LEGISLATIVE BUDGET BOARD

Dynamic Impact Analysis: Methodology and Output

PRESENTED TO SENATE FINANCE COMMITTEE

LEGISLATIVE BUDGET BOARD STAFF

March 2016

Dynamic Economic Impact

The Legislative Budget Board has the capability to produce analysis demonstrating the estimated economic and budgetary effects of various state revenue and appropriations proposals. The analysis:

- Is intended to show some of the secondary-or dynamic-effects of proposals;
- Generally covers a 5-year period, similar to the fiscal note process;
- Is the result of LBB staff analysis using output from a Texas-specific model developed by Regional Economic Models, Inc (REMI).

Regional Economic Models, Inc (REMI)

Regional Economic Models Inc is the developer of the Texas-specific econometric forecasting software used by the LBB and by the Comptroller of Public Accounts.

- REMI is recognized as one of the leading firms producing economic forecast software and is commonly used by entities in both the private and public sector

- The REMI model is updated annually for Texas economic, revenue and budget conditions
    - LBB staff work to specifically calibrate the model to be reflective of both state revenue structures under the latest revenue estimate from the Comptroller and areas of state spending under the current biennium's budget

- All dynamic analyses performed by the LBB are compared to a baseline forecast.
    - This is similar to the approach taken by LBB staff when showing the effect of changes to the school finance system; all output is compared to current law with set assumptions about baseline forecasted growth

Underlying Assumptions

Modeling assumptions vary depending on the budget situation at the time the analysis is performed

- LBB staff are careful to stipulate those assumptions in the output provided
- Reasonable analysis may differ on what appropriate assumptions would be; it is therefore important that they be clearly identified
- LBB staff seek to only make assumptions that are specific to the policy initiative being discussed and not go beyond those that are necessary to perform the analysis

For example:

- A determination that needs to be made every time dynamic analysis is performed on a revenue proposal is how to address an estimated gain or reduction in available revenue that is as a result of the proposal.
    - If a revenue proposal would reduce state revenues below the amount asserted by the Comptroller as needed to support the current level of state spending, the following assumptions need to be made, which in turn affect the output of the analysis:
        1. Are available balances to be used to the extent possible to maintain current state spending?
        2. Alternatively, is a reduction in state spending assumed? If so:
            a. Is the reduction across the board?
            b. Is the reduction targeted to or exclusive of certain budget areas?

Example of Dynamic Output

In addition to a textual description of the proposal, model, and outcomes, the LBB supplies a table the outline for which is found on the following slide.

This standard template has been annotated to define all of the categories of output and the associated terms.

- To illustrate all possible provided output, the template shows multiple indices for both **economic and budget** results.
- The economic results show the estimated effect of the proposal across a range of economic indicators.
- The budget results section shows a display of both the static and dynamic revenue change associated with the proposal and also the assumed expenditure change:
    - As noted on the previous slide, an assumption must be made about the relationship of the revenue change to the state budget if the budget results are to be displayed. For example, if the effect of a revenue reduction proposal exceeds the amount of available revenue balances, an assumption could be made to use balances to the extent possible to maintain the adopted spending level. If those balances are insufficient to completely offset the revenue reduction, the effect of a proportional or targeted reduction across state spending would be shown
- Output may vary by proposal; for example, analysis on a proposal that does not result in a revenue change may not also show budget results, and certain of the economic indicators may not be relevant for all proposals.

A The upper portion of the table displays the impact of the policy initiative on Texas economic indicators, for the five-year period beginning with the first fiscal year of the forecast period. Totals and percentage change are listed.

B Incremental impact of the revenue reduction on Texas employment. The totals are increments over the baseline forecast, and are not cumulative over time. i.e., 2017 employment would be 11,290 greater than the baseline forecast.

C Impact on Gross State Product (GSP), Personal Income and Personal Consumption Expenditures (PCE), in real dollars for GSP and PCE, and nominal dollars for income.

D Impact on the PCE Price Index, a measure of general inflation produced by the Bureau of Economic Analysis (BEA).

E Impact on population. This total is an increment over the baseline forecast, and is not cumulative.

F The lower portion of the table displays the impact of the revenue reduction on total revenues and expenditures for the five-year period.

G Static, or fiscal note, change to revenue collections as estimated by the Comptroller of Public Accounts.

H The amount of revenue reductions that would occur after accounting for the dynamic effect of the analyzed revenue reduction. These amounts show less of a revenue reduction in the targeted revenue sources because of the increased economic activity that would occur as a result of the revenue reduction.

I These amounts show the increase in revenue from all other taxes not analyzed because of the increased economic activity.

J This is the sum of (1) the difference between the static and dynamic revenue impacts of the targeted revenue sources, and (2) the change in revenue from all other taxes.

K The total revenue change associated with the dynamic analysis proposal.

L The expenditure adjustment amounts assumed as a result of the proposal.

Table 1 - Sample Tax Reduction Compared to Baseline Scenario - Differences

PROPORTIONAL EXPENDITURE REDUCTIONS

ECONOMIC RESULTS

	Category	Units	2016	2017	2018	2019	2020
B	Total Employment	Thousands (Jobs)					
		% change					
B	Private Non-Farm Employment	Thousands (Jobs)					
		% change					
B	Total Government Employment	Thousands (Jobs)					
		% change					
C	Gross State Product	Billions of Fixed (2009) $					
		% change					
C	Personal Income	Billions of Current $					
		% change					
C	Disposable Personal Income	Billions of Current $					
		% change					
D	PCE-Price Index	2009=100 (Nation)					
		% change					
C	Personal Consumption Expenditures	Billions of Fixed (2009) $					
		% change					
E	Population	Thousands					
		% change					
F	**BUDGET RESULTS**						
G	Static Tax Reduction	Thousands of Current $					
H	Dynamic Tax Reduction	Thousands of Current $					
I	Dynamic All Other Revenue Gain	Thousands of Current $					
J	**Net Revenue Change: Dynamic vs. Static**	Thousands of Current $					
K	**Net Dynamic Revenue Gain/Loss**	Thousands of Current $					
L	State Govt Expenditure Change	Thousands of Current $					

Contact the LBB

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