THE PUBLIC RETURNS TO PUBLIC EDUCATIONAL INVESTMENTS IN AFRICAN AMERICAN MALES*

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Abstract   This paper calculates the public savings (financial benefits) from greater public investments in the education of African American males. Over one-fifth of each age cohort of black males in the U.S. is not a high school graduate. We identify five interventions that would – based on credible research – increase the graduation rate; we also report the public cost of each intervention. We then calculate the lifetime public benefits in terms of increased tax revenues and lower spending on health and crime. In present values for a black male aged 20, these public benefits amount to $256,700 per new graduate and the median intervention would cost only $90,700. The benefit/cost ratio is 2.83. Simply equating the high school graduation rate of black males with that of white males would yield public savings of $3.98 billion for each age cohort. These results suggest that increased investments in education for black males at risk of dropping out of high school should be an economic priority.

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I. INTRODUCTION

Among all of the major demographic groups in the U.S., African-American (black) males experience the poorest educational outcomes.[1] Whether measuring such outcomes in terms of test scores, high school graduation, post-secondary attendance, or college graduation, African-American males lag substantially behind other groups. It is widely recognized that unequal educational outcomes lead to unequal economic consequences throughout the life course. In particular, individuals with low attainment and poor quality education—these often overlap—can expect to face inferior employment prospects, low wages, poor health, and greater involvement in the criminal justice system.

At its heart, such educational inequality for black males is a moral issue; a challenge to fairness or justice in a society in which education is the major public instrument for 'leveling the playing field'. But it is also an economic issue: poor education leads to large social costs in the form of lower societal income and economic growth, lower tax revenues, and higher costs of such public services as health, criminal justice, and public assistance. Thus, it is possible to assess efforts to improve educational outcomes for black males as a public investment which might yield high returns.

In this article we undertake a comprehensive assessment of the public returns to investments for improving educational attainments of black males. We begin by documenting the extent of educational inequality between blacks and whites. Next, we identify educational interventions which would increase the rate of high school graduation and we calculate their public costs. Then we summarize the public benefits of increasing the numbers of black male high school graduates in terms of higher tax revenues, reduced public costs for health services, and reduced costs of criminal justice

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[1] For brevity, we use 'black' and 'African-American' interchangeably; 'graduation' refers to high school.

services. Finally, we will combine these data into estimating net present values and benefit-cost analyses. We show that it is in the economic interest of society to invest more in education for these individuals.

II. EDUCATIONAL STATUS OF BLACK MALES

The relative educational status of black males in the U.S. is stark. The disparities are evident across many educational metrics. In a thorough analysis of black–white skills gaps, Neal (2006) reports significant differences in attainment (and graduation rates). In 2000, black males aged 26-30 had on average 0.72 fewer years of education than white males (the gap for females was 0.62). This gap was closing from the 1950-60s, but it appears to have stalled since 1990s. Test scores show a similar pattern: the black-white gap fell sharply for both reading and math during the 1980s, but stabilized thereafter: the 2004 gap is almost exactly the same as the 1996 gap.[2] Also, black males are disproportionately in special education and suspended or expelled from school (Holzman, 2006). Finally, these schooling differences affect college attainment: 42% of whites aged 18-24 are enrolled in college, compared to 32% of blacks; black males also complete college at lower rates (NCES, 2005, Table 184).

Importantly, these outcome differences do not fully capture differences in education investment because they do not account for school quality or college quality. Generally, schooling resources that black children receive are inferior to those of white children (Duncombe and Yinger, 2005); and black high school graduates are more likely to attend two-year colleges rather than four-year colleges which have larger state

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[2] In 1978, male white/black NAEP math scores were 306/268, a 38-point gap. By 1986 the gap was 29 points, and from 1996 to 2004, it remained at 28 points. NAEP reading results show the same pattern.

subventions (NCES, 2005).[3] Based on data from the Education Trust (2006), in over half

of all states, government funding in high-minority school districts is *less* than in low-

minority districts.[4] Across the U.S. the average shortfall is $900-$1200 per year.

Therefore, as an approximation, total public K-12 educational investment per black

student is $20,000 *less* than per white student.[5] Of course, this disparity is understated by

the amount of further or compensatory expenditure that is needed to equalize educational

outcomes of children from disadvantaged families.

     We focus on attainment and high school graduation. We select this measure

because graduation captures both cognitive and non-cognitive attributes that are

important for success in adulthood. It is usually a minimum requirement for further

training and higher education and it opens up a range of future possibilities. Table 1

shows attainment levels by race/ethnicity for those aged 20 (allowing for those who

graduate late).[6] Of the black male population, 22% are high school dropouts; the

corresponding figure for white males is 14%. College progression rates are lower for

black males also. To equalize black and white graduation rates would require an

additional 24,000 black male graduates each year. Below we calculate the economic

consequences of failing to ensure graduation per black male student and for the aggregate

situation where black male graduation rates are lower than white male rates.

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[3] Private family educational investments are also likely to be lower for black children: only 33% of young black children live in two-parent homes; the respective figure for white children is 79% (Neal, 2006, Table 11); other disparities across families are reported in Jencks and Phillips (1998).
[4] This is so for several reasons. Funds are not in practice allocated using equity-driven formulae. Title I includes a factor explicitly allocating more funds to high spending states. Little information exists on where resources actually flow at the student level. Spending on teachers is higher in wealthier districts.
[5] The calculation is: $1000 per K-12 year plus the cost of 0.8 years of schooling at $8500 per year.
[6] We use Current Population Survey data accounting for two ways in which the CPS is less than ideal. First, we adjust for persons who are incarcerated - these are not counted in the CPS – using incarceration rate data by education level from Raphael (2004). Second, we adjust for GED receipt, which is not equivalent to a high school diploma, using data from the NELS derived by Rumberger (2004).

III. INCREASING HIGH SCHOOL GRADUATION FOR BLACK MALES

To identify effective interventions for increasing high school graduation rates for black males, we undertook a wide literature search.[7] Of the hundreds of articles and reports we retrieved, very few met the criteria of demonstrating interventions that raised graduation rates on the basis of rigorous and systematic evaluation. Only five studies met our criteria of using a credible evaluation design and yielding improvements in graduation rates.[8] The interventions in these studies are summarized in Table 2.

Two of the selected interventions take place at pre-school. The Perry Preschool program (PPP) is a high quality pre-school program that was the focus of an experimental study using random assignment in the 1960s in which participants and non-participants were followed-up to age 40 (Belfield et al , 2006). The Chicago child-parent centers (CPC) was established in 1967 to provide early education and family-support services emphasizing math and reading skills and using high staff-student ratios and parental education. The evaluation used a quasi-experimental design to compare the performance of CPC participants with a matched control group of non-participants; members of both groups were followed-up to age 20 (Reynolds et al., 2002).

Class size reduction (CSR) is based upon the Tennessee Project Star experimental study in which students were randomly assigned to larger classes (22 students) or smaller ones (15 students) for up to four years from kindergarten to third grade (Finn et al., 2005). The teacher salary increase (TSR) study focused on the effects of raising teacher

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[7] This included searches of journal articles, search engines and Columbia University libraries. Special scrutiny was given to reports from three organizations with substantial experience in educational evaluations: Manpower Development Research Corporation, the Rand Corporation, and Mathematica Policy Research (we appreciate the assistance of Fred Doolittle at MDRC and Mark Dynarski at MPR).
[8] We were especially interested in studies using experimental or quasi-experimental methods or strong econometric identification strategy. In some cases the evaluations of interventions were of very poor quality. In other cases the evaluations suggested that there was little educational impact.

salaries on graduation rates using state data with a 10 year time lag assumed before the increased graduation rates would show (Loeb and Page, 2000). The underlying assumption of this study is that higher teacher salaries will attract more qualified and effective teachers to replace those who leave, and this will raise graduation rates. Finally, First Thing First (FTF) is a high school reform; it reflects closely the present wave of urban, high school, reform with its emphasis on small learning communities, instructional improvement, and teacher advocacy for each student (Quint et al., 2005). The research design was a discontinuous time-series on data from the site that has accumulated the most extensive FTF experience, Kansas City, Kansas.

Each intervention showed positive impacts on graduation rates. Column 3 of Table 2 shows the estimated new high school graduates if the intervention was delivered to 100 students. The educational effectiveness is based upon the evaluations of each of the reforms: PPP is the most effective at 19 new graduates; TSI would yield 5 new graduates.[9] All interventions are replicable, and although none are limited only to black males, all but the TSI address predominantly black students.[10] Thus we have reasonable grounds for expecting similar effects if the interventions were implemented today.

We now turn to the public costs of these interventions. Costs were taken from studies that accounted directly for the resources and their prices for each intervention or were computed from the additional resources required using the ingredients approach

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[9] Since they occur at different educational levels, these interventions may be combined to strengthen the effects. For example, it appears that the impact of CSI on student achievement is greater the higher the salary of teachers. Presumably, higher quality teachers associated with higher salaries are able to use smaller class size more productively (see Peevely et al., 2005).

[10] In PPP and CPC almost all participants were black. In CSR, we use graduation rates for students on free lunch, populations with a high concentration of blacks in the experimental setting. For FTF, about half of the students were black. For TSI, the data are based upon state averages and may understate the expected improvement in graduation rates for black males because of their relatively small number in the overall student population (about 3%) and because many reforms have shown larger impacts for minorities.

(Levin and McEwan, 2001).[11] Besides the direct costs of the intervention, the cost of two

additional years of schooling for each added graduate was calculated, as well as the state

college subsidies for those additional graduates who might be expected to pursue higher

education. Since these new high school graduates were likely to have lower academic

achievement and socioeconomic status than existing graduates, we estimated college

continuation and completion rates accordingly.[12]   Thus, the total public cost of raising

graduation rates of black males is the sum of the direct program (intervention) costs and

the additional publicly-funded schooling and college induced by the intervention. To

ensure consistent accounting, all money figures are expressed as present values at age 20

with a discount rate of 3.5 percent and using 2004 prices.[13]

The end columns of Table 2 show the program costs per student, the program

costs per new high school graduate, and the total educational costs per new high school

graduate. The program costs per student refer to all students who receive the

intervention, but of course many of these would have graduated even in its absence (we

assume these persons cannot be identified *ex ante*). Program costs vary from $13,100 to

$2,900. Costs per additional graduate refer to the public costs when divided by only the

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[11] For example, costs of PPP and CPC were taken directly from the studies and converted to 2004 prices (see Table Notes). Costing of CSR was based on the need for more teachers and classrooms and for FTF more teachers and counselors. For TSI we estimated a 10% increase in salaries and benefits. Both PPP and CPC reduced grade retentions and assignments to special education, thus saving public costs. These cost savings have been deducted to obtain "net" costs of producing additional high school graduates.
[12] We used the NELS88 follow-up of eighth graders to estimate college participation six years later. Among black male graduates in the lowest quartile on reading scores, about 18% and 16% were in two-year and four-year colleges. According to the 1996/01 BPS five year completion rates for the bottom third of socioeconomic status are 50%. Thus, for our calculations, one of twelve of the new high school graduates is expected to complete a four-year degree and one of six a two-year degree.
[13] The choice of the appropriate discount rate is a subject of debate. A discussion of the issues and the choice of 3.5% is in Moore *et al.* (2004). Because the interventions occur at different ages and yet could all be implemented immediately (albeit on a different cohort of children), we choose age 20 as the focal year. Costs or benefits before that age are uprated (inflated) by 3.5% and after that age are discounted by 3.5%.

additional graduates that are produced. These vary from $34,300 to $95,500. The final column shows the total public cost when educational progression has been accounted for.

Assuming that the intervention is delivered to 100 students whose graduation probabilities are unknown, the total public cost per new high school graduate ranges from $59,100 to $120,200. The lowest public cost per additional graduate is found for FTF (because it is implemented in high school it is the least affected by adjusting to present value at age 20). Although TSI is associated with the highest cost among these alternatives, we remind the reader that the TSI result is an average for all students, and there are good reasons for expecting that success rates might be considerably higher, even double, for black males. Krueger and Whitmore (2001) re-evaluated the Tennessee Class Size Reduction data: they found the gain for blacks was 7-10 percentile points (versus 3-4 percentile points for whites) and that during the years of class size reduction, K-3, the test score gap between blacks and whites declined by 38% and by about 15% thereafter. If a similar doubling of the average effect were to result from higher salaries for teachers, the TSI cost per additional graduate would fall to among the lowest.

IV. PUBLIC BENEFITS OF ADDITIONAL BLACK MALE GRADUATES

Additional black male high school graduates not only have better life chances for themselves, but they also provide public benefits via government savings. Here we briefly review the methods for deriving these public benefits and we calculate the effects per graduate (for full details, see Belfield 2006; Muennig 2006; and Rouse 2006).

Additional Tax Revenues

Table 3 shows the labor market outcomes by educational attainment for black males aged 21-64 (CPS data, see Rouse, 2006). Strikingly, black male high school dropouts are less

likely to participate in the labor force or be employed (or work continuously). Across all black males (regardless of employment status), dropouts report considerably lower earnings than graduates. In addition, graduates are more likely to have health insurance and pension coverage. These differences in labor market status translate not only into higher earnings, but also higher tax revenues as a public benefit over the lifetime.

Rouse (2006) follows a three step procedure to estimate the additional tax revenues per new high school graduate. First, she estimates the age-earnings profiles of black males with different education levels. Data from the 2003 and 2004 CPS are combined to get an adequate sample size of about 11,000 black males aged 21-64. From these data, Rouse estimates the additional lifetime income associated with graduation and higher education (assuming productivity growth of 1.5% pa). Second, she uses the NBER TAXSIM to estimate the federal and state taxes on these incomes. Third, the lifetime figures are converted to present values at age 20, using a 3.5% discount rate.

This method is likely to produce conservative results. Although earlier economic literature assumed that the measured returns to schooling or the schooling coefficient in earnings functions was overstated because of unmeasured differences in ability associated with the schooling variable, a variety of more recent studies do not confirm that expectation. Studies of twins and siblings with different levels of education as well as those using instrumental variables have found that the "naïve" coefficient in earnings functions does not appear to be biased upward.[14] Accordingly, no adjustment is made for differential ability in these estimates. Importantly, CPS data include "high school equivalency" in their definitions of education, meaning those who passed the GED exam

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[14] See the review in Rouse (2006). Levin (1972) assumed a 25 percent downward adjustment in additional earnings for an ability correction.

– about 14% of all black males – are treated as high school graduates.[15] Yet although the GED is popularly referred to as a "high school equivalency", it is not: GED recipients' earnings profiles are closer to those of dropouts than to high school graduates (Cameron and Heckman, 1993). Thus, the differential earnings associated with high school completion is understated in CPS data since the presence of GED recipients biases downward the additional income that is associated with actual high school completion.

This method yields significant differences in earnings and tax contributions across education levels. Whereas the present value lifetime earnings of black male dropouts are $292,200 at age 20, the respective figures are $601,800 for high school graduates and $1,479,000 for those with a BA degree or above. There are correspondingly large differences in tax payments. A black male dropout contributes $118,000 in income taxes over his lifetime; the respective figures are $222,400 for high school graduates and $607,000 for college graduates. To these we add property tax and sales taxes, which increase all values by 5%. Overall, the present value at age 20 of the extra tax revenue associated with each additional high school graduate would be about $167,600.[16] Therefore, higher tax revenues alone would pay for any of the five interventions.

Projected Savings in Public Health Costs

High school graduates have improved health status, lower rates of mortality, and fewer social problems (Groot and van den Brink 2004; Lantz *et al.* 1998). This is true for blacks and whites, but the lower educational levels of black males contributes to less-

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[15] The CPS does not adjust for the probability of incarceration. At age 20 about 19 percent of black male high school dropouts are incarcerated; for black male high school graduates the percentage declines to 8 percent. All income and tax revenue estimates take this into account.

[16] Sales tax was calculated for each state as per capita tax revenues divided into personal per capita income; a national average was obtained using state population weights. This figure was multiplied by the after-tax difference in incomes between dropouts and graduates (factoring in college progression rates). Sources for these data were: Federation of Tax Administrators; U.S. Dept. of Commerce; Bureau of Economic Analysis; and the Survey of Current Business.

healthy lifestyles and poorer health status such that their life expectancy is considerably shorter than for white males: Arias et al. (2003:116) report that as of 2001 black male life expectancy was 69 years compared to 75 years for white males, a shockingly large gap.

Because of poorer job prospects and low incomes, black male dropouts are unlikely to have private health care coverage. By default they must depend upon health care that is publicly or philanthropically financed. The largest insurer for those under age 65, Medicaid, is a means-test program for which eligibility depends upon low income. Participation in Medicaid declines with education because those with more education are more likely to have higher incomes; this makes them ineligible, as well as being more likely to have private health insurance (as shown in Table 3). In addition, those who qualify for Social Security Disability Income (SSDI) receive benefits from Medicare. For example, kidney disease is the most important qualifying condition, a condition for which persons with lower educational attainments are especially at risk (Wong et al., 2002). Functional limitations prior to age 65 are also a basis for SSDI benefits, and these are higher for persons with less education (Cutler and Lleras-Muney, 2006).

The estimates for differences in public costs of health care by educational level are derived from the 2002 Medical Expenditure Panel Survey (MEPS). This is a nationally representative sample of more than 40,000 non-institutionalized civilians with over-sampling of households with incomes less than twice the poverty line. The MEPS data also contains socio-demographic data as well as the medical expenditures (we can also measure health-related quality of life). These estimates were combined with enrollment costs from the National Health Accounts (NHA) to estimate aggregate health expenditures (Arnett et al. 1990).

Two analyses were performed. First, a regression analysis was used to predict coverage by public insurance with controls for age, race, gender, and ethnicity. Second, per capita public insurance costs were estimated for black males at different educational levels. The latter includes costs not captured in the MEPS such as government payments to hospitals that serve disproportionately low income populations.[17] For black males aged 18-24, the gradients of public coverage are steep: 81% of those with less than 9 years of education have publicly reimbursed care; but only 28% of college graduates.. Over the lifetime, we estimate the savings in public health costs for each high school graduate relative to dropout at about $33,500 in present value terms at age 20 using a 3.5 percent discount rate.

Projected Savings in Criminal Justice Costs

High school graduates are much less likely to commit crimes than dropouts (Lochner and Moretti 2004). With an average rate of institutionalization for all black males 18-65 at 8%, the rate is 19% for dropouts, 8% for graduates, and 1% for college graduates (Raphael 2004). For younger cohorts, roughly one-quarter of black male dropouts is incarcerated (Harrison and Karberg 2003). Importantly, overall rates of incarceration for black males are 6 to 8 times those of white males (Pettit and Western 2004).

Belfield (2006) divides the economic burden of crime for the public sector into four categories: criminal justice system operation (police, courts); costs of incarceration including parole and probation; public restitution to victims; and crime prevention expenditures by government agencies. He examines the relationship between graduation and five types of crime: murder; rape/sexual assault; violent crime (robbery, aggravated

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[17] The analysis also calculated health-related quality of life scores for black males which were shown to be positively related to education and negatively related to age.

assault); property crime (burglary, larceny); and drug offenses. Each of these crime types

imposes high public costs and is lower for those with more education. The effect of

education on the commission of these crimes is based on results from Lochner and

Moretti (2004). Unit costs are estimated from a range of sources, including Bureau of

Justice Statistics and the FBI Uniform Crime Rate data. Over the lifetime, the minimum

public costs of criminal justice that would be saved by converting a high school dropout

to a graduate would be at least $55,500.[18]

V. PUBLIC INVESTMENT RETURNS

When we add up the three public benefits to education, they are substantial. Specifically,

the value of just the public benefits embodied in additional tax revenues and reductions in

the cost of public health and crime amounts to almost $256,700 per new high school

graduate. Yet, these public benefits of investment in better education must be weighed

against the public costs to ascertain the returns to the investment. Table 4 shows the net

present values of the lifetime public benefits of graduation for black males for each of the

five potential interventions. The savings are reported in the top panel, with the total costs

for each of the five interventions reported just below. The benefit/cost ratio ranges from

about two to greater than four among the alternatives meaning that for every dollar

invested in raising high school completion among this group, there are two to four dollars

in public benefits. Even more impressive is the large surplus of benefits over costs for

each additional graduate. For each additional black male high school graduate the net

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[18] This estimate is understated for two reasons and should be viewed as highly conservative because the five specific types of crime listed here account for, perhaps, 80 percent of the differential costs associated with education. Detailed data on the public costs associated with other crimes is not readily available. Also, the costs of juvenile crime before the age of 20 are not included. Thus, we believe that the public benefit in reducing the costs of criminal justice through raising educational attainments is even higher than this estimate and should be interpreted in that light.

public benefit in present value at age 20 is between $136,400 and $197,600. Taking the median intervention, the net present value is $166,000, which is over ten times the cost of delivering the intervention to one single student. To give an aggregate picture of the potential for reaping public benefits of educational improvements for black males, we report the net savings from simply equalizing the graduation rates of black and white males for a single cohort of 20 year olds. The net public benefit would range from $3.27 billion to $4.74 billion, with a median figure of $3.98 billion.

Given our research method, these results are probably understatements of the total public savings. They do not include public assistance, a full accounting of the criminal justice costs, intra-family benefits, or the deadweight loss of taxation.[19] They assume that interventions cannot be reasonably targeted to youth on the margin of graduation, but must be given to all. One source of underestimation is that there are a number of newer, promising interventions. These may have even more powerful effects as they reflect a convergence of agreement on what is needed to ensure graduation: small school size; high levels of personalization; high academic expectations; strong counseling; parental engagement; extended-time school sessions; and competent and appropriate personnel.[20] However, they have not been rigorously evaluated yet.

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[19] Costs of public assistance are difficult to calculate because they are mainly embodied in the TANF program which provides support for children in low income families. But, most of this funding goes to single mothers, even though fathers' behavior is clearly influential.

[20] *Small size* describes a small school in which students and staff are known to each other and accountable. *Personalization* refers to a caring environment in which individual personal and academic needs are addressed. *High academic expectations* call for a demanding level of study that each student is expected to meet. *Strong counseling* refers to the availability of personnel to guide students facing personal challenges. *Parental engagement* enlists parents in support of the educational accomplishments of their child and the school. *Extended time* refers to longer time in school. *Competent and appropriate personnel* refer not only to teaching qualifications of personnel, but also to their commitment to the school. These changes should not be done on an individual basis but together to comprise a different schooling experience (Quint, 2006).

This is a case where greater equity produces greater efficiency in the use of public resources. Yet, these high public returns also pose a quandary for financing these educational improvements. Over half the public benefits accrue to the federal government, but it pays less than 10% of the cost of K-12 schooling. Thus, the incentive structure for reaping the benefits is not well-aligned with the tax system.

Crucially, our estimates completely ignore the private consequences to the individuals themselves and the social costs to families and local communities. Among all of the sub-populations, black males face the biggest challenge. Not only do they trail others in educational opportunities and outcomes in youth, but economic prospects in adulthood are not promising. Despite the nation's strong economic growth in the 1990s, black male adults did see lower rates of unemployment, but they also experienced lower employment and labor force participation rates and significantly higher incarceration rates (Holzer and Offner, 2005). Other than education, there is a dearth of solutions to this situation; those that are offered tend to be reactive, such as making sure ex-offenders get job training programs, rather than proactive changes that would avoid involvement in the criminal justice system in the first place (Pouncy, 2005). Given the estimates derived here, showing underinvestment and high returns, it makes economic sense to consider effective educational investments in black male high school dropouts as a high priority.

Table 1 Highest Level of Educational Attainment for those Aged 20

	Black males		White males	
Less than 9th grade	6,000	2%	18,000	1%
High school dropout	67,000	22%	193,000	14%
High school graduate	99,000	33%	402,000	29%
Some college or above	133,000	44%	757,000	56%
Total Cohort Size	305,000		1,369,000	

Source: Current Population Survey, March 2005.

Notes: Race-specific adjustments are made for institutionalization and GED receipt.

Table 2   Interventions that Demonstrably Raise the High School Graduation Rate

Intervention		Details of the intervention	Extra high school graduates if intervention is given to 100 students	Program costs per student [a]	Program costs per new high school graduate [b]	Total educational costs per new high school graduate [c]
PPP	Perry pre-school program	1.8 years of a center-based program for 2.5 hours per weekday, child:teacher ratio of 5:1; home visits; and group meetings of parents.	19	$12,532	$65,959	$90,694
CSR	Class size reduction	4 years of schooling (grades K-3) with class size reduced from 25 to 15.	18	$13,075	$72,638	$97,373
FTF	First Things First	Comprehensive school reform of: small learning communities with dedicated teachers; family advocates; and instructional improvement efforts.	16	$5,493	$34,331	$59,066
CPC	Chicago child-parent center program	Center-based pre-school program: parental involvement, outreach and health/nutrition services. Based in public schools.	11	$4,728	$42,979	$67,714
TSI	Teacher salary increase	10% increase in teacher salaries for all years K-12.	5	$2,865	$95,503	$120,238

Sources: PPP: Belfield et al. (2006); CSR: Finn et al. (2005); FTF : Quint (2005) ; CPC: Reynolds et al. (2002); TSI : Loeb and Page (2000). Costs are expressed in present values at age 20 using a 3.5% discount rate. [a] Cost per student counts the costs of delivering the intervention. [b] Cost per new high school graduate counts the costs of delivering the intervention to 100 students. [c] Total costs are program costs plus the induced costs from extra attainment in high school and college ($24,735).

Table 3 Mean Labor Market Outcomes by Educational Attainment for Black Males Aged 21-64

	High School Dropout	High School Diploma	High School Diploma or More
Employed	48.8%	67.3%	71.9%
Unemployed	10.0%	8.7%	7.8%
Discouraged Worker	1.3%	0.9%	0.6%
Not in the labor force – Other	39.9%	23.1%	19.7%
Number of weeks worked last year	25.4	35.5	38.0
Employer provides pension plan	33.1%	50.7%	58.0%
Covered by employer/union-provided health insurance	23.2%	42.8%	48.9%
Annual Earnings (all persons)	$12,262	$22,199	$31,230

Note: Sample includes men aged 21-64. All means are weighted. Data is from March Supplement of the *Current Population Survey*, 2003 and 2004. Annual earnings includes all persons, working or not.

Table 4 Estimated Public Net Benefits per Black Male High School Graduate

	Present values at age 20 per new high school graduate (Discount rate of 3.5%)				
Tax revenues			$167,623		
Health cost savings			$33,518		
Crime cost savings			$55,524		
Total benefits			**$256,665**		
	FTF	**CPC**	**PPP**	**CSR**	**TSI**
Total costs	**$59,066**	**$67,714**	**$90,694**	**$97,373**	**$120,238**
Benefit/cost ratio	4.35	3.79	2.83	2.64	2.13
Net present value	$197,599	$188,951	$165,971	$159,292	$136,427
Total economic effect of equal graduation rates for black and white males	$4.74 bn	$4.53 bn	$ 3.98 bn	$3.82 bn	$ 3.27 bn

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