

# Projections of Returns to be Filed in Calendar Years 1996-2002

by Philip Cormany

**T**otal U. S. tax returns filed with the Internal Revenue Service (IRS) are projected to reach 209.8 million in Calendar Year (CY) 1996. The annual growth in total return volume from CY 1996 through CY 2002 is expected to be about 1.4 percent, increasing to 228.0 million returns by CY 2002. Projections of tax returns to be filed by major form type are prepared by IRS Research Division. These return projections provide the foundation for IRS' budget submissions, IRS service center resource allocation decisions, and other Service plans and analyses. Calendar year projections reflect the year in which the returns are processed, rather than the tax year covered by the information reported on the return. The following article looks at some of the trends, methodology, and accuracy embedded in these return forecasts.

## Individual Form 1040 Return Series

The U.S. projection for the individual income tax return, Form 1040 series (i.e., the sum of paper and electronic Forms 1040, 1040A, 1040EZ, and 1040PC) in CY 1996 is 118.7 million, up from the estimated 116.8 million filed in 1995 [1]. This is an increase of over 1.6 percent, as shown in Figure A. The annual projected growth rate for the individual income tax return series is expected to continue at nearly 1.6 percent through CY 2002.

## Nationwide Implementation of TeleFile

TeleFile is a technology which gives certain taxpayers who file Form 1040EZ the option to file their returns using touch-tone telephones. In CY 1995 TeleFile was only available to taxpayers residing in the following IRS district office areas: Cleveland (Ohio), Detroit (Michigan), Indianapolis (Indiana), Cincinnati (Ohio), Louisville (Kentucky), Parkersburg (West Virginia), Columbia (South Carolina), Jacksonville (Florida), Fort Lauderdale (Florida), Austin (Texas), Denver (Colorado), and Sacramento (California). Starting in CY 1996, however, TeleFile will be available nationwide. The system will accommodate most Form 1040EZ filers (i.e., in general, taxpayers who do not claim any dependents, have taxable income of less than \$50,000, and have no unearned income -- such as interest -- in excess of \$400). Those who claim the "earned income tax credit," (EIC) can use TeleFile beginning this year. Form 1040EZ filers whose filing status is "married filing jointly" or who receive income from unemployment compensation, will not be

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Figure A

## Projections for Calendar Year 1996

(Number of returns is in thousands)

Type of return	1996 Projections	Percentage change from 1995 <sup>1</sup> (estimated)
<b>Grand total</b> .....	<b>209,845</b>	<b>1.34</b>
<b>Primary returns, total</b> .....	<b>197,180</b>	<b>1.30</b>
Individual income tax, total.....	119,123	1.64
<b>Total paper and electronic returns</b> .....	<b>118,692</b>	<b>1.63</b>
Paper returns, total.....	102,547	-2.28
Paper Form 1040.....	61,932	-2.30
Paper Form 1040A.....	18,451	-10.18
Paper Form 1040EZ.....	17,546	-3.24
Paper Form 1040PC.....	4,618	60.37
Electronic returns, total.....	16,146	36.24
Standard electronic filing.....	13,648	22.18
TeleFile.....	2,497	267.15
Forms 1040NR, 1040-PR, 1040-SS.....	431	6.36
Individual estimated tax, Form 1040-ES.....	35,991	0.48
Fiduciary income tax, Form 1041.....	3,251	3.31
Fiduciary estimated tax, Form 1041-ES.....	703	3.31
Partnership, Form 1065.....	1,577	0.77
Corporation income tax, total.....	4,821	2.95
Estate tax, Forms 706 and 706NA.....	92	8.01
Gift tax, Form 709.....	225	4.40
Employment tax, total.....	28,682	0.41
Form 1042.....	26	4.03
Tax-exempt organization.....	538	0.33
Employee plans.....	1,294	1.39
Excise tax.....	813	1.58
Form 8752.....	45	-4.36
<b>Supplemental documents, total</b> .....	<b>12,665</b>	<b>1.86</b>
Form 1040X.....	2,227	3.11
Form 4868.....	6,081	1.33
Form 2688.....	2,025	2.70
Form 1120X.....	16	-10.27
Form 7004.....	2,316	1.45

<sup>1</sup>Percentage changes for 1995 were based on estimated final counts of returns because complete information was unavailable at the time this table was compiled.

NOTES: For an explanation of form numbers, see footnotes to Table 1, at the end of article. Detail may not add to totals because of rounding.

able to use TeleFile yet. TeleFile is projected to reach 2.5 million returns in CY 1996, up 267 percent from the 0.7 million TeleFile returns received in CY 1995.

## Other Electronic Filing Initiatives

In pursuit of its goal of increased "electronic filings" (ELF), the IRS plans several other new initiatives and program changes for CY 1996 in the individual return area. One of those initiatives is the added emphasis of "on-line" electronic filing via a personal computer-modem link. Another change in CY 1996 is that the IRS will be able to honor requests (Form 8888) from taxpayers who want their refunds directly deposited into their bank accounts. The IRS can even offer this service on both parts of a split refund situation, something which it could not do in CY1995. (An example of when it may be necessary to split a refund is when part of the refund is generated from the EIC. Since it is not necessary to delay the entire refund while eligibility for the EIC is ascer-

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tained, that part of the refund from overwithholding tax withheld can be released to the taxpayer immediately.) Also in CY 1996, the IRS will be able to accommodate requests to pay tax in installments (Form 9465) from taxpayers submitting electronically-filed returns. In addition, the period for electronic filing is being extended from August 15 to October 15, the same filing deadline as that for taxpayers granted second extensions of time in which to file their individual income tax returns.

### Revenue Protection Strategy

Based on 1995 filing season results through July (compared with those through July 1994), the IRS estimates that the CY 1995 volume of "standard" electronically-filed individual returns (i.e., those submitted by IRS-authorized third party transmitters called "electronic return originators") will decrease by approximately 17 percent to 11.2 million filings (see Table 1). This decline is attributed to the residual effects of the IRS Revenue Protection Strategy. This strategy instituted a series of measures to combat refund fraud, including several that had the effect of extending the number of weeks certain

taxpayers had to wait to receive all, or part, of the refund amounts they were claiming. Unfortunately, extending the length of time for issuing refunds for certain cases also served to negate the incentive for some taxpayers to file electronically, since the primary motivation for electronic filing is to obtain a quick refund. The Revenue Protection Strategy is estimated to have saved to date over \$1 billion in erroneous or fraudulent claims. However, implementation of this strategy has had the side effect of reducing the volume of standard ELF returns. This basic fraud prevention strategy is expected to continue in the future. Consequently, the revised projections of standard electronically-filed individual returns are considerably lower than those published a year ago. Figure B depicts the long-term change in the mix between the paper and electronically-filed individual Form 1040 return series, as currently forecast.

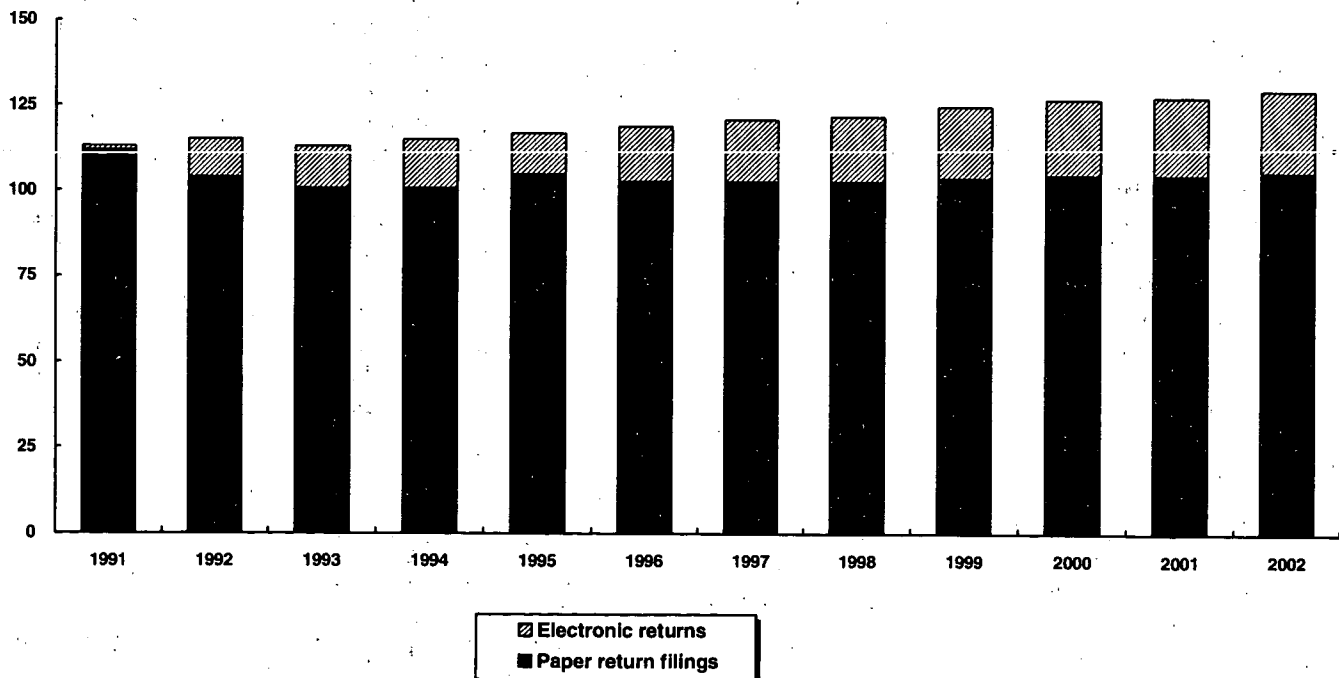
### Alternative for Electronically-Filed Returns

It is important to note that projections of returns filed electronically (ELF) reflect only extrapolations of existing trends in electronic filing, plus the effects of confirmed

Figure B

### Number of Individual Income Tax Returns by Method of Filing, Calendar Years 1991-2002

Millions of returns



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legislative and administrative changes. The latter change includes the expansion of TeleFile nationwide in CY 1996. In general, ELF forecasts assume that the past relationships between electronic filing initiatives and taxpayer behavior will hold true in the future. While this is a common practice in statistical forecasting, it should not be interpreted as precluding a future change in the direction of electronic filing.

The IRS envisions more efficient methods of return filing, ones which involve significantly more returns being filed electronically. To help bring about that result, the IRS has established various electronic filing goals and has introduced programs which are new and innovative, such as "on-line" electronic filing. The IRS also continues to support creative thinking about, and exploration of, other strategies which could increase electronic filing levels beyond those currently projected. Below are a few statistics that provide the IRS with the potential to shape an alternative future, a future with even higher volumes of electronically-filed returns than those which are presently projected. Available IRS data along with research by the Software Publishers Association both indicate that more than 45 million individual income tax returns will be prepared on a computer, but filed on paper in CY 1995. More than 57 million individual income tax returns will be completed by a paid preparer in CY 1995. More than 23 million individual returns will be filed in CY 1995 with the 1040EZ characteristics of the target group for the TeleFile alternative. Nearly 33 million U.S. households in 1995 have a personal computer in their homes, with about 22 million of these equipped with a modem. The "information superhighway" is still being paved, and its impact on tax return filing is not yet fully known.

### Household Employment Taxes

The Social Security Domestic Employment Reform Act of 1994 resulted in the replacement of the *Employer's Quarterly Tax Return for Household Employees* (Form 942) with Schedule H, *Household Employment Taxes*, to be filed with an individual's annual Form 1040. As a result of this legislation, the estimated volume of final Form 942 filings in CY 1995 is down to 388,600, the number actually filed during the last quarterly tax period in CY 1994.

### New Withholding on Non-Payroll Income

Beginning with the 1995 filing season, the new Form 945, *Annual Return of Withheld Federal Income Tax*, is being used to report non-payroll tax withholding, including "backup" withholding on interest and dividends, as well as withholding on pensions, annuities,

Individual Retirement Accounts (IRA's), gambling winnings, and military retirement pay. ("Backup" withholding is required in certain situations, for instance, when the IRS notifies the payer to start withholding on interest or dividends because the corrected amount has been under-reported on the taxpayer's previous return.) Partial data from CY 1995 filings suggest that roughly 188,000 Form 945 returns will be filed for CY 1995. This is substantially lower than earlier estimates made before the initial filings.

### Projection Methodology

Regression techniques, time series models, and growth rates were the basic methods used to project tax return filings through CY 2002. These projections reflect initiatives, assumptions, and strategies as of their date of calculation, and on that account are unable to reflect any later adjustments which result from shifts in IRS resources.

### Regression Analysis

Regression techniques were selected when statistically-sound relationships existed between tax return filings and economic or demographic independent indicators. Return filings are significantly affected by the following key economic and demographic variables: personal income, Gross Domestic Product (GDP), civilian employment, and total population [2]. These variables were used selectively in regression models to project individual, employment, fiduciary, and various corporation returns. In most instances, these economic or demographic variables were lagged by 1 year to correspond more directly with the "tax year" in question. Also, "dummy variables," which are specially-constructed variables with values of "zero" or "1," were occasionally used to account for the effects of legislative changes, return count aberrations, and other unusual conditions not reflected by the economic or demographic variables.

The regression models incorporated the CY1994 actual return counts into the base period. Some also included CY1995 estimates (actual data for CY1995 were incomplete). In such instances, 6-month return counts were typically used to estimate the CY 1995 total, based on the proportion of returns filed to date in CY 1995 relative to the same period in the prior year.

### Time Series Analysis

Some return counts were projected using time series analysis techniques when no statistically sound relationship existed between the economic or demographic variables, and the number of returns filed. These techniques include finite moving averages, exponential smoothing, and autoregressive integrated moving averages (ARIMA).

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## Growth Rates

Simple growth rates were used for forecasting where the return series had a very short or even no historical base period. This method generally assumes that for a given return form and for a limited set of years, a prior growth pattern will continue in the near future, or that a new return type will grow at a rate similar to a related return with an established pattern.

## Off-Model Adjustments

"Off-model" adjustments, which are adjustments to the initial forecasts based on the above techniques, are sometimes necessary when return filings are directly impacted by legislative or administrative changes, which the techniques described above cannot take into account. The IRS projections typically reflect the impact of legislative and administrative changes to the extent that laws or administrative initiatives have been enacted or IRS programs officially approved.

## Projections Highlights

### Grand Total Returns, Primary Returns, and Supplemental Documents

The "grand total" is the sum of the "primary returns, total" and the "supplemental documents, total" [3]. "Primary returns," particularly individual and employment tax returns, account for most of the total filings and generate the major portion of the IRS document processing workload [4]. "Supplemental documents" are mainly amended returns and requests for filing extensions by both individuals and corporations [5].

In CY 1996 through CY 2002, primary returns and supplemental documents filed with the IRS are projected to increase each year by 1.3 percent and 3.2 percent, respectively (Figure C). In CY 1996, about 197.2 million primary returns and 12.7 million supplemental documents are projected to be filed. The complete set of projections for CY 1996 through CY 2002 by form type is presented in Table 1.

### Individual Income Tax Returns

Nearly 119.1 million individual income tax returns are expected to be filed in CY 1996, with an annual growth rate of 1.6 percent anticipated through CY 2002. Total individual returns include the individual return series of electronically-filed and paper Forms 1040, 1040A, 1040EZ, and 1040PC, plus Form 1040NR, *U.S. Nonresident Alien Income Tax Return*; Form 1040-PR, *Planilla Para La Declaracion De La Contribucion Federal Sobre el Trabajo Por Cuenta Propia--Puerto Rico*; and Form 1040-SS, *U.S. Self-Employment Tax Return - U.S. Virgin Islands, Guam, American Samoa, the Commonwealth of*

*the Northern Mariana Islands [CNMI], or Puerto Rico.*

### ■ Total Paper and Electronic Returns

In CY1996, a total of 118.7 million Forms 1040, 1040A, 1040EZ, and 1040PC returns are projected to be filed with the IRS, a 1.6 percent increase over the estimated CY 1995 volume (Figure A). The individual return series includes both returns on paper and electronically-filed returns. The volumes are expected to grow annually at a rate of 1.6 percent and to reach 130.5 million in CY 2002 (Table 1).

### ■ Total Paper Returns

A total of 102.5 million paper returns, Forms 1040, 1040A, 1040EZ, and 1040PC, are projected to be filed in CY1996. This decrease of 2.3 percent from the estimated CY1995 volume (Figure A) is offset by the increase in electronic filings. The volume of paper returns is only expected to grow at an annual rate of 0.2 percent (Figure C) and to reach 106.3 million in CY 2002 (Table 1).

Based upon current projections under existing trends, individual paper return volumes as a percentage of the total Form 1040 series, will decrease from 87.8 percent in 1994 to 86.4 percent in CY1996 and to 81.5 percent in CY 2002. This long-term decrease in the percentage of paper returns follows the basic IRS strategy of increasing the level of electronic filing.

### ■ Paper Form 1040

Historically, the "long" Form 1040 represents the lion's share of total paper returns and this is expected to continue. While the paper Form 1040 is still expected to dominate total paper return volumes, its proportion is projected to drop by another 2.28 percent in CY 1996, and then to increase slightly at an annual rate of 0.24 percent through CY 2002, based on the recent historic trend. This projected stabilization stems from the growth in the volume of electronically filed returns along with the expected increase in the use of Form 1040PC (defined below).

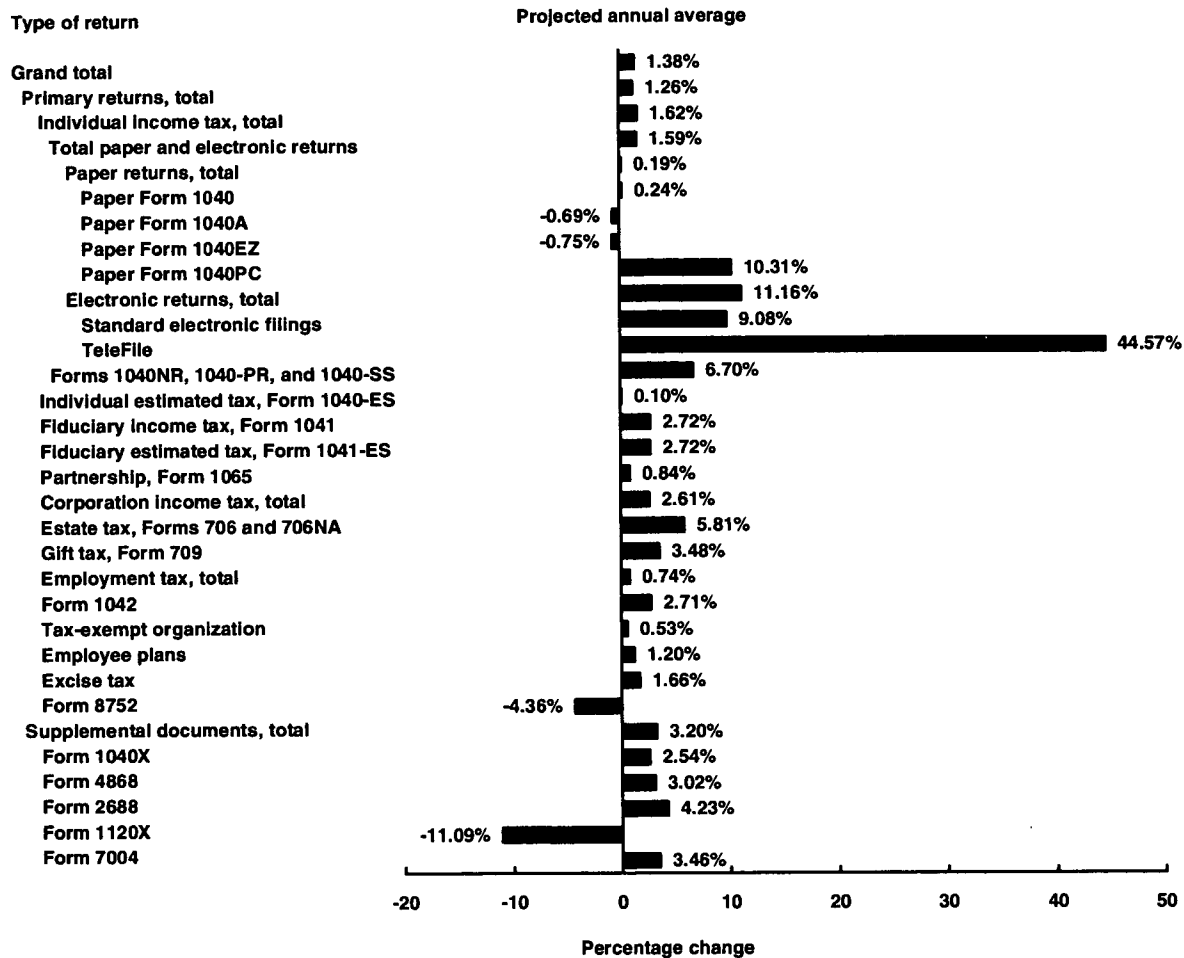
### ■ Paper Form 1040A

Form 1040A returns are projected to decline 10.2 percent to 18.4 million in CY 1996. This drop is in response to a change in the Form 1040EZ filing requirements, allowing certain married taxpayers to use this simpler form instead of Form 1040A, as well as in the projected growth in both Form 1040PC and "standard" electronic filings. These effects are

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Figure C

Projected Annual Percentage Change in the Number of Returns Filed, by Type of Return, Calendar Years 1996-2002



reflected in the continued subsequent slow decline in paper Forms 1040A, of 0.7 percent annually over the projection period CY 1996 through CY 2002.

■ **Form 1040EZ**

Beginning with CY 1996, qualified taxpayers will be able to report income from unemployment compensation on paper Form 1040EZ for the first time. It is estimated that this will increase Form 1040EZ volumes by approximately 1.5 million returns in CY 1996, above what otherwise would be expected. Nevertheless, the volume of paper Form 1040EZ is predicted to continue to decline in CY 1996 due to the nationwide expansion of TeleFile and the continued growth in standard electronic filing.

■ **Form 1040PC**

“Form 1040PC” is somewhat of a misnomer in that it really represents paper tax returns filed by taxpayers using an IRS-approved computer software-generated format, rather than a specific type of tax form. It allows taxpayers to file a computer-generated return on one or two sheets of paper, regardless of the number of schedules normally attached. Based on volumes experienced to date, CY 1995 filings of the computer-generated Form 1040PC have dropped dramatically. The IRS estimates that 2.9 million returns will be filed in CY 1995, down from 4.2 million in CY 1994. This 31-percent decline is due to a noticeable drop in the use of Form 1040PC by certain professional tax-preparation offices which

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experienced difficulties in readying their Form 1040PC software in time for the filing season. However, the volume of Form 1040PC filings is expected to increase to 4.6 million returns in CY 1996, comparable to the levels in CY 1993 and CY 1994. Form 1040PC has been available nationwide since 1992, as an alternative to taxpayers filing the traditional paper returns, Forms 1040, 1040A, or 1040EZ.

### ■ Forms 1040NR, 1040-PR, and 1040-SS

The volumes of Form 1040NR, *U.S. Nonresident Alien Income Tax Return*; Form 1040-PR, *Planilla Para La Declaracion De La Contribucion Federal Sobre El Trabajo Por Cuenta Propia--Puerto Rico*; and Form 1040-SS, *U.S. Self-Employment Tax Return - U.S. Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands [CNMI], or Puerto Rico*, returns are projected to increase at an annual rate of 6.7 percent from CY 1996 through CY 2002. Approximately 86 percent of this total reflects Form 1040NR. Typically, but not exclusively, Form 1040NR is filed by nonresident aliens who have invested in U.S. limited partnerships.

### ■ Total Individual Electronic Returns

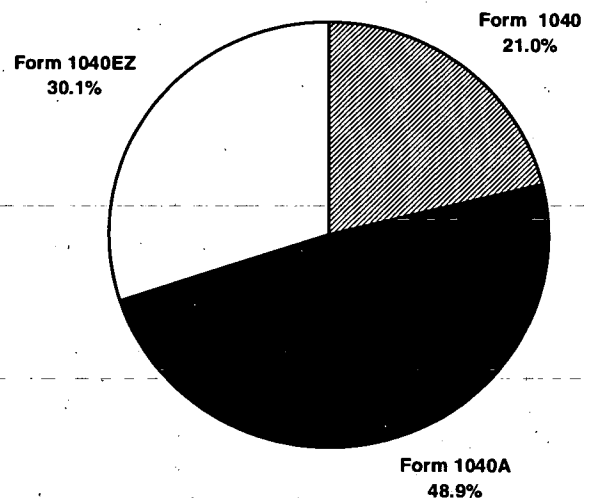
The most recent projections of electronically-filed (ELF) individual income tax returns call for 16.1 million to be transmitted in CY 1996 and 17.8 million in CY 1997. These figures include 2.5 million TeleFile returns in CY 1996 and 2.8 million in CY 1997, reflecting nationwide TeleFile implementation in CY 1996. A total of 24.2 million returns is projected to be filed electronically in CY 2002, with 84.2 percent, or 20.4 million expected to be standard electronic filings, i.e., non-Telefile returns. As the volume of electronically-filed returns increases, the volume of the traditional paper returns filed will necessarily decrease. Figure D presents insights into the return characteristics of electronic filings. Of the 16.1 million returns projected to be filed electronically in CY 1996, about 21.0 percent or 3.4 million would otherwise have been filed on paper Form 1040, about 48.9 percent or 7.9 million would have been filed on paper Form 1040A, and the remaining 30.1 percent or 4.9 million would have been filed on paper Form 1040EZ [6].

### ■ Standard Electronic Returns

Standard electronic returns are non-TeleFile returns typically transmitted through an authorized third

Figure D

### Electronically-Filed Individual Income Tax Returns by Type of Form, Calendar Year 1996



party, termed an "electronic return originator." In CY 1996, about 13.6 million of these tax returns are expected. In general, these projections were based on time-series techniques that extrapolated the growth in participation rates (i.e., the proportion of standard ELF returns to the individual series return total) geographically, at the IRS district office level.

### ■ TeleFile

TeleFile gives certain taxpayers who file Form 1040EZ the option of filing their returns using touch-tone telephones. During the CY 1995 filing season, more than 0.7 million taxpayers in selected areas of the country participated in the fourth year of TeleFile testing. Nearly 2.5 million TeleFile income tax returns are expected to be filed during CY 1996, the first year of nationwide availability. In CY 1997, a projected 2.8 million TeleFile returns are expected to be filed, growing to 3.8 million by CY 2002. In general, these projections were based on anticipated participation rates drawn from the test experience through CY 1995 and the total number of taxpayers eligible to use Form 1040EZ.

### ■ Partnership Returns

*U.S. Partnership Return of Income* (Form 1065) is used to report income, deductions, tax credits, and losses from the

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operation of a partnership. A major purpose of this form is to show each partner's distributive share, to be reported on the individual (or some other) income tax return. Partnership projections are expected to increase by 0.8 percent overall through CY 2002, resuming a slow growth pattern after years of decline, which reflected a residual effect of the Tax Reform Act of 1986. The Act curbed the use of limited partnerships as "tax shelters." These forecasts are generally based on time trend models.

### Corporation Income Tax Returns

Corporation income tax returns are the aggregate of the *U.S. Corporation Income Tax Return* (Form 1120), *U.S. Short-Form Corporation Income Tax Return* (Form 1120A), *U.S. Income Tax Return for an S-Corporation* (Form 1120S), and various other forms filed by such entities as investment and insurance companies, homeowners' associations, and real estate investment trusts. Approximately 4.8 million corporation returns are projected to be filed in CY 1996. The projected annual percentage change in the number of returns filed through CY 2002 is 2.6 percent, reflecting the results of a combination of econometric regression models using GDP and time series techniques. In CY 1996, Forms 1120, 1120S, and 1120A are projected to be 45.4 percent, 45.2 percent, and 8.1 percent, respectively, of total corporation returns filed.

### Estate Tax Returns

*U.S. Estate Tax Return* (Form 706) is filed to report transfers of property at death. Presently, those estates whose gross assets exceed \$600,000 are required to file Form 706. Between CY 1996 and CY 2002, estate tax returns filed are expected to grow at an annual rate of 5.8 percent. Total estate forecasts are based on the summation of forecasts for three gross asset size classes: less than \$1 million, \$1 million to \$5 million, and more than \$5 million. Forecasting models were based on regression, stepwise autoregression, and exponential smoothing techniques.

### Gift Tax Returns

*United States Gift Tax Return* (Form 709) is required for the gratuitous transfer of real or personal property which exceeds a certain dollar amount. Generally, the individual making the gift (i.e., the donor) must file Form 709 in order to pay the tax. The projected annual growth rate in gift tax return filing between CY 1996 and CY 2002 is 3.5 percent. These projections are based on regression techniques.

### Employment Tax Returns

Total employment tax return forecasts are based on a

summation of seven forms: *Employer's Annual Federal Unemployment (FUTA) Tax Return* (Forms 940 and 940EZ); *Employer's Quarterly Federal Tax Return* (Form 941; plus Form 941PR for employees in Puerto Rico; and Form 941SS for employees in the U.S. Virgin Islands, Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands [CNMI]; and Form 941E for State and Local Government employees); *Employer's Quarterly Tax Return for Household Employees* (Forms 942 and 942PR); *Employer's Annual Tax Return for Agricultural Employees* (Forms 943 and 943PR); *Annual Return of Federal Withheld Income Tax* (Form 945); and *Employer's Annual Railroad Tax Return* (Form CT-1). Form 945 was introduced in CY 1995, and is discussed above, under New Withholding on Non-payroll Income. Form 942 was eliminated in CY 1995 to reflect provisions in the Social Security Domestic Employment Reform Act of 1994.

Current projections for total employment returns to be filed in CY 1996 and CY 1997 are 28.7 million and 28.9 million, respectively, with an annual growth rate of 0.7 percent from CY 1996 through CY 2002. Form 941 makes up more than 78 percent of the employment return totals each year, with 22.5 million Forms 941 expected in CY 1996. Projections for the various employment tax forms used regression, weighted moving average, exponential smoothing, and subjective techniques.

### Excise Tax Returns

Total excise tax returns are the sum of the following four categories of returns: *Special Tax Return and Application for Registry-Wagering* (Form 11C); *Quarterly Federal Excise Tax Return* (Form 720); *Tax on Wagering* (Form 730); and *Heavy Vehicle Use Tax Return* (Form 2290). Form 720 and Form 2290 represent almost 90 percent of the excise tax return total.

The overall average annual growth rate is 1.7 percent from CY 1996 through CY 2002.

### Supplemental Documents

The total number of supplemental documents filed is comprised primarily of amended returns and requests for filing extensions. In CY 1996 and CY 1997 about 12.7 million and 13.1 million supplemental documents, respectively, are expected to be filed.

### Projection Accuracy

It is often helpful to consider the historical accuracy of past projections when evaluating future forecasts. Using the actual return counts from CY 1992 through CY 1994, and past forecasts, two key measures of accuracy have been calculated: the "mean absolute error" (MAE) and the "mean absolute percentage error" (MAPE). MAE is the

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average of the relevant "projection errors," regardless of whether the forecasts were overprojected or underprojected. The projection error is simply the actual result minus the projected volume. MAPE is a similar measure, but is based on percentages. The MAE and MAPE values are grouped by time horizons. The time horizon is determined by when the forecast was made and for what future year it was made. For example, a forecast for CY 1992 made in CY 1989 would be part of the "3-years ahead" time horizon. The number of observations at each time horizon is held constant at three (i.e., forecasts made for CY 1992, CY 1993, and CY 1994) [7].

As shown in Figure E, for the grand total and the primary total return categories, the MAPE's are generally in the 2 to 3 percent range for the shorter-term forecasts and in the 3 to 6 percent range for longer term projections. Regardless of the time horizon, the MAPE for the total individual income tax return series is generally around 2 percent. On the whole, forecast error increases with the time horizon, (i.e., 1-year MAPE's are lower than 4-year MAPE's). Also, forecast errors arise from both statistical modeling reasons and from unforeseen program or law changes.

### Notes and References

[1] All statistics are for the year in which the tax return was processed by the Internal Revenue Service and are stated on a calendar year basis unless otherwise noted. The main calendar year projections discussed in this article are presented in Table 1 and are based on figures produced by the IRS Research Division; see *Calendar Year Return Projections for the United States and Service Centers: 1995-2002*, Document 6186 (Revision 10-95). Final counts for all of Calendar Year 1995 were incomplete at the time this article was written. Final CY 1994 counts, unavailable for projections published in the *Statistics of*

*Income Bulletin*, Winter 1994-1995, Volume 14, Number 3, are reflected in all statistics. (For complete fiscal year counts, see U.S. Department of Treasury, Internal Revenue Service, *Internal Revenue Service Data Book, Fiscal Year 1995*, in preparation when this article was written.)

[2] Economic and demographic variables were estimated by Data Resources, Incorporated, June 1995.

[3] As used in this article, the number of returns filed represents returns processed at IRS service centers and recorded in the IRS Master File system during the calendar year. The Master File system includes the Individual Master File (IMF), the Business Master File (BMF), and the Employee Plans Master File (EPMF). These figures do not include the 1.1 billion information and withholding documents processed by the IRS, such as dividend and interest statements on Form 1099 and wage and tax statements on Form W-2. Information and withholding documents provide data for use in the IRS "information matching" programs, which compare amounts reported on information returns from payers with the amounts actually reported by taxpayers on their individual income tax returns. These documents are not considered to be tax returns. Most information documents are received on magnetic tape and processed at the IRS Computing Center in Martinsburg, West Virginia. For additional information, see Internal Revenue Service, Compliance Research, *Calendar Year Projections of Information and Withholding Documents for the United States and Service Centers: 1995-2002*, Document 6961 (Revision 5-95).

[4] See U.S. Department of the Treasury, Internal Revenue Service, Compliance Research, *Calendar Year Return Projections for the United States and*

Figure E

### Mean Absolute Error (MAE) and Mean Absolute Percentage Error (MAPE) Accuracy of U.S. Level Projections Based on Actual Return Counts for Calendar Years 1992 through 1994

Type of return	Mean absolute error (number of returns)				Mean absolute percentage error			
	1 year ahead	2 years ahead	3 years ahead	4 years ahead	1 year ahead	2 years ahead	3 years ahead	4 years ahead
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Grand total.....	5,312,793	3,267,786	6,056,060	11,333,493	2.59	1.59	2.96	5.55
Selected primary returns, total.....	5,717,229	5,215,696	5,274,729	11,460,029	2.96	2.70	2.73	5.92
Individual income tax.....	2,040,343	1,969,076	2,047,909	2,505,487	1.78	1.72	1.78	2.19
Partnership, Form 1065.....	92,574	70,108	437,808	485,841	5.85	4.45	27.68	30.70
Corporation income tax.....	63,412	166,812	366,679	407,679	1.38	3.67	8.12	8.95
Employment tax.....	269,636	698,774	356,769	1,196,969	0.93	2.42	1.24	4.15
Supplemental documents.....	1,573,082	5,094,203	3,850,930	6,377,264	14.44	47.84	34.57	56.84

NOTE: Number of returns is based on three observations at each horizon and is not additive.



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*Service Centers: 1995-2002*, Document 6186 (Revision 10-95) for further explanation of return types.

- [5] Supplemental documents are the forms found in footnotes 12 -16 of Table 1.
- [6] U.S. Department of the Treasury, Internal Revenue Service, Compliance Research, *Calendar Year Projections of Individual Returns by Major Processing Categories*, Document 6187 (Revision 9-95).

- [7] For further discussion of the issue of projection accuracy, see U.S. Department of the Treasury, Internal Revenue Service, Compliance Research, *Calendar Year Projections of Individual Returns by Major Processing Categories*, Document 6187 (Revision 09-95) and see Geiman, Russell R.; Nichols, Bonnie L.; and De Wilde, Carolyn D. "How Are We Doing? An Analysis of Projection Accuracy," *The IRS Research Bulletin* (Revision 09-91), Internal Revenue Service, U.S. Department of the Treasury.

# Projections of Returns to be Filed in Calendar Years 1996-2002

**Table 1.—Number of Returns Filed, or to be Filed, with the Internal Revenue Service, Calendar Years 1994-2002**

[Numbers of returns are in thousands]

Type of return	Actual 1994	Estimated 1995 <sup>1</sup>	Projected						
			1996	1997	1998	1999	2000	2001	2002
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<b>Grand total</b> <sup>2</sup> .....	<b>205,781</b>	<b>207,075</b>	<b>209,845</b>	<b>212,812</b>	<b>215,778</b>	<b>218,811</b>	<b>221,825</b>	<b>224,855</b>	<b>227,960</b>
<b>Primary returns, total</b> .....	<b>193,571</b>	<b>194,642</b>	<b>197,180</b>	<b>199,675</b>	<b>202,176</b>	<b>204,744</b>	<b>207,283</b>	<b>209,838</b>	<b>212,460</b>
Individual income tax, total.....	115,062	117,199	119,123	121,105	123,074	125,052	127,049	129,067	131,107
Total paper and electronic individual returns.....	114,683	116,794	118,692	120,645	122,583	124,529	126,490	128,470	130,470
Paper returns, total.....	100,663	104,942	102,547	102,861	103,303	103,882	104,581	105,405	106,286
Paper Form 1040.....	60,420	63,388	61,932	62,173	62,489	62,876	63,333	63,858	64,435
Paper Form 1040A.....	18,902	20,542	18,451	18,579	18,737	18,905	19,085	19,272	19,463
Paper Form 1040EZ.....	17,162	18,133	17,546	17,346	17,195	17,123	17,104	17,145	17,196
Paper Form 1040PC.....	4,178	2,879	4,618	4,764	4,881	4,978	5,060	5,130	5,191
Electronic returns, total.....	14,021	11,851	16,146	17,784	19,280	20,647	21,908	23,065	24,184
Standard electronic filing.....	13,502	11,171	13,648	14,935	16,121	17,252	18,327	19,354	20,352
TeleFile.....	519	680	2,497	2,849	3,160	3,395	3,581	3,711	3,833
Forms 1040NR, 1040-PR, and 1040-SS <sup>3</sup> .....	379	405	431	460	490	524	559	598	638
Individual estimated tax, Form 1040-ES.....	36,295	35,818	35,991	36,024	36,040	36,051	36,060	36,068	36,075
Fiduciary income tax, Form 1041.....	3,088	3,147	3,251	3,328	3,419	3,514	3,609	3,704	3,798
Fiduciary estimated tax, Form 1041-ES.....	668	680	703	720	739	760	780	801	821
Partnership, Form 1065.....	1,558	1,565	1,577	1,590	1,603	1,617	1,631	1,645	1,660
Corporation income tax, total.....	4,666	4,683	4,821	4,963	5,091	5,221	5,352	5,480	5,609
Estate tax, Forms 706 and 706A.....	81	85	92	97	103	108	115	120	126
Gift tax, Form 709.....	216	215	225	233	242	250	258	266	273
Employment tax, total.....	29,274	28,565	28,682	28,874	29,090	29,364	29,592	29,816	30,084
Form 1042 <sup>7</sup> .....	24	25	26	26	27	28	29	29	30
Tax-exempt organization <sup>8</sup> .....	534	536	538	537	541	544	547	551	556
Employee plans <sup>9</sup> .....	1,219	1,277	1,294	1,311	1,327	1,343	1,358	1,373	1,387
Excise tax <sup>10</sup> .....	823	800	813	824	838	852	866	881	898
Form 8752 <sup>11</sup> .....	65	47	45	43	41	39	38	36	35
<b>Supplemental documents, total</b> .....	<b>12,209</b>	<b>12,433</b>	<b>12,665</b>	<b>13,136</b>	<b>13,602</b>	<b>14,067</b>	<b>14,542</b>	<b>15,017</b>	<b>15,501</b>
Form 1040X <sup>12</sup> .....	2,141	2,159	2,227	2,280	2,341	2,397	2,457	2,514	2,573
Form 4868 <sup>13</sup> .....	5,959	6,001	6,081	6,295	6,509	6,725	6,943	7,164	7,388
Form 2688 <sup>14</sup> .....	1,925	1,972	2,025	2,127	2,224	2,323	2,425	2,529	2,635
Form 1120X <sup>15</sup> .....	23	18	16	15	13	12	10	9	8
Form 7004 <sup>16</sup> .....	2,161	2,283	2,316	2,420	2,514	2,611	2,707	2,802	2,896

<sup>1</sup> Estimate, including that for some corporations, is based on returns processed through part of 1995. The actual number filed in CY 1995 was unavailable when this table was compiled.

<sup>2</sup> Excluded from all totals are the following "Non-Master File" returns: Form CT-2, 941M, 990BL, and 1120-IC-DISC. Also excluded are withholding and information documents, including Forms such as W-2 and the 1099 series and related forms.

<sup>3</sup> Form 1040X is included under "Supplemental documents, total."

<sup>4</sup> Includes Forms 1041 and 1041S.

<sup>5</sup> Includes Forms 1120, 1120A, 1120F, 1120H, 1120L, 1120POL, 1120S, 1120DF, 1120FSC, 1120PC, 1120REIT, and 1120RIC; Form 1120X is included under "Supplemental documents, total."

<sup>6</sup> Includes Forms 940, 940EZ, 940PR, 941, 941E, 941PR, 941SS, 942, 942PR, 943, 943PR, 945 and CT-1.

<sup>7</sup> Annual Withholding Tax Return for U.S. Source Income of Foreign Persons.

<sup>8</sup> Includes Forms 990, 990EZ, 990C, 990PF, 990T, 4720, and 5227.

<sup>9</sup> Includes Forms 5500, 5500C, 5500EZ, and 5500R.

<sup>10</sup> Includes Forms 11C, 720, 730, and 2290.

<sup>11</sup> Form 8752 is filed by all Partnerships and S-Corporations electing either to maintain or establish any taxable year other than the required calendar year.

<sup>12</sup> Individual Amended Return.

<sup>13</sup> Individual Request for Automatic Filing.

<sup>14</sup> Individual Request for Additional Filing Extension.

<sup>15</sup> Corporation Amended Return.

<sup>16</sup> Application for Automatic Extension of Time to File Corporation Income Tax Return.

NOTE: Detail may not add to totals because of rounding.