

Incentive Effects New York's Minimum Competency Exams

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Educational reformers and the majority of the American public believe that teachers ask too little of their pupils. African-American and Hispanic parents, in particular, criticize the low expectations and goals that teachers and school administrators often set for their children. These low expectations, they believe, result in watered-down curricula and a tolerance of mediocre teaching and inappropriate student behavior. The result is that the prophecy of low achievement becomes self-fulfilling.

The problem of low expectations is not limited to minority students or lower income communities; it's endemic. High school subjects are taught at vastly different levels, and yet research has shown that learning gains are substantially larger when students take more demanding courses. Controlling for teacher qualifications and student ability and socioeconomic status (SES) does not significantly reduce the positive effects of course rigor on test-score gains (Bishop, 1996b; Kulik & Kulik, 1984; Monk, 1994). Why then do students not flock to more demanding courses? First, these courses are considerably more work and grades tend to be lower. Second, the rigor of these courses is not well signaled to parents, neighbors, employers, and colleges, so the rewards for the extra work are small for most students. Admissions staff of selective colleges learn how to read the transcripts of the high schools

they recruit from and evaluate grades in the light of course demands. Historically, however, most colleges have not factored the rigor of high school courses into their admissions decisions.¹ Employers hardly ever consider the rigor of high school courses when they make hiring decisions. Consequently, the bulk of students who do not aspire to attend a selective college quite rationally avoid rigorous courses and demanding teachers.

Many parents support their children's preference for taking easier courses. Even in wealthy communities, they often pressure guidance counselors to let their children switch to easier courses where it is easier to get good grades. As one guidance counselor described the situation prior to the high school's switching to the All-Regents (1997):

A lot of...parents were in a "feel good" mode. "If my kids are not happy, I'm not happy...." Probably...25 percent...were going for top colleges. They were pushing their kids hard. The rest—75 percent (I'm guessing at the numbers)—said "No, that's too hard, they don't have to do that...." If they [the students] felt it was too tough, they would back off. I had to hold people in classes, hold the parents back. [I would say] "Let the kid get C's. It's OK. Then they'll get C+'s and then B's." [But they would demand,] "No! I want my kid out of that class!"

Further, teachers often supported students switching to easier classes:

Frankly we couldn't get the staff to agree [to holding struggling or lazy students in more demanding classes] either. They would say, "He's not learning....Get him out....Let the kid drop into an easier class."

This guidance counselor's wish to place students into more challenging courses is unusual. Most counselors see themselves as helping students set "realistic" goals and avoiding courses where they will be "in over their heads." At most schools, parents who want their children in more demanding courses are accommodated, but they are referred to as "pushy." Most parents, however, are not aware that class assignments will be changed if they demand it. Minority parents and parents with limited education are less likely to question class assignments, which contributes to their children's disproportionately assignment to classes that set minimal, low learning goals.

PUBLIC OPINION ABOUT STANDARDS AND MINIMUM COMPETENCY EXAMS

Political and educational leaders at the state level have been concerned for decades about these problems. The traditional policy instruments—budgetary support for schools and school construction, teacher certification rules, and so on—do not address learning standards, so states have sought other instruments. Many states have increased the number of courses required to graduate. This, however, has not assured that students take challenging courses or that students work hard in these courses. Another approach has been to require that schools give students achievement tests and publish the results. The hope is that publicly identifying low-performing schools will spur the local superintendent and school board into taking remedial action. Some states and cities have developed interventions such as reconstitution for poorly performing schools. Other jurisdictions have rewarded schools for year-to-year gains in achievement test scores.

Probably the most common response to the problem of low expectations and low achievement has been to define standards for learning, test students against these standards, and require that students pass exams assessing their achievement of these standards before graduating. Table 9.1 presents data from 1980 and 1992 on the proportion of high school students who are required to pass minimum competency examinations (MCEs) to graduate from high school. School principals provided the information on graduation requirements. In most cases, MCEs have been developed and mandated by the state boards of education. In other cases, local school districts have established the requirement. In 1980, 49% of the nation's high school students faced a MCE requirement. In 1992, 56% faced MCE requirements. The increase appears to have been concentrated in states and school districts with large minority populations. In 1992, for example, 79% of the Hispanic and African-American students faced such requirements.

Surveys of public opinion about MCEs suggest that such policies are supported not only by voters and teachers but apparently by students as well (Table 9.2). In 1997, representative samples of adults, teachers, and students were asked the following question: "Suppose your school required students to learn more and tested them before they were allowed to graduate. Do you think that most kids would pay more

TABLE 9.1
High Schools Requiring Passage of a Minimum Competency Test to Graduate: Proportion of Seniors Who Attend

Socioeconomic Status	Low	Medium	High	
1980	.560	.503	.487	
1992	.647	.557	.442	
Reading and Math Scores	Low	Medium	High	
1980	.547	.515	.466	
1992	.643	.565	.457	
Ethnicity	White/ Asian	African- American	Hispanic	Total
1980	.466	.567	.568	.49
1992	.479	.790	.790	.56

Note. Tabulations of High School and Beyond (HSB) and National Educational Longitudinal Survey: 1988 (NELS-88) principal survey responses weighted by the number of seniors sampled at the high school. The HSB survey sampled schools with large minority populations. The totals in column 5 are averages of the ethnicity specific rates in columns 1-3 using national proportions of high school students from each ethnic group as weights.

attention to their school work and study harder or not?" (Johnson & Farkas, 1997, p. 46). Seventy-one percent of adults, 75% of teachers, 74% of White high school students, 82% of Hispanic students, and 80% of African-American students responded yes. Similar proportions agreed that in addition, "most kids would actually learn more" (p. 46). This survey also asked "Do you think schools should expect inner-city kids to learn as much and achieve at the same standards as kids from middle-class backgrounds? or Should schools make things easier for inner-city kids because they come from poor backgrounds?" (p. 46).

As seen in Table 9.2, 60% of the adults, 73% of the teachers, 86% of the White students, 78% of the Hispanic students, and 84% of the African-American students selected the first option. The students' responses to these questions suggest that students do not perceive themselves as working very hard and that, if more was required of them, they would try harder. Also noteworthy is the opposition of minority students to making "things easier for inner-city kids because they come from poor backgrounds."

Many survey respondents, however, also thought that tougher graduation tests would also have some negative consequences. Slightly more than half of students agreed with the statement that "more kids will

TABLE 9.2
Student Opinion About the Effects of Minimum Competency Tests

	PERCENT RESPONDING YES				
	African-American High School Students	Hispanic High School Students	White High School Students	Adults*	Teachers*
Do you think that most kids would pay more attention to their schoolwork and study harder, or not?	80%	82%	74%	71%	75%
Do you think that most kids would actually learn more, or not?	79%	75%	72%	72%	75%
Do you think that more kids will drop out, or not?	55%	53%	54%	45%	49%
Do you think that more kids will dislike education and resist learning, or not?	55%	56%	51%	38%	27%
Do you think schools should expect inner-city kids to learn as much and achieve at the same standards as kids from middle-class backgrounds? - or -	84%	78%	86%	60%	73%
Should schools make things easier for inner-city kids because they come from poor backgrounds?	13%	19%	10%	32%	22%

Note. Students were asked to consider the following: "Suppose your school required students to learn more and tested them before they were allowed to graduate." Data for adults and teachers taken from Johnson (1995) survey. From Johnson & Farkas (1997). Copyright 1997 by Public Agenda. Adapted by permission.

*Question wording for adults and teachers: "Suppose public schools set higher academic standards and they also require kids to show they achieve those standards before they graduate."

drop out" and "more kids will dislike education and resist learning." Are they correct? What effects have MCEs had on high school dropout rates, college entrance rates, and college dropout rates? What effects have they had on the quality of the jobs obtained by high school graduates? Are these effects different for students from less advantaged or minority backgrounds? New York State was one of the first states to make graduation contingent on passing a series of MCEs. How are New York State's policies evolving and what impacts are they likely to have? These are the questions that are addressed in this chapter.

The Effects of Minimum Competency Graduation Requirements on Dropout Rates

A number of studies have examined the effect of MCE graduation requirements on enrollment rates and high school graduation rates. Dean Lillard (1997) and Lillard and DeCicca (1997a, 1997b) found that dropout rates were reduced by increases in the number of courses necessary to graduate but not by MCEs. Their analyses of longitudinal data from the National Educational Longitudinal study (1988; NELS-88) found that different specifications produced different estimates of the impact of MCEs on dropout rates. Models that controlled for state-fixed effects and examined the effect of introducing a state MCE tended to find no effect.

In order to study this issue in greater depth, state-level data on enrollment rates and high school graduation rates were analyzed. The dependent variables was the enrollment rate of 17-year-olds (taken from the 1990 Census [Bureau of the Census, 1993] and the National Center for Education Statistics, 1991) and the high school graduation rate (the ratio of the number of high school diplomas and general education diplomas [GEDs] awarded in the state to the number of 17-year-olds).² Data on each state's high school graduation requirements—MCEs and the number of Carnegie units required to graduate—were taken from the *Digest of Educational Statistics* (National Center for Educational Statistics, 1992, 1996). The information from the two different sources is not completely consistent so separate regressions were run using indicators of state graduation requirements taken from each source. The control variables characterizing the demographic background of the state's high-school-age youth were as follows:

- A parents' education index equal to the average of the percent of parents with a high school diploma and the percentage of parents with a university degree.
- Incidence of poverty for children under the age of 18.
- Percentage of population foreign born.
- Percentage of African-American public school students.
- Percentage of Hispanic public school students.
- A dummy variable for New York State (testing whether the voluntary Regents exams have any impact on dropout rates).

The results of the regression analysis are presented in Table 9.3. Four of the six coefficients on the state MCE variable are negative, but none come even close to statistical significance at the 10% level. The only significant coefficient on the MCE variable is positive. One has to conclude that there is no evidence in these data that MCEs as they existed in the early 1990s lowered graduation rates. New York State's voluntary Regents exams also appear to have no significant effects on dropout rates or graduation rates. However, the number of Carnegie units required to graduate does have significant negative effects on enrollment rates. For graduation rates, the Carnegie unit requirement variable is negative and similar in magnitude to the enrollment rate regressions, but far from statistically significant.

Many states have increased their graduation requirements by 3 or 4 Carnegie units over the last few decades. The regressions imply that these increases in Carnegie unit graduation requirements should have, *ceteris paribus*, decreased enrollment rates of 17-year-olds by about 1 percentage point. Data on trends in dropout rates by ethnicity are presented in Table 9.4. Despite the policy shifts making high school graduation more difficult, high school completion rates of 19- and 20-year-old African Americans rose from 67.2% in 1972–1973 to 70.6% in 1981–1982 and then to 75.2% in 1990–1992. During the 1970s high school completion rates of White 19- to 29-year-olds fell slightly from 85.3% in 1972–1973 to 84.7% in 1981–1982. Rates then rose during the 1980s to 87.7% in 1990–1992. Hispanic completion rates also increased. Event and status dropout rates also declined during the period in which MCEs were introduced and graduation requirements were increased. Clearly, if tougher graduation standards do tend to increase dropout

TABLE 9.3
Determinants of School Enrollment and High School Graduation Rates

	Percent of 17-Year-Olds Enrolled in High School—1990 Census	Percent of 17-Year-Olds Enrolled in High School—1991 States and Nations	Secondary School Graduates per 100 Persons 17 Years Old		
State Minimum Competency Test ^a	-.76 (1.10)	1.05 (1.41)	-.17 (.37)	.87* (1.81)	-1.19 (.64)
New York State	1.78 (.98)	1.80 (.98)	.33 (.27)	.05 (.04)	-.83 (.17)
Number of Carnegie Units Required to Graduate	-.27** (2.59)	-.34*** (3.22)	-.15** (2.26)	-.19*** (2.88)	-.20 (.73)
No Carnegie Unit Graduation Requirement	-4.79** (2.84)	-5.96*** (2.80)	-3.05** (2.22)	-3.73*** (2.73)	-1.46 (.26)
Parents Education Index ^b	.29** (3.22)	.34*** (3.19)	.11 (1.55)	.13* (1.97)	.81*** (2.76)
Percentage in Poverty (People 18 years of age or younger) ^c	.043 (.55)	.063 (.84)	-.02 (.40)	-.014 (.30)	-.04 (.19)
Percentage Foreign Born ^d	-.15* (1.74)	-.22** (2.69)	-.19*** (3.27)	-.22*** (4.18)	-.11 (.44)
					-.17 (.77)

Percentage of African-American Public School Students ^c	-.037** (1.40)	-.071** (2.45)	-.040** (2.33)	-.061*** (3.33)	-.215*** (3.04)	-.231*** (2.93)
Percentage of Hispanic School Students ^e	-.036 (.97)	-.046 (1.26)	-.006 (.26)	-.014 (.59)	-.236** (2.40)	-.239** (2.39)
Adj R Squared	.4922	.5010	.5405	.5708	.6496	.6460
Root Mean Square Error	1.657	1.642	1.087	1.050	4.463	4.486
Mean of Dependent Variable	88.9	88.9	84.2	84.2	75.8	75.8

*Statistically significant at 10% level

**Statistically significant at 5% level

***Statistically significant at 1 % level

aColumns 1, 3, and 5 regressions use a competency test variable based on a 1985 study by the Education Commission of the States in the 1992 *Digest of Educational Statistics* (National Center for Educational Statistics 1992). Columns 2, 4, and 6 regressions use a competency test variable based on the 1996 *Digest of Educational Statistics* (National Center for Educational Statistics, 1996).

bAverage of the percentage of parents obtaining a secondary high school diploma and the percentage of parents obtaining a university degree (National Center for Education Statistics, 1991, p. 139).

cNational Center for Education Statistics (1991).

dCensus Bureau (1990).

eNational Center for Education Statistics (1993a).

TABLE 9.4
Trends in Dropout Rates by Ethnicity

	Event Dropout Rate— Grades 10–12			Status Dropout Rate— 16- to 24-Year-Olds			Completed High School—19- to 20-Year-Olds		
				White	African American	Hispanic	White	African American	Hispanic
	1972–1973 Avg.	5.4	9.8	10.6	11.9	21.8	33.8	85.3	67.2
1981–1982 Avg.	4.8	8.7	9.9	11.4	18.5	32.4	84.7	70.6	57.8
1990–1992 Avg.	3.4	5.3	7.9	8.5	14.0	32.3	87.7	75.2	58.1

Note. From National Center for Education Statistics (1993b). The event dropout rate is the percentage of 10th- through 12th-grade students in October of 1 year who are not enrolled in high school or graduated the following October. The status dropout rate is the percentage of 16- to 24-year-olds who have not graduated from high school and are not attending high school currently.

rates, their effects in this case were counterbalanced and indeed overwhelmed by other forces that reduced dropout rates, such as growing incomes and the rising payoff to high school completion and college attendance.

How Important Is It to Improve the Competencies That Minimum Competency Examinations Assess?

Lerner (1990) reported that test scores were raised by the introduction of MCEs in many southern states. Opponents of MCEs sometimes dismiss findings such as Lerner's by arguing that the tests she used to track student performance over time and the MCEs themselves assess low-level literacy skills that are not all that important in the economy. The MCE graduation requirement, some argue, will distort teaching. Teachers will focus on developing low-level literacy skills rather than the "high-order problem-solving skills," writing skills, computer skills, occupation-specific skills, or affective competencies that are presumed "more important." They argue that tests similar to the MCEs used by many states have weak relationships with wages and labor-market success. What is the sense, they argue, of threatening to deny a credential—the high school diploma—that employers reward handsomely in order to induce teachers to teach and students to learn basic reading and math literacy skills that employers do not reward with higher wages?

It is quite true that in the years immediately after high school graduation, tests measuring these basic competencies have very small effects on wage rates and earnings. Effects are small for recent high

school graduates because few employers use tests assessing basic literacy skills to help them screen job applicants and most do not ask for information on high school grades. Over time, however, they learn about the competencies of their new employees by observing them on the job. The most competent employees are more likely to get further training, promotions, and good recommendations. Poor performers are encouraged to leave. Because academic achievement in high school is correlated with job performance (Bishop, 1990), the sorting process results in a rising correlation between test scores and labor-market success as the worker ages (Farber & Gibbons 1996). Altonji and Pierret's (1997) analysis of the National Longitudinal Survey of Youth (NLSY) found that, in a model in which schooling and the Armed Forces Qualification Test (AFQT) competed for influence, a 1 standard deviation (SD) increase in the AFQT raised the wage rates of those 1 year out of school by only 2.8%. For those 12 years out of school, a 1 SD increase in the AFQT raised the wage rates by 16%. By contrast, the percentage impact of a year of schooling decreased with time out of school from 9.2% for those out just 1 year to 3% for those out for 12 years.

When literacy and academic achievement are measured contemporaneously (rather than decades earlier when an individual was in high school), their effects on adults' earnings and unemployment are even larger. When adults are examined, simple tests assessing literacy have at least as strong a relationship with unemployment and earnings as years of schooling. Table 9.5 presents evidence for this assertion from the National Adult Literacy Survey. Males in the top prose literacy group earn three times as much as those in the bottom literacy group and have a one-fifth chance of being unemployed. Male college graduates, by contrast, earn 2.35 times as much as high school dropouts and have a two-fifths chance of being unemployed.

The Effect of Minimum Competency Examination Graduation Requirements on College Attendance and Wages

Proponents of MCEs argue that they force teachers to set higher standards for all students, not just for middle-class White students or for students in honors or college preparatory classes. All students (especially those from lower income backgrounds) will have to take tougher courses and study harder. Students who are at risk of failing the MCE will get

TABLE 9.5
Impact of Literacy and Schooling on the
Earnings and Unemployment of Males

Prose Literacy	Earnings	Unemployment Rate—1992	Schooling	Earnings	Unemployment Rate—1992
Level 1	\$48,965	2.3%	Bachelors degree or more	\$38,115	4.8%
Level 2	\$39,941	4.1%	Associates Degree	\$31,855	5.5%
Level 3	\$29,610	6.4%	13–15 Years	\$27,279	7.4%
Level 4	\$22,046	11.5%	12 Years	\$22,494	8.2%
Level 5	\$15,755	14.9%	9–11 Years	\$16,194	12.4%

Note. From National Adult Literacy Survey. National Center for Education Statistics (1994).

more attention and tutoring from school staff. They will learn more, which will result in (a) more students entering, staying in, and completing college, and (b) holding completed schooling constant, students getting better jobs.

MCEs are hypothesized to improve job opportunities in two ways. First, by improving student achievement they raise worker productivity (Bishop, 1990). Even when this does not immediately raise workers' earnings, the effect of academic achievement on wages grows with time and eventually becomes large.

The second way MCEs improve job opportunities is by sending a signal to employers that all the graduates of a high school meet or exceed their hiring standards. The fact that students have passed the MCE is proof that they are qualified. In most communities, competencies developed in local high schools are poorly signaled to employers. The lack of signals of achievement in high school tends to make the employers with the best jobs reluctant to risk hiring recent high school graduates. Indeed, they often have negative stereotypes regarding recent high school graduates. A personnel director interviewed for a CBS special on educational reform proudly stated, "We don't hire high school graduates any more, we need skilled workers" (Heller, 1990). Employers prefer to hire workers with many years of work experience because applicants' work records serve as a signal of competence and reliability that helps them identify the most qualified applicants.

Establishing a MCE, therefore, is one way a high school or state education system can try to overcome this signaling problem and help its graduates obtain good jobs. The existence of the MCE graduation requirement is well known to local employers. With the MCE requirement, the school's diploma now signals more than just seat time; it signals meeting or exceeding certain minimum standards in reading, writing, and mathematics. This should make local employers more willing to hire a school's recent graduates. Because of the negative stereotypes that so many employers have regarding minority youth, the MCE graduation requirement should be particularly helpful to this group.

The foregoing logic generates a number of testable predictions regarding the graduates of high schools with a MCE graduation requirement. Holding constant SES, test scores, grades, types of courses taken, working during senior year, current and past college attendance, and a complete set of other individual and school characteristics, graduates of MCE high schools will:

- Be more likely to go to college. This will be particularly true for African-American and Hispanic students, those from low-income backgrounds, and those with low test scores.
- Be less likely to drop out of college.
- Be more likely to complete a bachelor's degree within 5 years.
- Be offered higher paying jobs.
- The tendency of employers to reward graduates of schools with MCEs will be visible in data on wage rates in the first year after high school graduation.

These hypotheses were tested in the two nationally representative longitudinal data sets—High School and Beyond (HSB) seniors of 1980 and the National Educational Longitudinal Study (NELS) students graduating in 1992—that contain information on MCEs mandated by state law or local school boards. The analysis sample are the students in the two longitudinal studies who graduated from high school between January and September of their scheduled year of graduation. The HSB seniors were interviewed 2, 4, and 6 years after graduating from high school about continued schooling, employment, earnings, and changes in family status, so we are able to assess both short and intermediate run effects of school characteristics. NELS 1992 graduates were interviewed 2 years after graduation.

The regression models predicting college attendance and wages included controls for reading and math test scores in the 12th grade, grade point average, courses taken in high school, extracurricular activities, work for pay during senior year, television and homework hours, religion, reading for pleasure, attitudes, an indicator for being handicapped, family demographics, marital and parental status at the end of 12th grade, dummies for region and rural, suburban and urban residence, and six variables describing the quality of the school. The variables describing the quality of the school were a dummy variable for Catholic schools and other private schools, average teacher salary, proportion of teachers with a master's degree or more, average daily pupil attendance rate, and principal reports of school problems.³ When wage rates or earnings are the dependent variable, months attending college full time and months attending college part time (both current and past) were included as control variables. Otherwise the models predicting wages and the models predicting college attendance were the same. The results of the analysis for graduates categorized by reading and mathematics test scores and by gender are presented in Table 9.6. Results for graduates categorized by SES and race/ethnicity are presented in Table 9.7.

College Attendance. The analysis of HSB data found that MCEs had significant positive effects on the probability of being in college in a majority of subgroups during the 4-year period immediately following high school graduation. Effects were largest for students in the middle and bottom of the test-score distribution and tended to be greater in the second and third year out than in the first, fourth, and subsequent years out. SES also interacts with MCEs in the way hypothesized. MCEs have an immediate and significant impact on the college enrollment of low-SES students. Middle- and high-SES students are affected but not until the second and third year out of high school. For 1992 graduates, the same pattern appears to be developing. Combining full- and part-time enrollment, the point estimates imply that MCEs raise enrollment rates of students from low-SES backgrounds by 4.4 percentage points, middle-SES students by 2.4 percentage points, and high-SES students not at all. Women graduating from MCE high schools are significantly more likely to go to college full time and men are significantly more likely to go part time. When results are broken down by ethnicity, MCEs are found to affect all groups but effects are somewhat larger (though not significantly so) for minority students. Effects were significant in the first year

following graduation only for Hispanics and significant for almost all subgroups in the second and third year following graduation.

Wage Rates. MCEs had significant effects on wage rates of 1980 graduates who were in the low and middle test-score groups. They had no effect on wages of high test-score students. Students from low- and moderate-SES backgrounds had significantly higher wage rates when they attended MCE high schools. High-SES students did not. Finally, MCEs appeared to have increased the wage rates of minority youth but not White youth. African-American youth from MCE high schools were paid a significant 4.2% more in the first year after graduating but the effect diminished in later years. Hispanic youth graduating from MCE high schools in 1980 were paid consistently (between 3.7% and 4.6%) more at 1 year, 3 years, and 5 years following graduation.

The wage-rate benefits of graduating from an MCE high school in 1992 were considerably larger than in 1980. MCE graduates in 1992 were paid 4.1% more if they were male and 3.2% more if they were female, as compared to 1.6% to 1.7% more on average for 1980 graduates. The beneficiaries also changed. MCEs appeared to raise wage rates of medium and high test-score students by an astonishing 5.2% to 6.3%, but possibly lowered wage rates of low test-score students by 4.9%. The MCE coefficient for the low test-score group is not significantly less than zero, but it is significantly smaller than the coefficient in the middle test-score group. SES background no longer interacts with MCEs. 1992 graduates who attended high schools with MCEs are paid more without regard to their SES background. White students who did not benefit in the early 1980s are now benefiting. The minority students who in 1980 were the sole beneficiaries of attending a MCE high school no longer benefited in 1992.

Annual Earnings. The earnings regressions capture the effects of variables on time spent working and wage rates. Except for Hispanics, 1980 graduates of MCE high schools did not earn more than graduates of non-MCE high schools in the years immediately following graduation. Earning effects increased over time, however, so that by 1985 annual earnings were \$484 higher for Whites, \$808 higher for African Americans, and \$703 higher for Hispanics. For 1992 graduates, a number of the subgroups appeared to be receiving statistically significant earnings benefits in the first calendar year after graduating from an MCE high school. Low-SES students who graduated from an MCE high school earned \$694 more, a greater than 10% increase in earnings. Students

TABLE 9.6
Effects of Requiring Passage of a Minimum Competency Test to Graduate from High School

	Reading & Math Test Scores			Gender	
	Low	Middle	High	Male	Female
Logarithm Average Wage Rate					
Class of 1980 in 1981	.025 (1.45)	.020* (1.74)	.005 (.40)	.017 (1.45)	.016 (1.63)
Class of 1980 in 1984	.041* (1.85)	-.025 (-1.57)	-.010 (-.56)	-.012 (.75)	.007 (.52)
Class of 1980 in 1986	.021 (1.02)	.029* (1.85)	.010 (.53)	.017 (1.05)	.034** (2.45)
Class of 1992 in 1992–1994	-.049 (1.46)	.052*** (2.63)	.063*** (2.65)	.041** (2.18)	.032* (1.69)
Earnings (1992 \$)					
Class of 1980 in 1981	460* (1.60)	-207 (.99)	-151 (.72)	-12 (.05)	161 (.96)
Class of 1980 in 1982	-.41 (.11)	-.89 (.32)	-.80 (.30)	-.148 (.53)	193 (.82)
Class of 1980 in 1983	-.240 (.63)	40 (.13)	-.163 (.54)	-.302 (1.01)	227 (.95)
Class of 1980 in 1984	77 (.17)	380 (1.59)	291 (.77)	473 (1.40)	320 (1.16)
Class of 1980 in 1985	474 (1.01)	1077*** (2.89)	368 (.79)	979** (2.52)	758** (2.33)
Class of 1992 in 1993	60 (.16)	424** (2.21)	158 (.93)	269 (1.28)	208 (1.40)

College Attendance					
Class of 1980 in 1981–1982	.043*** (3.19)	.011 (.83)	-.009 (-.59)	.017 (1.43)	-.000 (-.07)
Class of 1980 in 1982–1983	.038*** (2.51)	.043*** (2.99)	-.006 (-.33)	.018 (1.39)	.024** (1.88)
Class of 1980 in 1983–1984	.041*** (2.95)	.045*** (3.15)	.007 (.38)	.026** (1.93)	.026** (2.06)
Class of 1980 in 1984	.011 (.857)	.022* (1.62)	.018 (.94)	.021 (1.59)	.008 (.65)
Class of 1980 in 1985	-.001 (.069)	.003 (.21)	.02 (1.16)	-.013 (.92)	.002 (.16)
Class of 1980 in 1986	.015 (.91)	-.017 (-1.09)	-.01 (.85)	-.011 (.97)	-.002 (-.16)
Class of 1992 in 1992–1994 (Full time)	.011 (.52)	.017 (1.04)	-.004 (.24)	-.009 (.57)	.029** (1.99)
Class of 1992 in 1992–1994 (Part time)	-.001 (.06)	.008 (.90)	.005 (.58)	.016** (2.09)	.002 (.26)

Note. Analysis of follow-up data for High School and Beyond-Senior Cohort and National Educational Longitudinal Survey: 1998. Sample is all students who graduated from high school during 1980 or 1992. All models contain a full set of background variables including test scores and grades. In addition, models predicting earnings and wage rates contain controls for the number of months spent attending college full time and months spent attending part time.

*Statistically significant at 10% level on a two-tail test.

**Statistically significant at 5% level on a two-tail test.

***Statistically significant at 1% level on a two-tail test.

Table 9.7
Effects of Requiring Passage of a Minimum Competency Test to Graduate from High School

	Socioeconomic Status			Race/Ethnicity		
	Low	Middle	High	White	African American	Hispanic
Low Wage Rate						
Class of 1980 in 1981	.036** (2.08)	.017* (1.69)	-.012 (.78)	-.005 (.56)	.042** (2.20)	.037** (2.17)
Class of 1980 in 1983	-.017 (.73)	-.006 (.42)	.005 (.25)	-.015 (1.10)	-.014 (-.54)	.045* (1.85)
Class of 1980 in 1985	.019 (.83)	.025* (1.79)	.011 (.52)	.008 (.61)	.031 (1.28)	.046** (1.98)
Class of 1992 in 1992-1994	.039 (1.27)	.037** (2.11)	.049 (1.61)	.047*** (3.09)	-.007 (.22)	-.007 (.22)
Earnings (in current \$)						
Class of 1980 in 1981	194 (1.09)	113 (.93)	-286* (1.74)	-161 (1.45)	93 (.54)	500** (2.37)
Class of 1980 in 1982	-.86 (.34)	69 (.40)	-113 (.51)	-227 (1.46)	111 (.44)	402 (1.42)
Class of 1980 in 1983	-220 (.83)	64 (.33)	-149 (.39)	-208 (1.16)	-5 (.02)	447 (1.56)
Class of 1980 in 1984	0 (.00)	264 (1.21)	103 (.32)	117 (.56)	470 (1.39)	330 (.91)
Class of 1980 in 1985	377 (1.02)	620*** (2.27)	286 (.72)	484* (1.88)	808** (2.05)	703** (1.67)
Class of 1992 in 1993	694** (2.22)	171 (.94)	107 (.54)	318** (2.31)	59 (.18)	59 (.18)

College Attendance	.027*	.008	-.008	.000	.011	.031*
Class of 1980 in 1981–1982	.027 (1.72)	.008 (.70)	-.008 (.49)	.000 (.01)	.011 (.59)	.031* (1.77)
Class of 1980 in 1982–1983	.022 (1.26)	.018 (1.37)	.032* (1.66)	.018 (1.41)	.032 (1.56)	.039** (2.04)
Class of 1980 in 1983–1984	.024 (1.42)	.027** (2.12)	.030 (1.52)	.032** (2.49)	.038* (1.89)	.011 (2.04)
Class of 1980 in 1984	.004 (.28)	.013 (1.02)	.029 (1.32)	.022* (1.66)	-.002 (.09)	.002 (.09)
Class of 1980 in 1985	-.009 (.53)	.013 (.98)	.004 (.16)	.009 (.64)	-.014 (.070)	.022 (1.10)
Class of 1980 in 1986	-.012 (.59)	-.011 (.77)	.005 (.24)	-.009 (.64)	-.007 (.32)	.007 (.34)
Class of 1992 in 1992–1994 (Full time)	.032 (1.49)	.011 (.72)	-.003 (.18)	.011 (.93)	.018 (.69)	.018 (.69)
Class of 1992 in 1992–1994 (Part time)	.012 (1.11)	.013 (1.60)	.001 (.07)	.010* (1.71)	.010 (.73)	.010 (.73)

Note. Analysis of follow-up data for High School and Beyond-Senior Cohort and National Educational Longitudinal Survey: 1998. Sample is all students who graduated from high school during 1980 or 1992. All models contain a full set of background variables including test scores and grades. In addition, models predicting earnings and wage rates contain controls for the number of months spent attending college full time and months spent attending part time. The 1992 Hispanic and African-American graduates were merged because of insufficient number of observations for separate analysis.

*Statistically significant at 10% level on a two-tail test.

**Statistically significant at 5% level on a two-tail test.

***Statistically significant at 1% level on a two-tail test.

from the middle of the test-score distribution earned \$424 more (a 7.5% increase) when they graduated from an MCE high school.

The reader should be reminded that all of these findings are from regressions that control for the quality of the high school and the individual's academic achievement—test scores, grade point average, participation in extracurricular activities, and an indicator for taking remedial courses in either math or English. Apparently, the existence of the MCE raises achievement in ways not captured by individual test scores and this has long-term effects on students' ability to complete college and get higher paying jobs.

In summary, the MCEs that were in existence in the 1980s and early 1990s did not lower high school completion rates as some feared. Instead, they increased college attendance and college retention rates. Students who graduated from MCE high schools immediately obtained significantly higher paying jobs and kept their pay advantage over the next 5 years. In addition, large earnings benefits appeared 5 years after high school graduation. The immediate wage-rate benefits of graduating from a MCE high school were larger for people graduating in 1992 than in 1980, although there was less egalitarian bias in terms of beneficiaries in 1992 than in the early 1980s.

MCEs are changing. New states and cities such as Chicago, Ohio, and Massachusetts have introduced them. Other states—such as New Jersey and New York—are improving their exams (by adding essays and open-response questions) and raising the standard that must be achieved to graduate. The most dramatic increase in graduation standards has occurred in New York State. The next section of this chapter provides background on New York State's Regents examination system and plans to reform it by requiring all students to take and pass Regents exams in five core subjects. The succeeding section reports on interviews with teachers and administrators in New York State high schools that have eliminated the bottom-track classes and now require all students to take demanding Regents courses in five core subjects. The primary change has been a massive redirection of energy and attention to struggling students.

The New York State Regents Examinations

New York State has been administering curriculum-based Regents examinations to high school students since June 1878. As Sherman Tinkelman, Assistant Commissioner for Examinations and Scholarships, described in a 1966 report:

The Regents examinations are closely related to the curriculum in New York State. They are, as you can see, inseparably intertwined. One supports and reinforces the other.... These instruments presuppose and define standards.... They are a strong supervisory and instructional tool—and deliberately so. They are effective in stimulating good teaching and good learning practices. (p. 12)

Sponsorship by the state Board of Regents is crucial to the role these examinations have played in setting and maintaining high standards and promoting reform. On occasions examinations have been deliberately revised to induce changes in curriculum and teaching:

For years our foreign language specialists went up and down the State beating the drums for curriculum reform in modern language teaching, for change in emphasis from formal grammar to conversation skills and reading skills. There was not very great impact until we introduced, after notice and with numerous sample exercises, oral comprehension and reading comprehension into our Regents examinations. Promptly thereafter, most schools adopted the new curricular objectives. (Tinkelman, 1966, p. 12)

The examinations are taken throughout one's high school career. A student taking a full schedule of college preparatory Regents courses would typically take Regents exams in mathematics and earth science at the end of 9th grade; mathematics, biology, and global studies exams at the end of 10th grade; mathematics, chemistry, English, American history, and foreign language exams at the end of 11th grade; and physics exams at the end of 12th grade.

In 1996, the ratio of the number of students taking the Mathematics Course 1 exam to average enrollment in a high school grade was 89% and, of the students in the course, 28% scored below the 65% passing grade. Participation percentages were in the 60s for the global studies, American history, biology, and English exams. Failure rates were 25% in global studies, 19% in American history, 25% in biology, and 20% in English. Those not taking Regents exams were typically in

"local" courses that are considerably less challenging than Regents courses. A system of Regents Competency Tests (RCTs) in reading, writing, math, science global studies, and American history and government set a minimum standard for those not taking Regents courses.

For students the stakes attached to Regent exams are not high.⁴ Exam grades count for less than one eighth of the final grade in the course and influence only the type of diploma received. College admissions decisions depend primarily on grades and SAT scores, not Regents exam scores. Employers ignore exam results when making hiring decisions. Students are aware that they can avoid Regents courses and still go to college. Indeed some perceive an advantage to avoiding them:

My counselor wanted me to take Regents history and I did for a while. But it was pretty hard and the teacher moved fast. I switched to the other history and I'm getting better grades. So my average will be better for college. Unless you are going to a college in the state, it doesn't really matter whether you get a Regent's diploma. (Ward, 1994, P. 1)

Indeed, the modest payoff to taking Regents exams may be one of the reasons why so many students have not been taking Regents courses. In 1996-1997, only 42% of graduating seniors got a Regents diploma signifying they took a series of Regents-level (or above) academic courses and passed the associated exams.

The Statewide Shift to All-Regents

This is about to change. The Board of Regents has announced that students graduating in the year 2000 must take a new 6-hour Regents English examination and pass it at the 55% level. The class of 2001 has the additional requirement of passing an examination in algebra and geometry. The class of 2002 must also pass Regents examinations in global studies and American history. The phase-in of all five new required Regents exams will be completed when laboratory science exams are required, with the graduating class of 2003. New Regents examinations are being introduced in a number of subjects. The new exams are, if anything, more demanding than the exams they replace. Once schools have adjusted to the new exams and the requirement that all students take them, the Regents intend to raise the scores necessary to

pass from 55% to 60% and then to 65%. New York State is in the process of establishing the first high-stakes curriculum-based external exit examination system in U.S. history.

All-Regents High Schools: How Did They Do It?

What kinds of changes in school policies and resource allocation will be necessary to move to an All-Regents curriculum in the five core subjects? This question was addressed by interviewing teachers, administrators, and school board members at 10 high schools that had already moved to an All-Regents curriculum and have significantly increased the number of students taking and passing Regents exams. The method of drawing the sample and conducting the interview is described in Monk and Hussain (1998) and is not repeated here. The site visitors wrote a short report about each district. In eight of the school districts, interviews were recorded and about 60 hours of tape was generated. The comments that follow are based on listening to the recorded interviews, reviewing the reports, and talking to interviewers.

Generating Support. The districts that increased their participation in Regents exams to high levels did not accomplish the goal quickly or easily. The key to success was not getting a tax-rate increase through the school board or introducing a new teaching system. In most cases, the formal and structural changes were modest. It was the school's culture—both the teacher culture and the student peer culture—that had to and did change.

The initiative generally came from a new district superintendent who recruited or promoted people into key jobs who would support his vision for eliminating the bottom or local track. Staff and community support for the change was carefully cultivated. In many cases the goal of shifting to an All-Regents curriculum was not announced until many years after important initial steps had been taken and some early successes had been achieved. In most cases, the teachers and the community felt that the school was already doing a great job. They took pride in the accomplishments of the honors students. How could they be convinced to end the low-expectation basic or local track into which struggling and lazy students were fleeing? The Regents exams and the report card outlining district-level results provided the benchmark that the superintendent was able to use to shame and inspire teachers to raise the standards for all students. As one superintendent in an All-Regents

district said, “External validation of what you’re doing and forcing teachers, administrators and the community to look at yourself as reflected in the eyes of people outside of you and matching a standard that exists outside your school district was critical!” The long history and prestige of Regents exams helped sell the reform to parents: “All-Regents was...helpful for us. It was very concrete. It was something the parents could relate to. When parents thought of a Regents program in their own experience, they thought about students who were college bound” (School board president of an All-Regents school district).

Outside recognition was sought and excellence awards were frequently received:

The whole community is walking around with their chests out. Which really helps out. There is a pride that this is what _____ is today. (School board president of an All-Regents school district)

[All-Regents] put us up on a new standard. It made a change in the high school and [brought] the recognition of this high school as a place where positive things are happening. (President of the teachers union local in an All-Regents school district)

The outside recognition increased teacher and community support for the initiative. Praise for past accomplishments spurred teachers to raise standards even higher and work harder. The focus on the external standard meant that the professional pride of the teachers became invested in getting marginal students through the Regents. The visibility of each success made the extra work seem worthwhile.

Eliminating the local or basic track and increasing standards persuaded more students to take honors, advanced placement and international baccalaureate classes: “Every level of kid in that classroom is getting a new challenge. Because we are an All-Regents high school, we are offering more AP classes. Kids are ready for that next challenge” (Principal of an All-Regents high school).

A Focus on Struggling Students

All of the districts substantially increased the time and resources devoted to teaching and tutoring struggling students. Because they had initiated the raising of the bar, school administrators felt a moral obligation to do everything in their power to help students succeed:

You need to...provide the remedial and tutorial support that every individual kid needs. It's a terrible thing to put in a tough program that kids are going to fail. Every one of these kids can do it—they take a different amount of time to do it. (School board president in an All-Regents school district)

The guidance counselor met with incoming freshmen and developed a plan with the goal of obtaining a Regents diploma. The milestones were tracked and if a student started having difficulties, the counselor arranged tutoring. The extra time was obtained in a variety of ways:

- More homework was assigned—especially for students formerly in local courses.
- Struggling students were assigned to Stretch Regents courses, which take 1½ or 2 years to cover material reviewed in 1 year in a standard Regents course.
- Struggling students were assigned to classes with more than five periods a week. A number of the schools that settled on this option had tried 2-year Stretch Regents courses and felt that extra time in a 1-year period worked better.
- Summer school attendance was increased, especially for struggling primary and middle school students.
- The number of study halls was reduced because most students do not use study halls productively and regular tutoring sessions were substituted.
- Extra periods at the beginning or end of the school day were added and used for giving struggling students additional help.
- Students in the National Honors Society and the international baccalaureate program provided peer tutoring.

Teachers Were Inspired to Work Harder

[Teachers] worked above and beyond the contract. Nobody asks them to do it.... I've never worked in a place like this before! (Principal of an All-Regents high school)

The [teachers] were willing to give their every effort and time above and beyond the school day. They would stay for hours on end late in the...evening.... She [the principal] presented it so well. She's just a motivator! (School secretary at the same All-Regents high school)

In many schools, teachers were given more time for tutoring by relieving them of hall duties, lunchroom supervision, and study hall supervision. In one school, the position of department chair was eliminated and the time formerly given to department chairs was reallocated to teaching and tutoring. In some schools, teaching assignments were no longer allocated by seniority. The best teachers were reassigned to classes with significant numbers of struggling students. In some schools teaching assistants who were fully qualified teachers were hired to provide tutoring. Nighttime review sessions were offered in the months preceding the Regents exams. Teacher contracts were not renegotiated, but local union leaders sometimes chose not to make an issue of things that in the past might have led to a grievance.

In one district, many teachers could not adapt to the new procedures and decided to leave. Young teachers who believed the All-Regents goal was both desirable and feasible were hired as replacements.

Implications for State Policy

Requiring all students to reach the Regents standard in five core subjects will significantly increase student achievement, college attendance and completion, and the quality of jobs that students get after high school. The biggest beneficiaries of the policy will be the students, often from disadvantaged backgrounds, who have been encouraged or allowed to avoid rigorous courses in the past. In the All-Regents high schools there was a major reallocation of teacher time and resources toward struggling students, whose achievement increased the most. Administrators reported that college enrollment rates increased after they shifted to All-Regents.

It is not always clear, however, that the parents of struggling students will see it that way. When the principal of an All-Regents high school was asked who opposed the elimination of the easier local courses, she said:

Parents of children...who...felt [their kids] couldn't do it.... [One parent approached her in the school parking lot.] She started yelling at me. She told me she hated the All-Regents high school. Her kids were not as successful. If you sit in a consumer math class you get a 90. If you sit in a sequential math class, you have to struggle to get a 65.... She was very angry about it.... Parents are a big obstacle....

Your kids don't want to do this. They're going to complain about it. Which means you are going to work harder as a parent.

Once students start failing Regents exams and having to repeat courses in order to graduate, there will be a crescendo of complaints. Claims will be made that schools have not done enough to help students succeed on the new exams. How can the Regents and the state legislature assist local schools to meet their obligation to help students meet the new higher standards? How can the number of dropouts and graduation delays be minimized?

Most important, the amount of time that struggling students spend on the task of learning must be increased. This is the central recommendation of a representative group of teachers, school administrators, and parent representatives that was convened by New York State's Commissioner of Education to recommend to the Board of Regents means of minimizing the number of students failing to meet the new higher learning standards. This group, inelegantly named the Safety Net Study Group, recommended a radical increase in the amount of instruction that struggling and disadvantaged students receive. The following is quoted extensively from their final recommendations:

The success of this upgrading of standards will depend on a systemic program of prevention and intervention strategies that each district and, in turn, each school must provide. These strategies include, but are not limited to:

- Providing extra learning opportunities through extended time for students in need of this service.
- Providing clear direction to students and their parents of what is expected of the student, what is the student's current academic status and what the student still needs to do to earn a Regents diploma.
- Providing a transitional program from elementary to middle school and from middle school to high school.
- Providing a clearly defined promotional policy so that all students and their parents understand the criteria from grade to grade.

Recommendation 1—Grade Specific Curriculum: Each school district and, in turn, each school should be required to have grade specific curriculum consistent with State standards.... If a district does not meet the learning standards, then State intervention procedures will be implemented [the State intervention program is referred to as Schools Under Registration Review].

Recommendation 2—Extra Help/Extra Time: Each school district should have, at every grade level, an assessment system to provide information on student performance and to prepare all students to meet the standards.... Enrichment and remediation programs should be provided as additions to and to reinforce core courses of study as opposed to “pullout” programs. [Pullout programs take struggling students out of their regular class to give them small group instruction by a resource teacher.] The state should revise the commissioner’s Regulations on remediation...to require that students receive the extra help/extra time they may need to meet the standards. These students enrichment and remedial activities will be provided within the school year, including after school instruction, evening instruction, Saturday instruction, etc.

Recommendation 3—Mandatory Summer School: When a student fails to meet academic expectations, based on grade-level assessments, then that student would be required to attend summer school.... Since the State is responsible for summer school, it would need both to revise the current summer school requirements and procedures to accommodate this expansion and to review and revise the current assessments provided during the summer sessions.... In addition the State would provide the necessary financial assistance to support the extra cost of mandatory summer school.

Recommendation 4—Professional Development: ... Each district should provide professional development to all staff, kindergarten through grade 12, to enable them to assist students to meet the new graduation requirements....

Recommendation 5—Student Promotional Guidelines: Each school district should have a plan that explains the movement of students from grade to grade (especially when they move between different school buildings) and identifies the ways that schools engage parents, students and other community members to help students understand and achieve higher standards.... (Safety Net Study Group, 1998, pp. 3–5)⁵

Schools with large numbers of struggling students should probably lengthen the school day and school year for all students, not just a targeted minority who are behind the rest. The Edison schools have been successful with this approach and a non-Edison public school in Massachusetts has successfully copied the idea. Why not contract with Edison to take over some urban public schools in New York or implement the idea in a few pilot schools?

The All-Regents schools the authors studied obtained large increases in teacher contact time with students by reorganizing teacher

time and getting teachers to work above and beyond their contracted hours. Inspiring leadership that induces teachers to work way beyond the contract for no additional pay will not be available in most districts. Consequently, teachers will have to be paid extra for working longer hours. Costs of tutoring, longer school days, review sessions, and staff development are associated with preparing students for Regents exams and should not be subject to caps in state funding formulas. A special funding formula should be developed for districts that have large numbers of disadvantaged pupils and low first-grade test scores.

One of the most effective forms of professional development is serving on the committees that grade essays, multistep mathematics problems, and extended answer questions. Canadian teachers who have served on grading committees for their provincial exams describe it as "a wonderful professional development activity" (B.H., personal communication, May 18, 1996). Having to agree on what constituted excellent, good, poor, and failing responses to essay questions or open-ended science and math problems resulted in a sharing of perspectives and teaching tips that most found very helpful. Therefore, teachers should grade the Regents exams in centralized regional locations under the guidance of well-trained leaders. Scoring rubrics should be developed centrally to maintain consistent standards across the state.

What Will Happen to Dropout Rates?

Many school districts have already started shifting to an All-Regents curriculum in anticipation of the new requirements and the number of students taking Regents-level courses and passing Regents exams is increasing. Between 1995 and 1997, the proportion of students taking and passing Regents exams at the 65%-correct level rose from 50.3% to 56.3% in English, from 53% to 59% in Sequential Mathematics I, and from 41% to 44% in Biology.

Nevertheless, we predict extremely high failure rates—between 30% and 50% in some subjects—the first time Regents exams are administered to all students. Even if the reforms proposed previously were implemented immediately, they would not have been operating long enough to prevent this from happening. Many students will have to retake examinations after taking additional academic courses or special summer makeup courses. Will this generate a large increase in dropout rates as students despair of ever passing all five exams? We think not.

Our prediction is that New York students will respond the same way that European students respond to tough graduation requirements; they will study harder and stay in high school longer. The tougher graduation requirements will not be fully phased in until the class of 2003. We predict that 4 years later, in 2007, dropout rates will be at or below current levels. We predict that this will be accomplished without making the Regents exams easier than they are right now. We base this forecast on the following:

- When students discover how difficult the standards are, we expect them to react by studying harder. Teachers will gain experience in teaching to the new standards and will improve. Teachers who are unable to teach to the higher standards will leave the profession and be replaced by teachers who can.
- We expect that the firestorm that will result from the high failure rates in the first year will generate a large infusion of state aid directed specifically at helping struggling students and schools serving disadvantaged populations. The impending rise in graduation standards helped convince the legislature to increase school aid in the most recent budget cycle; much of the aid was targeted at expanding after-school programs and summer schools.
- The high-stakes exam will make teacher quality much more critical than in the past. The competition for quality teachers will drive their wages up. Parent support of more school spending will increase.
- We predict that the plan to increase the 55% passing standard on the Regents exams to 60% and then 65% will be indefinitely postponed.
- The Regents examination graduation requirement replaces a Regents Competency Test (RCT) graduation requirement that already sets a relatively high minimum, so the change in failure rates will not be as dramatic as many expect. In 1996, the ratio of the number of students failing a RCT to average enrollment per grade in the state was 21% in mathematics and global studies and 20% in science. In New York City, failure ratios on the RCT were above 40% in these three subjects.

- The Regents exam graduation requirement does not apply to all high school students in the state. The 10% of students who are in private schools are not covered. Special education students with an individual education plan are exempted.
- Many of the students who are unable to pass all five Regents exams at the 55% level will complete high school by transferring to a private high school or a GED program. A transfer to a GED program is considered a switch to another kind of school, not dropping out of school.

Let us imagine, however, that our prediction of stable or rising high school completion rates is wrong. Would a 2% to 4% decline in completion rates imply that increasing graduation requirements was a mistake? No. Focusing solely on graduation rates mistakes symbol for substance. What counts is how much students learn, not what proportion of them have a specific paper credential. It is the competencies developed in high school that enable a student to survive and thrive in college, not the diploma. Many community colleges admit students without diplomas. Higher standards will result in all students learning more on average (Bishop, 1996a). Those who graduate will be more competent and will be able to command a better wage in the labor market. The section on the effect of MCE graduation requirements on college attendance and wages demonstrates that this effect is quite large—MCEs cause a 3% to 4% increase in average wage rates. The average high school dropout will also be more competent and this too will result in higher pay. College attendance rates will be higher, and those affected in this way will be big gainers. There will be losers—the hypothesized 2% to 4% of the age cohort who would have graduated under the old standards but do not under the higher standards. Altonji and Pierret's (1997) regression predicts that dropping out generates approximately an 18% reduction in earnings in the first year out of school and a 6% loss in the twelfth year out (assuming no change in test scores). These losses pale by comparison to the greater than 4% wage-rate gains experienced by the 96% to 98% of young people whose completed years of schooling are not changed by the higher standards.

ENDNOTES

1. Surveys of college admission officers suggest they are increasing the weight they attach to taking rigorous courses in high school and doing well in these courses. The high school grades have always been the first considered. Standardized test scores have now become the second most important consideration, displacing class rank. Class rank is becoming less important because an increasing number of high schools are refusing to calculate class rank.
2. The population of 17-year-olds was used as the base rather than 18-year-olds because the number of 18-year-olds may be inflated by immigration of college students and military personnel.
3. These controls for school characteristics and region may not be sufficient to avoid omitted variable bias. States and school districts with such exams may be different along unmeasured dimensions that have direct effects on wage levels. A positive selection bias is unlikely, however, because most states appear to have adopted MCEs as a response to a perception that the state's schools were failing to teach basic skills. By 1992, MCEs had been adopted by every southern state except Arkansas and Oklahoma. With the exception of New Mexico, none of the mountain, plains, or Midwestern states had established an MCE prior to 1992.
4. The stakes for teachers and school administrators are higher because information on numbers of students taking and passing each exam are published in local newspapers and on the Internet. Though student stakes are low compared to European and Asian curriculum-based examination systems, they appear to be sufficient to substantially improve achievement of New York students. When the socioeconomic characteristics of students are controlled, New York State students outperform comparable students in other states by about one grade-level equivalent (Bishop, Moriarty, & Mane, 1998).
5. This recommendation was intended to induce school districts to consider ending social promotion at transitions between elementary and middle school and between middle and high school. It leaves the decision in the hands of local school boards, teachers, and administrators. State mandates on grade promotion specifying specific competencies that must be achieved are not feasible or desirable. The committee felt that the best way of responding to the needs of struggling students was to provide extra instruction during the school year and during the summer. The threat of retention is, currently, often used to induce students to attend summer school or after-school programs. Because students naturally want to advance to the next grade with their friends, the possibility of being retained (particularly at transitions between buildings) is a powerful incentive to study. This option, however, should be actually employed only as a last resort. Grade retention rates are quite high in ninth grade in New York State. It might make more sense to make graduation from middle school more contingent on student achievement in order to induce middle school students to work harder and their teachers to set higher standards.

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