Discussion

Educational Attainment as a Constraint on Economic Growth and Social Progress

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Yolanda Kodrzycki has produced an insightful and informative overview carefully documenting recent trends in U.S. educational attainment, examining differences in educational outcomes by demographic groups, and exploring the implications of these patterns for economic growth and inequality. She shows that the overall educational attainment of the U.S. adult population (measured by years of schooling or by high school and college degrees) increased substantially from 1970 to 2000, but the rate of progress has been rather slow since the mid-1970s for successive cohorts of new labor market entrants. This pattern (along with other demographic trends such as the aging of the workforce) suggests slower growth in the educational attainment of the U.S. labor force in future decades.

Kodrzycki also documents the persistence of substantial differences in completed schooling by race and ethnicity with little narrowing of the large white–black and white–Hispanic gaps in college-completion rates for younger cohorts over the past 25 years. Furthermore, large racial and ethnic gaps in wages and in a measure of academic achievement (as proxied by average literacy proficiency scores) are apparent for adult U.S. workers, even when conditional on the level of completed schooling. Additionally, substantial racial and ethnic differences in academic achievement (as measured by standardized reading test scores) and differences in access to computers remain for current cohorts of U.S. students. She interprets these group differences in earnings and academic achievement within completed schooling groups as reflecting differences in schooling quality and returns to education by race and ethnicity. She

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concludes that policies to raise the quality of schooling and the labor market returns to schooling for minority groups are crucial for reducing U.S. social inequities and, especially given the shifting demographics of the U.S. workforce, could be important for improving U.S. economic growth prospects.

Since I largely agree with Kodrzycki's thoughtful summary of the trends, I would like to focus on just a few issues. First, I would like to place the recent slowdown of the rate of growth of U.S. educational attainment into historical perspective and sketch some of the implications for wage inequality and economic growth. Second, I will discuss the role of high and rising residential segregation by economic status for educational policies and outcomes. And I will briefly mention some issues related to Kodrzycki's conclusion that differing returns to education are the key factor behind U.S. racial and ethnic wage differences.

Recent Changes in Historical Perspective

Disparities in the economic fortunes of American families have increased significantly over the past 25 years. Economic inequality in terms of wages, family income, and wealth expanded rapidly in the 1980s and early 1990s, reaching higher levels in the mid-1990s than in any time in (at least) the past 60 years. The strong economic boom of the late 1990s led to substantial real-wage and income growth for low-income families and even narrowed wage dispersion in the bottom half of the distribution. But U.S. wage and income inequality remains much higher today than prior to the 1980s and much higher than in other advanced economies (Katz and Autor 1999; Mishel, Bernstein, and Schmitt 2001). Labor market changes that have greatly increased overall wage dispersion and shifted wage and employment opportunities in favor of the more educated and the more skilled have played an integral role in this process.

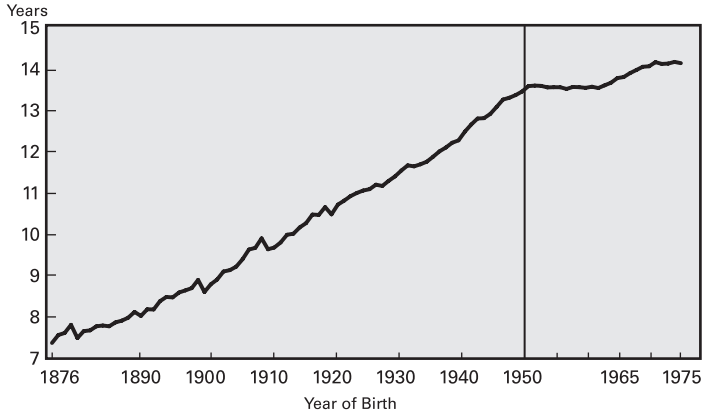
The rising inequality and educational wage differentials of the last 25 years represent a break from the pattern of most of the twentieth century. Most of the century was a "human capital" century in which the United States moved ahead of the world in educational attainment, first through the "high school movement" of the first half of the twentieth century and then with the expansion of college education following World War II (Goldin 2001; Goldin and Katz 2001a). The rapid expansion of educational attainment was associated with great technological dynamism, rapid economic growth, declining or stable wage inequality, and contained educational wage differentials as rapid skill-supply growth kept pace with rapid skill-demand growth from skill-biased technological change (Goldin and Katz 2001b). But educational wage differentials and overall wage inequality increased sharply in the 1980s through the early 1990s, with some slowing in the second half of the 1990s.

A simple labor market framework emphasizing the role of supply factors, demand factors, and labor market institutions goes reasonably far toward explaining the historical evolution of U.S. educational wage differentials (Katz and Autor 1999). Much evidence shows that new technologies and shifts in the industrial and occupational composition of employment have been skill-biased (education-biased) throughout the twentieth century. But this growth in the relative demand for skill (human capital) was more than matched by rapid growth in the relative supply of skills (educational upgrading) throughout most of the century. Something changed with a sharp slowdown in the growth of educational attainment for U.S. cohorts starting with the baby boom cohorts of the late 1940s and early 1950s. The combination of the slowdown of educational progress across successive cohorts of labor market entrants and shifting demographics (for instance, the aging of the baby boom cohorts and the labor market entrance of smaller baby bust cohorts) has meant a sharp reduction in the growth rate of the relative supply of skills (for example, the relative supply of college-equivalent workers) in the last two decades relative to previous decades. Institutional factors (the erosion of the real value of the minimum wage and of union strength) and weak macroeconomic conditions also contributed to rising wage inequality in the early 1980s, while a boost in the minimum wage and tight labor markets helped to narrow wage inequality from the mid- to late 1990s.

Figure 1 illustrates the slowdown of the rate of increase of educational attainment of U.S. birth cohorts starting with cohorts born around 1950. Average educational attainment increased by 0.08 year per birth cohort (or two full years of schooling for every 25 successive cohorts) for the birth cohorts of 1876 to 1950. But over the last 25 years (the 1950 to 1975 birth cohorts), the educational attainment of young cohorts increased by only 0.68 year (or 0.027 year per cohort). Similar patterns of slowdown hold for the share of workers going to college or graduating from college starting in the 1970s (around the 1950 birth cohort), with some increase in the rate of growth of college completion for the most recent cohorts. The consequence has been that the educational productivity of the U.S. workforce (measured by educational attainment, weighted by educational wage differentials), which expanded by 0.55 percent per year from 1940 to 1980 (and by over 0.60 percent per year in the 1960s and 1970s), slowed down to only 0.35 percent per year for 1980 to 2000 (Goldin and Katz 2001a; DeLong, Goldin, and Katz 2003). The slower growth of the educational attainment of the workforce directly reduces economic growth by slowing the growth in labor force quality and may adversely impact the rate of technological advance. And changes in the growth of the relative supply of skills have a major impact on wage inequality.

In particular, a slowdown in educational expansion, combined with even stable (not declining) growth in the relative demand for more-

Figure 1
Years of Schooling by Birth Cohort,
U.S. Natives Normed at 35 Years of Age



Source: U.S. Census of Population, Integrated Public Use Microsamples (IPUMS), 1940, 1950, 1960, 1970, and 1990; Current Population Surveys, merged outgoing rotation groups, 1999 and 2000. Years of schooling for each birth cohort for age 35 or the year closest to age 35 in the utilized census samples. See DeLong, Goldin, and Katz (2003) for details.

educated workers, can generate an increase in educational wage differentials and overall wage inequality. In the United States, the growth of the supply of college-equivalent workers relative to high-school equivalent workers slowed from a rate of 3.8 percent per year from 1960 to 1980 to under 2.5 percent per year in the 1980s and 1990s (Katz and Autor 1999). Countries with decelerations in the rate of educational advance in recent cohorts (United States, United Kingdom, and Canada) have all experienced substantial increases in educational wage differentials, especially for younger cohorts (Card and Lemieux 2001). Countries with continued rapid expansions of educational attainment (France, Netherlands, and Germany) have not experienced similar large increases in educational wage differentials. Slower growth in the relative supply of college-equivalent workers combined with rapid growth in the demand for more-educated workers, partially driven by computerization and related technological and organizational changes, has been a recipe for rising educational wage differentials and wage inequality.

The slowdown in U.S. college enrollment and completion rates has been concentrated among individuals from lower-income and minority families (Ellwood and Kane 2000). Much of the early slowdown might have reflected strained schooling resources from the large baby boom cohorts born in the 1950 and early 1960s, reduced male college-bound rates from the abnormally high levels associated with Vietnam draft-

avoidance behavior in the late 1960s, and a response to the decline in the college wage premium observed during the 1970s. The large and growing college wage premium of the 1980s and 1990s led to a substantial increase in college-enrollment rates for middle-class youth but not much increase for lower-income youth.

What accounts for the large and growing gaps in college-enrollment rates for youths by parental income? A large share of the differences in college enrollment by family income is driven by differences in academic investments earlier in the life-cycle arising from family inputs, neighborhood influences, and the quality of preschools, primary, and secondary schools (Heckman and Lochner 2000). But substantial differences in college enrollment (and persistence) remain by family income, even when controlling for achievement test scores and high school grades (Ellwood and Kane 2000). This suggests that financing constraints may remain a significant barrier to college for many low- and moderate-income youths. Much evidence suggests that college-enrollment rates respond to visible changes in college costs for low-income youth (Dynarski 2002). Recent estimates of the rates of return to schooling using quasi-experimental variation in access to college and college costs systematically generate high rates of return to schooling to the marginal (typically low-income) families affected by such policy interventions (Card 1999). This evidence suggests that financing and information barriers remain substantial for some families. It also suggests that improved college financial aid, earlier mentoring policies, and a more transparent financial aid application and information system could have substantial positive payoffs for disadvantaged youth and could feed back into secondary school performance by creating better incentives for high academic achievement.

Growing Residential Segregation by Economic Status

Poverty in the United States has become increasingly concentrated in inner cities. Table 1 shows that poverty rates in suburban and nonmetropolitan areas of the United States declined substantially over the past 40 years, but poverty persisted in central-city areas. The share of the poor in central cities increased from 27 percent in 1959 to 42 percent in 2000 despite growing suburbanization that reduced the share of the population in central cities. A broader pattern of growing residential segregation by economic status (family income) is also apparent in U.S. census data since 1970 (Watson 2002). The growth of income inequality itself plays an important role in increasing residential segregation by economic status as wealthier families increasingly can outbid poorer families for neighborhood amenities.

The growing concentration of poverty in inner cities has potentially disturbing implications because of evidence that residential neighbor-

Table 1
The Growing Concentration of U.S. Poverty in Central Cities, 1959–2000

Poverty Rates (in Percent) by Residence, 1959, 1973, 1994, and 2000				
	Overall	Central City	Suburbs	Non-Metro
1959	22.4	18.3	12.2	33.2
1973	11.1	14.0	6.4	14.0
1994	14.5	20.9	10.3	16.0
2000	11.3	16.1	7.8	13.4

Percentage of the Total Population and of the Poor in Central Cities		
	All	Poor
1959	32.2	26.9
1973	29.6	37.4
1994	29.4	42.2
2000	29.1	41.6

Source: U.S. Census Bureau, Historical Poverty Tables: People, Tables 2 and 8. 13 February 2002. <www.census.gov/hhes/poverty/histpov/perindex.html>.

hoods are associated with the current well-being and future opportunities of residents. Children who grow up in poor neighborhoods fare substantially worse on a wide variety of outcomes than those who grow up with more affluent neighbors. One interpretation of these findings is that residential location greatly affects access to opportunity through peer influences on youth behavior and through substantial observed differences by neighborhood wealth—such as school quality, safety from crime, and supervised after-school activities. Although attempts to sort out the true causal impacts of neighborhoods on the labor market prospects of minority and disadvantaged children from other (hard-to-observe) family background factors are fraught with difficulties, recent work on the quasi-experimental Gautreaux and random-assignment Moving to Opportunity housing mobility programs indicate that moves from high-poverty, inner-city areas to lower-poverty areas can have large positive impacts on children's human-capital development, including educational attainment, test scores, health, and measures of problem behaviors (Katz, Kling, and Liebman 2001; Ludwig, Ladd, and Duncan 2001; Rosenbaum 1995).

Changes in the residential concentration of poverty may greatly impact the ability of schools to deal with social problems and disadvantages. School policies need to be understood in this context. And housing mobility policies (housing vouchers) may be an important complement to educational policies in improving human capital development. Furthermore, the success of residentially based job training programs for disadvantaged youths (for example, the Job Corps) relative to similar training programs without a residential component is further evidence of

the need for taking peer and neighborhood interactions into account in the design of education and training programs (Krueger 2002).

Decomposing Racial and Ethnic Wage Differentials

Finally, I have a small quibble with Kodrzycki's analysis of the role of differential returns to education as a source of white–black and white–Hispanic wage gaps. She presents simulations that compare the impacts on racial and ethnic wage differentials of raising minority educational attainment to the same level as whites' (given observed estimated returns to education for the minority group) and of giving the minority group the white returns to education (holding minority educational attainment constant). She concludes that equalizing returns to education would go much further towards reducing racial and ethnic wage differentials than equalizing educational attainment. But the simulation she actually performs appears to involve not the equalization of rates of returns to schooling but the equalization of wages themselves within education groups. In other words, Kodrzycki correctly observes that the majority of white–black wage differentials occurs within education groups. But, in fact, the estimates of returns to schooling by race from Bradbury (2002) are not that different for whites and blacks for recent years. And the equalization of minority–white differences in these estimated returns to education themselves would have only a modest impact on minority–white earnings differences.

For example, using data from the 1999–2000 Current Population Survey outgoing rotation groups for full-time workers, I find that equalizing white–black returns to education reduces the white–black weekly wage differential only by 4 (2) percentage points for nonelderly adult males (females) and by even a smaller amount for younger cohorts. The equalization of educational attainment by race actually has a somewhat larger impact on racial wage differentials (typically 6 percentage points) for the groups I examined.

On the other hand, Kodrzycki's paper and simulations do make the important point that the racial and ethnic wage differentials are quite substantial in the United States even when looking at individuals with the same years of completed schooling. Neal and Johnson (1996) and others suggest that gaps in academic achievement related to school quality, neighborhood, and family backgrounds play a large role in these wage differentials for younger cohorts. Although much evidence suggests direct racial discrimination still plays a role in the U.S. labor market (Altonji and Blank 1999), much of the remaining racial and ethnic gap may relate to family, neighborhood, and school resources (development deficits), and to lingering racial stigmas as emphasized by Loury (2002).

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