Income Tax Compliance Research

Net Tax Gap and Remittance Gap Estimates
(Supplement to Publication 7285)

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This report supplements the estimates of the gross tax gap published in March of 1988 (Publication 7285). It presents the corresponding estimates of the net tax gap (i.e., net of enforcement collections). This report also includes estimates of the remittance gap, which were not available for inclusion in the 1988 report.

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Executive Summary

The mission of the Internal Revenue Service (IRS) is "to collect the proper amount of tax revenue at the least cost . . . in a manner warranting the highest degree of public confidence in our integrity, efficiency and fairness." (See Document 6987.) To achieve this purpose, IRS must determine the extent of noncompliance with the tax law and regulations. IRS tax gap estimates are comprehensive measures of noncompliance that convey significant information about the challenges faced in collecting taxes that are not voluntarily paid. A proper understanding of the nature of the tax gap is important for the development of future IRS programs and revenue initiatives.

In 1988, IRS published a series of estimates of the "gross income tax gap," which is the amount of true income tax liability that is not voluntarily paid.[1] The principal purpose of this new report (which should be seen as a supplement to that gross tax gap report) is to present IRS's estimates of the "net income tax gap," which is the gross income tax gap less the amount of income taxes paid or collected as a direct result of IRS enforcement activity. These *net* income tax gap estimates represent the amount of income tax liability that will remain unpaid after all IRS enforcement activity has been completed for the tax year in question. Recovering more of the gross tax gap would require either that voluntary compliance improves or that IRS expand or improve its enforcement activities (or some combination of both). Although we cannot estimate *how much* of the net tax gap IRS could recover as a result of expanding its existing enforcement activities, we know that a significant portion of it could be collected cost-effectively through a balanced strategy that incorporates expanded and improved IRS programs (including taxpayer service, education, and enforcement), as well as compliance-oriented tax law changes (intended, for example, to reduce complexity and eliminate various opportunities for noncompliance). This report discusses the various difficulties inherent in detecting and collecting the remainder of the net tax gap, as well as the problems associated with estimating how much *could* be collected cost-effectively.

It is difficult for IRS to know in all cases what a taxpayer's "true" tax liability is. This is because examiners cannot always detect all noncompliance and—for a variety of legal and administrative reasons—some of the amount that *is* recommended, but is not assessed, may represent "true" noncompliance. Therefore, estimates of the tax gap are subject to significant uncertainty. For this reason, our 1988 report included a set of "alternate" estimates of the gross income tax gap in addition to our "primary" estimates. For the "primary" estimates, figures based on examinations of tax returns reflected the full amount of additional tax recommended by the examiners; for the "alternate" estimates, these figures were adjusted to allow for the portions of recommended tax deficiencies that are conceded in the appeals process or lost in litigation. We continue to show two sets of estimates for this report, but instead of referring to them as "primary" and "alternate," we show them as a range[2] of estimates—the "higher" tax gap estimates corresponding to our

[1] Internal Revenue Service, *Income Tax Compliance Research: Gross Tax Gap Estimates and Projections for 1973-1992*, Publication 7285, Washington, D.C., March 1988.

[2] By "range" we simply mean the difference between the two sets of estimates. The "true" tax gap need not lie

old "primary" estimates, and the "lower" tax gap estimates corresponding to our old "alternate" estimates. We have also re-estimated the old "alternate" estimates, because after those estimates were published, we found that the data used to make the adjustments were not current. The lower estimates given in this report, therefore, are based on more recent information.[3]

In most cases, the difference between the higher and lower estimates is relatively small. However, the uncertainty concerning true tax liabilities is particularly unsatisfactory with respect to the estimates for large corporations. Since we have assumed (for lack of data) that the examination program detects the entire gross tax gap for large corporations, and since large corporations pay virtually all of their assessments, this implies a higher estimate of the *net* tax gap which is almost exactly equal to the amount of tax deficiencies that is recommended by Examination but conceded in appeals or lost in litigation. For the same reason, the lower estimate of the gross tax gap for large corporations implies that the net tax gap is close to zero. This problem of estimating "true" tax liabilities (which is the basis for estimating the gross tax gap) for large corporations is the subject of several IRS research projects. We expect that future estimates will reflect the results of these studies.

All of these estimates include only taxes due on incomes earned in the legal sector of the economy. They do not include unpaid taxes due on illegally-earned incomes, nor do they include unpaid tax liabilities involving other types of federal taxes, such as estate and gift, employment, or excise taxes.[4] We do not have current estimates of the tax gaps in these other tax areas.[5]

Also included in this report are new estimates of a significant element of the gross income tax gap: the remittance gap. This is the amount of tax which is voluntarily reported by taxpayers but is not voluntarily paid—either because taxpayers fail to remit it with their returns, or because their employers fail to remit it after it is withheld. We now have the information needed to make these estimates, which were not included in the 1988 report. For 1987, the remittance gap estimate is $9.3 billion. (See Chapter IV for details.) The 1988 report gave a "primary" estimate of the gross legal-sector income tax gap for tax year (TY) 1987 of $84.9 billion and a corresponding "alternate" estimate of $71.2 billion (which we have re-estimated to be $73.2 billion, as discussed above). Thus, with the remittance gap included, our estimates of the total *gross* legal-sector income tax gap range from $82.5 billion to $94.2 billion. Our estimates of the corresponding *net* legal-sector income tax gap for TY 1987 range from $60.7 billion to $72.3 billion.

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within this range—especially if our assumptions concerning the detectability of tax deficiencies are not correct. If these assumptions *are* realistic, then the only other source of uncertainty concerns the ability of the examination-appeals-litigation process to arrive at the "true" tax liability. This is the uncertainty defined by the range in our two sets of estimates. See Chapter III for a discussion of these two sets of estimates.

3 See Internal Revenue Service, *Evaluation of the IRS System of Projecting Enforcement Revenue*, Publication 1501, Washington , D.C., November 1989.

4 For fiscal year (FY) 1987, income taxes accounted for 55.8 percent of federal budget receipts. Employment taxes accounted for another 35.5 percent, while excise and estate and gift taxes combined accounted for 4.7 percent. The remaining 4.0 percent came from customs duties and miscellaneous receipts. See Office of Management and Budget, *Historical Tables, Budget of the United States Government*, 1990, pp. 25, 37.

5 However, we plan that our next tax gap report in this continuing series will contain estimates of the employment tax and illegal-sector income tax gaps.

I. Tax Gap Concepts

A. Gross Tax Gap

The amount of tax that is due but not voluntarily paid is the *gross tax gap*. This is comprised of the *reporting gap*, which is the amount of tax liability that taxpayers do not voluntarily report on their returns, and the *remittance gap*, which is the amount that taxpayers report on their returns as due, but which is not voluntarily paid—either because they do not remit it with their returns, or because their employers fail to remit what they withhold from their wages.[6] The percentage of tax liability voluntarily paid is the voluntary compliance rate (VCR).

Table 1 presents estimates of the gross legal-sector income tax gap and the associated VCRs for selected tax years from 1973 to 1992. As shown in Table 1, our estimates of the TY 1987 VCR range[7] from 83.6 percent to 81.7 percent. We estimate that taxpayers voluntarily paid $411.3 billion in legal-sector income taxes for TY 1987. Our estimates of what they did *not* voluntarily pay—the tax gap—range from $82.5 billion to $94.2 billion of their total income tax liability that year. The word "voluntarily" as used here means without any IRS enforcement action (such as examination, collection, or criminal investigation) taking place between the due date of the tax and the time of payment.

Fostering voluntary compliance with the Federal tax law is an important IRS objective. IRS seeks to maintain and improve voluntary compliance both through customer service activities and through enforcement programs.

Customer service activities account for approximately 40 percent of the IRS budget. These activities include such functions as taxpayer service, returns processing, and the administration of tax forms and publications. IRS customer service initiatives aimed at improving voluntary compliance have, over the last five to ten years, included such activities as expanded telephone assistance for taxpayers, improved taxpayer education (especially for new businesses), simplified tax forms, efforts to obtain the views of taxpayers concerning their needs, and more rapid and accurate processing of tax returns. These activities recognize that most taxpayers want to comply with the law, and IRS efforts in these areas are designed to make it as easy as possible for them to be fully compliant.

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6 Note that neither the gross tax gap nor the remittance gap are synonymous with IRS's accounts receivable inventory, which is the amount of tax, penalties and interest that *has been assessed*, but has not yet been paid at a particular time. Unlike the tax gap, accounts receivable includes interest and penalties, as well as assessments related to many tax years and several types of taxes (some of which we do not have corresponding tax gap estimates for). Moreover, since a large part of the gross tax gap is *never* assessed, that portion will never become a part of accounts receivable. All of the remittance gap passes through accounts receivable (since, by definition, it is self-assessed), but the remittance gap relating to a particular tax year of liability is not necessarily all present in accounts receivable at any one time.

7 The higher estimates of the VCR correspond to the lower estimates of the tax gap, and the lower estimates of the VCR correspond to the higher estimates of the tax gap.

Table 1. Range of Estimates of the Gross Legal-Sector Income Tax Gap[1] and Voluntary Compliance Rates (VCRs)[2], Selected Tax Years, 1973-1992

Tax Year	Gross Income Tax Gap (in $ billions)						Voluntary Compliance Rate (%)					
	Total		Individual Income Tax [3]		Corporate Income Tax [4]		Total		Individual Income Tax [3]		Corporate Income Tax [4]	
1973	27.9 *to*	32.0	22.0 *to*	22.7	5.9 *to*	9.3	83.9 *to*	82.0	83.0 *to*	82.6	86.6 *to*	80.3
1976	39.7	45.5	32.6	33.7	7.1	11.8	82.7	80.7	81.2	80.7	87.3	80.6
1979	61.0	69.0	51.5	53.2	9.6	15.9	81.9	80.0	80.3	79.8	87.2	80.4
1981	68.9	76.1	60.1	61.9	8.7	14.1	82.8	81.4	82.0	81.6	87.0	80.6
1982	64.6	70.5	57.5	59.1	7.1	11.4	82.9	81.7	82.2	81.8	87.1	80.8
1984	83.0	91.3	73.5	75.7	9.6	15.6	81.6	80.1	80.4	80.0	87.2	80.6
1986	96.1	105.6	86.0	88.8	10.1	16.8	81.0	79.5	79.7	79.2	87.7	81.1
1987	82.5	94.2	69.1	71.4	13.4	22.8	83.6	81.7	82.3	81.8	88.1	81.3
1988	84.5	96.8	70.3	72.6	14.2	24.3	84.0	82.0	82.7	82.3	88.1	81.2
1992	110.1	127.0	91.0	94.0	19.1	33.1	84.6	82.7	83.6	83.1	88.1	81.1

Some components do not add due to rounding.

1 The results of examinations of tax returns are used in estimating several parts of the tax gap. Where these results are used, the higher estimates of the tax gap (and the corresponding lower estimates of the voluntary compliance rate) are based on the amounts of additional tax recommended by IRS examiners, and the lower estimates of the gap (and the corresponding higher estimates of the VCR) are based on the amounts of tax ultimately assessed after all appeals and litigation. If we have correctly estimated the extent to which examiners cannot detect all tax deficiencies, then the "true" tax gaps (or VCRs) lie between these two sets of estimates. See Chapter III for a discussion of the two sets of estimates. The estimates include estimates of remittance gaps, which were not included in Publication 7285.

2 The Voluntary Compliance Rate is what taxpayers voluntarily pay as a percentage of their total tax liability.

3 Includes insufficient remittance by individuals *and* underdeposit of individual income tax withheld by employers.

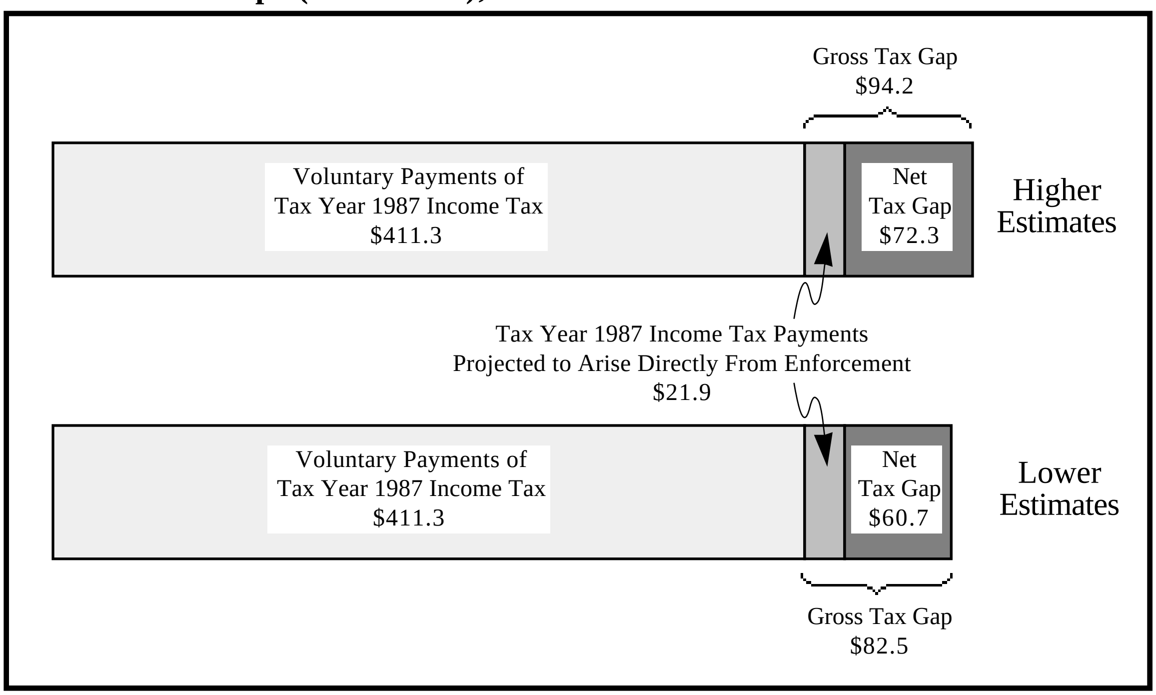
4 Includes fiduciaries' income tax and unrelated business income tax of tax-exempt organizations. The VCRs for all corporations combined fluctuates slightly—even though we have assumed constant compliance rates—because of the changing mix of small, mid-size, and large corporations over time.

Improving voluntary compliance is also a major goal of IRS enforcement programs. These programs seek to encourage voluntary compliance indirectly by: (a) improving the subsequent voluntary compliance of the specific taxpayers subjected to IRS enforcement programs; and (b) improving the voluntary compliance of taxpayers who are not directly affected by enforcement actions, but who nevertheless may become more compliant due to the general deterrent effect of IRS activity—the so-called "ripple effect." These indirect revenue effects of enforcement are very difficult to measure; we do not currently have estimates for them. We do, however, have estimates of the amount of additional tax which is involuntarily paid as a *direct* result of IRS enforcement activities.

B. Net Tax Gap

The net tax gap is the part of the gross tax gap that is not collected through IRS enforcement activities. As shown in Chart 1, our estimates of the net legal-sector income tax gap for TY 1987 range from $60.7 billion to $72.3 billion. The difference between these estimates and the corresponding gross tax gap estimates for the same year represents an estimated $21.9 billion of tax which will be collected as a result of current IRS enforcement activities.[8] IRS enforcement programs, although designed to encourage individual and corporate *voluntary* tax compliance, do nonetheless yield significant amounts of revenue directly. Some of these programs focus on taxpayers who file returns (filers), and some on taxpayers who fail to file returns (nonfilers).

Chart 1. Range of Estimates† of the Gross and Net Legal-Sector Income Tax Gap‡ (in billions), Tax Year 1987



† The results of examinations of tax returns are used in estimating several parts of the tax gap. Where these results are used, the higher estimates of the tax gap are based on the amounts of additional tax recommended by IRS examiners, and the lower estimates are based on the amounts of tax ultimately assessed after all appeals and litigation. If we have correctly estimated the extent to which examiners cannot detect all tax deficiencies, then the "true" tax gap lies between these two estimates. See Chapter III for a discussion of the two sets of estimates.

‡ All amounts refer to income tax only. Other taxes (such as employment taxes) are excluded. Voluntary payments were projected for the 1988 gross tax gap report, and have not been adjusted to reflect actual payments. Payments arising from enforcement are *projections* of what will be collected from tax year 1987 liabilities, and exclude interest and penalties.

[8] Enforcement revenue includes penalties and interest collected, but since the gross tax gap is measured in terms of tax only, penalties and interest are not included in estimates of enforcement yield for the purpose of estimating the net tax gap.

The filer programs include: (a) examination of tax returns (which, in over 80 percent of the cases, involves face-to-face contact between IRS employees and taxpayers or their representatives); (b) computer matching of tax returns against third-party information documents (such as Form W-2 withholding statements filed by employers and Form 1099 interest statements filed by banks); (c) math error verification; (d) other computer-based adjustments of taxes; and (e) collection of overdue taxes through computer-generated notices and field operations.

IRS has two main nonfiler programs. The first identifies "stopfilers"—those who had filed returns for a prior tax period, but not for the one tested. The second identifies delinquent nonfilers through matches of third-party information documents with IRS masterfile records of current-year tax return filings. The delinquent returns and taxes are obtained mainly through computer-assisted correspondence, automated paperless operations, or, generally as a last resort, field investigations.

C. How Much of the Net Tax Gap Could IRS Recover?

On its face, the net tax gap appears to be a source of additional federal revenue that could be realized without raising taxes. A significant portion of the net tax gap *could* be collected with a balanced strategy that incorporates expanded and improved IRS programs (including taxpayer service, education, enforcement, and systems modernization), as well as compliance-oriented tax law changes (intended, for example, to reduce complexity and eliminate various opportunities for noncompliance). It is important to realize that IRS enforcement *alone* is neither a cost-effective nor a socially acceptable method of collecting the net tax gap. We do not know how much *can* be collected through enforcement, but the nature of the noncompliance reflected in the tax gap estimates suggests that the potential net revenue gains from enforcement alone are limited; the key is to pursue a balanced strategy. The following sections contain a discussion of the nature of income tax noncompliance and of the difficulties in trying to estimate the maximum portion of the net tax gap that *could* be collected through additional enforcement activity.

The Nature of Noncompliance

The gross tax gap consists of some types of noncompliance (e.g., overstated deductions) that are much easier to detect than others (e.g., unreported income that is not covered by third-party information returns). In fact, almost *half* of the gross tax gap estimate for TY 1987 among filers of individual income tax returns is associated with types of unreported income that are very difficult to detect. These include income not reported by "informal suppliers" (proprietors who operate with informal business styles, usually on a cash basis), other non-farm proprietors (who may keep two sets of "books"), farmers (who may understate cash income received for their produce), and skilled and professional workers (some of whom "moonlight" on a cash basis).[9] Although we have a reasonable

9 This is not to say that *all* of the tax gap among these taxpayers is not detectable. These are just some examples of the hard-to-find types of noncompliance among individuals. We estimate what is not detectable by multiplying the amount that *is* detected (without the help of third-party information documents) by a factor

basis for *estimating* the total extent of such noncompliance (at least for individuals), it is very time-consuming and costly to *detect* it on a case-by-case basis.

It is also difficult to collect some of what *can* be detected. Although most taxpayers who are found to owe additional tax, penalties, and interest pay their assessments fairly quickly in response to an IRS notice or two, some accounts are never fully collected—especially if the taxpayers are unable to pay.

Moreover, much of the remaining noncompliance occurs in small amounts, spread over a large number of taxpayers. Since our return selection systems are not perfect, we would have to audit *all* returns in order to detect the maximum amount of noncompliance possible. And, since enforcement costs are significant, most of these detectable amounts are not cost-effective to pursue with existing enforcement programs—either to detect or to collect if they *are* detected.

A significant portion of the net tax gap *could* be collected with a balanced strategy designed to foster increased voluntary compliance (through improved taxpayer service, enhanced taxpayer education, expanded enforcement, systems modernization, and tax law changes) and to collect directly the revenue generated by the expanded enforcement. Nonetheless, the net tax gap should not be viewed as a large bank account with which to balance the budget.

Difficulties in Estimating
Maximum Cost-Effective Enforcement Yields

Current IRS enforcement programs operate at very favorable yield-to-cost ratios—even at the margin. An expansion of most programs would result in eventual collections amounting to at least four or five times the total cost of the expansion. It is clear that IRS would have to expand enforcement programs dramatically before the marginal cost exceeded the marginal revenue. While this assures us that IRS could cost-effectively recover much of the net tax gap, it also makes it very difficult to estimate just *how much*. Since a large expansion would put IRS enforcement levels well beyond current operational levels, we have little information upon which to estimate the likely revenues and costs at those levels. Research is under way to improve our estimates of the maximum amount that can be recovered cost-effectively, but for now, even our best guesses would have numerous weaknesses. The most important of these weaknesses are discussed below:

1. <u>Unknown indirect effects</u>: It is generally thought that, in addition to the *direct* revenue gains that arise from IRS enforcement, enforcement activities also improve voluntary compliance *indirectly* through deterrence. If so, then significant expansions of enforcement programs would generate corresponding increases in revenues paid voluntarily in subsequent years—both by those contacted by the enforcement activities and by others who learn of the expanded enforcement. This is an area of research receiving increasing attention, but there is still no consensus as to the magnitude of

derived from a special study. Refer to our 1988 gross tax gap report (Publications 7285 and 1415).

these indirect effects. Estimates (outside IRS) have ranged from roughly the same magnitude as the direct revenue effects to as much as seven times this magnitude. For example, these estimates imply that if an expansion in IRS enforcement activity produced $100 million of revenue directly from the taxpayers contacted, it would also indirectly induce *other* taxpayers to pay an *additional* $100 million to $700 million voluntarily. Although we should include indirect revenues in the yields we expect from any expansion, we are unable to do so with any confidence.

2. <u>Unknown taxpayer costs</u>: When IRS contacts a taxpayer through one of its enforcement programs, such as by auditing his or her tax return, the taxpayer bears some unavoidable costs. The taxpayer must take the time to assemble records, attend interviews, etc. Sometimes taxpayers elect to pay for professional assistance in dealing with IRS enquiries. Currently we cannot estimate the magnitude of these inconveniences and out-of-pocket outlays; ideally they should be included in the costs of any expansion. (In any revenue estimates we might make, we would also need to account for those cases in which some of these expenses would be deductible in calculating taxable income.)

3. <u>Uncertain estimates for large corporations</u>: It is probable that significant additional amounts of tax deficiency could be identified cost-effectively by examining the complex returns of large corporations in greater depth.[10] It is also likely that the amount collected could be increased by improving the quality of the examination-appeals-litigation process so that we assess a larger fraction of the tax deficiency that is proposed. However, we currently have no data with which to make estimates of the maximum cost-effective potential of these two types of improvements. We have initiated projects that may help us make such estimates, but the results of these studies are not yet available.

4. <u>Speculative nature of yield curves</u>: Even for individuals and small corporations, for which we could estimate marginal yield curves based on data from the Taxpayer Compliance Measurement Program (TCMP)[11] and operational data, we could not currently have a high level of confidence in estimates based on them because any such curves would be highly speculative at coverage levels significantly beyond operational levels. There are several reasons for this: TCMP results do not reflect what could or would be recommended by operational examinations; we cannot adequately sort the TCMP cases to reflect the order in which returns would be examined in operational practice; and even the most recent TCMP results are always several years old—not able to reflect completely the impact of changes in law and in taxpayer behavior. (The yield curves used for resource allocation are not as susceptible to these problems, since operational levels do not vary much from year to year.)

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10 Note that since we lack a reasonable way to estimate how much *more* tax deficiency could be found among large corporations, our large corporation gross tax gap estimates only include the amount detected in our operational programs. When our special projects to quantify this additional gap are completed, we will adjust our gross tax gap estimates accordingly. (All of this additional gap may not be cost-effective to recover, however.)

11 See Chapter III for an explanation of TCMP.

5. Unknown impact of improved productivity: We currently have little information upon which to estimate how much the productivity of the enforcement functions can be improved—measured either in terms of the ratio of yield to cost or in terms of the percentage of the tax gap that is detected, assessed, and collected. We could estimate the revenue impact of expanding existing programs at the margin assuming no change in the relative productivities of the enforcement functions, but we cannot reliably estimate the maximum revenue impact of improving the *quality* of our enforcement efforts—even at present coverage levels. Improving quality—collecting more of the tax gap with existing resources—might include increasing the cost-effectiveness of enforcement personnel and/or changing the allocation of resources between the various functions involved in the enforcement process (e.g., Examination, Appeals, Tax Litigation and Collection). Several new efforts have been suggested—with some now reaching the implementation stage—that will yield more in revenue than they cost, but we cannot estimate the potential revenue that other (as yet unknown) efforts might realize.

6. Transitional effects: Even if the government *did* want to maximize the net revenue gains arising from enforcement, it could not expand IRS enforcement to these levels in one step. It would probably be very difficult to hire that many new agents at once, and it would take a significant amount of time to train them once they were hired. Instead, the expansion would occur gradually over a number of years. Each step in the expansion would be supported by specific estimates (much more accurate than any we could make of the maximum cost-effective amount) of the net revenue that would be generated by that step alone. As the gradual expansion took place, valuable information would be gained about the amounts of revenue actually obtained from the additional effort, and about the actual cost of the effort. Moreover, from a budget standpoint, any major expansion would incur significant transitional costs—such as the direct cost of training new personnel, the lower productivity of these new people during their first several years, and the forgone revenues associated with assigning experienced agents to train and coach them.

Difficulties in Estimating Compliance Gains From Improved Customer Service Programs

Experience suggests that IRS customer service activities have a positive impact on voluntary compliance. To the extent that IRS can help taxpayers to reduce errors and minimize the frustrations many experience trying to get help, we might realize significant direct—and, perhaps, indirect—revenues. However, we are not yet able to quantify the extent to which the net tax gap can be reduced by improving or expanding our current efforts in this area.

Conclusions

Two major conclusions can be drawn from this discussion:

- A significant portion of the net tax gap (plus amounts of interest and penalties of roughly the same magnitude as the tax collected) *could* be recovered cost-effectively by expanding IRS enforcement efforts; and yet

- The greatest challenge for closing the net tax gap lies in the potential for improving voluntary compliance—by expanding and improving taxpayer service and education programs, by changing the tax law to reduce complexity and to eliminate opportunities for noncompliance, and by modernizing our systems.

Both of these areas are topics of on-going research. As for expanding IRS enforcement efforts, projects are under way that would identify ways to improve the cost-effectiveness of resource allocations to the various enforcement programs, and other studies are proceeding that should improve our ability to estimate the maximum potential of expanded enforcement. As for increasing voluntary compliance, we are developing ways to improve and enhance taxpayer service and taxpayer education programs (although estimating the revenue impact of such improvements may not be possible), and we are studying the indirect effects of enforcement. These research projects will not only aid us in making estimates for future tax gap reports, but—more importantly—will guide IRS efforts directed at closing the net tax gap.

II. The Net Tax Gap Estimates

We have estimated the net legal-sector income tax gap for Tax Years 1981, 1984, and 1987. Table 2 presents detailed estimates for TY 1987, together with less-detailed estimates for TY 1981 and TY 1984. Our higher estimate of the net tax gap increased from $60.7 billion in 1981 to $72.3 billion in 1987, while our lower estimate increased from $53.4 billion to $60.7 billion in the same period. This increase (which, for the higher estimate amounted to $11.6 billion, or 19.1 percent), does not reflect a decline in compliance; indeed, we estimate that the voluntary compliance rate *rose* slightly over this period (see Table 1). Instead, the increase arose from the increase in tax liabilities during the period. Moreover, the enforcement figures in Table 2 suggest that IRS is recovering an increasing share of the gross tax gap through its various enforcement programs—from 20.2 percent of the higher estimate for 1981 to 23.2 percent of the corresponding estimate for 1987. The sections below discuss the estimates for the individual income tax and the corporate income tax separately, followed by a discussion of the trends in the estimates.

A. Individual Income Tax

For TY 1987, our estimates of the gross legal-sector income tax gap for individuals range from $69.1 billion to $71.4 billion. The portion of this which will eventually be collected through IRS enforcement programs (operated at currently anticipated levels) is estimated to be $13.6 billion. Our estimates of the net tax gap for individuals, therefore, range from $55.5 billion to $57.8 billion, as shown in Table 2. (See Chapter III for a discussion of the relative merits of the higher and lower estimates.)

Table 2 presents some detail on the sources of enforcement revenue for the individual income tax. Examination of tax returns and collection of the remittance gap are the largest sources. For 1987, out of the total estimated enforcement tax yield of $13.6 billion in individual income tax, we expect the examination of returns and the collection of the remittance gap (including both insufficient remittance of income tax by individuals and underdeposit of withheld income tax by employers) to account for $4.7 billion each. Matching of third-party information documents (mainly Forms W-2 or 1099) with tax returns or with the IRS individual masterfile is the next-largest element of enforcement revenue.[12] IRS document matching programs for filers and nonfilers combined will recover an estimated $2.3 billion of unreported 1987 tax liabilities.[13] Correction of taxpayer math errors is expected to recover another $1.0 billion of net additional revenue.[14] Finally, delinquency investigations of those who stop filing returns will yield an estimated $0.7 billion in tax revenue.

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12 Matches with the masterfile identify individuals who had not filed tax returns even though they received significant amounts of income.

13 This estimate takes into account significant budget cuts that reduced the number of TY 1987 cases worked.

14 This is an estimate based on prior years. Preliminary data for 1987 suggest that the net amount collected by the math-error program was actually negative for TY 1987, meaning that taxpayers made larger errors in the government's favor than in their own. If this implication is borne out by further analysis—for example, of the impact of the Tax Reform Act of 1986 and of certain administrative changes—then we will revise the tax gap estimates accordingly in our next report.

Table 2. Range of Estimates of the Net Legal-Sector Income Tax Gap[1] (in $ billions), Tax Years 1987, 1984, and 1981

	(1) Gross income tax reporting gap		(2) Remit-tance gap	(3) Gross income tax gap (1) + (2)		(4) Enforce-ment yield (tax only)	(5) Net income tax gap (3) - (4)	
Tax Year 1987								
Total	73.2	*to* 84.9	9.3	82.5	*to* 94.2	21.9	60.7	*to* 72.3
Individual Income Tax	61.2	*to* 63.5	7.9	69.1	*to* 71.4	13.6	55.5	*to* 57.8
• *Filers*	54.0	56.3	5.0	59.0	61.3	9.9	47.2	49.5
Examination of returns						4.7		
Document matching						1.2		
Correction of math errors						1.0		
Other computer-based adjustments						0.2		
Insufficient remittance						2.8		
• *Nonfilers*	7.2			7.2		1.8	5.4	
Stopfilers						0.7		
Document matching						1.1		
• *Employer underdeposit of withheld income tax*			2.9	2.9		1.9	1.0	
Corporate Income Tax	12.0	*to* 21.4	1.4	13.4	*to* 22.8	8.3	5.2	*to* 14.5
•Small	4.8	5.2	0.2	5.0	5.4	1.6	3.4	3.8
•Mid-size	0.7	1.6	0.9	1.6	2.5	0.5	1.1	1.9
•Large	6.4	14.3	0.0	6.4	14.3	6.0	0.3	8.2
•Fiduciaries andUBIT[2]	0.2	0.3	0.3	0.5	0.6	0.1	0.4	0.5
Tax Year 1984								
Total	72.7	*to* 81.0	10.3	83.0	*to* 91.3	18.9	64.2	*to* 72.4
Individual Income Tax	64.2	66.4	9.3	73.5	75.7	13.0	60.5	62.7
Corporate Income Tax	8.6	14.6	1.0	9.6	15.6	5.9	3.7	9.7
Tax Year 1981								
Total	59.7	*to* 66.9	9.2	68.9	*to* 76.1	15.4	53.4	*to* 60.7
Individual Income Tax	51.8	53.6	8.3	60.1	61.9	10.7	49.4	51.3
CorporateIncome Tax	7.9	13.3	0.8	8.7	14.1	4.7	4.0	9.5

Some components do not add due to rounding.

1 The results of examinations of tax returns are used in estimating several parts of the tax gap. Where these results are used, the higher estimates of the tax gap are based on the amounts of additional tax recommended by IRS examiners, and the lower estimates are based on the amounts of tax ultimately assessed after all appeals and litigation. If we have correctly estimated the extent to which examiners cannot detect all tax deficiencies, then the "true" tax gaps lie between these two sets of estimates. See Chapter III for a discussion of the two sets of estimates.

2 UBIT is unrelated business income tax of tax-exempt organizations.

B. Corporate Income Tax

Our estimates of the TY 1987 gross legal-sector income tax gap for corporations range from $13.4 billion to $22.8 billion. Of this, an estimated $8.3 billion will eventually be collected as a result of IRS enforcement. Our estimates of the net corporate income tax gap, therefore, range from $5.2 billion to $14.5 billion.

The corporate tax gap estimates are subject to more uncertainty than the estimates for individuals. While the latter are based on special, intensive audits designed to measure taxpayer compliance (under TCMP), the estimates for corporations are based mainly on the results of operational audits (the only exception being the estimates for corporations having assets under $10 million, which are based on TCMP results). Furthermore, the Tax Reform Act of 1986 (TRA) will likely affect the corporate *net* tax gap in two ways—neither of which is fully understood, given the lack of data. IRS estimates of the gross gap assume that the amount of corporate noncompliance will *grow* in proportion to the growth of tax liabilities brought about by TRA. However, the projections of revenue to be recovered from examination of corporation tax returns assume that TRA will *reduce* enforcement yields for a given expenditure of resources. Enforcement yields will be reduced in part because TRA's lower tax rates reduce the tax liability associated with each dollar's worth of unreported taxable income detected by revenue agents. Also, TRA's repeal of the investment tax credit eliminates an item for which each dollar of adjustment by examiners changes tax liability by a full dollar, rather than by just some fraction of a dollar.

C. Trends

Table 2 shows estimates of the gross and net legal-sector income tax gap for tax years 1987, 1984, and 1981. For example, from 1981 to 1987 our higher estimate of the gross tax gap increased by $18.1 billion, or 24 percent. For the same period, the estimate of enforcement tax yield increased by $6.5 billion, or 42 percent. The difference in growth rates reflects the fact that IRS enforcement revenues are growing not only because of the growth of the tax gap, but also because of expansions and improvements in enforcement programs. The corresponding net tax gap estimate grew by $11.6 billion, or only 19 percent, from 1981 to 1987.

Looking separately at the 1981-1984 and 1984-1987 periods, Table 2 indicates that the estimated gross income tax gap increased during both periods—except for the lower estimate, which declined slightly from 1984 to 1987. The estimated net tax gap declined slightly from 1984 to 1987 after increasing substantially from 1981 to 1984. The estimated gross and net tax gaps for individuals both declined from 1984 to 1987. In contrast, the gross and net tax gap estimates for corporations both increased between 1984 and 1987. These increases in the corporation estimates are due largely to the effects of tax reform. As discussed above, TRA tended to increase corporate tax liabilities while simultaneously reducing anticipated yields from audits of corporate tax returns.

III. Sources and Methods

A. Range of Estimates of the Gross Tax Gap

The gross tax gap is the difference between "true" tax liability and the amount voluntarily paid. Since we are unable to determine "true" tax liability precisely, we provided two sets of estimates of the tax gap in our March 1988 report: "primary" estimates based on the amount of tax adjustments *recommended* by IRS examiners, and "alternate" estimates based on the amount eventually *assessed*, after all appeals and litigation have been completed.[15] The difference between these two estimates is the amount of the original recommendation which is conceded in the administrative appeals process or lost in litigation. In this report we refer to the "primary" estimates as our "higher" estimates, and to the "alternate" estimates as our "lower" estimates.

Results of examinations (audits) of tax returns are the fundamental data for major parts of our gross tax gap estimates. For individuals and small corporations (those with less than $10 million in assets), the examinations upon which our estimates are based are special audits conducted under TCMP.[16] For larger corporations, the examinations are the regular operational audits of the tax returns of these corporations.[17] At the conclusion of each audit, the tax deficiency "recommended" by the examiner is recorded—on a special checksheet in the case of TCMP audits, and in the Audit Information Management System (AIMS) in the case of regular audits. Unfortunately, neither data source includes information on the amounts eventually assessed on these audits; we have had to rely on other data to estimate these amounts. Moreover, the "alternate" estimates of the gross tax gap in our 1988 report were based on statistics which have since been found to be incorrect. The corresponding estimates reported here have been revised to reflect more reliable information. In this section, we describe the theoretical basis for these lower estimates, discuss the relative merits of the lower and higher estimates, and briefly describe the previous and current sources and methods for the estimates.

The theoretical attraction of the lower estimates is that, in many cases, the final assessment arising from the examination may better reflect the "true" tax liability than does

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15 These two sets of estimates of the tax gap should not be interpreted as two *concepts* of the tax gap. Since there is only one "true" liability, and a definite amount is voluntarily paid, then there is only one "true" tax gap amount. We provide two sets of estimates only because of uncertainty concerning the "true" liability, which—if our assumptions concerning the detectability of tax deficiencies are correct—is probably somewhere between our two estimates.

16 Under TCMP, IRS completes thorough, line-by-line examinations of several different types of tax returns. For each type of return, IRS examines a probability sample taken from the entire population, allowing us to make population estimates dealing with a wide variety of compliance issues. To compensate for the fact that even TCMP examinations cannot detect all unreported income, we multiply the amount that *is* detected (without the help of third-party information documents) by a factor derived from a special study. Refer to our 1988 gross tax gap report (Publications 7285 and 1415) for more details.

17 Our gross tax gap estimates for these corporations account for the fact that not all large corporate returns are examined. However, we assume (for lack of data) that operational audits of large corporations' returns detect *all* tax deficiencies. That is, we "multiply" the amount that is detected by a factor of 1.0. (See the preceding footnote.)

the initial examination recommendation. This may be so because, first, the appeals/litigation process may be considered a review of the examiners' work, so that some errors may be eliminated; and second, the eventual assessment may be considered to be the true *legal* liability in the sense that IRS cannot attempt to assess more later, except in unusual cases.

The lower estimates of the tax gap may seem most appropriate in the case of large corporations since more than 90 percent of recommendations from operational examinations are appealed by these taxpayers. Even here, however, it is not obvious that the entire amount conceded or lost should be removed from the estimates of the gross tax gap. There are various reasons for these concessions. For example, appeals officers sometimes simply make mistakes in conceding examination recommendations. In this case, the "true" liability is the original recommendation—supporting the higher estimates of the tax gap. Examiners also make mistakes[18] sometimes—proposing too much additional tax—but there are several categories of reasons for concessions in the appeals/litigation process which fall between these clear polar extremes, making it difficult to estimate where the "true" tax liability lies. In addition to the uncertainty concerning what portion of unassessed recommendations represent "true" tax deficiencies, it is possible that even the *higher* estimates may understate the tax gap for large corporations. Since the examinations of large corporations are not necessarily thorough in pursuing all potential issues on these complex returns, substantial amounts of tax deficiency may not be recommended by the examiners and, hence, may never be included in either the higher or the lower estimates.

For the individual and small corporate tax gap estimates, there are additional complications. TCMP examinations, upon which these estimates are based, are controlled as part of major research projects, in which the principal purpose of finding the proper tax liabilities of the examined taxpayers is augmented by the purpose of estimating the total tax liability of all taxpayers combined. TCMP examiners are specially trained to be exhaustively thorough in finding all noncompliance, whether it reduces the taxpayers' liabilities or increases them. Every examination is subjected to quality review to determine that all relevant probes have been made and that the results are correct. While it is unreasonable to assume that the TCMP checksheets have no errors whatsoever, it is not unreasonable to assume that the errors are symmetrically distributed with an average of zero; that is, that the aggregate estimate of the total tax liability is not biased. If all TCMP cases were reviewed further by—for example—appeals officers, some errors would be found and corrected, but the aggregate amount of noncompliance would, under this assumption, not change significantly, since both positive and negative errors would be corrected. However, in practice, appeals officers review only those TCMP cases which are appealed by taxpayers (representing only about 20 percent of the recommended deficiencies for individuals, and about 30 percent for small corporations). It seems reasonable to assume that taxpayers whose examiners recommended too little additional tax will, in the

18 Actually, not all overstatements of the "true" tax liability are mistakes. For example, in some situations, examiners will recommend the "same" tax deficiency against more than one taxpayer, even though it is clear that only one of them owes the tax. This happens because the factual situations make it unclear which of them does owe the tax, and it is tactically wise to recommend it against all taxpayers who might owe it, pending a final determination in the appeals/litigation process. Here, the "true" liability is the amount assessed, and the duplicated recommendation clearly is *not* part of the tax gap.

aggregate, be less likely to appeal the recommended deficiency, and that those whose examiners recommended too much additional tax will be more likely to appeal. If so, then adjusting the overall TCMP estimates for the results of the appeals process would introduce a bias into the tax gap estimates—that is, the lower estimates would understate the true liability of the taxpayers.

Because of the uncertainties concerning the implications of the difference between examination recommendations and final assessments, IRS is conducting research projects to illuminate the matter. These projects involve dividing concessions in the appeals process into the various categories of reasons for concession. We have projects for regular operational examinations and for TCMP examinations. Pending the results of these studies, we will publish two sets of estimates of the tax gap, as in this report.

The "alternate" estimates of the gross tax gap in our 1988 report were based on information gathered by the Audit Integrated Reporting System (AIRS). This system tracks each completed examination through to its final disposition (after the appeals/litigation and collection processes have been completed). Our earlier estimates were based on tabulations for examinations completed in FY 1982. After we published those estimates, the 1982 tabulations were found to contain major anomalies. The 1972 tabulations are evidently accurate but, of course, very out of date. Over the past decade the proportion of examination recommendations which taxpayers appeal has risen dramatically. Meanwhile, the proportion of appealed deficiencies which is conceded has remained fairly stable. It is clear, therefore, that the difference between examination recommendations and final assessments has grown significantly since 1972. This situation is described more completely in Publication 1501, *Evaluation of the IRS System of Projecting Enforcement Revenue*. The lower estimates of the reporting gap shown above in Chapters I and II are based on the "interim method" described in that report.

B. Net Tax Gap

Estimating the net tax gap is, in principle, a straightforward process given that the gross tax gap has already been estimated. One simply subtracts from the gross tax gap estimate the tax revenue (associated with the same tax year) that is eventually collected by enforcement activities. However, the available data on enforcement yields are not commensurate in various ways with the gross tax gap estimates. Therefore, the process of estimating the net tax gap involves numerous adjustments to the enforcement yield statistics to get figures that are conceptually comparable to the gross tax gap estimates. These adjustments are discussed below.

IRS management information systems generally report data on enforcement results—proposed adjustments, actual assessments, and actual collections—by *fiscal year* of IRS operation. The tax gap estimates, on the other hand, of necessity relate to the *tax years* in which tax liabilities are incurred. Thus, an important step in estimating the net tax gap is to translate fiscal year enforcement results into the corresponding results by tax year of liability.

Collecting taxes that were not voluntarily paid takes time. The assessments of additional tax IRS makes during a particular fiscal year relate to a number of earlier tax years. Assessments made in FY 1987, for example, related to returns filed for tax years 1986, 1985, 1984, and even earlier—going back to the late 1970s. Reaching agreement with some large corporations on the additional tax due may take longer than 10 years, including time taken in appeals and, in some cases, litigation. In these cases, assessments will fall behind incurred tax liabilities by more than a decade. Consequently, even if the IRS management information systems were to report data by tax year of liability, we would have to wait until the second half of the 1990s to determine enforcement tax yields related to tax years in the late 1980s.

We translate the available data (and projections) on proposed adjustments or assessments of additional tax (by fiscal year of recommendation or assessment) to estimates for the corresponding tax years using typical distributions of the elapsed time between the tax year of liability and the fiscal year of assessment. Revenue collections, in turn, often lag behind assessments. For purposes of tax gap estimation, however, we need not concern ourselves with these lags as long as we have estimates of the proportions of assessments that will eventually be collected. These proportions, which we used to translate assessments to eventual collections, vary by type of revenue-producing enforcement program. For some collection programs, it was possible to derive a combined proportion from a previous study of the individual net tax gap. In other cases, where program-specific data were not available, the proportions were derived from management information systems for the individual income tax. In the case of assessments and collections that eventually arise from examinations, we based our estimates on the "interim method" of estimating examination-related revenue described in Publication 1501.

Another problem is that IRS information systems frequently combine tax yields with associated penalties and interest. To estimate the net tax gap, we must "back out" these penalty and interest amounts. Since interest and penalties are not included in the gross tax gap estimates, including them in the enforcement tax yield would understate the resulting net tax gap estimates.

IV. Remittance Gap

The gross legal-sector income tax gap estimates IRS published in March 1988 consisted of the tax liability reporting gaps of individuals and corporations. The estimates did not include remittance gaps that occur when taxpayers report their tax liabilities, but the full amount is not remitted voluntarily. In the case of the individual income tax, the remittance gap has two main components: (a) insufficient remittance of tax balances due when taxpayers file their returns; and (b) employer underpayment of income taxes they withhold from wages.[19] The latter component is part of the individual income tax remittance gap since it represents income tax obligations which have been reported by individuals but are not paid to the government. In the case of the corporate income tax, only the first type of remittance gap applies.

Table 3 shows that, for TY 1987, the estimated gross remittance gap is $9.3 billion. The largest component of this, an estimated $5.0 billion, is due to insufficient remittances of individual income tax balances due at the time of filing. Estimated employer underpayments of individual income tax withheld amount to $2.9 billion. The corporate income tax remittance gap estimate is the smallest component at $1.4 billion. The total gross remittance gap estimate grows from $3.6 billion in 1973 to $13.3 billion in 1992. This growth and the growth of the net remittance gap were interrupted in 1982 as the economic recession, and the tax rate cuts enacted in 1981, reduced income tax liabilities, and, consequently, taxes due at the time of filing. A second interruption in the growth of the gross and net gap totals was due to the Tax Reform Act of 1986, which lowered these gaps for individuals by more than it raised them for corporations. Nonetheless, when expressed as a percentage of total tax liability reported, the remittance gap declines slightly from 1973 to 1992—from about 2.5 percent to about 2.2 percent of tax voluntarily reported.[20]

The estimates of the gross remittance gap are based on special data extracts from recent IRS masterfiles of individual and business tax records. For the portion due to insufficient remittance of individual income tax balances due, the masterfile data were for TY 1982 and TY 1983. Estimates for those years were extrapolated back to 1973 and forward to 1992 using actual or projected values of total individual income tax due at the time of filing. Actual values of tax due at the time of filing through 1985 came from IRS' Statistics of Income (SOI) program. These values were extrapolated to 1992 using projections of income tax to be reported on individual tax returns. Historically, the average growth rate in the amounts of tax due at the time of filing is very close to the growth rate in total tax liabilities reported by individuals. The estimates of employer underdeposit of withholding are also based on a masterfile analysis for TY 1984 and TY 1985. Withheld income tax is assumed, in this analysis, to have been not voluntarily paid if it was still

[19] Payers of interest and dividends may also underdeposit some of the tax they are required to withhold under the backup withholding provisions of the Interest and Dividend Tax Compliance Act of 1983. However, we have no data on this element of noncompliance.

[20] These percentages are for the total remittance gap, but the decline was similar for both the individual income tax and the corporate income tax.

Table 3. Legal-Sector Income Tax Remittance Gap Estimates (in $ billions), Selected Tax Years, 1973-1992

	1973	1976	1979	1981	1982	1984	1986	1987	1988	1992
Gross Remittance Gap	3.6	4.8	7.2	9.2	7.9	10.3	10.6	9.3	9.7	13.3
Individual income tax	3.0	4.1	6.4	8.3	7.2	9.3	9.5	7.9	8.3	11.4
Insufficient remittance by individuals	1.9	2.6	4.1	5.2	4.2	5.8	5.3	5.0	5.3	7.5
Employer underdeposit of withheld income tax [1]	1.0	1.5	2.2	3.1	3.0	3.5	4.2	2.9	3.0	3.9
Corporate income tax	0.6	0.7	0.9	0.8	0.7	1.0	1.1	1.4	1.5	2.0
Net Remittance Gap	1.4	1.9	2.8	3.6	3.1	4.0	4.1	3.6	3.8	5.2
Individual income tax	1.2	1.6	2.5	3.3	2.8	3.7	3.7	3.2	3.3	4.5
Insufficient remittance by individuals	0.8	1.1	1.8	2.3	1.8	2.5	2.3	2.2	2.3	3.2
Employer underdeposit of withheld income tax [1]	0.4	0.5	0.8	1.0	1.0	1.2	1.4	1.0	1.0	1.3
Corporate income tax	0.2	0.2	0.3	0.3	0.2	0.3	0.4	0.5	0.5	0.7

Some components do not add due to rounding.

1 Employers deposit withheld income taxes and social security taxes together. These figures represent only the income tax portion of their underpayments.

overdue one month after the close of the quarter for which the employment tax return was filed. For the corporate remittance gap, the masterfile analysis was for TY 1984 and TY 1985. The estimates for those years were extrapolated with methods similar to those used for individuals.

Each of the components of the net remittance gap was estimated as a constant proportion of the corresponding gross gap. The proportion used to estimate the net gap for insufficient remittances of individual income tax was derived from an analysis of 1982-83 data pertaining to enforcement-related collections. The proportion for employer underdeposits of withheld individual income tax was derived from an analysis of recent accounts receivable data. The ratio of the net to the gross corporation income tax remittance gap was assumed to be equal to the corresponding ratio for employer underdeposit of withheld individual income tax.