It is a great honor, indeed, for me to appear on this lectureship, and especially to be invited as the immediate successor to Erwin Griswold. As we all know, he has made extraordinary contributions over the years to our own field of tax law, to legal education generally, to the bar as a profession, and to the public sense of justice. I owe a special debt to Erwin, because early in my academic career, when my contributions to the law reviews seemed to leave few traces, like pebbles dropped into a deep well, I almost always got a note from Erwin that could be described as a heavy dose of adrenalin. Erwin was indefatigable in following the writings of younger law teachers--not just in taxation--and encouraging them with comments on their articles. His letters were not perfunctory. More than once he took exception to something I had written. That was even more of a boost to my morale, not to say my ego, because it suggested that what I had written was worthy of attention from so established scholar as the then Dean of the Harvard Law School.

Last year, when giving his inaugural lecture on this lectureship, Erwin mentioned his sixty-three years of involvement with tax law. As he pointed out, in his law school years, taxation, if touched on at all, was treated only briefly in courses on constitutional law. Thus, his own involvement with taxation really began when he was a young assistant in the Solicitor General's Office--a post he later came to occupy in his own right.

My fifty-three years of involvement with the tax law--a decade less than Erwin can claim--started before World War II, when I took a course at the Yale Law School, given by a then virtually unknown young teacher, Gerald Wallace. He was a remarkable instructor, distinguished from others in that day because he did not use a case book. Nor did he focus on the handful of Supreme Court tax decisions that were the standard raw material for study at that time. He chose instead to rummage through the Board of Tax Appeals reports for cases that gave one a fuller impression of the way the tax law was affecting the lives and fortunes of people, businesses, and other institutions in that period before World War II.

He also pioneered in viewing the tax law not as a snapshot--that is, as a picture of a dispute between a particular taxpayer and the Internal Revenue Service--but rather as a motion picture. Thus, he often began the discussion of a particular decision, not with the events of the taxable year that brought the dispute before the court, but rather with the actions of the taxpayer at some earlier time. He probed into the question of how the taxpayer's acquisition of property, entry into a contract, or creation of a trust might have been reported for tax purposes during the years before the controversy arose. Then he would shift into a fast-forward mode, pressing us to think about what would happen next year, and the years after that. His was, I think, a novel approach to the tax field, however familiar it may seem today. Moreover, in this motion picture, he routinely shifted to a wide-angle lens, analyzing the impact the decision would have on other people who had an interest in or would be affected by the tax controversy. This enlarged community of interest encompassed persons on the other side of the transaction, members of their families and others related to them, and still others who were not and could not have been heard by the court, but who would be affected by its decision, and whose tax attributes or business risks and opportunities diverged sharply from those of the taxpayer who litigated the issue.

Thus, Gerry Wallace's course was a very impressive beginning for me in the tax field, although at that time I had no thought of entering academic life. Not long after the end of World War II, Gerry fathered the LL.M. in Taxation Program at New York University, which has been the single most important pedagogical influence on the tax bar of today.
Last year Erwin Griswold mentioned Randolph Paul as one of the outstanding members of the tax bar of yesteryear. There are enough people here with grey hair to remember something about him. I was introduced to Randolph Paul as a student in Gerry Wallace's tax class, when I was in desperate need of funds to continue with my education. Paul, then working on a book on estate and gift taxation, wanted a couple of research assistants to check citations and to try their hands at drafting or revising parts of the manuscript. Gerry rashly recommended me to Randolph, and the first time my name appeared in print in connection with taxation was in Randolph's generous acknowledgement in the preface to his book. Years later, after I entered academic life and in the first year or two of our marriage, my wife and I were in Washington. I took her to meet Randolph Paul, a meeting she particularly welcomed because her grandfather was the original Weiss of the Paul Weiss firm, having been a founder of that firm in the 1880s. Randolph took Anne aside, and advised her not to let me undertake the writing of a treatise, evidently because his own authorship of Paul and Mertens, combined with a busy law practice, had imposed a grueling burden on him in the early 1930s.

Erwin also referred in his lecture to Stanley Surrey. My first contact with Stan came in 1942, a year after I graduated from law school, when I was about to complete a judicial clerkship and was looking for a job to pursue temporarily until entering military service. Stan, who was then in the Treasury, offered me a job. I turned it down because the honeyed words that I heard from Lloyd Cutler and George Ball, in another office in Washington at the time, won me over. In any event, Stan was soon in the Navy and I was in the Army.

When invited to give this talk, I felt greatly honored by the invitation, but I was a bit uncertain about accepting it because following my retirement from teaching in 1983 I shifted the focus of my research attention to constitutional law and away from taxation. That caused some of my colleagues to point out that I had been involved with the Internal Revenue Code for about forty years. Since the Code was, in their view, worse in 1983 than it had been before I started, they wanted me to keep my hands off the Constitution.

Wondering what to talk about, I was struck one day by a dramatic account in the New York Times of a mathematician who supposedly had reconstructed Fermat's last theorem. As many of you know better than I, Fermat was a seventeenth century mathematician, whose papers, discovered after his death, contained a marginal notation about a great puzzle in the history of mathematics. The comment was, "I have discovered a truly remarkable proof which this margin is too small to contain." That made me think: suppose we discovered that Stan Surrey's personal copy of the Internal Revenue Code contained a marginal annotation, "I have found a way to simplify the Code but don't have time to develop my thoughts here." Or suppose Jim Eustice's copy of the successive proposed section 385 regulations said, "I have devised a litmus test that will infallibly distinguish between debt and equity, but I don't have time to explain it." Could I--like the enterprising commentator on Fermat--make my mark on history by reconstructing the unpublished thoughts of these great tax scholars? My conclusion was that even if I could make any headway, I could not express my thoughts in a mathematical formula. Indeed, I used to amuse my students by demonstrating--inadvertently, alas--that I could barely add and subtract, especially on a blackboard.

It occurred to me, however, that there was another episode in the history of mathematics that might have some bearing on our subject--Goedel's proof. Goedel was a turn-of-the-century mathematician who looked at a number of mathematical propositions and proved, at least to the satisfaction of people who understand these things, that certain of those propositions could never be proved as either true or false. So I decided to discuss whether Goedel's dismal conclusion applies to some assertions about taxation. Are there issues that will forever defy our attempts to establish whether they are true or false?
In this spirit, let me turn to something that is much in the news these days--revenue estimates and related statistical issues. Let me make it quite clear that I approach these matters as an amateur, without formal training in economics or statistics, and devoid also of the practical experience that some of you gained while working in the Treasury.

But I have two advantages. One--perhaps only a partial advantage--is that the Joint Committee on Taxation recently published two pamphlets, one on revenue estimating and the other on the preparation of distributional tables showing how tax burdens are borne by taxpayers in different income levels.1 I am by no means able to understand either of those pamphlets in full. But if I have misinterpreted them, perhaps my errors will be instructive, revealing how other readers--amateurs like me--may have been similarly confused or misled.

I am also able to draw on conversations with my academic colleague, Michael Graetz, who is engaged in a major analytical and critical examination of these subjects, a draft of which he was kind enough to let me read. Let me repay his generosity by saying that if my remarks find favor in your eyes, do not hesitate to thank me; but if there are mistakes, Michael is the one to whom complaints should be addressed.

Now, let me start with revenue estimates. In 1957, relatively early in my teaching career, Joseph Pechman, an economist at the Brookings Institution whom virtually all of you probably know by reputation and many by personal contact, published a pioneering study in which he looked at the total amount of taxable income reported on tax returns.2 Without the benefit of today's computers, and despite the necessity of relying on a great deal of fragmentary data, he estimated the total amount of economic income received by taxpayers in the same period, and compared the two totals. To do this, he expanded taxable income as defined by the Code to include such omitted items as tax-exempt interest on state and municipal bonds, to exclude deductions like interest on home mortgages and local realty taxes on nonbusiness property; and to adjust for other differences between the Code's definition and the economists' definition of income. He then went on to show that if the existing rates of that day were applied to the expanded economic base, revenue would be increased by about 37 percent.3 Pechman suggested that this increase might be used to reduce tax rates; but to old Democrats like me, it looked like a pot of gold that would finance all of our favorite social programs, including--why wait for Bill Clinton to grow up?--universal health care.

It is hard to overestimate the influence that Pechman's study had on my generation of tax teachers and students. His computations, however, assumed not only that Congress would keep the rates the same while expanding the base, but also that the expansion of the base would not induce significant behavioral responses. To be sure, Pechman recognized that taxpayers might take steps to avoid subjecting themselves to this much heavier tax burden: taxpayers might do less work, enjoy more leisure, and so on. But is it fair to say that the lesson derived by nontechnical audiences from his study was that all Congress had to do was expand the base--and, lo and behold!, an enormous increase in federal revenue would appear. Indeed, this assumption generated an almost moralistic sense among the academic tax lawyers of the day that Congress had enacted high and progressive rate schedules, but that its objective had been frustrated by the erosions and leakages that Pechman quantified. Thus, the reaction was not that the political process had produced both the ostensibly high tax rates and the eroded tax base as Siamese twins in an integrated tax


3 Id. at 25. With a change in the married couple income-splitting provision, Pechman estimated a 50% increase in yield.
bill; but instead that the formal tax rates reflected Congress at its best, while the erosions reflected a closed-door triumph of wicked special interests.

A lot of water has gone over the dam since Pechman's extremely important study of the revenue that might be raised by changes in the tax base. The revenue estimates that are currently available differ from Pechman's early studies both in the tools and the methodology employed by the estimators.

With respect to the tools, of course there is the obvious change—the advent of the computer. Instead of pen and ink and perhaps a manual adding machine, we now have an electronic data bank containing the entries on two hundred thousand individual returns. This permits the estimators to change one or more items, and then to recalculate the taxes hypothetically due on two hundred thousand returns, all neatly assigned to various income and tax rate levels.

The framework of analysis is also different. Pechman sought to determine the aggregate impact of a massive expansion of the tax base, holding rates constant. Today's studies focus instead on incremental changes. Although these individual changes can have a substantial impact, none of them reaches the same magnitude that was involved in Pechman's study. In this respect, today's estimators use a jeweler's loupe where Pechman used the naked eye. On the other hand, his calculations treated the relevant numbers as immutable, while today's estimators focus on a moving target that takes into account estimated changes in such macroeconomic features as gross national product, inflation, interest rates, and employment levels.

In addition, estimators now endeavor to take microeconomic behavioral changes into account. At one end of the spectrum, of course, there are some numbers that taxpayers have little or no power to alter. For example, if a credit or tax allowance is given to people over sixty-five, the incremental loss in revenue can be estimated with substantial accuracy, assuming the existence of reliable demographic figures, since the enactment of a credit is unlikely to induce older taxpayers to start jogging or stop smoking and thereby alter the previously estimated number who will reach and survive age sixty-five.

At the other end of the behavioral spectrum, however, tax changes undoubtedly cause taxpayers to adjust their personal or economic activities in ways that are difficult to predict. If state and municipal bond interest loses its tax immunity, how fast will taxpayers shift to other tax-favored investments or to taxable securities offering higher yields? If the tax rate on realized capital gains is raised or lowered, how large a change will that induce in sales by taxpayers holding appreciated securities?

A recent article in this journal examining a series of issues in revenue estimating included several admirably candid case studies of discrepancies between the revenue estimates for various enacted tax changes and their actual revenue results, to the extent that the latter could be isolated from the effect of other forces that were simultaneously at work during the relevant period. (It might be noted that if the impact of the legislative changes cannot be isolated from the effect of other economic forces, then even estimates that turn out to be consistent with the actual results do not confirm the validity of the estimates.) Two of these case studies are of special interest in thinking about the problems in this type of forecasting.

One involved an estimate of the revenue consequences of the 1981 liberalization of the rules governing Individual Retirement Accounts. It turned out that the revenue loss attributable to that change was much greater than predicted. The authors say that the key fact in explaining this discrepancy was the estimators' failure to anticipate that the changes in the IRA rules would stimulate a massive--and, they assume, successful--advertising campaign by financial institutions to persuade investors to put their money into individual retirement accounts.

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The article goes on to say that in the future, estimators will probably take advertising into account. Will this prove to be a cure, or only a disappointing nostrum? Even those too young to remember the Ford Motor Company's beguilingly advertised (and dismally unsuccessful) Edsel car have no doubt heard the story of the businessman who was told by a financial analyst with an M.B.A. from Harvard that his advertising budget was twice what it ought to be. "No doubt," said the businessman, "but which half is the wasteful part?" Who knows? If the next estimate assumes erroneously that a proposed enactment will be successfully advertised, there will be another discrepancy to be explained—and so on. I say this not to criticize the revenue estimators. Putting ourselves in their shoes, each of us can say: "There but for the grace of God, go I." Does this sobering thought qualify as a Goedel proof of the impossibility of being certain?

The second case study that I would like to discuss concerns the 1990 estimates about the impact of lowering the tax on realized capital gains. The Treasury predicted that the proposed change would increase revenue by $12.5 billion. The reasoning, of course, was that in addition to the realizations that would have occurred under the old law, there would be a great many more realizations to take advantage of the lower rates. The Joint Committee on Taxation, however, thought that instead of a $12.5 billion increase, there would be an $11.5 billion loss. Cynics might suggest, or even allege, that rival political agendas nudged the estimates in opposite directions; but the authors, more charitably, ascribe the $24 billion chasm to the influence of a few small differences in behavioral assumptions, small differences that did not counterbalance but instead accentuated each other. This phenomenon, I believe, is a component of chaos theory, illustrated by sequences of this type: someone lights a cigarette in Tokyo; a wisp of heated air floats above the city; it propels a cloud eastward; the cloud disrupts the trade winds; and, voila', there is a hurricane in the Caribbean and a flood in Bangladesh. In short, anything can be the last straw, even if it is only the indistinct shadow of a straw. Maybe it is too early to announce with confidence that this tyranny of small differences as it rules over revenue estimating is worthy of Goedel's analysis, but surely that is a reasonable conjecture.

The authors of the case studies also make an interesting and intriguing reference to the "patron saint" of revenue estimators: St. Offset, who has the power to cure errors in one direction by inspiring the estimators to make errors of the same magnitude in the other direction. I wonder. Suppose a cheerful TV weather-forecaster acknowledged that every time he predicted rain, we got sunshine, but every time he predicted sunshine, we got rain. Could he preserve his job by pointing out that half of the days were sunny and half were rainy, just as he predicted?

Given the uncertainties in predicting the future, one might ask the estimators to footnote their estimates with quality evaluations indicating the degree of confidence they attach to each separate estimate. (Of course, finicky readers might want them to move on to the next level: whether a rating of "confidence" is put forward with confidence, or with reservations—a process that could of course be repeated ad infinitum.) A commentator on the case studies I have just described observed that the estimating community has "always said that you cannot give politicians a range." No doubt the legislative consumers of estimates would pick and choose among the individual estimates, depending on the degree of confidence expressed by the professionals; but why is that objectionable? The expert's reluctance to share his doubts with the consumers of revenue estimates is reminiscent of the attitude of the permanent civil service in Great Britain, the people who feel that the government of the day—whether Conservative, Labor, or Liberal—should not be allowed to get too close to the keys of the kingdom. This disdain for politicians may suit the British, but it seems unlikely, over the long haul, to be successful in the United States. Moreover, the absence of quality ratings may be counterproductive: instead of imbuing all estimates (good, bad, and indifferent) with the strength that is inherent in the best of them, the one-size-fits-all practice may convince consumers that the chain is as bad as its weakest link.

Commentary by Howard W. Nester, 10 AM. J. TAX POL'Y 305 (1992).
I had hoped to comment on the way revenue increases and decreases are allocated by estimators among taxpayers on different levels of the economic ladder--another form of analysis to which Joseph Pechman contributed much thought and effort; but in the limited time left, I must content myself by saying only that distributional estimates are subject to the same difficulties as revenue estimates, as well as to some complexities of their own--including the intriguing riddle of who would bear the burden of governmental expenditures in a fanciful "world without taxes."

I would like in conclusion to say a few words about the relationship between revenue estimates and the distribution of government expenditures and benefits. A ten percent reduction in revenue does not, of course, require a ten percent reduction in this, that, or the other expenditure. There may have to be reductions somewhere if borrowing is not feasible, but there is no direct link between receipts and expenditures. It is customary, therefore, to examine the taxing process and its consequences without regard to the uses to which the government will put the money. This may be an example of what Professor Thomas Reed Powell, an acerbic colleague of Dean Griswold, called the lawyer's ability, when faced with two inextricably intertwined things, to think about one without thinking about the other.

There are, of course, daunting conceptual difficulties in allocating government expenses among people in proportion to age, sex, wealth, income, or whatever other characteristic one wants to use as a distributional variable. For example, if it costs fifty thousand dollars a year to feed, clothe, and house an inmate in a federal prison, should these expenses be allocated, as though they were subsidies, to the inmates who get the meals, clothing, and housing; or should the outlays be regarded as benefits conferred on the victims of crime, or on all of us; and, if we all benefit from the cost of maintaining prisons, is the benefit an equal amount per person, an amount proportionate to wealth, or an amount enjoyed more by taxpayers living in crime-ridden areas than in enclaves of tranquility? Similarly, should school expenditures be allocated to families with children, to those who may have children in the future, to employers who will want to employ the pupils, or to all citizens? If national defense is to be allocated among taxpayers, should the division be an equal amount for every person, old or young, rich or poor, or should it be in proportion to wealth or income, or primarily or solely to persons living close to the predicted foreign invasion?

This amorphous subject reminds me of a conversation I once had with a neurosurgeon on the faculty of the Yale Medical School. I asked him how long it took him to decide whether a resident was likely to become a good surgeon. He said "not very long, because the prime characteristic of a surgeon is the ability to make decisions on the basis of inadequate information." What he meant, of course, was that in performing an operation, he often would have liked to pause while body tissue was sent to the laboratory to be analyzed or while he consulted a colleague for advice about an unexpected condition--but, alas, he was forced to do the best he could with the murky, fragmentary, and conflicting clues at hand. (I apologize for not warning members of the audience who are contemplating elective surgery that this talk may not be suitable for all listeners.) In a way, of course, that is the way we make all the important decisions in our lives: where to go to school, what to study, the occupation to enter, how to select a spouse, where to live, and how to raise our children. Even though we in the tax field are immersed in numbers, I see no likelihood that we are going to find a degree of precision that will displace experience, conscientious judgment, and, whether we like it or not, guesswork. If Goedel could be revived, perhaps he would agree that these are all areas that cannot be quantified with exactitude.

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