

REVIEW OF CONGRESSIONAL BUDGET COST ESTIMATING

Statement by

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Mr. Chairmen, Members of the Committees, I appreciate the opportunity to discuss the issues concerning revenue and spending estimation. The House and Senate Budget Committees are to be commended for undertaking this hearing and for addressing the too often neglected but extremely important issues concerning estimating methodology. These issues pertain not merely to the realism and accuracy of revenue estimates but also to their adequacy in identifying and evaluating the economic effects of proposed changes in fiscal policies and structure.

To address these issues, I have organized my discussion around four questions:

- (1) What kind of revenue estimating methodology do policy makers need?
- (2) Does the existing revenue estimating system adequately meet this need?
- (3) What are the essential elements of a revenue estimating system that would better meet this need?
- (4) What cautions should be observed in developing an improved estimating methodology?

(1) What kind of estimating methodology do policy makers need?

Budget policy makers need to be able to assess the effects of their policy decisions on both net budget results and on the performance of the economy. Net budget results are important concerns for both political and economic policy reasons. They are a concern for public economic policy because they bear directly on how much of the saving that households and businesses undertake is preempted by government borrowing, hence is not available for financing additions to the nation's production capabilities.

Net budget results are a political concern because insofar as the government runs a deficit and must borrow to pay for some of its activities, it conceals the cost of those activities from the public. The inevitable result is that government is larger than it would be if all of its activities were financed by taxes that most, if not all, real people had to pay and were keenly aware of doing so.

Policy makers must also be concerned how tax, spending, and regulatory policies affect the performance of the economy in terms of how much total output and income is produced, how rapidly output and income increase through time, and how efficiently the nation's production capability is used. Features of the revenue system and of spending and regulatory programs, as well as fiscal aggregates, affect the overall level and composition of economic activity. Tax, spending, and regulatory provisions are also likely to affect the composition of the nation's economic activity by altering the price and cost signals that are cast up by the operations of the market system. Whatever benefits may be attained or policy goals may be served by these provisions, their distortions of market signals and the resulting changes in how households and businesses use the resources at their disposal impose costs that should also be taken into account in policy making.

Public policy makers need an estimating methodology that provides realistic estimates of both the economic and budgetary consequences of ongoing policies and of policy changes. The needed methodology must recognize and implement the facts that public policies exert significant influences on the composition of total output and resource use, hence on aggregate economic results and that these economic consequences of public policies have an important bearing on budget outcomes. To meet this need, the estimating methodology must be capable of capturing the effects of public policies and changes therein on (1) the composition of output and the use of production inputs and the consequent changes in the aggregate level of total production, employment, and income, and (2) the level and composition of budget receipts and outlays resulting from these economic effects of the policies or policy changes.

The appropriate methodology should *not* be required to produce unconditional forecasts. An unconditional forecasting methodology would have to take account of an enormous number and variety of events and forces, not merely in the United States but virtually everywhere in the world, that might exert an influence on the economic activities of American households and businesses and the fiscal and budgetary consequences of their responses to these influences. That task is forbidding, and there is little if any basis for confidence that if undertaken it would produce meaningful results.

Neither the methodology now in use in the federal government nor the alternative methodology that would better meet policy makers' needs produces unconditional forecasts of the economy's performance or of budget results. Nor are these methodologies intended to do so. Their objective, instead, is to estimate the consequences of a particular policy or set of policies compared to the results that would be realized in the absence of those policies. Realistically, that

is all that policy makers should demand of the estimating methodology on which they choose to rely. The adequacy of the estimating methodology, therefore, is not appropriately assessed in terms of the actual budget or economic results over the budget projection period.

The usefulness of the methodology, instead, is found in how well it captures differences in budgetary and economic magnitudes from the respective magnitudes that would be realized in the absence of the policy or specified changes therein.

The principal deficiency in the existing methodology is not that it fails to provide unconditional forecasts. This methodology relies on extrapolations of discernible trends with respect to major economic magnitudes and projections of budget magnitudes based on current policies and laws. These trends are the much maligned "baselines." The existing methodology attempts to estimate the effects of specified or proposed policy changes on budget magnitudes in terms of departures from baselines. The deficiencies in this methodology, to repeat, are not that it attempts to measure departures from baselines instead of providing unconditional forecasts of budget magnitudes; its major flaw is its failure to take account of many of the relevant influences that determine the nature and magnitude of those departures.

The "accuracy" of either the existing or alternative estimating methodology, therefore, is not appropriately measured by reference to how closely actual budget results conform with the budget estimates. Year-over-year changes in the amount of revenues obtained from any particular tax or tax provision, for example, do not measure the revenue effect of any change in the tax or tax provision. A myriad of other influences and developments will also enter into determination of actual outcomes. The revenue effect of such a change is correctly measured, instead, as the difference between the revenue the tax or tax provision would have generated in any given time period in the absence of the change and the revenue actually obtained in that time period.

(2) Does the existing methodology meet policy makers' need?

The existing methodology does not provide realistic estimates of the consequences of public policy changes. Its principal deficiency is that by mistakenly distinguishing between so-called "macro" — or aggregate — and "micro" — or allocative — effects of policy changes, it rules out of consideration important aggregate economic consequences of the responses people make to policy changes, hence disregards the so-called "feedback" effects of policy changes on budget aggregates. The result is that the estimated budget effect is essentially confined to the initial revenue or spending change.

Contrary to the popular "static" characterization of its estimates, the existing methodology does take account of some behavioral responses, as I am sure some of the previous witnesses have insisted. The estimate of the revenue effect of, say, a proposed change in an excise tax takes into account the estimated or assumed price elasticity of demand for the product or service to which the excise applied, hence estimates the expected change in the total volume of sales of

the taxed product or service. The change in revenue, thus, is estimated as the excise tax that would have been paid had the tax not been changed minus the excise tax that it is estimated will be collected on the new volume of sales.

Because this sort of tax change is treated as having only micro effects, the existing methodology does not take into account any other behavioral changes that occur in response to the change in the excise tax. Clearly, with a change in the volume of taxable sales there is a change in the amount of labor, capital, and other production inputs used to produce the taxed product or service. But the existing methodology does not account for these changes in the amount of inputs used to produce the taxed items, hence does not allow for any change in the aggregate amount of inputs used in the economy as a whole or the aggregate amount of payments made for their use, hence the aggregate amount of output and income. In other words, the existing methodology rules out any macro effects of such tax changes.

The justification for doing so is the assumption that production inputs that are disemployed as a result of an increase in the excise tax are reemployed in producing other products or services; similarly, increases in input use in response to a decrease in the excise tax are assumed to be drawn from other production. In either case, total employment, output, and income are assumed to be unaffected. On this assumption, of course, there would be no change in tax revenues.

The assumption is flawed, however, on numerous grounds. For one thing, changes in the employment of production inputs do not occur instantaneously; until the change is effectuated, there is a change in total output and income, hence in tax revenue generation. For another thing, shifts in uses of production inputs in response to tax changes of the sort indicated in this example are likely to involve significant differences in rates of payment for the inputs; even if quickly reemployed, the displaced labor inputs, for example, are likely to receive somewhat lower compensation than they had earned in the jobs from which the tax increase displaced them. This is particularly likely to be the case when the production inputs are specialized to a significant degree in producing the excise taxed item.

Moreover, these displacement effects are not confined to the businesses producing the taxed products or services. Changes in those businesses' level of activity also affect that of their suppliers and so on up the production chain.

As an example of these various effects, the boat builders disemployed by the cutback in boat sales and production resulting, at least in part, from the 1990 imposition of the so-called "luxury" tax were hardly likely quickly to find other jobs that paid as well as the jobs they lost. Boat building companies' profits must have been seriously depressed, eroding the market value of investors' stock holdings. Suppliers of the raw materials used in boat building had to seek other sales outlets for their outputs and must have suffered, at least temporarily, some cutback

in their sales, output, employment, and incomes. Aggregate employment, output, and income must certainly have been depressed, however slightly, by the imposition of the boat tax.

The change in tax revenues, therefore, was not confined to whatever boat excise tax receipts were collected, taking account, however poorly, of the price elasticity of demand for taxed boats. An appropriate estimate would also have taken account of the decrease in payroll and individual and corporate income tax (including capital gains) revenues resulting from the loss in employment, compensation, profits and other payments for capital services consequent to the tax-induced drop in boat sales and production.

Perhaps no tax policy change better illustrates the deficiencies of the existing estimating method than a reduction in the rate of tax on capital gains. In that method, this tax cut is assumed to induce a one-shot increase in capital gains realizations. The net revenue effect, then, is calculated as the difference between the amount of tax that would have been paid had the tax rate not been changed and realizations not increased and the amount of tax at the lower rate collected on the larger amount of realizations. In this approach, the capital gains rate cut would produce a revenue loss unless the elasticity of realizations with respect to the tax rate were at least equal to -1, i.e., unless each one percent decrease in the tax rate produced at least a one percent increase in the amount of gains that are realized.

Excluded from the estimate are (1) the increase in the market's valuation of existing capital assets in response to the tax rate cut, and (2) the increase in private saving and investment that occurs in response to the lower cost of saving relative to consumption uses of current income as a result of the tax cut. The first of these effects clearly increases the dollar amount of the increase in gain realizations, hence increases the capital gains tax revenue above amounts estimated when only the increase in realizations at their former market value is taken into account. The second effect results not only in a larger stock of capital and the additional income it produces but also in an increase in labor's productivity, employment, and real wages. These consequences, in turn, generate increases in income and payroll taxes. By ignoring these very important effects, the existing methodology overstates revenue loss or understates revenue gain from a reduction in the capital gains tax rate.

In this case, too, the implicit assumption underlying the existing estimation method is that any increase in saving that would occur as a result of the capital gains tax cut would be at the expense of reduced consumption; the sum of consumption and investment spending, accordingly, is held to be unchanged as are total output, income, and employment. Entirely disregarded as a result are the consequences of the increases in the stock of capital that lead subsequently to higher levels of output, employment, and income than would otherwise occur.

The notion that any tax, or for that matter, any spending program or any regulatory policy has only a micro — allocative — effect is unwarranted. So, too, is the notion that any policy change has merely macro or aggregate effects. Indeed, as suggested above, *aggregate effects are*

the consequences of the ways in which people respond to the public policy environment or changes therein, i.e., of the allocative effects of public policies. Embodied in an estimating methodology, the notion that either micro or macro effects occur alone must produce mistaken estimates of the results of policy changes. As the preceding discussion illustrates, there really is no relevant macro-micro distinction to be drawn, for estimating purposes, among types of taxes.

An estimating system that embodies any such distinction is almost certain to misinform policy makers and to impair policy formulation. Let me highlight this assertion by reference to the Tax Reform Act of 1986 (TRA86), the most complete revision of the federal income taxes since their initial 20th century adoption. Scores and scores of tax provisions were changed, many drastically. A constraint imposed on this legislation was that it had to be revenue neutral, to result in no net change in tax revenues compared to the revenues that would be raised in the absence of the legislation. The TRA86 was estimated to entail hundreds of billions of dollars of allegedly offsetting revenue changes, including a huge increase in corporate tax liabilities ostensibly matched by equal decreases in individual income taxes over the five-year projection period. No assessment of the likely impact of the TRA86 on the composition and size of the American economy was ever provided by either executive branch or Congressional estimators. Instead, the assumed revenue neutral results were founded on the assumption of no changes in the composition or size of aggregate economic activity.

One wonders whether TRA86 would have been enacted in anything like its final form had policy makers been told of the likely economic consequences of some of its provisions. Suppose, for example, that policy makers had been advised that these provisions were likely to have seriously adverse effects on the real estate industry and on residential and nonresidential construction, leading to enormous turmoil in the financial sector and huge budget outlays to rescue thrift institution savers, and very likely to the recession of 1989-91. Suppose also that policy makers had been alerted that as a result of these and other economic consequences, the revenue results on which they based their decisions were suspect.

No degree in economics is needed to recognize that the profound changes in the tax law made by TRA86 must have affected the costs and rewards of differing types of economic behavior and that people must have responded to these tax-induced changes in incentives. To assume that all of these changes would cancel each other in terms of effects on taxable incomes, on total employment, and total output is simple absurdity.

(3) Essential elements of an estimating system that would better meet policy makers' needs

Much of the discussion of estimating methodologies has focused on "static" vs. "dynamic" approaches. A truly static estimating system would assume that public policy changes have no effect on economic behavior, hence involve no "feedback" effects on budget revenues or

expenditures. This kind of system *would* take account of trend changes in the level and composition of economic activity and in the distribution of income, but would assume that these changes are unaffected by and are independent of specific policy changes. The estimating methodology now employed in the federal government is *not* truly static.

The existing methodology may be thought of as quasi-dynamic. As noted, it does assume some limited behavioral response to policy changes, but precludes such behavioral responses from altering baseline projections of major economic magnitudes such as gross domestic product, total employment, aggregate investment, etc.

A truly dynamic estimating system would not impose any such constraint but would attempt to track the consequences of these behavioral responses to changes in economic aggregates and the effects of the latter changes on budget receipts and outlays.

Rather than focusing on how dynamic or static is the estimating system, we would do well to distinguish between partial and general equilibrium analytics. The existing methodology may be thought of as essentially relying on a partial equilibrium analytic, confining the estimates to the responses of the people and businesses directly affected by a policy change. In contrast, a general equilibrium estimating system expands the analysis to include the second- and subsequent-level effects throughout the economy and the budget receipts and outlay consequences of all of the changes in economic activity that occur. This estimating system, in other words, seeks to identify and measure the shifting and incidence of policy changes.

I believe that the methodology needed to satisfy policy makers' needs must rely on a model of neoclassical configuration. Such a model treats public policy changes as having first-order price effects, not first-order income effects. That is, it identifies the initial impact of a policy change in terms of its effects on one or more relative prices or relative costs, not in terms of changes in the disposable income of those directly affected by the policy change. This model then specifies the behavioral response to such relative price changes in terms of changes in the use of production inputs or income claims. Insofar as these allocative or micro responses entail changes in the conditions of supply of production inputs, they are likely to result in changes in the composition and level of aggregate output, hence in total income. These changes in output and income are second-order effects that affect both the aggregate amount and composition of tax liabilities and government outlays, hence net budget results.

It must be emphasized that this analytical approach must be applied not merely to tax policy but to spending and regulatory policies as well. It should be obvious that the most useful way to identify the initial impact of regulations or mandates is in terms of their effects on the costs of the affected activities relative to the costs of other activities. It is just as useful in identifying the initial effects of government spending. Government purchases of products or services must increase the demand for the products or services and therefore the derived demand for the inputs that produce them. The consequence is that the prices of these products, services,

and production inputs will be higher, curbing their purchase and use by businesses or households in the private sector. Except in a case in which the government's use of the products, services, or inputs is more productive than the displaced private uses, the real value of total output declines; so, too, do aggregate income and the tax liabilities thereupon.

The initial impact of government transfer payments should, likewise, be identified in terms of effects on relative costs. It is widely recognized, for example, that unemployment compensation benefits reduce the cost of being unemployed and, by the same token, raise the relative cost of working. Food stamps reduce the relative cost of the recipient's use of his or her income for purchasing food relative to other uses. The responses of transfer payment recipients to these relative cost changes are certain to have further effects, including those on aggregate levels of activity and on budget outcomes.

(4) Cautions to be observed in developing a better estimating methodology

A standard criticism of so-called dynamic — better, general equilibrium — estimating methodology is that specification and estimation of the behavioral functions and underlying relationships in an economy as diverse, complex, and dynamic as that of the United States would be mind-boggling. There is some truth in this criticism. This is not a case, however, of the difficult-to-attain perfect being the enemy of the easily-attained good. The existing methodology is not good; it is seriously deficient with respect to the needs of public policy makers. Difficult as it will be to achieve, a general equilibrium model of the sort briefly described in the preceding section of my statement is sorely needed in the interests of good budget policy making.

The first caution, accordingly, is to proceed carefully and deliberately in the development of a better estimating methodology. I hope I am not doing anyone an injustice in asserting that there is not now available any estimating system that could be quickly adapted to the estimating needs of federal policy makers. There may well be serviceable prototypes, and the Budget Committees of the Congress would do well to seek them out for further development. But the Committees should not insist on undue haste that might result in adopting an unsatisfactory system that would discredit the very notion of a general equilibrium approach for estimating the budget results of public policy changes.

Second, the Committees should be aware that the consistent application of a dynamic or general equilibrium methodology must complicate the budget-making process. Virtually every change in spending programs or in tax provisions that is made in the process of moving original budget recommendations toward budget resolution will require re-estimation of the effects on at least the major economic magnitudes, hence the feedback effects on revenues and outlays. The existing methodology, mistaken as it is, avoids such complications by holding basic economic magnitudes impervious to policy changes, hence denying the possibility of feedback effects. This additional budget-making complexity should not deter the Committees from seeking a dynamic

estimating system, but the Committees should be prepared to accommodate longer turn-around times for the required estimates and a more arduous budget process.

Third, the Committees should focus on the basic analytical underpinnings of any dynamic estimating system that is to be developed. In the light of the discussion above, the Committees should reject any system that employs a first-order income effect model. Any such model will, implicitly if not explicitly, distinguish between allocative or micro and aggregative or macro effects, with the resulting deficiencies noted earlier in this statement. It would, for example, show increases in government purchases of goods and services as expanding total production, employment, and income, hence as increasing budget receipts. I urge the Committees, therefore, to insist on a neoclassical model that identifies the first-order effects of policy changes as changes in relative prices or incentives which induce allocative responses that are likely to lead to changes in aggregate output, employment, and income, and, therefore, to changes in budget receipts and outlays.

Concluding observation

Good budget policy should be guided both by sound principles of public financial management and by attention to the effects of fiscal policies on the economy's performance. Policy makers cannot be expected to discharge their responsibilities effectively if they lack adequate information concerning the economic and budgetary consequences of the policies they adopt.

Because budget results depend critically on the economic consequences of policy changes, policy makers need a methodology that affords realistic estimates of the likely economic effects of policy changes. Even if they choose to disregard economic effects as budget policy criteria and are guided solely by basic tax and budgetary principles, they need an estimating system that takes full account of economic consequences and their effects on budget results. To meet this need, the existing methodology should be replaced by one that employs a dynamic general equilibrium model.

I urge the Committees to give very high priority to the development and implementation of such an estimating system. Its use would give the Congress greater flexibility in its choices of tax and spending policies that would conform to sound fiscal practices while meeting the requirements of an efficiently functioning free market economy.