This step may also include determining whether the tax expenditure is duplicative of other existing state or federal tax expenditures.

4. **Adjusting for accrual accounting.** Section 24-75-201 (2), C.R.S., requires the state to budget on an accrual accounting basis, consistent with governmental accounting standards. Accrual accounting attributes revenue to the fiscal year during which the activity that generated the revenue occurs, rather than when the revenue was actually collected. For example, income tax expenditures are assumed to affect revenue collected or refunded along with the filing of annual income tax returns

in April following the relevant tax year. The estimated revenue impact for a particular income tax year, therefore, is distributed between the two fiscal years containing that tax year.

Dynamic impacts of tax expenditures. Tax expenditure legislation may require certain behaviors from taxpayers in order to receive the tax expenditure. The tax expenditure will also shift spending patterns, causing the state government to have less revenue to spend and causing taxpayers claiming the tax expenditure to have more money to spend or save. A dynamic revenue impact estimate expands the static impact by attempting to measure the following:

What is “Dynamic Modeling”?

Dynamic modeling, or dynamic revenue analysis, considers both direct and indirect impacts of policy changes, including behavioral effects and feedback effects that ripple through the economy over time. By contrast, static analysis quantifies only the *direct* impact of a policy change (e.g., an X percentage point decrease in the income tax will decrease revenue by \$X, assuming no change in taxpayer behavior).

- the extent of behavioral change directly resulting from the tax expenditure and, where appropriate, the direct revenue impact of the behavioral change;
- plus the overall economic consequences (i.e. changes in taxpayer spending or saving) and the indirect impact on state revenue of additional taxpayer income and/or these behavioral changes;
- less the overall economic consequences and indirect revenue impact of foregone state spending.

As noted above, where it is feasible and appropriate, LCS will include estimates for the first step in the dynamic analysis process into a fiscal note for a tax policy change.

Dynamic analysis considerations and limitations. Several states have used “dynamic models” in efforts to quantify the indirect and dynamic impacts of policy changes.²⁴ Analysts in these states have found several limitations to dynamic modeling, causing some states to discontinue their use. States currently using dynamic models generally do so sparingly to compare or evaluate major tax policy changes, such as a sales tax or income tax rate change. Most states do not use dynamic modeling for fiscal note purposes due to the time demands and costs required to produce dynamic revenue estimates. The following provides a list of considerations for and limitations of the use of dynamic modeling.

1. **Measuring behavioral changes relative to current behavior.** Estimating the extent of behavioral change directly resulting from a tax policy change — that would not have occurred if not for the change — can be difficult. The ability of staff to do so depends on the availability and suitability of data. In some cases, such as changes in demand for cigarettes following a change in the cigarette excise tax, simple elasticities that are well documented in economic literature can be used. In others, staff may be able to infer estimates using unbiased information about similar tax expenditures in other states. In many cases, data do not exist to quantify current behavioral practices, let alone behavioral changes caused by a policy change.

²⁴For a review, see: Bluestone, Peter and Carolyn Bourdeaux (2015). “Dynamic Revenue Analysis: Experience of the States.” Georgia State University, Center for State and Local Finance, and Fiscal Research Center. Available at: http://cslf.gsu.edu/files/2015/04/Dynamic-Revenue-Analysis_April2015.pdf

2. **Offsetting impacts.** States that have used dynamic models have generally found that tax policy changes result in smaller indirect revenue impacts than expected. Because the state must maintain a balanced budget, the indirect revenue impact of a tax policy change will always occur on the margin, with economic gains from taxpayer savings offset by economic losses resulting from reduced state spending elsewhere. Whether the marginal impact is negative or positive depends on the strength of the behavioral and economic response to each policy. Quantifying this is complicated by the fact that it is impossible to know how the state legislature would have chosen to spend the money in the absence of the tax expenditure.

It is also important to note that tax expenditures intended to incentivize a particular behavior will equally reward those who are induced to engage in that behavior exclusively because of the incentive and those who would have done so regardless of the incentive. While state revenue is reduced for both cohorts, economic gains resulting from behavioral changes are accrued only from those who engage in the behavior exclusively because of the tax policy change.

3. **Timing.** The behavioral changes and attendant ripple effects through the economy can take up to several years to fully materialize. However, the direct revenue impact of a tax policy change must be addressed immediately within the state budget.
4. **Out-of-state leakages.** Money spent by the state is usually directed towards programs and individuals within the state, while the private sector is not constrained by state borders. “Leakage” often occurs, for example, if money saved from a tax expenditure claimed by multi-state, multi-national, or publicly held corporations is then distributed to out-of-state shareholders or reinvested outside of the state.
5. **Costs and complexity.** Dynamic models are expensive and staff lacks confidence that they are either an accurate representation of the economy or capable of presenting fully unbiased outcomes. Dynamic models rely on thousands of assumptions about human behavior and economic linkages, some of which may require normative judgements. In addition, the models rely on a large quantity of data that can be limited, inaccurate, and subject to frequent revisions. Further, the models are generally not detailed enough to address targeted tax policy changes, such as the impact of a new tax expenditure, and do not easily accommodate Colorado’s unique constitutional requirements.

Finally, the complexity of the economy prevents the accuracy of a dynamic revenue estimate from being measured. The outcome of the tax policy change cannot be differentiated from the outcomes of simultaneous changes in social norms, laws, and the business cycle. This prevents relational comparisons between “actual” and estimated dynamic impacts.