THE FISCAL CONSEQUENCES OF ADULT EDUCATIONAL ATTAINMENT

Prepared for the National Commission on Adult Literacy

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CONTENTS

FOREWORD	iii
NATIONAL COMMISSION ON ADULT LITERACY	iv
AUTHORS' EXECUTIVE SUMMARY	vii
THE FISCAL CONSEQUENCES OF ADULT EDUCATIONAL ATTAINMENT	
A. Introduction	1
B. Employment and Earnings Experiences of U.S. Adults (16-64) by Educational Attainment in 2005	3
C. Home Ownership Rates, Values of Homes, and Property Taxes Paid by Homeowners in Different Educational Groups	9
D. Data Sources and Calculations Underlying the Fiscal Impact Estimates Appearing in this Research Report	13
E. Estimating Federal and State Income and Social Security Payroll Taxes Paid by Individuals During 2004-2005	16
F. Annual Tax Payments (2004-2005) of U.S. Adults by Educational Attainment	17
G. Receipt of Various Cash and In-Kind Government Transfers by U.S. Adults by Educational Attainment	22
H. Incidence and Costs of Institutionalization of the Nation's 16-60 Year Olds	26
I. Mean Annual Net Fiscal Contributions of 16-64 Year Old Adults by Educational Attainment	33
J. Mean Lifetime Net Fiscal Contributions of U.S. Adults by Educational Attainment	35
K. Net Fiscal Contributions of Adult Men and Women in the U.S. by Educational Attainment	37
L. Summary of Key Findings and Implications for the Nation's Adult Basic Education System	40
Appendix A: Estimating the Federal and State Income Tax Payments of Husbands and Wives in Married Couple Families	42

Appendix B: Estimating State Sales Tax Payments for Individuals 44

Appendix C: Methodologies for Estimating Mean/Median Property Tax Payments and Housing Values of Households in the 2005 ACS Survey 45

Appendix D: Two-Year Average Sample Sizes for the 13 States Included in Our Fiscal Impact Analysis 47

Appendix E: Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Education Attainment in 13 States 49

FOREWORD

The Fiscal Consequences of Adult Educational Attainment (66 pages) is the 11th in a series of background papers contracted by CAAL for the National Commission on Adult Literacy. It was prepared for the Commission's December 6, 2007 meeting by a team of researchers from the Center for Labor Market Studies of Northeastern University, under the leadership of Commissioner Andrew Sum, who directs the Center.

The paper examines the earnings of adults according to their level of education achievement and in terms of the impact those earnings have on the fiscal affairs of the states and the lives of individuals. Appendix E (p. 49) provides estimates of annual net fiscal contributions of adults by education attainment level for the 13 largest states in America. The report findings have major implications for the purposes and conduct of the nation's adult education and literacy enterprise at all levels of service. The report should also be of high interest to state and federal policymakers and planners, as well as the business community.

A list of commissioners and honorary commissioners making up the National Commission on Adult Literacy is given on the next page.

The Commission is an initiative of and managed by the Council for Advancement of Adult Literacy (1221 Avenue of the Americas – 46th Floor, New York, NY 10020, gspangenberg@caalusa.org. Commission study director Cheryl King operates from a CAAL office in Kentucky (National Commission on Adult Literacy, c/o Council for Advancement of Adult Literacy, 115 East 2nd Street, Suite 310, Owensboro, KY 42303, cherylking@caalusa.org). The Commission's principal funders to date are The Dollar General Corporation, The McGraw-Hill Companies, Harold W. McGraw, Jr., and the Charles Stewart Mott Foundation.

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NATIONAL COMMISSION ON ADULT LITERACY

David Perdue – retired Chairman and CEO, Dollar General Corporation (Commission Chair).

Morton Bahr – President Emeritus, Communications Workers of America.

Hon. Gerald Baliles - Director, The Miller Center of Public Affairs, University of Virginia; former governor of Virginia.

David Beré – President & Interim CEO, Dollar General Corporation

Bob Bickerton - Senior Associate Commissioner of Education for the Commonwealth of Massachusetts; Past President National Council of State Directors of Adult Basic Education.

Sherrie Claiborne – Chair, Public Policy, Commission on Adult Basic Education (COABE), and past president; COABE representative to and president of National Coalition for Literacy.

Marion Crain - Director, Center on Poverty, Work, and Opportunity, University of North Carolina.

John Comings - Director, National Center for the Study of Adult Learning and Literacy, Graduate School of Education, Harvard University.

Sharon Darling - President and Founder, National Center for Family Literacy.

Samuel Halperin – Senior Fellow & Founder, American Youth Policy Forum; Founder and first president, Institute for Educational Leadership; Study Director, William T. Grant Foundation Commission on Work, Family, and Citizenship.

Paul Harrington – President and CEO, Reebok International, Ltd.

George Kessinger – President and CEO, Goodwill Industries International, Inc.

Bridget Lamont - Vice Chair, U.S. National Commission on Libraries and Information Science; Past Chair and current member, Illinois Educational Labor Relations Board.

Hon. Ray Marshall - Rapoport Centennial Chair in Economics and Public Affairs, University of Texas (Austin); U.S. Secretary of Labor (Carter)); Member, National Skills Standards Board and Advisory Commission on Labor Diplomacy (Clinton); Co-chair, Commission on Skills of the American Workforce and of Commission on Skills of the American Workforce in a Global Economy.

Gail Mellow - President, LaGuardia Community College; Gubernatorial appointee to New Jersey State Employment and Training Commission; Board Member, Workforce Strategies Center.

Owen Modeland - President, Correctional Education Association; Superintendent of Schools, Oklahoma Department of Corrections.

Mark Musick - James Quillen Chair, East Tennessee State University; President Emeritus, Southern Regional Education Board (SREB); Chaired Board of National Assessment of Educational Progress under three presidents.

Karen Narasaki - President, Asian American Justice Center; Vice Chair Leadership Conference on Civil Rights; Vice President of Coalition for Comprehensive Immigration Reform; Recipient of award of the Chair of the Congressional Black Caucus.

Juan Olivarez – President, Grand Rapids Community College; member, Board of National Institute for Literacy, Member Kent and Allegan (MI) Workforce Development Boards; Gov. Jennifer Granham appointee to Cherry Commission of Higher Education and Economic Growth.

Camille Preus - Commissioner, Oregon Department of Community Colleges and Workforce Development; President, National Council on State Directors of Community Colleges; Chair-elect Western Interstate Commission on Higher Education.

Hon. Tom Sawyer - Former member, U.S. House of Representatives (OH); Author, National Literacy Act of 1991; Former Mayor, Akron, OH; Extensive Congressional role in tracking U.S. and world demographic trends and applying them to policy and program purposes.

Hon. George M. Staples - Director General of U.S. Foreign Service and Assistant Secretary for Human Resources, U.S. Department of State; Former political advisor to the Supreme Allied Commander Europe (SACEUR) at NATO in Belgium; Former U.S. ambassador to many countries.

Gail Spangenberg - President and Founder, Council for Advancement of Adult Literacy; Former Operating Head, Business Council for Effective Literacy.

Andrew Sum - Professor of Labor Economics, Director of Center for Labor Market Studies, Northeastern University; National leader in labor market research related to adult literacy.

Robert Wedgeworth – Retired President & CEO, ProLiteracy Worldwide; Former President, American Library Association; A leader in creating the National Coalition for Literacy in its original form.

William White – President and Chairman, Charles Stewart Mott Foundation; Leads Mott's pioneering work in community education. Member, President Ronald Reagan's Task Force on Private Sector Initiatives; Observer, Carter Center's Delegation to the Palestinian Elections.

HONORARY COMMISSIONERS

David Baldacci – Author of 13 best-selling novels, translated into 38 languages and sold in more than 80 countries; Playwright; National ambassador for various charities, including the Barbara Bush Foundation for Family Literacy; Lawyer, trial and corporate law.

Alfredo G. de los Santos, Jr. – Distinguished Professor, Hispanic Research Center, Arizona State University; Recipient, Harold W. McGraw, Jr. Prize in Education; Board Member, Carnegie Foundation for Advancement of Teaching.

Thomas Donohue – President & CEO, U.S. Chamber of Commerce

Hon. Ruth Ann Minner – Governor, State of Delaware.

Hon. Richard Riley – Partner, Nelson, Mullins, Riley, and Scarborough; former Secretary of Education (Clinton Administration); Former Governor, South Carolina; Recipient Harold W. McGraw Jr. Education Prize for national leadership.

AUTHORS' EXECUTIVE SUMMARY

The Fiscal Consequences of Adult Education Attainment

The role of formal educational attainment and literacy/numeracy skills in improving labor market outcomes for adults in the U.S. in recent decades has been well documented. Better educated and more literate adults fare better than their peers on a wide array of labor market outcomes, including employment, access to more highly skilled and highly paid occupations, access to training from their employers, weekly and annual earnings, and lifetime earnings. As a consequence of their higher rates of employment and annual earnings as well as their higher marriage rates, higher home ownership rates, and lower rates of institutionalization, adults with more schooling generate substantially more favorable fiscal impacts for federal, state, and local governments. This research monograph was primarily designed to describe and analyze the net annual fiscal contributions (tax payments minus cash and in-kind transfers and institutionalization costs) of U.S. adults (ages 16-64) by their educational attainment in recent years.

Key Labor Market and Income Findings

- The employment rates of 16-64 year old, non-enrolled adults in the U.S. during calendar year 2005 varied widely across educational attainment groups. Among adults in both gender groups combined, employment rates ranged from a low of slightly above 55 percent for high school dropouts, to 70 percent for high school graduates/GED holders, and to a high of 84 percent for those with a Master's or more advanced academic degree.
- The mean annual earnings of adults (including non-workers) also rose steadily and strongly with their level of formal schooling. Mean annual earnings of adults lacking a regular high school diploma or a GED were only slightly over $14,400 versus nearly $23,300 among high school graduates, $32,000 among those with 1-3 years of college, $50,700 for Bachelor degree holders, and a high of $73,100 among those with a Master's or higher degree. Mean annual earnings of high school graduates exceeded those of high school dropouts by $8,860, and mean earnings of Bachelor degree recipients exceeded those of high school dropouts by more than $36,000.

Annual Tax Payments of Adults

- The tax payments included in the fiscal analysis component of this research study were the following: federal income tax, state income tax, federal retirement payroll deduction, Social Security payroll deduction, local property tax, and state sales tax.
- During the 2004-2005 period, the mean annual taxes paid by all 16-64 year old adults in the six federal, state, and local tax categories combined was $12,837. The mean annual amounts of these taxes varied considerably across the five educational subgroups of adults. Tax payments ranged from a low of $5,159 among those adults lacking a high school diploma/GED, to $8,865 among high school graduates/GED holders with no completed years of post-secondary schooling, to $18,904 for Bachelor degree recipients, and to a high of just under $28,000 for those adults with a Master's or higher degree.

Cash and In-Kind Transfers Received by Adults

- Cash transfers include unemployment compensation, Temporary Assistance to Needy Families, Supplemental Security Income, and Social Security disability benefits. In-kind transfer payments include Medicare/Medicaid health insurance benefits, food stamps, rental subsidies in both public and private housing, and energy assistance.

- The mean values of these annual cash and in-kind transfers varied considerably across the five educational subgroups, ranging from a high of $4,843 for those adults lacking a high school diploma/GED certificate, to slightly under $3,000 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 annual level of transfers that was four times as high as those of their peers with a four year or higher degree during calendar years 2004 and 2005.

Home Ownership and Property Tax Payments

- Home ownership rates were strongly influenced by the educational attainment of the household head. Home ownership rates ranged from a low of slightly below 46% for households headed by an individual lacking a high school diploma/GED, to nearly 61% for high school graduates, to a high of 78% for households headed by an adult with a Master's or more advanced degree.
- The mean value of the homes owned by adults ranged from a low of $158,000 among households headed by a person lacking a high school diploma/GED, to $176,000 among high school graduates, to $304,000 among four year college graduates, and to a high of just under $359,000 for households headed by an adult with a Master's or higher degree. The higher rates of home ownership and higher home values of adults with more years of schooling leads to higher annual local property tax payments compared to their counterparts with less schooling.

The Net Fiscal Contributions of Adults

The findings on the mean annual tax payments of U.S. adults and the mean values of their cash and in-kind transfers and their institutionalization costs can be combined to estimate their mean annual net fiscal contribution to federal, state, and local governments.

- On average, over the 2004-2005 period, the mean annual tax payments of all 16-64 year old adults were $12,837 while the mean value of their cash and in-kind transfers and their institutionalization costs was equal to $2,875. This yielded a net mean annual fiscal contribution of $9,962.
- The mean annual values of these net fiscal contributions varied markedly by the educational attainment of adults. Among those adults lacking a high school diploma/GED certificate, the mean net fiscal contribution was a negative $671, i.e., they collected more

in cash and in-kind transfers and imposed more in institutionalization costs than they paid in federal/state/and local taxes.

- Adults in each of the other four educational subgroups were characterized by positive net fiscal contributions. However, the mean annual values of these net fiscal contributions varied widely across these four educational subgroups, ranging from a low of $5,464 for high school graduates to $17,664 for Bachelor degree holders to a high of $26,773 for adults with a Master's or higher degree.
- The estimates of the mean annual net fiscal contributions of 16-64 year old adults in each educational attainment group were converted into mean work life estimates by multiplying them by 49, the number of years over the 16-64 age range. Over this 49 year time period, given continuity of the results that prevailed in 2004-2005, the average high school dropout would produce a net fiscal burden of $33,000 while the average high school graduate would generate $267,736 more in taxes than he/she would impose in transfer costs and institutionalization costs. The lifetime, net fiscal contributions of adults rose steadily and strongly with their years of post-secondary schooling, increasing to $467,000 for those completing one to three years of post-secondary schooling, $865,536 for those obtaining a Bachelor's degree, and to a high of slightly over $1.3 million for those with a Master's or higher degree.
- Over the working-age lifetime (16-64 years of age), the gap between the net fiscal contributions of high school graduates and those adults without a high school diploma would be equal to $301,000 while the gap between high school graduates and bachelor degree holders would be $597,000.

Implications of Findings for the Adult Basic Education System

By strengthening the literacy/numeracy/writing proficiencies, English-speaking and reading proficiencies, and educational attainment of participants, adult education programs can boost the future fiscal position of national, state, and local governments. The future fiscal impacts of adult education programs will depend critically on their success in raising the employability and earnings of participants. To improve our knowledge base in this critical area, we would strongly recommend that all future adult education programs do a far better job in documenting, both short and long-run, the post-program employment and earnings experiences of participants, link labor market outcomes to changes in the literacy/numeracy skills, English-speaking skills, and educational attainment of participants during the course of their participation in these programs, and conduct defensible impact evaluations of various types of adult education programs using carefully selected comparison groups or randomly assigned control groups.

THE FISCAL CONSEQUENCES OF ADULT EDUCATIONAL ATTAINMENT

A. Introduction

The role of formal educational attainment and literacy/numeracy skills in improving labor market outcomes for adults in the U.S. in recent decades has been well documented.[1] Better educated and more literate adults fare better than their peers on a wide array of labor market outcomes, including employment, access to more highly skilled and highly paid occupations, access to training from their employers, weekly and annual earnings, lifetime earnings, and incomes. Concerns over the future pace of national productivity growth, U.S. economic competitiveness, and rising earnings/income inequality in the nation have led to increased calls for further investments in both the literacy skills and schooling of U.S. children and young adults.[2]

The recent availability of international data on the literacy/numeracy proficiencies of teens and adults has enabled researchers to identify the comparative literacy performance of U.S. adults.[3] The findings should raise concerns among U.S. political leaders, educational policymakers, and the nation at large. U.S. literacy performance in comparison to teens and adults in other high income countries is at best "mediocre," and the U.S. literacy skills distribution is characterized by a relatively high degree of inequality. Literacy/numeracy proficiencies of teens and young adults have strong independent influences on their educational attainment and a wide array of employment, earnings, and social outcomes. The benefits of

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[1] For recent overviews of the personal labor market benefits of higher literacy/numeracy proficiencies and educational attainment, see (i) Andrew Sum, Irwin Kirsch, and Kentaro Yamamoto, Pathways to Labor Market Success: The Literacy Proficiencies of U.S. Adults, Educational Testing Service, Princeton, New Jersey, 2004; (ii) Irwin Kirsch, Henry Braun, Andrew Sum, and Kentaro Yamamoto, The Perfect Storm:Three Forces Changing Our Nation's Future, Educational Testing Service, Princeton, New Jersey, 2007.

[2] See: (i) Eric Hanushek, "The Seeds of Growth," Education Next, Fall 2002, pp. 10-17; (ii) Andrew Sum, Tim Barnicle, and Ishwar Khatiwada, Education and Labor Market, Outcomes for the Nation's Teens and Young Adults Since the Publication of America's Choice, Report Prepared for the New Commission on the Skills of the American Workforce, Washington, D.C., 2006.

[3] For a review of the average level and distribution of the literacy skills of U.S. youth and adults and their comparative international performance, see: (i) Andrew Sum, Irwin Kirsch, and Robert Taggart, The Twin Challenges of Mediocrity and Inequality: Literacy in the U.S. from An International Perspective, Educational Testing Service, Princeton, New Jersey, 2002; (ii) Andrew Sum, et al., Forces Changing Our Nation's Future: Report prepared for The National Commission on Adult Literacy, New York, 2007.

higher literacy and schooling accrue to society as a whole as well as to the individuals themselves.[4] Among the economic benefits of higher schooling to society as a whole are the increased 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, state sales taxes, and local property taxes and the reduced dependence of better educated and more literate adults on cash and in-kind transfers from national and state governments to support themselves and their families.[5]

This research monograph prepared for the National Commission on Adult Literacy is primarily designed to describe and analyze the net annual fiscal contributions (tax payments minus cash and in-kind transfers and institutionalization costs) of U.S. adults (ages 16-64) by their educational attainment in recent years. The report will begin with an overview of differences in employment rates, annual earnings, lifetime earnings, home ownership rates, and the values of homes owned by U.S adults (16-64) in five different educational subgroups. The large differences in annual earnings, home ownership rates, and average home values across educational subgroups of adults underlie the large and growing differences in their annual tax payments. This overview of labor market/earnings/housing differences across educational groups will be followed by a discussion of the tax, transfers, and institutionalization concepts, measures, data sources, and estimating techniques underlying all of the fiscal estimates appearing in this research monograph.

The report will then provide estimates of the annual tax payments, annual cash and in-kind transfers (e.g., food stamps, Medicaid expenditures, rental housing subsidies), and

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[4] 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 Psachroupoulos 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.

[5] 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 21st Century, Prepared for Boston Youth Transition Funders Group, Boston, Massachusetts, January 2007; (ii) 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; (iii) 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 School Network, Chicago, October 2007.

institutionalization costs of 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 16-64 year old adults and for men and women in five educational attainment categories. Findings for the 13 largest states will be presented Appendix E of this report. The final section of the report will provide a brief summary of key findings and discuss their potential implications for the design, operations, and evaluation of the nation's adult basic education system.

B. Employment and Earnings Experiences of U.S. Adults (16-64) by Educational Attainment in 2005

The fiscal contributions of adults to the tax coffers of federal and state government during a given year will be heavily dependent on their employment and earnings experiences. Social Security payroll retirement taxes on earnings rise with the level of one's earnings up to a maximum (slightly over $90,000 in 2005).[6] In those 42 states with an income tax, including the District of Columbia, the annual amount of state income taxes paid by workers can be expected to vary at least proportionally with their earnings.[7] Given the progressivity of the federal income tax, federal personal income tax payments will rise disproportionately with the level of one's annual earnings. State sales taxes also can be expected to rise with the level of one's earnings as expenditures on goods and services subject to the tax in a given state will also increase with the level of one's income.

The employment rates of 16-64 year old, non-enrolled adults in the U.S. during calendar year 2005 varied widely across educational attainment groups (Table 1). The higher the educational attainment of the adult, the more likely he or she was to be working at the time of the 2005 ACS surveys.[8] Among adults in both gender groups combined, employment rates ranged

[6] The earnings ceiling for the Social Security payroll tax rises annually with the rate of inflation as measured by the Consumer Price Index for All Urban Consumers (CPI-U). The payroll tax on earnings used to finance the Medicare system is not subject to a maximum limit.

[7] Due to the existence of deductions and exemptions from the state income tax and the existence of state earned income tax credits in some 23 states, workers with low annual earnings will pay little to no state income tax. These deductions and exemptions provide a mild degree of progressivity to the state income tax in most states.

[8] The employed in the ACS survey include wage and salary workers, the self-employed, and unpaid family members who worked 15 or more hours without pay in a family owned business.

from a low of slightly above 55 percent for high school dropouts [9], to 70 percent for high school graduates/GED holders, and to a high of 84 percent for those with a Master's or more advanced academic degree. There was a 28 percentage point gap between the employment rates of high school dropouts and adults with a Master's or higher degree in 2005.

Employment rates of both female and male adults rose steadily with their level of educational attainment in 2005. The gaps between the employment rates of high school dropouts and their better educated peers were higher among women than among men. For example, only 42 percent of the nation's female dropouts (16-64) were employed in 2005 versus 62 percent of high school graduates and 75 percent of Bachelor degree holders, representing employment rate gaps of 20 and 33 percentage points, respectively. Among males, the gaps in employment rates between high school dropouts and high school graduates/BA recipients were 10 and 21 percentage points, respectively. The considerably lower employment rates of dropouts are due to a combination of a lower rate of attachment to the labor force and higher unemployment rates when they do seek work.

Table 1:
Employment Rates of 16-64 Year Olds(1) in the U.S. by Educational Attainment, All and by Gender, 2005
(in %)

	(A)	(B)	(C)
Educational Attainment	All	Men	Women
Less than 12 years or 12 years, no diploma/GED	55.6	67.2	42.1
High school graduate/GED	70.0	77.2	62.5
13-15 years, including Associate's degree	76.2	81.9	71.0
Bachelor's degree	81.3	87.9	74.9
Master's or higher degree	84.0	88.4	79.4
All	72.9	79.8	66.0

Note: Persons enrolled in school at the time of the 2005 ACS survey were excluded from the analysis.
Source: 2005 American Community Surveys, public use files, tabulations by authors.

[9] Persons who completed fewer than 9 years of school also are included in our count of "high school dropouts". Junior high dropouts and elementary school dropouts are most common among foreign immigrants.

Less educated and less literate adults also earn substantially less from labor market activity during the year than their better educated peers.[10] High school dropouts typically achieve mean annual earnings well below those of their better educated peers due to a combination of less frequent employment during the year, lower mean weeks and hours of employment when they do work, and lower hourly earnings when at work. During the 2004-2005 period, the mean annual earnings of 16-64 year olds not enrolled in school at the time of the ACS survey were slightly under $33,800 (Table 2).[11] The mean annual earnings of adults rose steadily and strongly with their level of formal schooling. Mean earnings of adults lacking a regular high school diploma or a GED were only slightly over $14,400 versus nearly $23,300 among high school graduates, $32,000 among those with 1-3 years of college, nearly $50,700 for Bachelor degree holders, and a high of $73,100 among those with a Master's or higher degree (a PhD or a Professional degree). Mean annual earnings of high school graduates exceeded those of high school dropouts by $8,860, and mean earnings of Bachelor degree recipients exceeded those of high school dropouts by more than $36,000.

The mean annual earnings of U.S. adults rose steadily and strongly with additional years of schooling among both men and women (Table 2, Columns B and C). Among males, high school graduates with no years of completed post-secondary schooling received mean annual earnings that were $10,500 above those of high school dropouts, and male Bachelor degree holders had mean annual earnings that were $47,000 higher than those of dropouts. The mean annual earnings of these male bachelor degree holders were 3.4 times as high as those of their dropout peers. Among women, the absolute and relative differences in mean earnings between high school dropouts and high school/four year college graduates were also quite high. Female high school graduates had mean annual earnings that were twice as high as those of high school dropouts, and female Bachelor degree holders obtained mean annual earnings that were more than four times as high as those of high school dropouts ($35,294 vs. $8,215). These large

[10] Literacy and numeracy skills have important independent effects on the weekly wages and annual earnings of adults over and above those of education.
See: (i) Andrew Sum, Literacy in the Labor Force, National Center for Education Statistics, Washington, D.C., 1999, (ii) Irwin Kirsch, Henry Braun, Andrew Sum, and Kentaro Yamomoto, America's Perfect Storm: Three Forces Influencing America's Future, Educational Testing Service, Princeton, NJ, 2007.

[11] The ACS 2005 surveys were conducted throughout the calendar year. Respondents to the annual earnings question were asked to provide an estimate of their earnings from employment over the previous 12 months. This 12 month period will have overlapped 2004 and 2005 for the vast majority of workers completing the questionnaire. We, thus, refer to the time period as 2004-2005.

differences in mean annual earnings between well educated and less educated adults in the U.S. can be expected to be accompanied by large differences in their annual tax payments in payroll taxes, government pension contributions, state and federal income taxes, and state sales taxes.

Table 2:
Mean Annual Earnings of 16-64 Year Olds in the U.S. by Educational Attainment, All and by Gender, 2004-2005
(in Current Dollars)

	(A)	(B)	(C)
Educational Attainment	All	Men	Women
Less than 12 years or 12 years, no diploma/GED	$14,416	$19,747	$8,215
High school graduate/GED	23,278	30,257	16,037
13-15 years, including Associate's degree	31,928	41,263	23,553
Bachelor's degree	50,686	66,877	35,294
Master's or higher degree	73,124	93,697	51,375
All	33,798	43,779	23,829

Note: Persons enrolled in school at the time of the ACS survey were excluded from the analysis. Persons with no paid employment during the year were assigned annual earnings of zero.
Source: 2005 American Community Surveys, public use files, tabulations by authors.

The large mean earnings differences in 2005 between high school dropouts and their better educated peers were not unique to that year. In fact, very large earnings differences also prevailed in 1999, in 1989, and in 1979. Among males, the absolute size of the earnings differences between the college educated and both high school dropouts and graduates has been widening over time, together with similar results for women.[12] To illustrate the magnitude of the expected lifetime earnings differences among males in different educational subgroups, we used the 2005 ACS earnings data to calculate the lifetime earnings from ages 18-64 for men in five educational subgroups. The values of these lifetime earnings for each educational subgroup of men were calculated by summing the mean earnings of men in each single age group within each educational group from age 18 to 64. No adjustments were made to the cross-sectional earnings that prevailed in 2005. Given the steep downward trend in the lifetime earnings of both male

[12] For example, in 1979, the lifetime earnings gap over the 18-64 age range between males with a 4 year college degree and high school dropouts was slightly over $1.4 million in constant 2005 dollars. By 2005, the gap had widened to $1.825 million. Among women, the lifetime earnings gap had widened from $259,000 to $1.7 million over the same period.

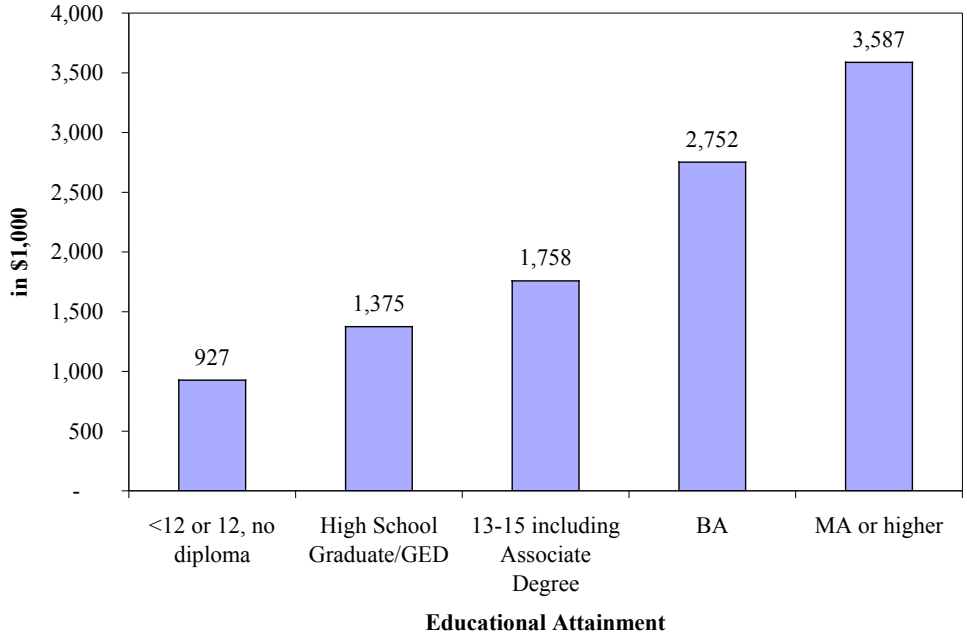
high school dropouts and graduates since 1979, the assumption of no change in the real annual earnings of these two cohorts of males over time is a very conservative one.[13]

The mean expected lifetime earnings of U.S. males ages 18-64 in the U.S. as of 2005 ranged from a low of $927,000 among high school dropouts, to $1.375 million among high school graduates, to $2.752 million among bachelor degree holders, and to a maximum of $3.587 million for those with a Master's or higher degree. Male high school graduates would be expected to earn $448,000 more than high school dropouts over their working lives while male bachelor degree holders would be expected to earn $1.825 million more than male high school dropouts. These male bachelor degree holders have expected lifetime earnings that are three times the size of those of men lacking a regular high school diploma or a GED certificate. These declining lifetime earnings of males with no post-secondary schooling have been accompanied by steep declines in their marriage rates and by a sharp rise in out-of-wedlock childbearing among women without college degrees, with their attendant adverse educational, economic, and social consequences for children living in these single parent families.[14] These earnings and demographic developments will have severe, negative impacts on the future fiscal position of state and federal governments.

[13] Between 1979 and 2005, the mean lifetime earnings of male high school dropouts declined by 27 percent while the mean lifetime earnings of male high school graduates fell by 24 percent.

[14] For a recent review of the links between the marriage rates of all young men and Black men under age 30 and their annual earnings,
See:; Gordon Berlin, Rewarding the Work of Individuals: A Counterintuitive Approach to Reducing Poverty and Strengthening Families, The Future of Children, Vol. 17, No. 2, Fall 2007, pp. 17-42.
Also, See: Andrew Sum, Ishwar Khatiwada, and Joseph McLaughlin, Trends in Black Male Joblessness and Year-Round Idleness: An Employment Crisis Ignored, Chicago Alternative Schools Network, 2004.

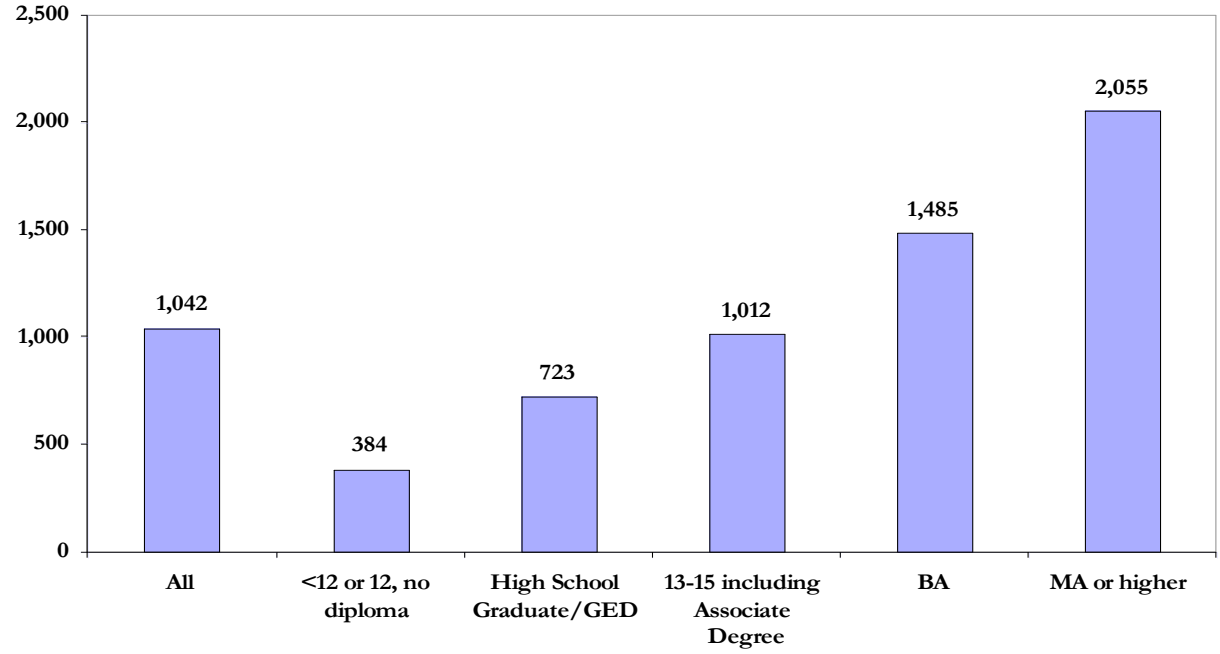
Chart 1:
Mean Lifetime Earnings of 18-64[(1)] Year Old Males in the U.S. by Educational Attainment
(Cross-Sectional Earnings Observed in 2005, in $1,000)



Note: [(1)] Males 18-22 years old who were enrolled in school at the time of the ACS survey were excluded from the calculations of lifetime earnings.

The mean lifetime earnings of women in the U.S. also varied widely across the five major educational subgroups. Women without a high school diploma earned only $384,000 over their lifetime while women with a high school diploma earned $723,000, a difference of $339,000 (Chart 2). Women with some college earned $1.01 million, those with a Bachelor degree earned $1.48 million and women with a Master's or higher degree earned $2.05 million. The difference in the lifetime earnings of women without a high school diploma and those with a college degree was $1.10 million, or nearly 2.9 times as high as that of high school dropouts. The lower lifetime earnings of women relative to men across the educational subgroups are influenced by a combination of their fewer annual hours of work and lower hourly earnings while employed. Due to their low annual earnings and considerably lower marriage rates, adult women without a high school diploma will spend a considerable number of years in a low income status.

Chart 2:
Mean Lifetime Earnings of 18-64[(1)] Year Old Females in the U.S. by Educational Attainment
(Cross-Sectional Earnings Observed in 2005, in $1,000)



Note: [(1)] Females 18-22 years old who were enrolled in school at the time of the ACS survey were excluded from the calculations of lifetime earnings.

C. Home Ownership Rates, Values of Homes, and Property Taxes Paid by Homeowners in Different Educational Groups

The ability of American adults to own their own homes has been a core element of the American Dream for many decades. In her book on housing and the American Dream, Delores Hayden commented that "single family suburban homes have become inseparable from the American Dream of economic success and upward mobility."[15] In a set of national advertisements earlier this decade, the national Fannie Mae mortgage agency proclaimed that,

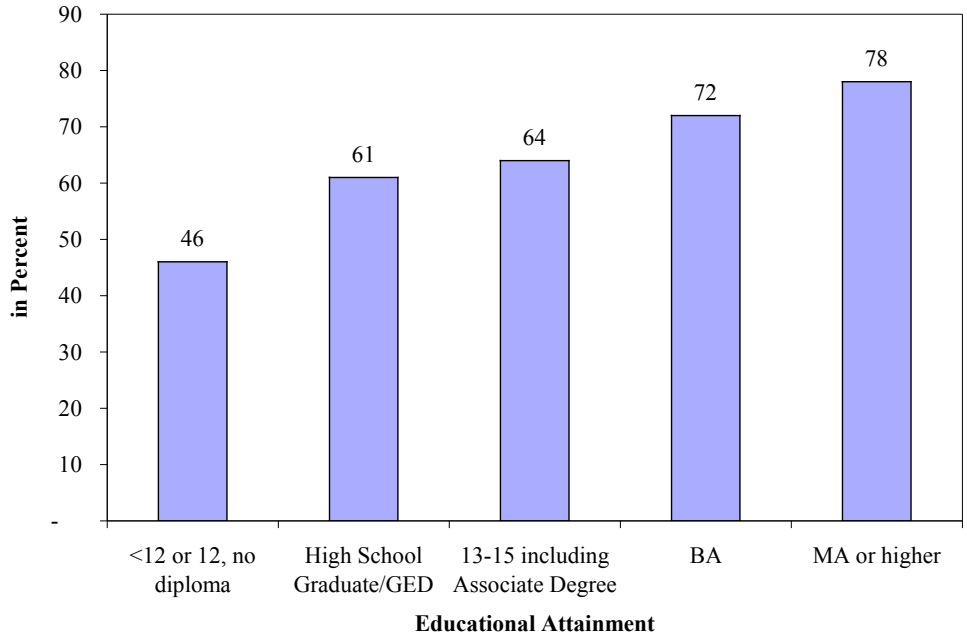
[15] See: Delores Hayden, Redesigning the American Dream: The Future of Housing, Work, and Family Life, W.W. Norton and Company, New York, 1984.

"You see, at Fannie Mae, everything we do is in the pursuit of our goal of making the American dream an affordable one."[16]

Home ownership is influenced by the income level of a family and the costs of housing. Evidence for the U.S. clearly provides support for this expectation. Since households headed by individuals with more schooling tend to have consistently higher incomes, one would expect home ownership rates to rise with the level of schooling completed by the householder.[17] Findings on home ownership rates of U.S. non-elderly householders (16-64 years old) by educational attainment in 2005 are displayed in Chart 3 below. Overall, 64 percent of these households owned the housing unit that they occupied. These home ownership rates ranged from a low of slightly below 46% for households headed by an individual lacking a high school diploma/GED, to nearly 61% for high school graduates, to a high of 78% for households headed by an adult with a Master's or more advanced degree. The gaps in home ownership rates across educational subgroups were quite large in all 50 states although the size of these percentage point gaps varied somewhat across states. Among the nation's younger households (those headed by an individual under 40 years of age), home ownership rates were considerably lower than those among older households (40-64), and the relative size of the gaps in home ownership rates across educational groups also were larger among these younger households than they were among older households, reflecting the larger relative income gaps by educational attainment among the nation's younger households. [18]

[16] See: The Weekly Standard, February 11, 2002, p. 6.
[17] In the U.S. Census Bureau classification system, the householder is the person in whose name the housing unit is owned or rented. In a married couple family, the householder can be either the husband or the wife.
[18] Only 47 percent of these young households owned their own home, and home ownership rates were considerably lower among those younger households headed by high school dropouts. Fewer than 30 percent of young households headed by high school dropouts owned their own home, a rate of home ownership only one half as high as that for their older counterparts.

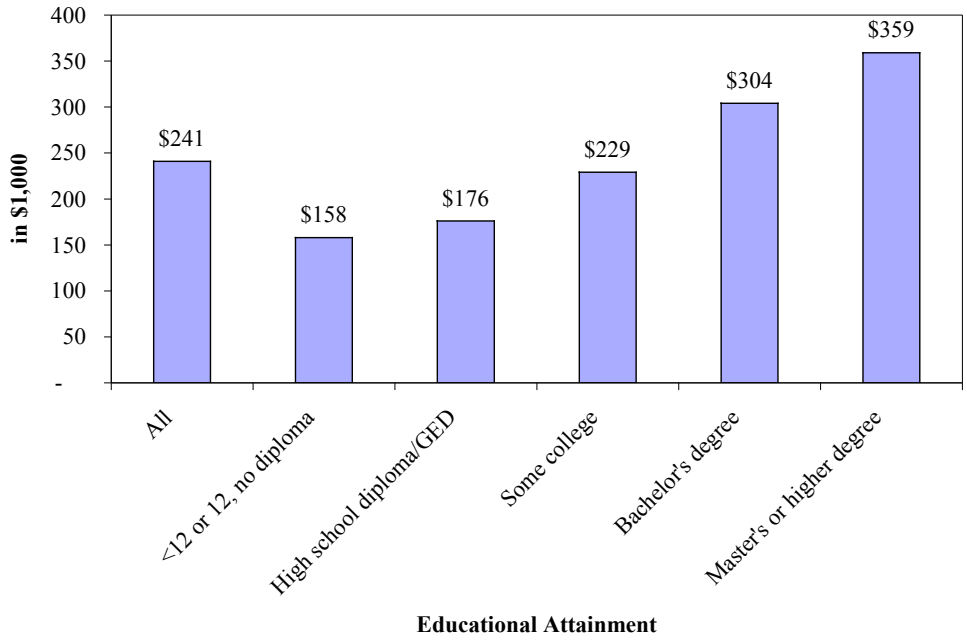
Chart 3:
Home Ownership Rates of Households Headed by an Individual 16-64 Years Old by Educational Attainment, U.S.: 2005
(in %)



The median and mean values of the housing units owned by the nation's non-elderly households varied across educational attainment groups. The mean value of these housing units in 2005 based on the findings of the ACS survey was approximately $241,000.[19] These mean values ranged from a low of $158,00 among those households headed by an adult lacking a high school diploma/GED, to $176,000 among high school graduates, to $304,000 among four year college graduates, and to a high of just under $359,000 for households headed by an adult with a Master's or higher degree (Chart 4).

[19] The statistical procedures used by the Center for Labor Market Studies to estimate these mean and median values of homes are described in Appendix C of this report.

Chart 4:
Mean Values of Owner-Occupied Homes Headed by Adults 16-64 Years Old, All and by Educational Attainment, U.S. 2005



The mean values of homes have a number of important fiscal consequences for local governments across the country, given their high degree of dependence on the property tax for financing their activities. In a state such as Massachusetts, approximately three-fourths of the tax revenues of local governments are derived from the property tax.[20] The higher values of the homes owned by adults with more years of formal schooling will increase property tax yields. The 2005 ACS surveys collected information from responding households on the annual amount of property taxes that they paid to local governments on the housing units that they owned. We have used the data on mean self-reported property tax payments and home ownership rates in each educational group of householders to estimate the expected mean annual property tax payments.[21] These mean expected property tax payments were than added to the federal income, state income, and Social Security payroll, federal retirement, and state sales tax payments to

[20] See: Barry Bluestone and Chase Billingham, " The State's Global Local paradox," The Boston Globe, October 12, 2007, p. A.

[21] The estimated property tax payments of households are assigned to the household record rather than to individual members of the household. We have assigned the entire property tax payment to the householder. All other household members are assigned a property tax payment of zero.

estimate the combined, annual tax payments of non-elderly adults, both overall and in each of our five educational groups.

D. Data Sources and Calculations Underlying the Fiscal Impact Estimates Appearing in this Research Report

The fiscal impact estimates for U.S. adults in selected educational subgroups appearing in this report are based upon several different data sources and a massive series of data calculations by the U.S. Census Bureau and the Center for Labor Market Studies of Northeastern University. The primary source of data for most of the tax and income/in-kind transfer estimates is the Annual Social and Economic Supplement to the March Current Population Survey.[22] The Current Population Survey (CPS) is a monthly household survey conducted by the U.S. Census Bureau for the Bureau of Labor Statistics.[23] 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 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 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.[24]

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

[22] 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.
[23] See: U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, January 2006, Washington, D.C., 2006.
[24] 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.

government retirement contributions, and their state and federal income tax liability.[25] For each sample individual ages 16-64 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.[26]
- 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

Table 3:
A Listing of the Income, Payroll, and Property Tax Payments Representing Benefits to the Federal Government and State and Local Governments

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

The March CPS supplement also collected 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), Social Security Disability payments, general relief, and veteran's payments. The combined annual incomes from each of these cash income transfer programs was calculated for each respondent (Table 4). The March CPS questionnaire also 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)

[25] 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.
[26] 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.

Medicaid/Medicare health insurance, energy assistance and rental subsidies.[27] 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.[28] 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.

Table 4:
A Listing of the Cash and Non-Cash Transfers Received by Individuals or Households

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

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 2005 ACS survey and sales tax tables for states published annually by the U.S. Department of Treasury's Internal Revenue Service (IRS).[29] 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

[27] 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 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.
[28] Medicaid/Medicare expenditures are assigned to an individual household member.
[29] U.S. Department of Treasury, Internal Revenue Service, "State and Local General Sales Taxes", Publication 600, 2005, www.irs.gov.

income and the number of exemptions. Sales tax rates vary by state.[30] 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 16-64 years old with a positive income. For each person in each state 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. We calculated these sales tax payments separately for each of the 45 states that had a state sales tax in 2005.

The U.S. Census Bureau also does not provide estimates of the annual property taxes paid by households that own their homes. These data are not collected as part of the March CPS supplement on earnings and incomes. We have utilized findings from the 2005 American Community Surveys (ACS) on home ownership rates of households and their annual property tax payments to compute their expected annual property tax payments.[31] 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 ACS survey.

E. Estimating Federal and State Income and Social Security Payroll Taxes Paid by Individuals During 2004-2005

Our tax payment estimates for individuals during 2004 and 2005 include federal and state income taxes, social security payroll taxes including the Medicare tax, federal government retirement contributions as well as state sales taxes and local property taxes. The U.S. Census Bureau imputes estimates of the federal and state income tax payments for each non-married individual and assigns these payments to their personal record. For married couple families, however, the U.S. Census Bureau assumes that they file a joint tax return. Their estimate of the federal and state income tax liability of these married couples is assigned entirely to the head of these married couple families.[32] A "zero value" is assigned to the federal and state income tax payments of the spouse. We have developed a methodology for computing the husband and wife's share of their joint federal and state income tax liability and calculated their respective,

[30] Alaska, Delaware, New Hampshire, Montana, and Oregon did not have a state sales tax in 2005.
[31] 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. Not all homeowners paid a property tax. Overall, 3.5 percent of the households.
[32] In a married couple family, the householder can be either the husband or the wife.

annual levels of federal and state income tax payments. A detailed description of this methodology is presented in Appendix A.

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 employee's contribution to the Social Security payroll tax is included in this estimate. Covered employers also pay an equivalent amount of Social Security payroll taxes to the federal government. Findings of labor market research on the incidence of the payroll tax on employers suggest that it is ultimately shifted back to the employee in the form of lower wages.[33] Thus, we have multiplied the Social Security payroll tax of the individual by two to adjust for the shifting of the employer's Social Security tax contribution back onto the employee.

F. Annual Tax Payments (2004-2005) of U.S. Adults by Educational Attainment

Information on six types of federal, state, and local taxes paid by adults (16-64) during 2004 and/or 2005 were available.[34] The likelihood that an adult would pay a given tax during any year is a function of their employment status, annual earnings, and other money incomes. Given the greater likelihood of employment and the higher earnings of more educated adults, one would expect the incidence of tax payments to rise with the level of schooling of these adults. Findings Table 5 and Charts 4 and 5 provide strong empirical support for such an expectation.

[33] See: Daniel S. Hamermesh, Labor Demand, Princeton University Press, Princeton, 1993.
[34] The estimates of annual sales taxes and property taxes pertain to only calendar year 2005. The estimates of federal and state income taxes, Social Security payroll taxes, and federal government retirement contributions are two year simple averages for 2004 and 2005.

Table 5:
Percent of 16-64 Year Old Adults[1] in the U.S. Who Paid Various Types of Federal, State, and Local Taxes During 2005 by Educational Attainment and Type of Tax

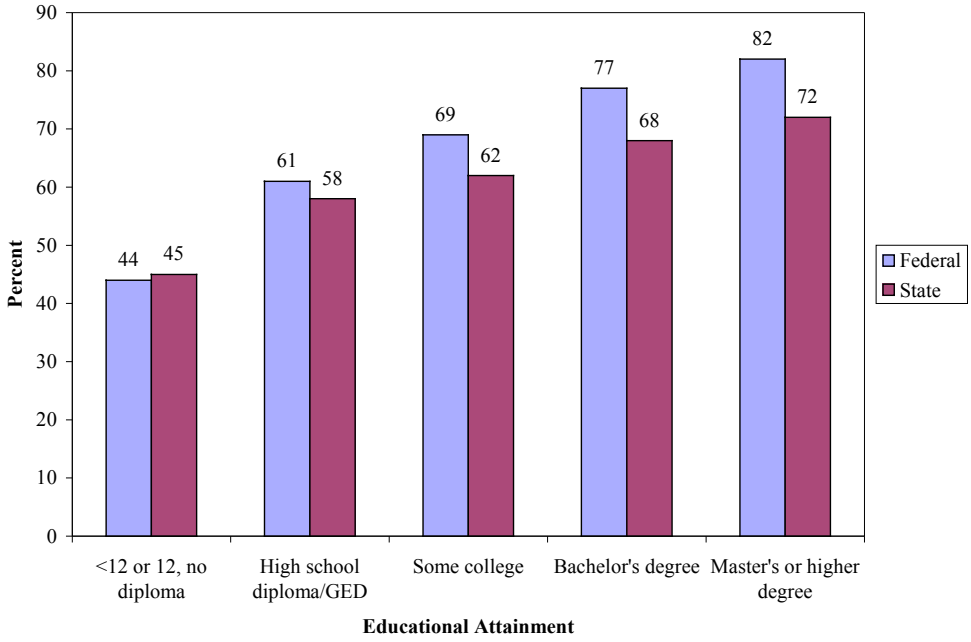
Type of Tax Paid	(A) All	(B) <12 or 12 no Diploma	(C) H.S. Diploma/GED	(D) 13-15 Years	(E) BA	(F) MA or Higher
Federal Income Tax	65.8	44.2	61.1	68.7	76.8	81.5
State Income Tax	60.7	45.0	58.4	62.4	67.8	72.0
Social Security Payroll Tax	76.5	62.0	75.1	79.9	81.9	81.4
Federal Government Retirement Contributions	3.0	.7	2.0	2.9	4.3	7.5
Local Property Taxes [2]	61.8	42.1	58.0	62.0	70.9	77.0

Notes: (1) These persons 16-24 who were enrolled in school in March 2005 and March 2006 were excluded from the analysis of tax payments.

(2) 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.

During calendar year 2005, nearly 66 of every 100 U.S. adults paid some federal income tax (Table 5 and Chart 5). The fraction of adults paying some federal income tax rose steadily and strongly with their level of schooling. Only 44 percent of adults lacking a high school diploma/GED paid any federal income tax during 2005 versus 61 percent of high school graduates, nearly 77 percent of adults with a Bachelor's degree and close to 82 percent of those with a Master's or higher degree. Very similar patterns prevailed for the incidence of state income tax payments. Overall, just under 61 percent of 16-64 year old adults paid some state income tax. The fraction of adults doing so ranged from a low of 45 percent among adults lacking a regular high school diploma/GED to a high of 72 percent among adults with a Master's or higher degree (Chart 4).

Chart 5:
Percent of 16-64 Year Old U.S. Adults Who Paid Any Federal or State Income Taxes During 2005 by Educational Attainment

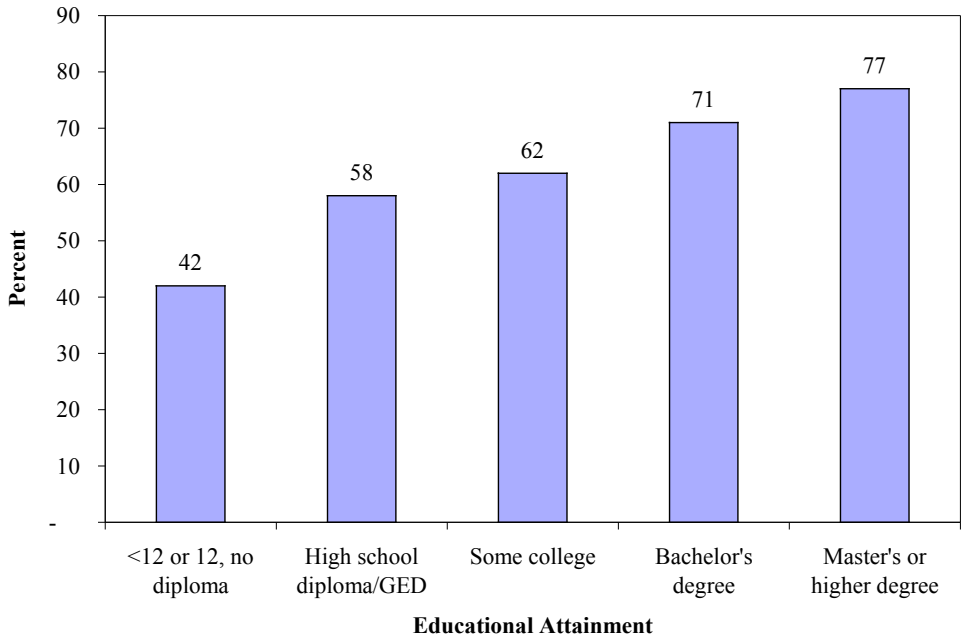


Given the fact that Social Security payroll taxes start being paid from the first dollar of earnings in jobs subject to the FICA tax, the highest overall incidence of tax payments is for the Social Security payroll tax. Nearly 77 of every 100 adults paid some Social Security payroll taxes during 2005. The percent of adults paying such taxes ranged from a low of 62 percent among those lacking a high school diploma or a GED certificate to highs of 80 to 82 percent among adults completing some post-secondary schooling. Only 3 percent of 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. Adults with a Master's or higher degree were almost eleven times more likely to contribute to the federal governments' retirement plan than their peers lacking high school diplomas.

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. As noted earlier, better educated householders are more likely to own their housing units and they are somewhat more likely to report paying some positive

property taxes on their units.[35] Nearly 62 percent of all householders (16-64 years old) reported to have paid some property taxes on the housing units they occupied in 2005. The share of householders doing so rose steadily with their level of educational attainment, ranging from a low of 42 percent among those lacking a high school diploma or GED to 58 percent among high school graduates and to a high of 77 percent for those with a Master's or more advanced degree (Chart 6).

Chart 6:
Percent of 16-64 Year Old U.S. Householders Who Paid Property Taxes on Owned Homes During 2005 by Educational Attainment



Not only are better educated adults more likely to pay each of the five types of federal, state, and local taxes, but they pay a substantially higher amount of such taxes each year (Table 6). This is especially true for differences in federal and state income taxes where adults with a Master's or higher degree pay seven to eight times as much in taxes annually as their counterparts who lack a high school diploma/GED certificate. Relative differences between these two groups in the annual amount of Social Security payroll taxes and property taxes are in the three to four times range, also representing considerable differences.

[35] Only 91 percent of those householders without a diploma who owned their home reported a property tax payment in 2005 versus nearly 99 percent of those with a Master's or higher degree.

Table 6:
Estimates of Annual Tax Payments of U.S. Adults 16-64 Years Old by Type of Tax Paid and Educational Attainment, United States (2004-2005, Averages in Dollars)

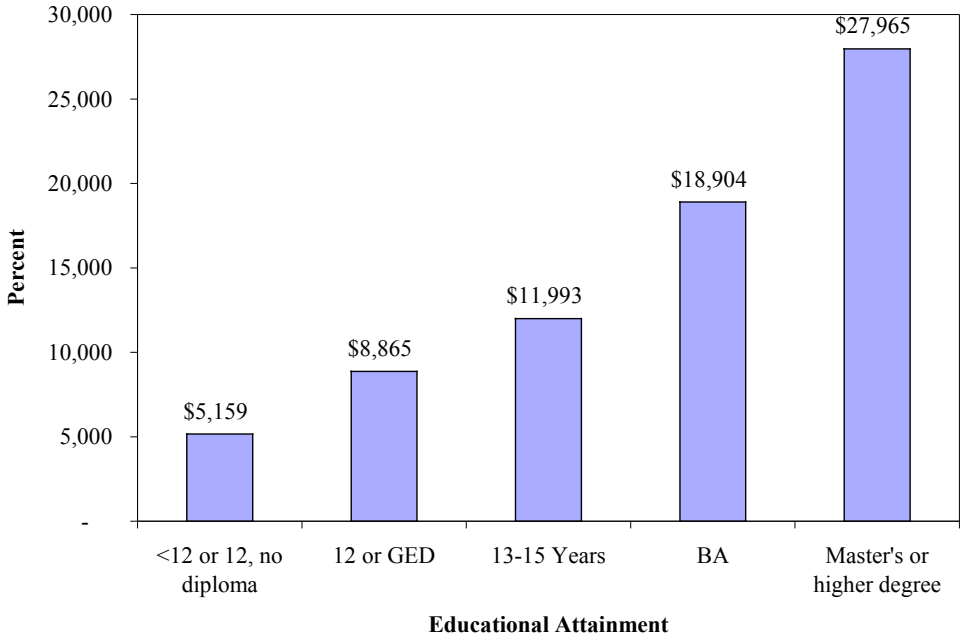
Type of Tax/Transfer	All	<12 or 12, No H.S. Diploma	HS Graduate or GED	1-3 Years of College	Bachelor or Degree	Master's or Higher
Federal Income Tax Payments	$4,780	$1,419	$2,849	$4,249	$7,472	$12,396
State Income Tax Payments	1,336	451	893	1,225	1,991	3,141
Social Security Payroll Taxes	4,597	2,099	3,549	4,514	6,388	8,438
Federal Government Retirement Contributions	99	11	49	85	151	336
Sales Taxes	382	262	318	379	482	602
Expected Property Tax Payments	1,643	917	1,207	1,541	2,420	3,053
Total Tax Payments	12,837	5,159	8,865	11,993	18,904	27,965
Non-Cash Transfers	1,121	2,781	1,371	851	338	240
Cash Transfers	1,407	2,062	1,596	1,406	857	926
Annual Average Institutionalization Costs	347	987	434	202	46	26
Total of Transfers Received/Inst. Costs	2,875	5,830	3,401	2,460	1,240	1,192
Taxes-Transfers and Institutionalization	**9,962**	**-671**	**5,464**	**9,533**	**17,664**	**26,774**
Taxes/Transfer, and Institutionalization Ratio	4.466	0.885	2.606	4.876	15.246	23.469

Source: (i) 2005 and 2006 Annual Social and Economic (ASEC) Supplement, March Current Population Survey (CPS) conducted by the U.S. Census Bureau for the U.S. Department of Labor, public use files, tabulations by authors; (ii) 2006 American Community Survey (ACS), U.S. Census Bureau, public use files, tabulations by authors; (iii) Bureau of Justice Statistics Special Report, U.S. Department of Justice; (iv) Sales tax exemption tables for 2005 produced by the Internal Revenue Service (IRS), tabulations by the authors.

During the 2004-2005 period, the mean annual taxes paid by all 16-64 year old adults in the six tax categories combined was $12,837 (Table 6). The mean annual amounts of these taxes varied considerably across the five educational subgroups of adults (Table 6 and Chart 7). The mean values of these tax payments ranged from a low of $5,159 among those adults lacking a high school diploma/GED, to $8,865 among high school graduates/GED holders with no completed years of post-secondary schooling, to $18,904 for bachelor degree recipients, and to a high of just under $28,000 for those adults with a Master's or higher degree (Chart 6). High

school graduates paid 72% more than high school dropouts in taxes, bachelor degree holders paid 113% more than high school graduates, and Master's and higher degree holders paid nearly 50% 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 more than 5 times higher than those of their peers who lacked a high school diploma and a GED certificate.[36]

Chart 7:
Mean Annual Tax Payments of 16-64 Year Old Adults in the U.S. by Educational Attainment, 2004-2005 Averages
(in $)



G. Receipt of Various Cash and In-Kind Government Transfers by U.S. Adults by Educational Attainment

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 the receipt of such benefits. Table 7 presents findings on the estimated percent of the nation's

[36] 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.

16-64 year olds who received various types of cash and in-kind benefits in 2005. These in-kind transfer payments include Medicare/Medicaid health insurance benefits, food stamps, rental subsidies in both public and private housing, and energy assistance.[37] 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 nation's 16-64 year olds who obtained various cash and non-cash income transfers varied fairly widely by their level of educational attainment in 2005.

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

Type of Cash or In-Kind Transfer	All	<12 or 12, No HS Diploma	HS Diploma/ GED	1-3 Years of College	Bachelor Degree	Master's or Higher
Unemployment Compensation	0.8	1.0	1.0	1.0	0.4	0.4
Social Security Retirement Payments(1)	5.5	9.2	6.9	5.1	2.7	2.7
TANF/AFDC	1.0	2.7	1.2	0.9	0.2	0.1
Veterans Payments	0.8	0.4	0.8	1.3	0.6	0.7
Survivor's Income	0.5	0.4	0.5	0.6	0.5	0.7
Disability Income	0.9	1.1	1.1	1.0	0.5	0.6
Earned Income Tax Credit	9.9	18.3	11.8	10.2	4.2	2.2
Supplemental Security Income	2.2	6.3	2.8	1.3	0.5	0.4
Medicaid/Medicare	9.5	22.4	11.6	7.8	3.1	2.1
Food Stamps(2)	7.2	20.5	9.3	6.2	1.3	0.7
Energy Assistance(2)	2.3	5.4	3.1	2.1	0.6	0.4
Rental Subsidy(2)	3.9	10.2	5.0	3.4	1.0	0.4

Source: (i) 2006 Annual Social and Economic (ASEC) Supplement, Current Population Survey (CPS), Conducted by the U.S. Census Bureau for U.S. Bureau of Labor Statistics, public use files, tabulations by authors. (ii) 2006 American Community Survey (ACS), U.S. Census Bureau, public use files, tabulations by authors.
Note: (1) Some respondents receiving Social Security survivor benefits and Social Security Disability Income (SSDI) may have mistakenly reported income as Social Security Retirement. (2) Estimates are for head of households only.

[37] 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.

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 9 percent of 16-64 year olds without a high school diploma reported that they had collected some form of Social Security payments while only 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 Social Security payments from the federal government.[38] (Chart 8). Adult high school dropouts also were far more likely than their more educated peers to receive TANF, Supplemental Security Income, Social Security disability benefits, and federal earned income tax credits (Chart 7). More than 22 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 3% of those adults with college degrees were dependent on Medicare/Medicaid programs for their health insurance (Chart 9). One-fifth of those household heads 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 more dependent on government to finance part of their rental housing costs. More than 10 percent of household heads without a high school diploma obtained a rental subsidy of some type in 2005 versus only 1 percent of adults with a Bachelor's or higher degree.

[38] Adults are not allowed to collect Social Security retirement benefits until they reach age 62. Some of the respondents citing the receipt of Social Security benefits may have been receiving Social Security Survivor benefits or Social Security disability benefits.

Chart 8:
Percent of 16-64 Year Old U.S. Adults Receiving Social Security Benefits or Federal Earned Income Tax Credits by Educational Attainment, 2005

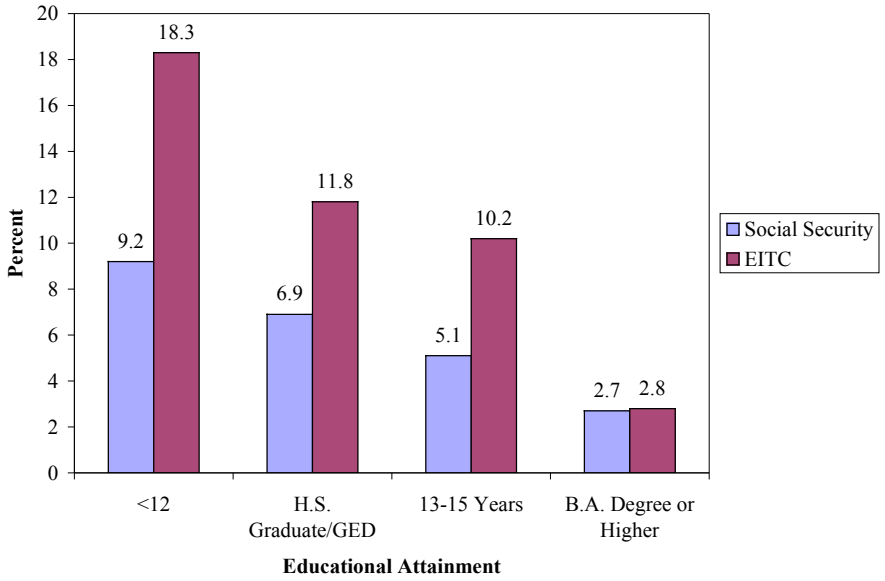
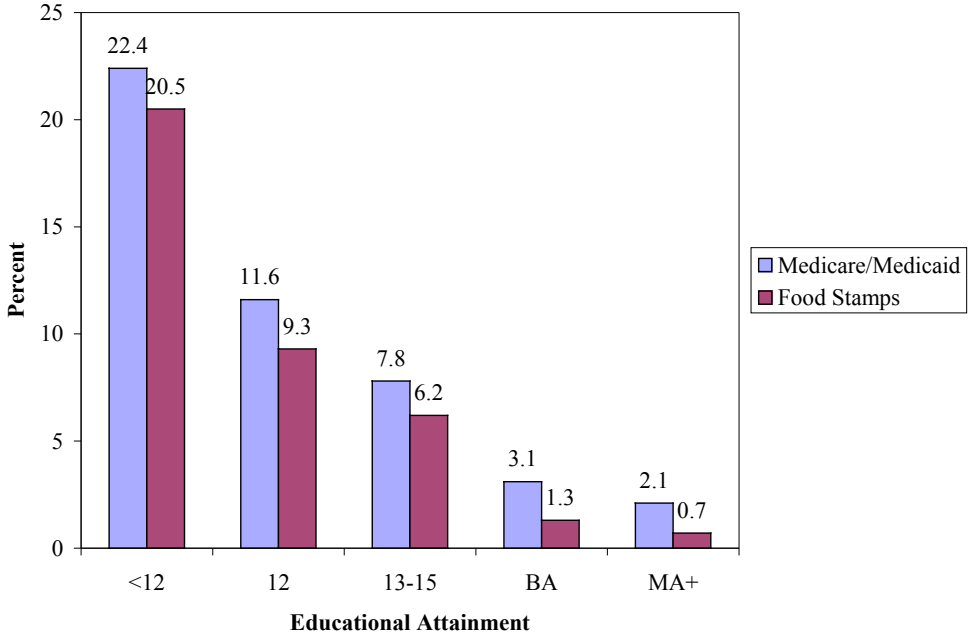


Chart 9:
Percent of 16-64 Year Old U.S. Adults Receiving Medicare/ Medicaid Benefits or Food Stamps by Educational Attainment, 2005



The estimated mean annual amount of the cash and in-kind transfers received by 16-64 year old adults in each of our five educational groups over the 2004-2005 period are displayed in Table 8. For the entire 16-64 year old population (excluding these 16-24 year olds who were enrolled in school at the time of the March CPS surveys), the mean combined annual amount of the cash and in-kind benefits was $2,528 of which $1,407 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 $4,843 for those adults lacking a high school diploma/GED certificate, to slightly under $3,000 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 four times as high as those of their peers with a four year or higher degree during calendar years 2004 and 2005.

Table 8:
Estimates of the Mean Annual Value of the Cash and In-Kind Transfer Payments Received by U.S. Adults 16-64 Years Old by Educational Attainment
(2004-2005 Averages in Dollars)

Cash/In-Kind Benefits	(A) Less than 12 or 12, no diploma/ GED	(B) High School Diploma/GED	(C) 13-15 Years	(D) BA Degree	(E) Master's or Higher Degree	(F) All
Cash income benefits	$2,062	$1,596	$1,406	$857	$926	$1,407
In-Kind benefits	2,781	1,371	851	338	240	1,121
Total transfer payments	$4,843	$2,967	$2,257	$1,195	$1,166	$2,528

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

H. Incidence and Costs of Institutionalization of the Nation's 16-60 Year Olds

During the past three decades, the number of adults who are 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.[39] If we include inmates of local jails as well, there were nearly 2.2 million individuals residing in jails or prisons in 2004.[40]

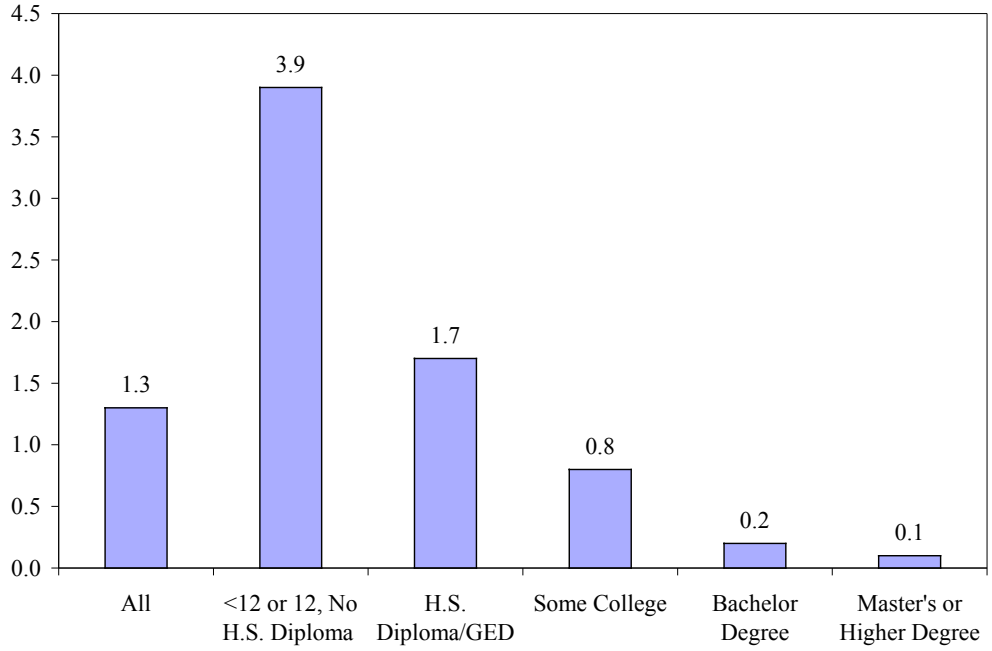
Incarceration and some other institutionalization rates tend to be considerably higher among less educated and less literate adults.[41] Thus, the per capita fiscal costs of institutionalization will be higher for adults with more limited formal schooling and literacy/ numeracy proficiencies. To estimate rates of institutionalization among the non-elderly adult population of the nation in 2006, we analyzed the findings of the 2006 American Community Survey, 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. A substantial majority (over 70 percent) of the institutionalized population under the age of 60 were inmates of correctional facilities. The public use files from the 2006 ACS survey were used to estimate the incidence of institutionalization problems among the non-school enrolled population of 16-60 year olds in the aggregate, by educational group variety, and for selected age/gender/educational subgroups.

Chart 10 displays the institutionalization rates of 16-60 year old adults in the U.S. during calendar year 2006. Overall, 1.3 percent of the adults in this age category or nearly 2.4 million were institutionalized during 2006. Institutionalization rates of these adults varied widely by their level of educational attainment, ranging from a high of nearly 4 percent among those adults without a high school diploma or GED, to under 2 percent among adults with a high school

[39] See: Devah Pager, Marked: Race, Crime, and Finding Work in an Era of Mass Incarceration, University of Chicago Press, Chicago, 2007.
[40] See: Paige M. Harrison and Allen J. Beck, Prison and Jail Inmates at Mid Year 2005, U.S. Department Justice, Bureau of Justice Statistics, Washington, D.C., 2006.
[41] 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.

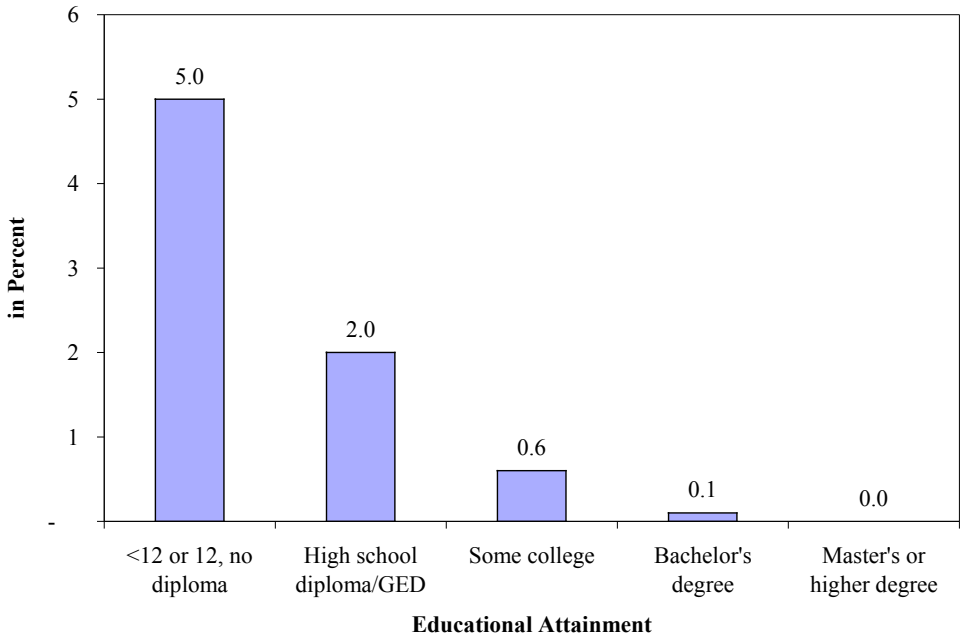
diploma or GED, to lows to 0.1% to 0.2% among those adults with a Bachelor's, Master's, or higher academic degree.

Chart 10:
Institutionalization Rates of 16-60 Year Olds Adults by Educational Attainment Level, U.S., 2006
(Rates Per 100 Members of the Population)



The institutionalization rates of adults also varied by age group, with younger adults being more likely to be institutionalized. Among 18-34 year olds, 1.6% of the population were inmates of institutions (primarily jails and prisons) versus only 1.1% 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 5.0% for those young adults who lacked a high school diploma/GED certificate (Chart 11).

Chart 11:
Institutionalization Rates of 18-34 Year Olds in the U.S. by Educational Attainment, 2006
(in %)



Young males dominated the ranks of the institutionalized population of 18-34 year olds, reflecting the much higher incarceration rates of these young men. The institutionalization rate among young male adults (2.8%) was nearly 10 times higher than that among their female counterparts (.3%) in 2006. Approximately 8% of young adult males with no high school diploma and over 3% of males with only a high school diploma were institutionalized versus only 2 of every 1000 males with a Bachelor's degree and only 1 of every 1000 males with a Master's or higher degree. The high and rising incarceration rates of young males, especially African-Americans and Whites with no diplomas, are strongly associated with the steep deterioration in their labor market prospects, especially the sharp drop in their annual earnings, over the past three decades.[42]

[42] For a comprehensive review of the declining economic fortunes of young men with no post-secondary school over the past few decades,
See: Andrew Sum, Tim Barnicle, Ishwar Khatiwada, et al., Educational and Labor Market Outcomes for the Nation's Teens and Young Adults Since the Publication of America's Choice, Report Prepared for the New Commission on the Skills of the American Workforce, Washington, D.C., 2006.

Table 9:
Institutionalization Rates of 18-34 Year Olds in the U.S by Gender and Educational Attainment, 2006
(in %)

Educational Attainment	(A) Men	(B) Women
All	2.8	.3
<12 or 12, no diploma	7.6	1.2
High school diploma/GED	3.2	.4
13-15 years	1.1	.2
Bachelor's degree	.2	.0
Master's or higher degree	.1	.0

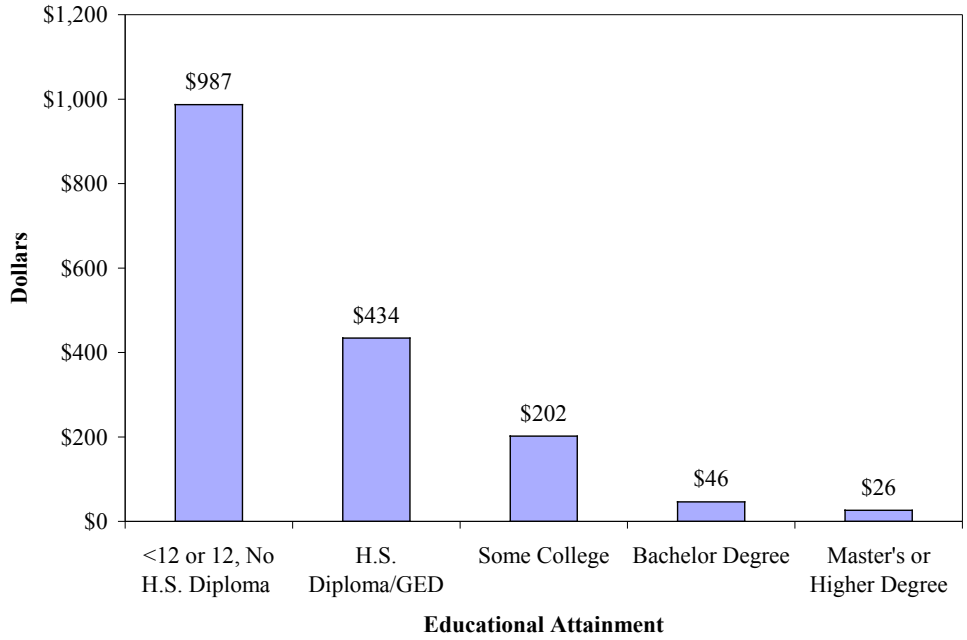
As noted above, the 2006 American Community Survey did not identify the specific type of institution in which each adult resided at the time of the survey; thus, we cannot exactly estimate how many adults in each educational attainment group were in each type of institution or how large the annual fiscal 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 national average cost data on the annual expenditures per inmate of state prisons to the entire institutionalized population 16-64 years old. These expenditure data include both operating expenditures and current capital expenditures on state prisons as of 2001. The 2001 expenditure data per state prison inmate were extrapolated to 2006 by applying the change in the national Consumer Price Index for All Urban Consumers (CPI-U) from 2001-2006 to the 2001 per inmate expenditure data for state prisoners. The fiscal costs of housing the adult institutionalized population throughout the nation were aggregated by educational level to estimate the national costs of institutionalizing the 16-64 year old population in each educational group.[43] We then divided these costs of institutionalization for

[43] 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.

each educational group by the number of 16-64 year old persons in the entire population and 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 American Community Survey 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 the entire nation in 2001was $22,650. Adjusting this per inmate cost for inflation between 2001 and 2006, a per inmate cost of $25,783 in 2006 was derived. By multiplying the institutionalization rate for each educational group of adults from the 2006 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 nation approximately $987 in expenditures related to institutionalization per year (Chart 12). The mean annual costs of institutionalization for adults without a high school diploma was more than 2 times as high as that of high school graduates without any post-secondary schooling and 21 times higher than that of adults with four-year college degrees.

Chart 12:
Mean Annual Costs of Maintaining 16-64 Year Old U.S. Adults in Institutions by Educational Attainment, 2006
(in Dollars)



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 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.[44]

[44] 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.

I. Mean Annual Net Fiscal Contributions of 16-64 Year Old Adults by Educational Attainment

The findings on the mean annual tax payments of U.S. adults and the mean values of their cash and in-kind transfers and their institutionalization costs can be combined to estimate their mean annual net fiscal contribution to the federal, state, and local governments. In Table 10, we present estimates of the mean annual tax payments of all 16-64 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.

Table 10:
The Mean Annual Net Fiscal Contributions of 16-64 Year Old U.S. Adults[(1)] by Educational Attainment, 2004-4005 Averages[(2)]
(in Dollars)

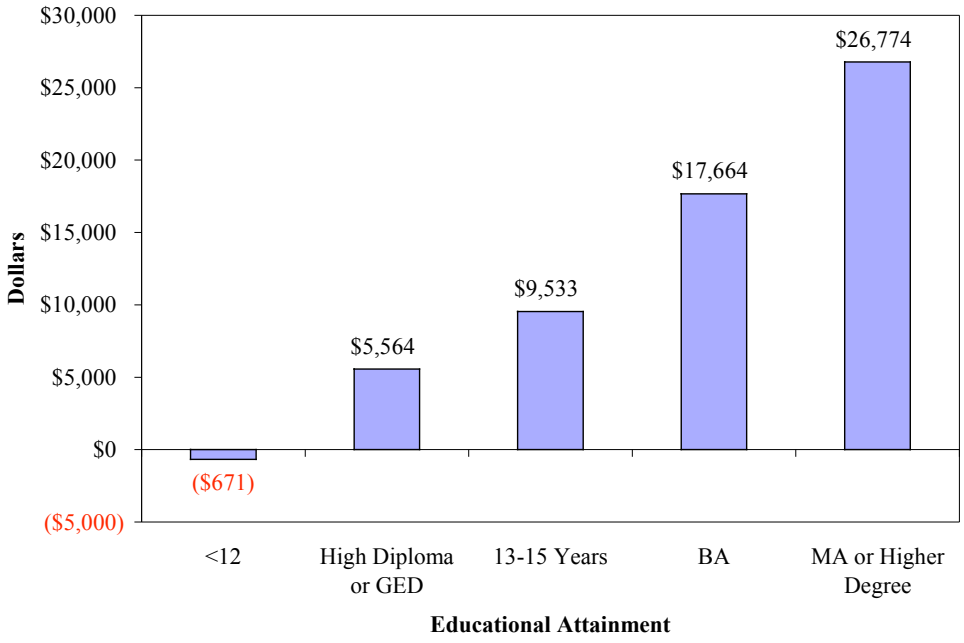
Fiscal Variable	(A) All	(B) <12 or 12 no Diploma or GED	(C) High School Graduate/GED Holder	(D) 13-15 Years	(E) BA Degree	(F) Master's or Higher Degree
Mean Annual Tax Payments	$12,837	$5,159	$8,865	$11,993	$18,904	$27,965
Mean Annual Cash and In-Kind Transfers and Institutionalization Costs	$2,875	$5,830	$3,401	$2,460	$1,240	$1,192
Annual Mean Net Fiscal Contribution	$9,962	-$671	$5,464	$9,553	$17,664	$26,773

Notes: (1) Persons 16-24 years old who were enrolled in school at the time of the March 2005 and March 2006 CPS surveys were excluded from the fiscal impact analyses.
(2) Our estimates of property tax payments are based only on the findings of the 2005 American Community Surveys.

On average, over the 2004-2005 period, the mean annual tax payments of all 16-64 year old adults were $12,837 while the mean value of their cash and in-kind transfers and their institutionalization costs was equal to $2,875. This yielded a net mean annual fiscal contribution of $9,962. The mean annual values of these net fiscal contributions varied markedly by the educational attainment of adults (Table 10 and Chart 13). Among those adults lacking a high school diploma/GED certificate, the mean net fiscal contribution was a negative $671, i.e, they

collected more in cash and in-kind transfers and imposed more in institutionalization costs than they paid in federal/state/and local taxes. Adults in each of the other four educational subgroups were characterized by positive net fiscal contributions. However, the mean annual values of these net fiscal contributions varied widely across these four educational subgroups, ranging from a low of $5,464 for high school graduates to $17,664 for BA holders to a high of $26,773 for adults with a Master's or higher degree (Chart 12). High school graduates with no post-secondary schooling contributed $6,235 more per year to the fiscal positions of federal, state, and local governments than their peers with no high school diploma/GED, and bachelor degree holders contributed $12,200 more per year than high school graduates.

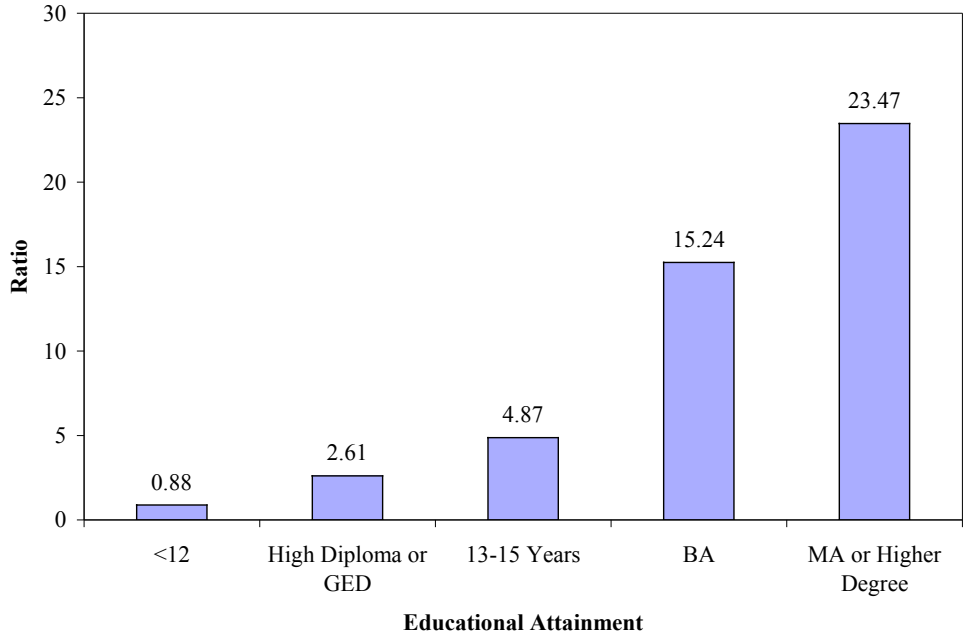
Chart 13:
The Mean Net Annual Fiscal Contributions of 16-64 Year Olds in the U.S. by Educational Attainment, Annual Averages, 2004-2005
(in $)



It should be noted that the above estimates of 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 Chart 14, we display the

values of these fiscal contribution ratios for adults in each of our five educational subgroups. The values of these ratios rise continuously and substantially with their level of schooling. Among adults without high school diplomas, the ratio was only .88, but it rose to 2.61 for high school graduates, to 4.87 for adults with 1-3 years of college, and to a high of 23.4 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 27 times higher than that of their peers who lacked a regular high school diploma or a GED certificate.

Chart 14:
The Ratios of the Mean Annual Tax Payments to the Combined Value of Cash and In-Kind Transfers and Institutionalization Costs of 16-64 Year Old Adults in the U.S. by Educational Attainment

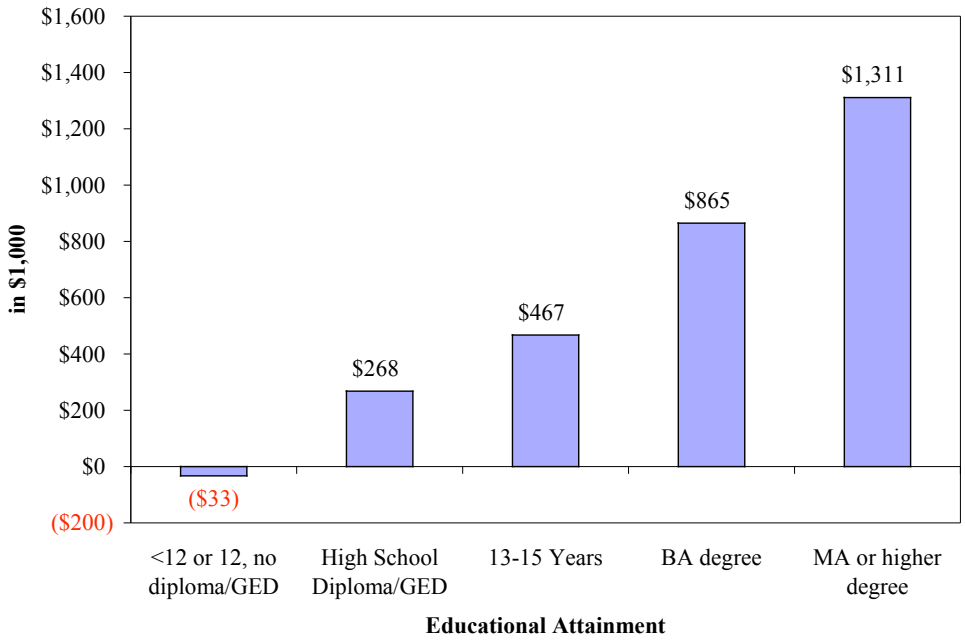


J. Mean Lifetime Net Fiscal Contributions of U.S. Adults by Educational Attainment

The estimates of the mean annual net fiscal contributions of 16-64 year old adults in each educational attainment group can be converted into mean work life estimates by multiplying them by 49, the number of years over the 16-64 age range. Over this 49 year time period, given continuity of the results that prevailed in 2004-2005, the average high school dropout would produce a net fiscal burden of $33,000 while the average high school graduate would generate

$267,736 more in taxes than he/she would impose in transfer costs and institutionalization costs (Chart 15). The lifetime, net fiscal contributions of adults rose steadily and strongly with their years of post-secondary schooling, increasing to $467,000 for those completing one to three years of post-secondary schooling, $865,536 for those obtaining a Bachelor's degree, and to a high of slightly over $1.3 million for those with a Master's or higher degree.

Chart 15:
Mean Lifetime Net Fiscal Contributions of U.S. Adults from Ages 16-64 by Educational Attainment, 2004-2005 Averages
(in $1,000 of Dollars)



The estimated gaps between the lifetime fiscal contributions of adults without a high school diploma and better educated adults increased steadily and substantially with their level of educational attainment (Table 11). Over the working-age lifetime (16-64 years of age), the gap between the net fiscal contributions of high school graduates and those adults without a high school diploma would be equal to $301,000 while the gap between high school graduates and bachelor degree holders would be $597,000. Those adults earning a Bachelor's degree would contribute nearly $900,000 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 11:
Differences Between the Estimated Mean Lifetime Net Fiscal Contributions of U.S. Adults in Selected Educational Groups

Groups Being Compared	Amount (in $1000)
High school graduate vs. dropout	$301
13-15 years vs. high school graduate	$199
B.A. degree vs. high school graduate	$598
B.A. degree vs. high school dropout	$898

K. Net Fiscal Contributions of Adult Men and Women in the U.S. by Educational Attainment

The fiscal impact analyses for 16-64 year old U.S. adults described in the preceding sections were repeated for men and women separately. The March CPS surveys and the American Community Surveys collect information on the gender backgrounds of all sample respondents. In Table 12, we present estimates of the mean annual tax payments, mean annual cash and in-kind transfers, and mean annual institutionalization costs of men and women, both overall and in each of the five educational groups. The mean net annual fiscal contributions of each group also are displayed together with the ratio of mean tax payments to mean transfer and institutionalization costs.

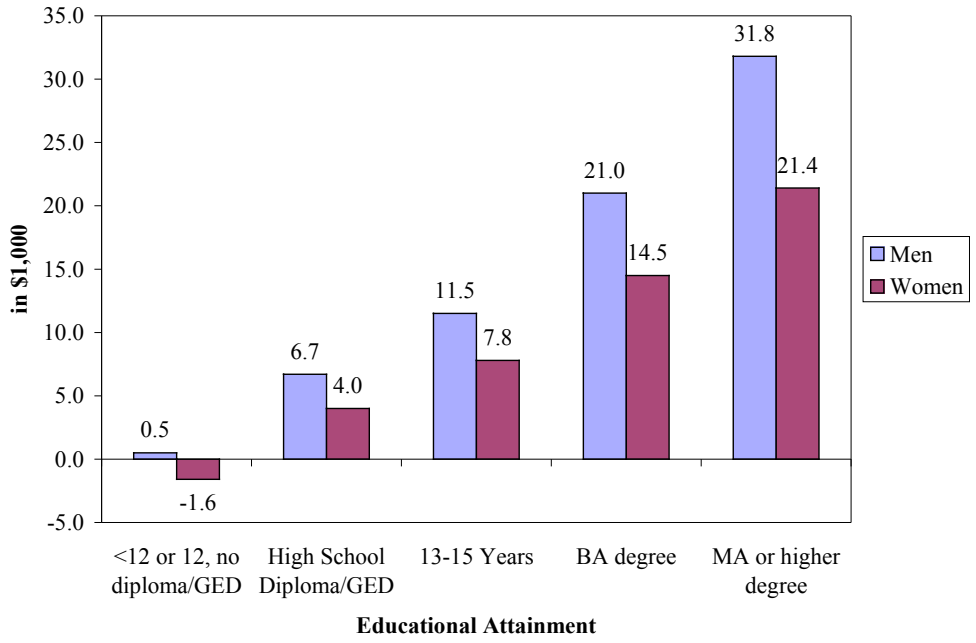
Table 12:
Estimates of the Mean Annual Tax Payments and Cash and In-Kind Transfers and Institutionalization Costs of Male and Female Adults 16-64 Years Old by Educational Attainment, United States. 2004-2005 Averages

Tax Type	(A) All	(B) <12 or 12, No HS Diploma	(C) HS Graduate or GED	(D) 1-3 Years of College	(E) Bachelor Degree	(F) Master's or Higher Degree
Men						
Federal Income Tax Payments	5,314	1,352	3,060	4,630	8,597	14,687
State Income Tax Payments	1,470	453	959	1,337	2,271	3,640
Social Security Payroll Taxes	5,896	2,902	4,602	5,853	8,219	10,609
Federal Government Retirement Contributions	102	12	55	104	150	306
Sales Taxes	441	293	364	439	575	711
Expected Property Tax Payments	1,761	1,035	1,292	1,676	2,543	3,277
Total Tax Payments	14,984	6,047	10,332	14,039	22,355	33,230
Non-Cash Transfers	962	2,247	1,199	669	285	253
Cash Transfers	1,479	2,000	1,667	1,484	929	1,079
Annual Average Institutionalization Costs	556	1,274	703	315	70	40
Total of Transfer Received/Inst. Costs	**2,997**	**5,521**	**3,569**	**2,468**	**1,284**	**1,372**
Taxes-Transfers/Inst. Cost	**11,987**	**526**	**6,763**	**11,571**	**21,071**	**31,858**
Ratio of Taxes/Transfers	5.000	1.095	2.895	5.688	17.410	24.220
Women						
Federal Income Tax Payments	4,256	1,496	2,626	3,924	6,440	10,002
State Income Tax Payments	1,205	470	823	1,130	1,735	2,619
Social Security Payroll Taxes	3,325	1,179	2,439	3,373	4,710	6,169
Federal Government Retirement Contributions	96	10	42	68	153	367
Sales Taxes	322	225	271	324	394	487
Expected Property Tax Payments	1,491	753	1,085	1,392	2,264	2,814
Total Tax Payments	10,695	4,133	7,286	10,211	15,696	22,458
Non-Cash Transfers	1,227	3,393	1,553	1,006	386	227
Cash Transfers	1,335	2,132	1,521	1,340	790	766
Annual Average Institutionalization Cost	92	250	113	56	19	11
Total of Transfer Received/Inst. Costs	**2,654**	**5,775**	**3,187**	**2,402**	**1,195**	**1,004**
Taxes-Transfers/Inst. Cost	8,041	-1,642	4,099	7,809	14,501	21,454
Ratio of Taxes/Transfers	4.030	0.716	2.286	4.251	13.135	22.369

Source: (i). March 2005 and March 2006 Annual Social and Economic (ASEC) Supplement, public use files, Monthly Current Population Survey (CPS) conducted by the U.S. Census Bureau for the U.S. Department of Labor; (ii). 2006 American Community Survey (ACS), U.S. Census Bureau, public use files; (iii). Bureau of Justice Statistics Special Report, U.S. Department of Justice; (iv). Sales tax exemption tables for 2005 produced by the Internal Revenue Service (IRS), tabulations by the authors.

Among both men and women, the net fiscal contributions of adults were strongly associated with their educational attainment (Table 12 and Chart 16). Among males, the mean net fiscal contribution of high school dropouts was only a meager $526 versus a mean of $6,763 among high school graduates, more than $21,000 among Bachelor degree graduates, and nearly $32,000 among males with a Master's or higher degree. The relative size of the difference between the mean net fiscal contributions of the best and least well educated groups of men was an extraordinary 61 times.

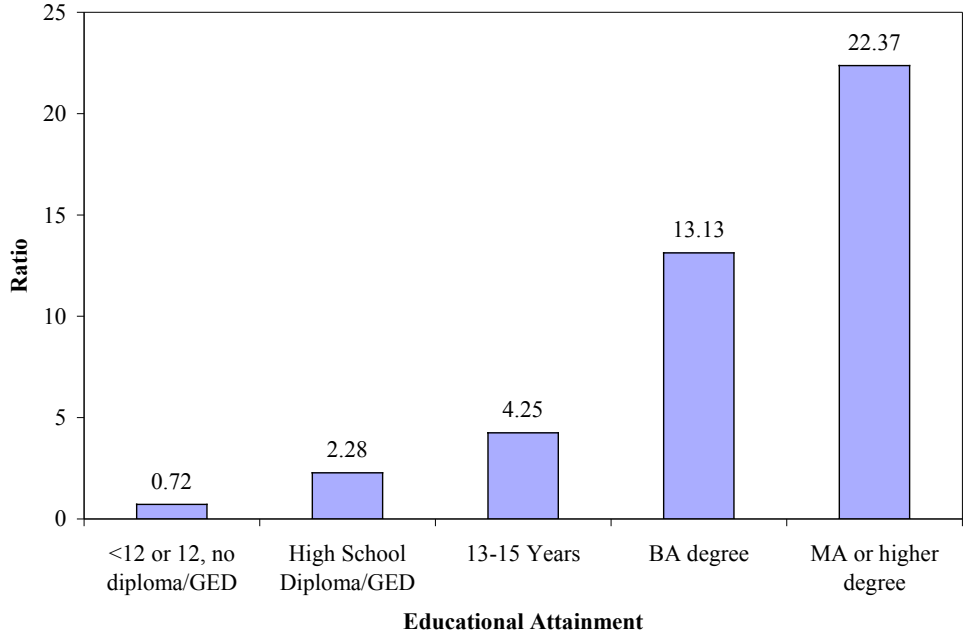
Chart 16:
Comparisons of the Mean Annual Net Fiscal Contributions of Adult Men and Women 16-64 Years Old by Educational Attainment, 2004-2005 Averages
(in $1,000)



Among women, there also were very large differences in mean net fiscal contributions across educational groups. On average, those women who failed to obtain a high school diploma or a GED certificate received more in cash and in-kind transfers than they paid in taxes. Their mean net fiscal contribution was -$1,642. If they graduated from high school or obtained a GED, their mean net fiscal contribution would rise to nearly $4,009 and would surpass $14,501 if they received a Bachelor's degree. The ratios of mean annual tax payments to mean transfer incomes (including institutionalization costs) for women ranged from a low of .72 for those lacking a high

school diploma, to 2.28 for high school graduates, and to a high of 22.4 for women with a Master's or more advanced academic degree (Chart 17).

Chart 17:
Ratios of Mean Annual Tax Payments to Mean Transfer Incomes and Institutionalization Costs Among Women by Educational Attainment, 2004-2005



L. Summary of Key Findings and Their Implications for the Nation's Adult Basic Education System

Increased years of educational attainment and higher literacy/numeracy proficiencies strengthen labor market outcomes for U.S. adults, both overall and across gender, age, and race-ethnic groups. As a consequence of their higher rates of employment and annual earnings as well as their higher marriage rates, higher home ownership rates, and lower rates of institutionalization, adults with more schooling generate more favorable fiscal impacts for federal, state, and local governments. They pay substantially more in income, payroll, sales, and property taxes than their less educated peers and receive less income in the form of cash and in-kind transfers. The mean size of the net fiscal contributions of adults rises steadily and considerably with their level of formal schooling.

By strengthening the literacy/numeracy/writing proficiencies, English-speaking and reading proficiencies, and educational attainment of participants, adult basic education programs

can boost the fiscal position of national, state and local governments. The future fiscal impacts of adult education programs will dependent critically on their success in raising the employability and earnings of participants. Our knowledge base on the effectiveness of ABE programs in raising the wages and earnings of participants is quite limited. Few careful impact evaluations exist at the state or national level. Previous national and state level evaluations of literacy and job training programs suggest that workplace based literacy programs are more effective in raising participants' earnings than school or community-based programs with few ties to local employers.[45] Job training programs for economically disadvantaged adults and welfare recipients that integrate literacy training with occupational skills training appear to be more effective than basic skills training alone.

To improve our knowledge base in this critical area, we would strongly recommend that all future ABE programs do a far better job in documenting the short and long-run, post-program employment and earnings experiences of participants, link labor market outcomes to changes in the literacy/numeracy skills, English-speaking skills, and educational attainment of participants during the course of their participation in these programs, and conduct defensible impact evaluations of various types of ABE programs using carefully selected comparison groups or randomly assigned control groups.

[45] Earlier evaluations of the effectiveness of adult basic education programs in raising the earnings of participants indicate that employer-sponsored programs are significantly more effective than school and community-based programs,
See: Kevin Hollenbeck, Classrooms in the Workplace, W.E. Upjohn Institute for Employment Research, Kalamazoo, 1993; Evaluations of classroom training programs for disadvantaged adults in Massachusetts have found that skills programs combined with basic education yielded the most favorable results,
See: Stephen Raphael, et. al., The Earnings Impacts of JTPA Training Programs for Economically Disadvantaged Adults in Massachusetts, Report Prepared for the Commonwealth Corporation, Boston, 2003.

Appendix A

Estimating the Federal and State Income Tax Payments of Husbands and Wives in Married Couple Families

In computing the annual federal and state income tax payments of adults as an addendum to 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 estimate the federal and state income tax liability for the married couple and assign 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.[46] 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 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 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 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 =

[46] Our definition of a non-elderly family is one whose head is an individual under the age of 65.

$14,000. The remaining $6,000 in federal income tax liability was then assigned to the spouse.[47] The same statistical procedure was used to compute the state income tax payments of the husband and wife.

[47] 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.

Appendix B

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 individuals by using a combination of personal income data from the 2005 ACS survey and sales tax tables for states 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 age 16-64 with a positive income. For each person in each state in our analysis, we assigned a state sales tax payment equal to the IRS sales tax deduction for a person with their annual income in 2005. We calculated these sales tax payments separately for each of the 45 states that had a state sales tax in 2005. Below is a sample table of the allowable sales tax deductions for residents of California in 2005.

Appendix Table B-1:
Optional State Sales Tax Tables, California, 2005

Income		**Exemptions**					
At least	But less than	1	2	3	4	5	Over 5
$0	$20,000	$195	$227	$249	$265	$279	$298
$20,000	$30,000	$346	$401	$438	$467	$491	$524
$30,000	$40,000	$427	$495	$541	$576	$605	$646
$40,000	$50,000	$499	$578	$631	$672	$706	$753
$50,000	$60,000	$565	$655	$715	$761	$799	$852
$60,000	$70,000	$627	$726	$792	$843	$885	$943
$70,000	$80,000	$686	$794	$866	$921	$967	$1,031
$80,000	$90,000	$741	$858	$93	$995	$1,044	$1,113
$90,000	$100,000	$794	$919	$1,002	$1,066	$1,119	$1,192
$100,000	$120,000	$865	$1,000	$1,090	$1,160	$1,217	$1,297
$120,000	$140,000	$964	$1,114	$1,214	$1,291	$1,355	$1,444
$140,000	$160,000	$1,052	$1,215	$1,324	$1,407	$1,447	$1,573
$160,000	$180,000	$1,140	$1,317	$1,434	$1,525	$1,600	$1,704
$180,000	$200,000	$1,221	$1,410	$1,535	$1,632	$1,712	$1,823
$200,000 or More		$1,637	$1,887	$2,053	$2,181	$2,287	$2,435

Source: Internal Revenue Service, "State and Local General Sales Taxes", Publication 600: 2005, www.irs.gov.

Appendix C

Methodologies for Estimating Mean/Median Property Tax Payments and Housing Values of Households in the 2005 ACS Survey

The 2005 American Community Survey (ACS) collected data on the characteristics of the homes occupied by responding households, including ownership status, the home price, 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 form 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 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:

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

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

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

f_j = frequency of the observations in the j^{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 D

Two-Year Average Sample Sizes for the 13 States Included in Our Fiscal Impact Analysis

The March CPS survey of the U.S. Census Bureau collects employment, income, and earnings data from a nationally representative sample of approximately 57,000 households.[48] The employment, income, and earnings data for the prior calendar year are collected for all household members 16 and older at the time of the March survey. In our fiscal impact analyses, we have confined our observations to those individuals who were 16-64 years old at the time of the March CPS survey. Sample sizes for adults vary quite considerably across states. The two-year average number of persons 16-64 who were interviewed as part of the March CPS survey in the 13 states with the largest number of sample observations are displayed in Table D-1 below. For the entire nation, there were slightly more than 133,000 persons 16-64 years old for whom data on incomes, earnings, and tax liability were collected on average over the 2005-2006 period. For the two year period combined, this yields a national sample of approximately 266,000 respondents. The two-year average number of sample cases in the specified age group ranged from highs of nearly 12,000 in California and 7,000 in Texas to lows of 2,700-2,800 in the states of Virginia and Colorado. We have generated fiscal impact estimates for 16-64 year olds in each of five educational subgroups for each of these 13 states.

[48] The weights for sample households vary both across states and across age and race-ethnic groups. All of the fiscal impact analyses are based on weighted data.

Appendix Table D-1:
Number of 16-64 Year Old Adults in the March CPS Supplement in the Thirteen States Included in the Study, 2005-2006 Averages

Rank	State	Annual Average Number of Adults in Sample
1	California	11,915
2	Texas	6,993
3	New York	5,905
4	Florida	5,537
5	Illinois	4,274
6	Pennsylvania	4,019
7	Ohio	3,721
8	Michigan	3,450
9	New Jersey	2,979
10	Minnesota	2,910
11	Maryland	2,815
12	Colorado	2,780
13	Virginia	2,739
	U.S. Total	133,138

Appendix E

Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment in 13 States

The net fiscal contribution of 16-64 year old U.S. adults by educational attainment level for the 2004-2005 period have been described and analyzed in this research report for the National Commission on Adult Literacy. Similar fiscal analyses for 16-64 year old adults were also conducted for 13 individual states whose two-year March CPS Supplement (2005 and 2006) average sample size of adults exceeded 2,500. The names of these 13 states are listed below. Tables 1 through 13 provide estimates of annual net fiscal contributions of adults by educational attainment level for each of these 13 states. These fiscal impact estimates pertain to all adults 16-64 years old. Findings for the 13 states were not broken out for men and women separately due to smaller sample sizes.

Thirteen States For Which Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment Level Were Conducted

State
California
Texas
New York
Florida
Illinois
Pennsylvania
Ohio
Michigan
New Jersey
Minnesota
Maryland
Colorado
Virginia
U.S. Total

The following analysis of the data in Table E-1 for the state of California can be used as a guide for how to interpret the findings of all the state analyses appearing in this appendix. Table E-1 displays the average amounts of taxes paid and cash and in-kind transfers received (including estimates of incarceration costs) by an average adult in each of the five educational attainment subgroups and for the average adult in the state. In Tables 3 and 4 of the main report, a detailed listing of the tax payments and cash and in-kind transfers included in this analysis are presented. In Table E-1, the column titled "Taxes-Transfers and Institutionalization Costs" represents the net annual fiscal contributions of the average adult in each of these educational subgroups. For instance, the average high school graduate in California paid $8,857 in taxes, received $3,548 in cash and in-kind transfers and institutionalization costs, and therefore, paid an additional $5,308 to local, state, and federal government than what he or she received in benefits from the federal and state government or imposed in institutionalization costs. The ratio of taxes to transfers and institutionalization costs for the average high school graduate was 2.496, implying that high school graduates in California pay approximately $2.50 in taxes for every $1.00 received in federal and state government cash and in-kind benefits.

Table E-1:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, CALIFORNIA

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	4,573	4,414	159	1.036
H.S. Diploma/GED	8,857	3,548	5,308	2.496
Some College, including AA Degree	13,111	2,784	10,327	4.709
Bachelor Degree	21,125	1,365	19,760	15.472
Master's or Higher Degree	30,529	1,200	29,329	25.431
All	13,676	2,865	10,811	4.773

Table E-2:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, COLORADO

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	4,040	3,719	320	1.086
H.S. Diploma/GED	9,307	2,420	6,886	3.845
Some College, including AA Degree	11,845	2,200	9,646	5.385
Bachelor Degree	17,860	1,100	16,760	16.230
Master's or Higher Degree	24,018	767	23,251	31.324
All	13,120	2,016	11,104	6.508

Table E-3:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, FLORIDA

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	5,212	5,011	201	1.040
H.S. Diploma/GED	7,846	3,139	4,707	2.499
Some College, including AA Degree	10,385	2,212	8,172	4.694
Bachelor Degree	16,054	1,440	14,614	11.145
Master's or Higher Degree	23,418	1,742	21,676	13.441
All	10,972	2,708	8,264	4.051

Table E-4:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, ILLINOIS

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	6,917	4,542	2,375	1.523
H.S. Diploma/GED	9,703	3,081	6,623	3.150
Some College, including AA Degree	11,996	2,279	9,717	5.263
Bachelor Degree	19,340	1,024	18,317	18.896
Master's or Higher Degree	29,193	1,157	28,036	25.236
All	14,075	2,410	11,664	5.840

Table E-5:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, MARYLAND

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	7,012	6,919	93	1.013
H.S. Diploma/GED	9,920	3,284	6,637	3.021
Some College, including AA Degree	15,299	2,337	12,962	6.545
Bachelor Degree	22,245	1,091	21,154	20.389
Master's or Higher Degree	31,739	790	30,949	40.172
All	16,664	2,643	14,021	6.304

Table E-6:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, MICHIGAN

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	6,228	9,716	-3,488	0.641
H.S. Diploma/GED	8,771	4,649	4,122	1.887
Some College, including AA Degree	12,170	3,253	8,917	3.741
Bachelor Degree	19,013	1,409	17,604	13.493
Master's or Higher Degree	28,898	1,339	27,559	21.580
All	13,050	3,851	9,199	3.389

Table E-7:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, MINNESOTA

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	6,871	7,357	-486	0.934
H.S. Diploma/GED	10,517	3,646	6,871	2.885
Some College, including AA Degree	14,491	2,093	12,398	6.924
Bachelor Degree	18,894	1,168	17,726	16.176
Master's or Higher Degree	30,366	893	29,472	33.991
All	15,602	2,473	13,130	6.310

Table E-8:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, NEW JERSEY

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	7,060	5,805	1,256	1.216
H.S. Diploma/GED	11,624	2,978	8,646	3.903
Some College, including AA Degree	16,303	1,828	14,475	8.918
Bachelor Degree	24,923	1,331	23,593	18.730
Master's or Higher Degree	35,113	1,284	33,828	27.339
All	18,524	2,425	16,099	7.639

Table E-9:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, NEW YORK

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	5,928	8,824	-2,896	0.672
H.S. Diploma/GED	10,298	4,933	5,365	2.088
Some College, including AA Degree	14,283	3,321	10,962	4.301
Bachelor Degree	20,575	1,450	19,125	14.186
Master's or Higher Degree	32,300	1,338	30,962	24.147
All	15,403	3,948	11,455	3.901

Table E-10:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, OHIO

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	5,167	7,318	-2,151	0.706
H.S. Diploma/GED	8,685	3,342	5,343	2.599
Some College, including AA Degree	11,730	2,496	9,234	4.700
Bachelor Degree	17,610	1,687	15,923	10.441
Master's or Higher Degree	22,683	718	21,965	31.587
All	11,608	3,064	8,544	3.789

Table E-11:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, PENNSYLVANIA

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	6,067	7,512	-1,445	0.808
H.S. Diploma/GED	9,569	3,803	5,766	2.516
Some College, including AA Degree	12,327	2,559	9,768	4.817
Bachelor Degree	17,769	1,024	16,745	17.356
Master's or Higher Degree	29,056	1,361	27,695	21.352
All	13,208	3,163	10,045	4.176

Table E-12:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, TEXAS

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	4,148	4,061	87	1.021
H.S. Diploma/GED	7,400	2,666	4,734	2.776
Some College, including AA Degree	10,480	2,095	8,384	5.001
Bachelor Degree	17,888	783	17,105	22.837
Master's or Higher Degree	24,930	1,549	23,381	16.094
All	10,576	2,409	8,167	4.391

Table E-13:
Estimates of Annual Net Fiscal Contributions of Adults (16-64) by Educational Attainment, 2004-2005 Averages, VIRGINIA

Educational Attainment Level	Tax Payments	Cash and In-Kind Transfers/Inst. Costs	Taxes-Transfers and Inst. Costs	Ratio of Taxes/Transfers and Inst. Costs
<12 or 12, No H.S. Diploma	5,720	5,358	361	1.067
H.S. Diploma/GED	9,867	2,339	7,528	4.219
Some College, including AA Degree	13,725	2,217	11,508	6.191
Bachelor Degree	21,125	853	20,272	24.764
Master's or Higher Degree	30,125	1,012	29,113	29.768
All	14,858	2,217	12,640	6.701