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MEMORANDUM

NEW ENGLAND PUBLIC POLICY CENTER

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To: Mary Tittmann, Massachusetts Budget and Policy Center
CC: Noah Burger, Massachusetts Budget and Policy Center
From: Robert Tannenwald, Director, and Michael O'Mara, Research Assistant
Date: March 4, 2009
Re: Appropriate Price Deflators for Trends in State-Specific State and Local Spending

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This memo responds to your February 26th request for assistance regarding appropriate indexes for deflating state and local government spending within a particular state. Which deflator to use depends on the policy issue that the analyst is attempting to address. Even after resolving this issue, the analyst is left without an indicator that is clearly superior to all readily available alternatives. This memo provides guidelines for navigating the various issues involved in choosing the best deflator.

Some policy analysts are asked to determine why aggregate spending by the sub-national governments (state, county, municipal, special district, etc.) of a particular state has changed over time. Often this question is prompted by the concern that increases in such spending reflects an undesirable expansion of the role of sub-national governments in the state's economy. Or conversely, if such spending has contracted, the concern is that sub-national governments within a state are no longer providing an "adequate" level of public services. In order to help resolve this issue, analysts are asked to determine the degree to which changes in spending over time reflect changes in the "per unit" cost of providing state and local public services within the state, as opposed to expansion or contraction of the array, scope, and depth of programs offered by the state's sub-national governments.

In order to answer this question, ideally the policy analyst needs a price deflator with the following characteristics: 1) it should be based on a basket of inputs typically purchased by state and local governments *within his/her state*—for example, labor, fuel, construction materials, vehicles, other equipment, and computer services, and 2) the price of each input in this basket should reflect the average prevailing *throughout his/her state*. Unfortunately, no such deflator is readily available. The U.S. Bureau of Economic Analysis estimates such a deflator for the nation as a whole: the State and Local Government Consumption Expenditures and Gross Investment Implicit Price Deflator (GSLD). This price deflator, part of the BEA's National Income and Product Accounts (NIPA), is broken down into several components, for example: durable and non-durable goods, investment in structures and equipment, services, and payroll compensation. However, it is not provided on a state-by-state basis. Consequently, it will tend to understate growth in the prices of state and local government inputs in states where such growth has been relatively rapid, and vice versa.

The only general price deflator disaggregated to a sub-national geographic level is the Consumer Price Index for All Urban Consumers (CPI-U), published by the U.S. Bureau of Labor Statistics. The CPI-U possesses neither characteristic of an ideal state-specific deflator for state and local spending. The market basket on which it based is derived from surveys of expenditures by consumers, not state and local governments. Thus, its components, such as food and beverages, housing, apparel, transportation, medical care, recreation, and education and communication, are very different from the mix of inputs that typically go into the production of state and local goods and services. Moreover, the CPI-U is not computed at the state level although it is estimated for regions and selected metropolitan areas. In particular, it is estimated for the nation, the Northeast region, and the Boston-Brockton-Nashua metropolitan area. The trend in consumer prices for this region and/or metropolitan area might more closely reflect statewide trends in the prices of inputs purchased by Massachusetts' state and local governments. Thus, the analyst of Massachusetts spending is faced with a difficult choice under uncertainty: a price index with the wrong market basket but disaggregated to geographic areas perhaps more characteristic of Massachusetts than the nation as a whole (the Northeast or Greater Boston Metro Area), or a nationwide index with a more appropriate market basket (the NIPA state and local implicit price deflator).

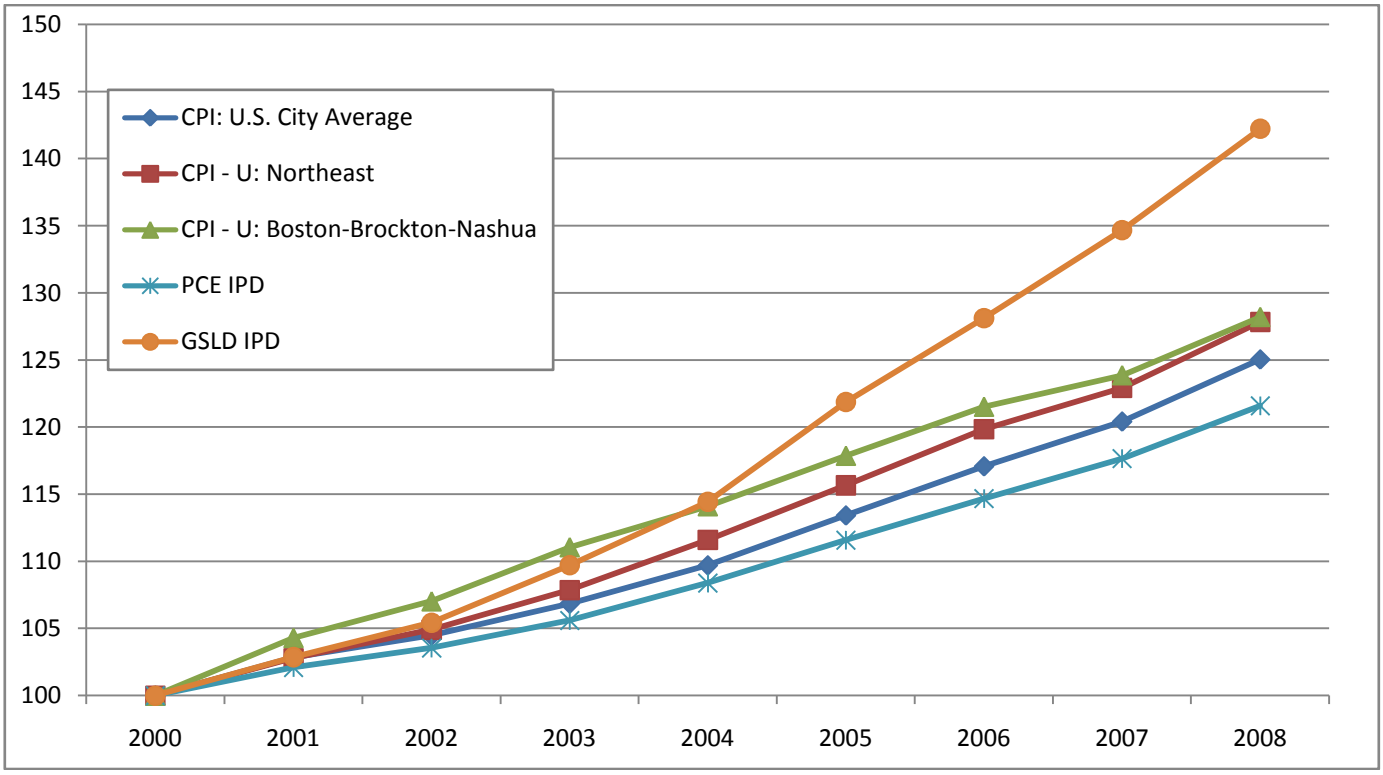
Occasionally, policy analysts are asked to evaluate the extent to which a particular program has continued to alleviate the same degree of need than it did at a particular point in the past. For example, sometimes analysts are asked whether a state's cash welfare payments provide recipients with command over the same level of consumer goods and services (the same "purchasing power") that they once did. In order to answer this question, the analyst should not use the NIPA state and local price deflator. The costs of the inputs required to deliver state and local public services may have changed at a different rate than the consumer price level faced by welfare recipients. For example, it is theoretically possible that during a period of rapid increases in food prices, the purchasing power of a welfare recipient would fall faster than the cost of state and local goods and services will rise. If the policy analyst's concern is the purchasing power of the welfare recipient, then he/she should do a separate analysis of cash welfare transfers and deflate these transfers by the CPI-U for the Greater Boston Metro Area or the Northeast Region.

It would be *inappropriate*, however, for the analyst to separate out transfer programs from state and local spending as a whole, use separate deflators for each of these transfer programs, deflate all other components of spending by the NIPA implicit price deflator, and then recombine all components into a weighted composite polyglot deflator.[i] The costs of implementing transfer programs—labor, equipment, buildings, etc.—are taken into account by the NIPA implicit price deflator. Any attempt to separate out transfer payments, deflate them in a different manner than NIPA, and recombine will therefore generate a biased deflator estimate. If the analyst is primarily concerned about the service level provided by a specific program, he/she should confine his/her analysis to that program. Answering a fundamentally different question from "how has the cost of state and local government in my state been changing over time?" requires a separate, fundamentally different analysis.

It should also be noted that over the past several years, the state and local price index has deviated significantly from other national measures of inflation, growing annually at a rate of 4.5 percent since 2000, while the CPI and CPE[ii] grew at annual rates of 2.8 percent and 2.4 percent, respectively. This

large growth rate has been driven largely by increases in gross investment in structures due to increases in construction costs, petroleum and natural gas, and agricultural and industrial chemicals (Figure 1).[iii]

Figure 1: Trends of Common Price Deflators, 2000-2008



[i] For example, suppose that 5 percent of a state's expenditure (E) is estimated to be pure cash transfers. The analyst asks whether he/she should deflate total spending in the state by a weighted average of GSLD and the CPI-U, where the former is weighted by .95 and the latter by .05. This would not be appropriate.

[ii] The CPE is the BEA's price deflator for consumer expenditures, comparable to the national level CPI. It is sometimes used as a substitute for the CPI, which is sometimes criticized as overstating inflation.

[iii] Baker, Bruce E. "Price Indexes for State and Local Governments" Rockefeller Institute of Government Forum. Presented 11/13/2008.