

**The Fiscal Consequences of Dropping Out  
of High School and Failing to Complete  
Additional Years of Post-Secondary  
Schooling in Connecticut**

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## Introduction

The negative impacts of failing to graduate from high school with a regular diploma or obtaining any years of formal schooling beyond high school on a wide array of labor market outcomes for Connecticut adults in recent years and decades have been well documented in earlier research papers by the authors. Better educated adults in Connecticut are far more successful than their peers on a wide array of labor market outcomes, including employment rates, unemployment rates, access to more highly skilled and highly paid occupations, weekly wages, annual earnings, lifetime earnings, and annual incomes. Due to their higher annual incomes and earnings, Connecticut adults with more schooling were less likely to be poor/near poor or low income, and they were considerably less dependent than high school dropouts on cash and in-kind transfers to support themselves and their families. High school dropouts were considerably more likely to report themselves as being in only fair or poor health, to be disabled, to be poor or near poor if disabled, and to be dependent on Medicaid or Medicare for their health care.

The benefits of higher schooling accrue to society as a whole as well as to the individuals making these investment in themselves.<sup>1</sup> Among the economic benefits of increased schooling to society as a whole are the higher levels of taxes paid annually to federal, state, and local governments in the form of higher federal and state income taxes, Social Security payroll taxes, federal government retirement contribution, state sales taxes, and local property taxes. The better educated also are characterized by reduced dependence on a wide array of both cash and in-kind transfers from national and state governments to support themselves and their families, including TANF benefits, general relief, Supplemental Security Income for the disabled, food stamps, rental subsidies, energy assistance, and Medicaid benefits.<sup>2</sup>

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<sup>1</sup> An analysis of the social, health, and economic spillover benefits of higher levels of schooling and literacy can be found in the following publications:

(i) Jere Behrman and Nevzer Stacey, (Editors), The Social Benefits of Education, University Michigan Press, Ann Arbor, 1997; (ii) George Psachropoulos and Harry Patrinos, Returns to Investments in Education: A Further Update, World Bank, Policy Research Working Paper, 2002; (iii) Gordon Berlin and Andrew Sum, Toward A More Perfect Union: Basic Skills, Poor Families and Our Economic Future, Ford Foundation, New York, 1988.

<sup>2</sup> See: (i) Andrew Sum, Ishwar Khatiwada, Joseph McLaughlin, et. al., An Assessment of the Labor Market, Income, Health, Social, Civic and Fiscal Consequences of Dropping Out of High School: Findings for Massachusetts Adults in the 21<sup>st</sup> Century, Prepared for The Mott Foundation, Flint, Michigan, January 2008 ; (ii) Andrew Sum, Ishwar

This research monograph is designed to provide detailed estimates of the fiscal contributions of Connecticut adults to federal, state, and local governments in recent years. We will provide estimates for 2004-2007 of the annual tax payments, annual cash and in-kind transfers (e.g., food stamps, Medicaid expenditures, energy assistance, rental housing subsidies), and the institutionalization costs, especially incarceration costs, of Connecticut and U.S. adults by their educational attainment in recent years. The net annual fiscal contributions (taxes – transfers – institutionalization costs) of adults will be presented and analyzed for all 18-64 year old adults in five educational attainment categories.<sup>3</sup> We will compare the mean size of these annual net fiscal contributions across these five educational groups and calculate the mean lifetime net fiscal contribution of each of these educational groups. The increased lifetime fiscal contributions from graduating from high school and completing some post-secondary schooling will be calculated for Connecticut adults.

## **Data Sources and Methodologies Underlying the Fiscal Impact Estimates For Connecticut**

The analyses of the fiscal impacts of dropping out of high school presented in this report are based on a wide array of national, state, and local data sources and a massive series of data calculations by the authors of this report and the U.S. Census Bureau in its analysis of the March Current Population Survey. The sources of data used in estimating fiscal impacts in Connecticut and the U.S. are displayed in Table 1.

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Khatiwada, Joseph McLaughlin, et. al., An Assessment of the Labor Market, Income, Health, Social, Civic and Fiscal Consequences of Dropping Out of High School: Findings for Michigan Adults in the 21<sup>st</sup> Century, Prepared for Boston Youth Transition Funders Group, Boston, Massachusetts, January 2007; (iii) Ishwar Khatiwada, Joseph McLaughlin, Andrew Sum, The Fiscal Economic Consequences of Dropping Out of High School: Estimates of the Tax Payments and Transfers Received by Massachusetts Adults in Selected Educational Subgroups, Prepared for Boston Youth Transition Funders Group, Boston, Massachusetts, February 2007; (iv) Andrew Sum, Ishwar Khatiwada, Joseph McLaughlin, et. al, An Assessment of the Labor Market, Income, Health, Social, and Fiscal Consequences of Dropping Out of High School: Findings for Illinois Adults in the 21st Century, Prepared for the Alternative Schools Network, Chicago, October 2007; )iv) Andrew Sum, Ishwar Khatiwada, and Joseph McLaughlin, The Net Fiscal Contributions of U.S. Adults (16-64 Years Old) by Level of Educational Attainment: Implications for the Nation's Adult Basic Education Systems, National Literacy Commission on Adult Literacy, New York, 2007.

<sup>3</sup> The only group excluded from our analysis is 16-24 year olds who were enrolled in high school or college at the time of the March 2005 and March 2006 CPS surveys.

Table 1:  
Sources and Uses of the Data Bases Used in This Research Report

Data Source	Use of Data
March 2005, March 2006, March 2007, and March 2008 Current Population Surveys (CPS)	Primarily used to estimate the net fiscal contributions of Connecticut adults by their level of educational attainment.
American Community Surveys 2005, 2006, and 2007	Provided estimates for a variety of employment, earnings, income, housing, and educational attainment measures for CT and U.S. adults.
Urban Institute and Kaiser Foundation Commission on Medicaid and the Uninsured	Provided estimates on the cost of Medicaid services and health insurance.
U.S. Department of Treasury, Internal Revenue Service, "State and Local General Sales Taxes", Publication 600, 2005, 2006, and 2007	Used to estimate personal sales taxes paid by residents of the state
U.S. Department of Justice	Used the annual report for information on prisons and the annual cost to house the number of inmates in jails and prisons.

The primary source of data for most of the tax and income/in-kind transfer estimates appearing in this report is the Annual Social and Economic Supplement to the March Current Population Survey.<sup>4</sup> The Current Population Survey (CPS) is a monthly household survey conducted by the U.S. Census Bureau for the Bureau of Labor Statistics.<sup>5</sup> It is the primary source of monthly and annual data on the size of the nation's labor force and its employed and unemployed populations. During each calendar year, approximately 57,000 households across the U.S. are interviewed as part of the March CPS survey. The four years of March CPS surveys involved interviews with approximately 9,700 adults 18-64 years old in Connecticut and 467,000 persons across the entire nation

The Annual Social and Economic Supplement to the March CPS survey is used by the U.S. Census Bureau to collect information from sample respondents 15 and older on their work experience, earnings, incomes, and income sources during the previous calendar year. These data

<sup>4</sup> For more details on the design of the March CPS supplement and the definitions for each of the variables for which data are collected. See: [www.census.gov/CPS](http://www.census.gov/CPS).

<sup>5</sup> See: U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, January 2008, Washington, D.C., 2006.

are used by the U.S. Census Bureau to provide annual estimates of the incomes of U.S. households and families and the poverty status of persons and families across the nation. Information on the receipt of a wide array of cash and in-kind benefits from the state or federal government, including TANF benefits, disability payments, unemployment benefits, and in-kind government transfers, such as food stamps, Medicaid/Medicare benefits, and rental subsidies, also are collected for either sample respondents or households.<sup>6</sup>

Given the self-reported information on annual earnings and incomes, sources of those incomes, the marital status of respondents, and the type of household in which the respondent lives, the U.S. Census Bureau calculates estimates of their Social Security payroll taxes, federal government retirement contributions, and their state and federal income tax liability.<sup>7</sup> For each sample individual ages 18-64 who was not enrolled in school at the time of the March survey, we have summed the estimated annual tax payments in the above four tax categories. These combined annual tax payments were estimated for adults in the aggregate and by gender in each of the following five educational subgroups:

- Less than 12 or 12 years of school, no high school diploma or GED certificate.<sup>8</sup>
- High school diploma or GED, no completed years of post-secondary schooling
- One to three years of college, including Associate degree holders
- Bachelor degree holders, no advanced degree
- Master's or higher degree holders

Our second data source for many of the employment and earnings measures as well as a number of the housing, income, home value, property tax, and sales tax measures for Connecticut and the U.S. are based on the findings of the American Community Surveys for 2005, 2006, and 2007. The American Community Survey (ACS) is a national household survey conducted by the U.S. Census Bureau since 2000. During 2005, 2006, and 2007, nearly 83,000

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<sup>6</sup> Data on food stamps, rental subsidies, and energy assistance are collected at the household level while data on unemployment insurance benefits, disability payments, TANF benefits, SSI disability, and Medicaid expenditures are collected at the individual level.

<sup>7</sup> For married couples, an assumption is made by the U.S. Census Bureau that the couple files a joint tax return in determining its federal income tax liability.

<sup>8</sup> High school students and college students under the age of 25 are excluded from the analysis. The monthly CPS survey collects data on the school enrollment status of persons 16-24 years of age.

households in Connecticut were selected for interviews and 63,000 Connecticut households completed an ACS questionnaire that collected detailed information on the demographic (age, gender, race/ethnic origin, marital status) and socioeconomic characteristics of all household members, including their educational attainment and school enrollment status<sup>9</sup>, the employment status of all working-age adults (16 and older) at the time of the survey, their labor market experiences in the twelve month period prior to the survey, and their earnings and other sources of money income in the previous twelve months. The ACS survey data on the annual money incomes of families and the number/age distribution of family members can be used to identify the number of families and persons that were poor/near poor or low income.<sup>10</sup> The ACS public use files for 2005, 2006, and 2006 were used to generate many of the estimates appearing in this report.

A third data source was the administrative data from the Urban Institute and Kaiser Foundation Commission on Medicaid and the Uninsured. This data source provided estimates of the annual cost to the Medicaid system in Connecticut of providing health services to the Medicaid population by disability status. We have used these data to generate the fiscal costs of providing health insurance to Medicaid recipients by educational attainment in the state of Connecticut.

A fourth set of data that we used in estimating sales tax payments by Connecticut residents was provided by U.S. Department of Treasury, Internal Revenue Service for 2005, 2006, and 2007. We used 2005, 2006, and 2007 ACS survey personal income data and IRS sales tax exemption data to estimate average sales taxes paid by adults.

A fifth source of data that was used in conducting this study was an administrative data base provided by the U.S. Department of Justice. This data base provided information on the

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<sup>9</sup> Respondents to the ACS survey were asked to identify whether they were enrolled in school at any time in the two month period immediately prior to the survey. Persons who were not enrolled in school and who lacked a high school diploma/GED are classified as high school dropouts in this report. GED holders will be assigned to the high school graduate category if they did not complete any years of post-secondary schooling.

<sup>10</sup> The definition of a “low income family” in this report is that used by many poverty and welfare reform researchers across the country. It is a family with an annual pre-tax, money income below two times the poverty line for a family of its given size and age composition. For a review of the poverty, low income, and selected other income thresholds used by poverty researchers to define income inadequacy, See: Garth Mangum, Stephen Mangum, and Andrew Sum, The Persistence of Poverty in the United States, Johns Hopkins University Press, Baltimore, 2004.

numbers of individuals who were inmates of jails and prisons across the state in recent years and the annual costs of housing an inmate in Connecticut prisons. These cost data were used to estimate the higher lifetime institutionalization costs associated with adult dropouts in the state of Connecticut in comparison to those of their better educated counterparts, especially among males who dominate the ranks of the jail/prison population in the state and the nation.

## **Methodologies and Calculations Underlying the Estimates of the Net Fiscal Contributions of Connecticut and U.S. Adults**

In the March CPS supplement survey, given the self-reported information on annual earnings and incomes, sources of those incomes, the marital status of respondents, and the type of household in which the respondent lived (married couple family, single parent family, single individual), the U.S. Census Bureau calculates estimates of their state and federal income tax liability, their Social Security payroll taxes, and federal government retirement contributions.<sup>11</sup> In the case of federal and state income tax payments, the U.S. Census Bureau has a methodology for married couple families. On the assumption that married couple families file a joint tax return, the estimate of the federal and state income tax payments are assigned to the householder in a married couple family. The spouse in a married couple family is assigned a value of zero for federal and state income taxes. Using a methodology that we have developed (described in Appendix A), we have made separate estimates of the federal and state income tax liability for the householder and the spouse in married couple families. For each non-married individual, the U.S. Census Bureau imputes estimates of their federal and state income tax payments and assigns these payments to their personal record. Social Security payroll taxes and federal government retirement contributions were estimated by the U.S. Census Bureau for each individual based on their annual earnings and the source of their annual earnings. Only the employees' contribution to the Social Security payroll tax is included in this estimate. However, employers also pay an equivalent amount of social security payroll taxes to the federal government. The employers' contribution goes to the U.S. Treasury in the form of tax revenue. This Social Security payroll tax payment by the employer would not have been made without the employment and earnings

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<sup>11</sup> For married couples, an assumption is made by the U.S. Census Bureau that the couple files a joint tax return in determining its federal income tax liability.

of the employee. Therefore the employer portion as well as the employee portion of the social security payroll tax payment should be attributed to the worker. Using the March 2005-2008 CPS survey data and the 2005, 2006, and 2005-2007 ACS surveys data, we have estimated the annual tax payments for each individual between the ages of 18 and 64 (excluding 18-24 year olds who were enrolled in school at the time of the March surveys) in each of the tax categories listed in Table 2. The sum of these taxes represents the combined annual tax payments that were estimated for individuals in each of the five educational groups.

The U.S. Census Bureau does not provide any estimates of annual state sales tax payments for persons interviewed during the March CPS survey. In our fiscal impact analyses, we have estimated sales tax payments for individuals by using a combination of personal income data from the 2006 ACS survey and sales tax tables for Connecticut published annually by the U.S. Department of Treasury's Internal Revenue Service (IRS).<sup>12</sup> Federal taxpayers are allowed to claim state and local sales taxes paid when filing their federal income tax returns. Tax filers use published data from IRS tables to estimate their sales tax deductions based on their taxable income and the number of exemptions. Sales tax rates vary by state.<sup>13</sup> The allowable deductions for state sales taxes are based on the number of exemptions. In our analysis of state sales taxes, we applied a single person exemption to each individual respondent 18-64 years old with a positive income. For each person in our analysis, we assigned a state sales tax payment equal to the IRS sales tax deduction for a person with their income in 2005, 2006, and 2007. In computing the national sales tax payment amounts we calculated these sales tax payments separately for each of the 45 states that had a state sales tax in 2005, 2006, and 2007.

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<sup>12</sup> U.S. Department of Treasury, Internal Revenue Service, "State and Local General Sales Taxes", Publications 600, 2005, 2006, and 2007, [www.irs.gov](http://www.irs.gov).

<sup>13</sup> Alaska, Delaware, New Hampshire, Montana, and Oregon did not have a state sales tax in 2005, 2006, and 2007.

Table 2:  
A Listing of the Income, Payroll, and Property Tax Payments to the Federal Government and State and Local Governments

<u>(A)</u> <u>Federal Government</u>	<u>(B)</u> <u>State and Local Governments</u>
Federal income tax payments	State income tax liability
Federal retirement payroll deductions	Property tax liability
Federal retirement payroll deductions	Property tax liability
Social Security retirement payroll taxes	State sales tax

The ACS surveys also collect data on the estimates of the annual property taxes paid by households that own their homes. But the values of property taxes paid are categorical in nature. We have utilized findings from the 2005, 2006, and 2006 American Community Surveys (ACS) on home ownership rates of households and their annual property tax payments to compute their expected annual property tax payments.<sup>14</sup> The property tax payments are assigned to the householder in each household that owned the housing unit they occupied at the time of the 2005, 2006, and 2007 ACS surveys.

The U.S. Census Bureau also has used the March CPS supplement to collect data from respondents on their receipt of a wide array of cash income transfers from local, state, and federal governments, including unemployment insurance payments, Temporary Assistance to Needy Families (TANF) benefits, Supplemental Security Income (SSI) payments for the aged and the disabled, Social Security Disability payments, general relief, and veteran's payments. The combined annual incomes from each of these cash income transfer programs (listed in Table 3) were calculated for each respondent. In addition to the cash transfer payments, the March CPS questionnaire collected information on respondents' receipt of a wide array of in-kind transfers from state and federal governments, including food stamps, federal Earned Income Tax Credits (EITC), Medicaid/Medicare health insurance benefits, energy assistance and rental subsidies.<sup>15</sup>

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<sup>14</sup> The expected values of these property tax payments are the product of the home ownership rate for a given group and the mean value of their property tax payments.

<sup>15</sup> The federal Earned Income Tax Credit (EITC) is primarily a cash tax credit refunded to low earner households by the Internal Revenue Service. The federal EITC is treated as a cash transfer rather than a negative tax by the U.S. Census Bureau in its calculations of the taxes paid and transfers received by individuals. For a review of the design

Table 3:  
Cash and Non-Cash Transfers Received by Individuals or Households that are Used in the  
Computation of the Net Fiscal Impacts

Cash Transfers	Non-Cash Transfers (In-Kind Benefits)
Unemployment benefits	Market value of food stamps
Worker's compensation	Market value of Medicare insurance
Social Security payments	Market value of Medicaid benefits
Supplemental Security Income for the disabled and aged	Family market value of housing subsidies
Public assistance income (TANF, general relief)	Family market value of school lunch subsidies
Veteran's payments	Energy assistance payments
Survivor's income benefits	
Other disability income	
Federal Earned Income Tax Credits	

The U.S. Census Bureau has imputed cash values for each of these in-kind benefits. They are primarily assigned to the household unit rather than to individual household members. We have assigned most of these in-kind transfers to the householder.<sup>16</sup> We then summed the cash values of each of these in-kind benefits and added them to the estimated value of cash income transfers for each household member.

Finally, we also estimated jail/prison costs for adults in both Connecticut and the U.S. in the five educational groups using ACS and U.S. Justice Department's statistics on jail/prison costs by state. The final fiscal ledger for estimating fiscal costs is presented in Table 4. Details about the specific of the series of computations that were undertaken to produce estimates of federal and state income tax payments, property tax payments, sales tax payments, costs of Medicaid, estimates of jail and prison costs, and the lifetime net fiscal contributions of adults in the five educational subgroups are presented in a set of Appendices to the report.

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and operations of the federal EITC program, see: Saul Hoffman and Laurence S. Seidman, Helping Working Families: The Earned Income Tax Credit, W.E. Upjohn Institute for Employment Research, Kalamazoo, 2003.

<sup>16</sup> Medicaid/Medicare expenditures are assigned to an individual household member by the U.S. Census Bureau.

Table 4:  
A Listing of the Tax Payments, Cash Transfers, Non-Cash Transfers, and Jail/Prison Cost Items  
Used in the Computation of the Net Fiscal Impacts

<b>(A) Total Tax Payments</b>
+ Mean Federal Income Tax Payments
+ Mean State Income Tax Payments
+ Mean Federal Government Retirement Contributions
+ Mean Social Security Payroll (Include Employer Contribution)
+ Mean Expected Property Tax Payment
+ Mean Sales Taxes
<b>(B) Total Transfers/Jail or Prison Costs</b>
+ Mean Non-Cash Transfers
+ Mean Cash Transfers
+ Mean Jail/Prison Costs (for ages 18-60)
<b>Taxes Paid -Transfers/Jail or Prison Costs (A-B)</b>
<b>Ratio of Taxes Paid to Transfer/Jail or Prison Costs (A/B)</b>

## **Incidence of Tax Payments of Connecticut Adults (18-64) by Educational Attainment in Connecticut and the U.S.**

This section presents estimates of the share of 18-64 year old Connecticut adults who paid the five types of taxes that are included in our computation of fiscal impacts for adults in the five levels of educational attainment. The data presented in Table 5 clearly demonstrate that the proportion of Connecticut and U.S. adults that paid the different types of taxes increased steadily with educational attainment. The level of earnings and incomes of individuals determine the likelihood that they would pay taxes. In a previous report, we demonstrated that annual earnings rose steadily and sharply with increases in formal education. Consequently the proportion of individuals that contribute to the public coffers through taxes should also increase with increases in their formal schooling.

Nearly 73 percent of adults (18-64) in Connecticut paid some federal income taxes during the 2004-2007 period. This share was nearly six percentage points higher than that for the entire nation. The share of adults who paid federal taxes varied widely by their educational attainment level, ranging from lows of 51 percent among high school dropouts and 67 percent among high school graduates to highs of 81 to 82 percent among Bachelor’s and Master’s degree holders. Very similar patterns prevailed for the incidence of state income tax payments. Overall, just under 75 percent of 18-64 year old adults paid some state income taxes in Connecticut. The

fraction of Connecticut adults doing so ranged from a low of 53 percent among adults lacking a regular high school diploma/GED to a high of just under 84 percent among adults with a Master's or higher degree. The nation's adults followed a very similar pattern of federal and state income tax payments by their educational attainment level; however, the share of Connecticut adults paying these taxes was higher than the nation's in every educational attainment category.

Table 5:  
Percent of 18-64 Year Old Adults<sup>(1)</sup> in Connecticut and the U.S. Who Paid Various Types of Federal, State, and Local Taxes During 2005-2008 by Educational Attainment and Type of Tax

		<12 or 12, No HS Diploma	HS Graduate or GED	1-3 Years of College	Bachelor's Degree	Master's or Higher
<b><u>Connecticut</u></b>	All					
Federal Income Tax	72.6	51.3	67.4	72.9	81.2	81.5
State Income Tax	74.7	52.9	69.2	75.8	83.0	83.7
Social Security Payroll Tax	80.3	60.4	79.0	82.5	84.2	85.1
Federal Government Retirement Contributions	2.0	0.6	1.8	2.2	1.5	3.4
Local Property Taxes <sup>(2)</sup>	67.8	36.6	58.6	69.3	77.8	81.1
<b><u>United States</u></b>						
Federal Income Tax	66.3	44.9	61.5	69.2	76.7	81.5
State Income Tax	61.0	46.1	58.1	62.5	67.9	72.2
Social Security Payroll Tax	77.8	63.2	75.7	80.8	83.3	84.7
Federal Government Retirement Contributions	2.1	0.5	1.4	2.1	2.9	4.7
Local Property Taxes <sup>(2)</sup>	62.0	41.9	57.7	61.8	70.9	77.3

Notes: <sup>(1)</sup> Those persons 18-24 who were enrolled in school in March 2005, March 2006, March 2007, and March 2008 were excluded from the analysis of tax payments.

<sup>(2)</sup> Property taxes were assigned to the householder of each household that paid property taxes. The percent estimates in this row pertain to the percent of householders who paid some property tax on housing units that they owned and occupied during 2005-2007.

In both Connecticut and the U.S., the highest overall incidence of tax payments is for the Social Security payroll tax due to the fact that Social Security payroll taxes start being paid from the first dollar of earnings in jobs subject to the FICA tax. Slightly more than 80 of every 100 Connecticut's non-elderly adults paid some Social Security payroll taxes on average during 2004-2007. The percent of adults paying such taxes ranged from a low of 60 percent among those lacking a high school diploma or a GED certificate to highs of 84 to 85 percent among adults completing some post-secondary schooling. U.S. non-elderly adults followed a similar

pattern in the payments of Social Security taxes with the incidence of such taxes ranging from 63% among high school dropouts to 85% among Master degree holders. Only 2 percent of Connecticut and U.S. adults paid retirement contributions to the federal government. The fraction of adults paying such taxes increased steadily with their years of formal schooling. Connecticut adults with a Master's or higher degree were almost six times more likely to contribute to the federal governments' retirement plan than their peers lacking high school diplomas. This relative ratio was 9.5 times for adults across the entire nation, reflecting the limited employment of dropouts by the federal government.

Our estimates of the incidence of property tax payments are confined to those adults who were classified by the U.S. Census Bureau as the head of their households; i.e., the "householder" in Census jargon. The incidence of property tax payments is highly associated with property ownership. As noted in an earlier paper, the higher earnings and incomes of better educated adults increased the likelihood that they owned their homes and therefore were more likely to pay property taxes.<sup>17</sup> Given this set of findings, it is not surprising that our analysis found wide differences in the incidence of property tax payments by level of educational attainment of the householder. Nearly 68 percent of all householders (18-64 years old) in Connecticut reported to have paid some property taxes on the housing units they occupied in 2005-2007. The share of householders doing so rose steadily with their level of educational attainment, ranging from a low of 37 percent among those lacking a high school diploma or GED to 59 percent among high school graduates and to a high of 81 percent among those with a Master's or more advanced degree. Similar large differences in the share of home owners paying property taxes persisted for adults across the entire U.S.

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<sup>17</sup> There were some difference in the proportion of adults owning homes who paid a property taxes in Connecticut across educational categories. Nearly every householder owning a home in Connecticut paid property taxes; however, only 91 percent of those householders without a diploma who owned their home reported a property tax payment in 2005-2007 versus nearly 99 percent of those with a Master's or higher degree.

## **Annual Tax Payments of Connecticut Adults by Educational Attainment**

In the preceding section of this paper, we demonstrated that better educated adults are more likely to pay federal income, state income, Social Security payroll, and other taxes than their peers with fewer years of formal schooling. In this section, we demonstrate that better educated adults in Connecticut and the U.S. are also much more likely to pay higher amounts of taxes than their less educated peers. (Table 6). We have estimated the mean amount of annual federal and state income taxes, FICA, federal government retirement tax contributions, property, and sales taxes by adults in each educational attainment group. Findings displayed in Table 6 highlight the substantial differences in the mean amount of these taxes that were paid by adults in Connecticut and the U.S. in the five educational categories. During the 2004-2007 period on average, the mean annual federal income tax paid by adults in Connecticut was \$8,123 versus 5,527 for the entire nation. The mean amount of taxes paid by adults in Connecticut ranged from a low of \$3,733 among high school dropouts, to \$4,408 among high school graduates, \$6,512 among those with 13-15 years of college, \$11,608 among those with a Bachelor's degree, and \$15,116 among those with a Master's or higher degree. Bachelor's degree holder adults in Connecticut paid mean federal taxes that was were 3.1 times as high as the mean federal taxes paid by high school dropouts. High school dropouts in Connecticut paid an annual average of only \$1,233 in state income taxes versus \$1,557 among high school graduates, \$2,200 by those with some college, and \$3,500 to \$4,700 among those with a Bachelor's or more advanced degree.

Similar variations in the payments of federal government retirement contributions, Social Security payroll taxes (FICA), property tax, and sales tax payments prevailed among Connecticut and U.S. adults across the five educational categories.

Table 6:  
Estimates of Mean Annual Tax Payments of Adult (18-64) Residents of Connecticut and the  
Entire U.S., by Type of Tax Paid and Educational Attainment (2004-2007 Averages in 2007  
Dollars)

	All	<12 or 12, No HS Diploma	HS Graduate or GED	1-3 Years of College	Bachelor's Degree	Master's or Higher
<b><u>Connecticut</u></b>						
Federal Income Tax Payments	\$8,123	\$3,733	\$4,408	\$6,512	\$11,608	\$15,116
State Income Tax Payments	2,613	1,233	1,557	2,208	3,524	4,712
Federal Government Retirement Contribution	76	7	63	82	66	145
FICA (Include Employer Contribution)*	6,110	2,296	4,438	5,396	7,819	10,095
Mean Expected Property Tax Payment**	3,316	1,698	2,600	3,177	4,283	4,784
Mean Sales Taxes***	485	309	386	451	585	720
<b>Total Tax Payments</b>	<b>20,722</b>	<b>9,276</b>	<b>13,452</b>	<b>17,825</b>	<b>27,886</b>	<b>35,573</b>
<b><u>United States</u></b>						
Federal Income Tax Payments	\$5,527	\$2,021	\$3,439	\$4,912	\$8,337	\$13,262
State Income Tax Payments	1,515	615	1,031	1,377	2,191	3,361
Federal Government Retirement Contribution	83	9	42	76	127	252
FICA (Include Employer * Contribution)	4,991	2,301	3,796	4,838	6,877	9,208
Mean Expected Property Tax Payment**	1,711	853	1,285	1,633	2,530	3,151
Mean Sales Taxes***	412	288	345	408	518	641
<b>Total Tax Payments</b>	<b>14,239</b>	<b>6,087</b>	<b>9,938</b>	<b>13,244</b>	<b>20,580</b>	<b>29,876</b>

Notes: (i). Federal, state, payroll, and retirement taxes are 4-year averages (CPS March Supplements 2004, 2005, 2006, and 2007). Persons 18-24 year old enrolled in school are excluded from the analysis; (ii) Property tax data are estimates from 2005, 2006, and 2007 ACS surveys; (iii) Sales taxes data estimated from ACS 2005, 2006, and 2007, using IRS sales tax exemptions for 2005, 2006, and 2007.

\* Includes employer contribution

\*\* For all 18-64 year old adults

\*\*\*For non-enrolled 18-64 year old individuals.

During the 2004-2007 period, the mean annual taxes paid by all 18-64 year old Connecticut adults in the six tax categories combined was \$20,722 (Table 6). The mean annual amounts of these taxes varied considerably across the five educational subgroups of adults. The mean values of these annual combined tax payments ranged from a low of \$9,276 among those adults lacking a high school diploma/GED, to \$13,452 among high school graduates/GED

holders with no completed years of post-secondary schooling, to \$27,886 for bachelor degree recipients, and to a high of just under \$36,000 for those adults with a Master's or higher degree. High school graduates paid 45% more than high school dropouts in taxes, bachelor degree holders paid 107% more than high school graduates, and Master's and higher degree holders paid nearly 28% more in taxes than bachelor degree holders. The mean combined annual tax payments of non-elderly adults with a Master's or higher degree was nearly 4 times higher than those of their peers who lacked a high school diploma and a GED certificate.<sup>18</sup> The size of the differences in the combined annual tax payments across the five educational subgroups of adults in the U.S. was even more pronounced. For example, high school graduates paid 63% more in the mean combined taxes than their high school dropout peers. The mean combined annual tax payments of non-elderly U.S. adults with a Master's or higher degree was 5 times higher than those of their peers without a high school diploma.

## **The Receipt of Cash and Non-Cash Government Transfer Payments Among Connecticut Adults by Educational Attainment**

In this section, we present findings of our analysis of the other side of the ledger—government cash and in-kind benefits obtained by non-elderly adults in Connecticut and the U.S. during 2004-2007. Eligibility for most cash and in-kind transfer programs funded by the national and state governments is dependent on the income of the household or the individual. The March CPS survey collects information from responding households and individual household members on their receipt of such benefits. Table 7 presents findings on the estimated percent of Connecticut's 18-64 year olds who received various types of cash and in-kind benefits during 2004-2007. These in-kind transfer payments include Medicare/Medicaid health insurance benefits, food stamps, rental subsidies in both public and private housing, and energy assistance.<sup>19</sup> As revealed earlier, the employment rates and mean annual earnings of adults rise sharply with their years of completed schooling. For this reason, the percent of the state's

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<sup>18</sup> Unfortunately, the March CPS files of the U.S. Census Bureau do not distinguish between those adults with a regular high school diploma and those with a GED certificate. The regular monthly CPS questionnaire does allow such identification.

<sup>19</sup> With the exception of Medicaid/Medicare health care benefits, the U.S. Census Bureau imputes values of in-kind transfers to the household rather than to individual household members. We have assigned the imputed monetary values of these in-kind transfers to the householder. Estimates of the incidence of receipt of these in-kind transfers refers only to householders.

nation's 18-64 year olds who obtained various cash and non-cash income transfers varied fairly widely by their level of educational attainment during 2004-2007.

Table 7:  
Percent of 18-64 Year Old Connecticut and U.S. Adults Who Received Various Cash and In-  
Kind Transfers During 2005-2007 (Excluding 16-24 Year Olds Enrolled in School)

Area	Type of Cash or In-Kind Transfer	<12 or 12, No		HS Graduate or GED	1-3 Years of		Bachelor's Degree	Master's or Higher
		All	Diploma		College			
Connecticut	Unemployment benefits	4.2	3.3	5.8	5.2	2.7	2.1	
	Workers Compensation	0.9	1.5	1.2	1.0	0.4	0.4	
	Social Security income	5.4	11.8	7.7	5.3	2.6	1.9	
	Public assistance income	0.9	2.9	1.1	1.0	0.1	0.1	
	Veteran's payments	0.4	0.0	0.5	0.8	0.3	0.3	
	Survivor's income	0.7	0.7	0.6	0.6	0.8	1.1	
	Disability income	0.7	1.8	0.8	0.8	0.4	0.3	
	EITC	5.7	13.9	7.8	6.2	2.2	1.8	
	Supplemental Security income	2.1	11.3	2.1	0.8	1.1	0.3	
	<b>Cash Transfers</b>	<b>2.3</b>	<b>5.2</b>	<b>3.1</b>	<b>2.4</b>	<b>1.2</b>	<b>0.9</b>	
	Food Stamp*	5.4	23.2	8.1	4.2	0.9	0.4	
	Energy Assistance*	3.4	13.1	5.8	2.8	0.5	0.2	
	Housing Subsidy*	6.2	26.8	7.7	5.2	2.5	0.3	
	Medicare	3.3	7.7	4.7	2.7	2.0	1.0	
	Medicaid	8.1	27.4	9.8	7.0	3.9	1.7	
	<b>Non-Cash Transfers</b>	<b>4.7</b>	<b>17.1</b>	<b>6.4</b>	<b>3.8</b>	<b>1.8</b>	<b>0.8</b>	
United States	Unemployment benefits	3.1	3.1	3.9	3.6	2.1	1.3	
	Workers Compensation	0.8	1.0	1.0	0.9	0.4	0.3	
	Social Security income	5.5	9.3	6.9	5.1	2.7	2.6	
	Public assistance income	0.9	2.5	1.1	0.8	0.2	0.1	
	Veteran's payments	0.8	0.4	0.7	1.3	0.7	0.8	
	Survivor's income	0.5	0.4	0.5	0.6	0.6	0.6	
	Disability income	0.9	1.2	1.0	1.0	0.5	0.6	
	EITC	7.4	14.3	8.8	7.5	3.2	1.8	
	Supplemental Security income	2.2	6.4	2.7	1.4	0.5	0.3	
	<b>Cash Transfers</b>	<b>2.5</b>	<b>4.3</b>	<b>3.0</b>	<b>2.5</b>	<b>1.2</b>	<b>0.9</b>	
	Food Stamp*	7.0	20.5	9.1	6.0	1.4	0.6	
	Energy Assistance*	2.2	5.4	3.0	2.1	0.6	0.3	
	Housing Subsidy*	3.8	10.3	4.9	3.3	1.0	0.4	
	Medicare	3.5	7.0	4.4	3.0	1.5	1.2	
	Medicaid	8.0	19.5	9.7	6.5	2.6	1.7	
	<b>Non-Cash Transfers</b>	<b>4.4</b>	<b>10.9</b>	<b>5.5</b>	<b>3.7</b>	<b>1.3</b>	<b>0.8</b>	

Non elderly individuals and families with lower incomes are more likely to be eligible to receive both cash and non-cash government transfers. Given the lower levels of employment and earnings among poorly-educated adults, they would be more likely to be eligible for, and therefore more likely to receive, government transfers. The least educated adults (those without high school diplomas) were much more likely than their better educated peers to rely on cash and non-cash transfer incomes from federal, state, and local governments for their economic subsistence. For example, slightly more than 11 percent of 18-64 year olds without a high school diploma reported that they had collected some form of Social Security payments while only 7.7 percent of those with a high school diploma/GED, 5 percent of those with some college, and under 3 percent of those with a Bachelor's or higher degree obtained some type of Social Security payment from the federal government.<sup>20</sup> Adult high school dropouts also were far more likely than their more educated peers to receive public assistance income (TANF, Supplemental Security Income, Social Security disability benefits, and federal earned income tax credits).

More than 27 percent of those adults without a high school diploma/GED were dependent upon Medicare or Medicaid for their health insurance coverage while only 2 to 4 percent of those adults with college degrees were dependent on those programs for their health insurance. Nearly one-fifth of those household heads in Connecticut without a high school diploma or GED were reliant on food stamps versus only 1 percent of four year college graduates. Less educated adults also were much more dependent on government to finance part of their rental housing costs. Nearly 27 percent of household heads without a high school diploma obtained a rental subsidy of some type during 2004-2007 versus only 1 percent of adults with a Bachelor's or higher degree. The share of adult high school dropouts across the nation was only 10 percent.

We also estimated the mean annual amount of cash and in-kind transfers received by 18-64 year old adults in each of our five educational groups over the 2004-2007 period in Connecticut and the U.S. (Table 8). For the entire 18-64 year old population in Connecticut (excluding these 18-24 year olds who were enrolled in school at the time of the March CPS surveys), the mean combined annual amount of cash and in-kind benefits was \$3,277 of which

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<sup>20</sup> Adults are not allowed to collect Social Security retirement benefits until they reach age 62. Some of the younger respondents citing the receipt of Social Security benefits may have been receiving Social Security Survivor benefits or Social Security disability benefits.

\$2,156 was in the form of cash transfers. The mean values of these annual transfers varied considerably across the five educational subgroups, ranging from a high of \$9,764 for those adults lacking a high school diploma/GED certificate, to \$4,083 for high school graduates, to lows of slightly under \$1,200 for those adults with a Bachelor's or higher degree. Adults without high school diplomas/GED certificates received a mean level of transfers that was more than eight times as high as those of their peers with a four year or higher college degree during calendar years 2004 through 2007. U.S. adults followed a very similar pattern across the five educational groups; however, the size of the cash/in-kind benefits among U.S. adults was much smaller than those for Connecticut.

**Table 8:**  
Estimates of the Mean Annual Value of the Cash and In-Kind Transfer Payments Received by Connecticut and U.S. Adults 18-64 Years Old by Educational Attainment (2004-2007 Averages in Dollars)

	Cash Income Benefits	In-Kind Benefits	Total Transfer Payments
<b>Connecticut</b>			
<12 or 12, No HS Diploma	7,494	2,270	9,764
HS Graduate or GED	2,780	1,304	4,083
1-3 Years of College	1,614	1,094	2,709
Bachelor's Degree	1,029	744	1,773
Master's or Higher Degree	429	721	1,150
Total	2,156	1,121	3,277
<b>U.S.</b>			
<12 or 12, No HS Diploma	3,501	1,637	5,138
HS Graduate or GED	1,847	1,258	3,106
1-3 Years of College	1,197	1,123	2,321
Bachelor's Degree	517	677	1,194
Master's or Higher Degree	362	672	1,034
Total	1,487	1,103	2,589

Sources: March 2005, March 2006, March 2007, and March 2006 CPS surveys, Annual Social and Economic Supplement public use files, tabulations by authors.

## **The Incidence and Costs of Institutionalization of Connecticut's 18-60 Year Olds**

During the past three decades, the number of adults who were maintained in institutions, such as jails, prisons, nursing homes, and mental institutions, has risen considerably. Among non-elderly adults, i.e., those under 65 years of age, the major factor underlying this rise in the

institutionalized population is the rapid growth in the prison and jail population. From the early 1970s through 2004, the number of federal and state prison inmates per 100,000 residents rose nearly fivefold from 100 to 486.<sup>21</sup> If we include inmates of local jails as well, there were nearly 2.2 million individuals residing in jails or prisons in 2004.<sup>22</sup> This increase in incarceration imposes considerable costs on society in the form of monetary costs of building and operating prisons and jails as well as human costs in the form of forgone wages of those who are institutionalized, reduced future labor market and earnings opportunities for inmates after release, and many different types of social costs that are difficult to quantify, including lower marriage rates and higher rates of marriage dissolution.

Institutionalization rates are much more concentrated among poorly educated individuals, particularly high school dropouts. A large majority of the nation's inmates lack a high school diploma. According to the Bureau of Justice Statistics in 1997, 41 percent of the nation's inmates in federal and state prisons and local jails did not have a high school diploma and another 24 percent had obtained only a diploma. This concentration of high school dropouts among inmates is considerably larger than the 18 percent share of high school dropouts in the general population age 18 or older.<sup>23</sup> Thus, the per capita fiscal costs of institutionalization will be higher for adults with more limited formal schooling and literacy/ numeracy proficiencies.

To estimate rates of institutionalization among the non-elderly adult population of Connecticut and nation in recent years, we analyzed the findings of the 2006 and 2007 American Community Surveys, which interviewed residents of group quarters for the first-time during those two years. The ACS survey identified the institutionalization status of each adult respondent. This group includes those persons who were under supervision in correctional facilities (jails/prisons), nursing/skilled nursing facilities, mental (psychiatric) hospitals, in patient hospice facilities, and in group homes for juveniles. The public use files for the ACS survey unfortunately do not identify the specific type of institution in which these individuals

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<sup>21</sup> See: Devah Pager, Marked: Race, Crime, and Finding Work in an Era of Mass Incarceration, University of Chicago Press, Chicago, 2007.

<sup>22</sup> See: Paige M. Harrison and Allen J. Beck, Prison and Jail Inmates at Mid Year 2005, U.S. Department of Justice, Bureau of Justice Statistics, Washington, D.C., 2006.

<sup>23</sup> For a review of the literacy/numeracy proficiencies of prison inmates in 1992, See: Karl O. Haigler, Caroline Harlow, Patricia O'Connor, and Anne Campbell, Literacy Behind Prison Walls: Profiles of the Prison Population from the National Adult Literacy Survey, National Center for Education Statistics, Washington, D.C., 1994.

were living at the time of the survey. A substantial majority (over 90 percent) of the institutionalized population under the age of 60 were inmates of correctional facilities. The public use files from the 2006-2007 ACS survey were used to estimate the incidence of institutionalization problems among the non-school enrolled population of 18-60 year olds in the aggregate, by educational group, and for selected age/gender/educational subgroups. Table 9 displays the institutionalization rates of 18-60 year old adults in Connecticut and the U.S. during calendar years 2006 and 2007. Overall, 1.2 percent of Connecticut adults in this age category or nearly 25,000 were institutionalized during 2006 and 2007. Slightly under 85 percent of them were men. Institutionalization rates of these adults in Connecticut varied widely by their level of educational attainment, ranging from a high of 5.5 percent among those adults without a high school diploma or GED, to under 2 percent among adults with a high school diploma or GED, to lows of 0.1% among those adults with a Bachelor's, Master's, or higher academic degree. The institutionalization rate for U.S. adults followed a similar pattern. Across the U.S., 86 percent of inmates also were men. Correctional institutions were largely occupied by less educated men in both Connecticut and the U.S.

Table 9:  
Institutionalization Rates of 18-60 Year Olds Adults by Educational Attainment Level,  
Connecticut and the U.S., 2006 (Rates Per 100 Members of the Population)

<u>Gender/Educational Attainment</u>		
<b>Male</b>	Connecticut	United States
<12 or 12, No H.S. Diploma	8.6%	6.2%
H.S. Diploma/GED	2.8%	2.8%
Some College	0.9%	1.3%
Bachelor Degree	0.2%	0.3%
Master's or Higher Degree	0.1%	0.2%
Total	2.0%	2.2%
<b>Female</b>		
<12 or 12, No H.S. Diploma	1.5%	1.2%
H.S. Diploma/GED	0.6%	0.4%
Some College	0.3%	0.2%
Bachelor Degree	0.1%	0.1%
Master's or Higher Degree	0.0%	0.0%
Total	0.4%	0.4%
<b>All (18-60)</b>		
<12 or 12, No H.S. Diploma	5.5%	4.0%
H.S. Diploma/GED	1.8%	1.7%
Some College	0.6%	0.7%
Bachelor Degree	0.1%	0.2%
Master's or Higher Degree	0.1%	0.1%
Total	1.2%	1.3%

Source: 2006 and 2007 American Community Surveys (ACS) Public Use Microdata Samples (PUMS) data files. Tabulations by authors.

The institutionalization rates of adults in both Connecticut and the U.S. also varied by age group, with younger adults being more likely to be institutionalized. Among 18-34 year olds, 1.7% of the population were inmates of institutions (primarily jails and prisons) versus only 0.9% of 35-60 year olds. The higher incidence of institutionalization among these younger adults was due entirely to higher rates of incarceration among those adults with 12 or fewer years of schooling. Among these 18-34 year olds, institutionalization rates ranged from a low of under .1% among those with a bachelor's or higher degree to a high of 7.6% for those young adults who lacked a high school diploma/GED certificate (Table 10).

**Table 10:**  
**Institutionalization Rates of 18-34 Year Olds in Connecticut and the U.S. by Educational Attainment, 2006 (in %)**

<b>Connecticut</b>	18-34	35-60
<12 or 12, No H.S. Diploma	7.6%	4.0%
H.S. Diploma/GED	2.3%	1.5%
Some College	0.6%	0.5%
Bachelor Degree	0.1%	0.1%
Master's or Higher Degree	0.1%	0.1%
Total	1.7%	0.9%
<b>United States</b>		
<12 or 12, No H.S. Diploma	5.2%	3.1%
H.S. Diploma/GED	2.0%	1.5%
Some College	0.6%	0.8%
Bachelor Degree	0.1%	0.2%
Master's or Higher Degree	0.1%	0.1%
Total	1.6%	1.1%

Source: 2006 and 2007 American Community Surveys (ACS) Public Use Microdata Samples (PUMS) data files. Tabulations by authors.

As noted above, the 2006-2007 American Community Surveys did not identify the specific type of institution in which each adult inmate resided at the time of the survey; thus, we cannot exactly estimate how many adults in each educational attainment group were in each type of institution or how large the annual fiscal costs of housing these adults were by type of institution. Nationally, the bulk of the non-elderly institutional population reside in jails and prisons, and the overwhelming share of the costs of operating these correctional facilities is borne by state and local governments, placing a substantial burden on taxpayers at these levels. In the absence of full information on the distribution of adult residents by type of institution and the annual costs of housing adults within each type of institution, we have applied the state average cost data on the annual expenditures per inmate of state prisons to the entire institutionalized population 18-64 years old. These expenditure data include both operating expenditures and current capital expenditures on state prisons as of 2001. The 2001 statewide expenditure data per state prison inmate were extrapolated to 2007 by applying the change in the national Consumer Price Index for All Urban Consumers (CPI-U) from 2001-2007 to the 2001 per inmate expenditure data for state prisoners. The fiscal costs of housing the adult

institutionalized population throughout the state were estimated for each educational level by multiplying the per inmate costs by the number of persons who were inmates of institutions.<sup>24</sup> We then divided these costs of institutionalization for each educational group by the number of 18-64 year old persons in the entire population in each educational group to estimate the mean costs of institutionalization per person.

The data on institutionalization rates for educational subgroups of adults available from the 2006-2007 American Community Surveys can be combined with data on the annual per inmate cost in state prisons to estimate the annual institutionalization costs associated with adults in each educational group. According to estimates from the U.S. Bureau of Justice Statistics, the annual per state prison inmate costs for Connecticut and the entire nation in 2001 was \$26,856 and \$22,650, respectively. Adjusting this per inmate cost for inflation between 2001 and 2007 yielded a per inmate cost of \$31,436 for Connecticut and \$26,512 for the U.S.. By multiplying the institutionalization rate for each educational group of adults from the 2006 /2007 American Community Survey by the per inmate cost, we can estimate the average annual costs of institutionalization per adult in each educational attainment group. On average, adults without a high school diploma or GED cost the state of Connecticut approximately \$1,721 in expenditures related to institutionalization per year (Table 11). The mean annual costs of institutionalization for Connecticut adults without a high school diploma were more than 3 times as high as that of high school graduates without any post-secondary schooling and 47 times higher than that of adults with four-year college degrees.

These institutionalization costs per person only represent the estimated annual fiscal costs associated with their confinement. For persons in correctional and mental institutions, these annual costs are very conservative estimates of their true long run fiscal and societal costs. First, the annual per inmate costs of housing persons in prisons included only current capital expenditures and excluded annualized capital costs of past construction, which are likely to far exceed current capital outlays. Second, these costs ignore all future parole and probation costs associated with monitoring the future behavior of the jailed. Third, being jailed today sharply

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<sup>24</sup> Over 57 percent of all inmates of federal/state prisons and local jails resided in state prisons in 2004. This set of cost calculations is based on the assumption that costs per prison inmate do not vary by their educational attainment and that the mean costs of housing inmates in other institutions (local jails, long stay hospitals, mental institutions, hospices) are approximately the same as those for state prison inmates.

reduces the future earnings potential of both men and women, with the size of these earnings losses ranging from 20 to 25 percent among men to more than 40 percent among women.<sup>25</sup>

Table 11:  
Mean Annual Costs of Maintaining 18-64 Year Old Connecticut and U.S. Adults in  
Institutions by Educational Attainment, 2007 (in Dollars)

Educational Attainment Level	Connecticut	U.S.
<12 or 12, No HS Diploma	\$1,721	\$1,059
HS Graduate or GED	558	446
1-3 Years of College	173	187
Bachelor's Degree	37	43
Master's or Higher	20	27
Total	377	344

### **The Mean Net Annual Fiscal Contributions of Connecticut and U.S. Adults by Educational Attainment**

Using our estimates of the mean annual tax payments, mean values of cash and in-kind transfers, and mean per capita annual costs of institutionalization, we have estimated the net fiscal contribution to federal, state, and local governments combined for each working age adults (18-64) resident of Connecticut by educational attainment. We compared Connecticut’s findings with those of the entire nation. In Table 12, we present estimates of the mean annual tax payments of all 18-64 year old adults and those in each of the five educational attainment subgroups and their mean, annual cash and in-kind transfers and institutionalization costs.

Findings presented in Table 13 reveal that over the 2004-2007 period, the mean annual tax payments made by all Connecticut adults (18-64) was \$20,722 whereas the mean value of their cash and in-kind transfers and their institutionalization costs was \$3,654, yielding a net mean fiscal contribution of \$17,068. Nationwide, the mean annual tax payments (\$14,239), the mean value of transfers and institutionalization costs (\$2,934), and the net fiscal impact of adults (\$11,305) were substantially smaller than that for Connecticut adults.

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<sup>25</sup> See: Scott Davies and Julian Tanner, “The Long Arm of the Law: Effects of Labeling on Employment,” The Sociological Quarterly, Volume 44, Number 3, pages, 385-404.

The value of the net fiscal contributions of non elderly adults in Connecticut varied widely according to their level of educational attainment. The net fiscal contribution of the average working age adult without a high school diploma in Connecticut was negative (-\$2,209) indicating that mean annual tax payments were \$2,209 lower than the sum of the mean value of annual transfers and their annual institutionalization costs. For the entire nation, the average net annual contribution of dropouts was only -\$110. Adults in the other four educational groups made positive net fiscal contributions. However, the size of the net contribution varied widely by the level of schooling, ranging from a low of slightly under \$9,000 among high school graduates to highs of nearly \$15,000 among Connecticut adults with some college, \$26,000 among Bachelor's degree holders, and nearly \$35,500 among adults with a Master's or a higher degree. Adults with a high school diploma or more schooling in Connecticut made mean annual contributions that were much higher than their peers with same educational characteristics across the U.S.

**Table 12:**  
**The Mean Net Annual Fiscal Contributions of 18-64 Year Old Adults in Connecticut and the U.S. by Educational Attainment, Annual Averages, 2004-2007 (Dollars)**

Area/Education	Total Tax Payments	Total Transfers/ Jail or Prison Cost	Taxes Paid - Transfer/Jail or Prison Cost
<b>Connecticut</b>			
<12 or 12, No HS Diploma	9,276	11,485	-2,209
HS Graduate or GED	13,452	4,642	8,810
1-3 Years of College	17,825	2,882	14,943
Bachelor's Degree	27,886	1,810	26,076
Master's or Higher	35,573	1,170	34,403
Total	20,722	3,654	17,068
<b>U.S.</b>			
<12 or 12, No HS Diploma	6,087	6,197	-110
HS Graduate or GED	9,938	3,551	6,386
1-3 Years of College	13,244	2,508	10,736
Bachelor's Degree	20,580	1,236	19,343
Master's or Higher	29,876	1,061	28,814
Total	14,239	2,934	11,305

It should be noted that the above estimates of the large gaps between the net fiscal contributions of adults by schooling level are likely quite conservative since they exclude the public costs of educating the children of these adults and their differential use of health care services not paid by health insurance plans. Another method for presenting the findings of the fiscal impact analysis involves the calculations of ratios of mean annual tax payments to mean annual cash and in-kind transfers and institutionalization costs. In Table 13, we present the values of these fiscal contribution ratios for adults in each of our five educational subgroups in both Connecticut and the U.S.. The values of these ratios rise continuously and substantially with their level of schooling. Among adults in Connecticut without high school diplomas, the ratio was only .81, but it rose to 2.90 for high school graduates, to 6.19 for adults with 1-3 years of college, and to a high of 30.41 for adults with a Master's or more advanced academic degree. The last group of adults were characterized by a ratio of taxes/transfers that was nearly 38 times higher than that of their peers who lacked a regular high school diploma or a GED certificate.

Chart 13:

The Ratios of the Mean Annual Tax Payments to the Combined Value of Cash and In-Kind Transfers and Institutionalization Costs of 18-64 Year Old Adults in Connecticut and the U.S. by Educational Attainment

<u>Educational Attainment Level</u>	<u>Connecticut</u>	<u>U.S.</u>	<u>CT - U.S.</u>
<12 or 12, No HS Diploma	0.81	0.98	-0.17
HS Graduate or GED	2.90	2.79	0.10
1-3 Years of College	6.19	5.28	0.90
Bachelor's Degree	15.41	16.64	-1.24
Master's or Higher	30.41	28.15	2.25
Total	5.67	4.85	0.89

### **The Mean Lifetime Net Fiscal Contributions of Connecticut and U.S. Adults by Educational Attainment**

The net fiscal contributions presented in the previous section represent annual amounts of net fiscal contributions. The cumulative amounts of these annual fiscal impacts over the entire work life of each non-elderly adult resident could be quite sizable. We have converted the estimates of the mean annual net fiscal contributions of 18-64 year old adults in each educational subgroup into estimates of lifetime net fiscal contributions (Table 14). Our estimates of lifetime

net fiscal contributions are derived by multiplying the annual net fiscal contribution estimates by the total number of years in the work life of each educational group.

The work life of each educational subgroup was based on assumptions about the age at which they would begin their work life—which is the age when they are typically earn their educational credentials. We have assumed that the typical high school graduate would receive a diploma at age 18, a bachelor’s degree would be earned at age 23, and a master’s degree at age 26. The work life span—the number of years between the age at which they complete their education and age 64 -- was thus computed as 47 year period for high school dropouts, 47 years for high school, 45 years for those with some college, 42 years for Bachelor degree holders, and 39 years for those with a Master’s or a higher degree.<sup>26</sup>

The lifetime net contributions of adults in Connecticut rose strongly with their years of schooling. The negative annual net fiscal contribution of adults who failed to complete high school would cumulate into a negative net fiscal contribution of -\$103,800 per adult over their working lives. Each high school dropout in the state is expected to cost \$103,800 more in the form of transfer benefits and institutionalization costs exceeded the amount of tax payments over their entire working lifetimes. In contrast, a high school graduate (without any college education) is estimated to contribute a net amount of \$414,400 to the budgets of the federal, state, and local governments. The mean lifetime net fiscal contributions of adults with a Bachelor’s and with a Masters or a higher academic degree are estimated, respectively, at \$1.09 million and \$1.34 million. Connecticut adults in every educational group, except high school dropouts, generated a much higher amount of lifetime fiscal contributions than their peers nationwide.

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<sup>26</sup> Estimates of the lifetime fiscal impacts of residents with a bachelor’s or a higher college degree were computed as a sum of the lifetime fiscal impacts of those who had earned just a bachelor’s degree (based upon a working lifespan of 41 years) and those who had earned a Master’s or a higher degree (based upon a working lifespan of 38 years).

Table 14:  
Mean Lifetime Net Fiscal Contributions of U.S. Adults in Connecticut and the U.S. from Ages 18-64 by Educational Attainment, 2004-2007 Averages (In Dollars)

Educational Attainment	Connecticut	U.S.	CT-U.S.
<12 or 12, No HS Diploma	-103,823	-5,170	-98,653
HS Graduate or GED	414,070	300,142	113,928
1-3 Years of College	672,435	483,120	189,315
Bachelor's Degree	1,095,192	812,406	282,786
Master's or Higher	1,341,717	1,123,746	217,971
Total	802,196	531,335	270,861

The estimated gaps between the lifetime fiscal contributions of Connecticut and US, adults without a high school diploma and better educated adults increased steadily and substantially with their level of educational attainment (Table 15). Over the working-age lifetime (18-64 years of age), the gap between the net fiscal contributions of high school graduates and those adults without a high school diploma in Connecticut would be equal to \$518,000 while the gap between high school graduates and bachelor degree holders would be \$681,000. In Connecticut, those adults earning a Bachelor’s degree would contribute nearly \$1.17 million more to the tax coffers of federal, state, and local governments than their peers without a high school diploma. Adult dropouts in recent years have been a major fiscal burden to the rest of society.

Table 15:  
Differences Between the Estimated Mean Lifetime Net Fiscal Contributions of U.S. Adults in Selected Educational Groups

Groups Being Compared	Connecticut	U.S.	CT - US
High school graduate vs. dropout	517,893	305,312	212,581
13-15 years vs. high school graduate	258,365	182,978	75,387
B.A. degree vs. high school graduate	681,122	512,264	168,858
B.A. degree vs. high school dropout	1,199,015	817,576	381,439

## **Appendix A: Estimating the Annual Federal and State Income Taxes Paid by Husbands and Wives in Married Couple Families**

In computing the annual value of the federal and state income tax payments of adults in the March CPS Annual Social and Economic Supplement, the U.S. Census Bureau adopts a different practice for husbands and wives in married couple families than it does for all other individuals with incomes during the year. For married couple families, the U.S. Census Bureau adopts the assumption that the couple files a joint federal and state income tax return. Research staff then estimated the federal and state income tax liability for the married couple and assigned the entire federal and state income tax liability to the head of the married couple family. The householder of this married couple family can be either the husband or the wife. In approximately 85 percent of the cases, the householder in a non-elderly married couple family is the husband.<sup>27</sup> For all other individuals, whether living in families or in non-family households, the federal and state income tax liability appears on their personal record. Given the above practice in assigning income tax liabilities to the head of a married couple family, we cannot identify from the existing March CPS records the specific federal and state income tax liability of the husband and spouse in a married couple family. To avoid exaggerating the income tax payments of the heads of married couple families and severely underestimating the income tax payments of the spouses in such families, we developed a set of computer programming instructions with the SPSS statistical package that allowed us to generate separate estimates of the federal and state income tax liability of husbands and wives.

The procedures used to estimate husband/wife income tax liability can be summarized as follows. We first calculated the percentage shares of joint husband/wife earnings during the year that were earned by the family head and the spouse. The family head's percentage share of earnings (e.g., 70%) was then multiplied by the estimated joint federal income tax liability of the married couple to estimate his (her) federal income tax payments. Suppose that the married couple's federal income tax liability was \$20,000 and the head obtained 70% of the combined earnings during the year. The head's federal income tax liability was computed to be  $\$20,000 * .70 = \$14,000$ . The remaining \$6,000 in federal income tax liability was then assigned to the

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<sup>27</sup> Our definition of a non-elderly family is one whose head is an individual under the age of 65.

spouse.<sup>28</sup> The same statistical procedures were used to compute the state income tax payments of the husband and wife.

## **Appendix B: Estimating Median and Mean Values of Homes and Annual Property Taxes Paid by Householders**

The 2005, 2006, and 2007 American Community Surveys (ACS) collected data on the characteristics of the homes occupied by responding households, including ownership status, the home's estimated market value, the year when the house was built, and annual property tax payments. Both the data on estimated home prices and property tax payments were collected in a categorical rather than in continuous form. For example, the respondent was asked to identify the estimated value of their home from 24 pre-assigned categories, ranging from under \$10,000 to over \$1 million. Similarly, the household was asked to choose from over 68 categories the size of their annual property tax payments ranging from \$0 to \$10,000 or more.

Using these categorical data on home price and property tax payments, we calculated mean/median home prices and property tax payments for householders in each of the five educational categories appearing in our analysis. We used the following two formulas to estimate mean and median values of homes and annual property tax payments appearing in our analysis. The mean values of homes and property tax payments are likely somewhat underestimated due to the absence of upper limits for the top category. For example, the property value of homes in the top category was \$1,000,000 or more and for property tax payments it was \$10,000 and over. However, there were very few cases in these upper housing value and property tax categories. The estimated mean and median values of the two variables were calculated as follows:

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<sup>28</sup> In a married couple family, the spouse can be either the husband or wife depending on which of the two was classified as the family householder.

$$\text{Mean} \cong \frac{\sum_{j=1}^c m_j f_j}{n} \text{-----(1)}$$

Where, c = number of income classes in the frequency distribution

$m_j$  = mid point of home prices or property tax payments in the  $j^{\text{th}}$  class

$f_j$  = frequency of the observations in the  $j^{\text{th}}$  income class

n = number of households who owned their home

$$\text{Median} \cong l + \frac{h}{f} \left( \frac{N}{2} - C \right) \text{-----(2)}$$

Where, l = lower bound of the response category containing the median value of homes or property taxes (in dollars)

h = width of the median response category (in dollars)

f = frequency of the median category

N = (Total number of sample cases)

C = Cumulative frequency preceding the median category

## Appendix C: Estimating State Sales Tax Payments for Individuals

The U.S. Census Bureau does not provide any estimates of annual state sales tax payments for persons interviewed during the March CPS survey. In our fiscal impact analyses, we have estimated state sales tax payments for individual adults in Connecticut by using a combination of personal income data from the 2006 ACS survey and sales tax tables for Connecticut published annually by the U.S. Department of Treasury’s Internal Revenue Service (IRS). In our analysis of state sales taxes, we applied a single person exemption to each individual respondent between the ages of 18 and 64 years with a positive income. For each person in our analysis, we assigned the Connecticut state sales tax payment equal to the IRS sales tax deduction for a person in Connecticut with their annual income in 2006. Below is a sample table of the allowable sales tax deductions for residents of Connecticut in 2006.

Appendix Table C-1:  
Optional State Sales Tax Tables, Connecticut, 2006

<b>Income</b>		<b>Exemptions</b>					
At least	But less than	1	2	3	4	5	Over 5
\$0	\$20,000	\$197	\$208	\$215	\$220	\$223	\$229
\$20,000	\$30,000	\$354	\$374	\$386	\$395	\$402	\$412
\$30,000	\$40,000	\$440	\$465	\$480	\$491	\$500	\$512
\$40,000	\$50,000	\$517	\$546	\$564	\$577	\$587	\$601
\$50,000	\$60,000	\$587	\$621	\$641	\$656	\$667	\$683
\$60,000	\$70,000	\$653	\$690	\$713	\$729	\$742	\$759
\$70,000	\$80,000	\$716	\$757	\$781	\$799	\$814	\$833
\$80,000	\$90,000	\$776	\$820	\$846	\$866	\$881	\$902
\$90,000	\$100,000	\$833	\$880	\$909	\$929	\$946	\$968
\$100,000	\$120,000	\$909	\$960	\$992	\$1,015	\$1,033	\$1,057
\$120,000	\$140,000	\$1,016	\$1,073	\$1,108	\$1,133	\$1,153	\$1,181
\$140,000	\$160,000	\$1,110	\$1,173	\$1,211	\$1,239	\$1,261	\$1,291
\$160,000	\$180,000	\$1,206	\$1,274	\$1,315	\$1,346	\$1,370	\$1,402
\$180,000	\$200,000	\$1,294	\$1,366	\$1,411	\$1,443	\$1,469	\$1,503
\$200,000	or more	\$1,744	\$1,843	\$1,903	\$1,946	\$1,981	\$2,027

Source: Internal Revenue Service, “State and Local General Sales Taxes”,  
Publication 600: 2006, [www.irs.gov](http://www.irs.gov).

## **Appendix D: Estimating the Annual Average Costs of Providing Medicaid**

The U.S. Census Bureau collects data on the Medicaid/Medicare recipient status of respondents in a supplement to the March CPS survey. Based on the family's annual income, the cost of its food and housing needs, and the market value of the medical benefits, the Bureau applies a fungible value approach to estimate the family's value that it would place on the health services provided by Medicaid.<sup>29</sup> However, for individual member of the households, the Census Bureau estimated the market value of Medicaid. The actual cost of providing Medicaid services is higher than the U.S. Census Bureau fungible or market value estimates. The actual annual fiscal outlays on Medicaid recipients vary considerably by age group and disability status. For example, for all adults (18-64), the mean value of Medicaid services based on the Census Bureau's market value approach was only \$1,321. This estimated value of Medicaid services was about 45% lower than the costs we estimated using March CPS and Health and Human Services administrative data on Medicaid expenditures (Appendix Table D-1).

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<sup>29</sup> The U.S. Census Bureau describes fungible value as follows: "The fungible approach for valuing medical coverage assigns income to the extent that having the insurance would free up resources that would have been spent on medical care. The estimated fungible value depends on family income, the cost of food and housing needs, and the market value of the medical benefits. If family income is not sufficient to cover the family's basic food and housing requirements, the fungible value methodology treats Medicare and Medicaid as having no income value. If family income exceeds the cost of food and housing requirements, the fungible value of Medicare and Medicaid is equal to the amount which exceeds the value assigned for food and housing requirements (up to the amount of the market value of an equivalent insurance policy (total cost divided by the number of participants in each risk class)."  
<http://www.census.gov/hhes/income/histinc/redefs.html>

Appendix Table D-1:  
Difference Between the Estimates of CPS Market Value of Medicaid and the CLMS Estimates  
for All 18-64 Year Old Adults in the U.S., 2004-2007

Educational Attainment Level	CPS Market Value of Medicaid	CLMS Estimates	
		Based on Medicaid Costs of Adults and CPS Data	% Difference (B/A)-1
<12 or 12, No HS Diploma	\$1,657	\$2,138	29.0%
HS Graduate or GED	\$811	\$1,141	40.7%
1-3 Years of College	\$490	\$735	50.0%
Bachelor's Degree	\$190	\$330	73.2%
Master's or Higher	\$120	\$227	89.0%
Total	\$648	\$916	41.5%

Appendix Table D-2 describes the methodology that was used by the Center for Labor Market Studies to estimate the average annual per capita cost of providing Medicaid to non-elderly adults in the U.S. Based on the March CPS supplement data we first estimated the distribution of adult Medicaid recipients by their disability status. In the U.S. nearly 60% of the Medicaid recipients were classified as disabled adults and the remaining 40% were non-disabled adults (Appendix Table D-2, first row). According to the Medicaid administrative office, the costs of providing Medicaid services for disabled and non-disabled adults in 2006 were \$13,524 and \$2,102, respectively (Appendix Table D-2, second row). We calculated annual average Medicaid costs by multiplying the share of each Medicaid recipient group that was disabled by \$13,524 and the share of adults that were non-disabled by \$2,102 (Appendix Table D-2, third row). The annual average expected cost of Medicaid was estimated to be \$8,101 for disabled adults and only \$843 for non-disabled adults (Appendix Table D-2, fourth row). We then summed the cost of Medicaid for disabled and non-disabled adults to obtain the total average annual cost of providing Medicaid for adults (Appendix Table D-2, fifth row). The total cost of providing Medicaid services to U.S. adults was estimated to be \$8,994. Finally, to estimate the taxpayer cost of providing Medicaid coverage to adults in the U.S., we multiplied the average annual cost of providing Medicaid coverage to recipients of Medicaid by the percent of the members of the 18-64 year old adult population that were Medicaid/Medicare recipients (Appendix Table D-2, sixth row). Thus, the mean annual per capita costs of Medicaid for all adults (18-64 years old) in

the U.S. was \$907. We repeated this process for each of the five educational subgroup of adults used in our analysis (Appendix Table D-1). We then replaced the estimated fungible value of Medicaid on the March CPS survey with this value to estimate taxpayer costs of providing Medicaid.

Appendix Table D-2:  
Estimates of the Mean Annual Per Capita Cost of Providing Medical Care to Non-Elderly Medicaid Recipients (18-64 Year Old) in the U.S. in 2004-2007

Variable	Disabled	Non-Disabled
(A) % Distribution of Medicaid Recipients by Disability Status <sup>(i)</sup>	60.0%	40.0%
(B) Annual Average Cost of Providing Medicaid (Administrative Data) <sup>(ii)</sup>	\$13,524	\$2,102
(C) Annual Average Costs of Providing Medicaid (A * B)	\$8,101	\$843
(D) Sum of Costs (Disabled and Non-Disabled)	\$8,944	
(E) % Who Received Medicaid	10.2%	
(F) Average Annual Per Capita Cost of Medicaid (D* E)	\$916	

Source: (i) March 2005, 2006, 2007, and 2008 CPS surveys, Work Experience and Income Supplement, public use files, tabulations by authors;  
(ii) The Urban Institute and Kaiser Foundation Commission on Medicaid and the Uninsured estimates are based on data from Medicaid Statistical Information System (MSIS) reports from the Centers for Medicare and Medicaid Services (CMS), 2007, web site,  
<http://www.statehealthfacts.org/comparetable.jsp?ind=183&cat=4>

## **Appendix E: Estimating Jail/Prison Costs of Adults Ages 18-60**

To estimate rates of institutionalization among the non-elderly adult population of the state of Connecticut in 2006-2007, we analyzed the findings of the 2006-2007 American Community Surveys, which interviewed residents of group quarters for the first time during that year. The ACS survey identified the institutionalization status of each adult respondent. This group includes those persons who were under supervision in correctional facilities (jails/prisons), nursing/skilled nursing facilities, mental (psychiatric) hospitals, in patient hospice facilities, and group homes for juveniles. The public use files for the ACS survey unfortunately do not identify the specific type of institution in which these individuals were living at the time of the survey. Nationally, the U.S. Census Bureau's publication of institutionalization data from the 2006 ACS survey revealed that a substantial majority (over 89 percent) of the members of the institutionalized population between the ages of 15 and 64 were inmates of correctional facilities. Since our analysis of the costs of incarceration are restricted to adults between ages 18 and 60, the share of institutionalized population that was in correctional facilities is expected to be larger than 89 percent since older adults who are institutionalized are more likely to be in nursing homes and less likely to be in correctional facilities and very few person 15-17 are in jail or prison.

The U.S. Bureau of Justice Statistics estimated the annual per state prison inmate cost for the entire nation in 2001. By adjusting this per inmate cost for inflation between 2001 and 2007, the cost per inmate for 2007 was derived. By multiplying the institutionalization rate for each educational group of adults from the 2006-2007 American Community Survey by the per inmate cost, we can estimate the average annual costs of institutionalization per adult in each educational attainment group.

Appendix Table E-1:  
Mean Annual Costs of Maintaining 18-60 Year Old Connecticut Adults in Institutions, 2006-  
2007

(A) 2006-2007 Institutionalization Rate	1.2%
(B) Cost of Incarceration in 2007	\$31,436
Average Annual Cost of Incarceration (A*B)	\$377

### **Appendix F: The Mean Lifetime Net Fiscal Contributions of Adults by Educational Attainment**

The estimates of the mean annual net fiscal contributions of 18-64 year old adults in each educational attainment group can be converted into mean work-life estimates by multiplying them by the number of years over the work-life. For dropouts and graduates, we used a 47 year period, for those with some college 45 years, for Bachelor degree holders 42 years, and 39 years for those with a Master's or higher degree.<sup>30</sup>

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<sup>30</sup> We assumed that an average high school graduate would receive a diploma at age 18, a bachelor degree holder would earn the degree at age 23 and a Master's degree holder would earn the degree at 26.