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GAO

Report to the Chairman, Committee on the Budget, U.S. Senate

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TAX ADMINISTRATION

Difficulties in Accurately Estimating Tax Examination Yield

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GAO

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The Honorable Lawton Chiles
Chairman, Senate Committee
on the Budget
United States Senate

Dear Mr. Chairman:

This is our second report in response to your February 4, 1987, request. The first report (GAO/GGD-88-16, Dec. 2, 1987) discussed IRS' implementation of the 1987 revenue initiative, which provided for 2,500 additional examination staff. This report discusses the assumptions IRS used in estimating the yield to be derived from the increased staff and in computing the results actually achieved.

As arranged with the Committee, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of issuance. At that time, we will send copies to congressional committees having an interest in the matters discussed and to other interested parties.

Sincerely yours,

J. C. Finch
for

Richard L. Fogel
Assistant Comptroller General

Executive Summary

Purpose

The Internal Revenue Service (IRS) audits tax returns and often finds that more taxes are owed. For that reason, one way to raise federal revenues is to increase IRS' examination staff. But how much more can the government expect to collect that way?

This report, in response to a Senate Budget Committee request, addresses two questions:

(1) Can Congress rely on IRS' estimates of examination yield?
(2) Were the expected results of an increase in examination staff in 1987 realized?

Background

For fiscal year 1987, Congress provided IRS funds to add 2,500 examination staff in an effort to increase audit coverage and tax revenues. Another 2,500 positions were approved for fiscal year 1988.

In its budget request for 1987, IRS estimated that its total examination staff including the 2,500 additional positions would audit 1.7 million tax returns, which would result in assessed taxes, penalties, and interest of $15.7 billion in 1987. IRS used historical data, managerial judgment, various assumptions, and a computerized model to develop those estimates.

Results in Brief

The need for IRS to do as good a job as possible of estimating the amount of additional taxes it can collect if Congress provides it with more examination staff is critical for several reasons. The appropriations committees need to have a good understanding of the potential return, in terms of tax dollars collected, when deciding how many more auditors to give IRS. On a broader scale, Congress needs to have reliable estimates to determine how much tax can be collected when setting overall spending and revenue estimates to comply with the various budget processes both it and the executive branch must follow.

Making those estimates is a difficult task. Certain assumptions must be made and history does not always bear them out. Overall, IRS has been conservative in estimating the amount of revenues it can generate by its audits. Given the unknown effect of changing tax laws on audit results, it is prudent for IRS to be somewhat conservative. But, if the trend over the past few years were to hold, Congress could expect results in any one year to be an average of about 20 percent more than what IRS estimates.

While the overall amount of revenue IRS has realized has been more than estimated, it was much more difficult to estimate the exact amount of revenue that could be generated by adding a specific number of auditors in 1987. IRS did not use all the staff years Congress gave it to do audits. The number of staff years devoted to auditing returns was virtually unchanged from 1986 to 1987. IRS and GAO disagree on the amount of revenue generated as a result of the additional audit staff in 1987. IRS says about $850 million. GAO is not sure what the exact amount is, but believes it is much less.

GAO, however, believes it is important to put in perspective the disagreement between it and IRS on the specifics of the 1987 revenue amounts. Considering the time it takes for IRS to hire new staff and the time and effort involved in training them, GAO believes it is unreasonable to expect much additional revenue in the first year of a major staff increase. GAO believes that an increase in auditors will eventually have positive revenue implications once the staff gains experience and the training burden associated with new staff has diminished. Thus, GAO does not believe that an increase in IRS' examination staff should be looked to as a vehicle for generating short-term revenue, but rather as one that will bear fruit over a longer period.

IRS needs to review its entire revenue estimating process to validate the assumptions used and to better reflect actual historical trends.

Principal Findings

IRS Needs to Reassess Its Yield Estimating Process

Each year since 1978, IRS' estimates of the amount of additional tax to be recommended by its examination staff have been consistently less than the amount of additional tax IRS showed as actually recommended that year. The annual underestimate averaged 28 percent over the period and ranged from about $100 million in 1978 to about $3.8 billion in 1986. Over the past 5 years, the annual underestimate was about 21 percent. (See pp. 12 and 13.)

Future estimates of revenues to be gained from audits would be more reliable if IRS used more realistic assumptions. For example, IRS needs to better recognize actual hiring and training patterns and past years' information on the amount of staff time devoted to audits and the number of audits done in that time. (See pp. 15 to 21.)

One key assumption IRS uses in developing its estimates is that a certain percentage of the additional tax recommended by its examination staff will eventually be assessed (some recommended tax does not get assessed because some taxpayers successfully appeal all or part of the examiner's recommendation). The percents IRS uses were derived from data generated by tracking the results of audits closed in 1972. IRS recognizes that the tracking data need to be updated and has been trying, unsuccessfully so far, to do so. (See p. 22.)

IRS uses the same percents, based on the same tracking data, to compute the "actual" assessed amounts shown in its budgets. As such, the "actuals" are really only estimates—a fact not disclosed in IRS' budgets. Congress' budget deliberations would be enhanced if it had actual information on the amount of revenue generated through IRS' audits—information that is currently available in IRS' computerized files. (See p. 22.)

Results From 1987 Initiative Were Less Than Congress Expected

In support of its request for 2,500 additional examination staff years in 1987, IRS told Congress that it expected to audit 120,000 more returns and assess, as a result of those audits, $829 million in additional taxes, penalties, and interest. For various reasons, however, including a decision to divert audit staff to other IRS functions and an inability to bring new staff on board as quickly as anticipated, IRS fell short of the examination staffing level approved by Congress. IRS also ended up doing fewer, not more, audits in 1987. (See pp. 12, 16, and 28.)

Despite failing to achieve approved staffing levels and doing fewer audits, IRS calculated that the staffing increase authorized for 1987 generated $847.5 million in assessed taxes, penalties, and interest. For several reasons, GAO believes IRS' computation is overstated. GAO believes that audit revenues fell far short of expectations. (See pp. 28 and 29.)

Among other things, IRS' $847.5 million computation was based on an increase in staff that was more than double what actually occurred. Use of the smaller figure would have reduced IRS' calculation by about $450 million. Revising another assumption about the types of tax returns to which the increased staff years were allocated would have reduced the calculation by another $284 million. (See pp. 29 to 31.)

IRS' computation also did not take into account the amount of potential revenue lost because experienced examination staff were used to train and coach new staff and were thus unavailable to audit returns. Recent IRS estimates of the unrealized revenue associated with training and coaching 600 to 700 new hires ranged from $426 million to $100 million. (See p. 32.)

Recommendations

GAO believes that Congress needs more reliable information from IRS on what it expects to derive from its examination program and what it actually achieved. Accordingly, GAO recommends that Congress consider requiring IRS to include in its annual budget submission information on actual revenues derived from audits. GAO recommends also that IRS (1) systematically reexamine and validate its estimating process to include an analysis of how historical trends should be used and an updating of audit tracking data and (2) fully disclose in its budget requests that assessed amounts shown as actual are really only estimates. (See pp. 34 to 36.)

Agency Comments

GAO obtained official comments orally from IRS. IRS agreed that it needs to reexamine the yield estimating process. IRS expressed serious concern, however, with GAO's conclusion that the 1987 staffing increase generated little, if any, revenue in 1987 and GAO's implication that similar results might be expected in the first year of future increases.

According to IRS, GAO failed to recognize such management realities as the need to divert examination staff to other IRS functions and the need to absorb unfunded pay increases—actions that would erode a staffing base regardless of a revenue initiative. GAO recognizes those realities. It also recognizes, however, that changes in the staffing base make effective revenue estimating difficult. GAO believes that Congress would be better served if IRS' computation of yield generated by an approved increase in staff included the negative effect of other actions that tended to erode that increase. That information would be more meaningful to Congress in deliberating future revenue initiatives. (See pp. 32 and 36.)

GAO later received written comments from IRS which are included as appendix III.

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Abbreviations

DIF	discriminant function
GAO	General Accounting Office
IRS	Internal Revenue Service
TCMP	Taxpayer Compliance Measurement Program

Chapter 1

Introduction

In an effort to increase audit coverage and tax revenues, Congress provided the Internal Revenue Service (IRS) with funds that would enable it to increase its examination staff by 2,500 additional positions in fiscal year 1987. This was to be the first year of a 3-year revenue initiative. Funds for the second year of the initiative, also involving 2,500 positions, were appropriated for fiscal year 1988. A planned third increase of 2,500 positions was not included in the President's budget for fiscal year 1989 because the 1987 bipartisan budget agreement did not include any provision for additional revenue initiatives for IRS.

Of the 2,500 additional examination positions approved in fiscal year 1987, IRS planned to fill 1,618 with revenue agents, 175 with tax auditors, and 707 with support personnel. Included among the 707 support personnel were an unspecified number of tax examiners.[1] In its budget request, IRS estimated that the additional 2,500 examination positions would enable it to audit 120,000 more returns, which would increase audit coverage to a level of 1.42 percent.[2] IRS estimated that as a result of those audits it would eventually assess $829 million in additional taxes, penalties, and interest.[3] IRS also estimated that its overall examination effort in fiscal year 1987, including the additional positions, would generate $15.7 billion in assessed taxes, penalties, and interest that year.[4]

Through a supplemental appropriation for fiscal year 1986, Congress provided IRS with funds to begin hiring the first increment of revenue

[1] Revenue agents audit the more complex tax returns by visiting taxpayers or their representatives at their homes or places of business. Tax auditors examine less complex returns and generally examine those returns at one of IRS' 63 district offices. Tax examiners, who work out of IRS' 10 service centers, audit returns involving issues that can be handled by correspondence.

[2] IRS computes audit coverage by dividing the number of individual, corporate, partnership, estate, and gift returns examined by the number of such returns filed. Individual, corporate, partnership, estate, and gift returns accounted for 1.6 million of the 1.7 million returns IRS expected to audit in fiscal year 1987.

[3] IRS uses four different terms to measure yield—recommended, assessed, assessed with interest, and collected. "Recommended" is the amount of additional tax the revenue agent, tax auditor, or tax examiner decides a taxpayer owes after auditing the taxpayer's return. "Assessed" is the amount of taxes and penalties IRS decides is due and payable from the taxpayer. That amount often differs from the recommended amount because of reductions resulting from taxpayers' appeals of audit findings. "Assessed with interest" is the assessed amount plus interest. "Collected" is the amount IRS receives in payment of the assessed amount, including any penalties and interest.

[4] This is the same amount as the amount of recommended tax IRS said it would generate as a result of its 1987 audits. Those numbers are not comparable, however. The $15.7 billion in recommended tax does not include about $.5 billion that IRS expected to result from contacts made by its service centers that IRS does not consider audits. In computing the amount of assessed taxes, penalties, and interest for budget purposes, however, IRS does not separate out these contacts. Thus, the $15.7 billion assessed figure includes a relatively small amount attributable to service center contacts.

initiative staff in July 1986. The Treasury, Postal Service, and General Government appropriation bill for 1987, incorporated in a Continuing Resolution passed in October 1986, provided money to fund the 2,500 positions in 1987. In its report on the Treasury appropriation bill, the House Committee on Appropriations noted that the 2,500 additional positions were expected to produce additional collections of $600 million that year.

The Continuing Resolution for 1987 also allowed IRS to transfer up to 1 percent of its examinations and appeals appropriation to other IRS appropriations (such as the one for processing returns).

Congress uses IRS' examination yield estimates in determining the amount of revenue available to fund government programs. Congress also uses those estimates during its deliberations on the budget and on steps that can be taken to meet Gramm-Rudman targets. Because of the importance Congress places on the estimates, the Senate Budget Committee asked us to assess the major assumptions used by IRS in computing them.

Overview of IRS' Process for Estimating Examination Yield

IRS' process for developing the examination yield estimates used in its budget requests begins with its estimate of the number of returns anticipated to be filed in the budget year and decisions on the audit coverage it hopes to achieve for each tax class.[5] Factors that affect this decision include the (1) level of noncompliance in the class, (2) anticipated dollar yield for each dollar of examination cost, and (3) expected level of examination staffing. By multiplying the desired level of audit coverage by anticipated filings, IRS identifies the estimated number of returns to be audited in the budget year. Using statistics on the number of audits it can complete in a staff year, IRS allocates the anticipated number of staff to the various tax classes.

IRS then multiplies the estimated number of returns to be audited by the estimated average recommended yield per audit to arrive at a total estimate of recommended tax. To arrive at an estimated amount of assessed taxes and penalties, IRS applies an assessment rate—the percentage of recommended tax that IRS assumes will be assessed after taxpayers have exercised their appeal rights—to the estimated recommended tax. It

[5]A tax class is a grouping of returns on the basis of return type, such as individual or estate; source of income, such as farm or business; and level of income. Appendix I contains a list of the 33 tax classes IRS used in computing its fiscal year 1987 budget estimates.

then applies other rates to convert that figure to the amount it expects to assess with interest and the amount it expects to collect with interest.[6]

IRS goes through various iterations of this process each year to reflect, among other things, different assumptions as to the staffing it will receive in the budget year.

Objectives, Scope, and Methodology

As agreed with the Committee, our objectives were to (1) identify and assess the validity of key assumptions used by IRS in estimating its examination yield and (2) assess IRS' computation of the revenue it actually realized in 1987 as a result of the first year of the examination revenue initiative.

To identify the assumptions used in IRS' yield estimating process, we

- interviewed officials in the Assistant Commissioner for Examination's Office of Examination Planning and Research to obtain information on the process;
- reviewed past studies and reports regarding the process; and
- reviewed IRS documentation to determine what and how information was used to (1) compute audit coverage levels, (2) allocate resources, and (3) calculate yield estimates.

To assess the validity of IRS' assumptions, we

- constructed a simulation model to analyze the effect of several assumptions on IRS' revenue estimate for fiscal year 1987,
- reviewed documentation showing the results IRS said it achieved during fiscal year 1987 to see how closely those results matched IRS' estimates,
- discussed IRS' process with individuals who had reviewed aspects of the estimating process for the National Science Foundation and the American Enterprise Institute, and
- interviewed IRS officials in three regional offices and four district offices to discuss the allocation and availability of examination staff.

[6]IRS assumes that on the average about 73 percent of recommended tax will be assessed and that the figure will rise to 96 percent after including interest. IRS assumes also that it will eventually collect about 95 percent of the assessed taxes and interest.

To assess IRS' computation of the yield realized in 1987 as a result of the revenue initiative, we reviewed the computation, discussed its development with those responsible for preparing it, and analyzed the documentation IRS provided to explain it.

We did our work at IRS' National Office in Washington, D.C.; its regional and district offices in Cincinnati, Ohio, Dallas, Texas, and San Francisco, California; and its district office in San Jose, California. We judgmentally selected those offices from among IRS' 7 regions and 63 districts to get some perspective on the estimating process from IRS managers in the field.

We focused our work on IRS' budget estimates for fiscal year 1987 because (1) Congress used that information to make funding decisions about the revenue initiative, (2) actual results were available to test those estimates, and (3) it was the most current year for which IRS had a full year's information on results. As such, our analysis of the results of the revenue initiative was limited to the first year. Those results should not be interpreted as being indicative of what can be expected in future years as the new staff becomes more experienced.

We obtained official comments orally from IRS. Those comments are recognized throughout the report. We later received written comments which are included in appendix III.

We did our audit work between October 1987 and June 1988 in accordance with generally accepted government auditing standards. Much of our analysis required us to work with data generated by IRS' management information systems and by its computerized process for estimating examination yield. We did not determine if the data were accurate. However, we reviewed that data—which are the same data used by, or available to, IRS during its estimating process—for reasonableness and consistency and attempted to resolve any discrepancies.

IRS Needs to Reassess Its Process for Estimating Examination Yield

Over the past 10 fiscal years, IRS' estimates of the additional tax it would recommend from audits were understated by an average of 28 percent a year. In the past 5 years, the average underestimate dropped to 21 percent. During the same 10 years, IRS' estimates of the number of individual, corporate, partnership, estate, and gift returns it would audit were overstated by a total of 1.7 million. Accurate IRS estimates are important, particularly as they relate to revenue, because Congress relies on them in its deliberations on the budget and on the availability of revenues to fund government programs. We recognize that estimating is far from an exact science and that differences are to be expected between estimates and actual. However, after reviewing several key assumptions that IRS uses in developing its estimates, we believe that refinements to some of those assumptions could lead to more reliable estimates.

GAO's Evaluation of Key Assumptions Used by IRS in Estimating Examination Yield

According to IRS' budget for 1989, actual examination results for fiscal year 1987 varied significantly from what IRS had estimated in its budget for 1987.

- IRS examined about 390,000 (24 percent) fewer individual, corporate, partnership, estate, and gift returns than the 1.6 million it had estimated, and audit coverage slipped from an estimated 1.42 percent to 1.10 percent.
- Despite decreased audit coverage, examination staff recommended $19.4 billion in additional tax as a result of audits closed that year—$3.7 billion more than IRS had estimated.
- Of the amount recommended, IRS determined that it assessed $14.9 billion in taxes and penalties ($3.2 billion more than estimated) and another $4.9 billion in interest ($.9 billion more than estimated).[1]

As shown in table 2.1 and depicted in figures 2.1 and 2.2, the results for 1987 continued an historical trend in which IRS, since 1978, has continually underestimated recommended tax and (with one exception) overestimated the number of audits to be done.

[1]As discussed later in this chapter, the amounts IRS cites in its budget as "actual" assessments are really estimates obtained by multiplying the amount of recommended tax by specific percentages, called assessment rates.

Table 2.1: Statistics on IRS' Examination Program Since 1978

Dollars in billions

	Recommended tax			Examinations[a]			
				(In thousands)			
Year	Budget estimate	Actual[b]	Percent increase in actual amount over prior year	Budget estimate	Actual	Percent increase (decrease) in actual audits over prior year	Percent audit coverage
1978	$5.4	$6.1	•	2,195	2,090	•	2.29
1979	5.8	7.1	16.4	2,315	2,083	(0.3)	2.24
1980	5.6	9.4	32.4	2,046	2,049	(1.6)	2.12
1981	6.2	10.5	11.7	2,074	1,827	(10.8)	1.84
1982	7.4	11.7	11.4	1,849	1,634	(10.6)	1.63
1983	9.9	13.7	17.1	1,718	1,591	(2.6)	1.56
1984	11.1	14.3	4.4	1,537	1,344	(15.5)	1.31
1985	13.9	17.1	19.6	1,467	1,380	2.7	1.34
1986	14.2	19.3	12.9	1,313	1,221	(11.5)	1.12
1987	15.7	19.4	.5	1,596	1,207	(1.1)	1.10

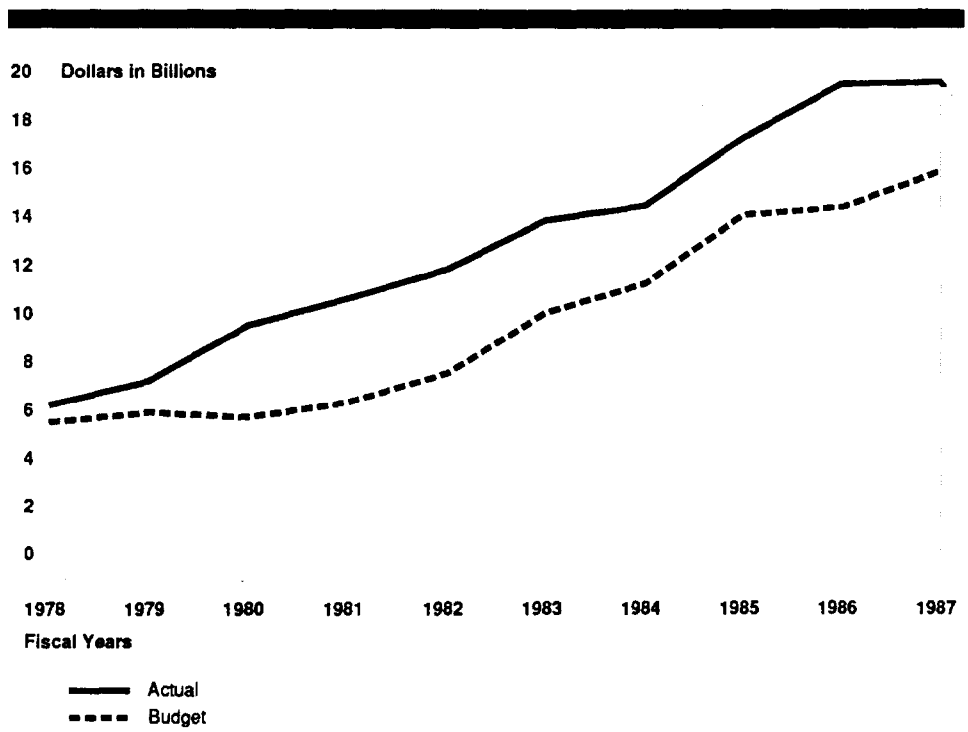
[a]These are examinations of individual, corporate, partnership, estate, and gift returns, which have historically accounted for more than 90 percent of IRS' audits. We excluded audits of other type returns, such as employment and excise, because IRS excludes those audits in computing audit coverage.

[b]As discussed later, IRS computes this figure without netting out the results of audits that showed that taxpayers overassessed their tax liabilities and thus were due refunds. The amount of overassessments ranged from $619 million in 1978 to $1.32 billion in 1986. IRS does net out the overassessments in computing its budget estimates.

Source: Except for the percent increases (decreases), the numbers in this table came from IRS' budget requests and were not verified. GAO computed the percent increases (decreases).

In developing its budget estimates of examination yield, IRS uses a computerized model that, on the basis of historical data and various management assumptions, develops various scenarios as to how different levels of audit staff might be allocated. The yield estimate in IRS' budget is computed on the basis of the allocation scenario decided on by management. Within IRS, the Examination Division's process for allocating resources and estimating yield is considered more advanced than the processes used by other functions. We found, however, that the process was difficult to assess because IRS has (1) no written criteria, (2) little documentation on the process, and (3) no documentation of managerial decisions critical to the process. Also, after assessing the process, we believe that the reliability of Examination's yield estimates could be enhanced if some of the key assumptions used in its process were more realistic. Those assumptions and our findings on their validity are summarized in table 2.2 and are discussed in more detail in the rest of this chapter.

Figure 2.1: Recommended Tax for 1978 Through 1987—Budgeted and Actual



In evaluating each assumption, we used a simulation model to determine the effect of that assumption on IRS' estimates. Those computations are interrelated and cannot be combined to arrive at an overall effect.

Figure 2.2: Number of Examinations in 1978 Through 1987—Budgeted and Actual

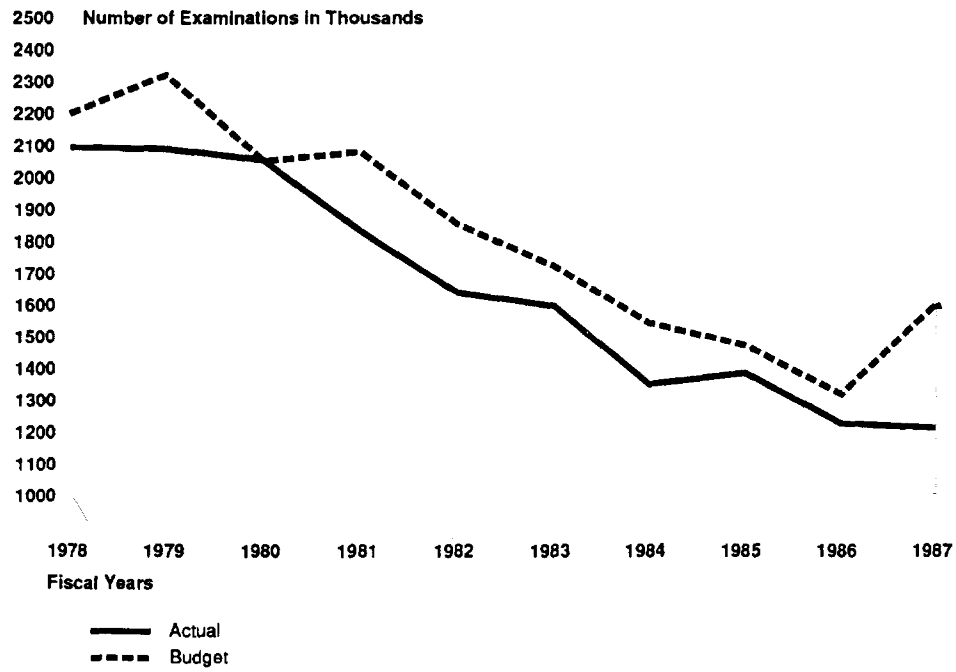


Table 2.2: Assumptions Used by IRS When Estimating Examination Yield and the Validity of Those Assumptions

Assumption	Validity of assumption
1. Approved positions will be filled at or near the beginning of the fiscal year.[a]	Certain conditions prevented IRS from filling new positions as quickly as assumed in fiscal year 1987 and can be expected to continue doing so in the future.
2. A certain percentage of available staff years will be used to examine returns.[a]	IRS has overestimated the number of staff years available to examine returns since at least 1983.
3. Examination staff will achieve certain production rates, expressed in terms of audits completed per staff year.[b]	Some production rates have differed substantially from IRS' projections since at least 1983.
4. Examination staff will be allocated among types of returns in the same manner as projected by the National Office.[a]	Examination staff are allocated differently than the projected allocation upon which yield estimates are based.
5. Assessment rates (tax assessed as a percentage of tax recommended) associated with audits closed in 1972 are still valid.[c]	IRS' attempt to update this information has not produced reliable data with which to validate this assumption.
6. The methods IRS uses to (1) adjust yield curves to reflect operational results and (2) select returns for audit will not affect the accuracy of average yield estimates.[c]	The validity of these assumptions has not been tested.

[a]Assumption caused IRS' yield estimate for 1987 to be higher.

[b]Assumption caused IRS' yield estimate for 1987 to be lower.

[c]Assumption's effect on IRS' 1987 yield estimate unknown.

Approved Staff Was Hired Later Than Expected

IRS computed the yield estimates used in its 1987 budget request on the premise that the 1,800 new revenue agent, tax auditor, and tax examiner positions would be filled by October 1, 1986—the beginning of fiscal year 1987.[2] As discussed in our December 1987 report to the Senate Budget Committee,[3] however, IRS fell short of that goal. According to IRS' records, as shown in table 2.3, IRS realized 548 additional staff years—1,252 less than it had projected.

Table 2.3: Fiscal Year 1987 Examination Staff Years—Projected and Realized

	Projected without initiative	Actually realized with initiative	Actual increase (decrease)	Projected increase	Difference between projected increase and actual increase
Revenue agents	13,924	14,984	1,060	1,616	(556)
Tax auditors	3,681	3,216	(465)	168	(633)
Tax examiners	256	209	(47)	16	(63)
Total	**17,861**	**18,409**	**548**	**1,800**	**(1,252)**

An analysis of IRS' examination results for fiscal year 1987 indicates that IRS, by assuming all staff would be on board by October 1, overstated the number of returns it would audit by about 193,600 and the additional taxes and penalties it would assess by about $1.3 billion.

As noted in our December 1987 report, IRS cited several reasons for the shortfall in examination staff: the need to fill vacancies created by attrition; IRS' inability to offer competitive salaries to college graduates; and the fact that funds for advance hiring were not provided until July 1986, which was not soon enough to allow IRS to compete for June graduates. Despite its experience in 1987 and the fact that conditions have not changed with respect to the timing of appropriations and the ability to offer competitive salaries, IRS continues to develop its budget estimates on the basis of an assumption that all staff will be on board by the beginning of the fiscal year.

[2]The numbers of revenue agent and tax auditor staff years referred to in this chapter do not agree with numbers used in other chapters. The numbers in chapters 1 and 3 come from different IRS documents than the numbers in this chapter, and we were not always able to reconcile them. One reason for the different numbers, according to IRS, is that those in this chapter include only agents and auditors who examine returns while those in other chapters include agents and auditors who filled nonauditing positions.

[3]Tax Administration: IRS' Implementation of the 1987 Revenue Initiative (GAO/GGD-88-16, Dec. 2, 1987).

IRS officials responsible for developing examination yield estimates told us that it is unreasonable to expect them to develop estimates on the assumption that Congress will not pass IRS' appropriation bill by October 1. We believe that if the goal is to develop reliable yield estimates, IRS should develop those estimates on the basis of what it reasonably expects to happen—in this case, when it reasonably expects to receive its appropriation and be able to recruit and hire staff needed to fill newly approved positions. Even if IRS' appropriation were available by October 1, it would still be too late to allow IRS to compete for the previous June's graduates. IRS would have to wait for the December graduating class. With that in mind, we believe it is unreasonable for IRS to assume that it can fill a significant number of new positions by October 1, even if its appropriation were passed by then.

Fewer Staff Were Used to Audit Returns Than Anticipated

In developing yield estimates, IRS assumes that a certain percentage of total staff years will be directed toward auditing tax returns. IRS refers to those as direct examination staff years. IRS failed to achieve that percentage in 1987 and appears to have done so again in 1988.

In estimating examination yield for fiscal year 1987, IRS assumed that examination staff would spend an average of 44.4 percent of their time auditing returns.[4] In actuality, examination staff spent an average of 40 percent. Managers at the three regional offices we visited said that the projected direct examination staff years for districts in their regions were overstated because the National Office underestimated the time associated with training and coaching new staff. As the training schedule in appendix II indicates, for example, about 25 percent of a revenue agent's first year is spent in a classroom. That training is generally done by experienced revenue agents. Experienced agents are also responsible for coaching the new staff during on-the-job training, which consumes another 25 percent of the new staffs' time. The time experienced agents spend training and coaching reduces the time they can spend auditing returns.

The opinion of those regional managers is supported by some comparative data. IRS' estimate of 44.4 percent, for example, was only 1 percentage point less than the figure IRS assumed it would have achieved if staffing had not been increased in 1987 and was higher than the 42.4 percent IRS actually achieved in 1985—a year when training needs

[4]The estimated average percent by auditor type is 43.7 percent for revenue agents, 45.2 percent for tax auditors, and 70 percent for tax examiners.

should have been less demanding because of a lower growth in examination staffing when compared to 1987. Also, IRS data show that 1,447 more revenue agent and tax auditor staff years were charged to training in fiscal year 1987 than in fiscal year 1986—an increase of 91 percent. Those 1,447 years represented 8 percent of the total available examination staff years.

By overestimating direct examination staff years, IRS overestimated the number of audits it would do and the yield it would generate. The 4.4 percentage point overestimate in 1987, for example, meant that when multiplied by the 18,409 total staff years actually realized in 1987, 817 fewer staff years were available to audit returns than IRS estimated.[5] Using IRS' statistics on examination results for fiscal year 1987, the overstatement of 817 direct examination staff years caused IRS' estimate to be overstated by about 142,800 audits and by about $1.6 billion in assessed taxes and penalties.

IRS' overestimation of direct examination staff years was not unique to 1987. As shown in table 2.4, IRS has overestimated every year since 1983 (the earliest year for which we had data).

Table 2.4: Comparison Between Estimated and Actual Direct Examination Staff Years for Fiscal Years 1983 to 1987

Year	Total staff years	Total direct examination staff years	Direct examination staff years as a percent of total	Percent of estimated direct examination staff years achieved
1987-estimated	19,661	8,725.9	44.4	
-actual	18,409	7,355.4	40.0	84.3
1986-estimated	17,916	8,328.0	46.5	
-actual	16,966	7,390.7	43.6	88.8
1985-estimated	17,729	8,760.3	49.4	
-actual	17,868	7,573.0	42.4	86.5
1984-estimated	17,288	8,516.9	49.3	
-actual	17,302	7,380.7	42.7	86.7
1983-estimated	17,654	9,083.3	51.5	
-actual	17,440	8,568.4	49.1	94.3

Source: GAO analysis based on IRS statistics.

IRS has apparently overestimated its direct examination staff years again in 1988. IRS based its 1988 yield estimates on an assumption that 51 percent of available staff years would be spent examining returns, which is 7 percentage points higher than IRS had estimated for 1987 and

[5]The computation is not exact due to rounding.

11 points higher than actually achieved in 1987. A 51 percent assumption for 1988 appears significantly overstated because the training burden in 1988 should be more than in 1987. District offices will have to not only continue training staff hired in 1987 but also start training staff hired in 1988. Because of those growing requirements, officials in the four district offices we visited told us they expected the percent of direct examination staff years to go down in 1988, not up as the National Office assumed. Instead of a range of 40 to 45 percent direct examination staff years in 1987, those officials expected the percents in their districts to decline to as low as 29 to 39 percent in 1988.

National Office officials responsible for developing the yield estimates took issue with the districts' estimates for 1988. They said that actual data as of July 1988 showed revenue agents and tax auditors nationwide were spending about 42 percent and 43 percent of their time, respectively, auditing returns. Although these figures are higher than those estimated by the districts, they are still considerably lower than the 51 percent IRS had assumed in preparing its 1988 yield estimate.

National Office officials agreed that they did not adequately reduce direct examination staff years in 1987 to account for the shift of experienced staff from auditing to training. They also said that they generally do not use trend information in developing their estimates. They prefer, instead, to treat each year as different and to develop their estimates on the basis of what they expect to happen that year. We believe that trend information could be useful in providing a base that IRS could then adjust depending on any special circumstances it expects in the upcoming year.

Actual Production Rates Varied From IRS' Assumption

In computing its yield estimates, IRS assumes that examination staff will be able to achieve certain production rates; in other words, complete so many audits in a year. When compared to the actual production rates achieved in 1987, IRS' assumed rates were overstated in 24 of the 33 tax classes and understated in 9 classes.

According to IRS, it relies on recent operational results in developing production rates for the various tax classes. The most recent operational data available to IRS when it prepared the 1987 budget estimates was for 1985. IRS did not, however, use 1985 production rates. Our comparison of IRS' 1985 production rates with its assumed and actual rates for 1987 showed that IRS would have ended up with closer yield estimates if it had used the 1985 rates in developing the 1987 estimates.

That conclusion is most vividly demonstrated by a look at the three largest corporate tax classes (in terms of asset value). We chose these classes because they provide almost 50 percent of examination assessments. As shown in table 2.5, IRS' assumed production rates for 1985, 1986, and 1987 were lower (often significantly so) than the actual rates 2 years before.

Table 2.5: Production Rates for Three Largest Corporate Tax Classes

Tax class	Fiscal year	Audits completed per staff year: Assumed	Actual
Corporations with assets of from $10 to $50 million	1983	20.88	26.76
	1984	24.04	29.82
	1985	21.65	33.91
	1986	24.03	33.44
	1987	25.97	31.25
Corporations with assets of from $50 to $100 million	1983	12.04	15.15
	1984	12.00	22.72
	1985	12.38	27.88
	1986	12.93	26.95
	1987	13.96	26.15
Corporations with assets of $100 million or more	1983	2.06	2.96
	1984	2.52	3.87
	1985	2.43	4.40
	1986	2.46	5.03
	1987	2.65	4.97

Source: GAO analysis based on IRS statistics

Production rates can significantly affect revenue estimates. For example, IRS' statistics indicate that it used 1,279 direct examination staff years in fiscal year 1987 to audit 6,355 returns filed by corporations with assets of $100 million or more (4.97 returns per staff year),[d] which resulted in assessed taxes and penalties of $6.5 billion. If IRS' assumed production rate of 2.65 returns per staff year had been accurate, IRS would have audited 3,389 returns and assessed $3.5 billion in taxes and penalties—2,966 less audits and $3.0 billion less assessments than actually achieved.

IRS officials responsible for developing examination yield estimates told us they had lowered the assumed production rates for 1987 in the three largest corporate classes because they did not expect the large number of audit closures in 1985 to continue in 1987. We recognize the need for

[d]The production rate was computed by dividing the number of returns examined by the direct examination staff years. The computation is not exact due to rounding.

management to make those kinds of decisions. The assumed rates management decided on, however, were even lower than the actual rates for 1983 or 1984.

We recomputed IRS' results for 1987 using estimated production rates to obtain an indication as to the effect of this assumption on those estimates. Our recomputation showed that IRS, by using the estimated production rates for 1987, underestimated the number of returns it would audit by about 27,000 and the amount of assessed taxes and penalties by about $2.8 billion.

Staff Are Allocated to Tax Classes Differently Than Projected

IRS' estimates of examination yield are predicated, in part, on the National Office's decision as to the level of audit coverage it wants to achieve in each tax class and the amount of staff time it expects to use in each class to achieve those levels. Consequently, the reliability of IRS' yield estimates depends, in part, on the extent to which staff are actually allocated in the manner projected by the National Office. In fact, however, actual staff allocations differ from projected allocations.

Considering the amount of time that transpires between the preparation of IRS' projections and the start of the fiscal year, changes between projected and actual allocations are to be expected. Our purpose in noting such changes is not to question them but to discuss their effect on IRS' estimates.

After IRS develops its budget estimates, the National Office prepares a draft examination plan for each district office that identifies the number of examination staff years allocated to each tax class in that district. District managers adjust the draft plan on the basis of anticipated training needs and attrition. The National Office and regions work together until they agree on a "final" plan. The staff allocation in that plan invariably differs from the allocation on which IRS based its budget estimate and from the allocation actually achieved.

Our evaluation of IRS' statistics indicated that IRS, by assuming a different allocation than that which actually occurred in 1987, overstated the number of returns it would audit by about 27,500 and overstated the taxes and penalties it would assess by about $318 million.

IRS Is Attempting to Update Its Assessment Rates

In its budget request for fiscal year 1987, IRS projected that its examination staff would recommend additional taxes of $15.7 billion as a result of audits closed that year and that those recommendations would eventually lead to assessed taxes and penalties of $11.7 billion.

IRS calculates its estimates of assessed taxes and penalties by applying assessment rates to its estimates of recommended tax. An assessment rate of 75 percent, for example, would mean that IRS expects to eventually assess 75 percent of the additional taxes recommended by its examination staff. IRS developed the assessment rates used in computing its fiscal year 1987 yield estimate by tracking audits closed in fiscal year 1972 to see how much additional tax, if any, was recommended as a result of each of those audits; how much of that was assessed; and how much was eventually collected. IRS is assuming, therefore, that rates derived from tracking the results of 1972 audits are still valid.

Because IRS did not have any documentation on the results of its tracking of 1972 audits, we could not verify whether the assessment rates used by IRS fairly reflect those results. For the past several years, however, IRS has been tracking more recent audits for the purpose of eventually updating its assessment rates. That effort involves audits closed in fiscal year 1982 and each year thereafter. According to IRS, it takes 7 to 8 years to develop reliable assessment rates because some audit cases go that long before taxpayers exhaust their appeal rights and the amount of additional taxes and penalties due is finally assessed. IRS' analysis of its tracking results for 1982 and beyond, however, has led it to conclude that some of the data is invalid. Until it can resolve those concerns, IRS has delayed its plan to use updated assessment rates in developing its fiscal year 1990 yield estimates.

Development of more current assessment rates is important to better insure reliable computations not only of estimated yield but also "actual" yield. In that regard, IRS' references in its budgets to the amount of tax actually assessed as a result of its examination program are merely estimates compiled by applying the 1972-based assessment rates to the amount of additional tax recommended as a result of audits closed during the year in question.

IRS also uses the 1972 tracking data to compute collection rates. It uses those rates to generate "actual" information on the amount collected as a result of audits. IRS does not include the collected amount in its budgets, however. Its budgets only portray examination results in terms of recommended and assessed amounts.

IRS' computerized files include the amounts of assessed and collected taxes resulting from audits, but the data is not compiled for reporting purposes.

IRS' Average Yield Assumptions Have Not Been Tested

In estimating average assessed taxes and penalties, IRS uses yield curves that are constructed from the results of a periodic research effort and adjusted on the basis of operational results. In using those curves, IRS assumes that its adjustments to the curves are accurate and that most returns are selected for audit through mathematical formulas that score returns as to their audit potential. IRS has not tested the validity of the first assumption. The second assumption appears inconsistent with IRS' management information system, which indicates that most returns are selected for audit not because of their score but because of other reasons. We do not know, however, how many of those returns would have been identified for audit through the scoring system if they had not been selected for audit for some other reason.

Validity of Adjustments to Yield Curves Has Not Been Tested

In developing yield estimates for many of its tax classes, IRS uses curves that are derived from data generated by an IRS research effort known as the Taxpayer Compliance Measurement Program (TCMP)[7] and are adjusted to reflect the most recent operational results.[8] IRS uses the curves to estimate the average yield per return at various rates of audit coverage. One of IRS' assumptions in computing its yield estimates is that an adjustment to the curve to reflect operational results at one level of audit coverage is valid at all levels of coverage.

Figure 2.3 shows a yield curve we developed from IRS data for the tax class covering individual returns with a total positive income of $50,000 or more.[9] The higher curve was developed on the basis of TCMP results; the lower curve was developed after adjusting the TCMP curve to reflect operational results for 1987—a coverage level of 1.3 percent with an average yield per return of about $7,000. At that level of coverage, the

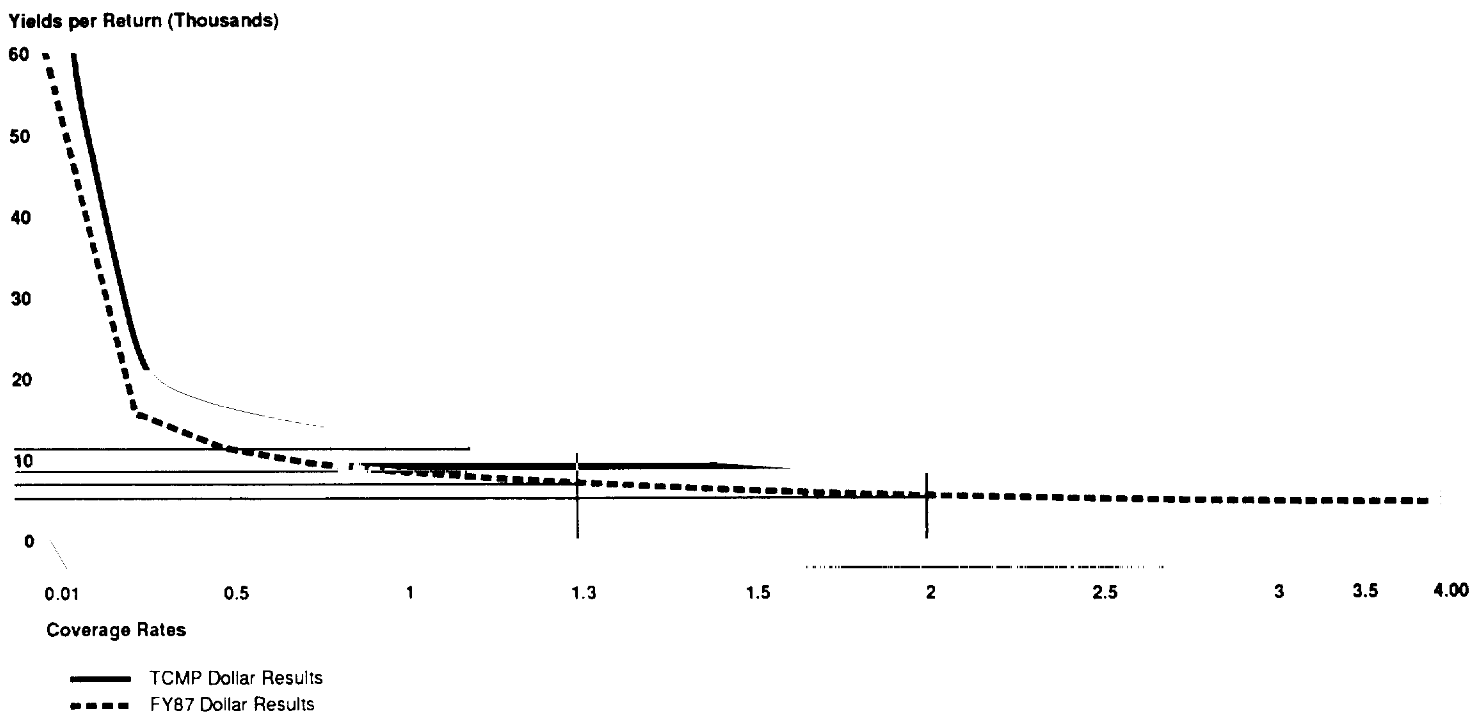
[7]TCMP is a research effort in which IRS periodically selects for examination a stratified random sample of individual, partnership, and fiduciary returns and certain other returns. Unlike regular audits, TCMP examinations involve a review of every item on the selected return. IRS uses TCMP results to measure levels of voluntary compliance and to develop mathematical formulas for scoring returns as to their audit potential.

[8]Yield estimates for some classes are derived on the basis of historical operational data, rather than TCMP.

[9]Positive income is the income reported on the tax return before offsetting losses.

TCMP-derived curve shows an average yield of about $11,000 per return. IRS would adjust the curve to reflect the difference between TCMP and operational yield at the 1.3 percent coverage rate and then would derive the lower curve on the assumption that the relative difference between the two curves at that point would remain constant over the entire curve.

Figure 2.3: Examination Yield Curves for Individual Income Tax Returns With Income of $50,000 and Over



Source: IRS statistics

If IRS projects, for example, that in fiscal year 1989 it will examine 2 percent of the returns filed by individuals with $50,000 or more in total positive income, it would estimate an average yield of about $6,000 per return using the adjusted curve, rather than an average yield of about $9,000 using the TCMP-derived curve. The actual average yield, however, could be more or less than $6,000 because IRS has never determined whether its assumption on adjusting the yield curve is valid.

IRS officials responsible for developing yield estimates told us that IRS has never tested the validity of this assumption and that they saw no need to do so. They explained that they only deal with a small segment of the curve in developing their yield estimates and thus do not believe a change in the curve's slope would have any effect. Our analysis of IRS' documentation indicated, however, that there can be differences of several percentage points between the estimated and actual coverage levels. For one class of individual tax returns, for example, IRS used a projected coverage level of 6.5 percent in developing its yield estimate but only achieved a coverage level of 3.9 percent. We believe that those coverage levels are disparate enough to warrant testing of IRS' assumption that adjustments to the yield curve are consistent over the entire slope of the curve.

Not as Many Audited Returns Were Selected on the Basis of IRS' Return Scoring System as IRS Assumed

In computing its 1987 examination yield estimates, IRS assumed that 92 percent of the returns it expected to audit would be selected for audit through mathematical formulas that score returns as to their audit potential. That scoring system is known as the discriminant function (DIF) system. To estimate yield for those returns, which comprise all of the returns IRS expected to audit in the individual tax classes and most of the returns it expected to audit in the corporate classes, IRS used the TCMP-derived yield curves discussed in the previous section. For the other 8 percent of the returns IRS expected to audit, which included estate and gift returns and returns filed by the largest corporations, IRS used historical data to estimate yield because it had no TCMP information on those returns.

Our review of IRS records showed that 49 percent of the returns examined were selected on the basis of their DIF scores. The remaining 51 percent were selected for other reasons, such as their inclusion in one of IRS' special compliance programs, or through manual screening.

In a special compliance program, returns are identified for audit if they involve a specific issue or situation, such as a tax shelter. The need for a special compliance program is usually determined after completion of a study which provides data on yield and costs. Generally, a special compliance program is considered for implementation when test results indicate that the program will generate higher-yield audits than are generated through the DIF system or when IRS has identified a need to improve compliance in a certain area of the law.

Because returns selected through special compliance programs are not selected on the basis of their DIF scores, we believe IRS should not expect the same average yield for the same level of coverage. Because IRS uses historical information to adjust its yield curves, the extent to which the non-DIF selected returns provide a different yield may cause yield projections to be overstated or understated.

Table 2.6 uses information for one tax class—individuals with total positive income of $50,000 or more—to demonstrate the effect special compliance yield can have on IRS' yield estimate. Most of the tax shelter investor returns selected through a special compliance program are in that class. As shown in the table, the class' actual average yield of $4,868 increased to $8,483 after including the tax shelter results.

Table 2.6: Information on Fiscal Year 1987 Audits of Individual Taxpayers With Positive Income of $50,000 and Over

Dollars in billions

	Returns examined	Total assessed taxes and penalties	Average yield[a]
Projected results, includes all sources	328,491	$2.4	$7,202
Actual results, includes all sources	224,453	1.9	8,483
Actual results, excludes tax shelter investor returns	130,742	.6	4,868

[a]The computations are not exact due to rounding.
Source: IRS statistics

IRS officials responsible for estimating examination yield told us that many of the non-DIF selected returns would probably have been selected for audit because of their DIF scores if they had not already been selected for some other reason. Although we agree that is possible, no data were readily available for us to determine to what extent it is true or whether the resulting DIF audit would have addressed the issues that were targeted by the special compliance program and thus produced the same yield.

After IRS developed its yield estimates for fiscal year 1987, it started computing separate average yields for returns in some of the large special compliance programs, such as the one involving tax shelter investors. Separate yields are not developed, however, for all of IRS' special compliance programs.

As discussed with the Committee, we did not attempt to independently validate IRS' average yield assumptions for purposes of this report.

If all of IRS' assumptions relative to average yield are valid, however, its yield estimates would still appear to be understated when compared with the actual results cited in the budget. When estimating yield, IRS offsets recommended tax decreases against recommended tax increases. In computing actual recommended tax for budget purposes, however, IRS only uses recommended increases, thus overstating the actual results cited in the budget. For example, IRS' budget estimate for fiscal year 1987 was reduced by $1.2 billion in recommended tax decreases.

We determined that IRS' estimate of assessed taxes and penalties was understated by $2.7 billion because of underestimated average yields. Of this understatement, $1.2 billion was due to IRS' method of calculating average yield discussed above. We do not know how much of the remaining understatement was due to the two assumptions discussed in this section.

The First Year of the Examination Initiative Did Not Generate as Much Revenue as Expected

In its budget request for 1987, IRS projected that the 1987 phase of the revenue initiative would allow it to examine 120,000 additional returns and, as a result of those audits, assess $829 million in additional taxes, penalties, and interest. IRS statistics show that IRS actually audited fewer returns in 1987 than it did in 1986. Nevertheless, IRS estimates that it assessed $847.5 million more in taxes, penalties, and interest because of the revenue initiative.

We do not know the exact effect of the initiative on 1987 revenues. In computing its figure, however, IRS excluded some things and assumed others that we believe cause its $847.5 million result to overstate the initiative's effect on 1987 revenues. We believe, after assessing IRS' computation, that the initiative's dollar effect fell far short of expectations. That is not an unreasonable result considering the time it takes to recruit and train new staff and the time that experienced staff must spend providing that training. Although the first year may not have produced the expected results, we believe that the increase in IRS' examination staff will have a positive long-term effect on tax revenues.

To put the first-year results in perspective, it should be recognized that IRS' statistics indicate that IRS assessed more taxes, penalties, and interest from its total examination program than it had estimated.

IRS' Yield Computation Was Based on Certain Assumptions

In a December 2, 1987, memorandum to the Chief of IRS' Budget Branch, the Director of IRS' Office of Examination Planning and Research addressed the initiative's effect on revenues. As shown in table 3.1, he concluded that IRS had actually assessed additional taxes, penalties, and interest of $847.5 million in fiscal year 1987 as a result of the 1987 phase of the revenue initiative. Associated collections for the fiscal year were estimated at $602 million.

Table 3.1: Examination Results for Fiscal Year 1987—Planned vs. Actual[a]

Dollars in millions

	Plan	Actual	Difference between plan and actual
Revenue agent staff years			
Base	14,227	13,414	(813)
Initiative	1,618	1,525	(93)
Total	**15,845**	**14,939**	**(906)**
Assessed taxes, penalties, and interest generated by initiative	$664.0[b]	$847.5[c]	$183.5

[a]The numbers in this table came directly from the December 1987 memorandum and may not agree with numbers appearing elsewhere in the report, which came from other IRS documents.

[b]This number differs from the $829 million estimate in IRS' budget for 1987. According to IRS, it represents a later estimate of the revenue that could be expected from the staffing increase.

[c]Although labeled "actual," the assessed dollar amount is really an estimate derived by multiplying recommended amounts by specific percentages, called assessment rates. Those rates were discussed in chapter 2.

After reviewing the memorandum and supporting documentation, we questioned three assumptions that were used in developing the yield estimate:

- Most of the 906 unrealized revenue agent staff years were allocated to the base rather than the initiative.
- Staff years attributed to the initiative were allocated across all tax classes rather than the classes to which new agents are assigned.
- Thirty-three percent of the newly-hired staffs' time was spent auditing returns.

Allocation of Underrealized Staff Years

In computing the amount of yield generated by the initiative, IRS determined that it had realized 906 fewer revenue agent staff years than anticipated in 1987. Because its planned initiative staff years (1,618) amounted to 10.2 percent of its planned total staff years (15,845), IRS decided that only 10.2 percent of the underrealization should apply to the revenue initiative. The rest of the underrealization was used to reduce IRS' base staffing level. As a result, IRS concluded that it had realized 1,525 of the 1,618 initiative staff years when, in fact, its revenue agent staffing had only increased a total of 712 staff years over base (14,939 less 14,227).

IRS officials responsible for computing examination yield told us that they allocated the underrealization between the base and the initiative because they look at the budget, and thus the underrealization, in its totality. They believe, for example, that a diversion of examination staff to taxpayer service would erode the base of revenue agent staff regardless of a revenue initiative. Thus, whatever is assumed to have been the realized staffing base without the initiative is IRS' starting point for calculating the benefits of the revenue initiative.

As discussed in our December 1987 report to the Senate Budget Committee, diversion of resources contributed to IRS' failure to realize all of the increased examination staff years in fiscal year 1987. We are not convinced, however, that IRS' downward base adjustment is consistent with congressional expectations in approving the revenue initiative. Following the logic of IRS' computation, it would have been possible for IRS to realize fewer total staff years in 1987 than its base and still claim increased revenue due to the revenue initiative.

An example is one tax class to which IRS allocated 165 revenue initiative staff years (or 11 percent). In developing its budget estimates for 1987, IRS projected that it would use 3,534 revenue agent staff years in that tax class if it received no increase in staff and that it would use 3,805 staff years if an increase was appropriated. According to IRS' statistics, however, 3,471 revenue agent staff years were devoted to that class in fiscal year 1987—fewer than it had estimated would be used with no staff increase. IRS' assumption is that actual staffing would have been even lower without the initiative.

Had IRS computed its revenue initiative yield on the basis of an overall increase of 712 revenue agent staff years—which is 53 percent lower than the 1,525 staff year increase on which it based its computation—the result, assuming all other factors remained the same, would have been an increase of $398.3 million instead of $847.5 million.

Allocation of Initiative Staff Years Among All Tax Classes

After determining that it had realized 1,525 revenue initiative staff years, IRS computed the increased yield associated with those staff years. In so doing, IRS allocated the initiative staff years to each tax class. As a result, IRS determined that each of the classes contributed to the yield generated by the revenue initiative. According to IRS officials, new revenue agents are allocated to nonbusiness individual classes. This allocation, the officials said, allows IRS to move more experienced revenue agents into higher yield classes and still achieve its planned audit coverage in all classes. IRS takes the position that it is appropriate, therefore, to allocate a portion of the yield from these high yield classes to the revenue initiative. Using that method of computing yield, the 712 revenue initiative staff years that IRS actually realized would have accounted for $398.3 million in revenue. This allocation presents the maximum one might expect from the initiative. Another method of computing yield, which would produce a more conservative result, would base the estimate on yields IRS received from the simpler tax returns to which new revenue agents were actually assigned. Using IRS statistics, all other factors remaining the same, this computation would show the 712 new revenue agents generating a yield of $114.1 million in 1987—a difference of $284.2 million.

Productivity of New Staff

IRS' yield computation was based, in part, on the assumption that 33 percent of each newly-hired revenue agent's year would be spent examining returns. That percent may be overstated because (1) many of those agents were not hired until the last quarter of fiscal year 1987, as discussed in our December 1987 report, which left little time, after the initial 6-week training course, for doing audits and (2) all of IRS' revenue agents only spent an average of 40 percent of their time examining returns in fiscal year 1987. To demonstrate the effect of this assumption on IRS' computation, if IRS had used a productivity factor of 20 percent instead of 33, its yield computation, all other factors remaining the same, would have been about $333.9 million less.

IRS' Yield Computation Did Not Account for Certain Factors

We believe that IRS' yield computation was overstated because it did not include the effect of the decline in tax auditor and tax examiner staff years and did not account for revenue lost due to the use of experienced examination staff to train and coach new staff.

According to IRS, the 2,500 staff increase was to include 1,618 revenue agents, 175 tax auditors, and 707 support personnel (an unspecified number of whom were to be tax examiners). In computing its $847.5 million figure, however, IRS only dealt with revenue agent staff years; it did not recognize the fact, as noted on page 16, that the number of tax auditor and tax examiner staff years realized in 1987 was less after the initiative than before. To accurately portray the result of the revenue initiative, we believe IRS should have recognized the loss in revenue associated with that decrease. We did not compute the amount of that loss.

In commenting on a draft of this report, IRS said that it originally intended to allocate some of the additional positions to tax auditors but decided, later, to convert those to revenue agent positions. IRS said its computation was based on that conversion. Statistics in the December 1987 memorandum describing that calculation, however, show that it was based on a planned increase of 1,618 staff years, which is the number IRS originally intended to allocate to revenue agents and does not include the 175 tax auditor positions. It is not clear to us, therefore, that IRS' computation recognized the positions in question.

IRS' computation also did not account for the unrealized revenue resulting from the fact that experienced revenue agents are used to train and coach newly-hired agents and are thus unavailable to audit returns. IRS recently gave us two documents that show different estimates of that unrealized revenue.

One document included a statement that the reassignment of experienced agents to train and coach 600 new hires would result in lost revenue of $426 million. To realize the 712 additional revenue agent staff years that resulted from the revenue initiative, IRS would have had to hire more than that many new agents (remembering, for example, that a person hired midway through the year only accounts for half a staff year). Using IRS' $426 million estimate as a barometer, recognition of the lost revenue associated with training and coaching new hires could easily offset the $847.5 million in assessed taxes, penalties, and interest that IRS determined had been realized from the initiative.

More recently, IRS estimated that the training associated with an incremental increase of 700 revenue agent staff years would result in an average revenue loss of $100 million. Whichever estimate is more accurate, training is a significant cost that needs to be recognized in calculating yield generated by the revenue initiative.

Agency Comments and Our Evaluation

In commenting on a draft of this report, the Commissioner of Internal Revenue took issue with our comments about the way IRS computed the effects of the 1987 staffing increase. He expressed serious concern with our conclusion that the 1987 staffing increase generated little, if any, revenue in 1987 and our implication that similar results might be expected in the first year of future increases. According to the Commissioner, IRS' computation fairly reflected the revenue it realized in 1987—revenue that would not have been realized if 2,500 additional positions had not been approved. He said that in taking issue with IRS' reduction of the base staffing level, we had failed to recognize the realities he faces in managing IRS. He said, for example, that he had decided before he knew the revenue initiative would be funded to divert examination staff years to IRS' taxpayer service and returns processing functions. He explained that the additional staff funded by the initiative enabled him to backfill those positions—something he would not have been able to do without the initiative. He said that unfunded pay raises also lead to reductions in base staffing levels.

We agree that the kinds of decisions mentioned by the Commissioner are appropriate and necessary from a management standpoint. From a budget standpoint, however, changes to the base as a result of those decisions make revenue estimating difficult because there is no constant. It does little good to approve additional staff with the intent of generating additional revenue if that benefit is eroded by reductions to the base.

We understand that some of the actions that lead to staff reductions are outside IRS' control. We believe, however, that IRS' computation of the yield generated by the revenue initiative would be more realistic and more meaningful to Congress in deliberating future initiatives if it included the negative effect of those other actions. For example, one might conclude after seeing the total picture that more revenue could have been generated in 1987 if Congress had appropriated some of the additional 2,500 positions directly to taxpayer service and returns processing, precluding the need for IRS to divert examination resources. That would have left IRS with fewer additional examination positions to fill, which in turn would have freed up more time for experienced examiners to audit rather than train.

IRS' written comments (app. III) reiterated its disagreement with us as to the 1987 results of the revenue initiative.

Conclusions and Recommendations

For the last decade, recommended taxes attributable to IRS' examination program have consistently exceeded the recommended taxes estimated for budget purposes. The budget estimates are derived from a model that assumes that certain characteristics about the program will be ultimately carried out. Although forecasting is hardly an exact science, the goal in using such a model should be to predict what will actually occur as closely as possible. After reviewing IRS' estimating process, we believe that certain refinements would lead to more reliable estimates. In particular, IRS needs to better recognize historical trends in deciding on such things as direct examination staff years and production rates and to reassess the quality controls associated with the process.

Recommended taxes resulting from the examination program do not represent actual budget receipts. They are first reduced at the appeals stage to taxes actually assessed. Collected taxes are even less. Historically, IRS has assumed that, on the average, it assesses 73 percent of recommended taxes and collects 95 percent of assessed taxes plus interest. These assumptions, which we could not validate, are based on IRS' tracking of 1972 data. Although IRS has attempted to update these figures, it has been unable to produce what it considers satisfactory data. It is important that IRS update the tracking information, as it is attempting to do, so that it has a more current basis for estimating audit yield for budget purposes. IRS could also use the tracking information to compile data on the actual amount of revenue assessed and collected each year as a result of audits. This information is available in IRS' computerized files but has not been extracted and summarized for reporting examination results. Information on actual revenues would provide congressional decisionmakers with a more reliable basis for their deliberations. Short of that, IRS needs to fully disclose that "actual" assessments shown in its budget requests are instead estimates.

Partially because of these estimating uncertainties, it is unclear what additional revenues resulted from the 1987 revenue initiative. Applying IRS' methodology produces the most favorable results. If IRS had taken a more conservative approach—for example, by holding the prior year base staffing constant—far less revenue would be attributed to the initiative. Because they are interrelated, the potential revenue differences we ascribe to each IRS assumption cannot be added and compared to IRS' estimate. But if we were to take into consideration reduced revenues from diverting experienced agents to training and were to apply less favorable assumptions, we could conclude that the 1987 revenue initiative did not produce the additional revenues expected.

Considering the time it takes to bring new staff on board and the time and effort involved in training them, it is not unreasonable, in our opinion, to expect little additional revenue in the first year of a major staff increase. Although information is not yet available on the longer-term results of the 1987 initiative, we believe that an increase in examination staff will eventually have positive revenue implications. Because the training burden spans several years, successive years of additional staffing, such as occurred in 1987 and 1988, could cause an even larger drain on experienced revenue agents' time devoted to examining tax returns. However, once the new staff have gained experience and the training burden associated with them has diminished, overall results should be far greater than would otherwise have been realized.

To better predict such results, it is essential that IRS reevaluate its estimating procedures and validate as many of the assumptions used as possible. Overall, IRS has been conservative in estimating the amount of revenues it will recommend as a result of audits. Given the unknown effect of changing tax laws on audit results, we believe it is prudent for IRS to be somewhat conservative. But, if the trends over the past 10 years were to hold, Congress could expect actual results in any one year to be an average of about 20 percent more than what IRS estimates.

It is critical for IRS to do as good a job as possible of estimating the amount of additional taxes it believes it can collect if Congress provides it with more revenue agents. The appropriations committees need to have a good understanding of the potential return, in terms of more tax dollars collected, when deciding how many more auditors to give IRS. On a broader scale, Congress as a whole needs to have reliable estimates to determine how much tax revenues can be collected when setting overall spending and revenue estimates to comply with the various budget processes both it and the executive branch must follow.

Recommendation to Congress

Congress should consider requiring IRS to include in its annual budget submission information on the actual amount of revenues derived from its audits.

Recommendations to the Commissioner of Internal Revenue

IRS should complete a systematic reexamination and validation of its estimating process. This should include an analysis of the use of historical trends, an updating of the audit tracking data used to compute assessment rates, validation of the average yield assumption, and written procedures to demonstrate the quality controls used in the process.

IRS should also fully disclose in its budget requests that assessed amounts shown as actual are really only estimates.

Agency Comments and Our Evaluation

In commenting on a draft of this report, IRS agreed that changes were needed to its yield estimating process. As discussed in chapter 3, however, IRS did not agree with our views on the results of the 1987 initiative. We later received written comments from IRS which are included as appendix III. The substance of those comments has been reflected here and in chapter 3.

IRS said it intends to develop an estimate, through its model, to show what IRS could have expected in yield if it had not gotten the additional audit positions in 1987. IRS was confident that the estimate, when compared to the results achieved in 1987, would prove that the additional staff had a significantly positive effect on revenues. IRS had not developed that estimate in time for this report. We will review the estimate once it is ready and will give the Committee our comments either orally or in writing, as appropriate.

Tax Classes Used by IRS in Computing Fiscal Year 1987 Budget Estimates

Individual

Nonbusiness (expressed in terms of total positive income):
- 1040A, under $10,000
- Non1040A, under $10,000
- $10,000-$25,000, simple
- $10,000-$25,000, complex
- $25,000-$50,000
- $50,000 and over

Business (expressed in terms of total gross receipts):
- Schedule C- under $25,000
- Schedule C- $25,000-$100,000
- Schedule C- $100,000 and over
- Schedule F- under $25,000
- Schedule F- $25,000-$100,000
- Schedule F- $100,000 and over

Corporate (expressed in terms of total assets)
- No balance sheet
- Under $50,000
- $50,000-$100,000
- $100,000-$250,000
- $250,000-$500,000
- $500,000-$1 million
- $1 million - $5 million
- $5 million - $10 million
- $10 million - $50 million
- $50 million - $100 million
- $100 million and over

Fiduciary

Estate (expressed in terms of gross estate)
- Under $1 million
- $1 million - $5 million
- $5 million and over

Gift
Partnerships
Small Business Corporations
Excise
Employment
Windfall Profit Tax

Training Schedule for Revenue Agents

Phase	Type	Length of time	Subject matter
I	Preclassroom	0.5 weeks	Orientation
	Classroom	5 weeks	Nonbusiness tax returns and Schedule E
	On-the-job	5 weeks	Audits conducted at IRS office
		2 weeks	Complete auditing returns
	Total	**12.5 weeks**	
II	Classroom	7 weeks	1040 - Schedules C,D,E, and F and auditing training
	On-the-job	8 weeks	1040 business returns
	Field experience	6 months	1040 business returns, Schedules C,D,E, and F
	Total	**41 weeks**	
III	Classroom	3 weeks	Corporations (Forms 1120), S-Corporations (Forms 1120S), computer training
	On-the-job	10 weeks	1120, 1120S returns
	Field experience	6 months	1120, 1120S, and 1040 business returns
	Total	**39 weeks**	
IV	Classroom	4 weeks	Partnerships (Forms 1065), tax shelter concepts
	On-the-job	16 weeks	1065 returns, related returns, and partnership procedures
	Field experience	1 year	1065, 1120, 1120S, and 1040 business returns
	Total	**72 weeks**	
V	Preclassroom	2 weeks	Introduction to advanced corporate auditing
	Classroom	4 weeks	In-depth advanced corporate auditing with additional international emphasis
	On-the-job	8 weeks	1120 returns
	Total	**14 weeks**	

Notes: The totals for each phase are approximations of weeks.

Overall, it would take a revenue agent about 3 1/2 years to complete the five training phases.

On-the-job training is conducted under the guidance of an on-the-job instructor, while field experience normally means the agent is conducting the audit in the field without an on-the-job instructor.

Comments From the Internal Revenue Service

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
WASHINGTON, D.C. 20224

DEPUTY COMMISSIONER

AUG - 5 1988

Ms. Jennie S. Stathis
Associate Director
General Government Division
United States General Accounting Office
Washington, D.C. 20458

Dear Ms. Stathis:

We have reviewed your draft report for the Senate Committee on the Budget which addresses IRS' Examination Yield Estimates for the Fiscal Year 1987 Revenue Initiative.

Because both Congress and the Administration rely on the validity of our estimates to determine how much revenue will be available to fund government programs, we believe that it is critical that all parties arrive at a common understanding on this issue. We have already discussed our methodology with the Office of Tax Analysis and they are in agreement with the underlying principles. Next week, we plan to meet with both the Congressional Budget Office and the Senate Budget Committee to explain how we estimate revenue yields.

Based on our method of estimating and accounting for revenue yields for base staffing and a reasonable allocation to the initiative, it is our position that for Fiscal Year 1987,

- the revenue goal for the overall Examination Program was met by assessing $19.8 billion in additional tax, penalties, and interest,
- the revenue goal for the first year revenue initiative was met by assessing $847.5 million in additional tax penalties, and interest, and that
- the underrealization of Examination staffyears cannot be attributed solely to the revenue initiative since this would have occurred regardless of the initiative; these underruns affect not only the initiative but also base staffing.

We believe your report reflects a lack of understanding of IRS' Examination planning system and operational methods and we necessarily disagree with the major conclusions that you have reached.

The IRS' Examination program has been and continues to be an effective revenue source for the government. In the Fiscal Year 1987 Budget, which included the first year of the revenue

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initiative, IRS was committed to realizing $15.7 billion in assessed tax, penalties and interest. We delivered $19.8 billion. Over the years, the record shows that IRS has always met and often exceeded our budget goals.

Your office views the yield from the revenue initiative as being generated solely from the new agents who are hired from these additional funds. You argue that since new agents require extensive training any yield they would produce would be offset by the opportunity costs of pulling experienced agents off audits to conduct this training. Not only are these opportunity costs small in comparison to total accomplishments, your argument is based on a faulty understanding of how we plan and execute our Examination program.

In actuality, new revenue agents, whether they are revenue initiative or base attrition hires, only work the simpler tax returns. Using those agents to work the simpler returns allows IRS to move our existing workforce into more complex returns, while maintaining audit coverage across the board. Thus, IRS views the revenue initiative as the difference between the returns the total workforce would have worked and the ones it can now work because of the additional staffing from the revenue initiative.

Furthermore, because of the unique nature of Fiscal Year 1987, we would contend that any assessment of a first-year revenue initiative based solely on that year is invalid. Staffing for our Examination program, including the revenue initiative, was hampered by such factors as a delay in enacting the Continuing Resolution, absorption of increased pay costs, and the impact on the IRS of implementing the Tax Reform Act of 1986.

We believe that any accurate assessment of the first year of a revenue initiative must be extended beyond Fiscal Year 1987. We also realize, however, that your draft report does contain several valid observations for improving our process for estimating revenue yields which warrant further consideration. Consequently, we are more than willing to work with your office in a continuation of this study. Hopefully, the end result of such an effort will be improvements to and consensus with the IRS methodology for estimating and accounting for revenue yields.

We also hope that Congressional interest in our Examination program will continue to draw attention to the problems IRS experiences in competing with private firms for the best accounting graduates. A recent College Placement Council survey issued in late July indicated that the average salary

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for accounting graduates rose to $24,120, compared to the average starting salary offer for the federal government of $19,008. As you know, our staffs are working together to prepare a paper for the Senate Committee on the Budget on the pay differential that exists between starting salaries for IRS revenue agents and private sector accountants.

Sincerely,

Charles H. Brennan
Deputy Commissioner (Operations)

GAO Comments

This letter was received after we had incorporated IRS' oral comments in the report. Because the written views are essentially the same as provided orally, we may not always have reflected the exact written language in the report.

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