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To: Mark Ibele, Staff Director
California Commission on the 21st Century Economy

Date: April 8, 2009

From: Robert Ingenito, Chief, Research and Statistics Section
Joe Fitz, Chief Economist

Subject: Spilt Roll Property Tax Study

Per your request, we have reviewed the study titled *The Economic Effects of California Adopting a Split Roll Property Tax, authored by* Jose Alberro and William G. Hamm. Specifically, you asked us (1) to review the study with respect to its use of the California Dynamic Revenue Estimation Model (DRAM) developed for and used by the California Department of Finance, and (2) to provide more general comments regarding the paper's methodology.

Background. The study by Alberro and Hamm investigates what the economic effects would be if current law was modified to tax commercial property more heavily than is currently permitted (such a proposal is generally referred to as "split roll"). The authors identify several effects of such a proposal, including:

- Increased incentive to develop land.
- A significant portion of the increase in property taxes would be shifted to renters.
- Reduced investment and jobs
- Reduced wages
- Higher consumer prices.

In order to quantify some of these effects, the authors used a statistical model of the California economy. Specifically, the authors used the California Dynamic Revenue Estimation Model (DRAM). This model was developed in the mid-1990s by the Department of Finance in conjunction with economists at the University of California, Berkeley. DRAM was created in response to legislation that was approved in 1994 because policymakers and private economists felt that existing methods of evaluating tax changes (known as static analysis) ignored many of the responses of consumers and businesses to those changes. In other words, static analysis assumes that such things as the size of the tax base, and spending and other decisions by individuals and businesses, are unaffected by tax law changes.

An example of a purely *static* analysis is the prediction that a new tax of 10 percent on a product with $10,000,000 of sales would generate a $1,000,000 increase in revenue. In *dynamic* revenue analysis, however, broader economic effects are considered. Using our example, the introduction of the tax leads consumers to buy less of the taxed product. As a result, firms producing the taxed product reduce their production and employ fewer workers. Those newly unemployed people have lower incomes and consume less, thereby reducing the demand for all goods throughout the economy. Firms with lower accounting profits would pay less corporate income tax. The laid-off employees not only do not pay taxes but may receive social benefits. The overall impact to the State is reduced tax revenues and higher expenditures. However, some or all of this may be offset by the State purchasing additional goods from its increased tax revenues. The DRAM is designed to quantify all these impacts from a proposed change in tax law.

Using DRAM, the authors' primary empirical conclusion is that the adoption of a split roll property tax system in California would lead to a job loss of 152,400. Below we summarize our comments on the authors' use of DRAM.

Use of DRAM to Analyze Local Taxes. DRAM was originally developed to estimate the dynamic impacts of *state* taxes, not local taxes such as the property tax. We would like to see more of an explanation of how DRAM was modified by the authors or what assumptions were made to use DRAM to estimate the impacts of changing the local property tax.

Presentation of Results. The authors only provide results with respect to the impact of higher commercial-related property taxes on economic variables (e.g. employment), not the impacts on revenues. It would be very helpful to the reader to provide estimates of both the static and dynamic *revenue* impacts of the specific split roll proposal the authors analyzed, along with a clear explanation of how these results were calculated. In addition, we would like to see the detail with respect to how the results the authors *do* present were calculated. In addition, we would like to see some sensitivity analysis; namely, how the model's results would change once underlying assumptions were altered.

Time Period of the DRAM Model. Our understanding of the time period analyzed in the DRAM model differs from that of the authors. According to the DRAM documentation, in discussing the "base solve" for the bank and corporation tax reduction, "The results should be viewed as answering the question: what would today's economy look like if we had put into place reduced B&C tax rates five or six years ago."[1]

The discussion in Appendix D of the study seems to imply that the authors' understanding of DRAM is an annual model. After discussing "… the mismatch between estimation that uses annual data for broad categories and the requirements of a CGE model,…" the authors go on to say, "The problem is even greater in the case of one-period models, such as the DRAM."

Following up on this important element of the time frame of economic responses, Alberro and Hamm go on to provide their own estimates of some important elasticity relationships they used in DRAM in Appendix D. Again, a clear explanation of the differences would be very helpful to the reader. While the DRAM elasticities are referenced, the authors do not always provide a clear comparison between the elasitcities they use and the ones used in DRAM.

DRAM Conclusion. In summary, we would recommend that original developers of DRAM be asked to comment on the appropriateness of using DRAM to estimate split-roll impacts, the sensitivity of DRAM to changes in assumptions in estimating these impacts, the length of the time period over which these impacts occur, and the elasticities discussed in Appendix D.

Other Considerations. In addition to the specific issues DRAM-related issues already mentioned, it would be helpful to the debate to see the following subjects addressed.

- Under Proposition 13, long-time commercial and industrial property owners have a competitive advantage over new owners. On page 17, Alberro and Hamm mention that there would be increased incentives to develop raw land. A broader definition of development includes all land and structures that are not currently being put to their highest and best uses. Not only would there be incentives to develop land (broadly defined) but there would be economic benefits to society to develop land to its fullest potential. In addition to leveling the playing field for new and existing commercial and

[1] *Dynamic Revenue Analysis for California*, P.Berck, E. Golan, and B. Smith, with J. Barnhart and A. Dabalen, Summer 1996, p. XI-4.

industrial landowners, more development would increase GDP, employment, income, sales, taxable sales revenues, and property tax revenues. To what extent are these benefits taken into account in the authors' calculations?

- The marginal cost of capital is a very important consideration in studying split-roll proposals. According to a paper by Steven M. Sheffrin, "…assessing commercial and industrial property at fair market value would only cause minor increases in the cost of capital for new investment by firms."[2]

  The significance of this finding is that a split-roll proposal would not cause significant distortions in incentives to invest in capital and structures to develop property. This is an important consideration in assessing this proposal in relation to competing tax proposals. A related question is the following: what is the marginal cost of capital assumed in the study?

- Certain state-assessed properties, such as natural gas and electricity utilities, telecommunications providers, and railroad companies are assessed at market value under current law. Are estimates of these valuations netted out in the study?

- Equipment is taxed at market value under current law, and structures are assessed closer to market value than land. Is the market value of equipment excluded in the study to prevent double counting? To what extent are the current market values of structures of existing landowners reflected in the study?

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cc: Mr. Michael Genest, Director, Department of Finance
Mr. Ramon J. Hirsig, Executive Director
Executive Team

[2] "The Economic Aspects of a Split-Roll Property Tax," Steven M. Sheffrin, Professor of Economics, U.C. Davis, February 2009, http://www.cotce.ca.gov/documents/reports/documents/Economic%20Aspects%20of%20A%20Split.pdf