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Improving State Revenue Forecasting: Best Practices for a More Trusted and Reliable Revenue Estimate

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Every state estimates how much revenue it will collect in the upcoming fiscal year. A reliable estimate is essential to building a fiscally responsible budget and sets a benchmark for how much funding the state will be able to provide to schools and other public services. Yet some states forecast revenues using faulty processes that leave out key players and lack transparency.

While there is no one right way to forecast revenues, research and experience suggest that states benefit from including both the legislature, the governor, and independent experts in the process from the start, giving the public, media, and advocates access to the deliberations and the data that go into the estimates, and regularly revisiting estimates during the budget session.

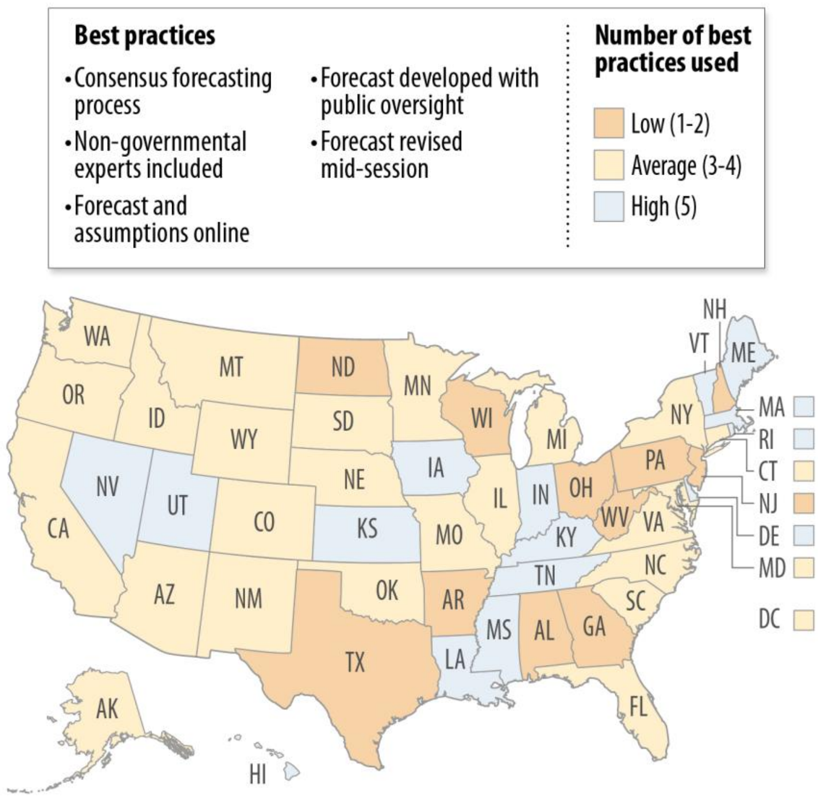
These components together create a strong, reliable revenue estimate. For example, a professional and open revenue estimating process makes revenue forecasts more transparent and accessible to the public and a broader group of legislators, which can lead to a healthier and more democratic debate and greater fiscal discipline.

States wishing to improve their revenue estimating practices have a number of models, since many states have adopted practices that result in a more trusted forecast. In particular, states should implement five common-sense best practices:

- **The governor and legislature should jointly produce the revenue estimate**. More than half the states (28) employ such a "consensus" process. In the other 22 states and the District of Columbia, either the governor and legislature produce competing forecasts (a recipe for gridlock and political infighting) or one branch of government is left out of the official process, which may reduce the revenue estimate's value as a trusted starting point for writing the state budget.

- **The forecasting body should include outside experts.** Including experts from academia or business, along with economic and budgeting experts from within the government, widens the economic knowledge available to the forecasting body and can improve how well a forecast is trusted. While more than two-thirds of the states draw on outside experts, 15 states do not.

Figure 1
Current Use of Five Best Revenue Forecasting Practices



Source: NCSL; CBPP survey of state revenue forecasting process

- **The forecast and its assumptions should be published and made easily accessible on the Internet**. Most states follow this practice, but six do not, leaving their estimates less transparent to the public and others not involved in the forecasting process.

- **Meetings of the forecasting body should be open to the public.** In 20 states and the District of Columbia, forecasting meetings are closed to the public, unnecessarily diminishing the trust with which the forecasts might otherwise be received.

- **Estimates should be revised during the year**. Reviewing earlier estimates to adjust them for changing economic circumstances can improve their accuracy. Eleven states do not regularly review their estimates during the course of the budget session.

Fifteen states employ all five of the best practices identified by our research and can serve as models for the rest of the country. (See the Appendix for how each state performs.) Eleven states employ only one or two of the five best practices. These states, in particular, could benefit from adopting the better revenue estimating practices that many other states use.

Best Practices in State Revenue Forecasting

Every state estimates how much revenue it will collect in the upcoming fiscal year. This estimate sets a benchmark for how much funding the state will be able to provide to schools and other public services.

Much of the state revenue forecasting literature evaluates the relative accuracy of various methods that states use.[1] The overall conclusion of this research is that no one method is consistently more

[1] See, for example, John L. Mikesell and Justin M. Ross, "State Revenue Forecasts and Political Acceptance: The Value of Consensus Forecasting in the Budget Process," Public Administration Review, 2014, and "States' Revenue

accurate than others.[2] But this research has identified other important advantages for states from a professional revenue forecasting process that is transparent and inclusive.

A professional revenue forecasting process is technical in nature, based on the best possible economic forecasts. Expert fiscal staff within government prepare it, ideally with input from academic and private economists. A transparent and inclusive revenue forecasting process is prepared jointly by the executive and legislative branches. In addition, the public and others — including legislators not directly involved in the estimation process — are kept informed through open meetings, and the publication of the forecast and the assumptions behind it.

These components together create a strong, reliable revenue estimate. For example, a professional and open revenue estimating process makes revenue forecasts more transparent and accessible to the public and a broader group of legislators, which can lead to a healthier and more democratic debate and greater fiscal discipline. It can also improve a state's bond rating, because bond rating agencies value a good forecasting process.[3]

While there is no one right way to forecast revenues, research and experience suggest that states benefit from including both the legislature, the governor, and independent experts in the process from the start, giving the public, media, and advocates access to the deliberations and the data that go into the estimates and regularly revisiting estimates during the budget session.

Based on a review of the revenue forecasting process in place in each of the 50 states and the District of Columbia, and a review of relevant academic studies, here are the basic features of a well-designed revenue estimating process.

The Governor and Legislature Jointly Produce the Revenue Estimate

If the governor and legislature each develop their own revenue projection (as happens in a number of states), the process sometimes bogs down in debate over which forecast is more accurate. Similarly, if the governor or legislature produce a revenue projection without the other's input, the projection may be less trusted and more likely to be questioned.

It has become increasingly common for the executive and legislative branches to prepare a "consensus revenue forecast" to eliminate these potential sources of friction. The National Association of State Budget Officers (NASBO) defines a consensus revenue forecast as a "revenue projection developed in agreement through an official forecasting group representing both the executive and legislative branches."[4] The key feature is that both branches of government are involved.

Estimating: Cracks in the Crystal Ball," Pew Center on the States, The Nelson A. Rockefeller Institute of Government, March 2011, http://www.rockinst.org/pdf/government_finance/2011-03-01-States_Revenue_Estimating_Report.pdf.

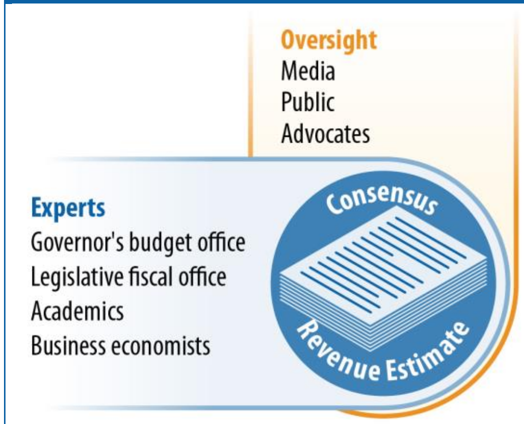
[2] "States' Revenue Estimating: Cracks in the Crystal Ball," Pew Center on the States, The Nelson A. Rockefeller Institute of Government, March 2011, p. 32.

[3] Interviews with representatives of the major bond rating agencies in *Connecticut Budget Process*, Legislative Program Review and Investigations Committee, December, 2003, p. 51.

[4] National Association of State Budget Officers, "Budget Processes in the States," Summer 2008, http://www.nasbo.org/sites/default/files/BP_2008.pdf

Our survey of current practices found that 28 states currently use a consensus process, an increase from the 23 states that used the process in 1997.[5] In these states, the governor and selected legislators or experts from their offices prepare initial estimates of the various taxes and other state revenues. These estimates are used in the governor's and legislature's proposed budgets.

Figure 2
States Benefit From An Open and Inclusive Revenue Forecasting Process



Source: CBPP

After studying different methods of projecting revenues, Indiana University professors John Mikesell and Justin Ross note that a joint process results in reliable and trusted revenue predictions that provide the foundation for fiscal discipline and for the adoption of an executable budget. A consensus-type process creates a sense of ownership, consensus, and acceptance among competing actors who find political power in the budgeting process. They may struggle to come together without that sense of ownership, Mikesell and other researchers suggest, which then could prompt them to ignore the revenue estimate as a constraint on spending.[6] Thus, a consensus process can improve future fiscal balance by avoiding situations where a state adopts a budget that spends more than it can reasonably expect to collect in revenues. It can also avoid situations where a governor or a legislature deliberately underestimates revenues in order to force program cuts.

Researchers have also found that a critical benefit of ensuring that both the executive and legislative branches agree on the official revenue estimate used in the proposed budget limits unnecessary debate on forecast accuracy. This allows policymakers more time to focus on the important tax and spending policy changes in the budget.[7] Because the legislature has already been involved and has signed off on the revenue estimate included in the governor's budget, debate can focus on policy as soon as the governor submits the budget to the legislature.

Including the basic outline of the revenue estimating process (including the requirement that the results of the consensus process become the official estimate) in law makes it much harder for the governor or legislature to ignore the process when it would be politically expedient and eliminates ambiguity over the amount of funds available for the budget. For example, Missouri traditionally uses a consensus revenue estimating process, but in 2014, the legislature and governor were unable to agree so the process — which is not in statute — was ignored and the governor based his budget

[5] National Association of State Budget Officers, "Budget Processes in the States," September 1997.

[6] William Earl Klay and Joseph A. Vonasek, "Consensus Forecasting for Budgeting in Theory and Practice," Chapter 16 in *Government Budget Forecasting: Theory and Practice*, CRC Press, 2008.

[7] John L. Mikesell and Justin M. Ross, "State Revenue Forecasts and Political Acceptance: The Value of Consensus Forecasting in the Budget Process," *Public Administration Review*, 2014, the American Society for Public Administration.

on a revenue estimate that legislators felt was too high. Of the 28 states that use consensus forecasting, 24 are required to do so by law.[8]

New Jersey's recent budget troubles demonstrate the pitfalls of separate revenue estimates. In that state, the executive and legislative fiscal offices each prepare revenue estimates. Most years they are similar, but in 2012 and 2013, the governor's forecasts were significantly higher than those of the Office of Legislative Services. The governor has the authority to determine the official revenue estimate, so the budgets were based on the higher numbers.[9] Many saw this as a political decision that allowed the governor to fund his priorities while rejecting tax increases that the legislature argued were needed to balance the budget each year. The state ultimately failed to raise the revenue the governor had forecast, leading the administration to close the resulting budget gaps with one-time measures such as transferring money from special revenue funds and postponing payments. Reliance on these temporary measures led to large budget shortfalls in subsequent years.[10]

The advantages of an open and inclusive process can be seen in states that already use consensus revenue estimating. For example, in 2009, when Connecticut had a Republican governor and Democratic legislature, it took weeks — which could have been spent debating policy — to agree on a base revenue estimate. The state's adoption of a consensus process later that year streamlined the budget process considerably. Since then, the debates over revenue forecasts have been eliminated.

Requiring agreement on a revenue estimate up front — before the initial budget is prepared — is most efficient. In theory, the negotiations over the appropriate revenue estimate can take place during the budget process rather than at the start. For example, if a governor feels that the revenue estimate has been unrealistically raised or lowered by the legislature, he or she could veto the budget. However, in practice, this can be difficult politically and practically because it would reopen negotiations over the spending decisions made during the months-long legislative deliberations over the budget. Although using a revenue estimating committee can add complexity to the process, building in a requirement that the executive estimate must be used if the committee does not reach an agreement in a set amount of time (or another fallback) increases the incentive for agreement.

New York, for example, defaults to the executive forecast if the revenue estimating committee doesn't reach an agreement. In Connecticut, the rules require the governor's budget office and the legislature's fiscal office to agree on a consensus revenue estimate for the current budget biennium and the succeeding three years by November 10. If they fail to agree, the state comptroller — an independently elected official — must issue an estimate by November 20 that takes into account both the legislature's and governor's estimates. Also, the legislature and governor must agree on

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8 The four states that prepare consensus forecasts but are not required to by law are Indiana, Missouri, North Carolina, and Wyoming.

9 Under New Jersey law, the governor has the sole authority to certify the amount of revenue in the budget. Notwithstanding this, the legislature could have adopted budgets that were based on less revenue than the official estimate and sent these to the governor, who would have had to accept or reject the revised revenue estimate. In practice, this is an unlikely scenario because it would require the legislature to raise revenues or cut spending already included in the governor's proposed budget with no guarantee that governor would accept the lower estimate.

10 Mark Magyar, "Why it's so hard to project next year's tax collections in New Jersey," NJ Spotlight, February 25, 2014, http://www.njspotlight.com/stories/14/02/24/explainer-why-it-s-so-hard-to-project-next-year-s-tax-collections-in-nj/.

updates to the revenue estimate by January 15 and April 30, with the comptroller empowered to release an estimate if they fail to agree.[11]

Another plus to a consensus-based estimate: bond rating agencies pay attention to the states' forecasting methods. The major bond rating agencies (Fitch, Moody's, and Standard & Poor's) report that good forecasting is one of the characteristics of states with high bond ratings.[12] At least one of these agencies, Moody's, specifically identifies consensus revenue forecasting as one of five "Financial Best Practices" of states.[13] A low bond rating can increase a state's borrowing costs.

Florida's long history of consensus building on revenue and spending estimates has brought fiscal stability to the budget process. Jim Zingale, former head of Florida's Department of Revenue, cites the consensus estimating process as one of the reasons that the state has maintained one of the highest bond ratings in the country.[14]

The Forecasting Body Includes Outside Experts

Revenue projections are (or should be) technical in nature, based on the best possible economic forecasts. The amount of revenue a state can expect to collect in future years from the sales taxes, income taxes, and other taxes and fees that make up the majority of state revenues depends significantly on the state's economy. For example, the number of people working affects income tax collections and also their ability to spend which, in turn, raises or lowers collections from sales and excise taxes.

Executive and legislative fiscal staff are experts on the details of state tax law and on how revenue collections respond to changes in the economy, but predicting the future course of the economy is difficult. Bringing in outside economists from academia, the private sector, or both, improves the estimates' accuracy by adding expertise and more points of view to the economic forecasts that are the basis of revenue estimates.

Thirty-five states and the District of Columbia regularly include outside experts in the revenue estimating process.

For example, in Virginia, the revenue estimating process starts in the fall when the Joint Advisory Board of Economists, which includes private-sector economists, agency staff, and legislative staff prepare an economic forecast for the state. This provides a basis for the deliberations of the Governor's Advisory Council on Revenue Estimates, which is chaired by the governor and includes the leadership of the House and Senate, chairs of the House Appropriations, House Finance, and Senate Finance committees, as well as members of the business community. The council prepares a revenue estimate that is released in December as part of the governor's budget.

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[11] "Connecticut General Statutes 2-36c — Consensus revenue estimates," 2009, http://www.lawserver.com/law/state/connecticut/ct-laws/connecticut_statutes_2-36c.

[12] Jeffrey M. Tebbs, "Breaking the Stalemate: A Proposal for a Consensus Revenue Forecasting Process," Connecticut Voices for Children, March 2009, http://www.ctvoices.org/publications/breaking-stalemate-proposal-consensus-revenue-forecasting-process.

[13] US States Rating Methodology, Moody's Investors Services, April 17, 2013, p. 8.

[14] Pew Center on the States and The Nelson A. Rockefeller Institute of Government, 2011.

Iowa uses a similar process that relies more on technical staff rather than elected officials. The Revenue Estimating Conference (REC) includes the governor's designee, the director of the Legislative Services Agency, and a third member agreed to by the other two. The State Department of Management contracts with the University of Iowa to prepare economic and revenue forecasts, which it presents to the REC. The members discuss the initial forecasts and agree on a final forecast, which becomes the basis for the governor's budget proposal.

The Revenue Estimating Process Is Open to All Interested Parties

In many states, the tentative revenue estimate or estimates, data on economic forecasts, and other relevant information are presented in an open meeting or series of meetings, or public hearings. These meetings are generally scheduled in advance and open to the public. When it is not possible or practical to hold open meetings, some states make the minutes of the meetings, including all materials considered, available to the public. This openness can be a marked contrast to states where the estimate is prepared by staff in back rooms or through negotiations among leadership. An open process gives elected officials outside the inner circle, as well as the public and advocates, a seat at the table. They gain access to the information needed to evaluate budget policies based on the facts before decisions are made.

Revenue estimating meetings are open to the public or minutes of the meetings are published in 30 states.

For example, Florida determines its budget forecasts — including revenue forecasts — through a set of ten revenue and caseload estimating conferences. All of the conference meetings are open to the public. Similarly, in Michigan, the regular January and May revenue estimating conferences, as well as any additional meetings requested by conference members, are open to the public.

Estimates Are Revised During the Budget Session

Every state prepares a revenue estimate — generally in the fall or early winter — to start the budget process. Ideally, this estimate is revisited at least once before the budget is finalized; it may be revised more often if there are significant changes in the state's economy. In such a case, the revenue estimating committee or the staff tasked with preparing an estimate meet again to consider the effect of changes in the economy, tax collections to date, and other factors, and issues a higher or lower estimate if needed. This revised estimate then becomes the basis of the budget. If the proposed budget has not yet been adopted, spending can be adjusted if needed. If, on the other hand, projected revenues change after the budget has been adopted, revising the forecast before the fiscal year ends gives the governor and legislature time to consider options to bring the budget back into balance or allocate new revenues.

Thirty-nine states and the District of Columbia regularly revisit their initial revenue estimates during the year, though the timing varies. For example, Iowa prepares estimates four times a year (in July, October, December, and April), while Michigan prepares an initial estimate in January and reconsiders it once, in May.

Conclusion

There is considerable room for improvement in state revenue estimating procedures. The 22 states and the District of Columbia that do not currently include both the executive and legislative branches could improve fiscal discipline by adopting consensus revenue estimating. States that do not already do so could benefit from including outside economists, making their revenue forecasting more transparent and accessible to the public, and reconsidering their estimates through the year. Such common-sense, practical changes could lead to a healthier, more democratic debate, boost public trust, and may produce better results.

APPENDIX

Table 1

Current Use of Best Revenue Forecasting Practices

State	Forecast Type	Consensus Forecast	Forecasting Body Includes Non-government Experts	Forecast and Assumptions Are Published and Made Easily Available Online	Forecast Developed With Open Meetings or Notes Made Public	Forecasts for Upcoming Year Revisited During Budget Session	Score
Alabama	Separate	—	■	—	—	—	■□□□□
Alaska	Executive	—	■	■	—	■	■■■□□
Arizona	Separate	—	■	■	■	■	■■■■□
Arkansas	Executive	—	—	■	—	—	■□□□□
California	Separate	—	■	■	—	■	■■■□□
Colorado	Separate	—	■	■	—	■	■■■□□
Connecticut	Consensus	■	—	■	■	■	■■■■□
Delaware	Consensus	■	■	■	■	■	■■■■■
District of Columbia	Executive	—	■	■	—	■	■■■□□
Florida	Consensus	■	—	■	■	■	■■■■□
Georgia	Executive	—	■	—	—	—	■□□□□
Hawaii	Consensus	■	■	■	■	■	■■■■■
Idaho	Separate	—	■	■	■	—	■■■□□
Illinois	Separate	—	■	■	—	■	■■■□□
Indiana	Consensus	■	■	■	■	■	■■■■■
Iowa	Consensus	■	■	■	■	■	■■■■■
Kansas	Consensus	■	■	■	■	■	■■■■■
Kentucky	Consensus	■	■	■	■	■	■■■■■
Louisiana	Consensus	■	■	■	■	■	■■■■■
Maine	Consensus	■	■	■	■	■	■■■■■
Maryland	Consensus	■	—	■	■	■	■■■■□
Massachusetts	Consensus	■	■	■	■	■	■■■■■
Michigan	Consensus	■	—	■	■	■	■■■■□
Minnesota	Executive	—	■	■	—	■	■■■□□
Mississippi	Consensus	■	■	■	■	■	■■■■■
Missouri	Consensus	■	■	■	—	—	■■■□□
Montana	Separate	—	■	■	■	—	■■■□□
Nebraska	Consensus	■	■	—	■	■	■■■■□
Nevada	Consensus	■	■	■	■	■	■■■■■
New Hampshire	Separate	—	■	—	—	—	■□□□□
New Jersey	Separate	—	—	■	—	■	■■□□□
New Mexico	Consensus	■	—	■	■	■	■■■■□
New York*	Consensus	■	—	■	■	■	■■■■□
North Carolina	Consensus	■	—	■	—	■	■■■□□

Table 1 (Continued)

Current Use of Best Revenue Forecasting Practices

State	Forecast Type	Consensus Forecast	Forecasting Body Includes Non-government Experts	Forecast and Assumptions Are Published and Made Easily Available Online	Forecast Developed With Open Meetings or Notes Made Public	Forecasts for Upcoming Year Revisited During Budget Session	Score
North Dakota	Executive	—	■	—	—	■	■■□□□
Ohio	Separate	—	■	■	—	—	■■□□□
Oklahoma	Executive	—	■	—	■	■	■■■□□
Oregon	Executive	—	■	■	■	■	■■■■□
Pennsylvania	Separate	—	—	■	—	■	■■□□□
Rhode Island	Consensus	■	■	■	■	■	■■■■■
South Carolina	Consensus	■	—	■	—	■	■■■□□
South Dakota	Separate	—	■	■	■	—	■■■□□
Tennessee	Consensus	■	■	■	■	■	■■■■■
Texas	Executive	—	—	■	—	—	■□□□□
Utah	Consensus	■	■	■	■	■	■■■■■
Vermont	Consensus	■	■	■	■	■	■■■■■
Virginia	Consensus	■	■	■	—	■	■■■■□
Washington	Consensus	■	—	■	■	■	■■■■□
West Virginia	Executive	—	—	■	■	—	■■□□□
Wisconsin	Separate	—	—	■	—	■	■■□□□
Wyoming	Consensus	■	■	■	—	■	■■■■□
Count		**28**	**36**	**45**	**30**	**40**	

Source: Table 7 from NASBO's "Budget Processes in the States" (2008) and CBPP review of published state revenue forecasting processes. Note: Descriptions of the processes are on the next page. *New York's consensus estimate is agreed on after the executive budget is prepared.

Best Revenue Forecasting Practices, Defined

1. **Forecast type.** Each state falls into one of three categories, depending on who prepares the official revenue estimate.

   a. Executive — The official revenue estimate that is used in the governor's proposed budget is prepared by the governor's office, executive budget office, or finance department OR by a commission or group that is independent of both the executive and legislative branches. "Independent" means it does not include representatives or appointees of either branch of government.

   b. Separate — Both the executive and legislative branch separately prepare revenue estimates. There is no one official revenue estimate. A revenue estimate is prepared by the governor's office, executive budget office, or finance department for use in the governor's proposed budget. The legislature has the option of preparing its own revenue estimate for use in the revised budget.

c. Consensus — Executive and legislative branches agree on a revenue estimate. The official revenue estimate that is used in the governor's proposed budget and the legislature's budgets is prepared jointly by representatives or appointees of the executive and legislative branches. An official forecast is agreed on by both the executive and legislative branches before the initial budget is prepared.

2. **Forecasting body includes non-government experts.** For states with consensus revenue forecasts, economists or other experts from the private sector and/or academia are part of the group that prepares revenue estimates. For states without consensus revenue forecasts, outside experts can be part of either an executive *or* legislative revenue estimating group. These experts need not have a vote but they must take part in the deliberations during the revenue forecasting process, as opposed to only during the *economic* forecasting process that typically occurs beforehand. Simply testifying at a public hearing is not sufficient.

3. **Forecast and assumptions are published and made easily available online.** The following information is published in the state budget or another easily accessible document online:

    - the forecast with detail by revenue source
    - the economic assumptions that went into the forecast
    - an explanation of how the forecast was determined

4. **Forecast developed with open meetings or notes made public.** At some point during the development of the revenue forecast, a public hearing on the forecast is held or a meeting of the forecast group is open to the public. At this hearing the forecast or competing forecasts and underlying assumption are presented and discussed. Alternatively, the minutes of the meetings along with copies of the forecast(s) and data considered are published and easily accessible online.

5. **Forecasts for the upcoming year are revisited during budget session.** The state has established a *regular* schedule for reviewing the revenue forecast prepared for inclusion in the initial budget. This review takes place before the final budget is adopted and the results are easily available to the public.

Scoring — States are scored between 0 and 5, with 5 being the best score possible. States receive one point for each of the best practices.