



**Congressional Budget Office**

**Background Paper**

# **Differences in Wage and Salary Income Included in Various Tax Bases**

**June 2005**



The logo for the Congressional Budget Office (CBO), featuring the letters "CBO" in a white, serif font centered within a solid black square.

**CBO**

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## **Note**

Numbers in the text and tables may not add up to totals because of rounding.

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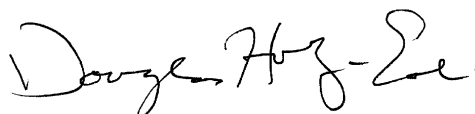
## Preface

Wages and salaries constitute the largest single component of the federal tax base and are subject to both the individual income tax and payroll taxes (for Social Security and Medicare). The wage base included in each tax differs, however. Some compensation, notably contributions to defined-contribution retirement plans, is subject to payroll taxes but not to income taxes. Income from some employment, including certain jobs in government, the railroad industry, and religious institutions, is subject to income taxes but not payroll taxes. And within payroll taxes, some categories of workers are subject to either Social Security or Medicare taxes, but not both. Properly accounting for differences in the respective wage tax bases contributes to the accuracy of revenue projections by the Congressional Budget Office (CBO) and its analyses of effective tax rates on income.

This background paper explains how tax data are used by CBO staff to identify the sources of differences in the wage bases of the taxes. Identifying those differences and reconciling data from different tax sources are necessary steps in developing projections of the tax bases that are internally consistent and grounded in the same economic forecast. Quantifying the differences in tax bases allows CBO to show how those methods affect its projections.

Kurt Seibert wrote this paper under the direction of David Weiner, Robertson Williams, and Thomas Woodward. Annabelle Bartsch fact-checked the manuscript. David Brauer, Bob Dennis, Ed Harris, and Arlene Holen provided comments on early drafts of the paper, as did William Piet of the Social Security Administration. (The assistance of external reviewers implies no responsibility for the final product, which rests solely with CBO.)

Janey Cohen edited the paper, and Christine Bogusz proofread it. Denise Williams typed early drafts of the paper, and Maureen Costantino prepared it for publication and designed the cover. Lenny Skutnik printed copies for distribution, and Annette Kalicki and Simone Thomas prepared the electronic version for CBO's Web site ([www.cbo.gov](http://www.cbo.gov)).



Douglas Holtz-Eakin  
Director

June 2005



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## Introduction

On a semiannual basis, the Congressional Budget Office (CBO) projects tax receipts for individual income taxes and the dedicated payroll taxes that finance the Social Security and Medicare programs. The primary component in both the individual income tax base and the payroll tax base is wages earned by individuals working in the United States.<sup>1</sup> The wage bases for those taxes are not the same. Some wage income that is subject to payroll taxes is exempt from income tax. Some wage income that is subject to income tax is exempt from payroll taxes. Moreover, Social Security and Medicare payroll taxes each cover different categories of workers. Hence, not only are tax bases different in any given year, but they may also grow at different rates and change relative to one another over time.

To generate projections of revenues from those taxes, CBO models each tax separately. But the underlying projection of the growth of wages used in those models derives from a single macroeconomic forecast. To convert that single projection of wages into separate wage bases for the different taxes, it is necessary to identify the sources of differences in the bases and their magnitudes. This paper describes the effect of those differences on CBO's forecast of payroll tax revenues.

The first section of the paper briefly describes the taxes and how their coverage differs. The second section explains the data available to examine the differences. The third quantifies the magnitudes involved. Next, the paper shows how that information is used in CBO's tax projection models. Finally, the paper demonstrates how much difference that approach makes compared with a method in which the sources of differences in the bases are not identified and wage income subject to the income tax is used as the base for the payroll tax.

## Differences Between Income Tax Wages and Payroll Tax Wages

Most workers and their employers must pay taxes on employees' earnings; those taxes go into the Old-Age, Survivors, and Disability Insurance (OASDI) trust fund and the Hospital Insurance (HI) trust fund. Those trust funds finance Social Security and Medicare, respectively. In 2005, 6.2 percent of each individual's wages up to \$90,000 will go into the OASDI trust fund, with employers contributing a matching amount. A tax of 1.45 percent on all wages funds the Medicare HI trust fund, with the employer again matching the employee's payment. Self-employed people pay both the employee and employer portion of both taxes.

For the purposes of this paper, the payroll tax base refers to all covered wages; that is, all wages except those of some classes of employees who are not covered by OASDI or HI and therefore are not subject to the tax. By contrast, the income tax applies to income of all classes of workers. However, some forms of wage income are exempt from income taxation. Consequently, although most wages are subject to both income and payroll taxes, the wages of certain individuals are subject to the income tax but not to the OASDI tax, HI tax, or both—or vice versa (see Table 1).

The main class of workers exempt from either or both of those taxes is certain government employees. Although all federal employees have been covered by HI since 1983, many em-

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1. For the purposes of this paper, "wages" refers to all wage and salary income reported on a worker's W-2 form.

**Table 1.**  
**Differences in the Taxation of Income**

Source of Income	Applicability of Tax		
	Income	OASDI	HI
Employment			
Federal worker continuously employed since before 1984 and covered by the Civil Service Retirement System	Yes	No	Yes
State or local worker			
Continuously employed since before April 1, 1986, in a job not covered by OASDI	Yes	No	No
Employed after April 1, 1986, in a job not covered by OASDI	Yes	No	Yes
Railroad worker contributing to a separate pension and disability system	Yes	No	No
Religious-institution worker not covered by Social Security	Yes	No	No
Deferred Compensation Contributions	No	Yes	Yes
Disability Pension Received by Individuals Who Have Not Yet Reached the Minimum Retirement Age	Yes	No	No

Source: Congressional Budget Office.

Notes: Income is that reported as wages and salary on W-2s (the Internal Revenue Service's wage and tax statement).

OASDI = Old-Age, Survivors, and Disability Insurance (Social Security); HI = Medicare's Hospital Insurance.

employees who have been continuously employed by the federal government since before 1984 are not covered by OASDI. Similarly, some state and local employees (the relevant categories of employees differ from state to state) are covered by a public retirement system other than OASDI and therefore do not pay taxes into the OASDI trust fund. In addition, those state and local employees continuously employed since before April 1, 1986, are not covered by HI, so wages earned from that employment do not generate liability for either OASDI or HI taxes. In 2001, 28 percent of the state and local government workforce was not covered by Social Security.<sup>2</sup> All of those federal and state employees who are not covered by OASDI, HI, or both face no payroll tax liability on noncovered wages, creating a significant difference between the income tax base and the payroll tax base for OASDI and HI.

Several other sources of income enter the income tax base as wages but are not subject to payroll taxes. Those sources include disability pensions received by individuals who have not yet reached the minimum retirement age; wages earned by railroad workers who contribute to a pension and disability system created by the Railroad Retirement Act; income earned by some ministers and other officials of religious institutions who chose not to be covered by Social Security; qualified stock options not held for at least one year from the purchase and two years from the granting of the option; income paid by an employer to a nonresident alien; and sev-

2. House Committee on Ways and Means, *2004 Green Book* (March 2004), p. 4.

eral other minor sources, such as the income of children employed by their parents and wages earned by students employed by the universities they attend.

By contrast, contributions for deferred compensation are subject to payroll taxes but are not included in the income tax base. Most deferred compensation that is subject to payroll taxes takes the form of earnings an individual elects to contribute to a retirement savings plan such as a 401(k), 403(b), or Thrift Savings Plan (TSP). In general, those contributions generate liability for payroll taxes but not for income taxes and thus must be added to income tax wages to determine the payroll tax base.

## Data

Measuring the differences between the bases for income and payroll taxes requires data on incomes subject to each tax. The Internal Revenue Service's (IRS's) Statistics of Income (SOI) file of individual income tax returns—which is the backbone of CBO's individual income tax projection model—includes wage income reported on tax returns but does not indicate how much of that income is subject to payroll taxes since that information is reported on W-2 wage and tax statement forms and is not part of the SOI file. The file is produced from a stratified sample of tax returns and includes weights that allow the returns to represent the larger tax-filing population. Those weights permit the estimation of wage totals (and other characteristics of taxpayers' income) from the sample.

The IRS generates a different file of W-2 information returns that reports separate amounts of wages subject to income, OASDI, and HI taxes for each job as well as deferred compensation contributions subject to OASDI and HI taxes but not to the income tax (see Figure 1). The W-2 file provides information that can identify the reasons certain wage income is or is not part of the payroll tax base. That file contains W-2s for almost all individuals included in the sample of individual tax returns discussed earlier. It is necessary to match the W-2s to the corresponding records in the SOI to provide the sample weights required to quantify the total amounts involved; doing so produces a data set that can explain and quantify the differences between the tax bases and provides information needed to convert CBO's estimate of wages included in the income tax base into a logically consistent estimate of the payroll tax base. Totals from those files also may be compared with those from the Social Security Administration (SSA). Those files from SSA exist in aggregate form but include wages that would not show up in the SOI.

For the purposes of the analysis in this paper, wages associated with self-employment are excluded from both the W-2 and income tax return data. CBO handles them separately in its projection model. The OASDI wage totals include all wages subject to OASDI taxes, including those above the taxable maximum. As a result, the taxable maximum does not play a role in identifying the sources of differences in coverage.


The analysis starts with a comparison of the aggregate wage data from 1999 W-2s matched to individual income tax returns from the SOI for the same year.<sup>3</sup> Total wage income reported in the 1999 SOI file weighted to represent the entire population of tax filers was \$4,132 bil-

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3. The W-2 file is generated only after a considerable lag. The 1999 file was the most recent data set available when the research described in this paper was undertaken. The 2000 file is now available and being processed for future projections.

**Figure 1.**

## The Internal Revenue Service's e-file W-2 Form

a Control number		OMB No. 1545-0008		Safe, accurate, FAST! Use 		Visit the IRS website at <a href="http://www.irs.gov/efile">www.irs.gov/efile</a> .	
b Employer identification number (EIN)				1 Wages, tips, other compensation		2 Federal income tax withheld	
c Employer's name, address, and ZIP code				3 Social security wages		4 Social security tax withheld	
				5 Medicare wages and tips		6 Medicare tax withheld	
				7 Social security tips		8 Allocated tips	
d Employee's social security number				9 Advance EIC payment		10 Dependent care benefits	
e Employee's first name and initial Last name				11 Nonqualified plans		12a See instructions for box 12	
				13 Statutory employee <input type="checkbox"/> Retirement plan <input type="checkbox"/> Third-party sick pay <input type="checkbox"/>		12b	
				14 Other		12c	
						12d	
f Employee's address and ZIP code							
15 State Employer's state ID number		16 State wages, tips, etc.		17 State income tax		18 Local wages, tips, etc.	
						19 Local income tax	
						20 Locality name	

Form **W-2 Wage and Tax Statement** **2005** Department of the Treasury—Internal Revenue Service  
**Copy B—To Be Filed With Employee's FEDERAL Tax Return.**  
 This information is being furnished to the Internal Revenue Service.

Source: Internal Revenue Service.

Note: Box 1 includes all wage and salary income subject to federal income tax. Boxes 3 and 7 include all wage and salary income subject to Old-Age, Survivors, and Disability Insurance (Social Security) tax. Box 5 includes all wage and salary income subject to Medicare's Hospital Insurance tax.

lion, compared with the \$4,001 billion shown on the W-2s for those same tax filers. The \$131 billion difference—about 3.2 percent of wage income reported on tax returns—indicates that some W-2s are missing. To deal with that problem, data from W-2s are adjusted. Wages from the W-2s are increased to match amounts in the corresponding tax return. If the primary earner's wages on the W-2s are from wages not subject to OASDI taxes, HI taxes, or both, then the additional wages are assumed to be exempt from those taxes as well. Otherwise, the additional wages are considered to be subject to OASDI and HI taxes. For the remainder of this analysis, all estimates of covered and noncovered wages from the matched W-2/SOI data have been adjusted for that difference.

Information reported on W-2s includes not only the amounts of wage income subject to income, OASDI, and HI taxes but also the identity of the employers that paid the income. Employers' identity is among the reasons why the amounts of income subject to the three taxes differ. For example, a taxpayer whose W-2 shows employment by the federal government and no OASDI wages must have begun working for the government before 1984; thus, the individual is not covered by OASDI and has no OASDI tax liability. A taxpayer whose W-2 shows employment by a state government and no OASDI or HI coverage must have begun working for the state before April 1, 1986, in a job not covered by OASDI or HI.

**Table 2.****Reconciliation of Income and Payroll Tax Bases, 1999**

(Billions of dollars)

	OASDI	HI
Internal Revenue Service's Statistics of Income Salary and Wages	4,132	4,132
Minus: Noncovered wages		
State and local workers with exempt wages	151	63
Federal workers with exempt wages	47	0
Railroad workers with exempt wages	8	8
Employees of religious institutions with exempt wages	4	4
Disability pensions received by individuals under the age of retirement	3	3
Other exempt payments to employees	10	10
Subtotal	3,910	4,044
Plus: Deferred compensation contributions	109	113
<b>Total, covered salary and wages</b>	<b>4,019</b>	<b>4,157</b>
<b>Memorandum:</b>		
Salary and Wages from Matched W-2s	4,001	4,001
Social Security Administration, Covered Salary and Wages	4,169	4,315
Difference Between CBO and Social Security Administration	-150	-158

Source: Congressional Budget Office based on data from the Internal Revenue Service's Statistics of Income file data.

Note: OASDI = Old-Age, Survivors, and Disability Insurance (Social Security); HI = Medicare's Hospital Insurance.

This decomposition of sources of differences in the bases of the two taxes suffers from the existence of some wage income that is not revealed by the match. Some workers, because their income tax falls below the taxable income threshold, pay no income tax and have none withheld. In many cases, they file no income tax returns and do not show up in the SOI. Their W-2s will not be included in the W-2/SOI match and therefore have no way of showing up in totals computed from the match. That produces another difference in the measured tax bases. CBO takes that into account when making projections but cannot include it in this examination of the differences in the bases.

**Quantitative Magnitude of the Differences**

Data from the W-2s show different amounts of income subject to OASDI, HI, and income taxes because some income is subject to one tax but not another (see Tables 2 and 3). Those totals may be compared with the income tax base from wage income reported on tax returns in the 1999 SOI of \$4,132 billion.

Wage income subject to OASDI taxes totaled \$4,019 billion in 1999. The difference was made up of \$223 billion in wages that were reported on income tax returns but were not in the OASDI tax base. In addition, 37 million tax filers had \$115 billion in deferred compensa-

**Table 3.****Number of Individuals Not Covered by Payroll Taxes, 1999**

(Thousands)

	OASDI	HI
State and Local Workers with Exempt Wages	3,773	1,389
Federal Workers with Exempt Wages	861	0
Individuals Under the Age of Retirement Receiving Disability Pensions	81	81
Railroad Workers with Exempt Wages	192	192
Employees of Religious Institutions with Exempt Wages	146	146
Workers Receiving Other Exempt Payments	111	111

Source: Congressional Budget Office.

Notes: Table includes only those individuals making at least \$10,300 in uncovered wages (2,000 hours times the minimum wage in 1999).

OASDI = Old-Age, Survivors, and Disability Insurance (Social Security); HI = Medicare's Hospital Insurance.

tion not subject to income tax. Of that amount, \$109 billion came from individuals covered by OASDI. Netting those offsetting amounts indicates that the individual income tax base in 1999 exceeded the OASDI tax base estimated by the methods described in the data section of this paper by \$114 billion, or slightly less than 3 percent.

Wage income subject to HI taxes totaled \$4,157 billion in 1999. About \$88 billion in wages was included in the income tax base but not in the HI tax base. Offsetting that amount was \$113 billion in deferred compensation subject to the HI tax but not part of the income tax base. The income tax base in 1999 thus fell short of the HI tax base by \$24 billion, or slightly more than half of 1 percent.

Detailed information provided on the W-2s of tax filers explains much of the difference between wages included in the payroll tax base and wages included in the income tax base. In 1999, 1.4 million state and local workers earned \$63 billion in wages not subject to HI taxes, and 3.8 million workers earned \$151 billion in wages not subject to OASDI taxes. Some 900,000 federal workers earned \$47 billion in wages not subject to OASDI taxes. Income earned by railroad workers and employees of religious institutions, disability pensions received by individuals who have not yet reached the minimum retirement age, and payments from employers that were not readily identifiable on the basis of information available on the W-2s totaled \$25 billion that was subject to income tax but not to OASDI or HI taxes. That amount may be overstated, however, since some of the income may have been reported on W-2s by mistake.

CBO's estimates differ slightly from those reported by the SSA. SSA reports \$4,169 billion in wages covered under OASDI in 1999, \$150 billion—about 4 percent—higher than CBO's estimate. Similarly, SSA estimates that wages subject to HI taxes totaled \$4,315 billion, \$158 billion—also about 4 percent—more than the value obtained using CBO's methods. Similar differences occur in other years. Those differences may occur in part because the two agencies start with different data. CBO uses wages reported on returns in the 1999 SOI and their corresponding W-2s, whereas SSA uses the totals from all W-2s and employers' quarterly federal tax returns, not just a sample representing the full population. In addition, since the SOI pro-

vides information only on tax filers, wage income subject to OASDI and HI taxes for individuals who do file individual tax returns would not be included in the SOI file with matched W-2 data but would be reported by employers and included in the SSA totals. Although those factors may contribute to the difference between the estimates of CBO and SSA, the ultimate reason for the difference is unknown. That historical difference in levels does not significantly affect CBO's projections because CBO calibrates the payroll tax forecast to take into account the most recent historical data provided by SSA.

## Projections

CBO's revenue projections begin with the SOI individual income tax file, which represents all tax filers and is run through a microsimulation model to represent the relevant tax law for each year of the projection. For projection years, a macroeconomic forecast that includes, among many variables, a projection of wage income is used to adjust that file to conform to the measure of income and employment appropriate to the individual income tax. Once that projection is incorporated into CBO's individual income tax model for projection of that tax, the procedure is modified for purposes of projecting payroll taxes. Adjusting the SOI data from individual income tax returns to produce a projection of payroll tax revenues requires six steps:

- Match the most recent W-2 information to the corresponding returns in the SOI file for the same year.
- Use the matched W-2/SOI returns to impute OASDI coverage, HI coverage, deferred compensation, and the division of earnings between head of household and spouse to the most recent SOI file.
- Starting with wages subject to the income tax, subtract wages not covered by OASDI and HI and add deferred compensation contributions to determine wages subject to the payroll tax.
- Run the most recent SOI file through CBO's individual income tax model to produce a payroll tax forecast consistent with CBO's most recent 10-year economic projections and adjusted to account for expected changes in the population distribution.
- Adjust the payroll tax base in forecast years to account for increasing OASDI and HI coverage.
- Generate annual growth rates in tax liability and apply those growth rates to the most recent history provided by SSA.

Although the SOI has a wealth of information about tax filers and provides weights that allow the sample to project totals for the entire population of that group, some variables necessary to forecast payroll tax revenues are available only from W-2s. However, the W-2 data are released later than SOI data, the most recent of which CBO uses to forecast income and payroll tax revenues. Thus, W-2 data cannot be matched to the SOI file used for the forecast. Older SOI data, typically from the year previous to the SOI file used to produce CBO's forecasts, are matched to W-2s from the same year. CBO uses that matched data set to impute the necessary variables to the most recent SOI file. Projections require adjustments for income and

population growth and for the changing distributions among the tax-filing population based on age, income, and other factors. Finally, using the matched W-2/SOI data set to forecast payroll taxes requires accounting for differences between the wages included in the income tax base and wages included in the payroll tax base and how the magnitude of those differences will change over time.

Because the W-2 data used to adjust the SOI individual income tax returns are typically available about a year after the SOI file for that same year is released, CBO imputes information from an older matched W-2/SOI file to the most recent SOI file. In particular, for this analysis, the division of wages in a two-earner family, the OASDI and HI coverage status of each worker, and deferred compensation contributions were imputed from 1999 data to the 2002 SOI file. Each record in both the matched W-2/SOI file and the most recent SOI file was categorized on the basis of a worker's wages, age, marital status, self-employment status, number of dependents, and other sources of income such as capital gains, rent, and royalties. Relevant categories were adjusted for income growth, and then records from the 1999 W-2/SOI file were randomly assigned to records from the most recent SOI file to impute coverage and deferred compensation (adjusted for earnings growth).

Simply applying the relationship between W-2s and the SOI to subsequent years raises two additional problems: the changing age distribution of the population and the declining fraction of workers not covered by OASDI or HI. Fixing the first problem is straightforward: simply increase the weights for each age group to reflect the change in the population of that group between the base year and the projection year. For example, if the base year is 2001 and the projection year is 2005 and the population of 35-year-old tax filers is projected to grow by 5 percent between 2001 and 2005, then the weights of all 35-year-olds would be multiplied by an adjustment factor of 1.05 when projecting taxes for 2005. Weights of married couples are adjusted by averaging the adjustment factors for the head of household and spouse.

Solving the second problem is more complicated. Although several categories of workers who do not pay OASDI and HI taxes will remain a fairly constant portion of the population over time, that pattern does not apply for those who are exempt because of their federal employment not covered by OASDI or to state and local employment not covered by HI. Of all federal employees, only those continuously employed since before 1984 are not subject to OASDI taxes, and of state and local government employees, only those continuously employed since before April 1986 are not subject to HI taxes. As a result, older employees are more likely to have earnings that are not covered by OASDI or HI (see Table 4).<sup>4</sup>

Although the percentage of workers between 25 and 34 years old with a job that was not covered by OASDI was slightly more than 5 percent in 1999, the percentage of workers between 55 and 64 years old with a job not covered by OASDI was more than 9 percent. The results are similar for workers with a job not covered by HI: almost 2 percent of workers between 25 and 34 years old and more than 5 percent of workers between 55 and 64 years old. Over time, those older workers will retire, and the ranks of noncovered workers will shrink. Adjusting the

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4. Income earned by full-time students working at the universities they attend is subject to income taxes but not payroll taxes. For that reason, a relatively high number of individuals under 25 years of age earn some income that is not subject to payroll taxes.



**Table 4.****Percentage of Wage Earners with Some Wages Not Covered by Payroll Taxes, by Age, 1999**

Age	OASDI	HI
Under 25	6.8	5.4
25 to 34	5.0	1.8
35 to 44	5.1	1.9
45 to 54	8.6	3.7
55 to 64	9.3	5.1
65 and Older	11.6	8.6
<b>Total</b>	<b>6.7</b>	<b>3.4</b>

Source: Congressional Budget Office.

Note: OASDI = Old-Age, Survivors, and Disability Insurance (Social Security); HI = Medicare's Hospital Insurance.

populations in projection years to reflect those changes takes account of the rising rates of coverage over time.

CBO imputes federal employment status to workers not covered by OASDI in the SOI individual income tax file for population subgroups categorized by age, wages, and self-employment status on the basis of the percentage of noncovered workers with federal jobs in 1999. The same method is used to impute state or local government employment status to workers not covered by HI. The number of individuals with wages not subject to OASDI or HI among those populations is then reduced, and the number of individuals with wages subject to OASDI or HI is increased to reflect the expected decline in federal workers not covered by OASDI and state and local workers not covered by HI over time.

The adjustments for a future year are derived from the differences in coverage rates between people of a given age in the base year and younger people in the base year who would be the relevant age in the projection year.<sup>5</sup> Suppose, for example, that in 1999, 40 percent of 50-year-olds and 50 percent of 49-year-olds had OASDI coverage. CBO assumes that OASDI coverage for 49-year-old federal workers in 1999 reflects coverage for 50-year-old federal workers in 2000. Therefore, the covered population of 50-year-olds in 2000 is increased by the difference in coverage rates between 49-year-olds and 50-year-olds (10 percent) measured as a fraction of noncovered workers (60 percent), or  $(0.5-0.4)/(1-0.4) = 0.1/0.6 = 0.17$ . That means that in 2000, 17 percent of all 50-year-olds with federal jobs who did not pay OASDI taxes (according to imputations) would have their wages added back into the OASDI tax base to represent the declining number of federal employees without OASDI coverage and hence without OASDI tax liability. Similarly, forecasting that same group (50-year-olds) for 2014 would use the difference in coverage rates between 50-year-olds and 35-year-olds. CBO uses the same method to adjust for the decreasing number of state and local employees who will be

5. Coverage rates include the percentage of covered workers at every age from 30 to 69. Workers younger than 30 in 1999 would not have been old enough to be full-time government workers before 1984 when OASDI coverage became mandatory for new employees. Small samples require putting workers who were 70 or older in a single group.

**Table 5.****Adjustments in CBO's Raw Model Results for Wages from Work Covered by Old-Age, Survivors, and Disability Insurance**

(Billions of dollars)

	Wages		Tax Liability	
	1999	2015	1999	2015
Income Tax Base (Wages)	4,132	8,366	435	873
Plus: Deferred compensation contributions	116	217	10	20
Subtotal	4,248	8,583	445	893
Minus: Noncovered wages	207	460	24	53
Subtotal	4,041	8,123	421	840
Plus: Adjustment for declining portion of noncovered OASDI wages	0	169	0	20
<b>Total, salary and wages covered by OASDI</b>	<b>4,041</b>	<b>8,292</b>	<b>421</b>	<b>860</b>
<b>Memorandum:</b>				
Social Security Administration, Covered Salary and Wages	4,169	8,409	432	861

Source: Congressional Budget Office.

Note: OASDI = Old-Age, Survivors, and Disability Insurance (Social Security).

exempt from HI taxes in the future, simply substituting HI coverage for OASDI coverage and state or local government employment for federal employment.

Finally, the adjusted SOI file is run through the microsimulation model to produce a forecast of payroll tax revenues.<sup>6</sup> The growth rates can then be applied to the most recent historical data provided by SSA to project revenue in future years. SSA also produces its own forecast using a different methodology than that applied by CBO.

**Effect of the Differences in Tax Bases on Projecting Payroll Taxes**

Converting the wages in the income tax base into the OASDI and HI tax bases by adding or subtracting differences between those measures and taking account of demographic changes yields more accurate and more consistent estimates of OASDI and HI revenues than would be generated by simply using wages subject to income tax as the payroll tax base or by growing the existing payroll tax base at the same rate as the income tax base.<sup>7</sup> Adjusting data from the SOI, therefore, has two effects on the projection of payroll taxes. It affects the level of projected receipts, and it affects their rate of growth. For example, adding deferred compensation and subtracting noncovered wages from total wages reduces total OASDI tax liability by \$14 billion in 1999 (from \$445 billion to \$421 billion) and by \$33 billion in 2015 (from \$893

6. A detailed description of CBO's methodology can be found in Congressional Budget Office, *Description of CBO's Models and Methods for Projecting Federal Revenues* (May 2001).

7. For forecasting purposes, an individual with at least one job covered by OASDI and one job not covered by OASDI will have all wages treated as covered. The same is true for HI coverage.

**Table 6.**

## Adjustments in CBO's Raw Model Results for Wages from Work Covered by Medicare's Hospital Insurance

(Billions of dollars)

	Wages		Tax Liability	
	1999	2015	1999	2015
Income Tax Base (Wages)	4,132	8,366	120	243
Plus: Deferred compensation contributions	116	217	3	6
Subtotal	4,248	8,583	123	249
Minus: Noncovered wages	90	217	2	6
Subtotal	4,158	8,366	121	253
Plus: Adjustment for declining portion of noncovered HI wages	0	83	0	2
<b>Total, salary and wages covered by HI</b>	<b>4,158</b>	<b>8,449</b>	<b>121</b>	<b>245</b>
<b>Memorandum:</b>				
Social Security Administration, Covered Salary and Wages	4,315	8,723	122	247

Source: Congressional Budget Office.

Note: HI = Medicare's Hospital Insurance.

billion to \$860 billion) (see Table 5).<sup>8</sup> Adding deferred compensation and subtracting non-covered wages increases total HI tax liability by less than \$1 billion (see Table 6). The same is true in 2015. More important, incorporating attrition rates among federal workers adds \$20 billion in OASDI liability and \$2 billion in HI liability in 2015. Without decomposing the differences in the bases of the two taxes, it would not be possible to incorporate that change in relative coverage over time into projections.

8. Results discussed in this section are raw results from CBO's microsimulation model. CBO's final forecast is adjusted for the most recent historical data.