Measuring Taxpayer Burden in the Internal Revenue Service: Processing Years 1989-1991

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The Internal Revenue Service (IRS) is in charge of administering the tax laws of the United States. This mission, although necessary, is not very popular with most taxpayers. In fact, it is probably safe to assume that most of us face interactions with the IRS with dismay and, sometimes, with outright fear, even when we have done our best to pay our appropriate share of taxes. Certainly the only interaction we look forward to with pleasure is receiving our refund checks.

The IRS is aware of its image and the stress taxpayers feel in their interactions with IRS and is making a concerted effort to minimize the negative impact it may have on honest taxpayers who are just trying to pay their taxes. One approach has been to try to identify points in the IRS work processes where delays occur and time is thereby lengthened for taxpayers awaiting resolution of their interactions with IRS. The burden here goes beyond the psychological stress, since underpayment of tax results in interest, even if penalties are waived. In these cases, every additional day means additional interest owed by the taxpayer.

We used the IRS accounting files and a sample of returns to develop some baseline measures of the number of weeks needed for taxpayer returns to complete selected steps in the IRS processing and to complete the entire process from start to finish, without regard to the specific activities involved. This paper describes the goals of the project, presents the results, and describes our plans to continue this research in the future.

■ Background

Since the passage of the Paperwork Reduction Act, burden for most Federal agencies has been viewed as the time needed for members of the public to fill out Federal forms and questionnaires. We took a somewhat broader view of burden for purposes of this study, defining it as the amount of time IRS has some active relationship with the taxpayer. That is, the number of weeks the taxpayer's return or account was in an active status in an IRS system.

We looked at four areas:

- the amount of elapsed time a return spent in the IRS system, regardless of the nature of the interaction with the taxpayer;
- the time spent in revenue processing, that is the time needed to do basic processing of the return and credit the taxpayer's payment or issue a refund;
- the time spent in examination, where returns are audited, either in a paper review or in person;
- and underreporter, where information reported on the return is compared with information reported from other sources, like banks and employers.

Total Elapsed Time in the System

We measured ***total elapsed time*** in the system from the time a taxpayer's return was entered into the IRS accounting data base for that processing year to the date that the last transaction occurred pertaining to that individual return. In IRS terms, elapsed time was measured from either the remittance of tax due with a return or the assessment of tax liability, whichever occurred first, to the last transaction for that return.

Revenue Processing

The time a return spent in the service center going through various stages of validation checks was considered the time spent in ***revenue processing***. This time was measured from when the return arrived at a service center to the time it was entered in the system (posted to the master file). In IRS terms, revenue processing time was measured from the date captured in the document locator number (DLN) to either a remittance with the return or the return was filed and tax liability was assessed, whichever occurred first.

Examination

If information entered for various items on an individual return was considered questionable, the return was flagged as an ***examination*** case. A mathematical technique was used to classify individual income tax returns as potential examination cases. This technique used available data to classify returns by assigning weights to certain basic return characteristics. The amount of time an individual return spent in examination was measured from the date a return was determined to be an examination case, to the date that the examination case was resolved. In IRS terms, this was from the presence on the account of an examination indicator to a reverse examination indicator, when either an examination was complete or, in the judgement of the examiner after reviewing the return, there was no need for an examination.

Underreporter

If information reported for particular items of an individual tax return did not match (within certain tolerances) the amounts claimed on information returns provided by employers, banks, etc., the return could be flagged as an ***underreporter*** case. The amount of time in underreporter was measured from the date a return was "flagged" in the system as an underreporter case, to the date it was resolved. In IRS terms, underreporter time was measured from the underreporter indicator to the additional tax assessment or abatement.

■ Methodology

Source of Data

The data source used was the accounting information IRS maintains on tax filers. It includes information about the transactions, such as an indicator of the receipt of the return and taxes owed and remitted, payments, a record of payment arrangements, court actions, etc. It includes all the information needed to administer the tax account. However, the data are not collected for statistical purposes to meet the needs of our study or any study. They are administrative data, collected to support the process of administering and enforcing the tax laws. Therefore, definitions are often not exactly what we would like them to be for research purposes; some data elements that we would like to use are just not there, and, in general, we often have to adapt our measurements to fit the available data. This is an essential fact of life in using administrative data for statistical purposes. However, there is a wealth of information to be gleaned from these data at minimal cost, compared to the cost of developing and conducting a survey. Some nonresponse problems associated with surveys are also minimized in using administrative records, provided the population of interest is also the population included in the administrative record data base. The caution here is that, even with mandatory reporting, there are some, usually unknown, number of nonrespondents. Further information on using administrative records for research purposes can be found in other volumes in this series [1] and in the *Proceedings* from the Canadian symposiums on statistical uses of administrative data [2]. In our case, the population of interest coincided with the available population and the major data quality problems we had to deal with were definition issues.

Sampling Scheme

Results are based on an annual stratified probability sample of unaudited individual income tax returns, Forms 1040, 1040A, and 1040EZ filed by U.S. citizens and residents.

All returns processed during each year are subjected to sampling except tentative and amended returns. Tentative returns are those which may be revised later; for example, returns filed with an extension. They are not subjected to sampling because the revised returns may be sampled later on, while amended returns are excluded because the original returns had already been subjected to sampling. A small percentage of returns are not identified as tentative or amended until after sampling. These returns along with those that contain no income information are excluded from the sample.

All individual returns processed during each year, except tentative and amended returns, are grouped into different strata based on the forms or schedules attached to the 1040. Once the stratum for a return is determined, the return is grouped by dollar amounts based on the following criteria: larger of total income

amount or total loss amount and size of business plus farm receipts. Returns that do not fit into one of these strata are put into certainty strata. These certainty strata consist of the following two conditions: (1) Form 1040 returns only with adjusted gross income of $200,000 and over with no income tax after credits and no additional tax for tax preferences, and (2) Form 1040 returns only with combined Schedule C (business or profession) net profit or net loss of $350,000 and over.

The following table shows the number of returns processed during Processing Years 1988 through 1991 and the number that were selected in the SOI sample. It should be noted that the Processing Year is one year later than the Tax Year. That means, for example, Tax Year 1988 corresponds to Processing Year 1989.

Table 1.--Returns Processed vs. Sample Selected: Processing Years 1988 Through 1991

Processing Year	Population	Sample	Percent of Total
1988	107,173,062	125,888	.0012
1989	110,088,189	110,634	.0010
1990	112,952,035	110,840	.0010
1991	114,484,108	104,505	.0009

Data Limitations

Over time, a particular return may move from one stratum to another if it remains in the sample. There is a high degree of repeat occupance in the sample from year to year and some small amount of shift across strata. For comparison purposes, the results presented were based on the Processing Year 1988 sample codes for each return.

Although the account transaction codes on the data file reflect a variety of activities, many of which indicate account closure, such as a reverse exam indicator or a payment in full, there is no specific code to indicate, in general, that a return is closed. Lacking that, when other indicators were not present, we assumed the account was still open. This has the potential to inflate the estimates of elapsed time in the system.

Another limitation was related to the data file storage and availability. Because of the size of the file of individual returns, returns that have shown no activity for a period of three years are backed up to tape and purged from the active file. This happens every six months and results in only the most recent three years of data being available unless a return is still active. When we did our initial work with the file, we had only the second half of Processing Year 1988 available to us. When we requested subsequent years, we were able to obtain the second half of Processing Year 1989 and all of the sampled returns filed in 1990 and 1991. We therefore chose to concentrate on the three adjacent Processing Years of 1989, 1990, and 1991, with adjustments to the 1989 data to make it correspond to the same distribution as the returns filed in 1990 and 1991.

There was another related limitation that we had to address before we could do any analysis on elapsed time in system. Because we sampled from the file midway through 1992, the 1989 data were truncated after three and a half years, the 1990 Processing Year data were truncated after two and a half years, and the 1991 Processing Year data were truncated after one and a half years.

To address these truncations and the lost first half of the 1988 data, we did the following. We broke the 1989 filing year data into three groups (A89, B89, C89). We broke the 1990 filing year into two groups (A90, B90). We put the 1991 filing year into a single group (A91). Letter A represented the timeframe 0 to 1 years. Letter B represented the timeframe 1 to 2 years. Letter C represented the timeframe 2 to 3 years. Therefore, since we did not know C90 we used the information from 1989 to estimate it. We used the percent change in elapsed time for B89 to C89 to calculate this. Therefore, the value obtained from the formula WC89=(C89+B89)/B89 was applied to B90 to get C90. In particular, C90=(WC89*B90)-B90. We continued this in 1991.

We made no adjustment to the revenue processing data, since the elapsed times were so short, just a few weeks, that they were not affected by the truncation.

There is a numerical indicator, the Julian date, ranging from one to 365, of the day the return was posted

to the file. A Julian date greater than 365 indicates that some type of adjustment was made to the return. These cases were excluded in calculating the time spent in revenue processing. Returns filed during 1989 indicated that roughly 50 percent of all cases fell into this category.

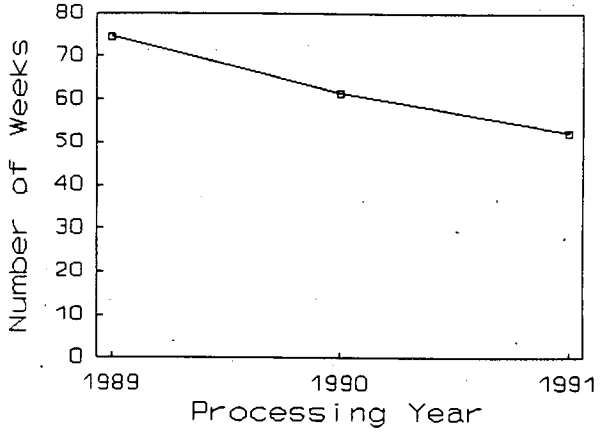
■ Results

Results are presented for the total time a taxpayer's return remained in the IRS system from beginning to end, ignoring the specific activities involved, and separately for each of the processes of examination, underreporter, and revenue processing.

Entire System

Chart 1 presents the mean elapsed time that returns were in the IRS system. The graph indicates that returns filed in 1989 took an average of 74.4 weeks to complete the entire IRS process. This dropped to 61.4 weeks in 1990 and 52.2 weeks in 1991. Further analysis revealed that the greatest drop between 1989 and 1991 was in the highest income group (income greater than $2,000,000) from 65.5 weeks to 36.0 weeks. However, all income groups showed a decrease in the mean elapsed time in the system from 1989 through 1991.

Chart 1: Mean Elapsed Time in System - Processing Years 1989 Through 1991

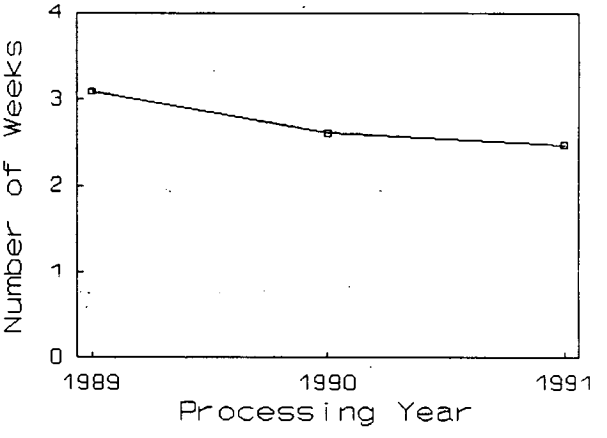


Revenue Processing

Chart 2 presents the mean elapsed time that returns spent in revenue processing. It can be seen from the graphs that the time spent in basic processing activities has steadily declined during the three years studied. The average time in revenue processing decreased for the consecutive years 1989 (3.1 weeks), 1990 (2.6 weeks), and 1991 (2.5 weeks).

Subsequent analyses indicated that returns with income greater than $2,000,000 had the highest average processing time for all three years, 3.2 weeks in 1989, 2.9 weeks in 1990, and 2.9 weeks in 1991.

Chart 2 : Mean Elapsed Time in Revenue Processing - Processing Years 1989 Through 1991



Examination

Chart 3 presents the mean elapsed time returns spent in examination. There is a small decrease from 1989 to 1990, but a thirty-nine percent decrease from 1989 to 1991.

Chart 3 : Mean Elapsed Time in Examination - Processing Years 1989 Through 1991

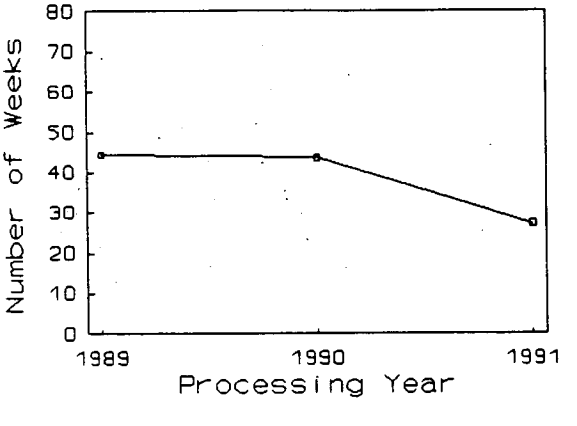
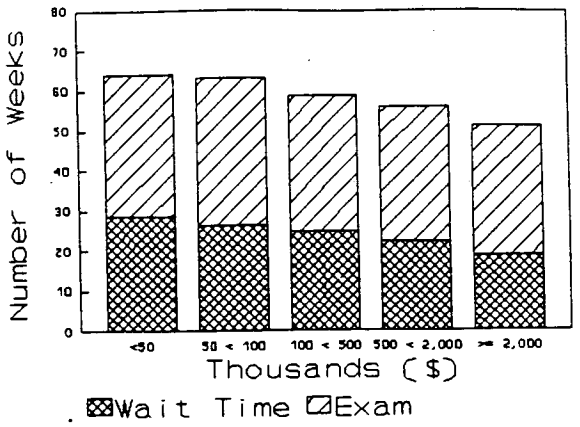


Chart 4 shows the mean elapsed time and the wait time for Processing Year 1990 examination cases, by income level. The wait time was measured from when a return entered the IRS computer system to when the return was selected as an examination case. Forty-three percent of the entire time represented in this chart was wait time.

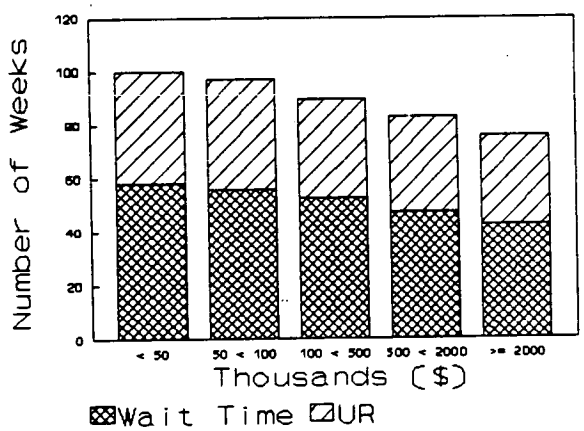
Chart 4 : Mean Elapsed Time and Wait Time in Examination - By Income Level for Processing Year 1990



Underreporter

Chart 5 presents the mean elapsed time and wait time that returns were in underreporter for processing year 1990. The overall wait time for the underreporter cases was roughly fifty-eight percent of the total time.

Chart 5 : Mean Elapsed Time and Wait Time in Underreporter - By Income Level for Processing Year 1990



■ Conclusions

The IRS processing times we looked at generally showed a decrease in elapsed time over the three years. This is encouraging, but there are limits to the gains, that can be made by improving each individual process. Perhaps the most fruitful area for shortening time in the system is to reduce the time between major processing steps, ensuring that the return does not sit in an idle waiting cycle. The limitation to this approach is that some processing is, by nature, sequential. However, to the extent that activities can be performed concurrently, there is potential for real gains.

We would like to continue to track these processes over time and to look at additional IRS processes and the relationships between them. Again, the key to reducing time in the system may very well lie in the spaces between and before major processing steps, in better management of the wait time.

■ Notes

[1] The IRS Methodology Reports series has been publishing collections of papers on statistical uses of administrative records since 1980. While the focus of this research has been on use of Statistics of Income data, much related work by colleagues in other Federal agencies and in the private sector has been included. For a full listing of the reports in this series, see the Index at the back of this volume.

[2] Regular Canadian conferences have also been held which focused on administrative record research. In particular, see Statistical Uses of Administrative Data: Proceedings -- An International Symposium, November 23-25, 1987, J. W. Coombs and M. P. Singh, Eds., Statistics Canada, 1988. ■