The following testimony was presented by Dr. Foster before the Senate Finance Committee on January 24, 1995.

Mr. Chairman, Members of the Committee, my name is J.D. Foster, and I am the Executive Director and Chief Economist of the Tax Foundation. It is a pleasure to be before the Committee again. I thank the Committee for the opportunity to appear today to discuss the prospects for improving congressional revenue estimates through dynamic scoring.

The Tax Foundation is a non-profit, non-partisan research and public education organization that has been monitoring fiscal policy at all levels of government since 1937. We have approximately 600 members, consisting of large and small corporate and non-corporate businesses, charitable foundations, and individuals. Our business membership covers practically every region of the country and every industry category.

When it was established in the 1930s, the Tax Foundation’s founding fathers set out certain principles of taxation which the Tax Foundation would promote and which would guide our analysis of tax proposals. According to these principles, a good tax system should:

- Be as simple as possible — complexity makes accurate tax compliance needlessly expensive and diminishes the public’s willingness to comply with the law;
- Not be retroactive — taxpayers must have confidence in the law as it exists entering into a transaction;
- Raise revenue, not micromanage the economy with subsidies and penalties;
- Not be continually rewritten — frequent change lessens citizen understanding of the tax code and complicates long-term economic planning; and,
- Be implemented recognizing the competitive nature of the world economy.

I commend the Committee for meeting to hear economists argue over the esoterica of revenue estimates. And I appreciate the patience required to sift through debate about the current practice, what I call “nearly static” scoring, versus “dynamic” scoring, particularly when there should really be no debate. Accepting the limits of human knowledge, Members should be able to take the accuracy of these estimates for granted. But instead, Members have had to take for granted that the estimates have often been systematically in error. Further, Members have been consistently told by the Treasury, by the Congressional Budget Office (CBO), and others that these errors are unfortunate, negligible, and in any case unavoidable, and that the basic methodology for estimating revenues should not be changed.

Let me just say — I disagree, and I am not alone. Among others, the current President of...
the National Bureau of Economic Research and former Chairman of the President's Council of Economic Advisers (CEA), Dr. Martin Feldstein, has written recently that he believes we should move towards dynamic scoring, as does Dr. Michael Boskin, another former Chairman of the CEA.

Before I discuss the nature and advantages of dynamic scoring, a few disclaimers are in order. First, given the rules under which they operate, the techniques and models employed by the Treasury and the Joint Tax Committee (JTC) are extraordinarily complex instruments developed over years of refinement and based on some of the best data known to economists.

Second, I believe the estimators are first-rate professionals who strive to find the right answers given the tools available.

Third, just to be clear, the estimators do not generally produce "static" estimates. A static estimate would be one in which the taxpayer is assumed not to change behavior in response to a change in tax. In contrast, the JTC frequently accounts for the most immediate response of taxpayers to a change in tax. For example, a gasoline tax increase is assumed to reduce the amount of gasoline consumed, thereby producing less revenue than if gasoline consumption were assumed to be unaffected.

Fourth, dynamic revenue estimating is not nor will it ever be a magic wand capable of solving our fiscal problems. There may be unique instances in which a tax reduction can produce enough of a beneficial effect on the economy that a nearly static tax cut can be shown through dynamic analysis to be a revenue raiser. But there may also be no such cases, and, in most cases, "tax cuts" will reduce federal receipts and "tax increases" will raise tax receipts. And, finally, whereas the current nearly static methods occasionally produce revenue estimates that are demonstrably in error, dynamic scoring will only yield more accurate estimates if the additional "feedback" effects are incorporated into the estimates correctly. The Congress might be thought of as the Captain of a great ship called the U.S.S. Federal Tax Policy, setting the destinations as you sail the seven seas of alternative tax policies. The revenue estimators may be thought of as the navigators, providing course and speed to reach the destination you set. The raw data used by the estimators are the charts and soundings. And the models they use are their compass, clock, and sextant. Today, the sextant can't get the angles right and the clock tends to run a little fast. So no matter how hard they may try, using these tools your navigators cannot get you to your destination except by chance.

Some will tell you nothing can be done—no repairs are needed or possible. That position would be unacceptable under any circumstance, but the fact is we do know how to make significant repairs and we will learn more once we start. And you will see your chances of bringing your ship into port dramatically improved.

The goal is to produce the most accurate estimates possible so that Members can once again take the numbers for granted and focus on tax policy. The point is that dynamic scoring, done with circumspection, can produce significantly more accurate estimates than are currently available.

The Problem Exemplified

As the JTC and Treasury correctly claim, the current estimates are not truly static. Great care is taken to ensure that the most immediate reaction of taxpayers in a market subject to a tax change is incorporated into the revenue estimates. Unfortunately, the consequences of those reactions and all other reactions are ignored. This can best be explained by way of example. Two additional examples are provided in the appendix dealing with a capital gains exclusion and raising the Social Security earnings limit.

A Little Boat History

In 1990 the Congress enacted the luxury boat tax, which was subsequently repealed. I use this tax as an example, not because it was good or bad tax policy, nor because the revenue estimates associated with the tax were more or less accurate than any other, but because the enactment of this tax created a relatively well-defined experiment in revenue estimating.

The 1990 Omnibus Budget Reconciliation Act levied a 10 percent excise tax on the value of boats and yachts in excess of $100,000 when those boats were not used for a business purpose. A truly static estimate of the receipts from this tax would apply the 10 percent rate to the estimated value of all personal boats that would be sold in the U.S. over $100,000 in value if the tax had not been enacted. In other words, if 2,000 boats that cost an average of $150,000 would have been sold, then a truly static estimate would project additional revenues of $10 million annually ($150,000 - $100,000) x 2,000 x 10 percent]. The JTC assumed a reduction in the number and value of the boats sold and produced a correspondingly smaller revenue estimate.
Continuing with the example, the JTC might have assumed sales would decline by 5 percent, to 1,900 boats sold, thereby reducing the revenue estimate to $9.5 million. The degree of demand response assumed by the JTC can certainly be questioned, and the industry certainly raised many questions, but the first point is that the JTC acknowledged the immediate market reaction to the tax and adjusted its estimates of excise tax collections accordingly.

Further, when it recognized that fewer boats would be sold, the JTC also allowed that some boat builders would go out of business, that workers employed in these firms would lose their jobs, that suppliers to these former boat builders would experience a decline in their business, and so forth. Unfortunately, in the world of nearly static revenue estimating, these effects have no consequences for income tax payments, payroll tax collections, excise tax receipts, or any other revenue source of the federal government.

The JTC assumed that all workers who once built boats immediately found employment at the same wages in other occupations; that capital previously employed in boat building was instantaneously employed in producing some other commodity; and that the former suppliers to the now-defunct boat builders immediately began to supply the new businesses that sprang up to replace the old boat builders.

In equilibrium, the JTC’s implicit assumption that all these factors of production will be employed again at their previous wage and profit levels is arguably appropriate. In application, such an assumption may be reasonable, at least to a first approximation, over a three-to five- to ten-year horizon, depending on the state of the national and local economies. But to assume such a frictionless and immediate transition is unreasonable.

The consequences for federal receipts (and outlays) in the first years following the tax change were surely dramatic. Whatever receipts were estimated from the excise tax were initially offset, in part, in whole, and possibly many times over, by the loss of other receipts. When these businesses went under, they ceased paying income tax. When the employees lost their jobs, they ceased paying income tax and payroll tax. In fact, their unemployment checks alone may have cost the government more revenue than was projected from the excise tax.

Therefore, to argue about whether or not the tax raised as much revenue as projected misses the point. We must look at tax proposals comprehensively, looking at the big picture or else the estimates should not be used because they mislead. Even if the luxury boat tax collected the revenues projected, the other tax receipts that were lost, and the additional expenditures that were incurred (all of which were ignored in the official estimates) certainly lowered projections and conceivably cost the Treasury more than the tax itself brought in.

The question is not whether the CBO’s baseline projections for GDP growth over the next five years should be raised or lowered a tenth of a point. For narrow tax changes, dynamic scoring would require recognizing a fuller range of consequences of tax policy—making reasonable assumptions about how markets as a whole will be affected by a change in policy. Dynamic scoring recognizes that jobs, wages, and profits are affected by tax policy and attempts to measure these effects in terms of federal receipts.

For broad tax changes, dynamic scoring is about whether the economy will employ more or less capital, whether individuals will save more or less, whether more or fewer people will choose to enter the labor pool and whether there will be jobs waiting for them. And, if the magnitude of these effects is sufficient, then they will appear in the CBO projections of aggregate GDP. Dynamic scoring should not be seen as a top-down procedure, working from CBO projections downward, but rather as a bottom-up method that recognizes how individuals and markets respond to changes in taxation.

The Arguments Against Dynamic Scoring

Defenders of the current methodology have raised a number of issues that deserve serious consideration, including the negligible macroeconomic effects of many tax proposals;
our poor understanding of the magnitudes of many feedback effects; the potential for dynamic scoring to lead to increases in the budget deficit; the need to be consistent between revenue and spending methodologies; the need to maintain the credibility of the estimates; and the need to inoculate the estimating process from manipulation.

Macroeconomics versus Dynamic Scoring

A common argument against dynamic scoring is that a great many tax proposals have no measurable macroeconomic effect, so that there is no point to performing a dynamic estimate. This argument is exactly half right—many proposals have no measurable macroeconomic effect, but that has nothing to do with whether these same proposals should be estimated accounting for the broadest possible range of microeconomic feedback effects.

The methodology of nearly static scoring varies by tax proposal because some proposals, such as changes in individual tax rates, allow the JTC to use its base models, such as those for individual or corporate taxpayers, while other proposals, such as the luxury boat tax, are too narrow for these models and require the development of more specific models.

In an ideal world employing dynamic scoring, meaning one in which our understanding of markets and the data available are far greater than they are today, the JTC would have one great model of the economy which it could use or adapt as needed to estimate whatever tax proposals might arise. In the meantime, however, we will have to settle for dynamic analysis using some general models and some specific models, just as we do today. For example, a change in the individual income tax rate would have a wide range of effects on labor participation rates, saving rates, the cost of capital, and so forth. The consequences of these effects for GDP can be estimated to produce a measure of the proposal's macroeconomic effects. At the outset, conservative estimates of these feedback effects would be most appropriate, and, over time, as our knowledge and data improve, these estimates will become more refined and more accurate.

For narrower proposals, more targeted models will be required as they are now. Again, using the luxury boat tax as the example, a dynamic scoring of this tax would require the development of an industry-specific model to account for the businesses that fail, the workers who go on unemployment, and all the revenues that are lost as a consequence.

The Limits of Understanding

A common joke is that if you lined up 100 economists from end-to-end you would never reach a conclusion. And there is some truth to that. There is a great deal we do not know about how individuals and markets react to various changes in prices and other circumstances. And there are very few tax proposals around which a consensus among economists exists regarding a point estimate of taxpayer response.

But just because we do not know everything does not mean we know nothing. To do nothing because we do not know everything is to make the “best” the enemy of the “good”. Economists have studied how individuals react to changes in their economic environment for hundreds of years. And while disagreements abound about precise estimates, there is broad agreement on ranges of response for many cases. For example, no one knows exactly how taxpayers will change their net saving behavior in response to a new type of Individual Retirement Account. But we know there will be a response and research exists to suggest a range within which the precise figure likely falls. The JTC's current methodology assumes a zero response, which certainly falls outside the range suggested by prior research. Thus, the revenue estimates will without question be more accurate if they assume even the minimum degree of taxpayer response suggested by this research.

And, while we may not know exactly how an increase in private saving will affect the economy and federal receipts, we do know there will be effects on interest rates, investment levels, the trade deficit, employment, personal income, and tax receipts. It would obviously be better to project these consequences and their revenue effects conservatively than to ignore them altogether. Any im-
Improvement in accuracy remains an improvement. Further, our understanding of the economy, markets, and individual behavior grows every year. As additional research produces more complete results and more robust estimates, this work can be used to refine our modelling of the feedback effects.

Not long ago, if you had said you wanted to fly, you’d be told it can’t be done. And if the Wright brothers had accepted that, then flight would have been discovered years later. But it would have been discovered, because eventually somebody would have taken what was known, done a little research, and the headlines would have read — it can be done.

When the test pilots in California were going faster and faster following the Second World War, some said you couldn’t go faster than the speed of sound, that it was an impenetrable wall. But the engineers, as is their habit, did not listen to those who said it couldn’t be done, and they designed a plane and found a pilot and the sound barrier was broken.

It is true that economists do not have the exact answer to every question of how taxpayers will react, either singly or as a group, to every tax change under consideration. But we do have approximate answers, ranges, to a wide variety of tax changes. Though we do not know all the answers, we should not ignore the answers we do have. If mankind had taken the same attitude towards flight that some have taken towards dynamic scoring, the Members of this Committee might be taking the train back to visit your constituents.

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Dynamic Scoring and the Budget Deficit

Perhaps at no time in our nation’s history has the budget deficit achieved more importance than it has today. It is, therefore, understandable that concerns would be raised about the potential for dynamic scoring to mask the true consequences for the budget deficit of a change in policy. If, for example, a proposal to reduce a tax is estimated using dynamic scoring, and if the actual loss in revenue proves to be much larger than the estimate, then the budget deficit would increase relative to what had been expected when the legislation was enacted.

This argument cuts both ways. For example, suppose the Congress intended to raise a tax to pay for a certain amount of additional spending, and that the Congress relied on a nearly static estimate of the revenues raised by the tax increase to ensure that the budget deficit did not increase. It is very likely that the additional revenues actually received as a result of the change in tax policy would be much less than what was estimated, and the budget deficit would increase as a result of this new program. Similarly, suppose the tax was increased in order to achieve a certain amount of deficit reduction. By using nearly static scoring, the Congress will have used an estimate that overstates the amount of revenue to be received and, therefore, less deficit reduction will occur than was expected.

Thus, the choice between nearly static and dynamic scoring is itself almost neutral when it comes to the budget deficit. Nearly static scoring is certain to produce a higher budget deficit than anticipated when a tax is increased, while dynamic scoring may produce a higher deficit when a tax is reduced. The difference is that the method used virtually guarantees that nearly static estimates will overstate revenue increases, whereas any time dynamic estimates understate revenues foregone it would only be because the estimators’ models were not sufficiently refined.

Consistency Between Taxes and Spending

Both taxes and spending can affect economic performance. Specific spending programs from government R&D to farm price supports and the child immunology program all have advocates to argue that there are offsetting budgetary benefits to their programs. And many of them may be right.

The point is and must always be to get the numbers right so that the public and policy makers can make informed decisions. If a spending program can be shown to have clear secondary budget effects within the relevant budget window, whether because they cause other program costs to fall or because they increase national output, then these benefits should be recognized and the cost of the program adjusted accordingly. To be sure, these
secondary budget benefits may be harder to isolate and estimate than is the case with many tax proposals, but where such information is available it should not be ignored. Under no circumstance, however, should dynamic scoring of specific spending programs be considered a prerequisite for dynamic scoring of tax proposals.

Credibility and the Manipulation of the Figures

Despite the use of nearly static estimating procedures, the estimators have maintained a remarkably high degree of credibility which can, I believe, be attributed to their professionalism. One source of their credibility is the perception of their unwillingness to modify their estimates in the face of political pressure.

The crux of the credibility concern is, of course, that the use of more dynamic scoring methods could open the revenue-estimating procedures to political pressure and manipulation. It is reasonable to argue, however, that even if the estimators are entirely immune from such undue influence today, the methods they employ are by their nature not as neutral as we would all like. Because they fail to account for a fuller range of feedback effects, the current methodologies ignore the deleterious consequences of tax increases and the beneficial affects of tax reductions. It would be naive, at best, to suggest that such a system is politically neutral.

Further, there is nothing inherently political about using a more dynamic analysis. Indeed, since the goal is to get the most accurate numbers possible, and since dynamic scoring, properly done, holds out the strong likelihood of improving the accuracy of the estimates, it is fair to argue that dynamic scoring is the only system that can completely depoliticize the numbers.

In practice, however, due care would have to be taken to assure that the methods adhere to the best understanding available of the economy and how markets would respond to particular tax changes. The best way to achieve this is, again, to publicize the methods and assumptions of the estimators. In the meantime, and possibly in addition, the JTC should consider establishing a body of outside experts specifically to work with the JTC as a sounding board and quality check.

Recommendations

In conclusion, I offer three simple recommendations. First, the Congress should recognize that a wide range of feedback effects can and should be taken into account in estimating the change in revenues from a change in tax policy.

Second, everyone involved should recognize that neither the JTC nor, for that matter, the Treasury, will be able to switch over to dynamic scoring immediately. This is a technology that will have to be mastered over time and applied where possible and where appropriate.
Finally, having decided to go forward with this new technology, the Congress should establish a working group including representatives from the JTC, the CBO, the Senate Finance and the House Ways and Means Committees, and a small number of outside experts to develop a business plan for moving to dynamic estimates. Among other things, this working group will need to determine:

- The principles to be used in performing a dynamic analysis;
- A set of rules for determining when dynamic analysis should be used;
- A timetable for expanding the range of proposals qualifying for dynamic scoring;
- The additional staffing requirements needed to meet the timetable;
- Possible new procedures for interactions between the JTC and CBO;
- Procedures for publicizing JTC methods and assumptions; and
- The structure and responsibilities of an outside council of experts who will advise the JTC in developing its dynamic models.

Without such a working group it will be very difficult to assure that this new (to the Congress) technology is made available to the

A common argument against dynamic scoring is that a great many tax proposals have no measurable macroeconomic effect, so that there is no point to performing a dynamic estimate. This argument is exactly half right.

Appendix

This appendix provides two additional examples of how dynamic revenue estimating differs from the current, nearly static methodology. These examples are chosen to illustrate the nature of the estimating process and not to imply an advocacy of the change under consideration. The examples considered include a capital gains exclusion, raising the Social Security earnings limit, and a general tariff reduction.

The Capital Gains Exclusion

The Congress has considered various forms of capital gains exclusion since the enactment of the 1986 Tax Reform Act. Four revenue effects follow from such a proposal: an exclusion effect, a realizations effect, a price effect, and a growth effect. Of these four, the current estimating procedures account for the exclusion and realization effects with great precision and detail, and ignore the price and growth effects altogether.

A taxable capital gain arises when an asset is sold that has appreciated since its time of purchase, that is, when the capital gain is realized. Of the four effects, the exclusion effect is the easiest to understand and to measure. Quite simply, given a level of net capital gain realizations, a 50 percent exclusion would reduce by half the amount of realizations subject to tax.

In a given year, taxpayers own a certain body of assets which have appreciated in price. From this pool of appreciated assets they will sell a certain dollar amount on which will arise a certain dollar amount of taxable capital gains. For each taxpayer, the decision to sell an asset may be the product of many factors, one of which is the tax on capital gain that may be owed. Clearly, the higher the rate of tax the less disposed the taxpayer will be to sell a tax-bearing asset. The effect of a capital gains exclusion is to reduce the effective rate of tax, and thereby reduce the disincentive to sell the asset. Consequently, all else held equal, a capital gains exclusion will increase the rate of capital gains realizations.

Few issues in tax policy have been so thoroughly researched empirically as the change in capital gains realizations following a change in the effective tax rate. And, despite the differences in their estimates, the Treasury Department and the JTC actually use very similar esti-
No one knows what form the tax code will take, but it is certain we are more likely to achieve the policy goals set if the revenue estimates are closer to the mark. This requires that we begin the transition to fully dynamic scoring today.

The Social Security Earnings Limit

The Social Security earnings limit applies to taxpayers under 70 years of age and reduces their Social Security benefits by one dollar for every three dollars they earn over a specific threshold. The earnings limit, therefore, is the economic equivalent of a 33 percent income tax surcharge on those affected. Any raising of the earnings limit threshold or the benefit-loss ratio reduces the effective tax disincentive facing the elderly who wish to continue to earn labor income. Such a change would also, in the first instance, increase the federal outlays for Social Security benefits, thereby increasing the budget deficit.

Raising the earnings limit would have other, revenue increasing effects, as well, which are not included in the official estimates. For example, if an elderly individual chooses to work more following the increase in the earnings limit, he or she will be subject to payroll tax on the earnings. Thus, while the amount of benefits paid increases, so, too, does total payroll tax receipts.

Also, the General Fund of the Treasury would receive an increase in individual income tax receipts as the elderly would likely have larger amounts of income subject to income tax. In fact, the elderly are likely to pay more of a wide variety of federal levies if they choose to work longer following the raising of the earnings limit. In combination, each of these effects may not cause the increase of the Social Security earnings limit to reduce the budget deficit on net, but they certainly would reduce the amount of the deficit increase relative to the official estimates.

The price effect of capital gains relief. An asset's price is determined by the discounted value of all after-tax proceeds from that asset. Clearly, for any asset inclined to increase in price, a lower capital gains tax will produce a higher asset price. Therefore, any reduction in the effective capital gains tax rate will surely produce a general increase in asset prices, thereby increasing the current pool of unrealized capital gains, thereby further increasing the dollar volume of capital gains realized in a given year and increasing the aggregate amount of capital gains tax paid.

Finally, capital gains relief is proposed because it is expected to reduce the tax disincentives to save and invest, ultimately producing stronger economic growth. While the degree to which a given capital gains proposal will have this beneficial effect is debatable, the existence of the effect itself is not. Nevertheless, the official estimates make no effort to include even the slightest additional growth effect in their calculations. Moreover, this effect would manifest itself not only in terms of higher subsequent capital gains tax receipts, but also as higher receipts from virtually every tax and fee imposed by the federal government.

Even if the combination of the exclusion and realization effects reduces federal receipts as the official estimates predict, when we add in the combination of the price and growth effects, then most exclusion proposals as have been suggested in recent years would almost certainly produce higher federal receipts in both the short run and the long run.

The Tax Foundation, a nonprofit, nonpartisan research and public education organization, has been monitoring tax and fiscal activities at all levels of government since 1937.

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