

STUDENT TRANSITIONS

Robert Zemsky and Peter Cappelli, Project Directors

Establishing a School-to-Work Baseline

Robert Zemsky, Peter Cappelli, Daniel Shapiro, and Thomas Bailey, Principal Researchers

This activity provided an important baseline for enhancing the understanding of school and work transitions in the United States and provided the starting point for an Organisation for Economic Co-operation and Development (OECD) visit to the United States. The OECD has been focusing its attention on the nature of youth labor markets in member countries, investigating how each provides links between schooling and work.

Findings:

The review begins with a basic educational census that describes education in the United States as a network, rather than a system, roughly categorized by level of educational attainment, by institutions of public or private control, and by educational specialization. Drawing on the strength of the market taxonomy developed by NCPI, the review documents patterns of educational swirling and educational attainment, the transition of working life, including the youth labor market, the restructuring of the economy and the growing use of contingent workers is likely to extend the transition to working life; and how employers view the work readiness of schools, colleges, and universities. The review concludes with a summary of important school-to-work initiatives at the federal level using a four-part classification: facilitating transitions; improving education and training efficiency; reducing labor market uncertainties; and building networks.

Patterns of Schooling, Work, and Educational Attainment

Robert Zemsky, Peter Cappelli, Michael Kirst, Harold Salzman, Thomas Bailey, Jerry Jacobs, Richard Murnane, David Neumark, and John Bishop, Principal Researchers

This activity is comprised of a series of discrete research efforts focusing on youth transitions, which come in three general forms: moving from school to school, moving from school to work, and combining both activities simultaneously.

School-to-School Transitions.

Two projects examine the school-to-school transition in the United States, focusing on the signals sent by postsecondary institutions to secondary schools and students through the admissions process, as well as those transmitted by secondary institutions to students through formal school-to-work programs. The goal of this research is to assess how these signals influence the pursuit of postsecondary education. Harold Salzman studied the effect of school-to-work programs on students' choices to pursue postsecondary education through case studies, interviews, and student surveys.

School and Work Engagement.

Three studies focus primarily on the combining of school and work, helping to broaden an understanding as to how often, why, and at what ages working and learning are pursued in tandem. The purpose of these studies is to map the distinct schooling and working patterns of youth and young adults in the United States:

Robert Zemsky and Susan Shaman mapped the educational pipeline and swirl through an analysis of the actual paths of youth surveyed through High School and Beyond and the National Education Longitudinal Study (NELS) of 1988.

The Institute on Education and the Economy, under the direction of Thomas Bailey, documented the basic patterns of transition sequences for three decades using data from the National Longitudinal Survey of Young Men (NLS-72) and the National Longitudinal Survey of Youth (NLS-Y).

Jerry Jacobs examined patterns of educational attainment for the entire U.S. population by age, identifying how the pursuit of education and overall rates of educational attainment are increasing due to the enrollment of older populations.

School-to-Work Transitions.

Three studies focused on the transition from schooling to working as a primary or sole activity. They examined the stability of the youth labor market, the demand for college education in the labor market, and the returns that youth receive for certain academic skills:

David Neumark assessed the consequences of relatively orderly vs. relatively chaotic youth labor market experiences (churning), in part to determine some of the likely consequences of school-to-work programs, using the NLS-Y.

Richard Murnane examined the role that cognitive skills, as measured when students are high school seniors, play in explaining why some American workers in their late 20s and early 30s earn more than their peers. Murnane's study drew on data from employees to understand how the relationship between cognitive skills and earnings has changed and might be affecting income inequality. He extended previous studies in this area using the sophomore cohort of High School and Beyond and NLS-72.

Using Project Talent data, John Bishop estimated the response of enrollment demand to geographic variations in the availability of colleges and cost of attendance; Bishop also used Bureau of Labor Statistics (BLS) projections to analyze the change in demand for a college education in the labor market.

Findings

State Policy Coordination—Texas

There is a lack of significant policy or discussion mechanisms for higher education representatives and K-12 education representatives to coordinate and align standards, including admissions and placement exams.

Although Texas has made major reforms and achievement gains in its K-12 system, there has been little work to align its K-12 and higher education standards and policies. For example, high school graduation requirements and public higher education admissions requirements are not compatible, and the content and

objectives of the state's high school exit level test and the state's college entrance examination are not compatible.

Admissions policymaking has become more centralized following the Hopwood decision. The Texas Legislature has increased its role in undergraduate admissions-related decisions. For example, in the 1997 legislative session, the legislature passed House Bill 588, or the Top Ten Percent Rule, which allows students in the top ten percent of their graduating classes to gain admission to any public institution of higher education in the state. This is at odds with the historically strong political culture of local control in the education arena.

There is an overall lack of clarity regarding the selectivity of, and policies set by, Texas' public institutions of higher education.

The universities included in the study have standardized feedback reports that they send to high schools that send five or more students to the university. These reports include information on students' first year achievement.

Most public institutions of higher education in Texas are not selective. Although all have formal admissions requirements, most have informal policies that, in effect, create an open admissions environment.

Admissions Policies—Texas

The two institutions of higher education included in this study have implemented major changes in their admissions policies at least every two years over the past decade.

Admissions officers were generally unaware of state high school exit-level policies.

Admissions officers were concerned with admitting a diverse group of students.

Placement and Remediation—Texas

All students who are not exempted (e.g., those who do not earn high scores on the state's high school exit-level exam), must take the Texas Academic Skills Program (TASP) test prior to entering college. The requirements for who must take the TASP and when it must be taken have changed every two years since its inception. This has created confusion on behalf of higher education and K-12 stakeholders. In addition, it is difficult to evaluate the success of the TASP since the student populations tested change every two years.

The state does not send TASP results to high schools.

As compared to other Texas public institutions of higher education, the two institutions in the study do not have major remediation needs. Neither institution conducts studies to track students who failed sections of the TASP.

K-12 Stakeholder Findings

Students, and many K-12 educators, are unaware of the content and requirements of the TASP.

Students, and many K-12 educators, are unaware of current undergraduate admissions-related policies in the two institutions of higher education in the study. Many counselors stated that they learned of changes in college admissions-related policies from newspapers or from their students.

Large differences were found between honors and non-honors students and teachers with respect to their understandings of college admissions-related policies and procedures. Because the curricular tracks are highly segregated (students of color are overrepresented in non-honors tracks and Caucasian students are overrepresented in honors courses), there are many equity implications regarding this finding.

Throughout the state, there are almost no counselors who focus exclusively on college counseling. Students did not view counselors as knowledgeable purveyors of college admissions-related information.

Honors students received college admissions-related information from their parents and teachers; non-honors students received college admissions-related information in a relatively haphazard fashion.

High school administrators interviewed for this study do not use the universities' feedback reports.

K-12 stakeholders interviewed for this study view public university admission requirements as constantly changing and confusing. Many counselors stated that they do not have information on current undergraduate admissions policies for Texas' public institutions of higher education.

School Engagement.

In addition to mapping the life paths of youth at subsequent intervals after high school graduation through transition matrices, the work of Zemsky and Shaman uses the market taxonomy to help explain schooling and work outcomes. Their overarching conclusion is that it is difficult to identify a clear "school-to-work" transition in the United States—almost every student worked, and a significant majority continued their education eventually. These youth held a wide variety of jobs after graduation, changing them often as well as entering and leaving the labor market with remarkable frequency. Zemsky and Shaman also found that educational attainment beyond high school hinges on the first institution that a student attends and that the stratification of the American education system, particularly within postsecondary education, continues. While as a nation the United States has dramatically expanded access to colleges and universities, that access is enjoyed in highly predictable ways. African Americans and Hispanics attending baccalaureate institutions are disproportionately represented in the right half of the market—those segments that are most distant from the traditional ideal of a four-year residential experience. The enrollments of Asian Americans,

on the other hand, are equally shifted leftward, following the classic pattern of an ethnic group seeking social and economic mobility through education. What they and everyone else in the traditional part of the market are learning is that their baccalaureate degrees will likely bring economic success if they are a prelude to further professional education—and even then, what they get is an increased probability rather than a guarantee of better-than-average earnings.

In documenting basic patterns of transition sequences across three decades, Thomas Bailey and his research team found that at age 16, over 95 percent of the original study cohort was enrolled in school, but already more than half were also engaged in the labor force. This combining of work and schooling continued well into the cohort's 30s. The authors also found that the timing of transition sequences is clearly a function of educational attainment. Enrollment in college substantially lengthens the transition between school and work, increases the likelihood of combining working and schooling at later ages, and delays entry into exclusive labor force participation. The study also attempted to distinguish among relatively "clean" and "messy" transitions to labor force participation and employment. The authors found that college graduates are less likely to have either continuous labor force participation or employment, but are also the most likely of all groups to experience a clean transition. Among the least educated, by contrast, continuous labor force participation is high, but continuous working is low, and clean transitions to either activity are uncommon.

Jerry Jacobs examined the growth of adult enrollment in the United States and its impact on the educational attainment of the overall population. His paper examined the cumulative impact of adult enrollment on educational levels, as well as on race and sex differentials in educational attainment. The results highlight the role of the baby-boom generation in spurring the growth of adult enrollments. In fact, the growth in postsecondary enrollment between 1970 and 1990 has clearly been faster among adult students than among traditional-age college students. In addition, the faster growth in the enrollment of older students is most evident among full-time students, because there has been very little growth among traditional-age full-time students. What has occurred instead is that many traditional-age students are now enrolled part time. Indeed, part-time enrollment constitutes the fastest growing segment of traditional-age college students. The enrollment of women grew faster than that of men during the 1970-90 period—but for both men and women, the enrollment of older students grew faster than that of younger students. The authors examine the data by race and sex, considering the impact of later-life education on different groups, along with the issue of cumulative attainment patterns. The research indicates that the gap between the four race-sex groups remains of roughly similar size for this cohort as it ages. In other words, women and minorities did not "catch up" to white males in average educational attainment at later ages. They also show that adult enrollments contribute significantly to the educational attainment of the U.S. population as a whole.

School-to-Work Transitions.

The movement of youth from school-to-work is not only affected by their educational experiences and personal choices, but also in a fundamental way by the conditions of the labor market in which they seek employment. The results of studies by Neumark, Murnane, and Bishop identify three characteristics of the current labor market that affect how youth fare when seeking employment: cognitive skills are important in determining the earnings of young labor market entrants; a college education will have increased demand in the labor

market; and early stability in the labor market has positive effects on the adult wages of youth.

David Neumark explored the issue of churning by investigating the benefits and disadvantages to frequent job changes and found evidence of positive effects of early job stability on adult wages, in contrast to OLS estimates that indicate essentially no return.

Richard Murnane found that the demand for cognitive skills increased for women between 1985 and 1991, and remained steady for men. In addition, he found that the importance of skills measured during high school in predicting subsequent earnings grows during the first decade of labor market experience. An implication of this finding is that estimates of the labor market returns to skills based on samples of workers with little labor market experience may substantially underestimate the long-term returns. The cognitive skills of high school seniors are also strong predictors of subsequent educational attainment, which is one reason why senior math scores predict earnings a decade after graduation.

Through his analysis of labor market data, John Bishop concluded that the demand for college graduates in the labor market will be even higher than the Bureau of Labor Statistics estimates, that the growth of college-level occupations will account for 65 percent of total employment growth in the near future, and that past trends in the upskilling of existing occupations will continue. Bishop found that college attendance among women is very responsive to public decisions affecting in-state tuition levels and to the proximity of public colleges, as well as the economic payoff to college. This payoff for women of attaining a college degree has increased remarkably, and these increases are important contributors to the postwar explosion of female college enrollment rates. In addition, if tuition grows at the same rate as wages, Bishop forecasts that female college attendance could expand 20 percent more than the Department of Education currently suggests.

Strengthening K-16 Transition Policies

Michael Kirst and Andrea Venezia, Principal Researchers

Description of Activity. The Bridge Project examines the impact of state- and university-level higher education admissions standards and placement policies on secondary schools and students in California, Illinois, and Texas. The project focuses on campus, state, and system-level admissions-related policies, and concentrates on a specific region within each of the three states. The Pew Charitable Trust is providing additional funds to support an extended work scope. The project is organized around the following primary research questions:

- What are the formal and informal K-16 policies in each state?
- What are the signals and incentives sent by existing K-16 policies?
- How compatible are those K-16 standards and assessments with each other (e.g., what is the level of alignment between the content of a state high school exit exam and the content of a college placement exam)?
- How are higher education admission standards and placement policies communicated to, and interpreted by, secondary school-level educators, parents and students? Do different student subgroups understand and utilize the policy communication process differently?

- How might specific proposals to reform college admission policies affect or improve current patterns of communications and signaling?
- Are there barriers in current admission systems that are not communications-based and/or are not easily amenable to reform?

The Bridge Project includes three phases that relate directly to the major research questions:

Phase I:

Provides a descriptive analysis of the K-16 policies, assessments, and standards (e.g., high school exit-level exams and college entrance-level exams) in each state.

Provides analysis of the level of alignment between those policies, assessments, and standards.

The RAND Corporation is conducting content and format analyses of the high school exit-level and college entrance-level assessments utilized in each state.

Phase II:

Seeks to understand how students and other K-12 stakeholders receive and interpret the policies described in Phase I.

Determines whether there are differences in the reception and understanding of K-16 policies between student groups.

Phase III:

Creates a set of short-term and long-term policy recommendations.

Analyzes the strengths and weaknesses of the proposed policy recommendations.

Michael Kirst and his research team also examine the vital yet understudied role of community colleges in K-16 alignment and transitions.

Community colleges administer a variety of placement exams to determine if students can perform credit-level work, relegating underprepared students to remedial classes. Placement exams are increasingly becoming a "high-stakes proposition," as the inability to do credit-level work in community colleges clearly hinders students' ability to complete a community college program or to transfer to a four-year institution. Many assessment experts are concerned that these important decisions should not be made based on a single score on an assessment, especially assessments that may not be psychometrically sound. This study will address this—and other placement-related issues. In addition, attention will be given to understanding the type and amount of remedial offerings, because it is important to understand those issues when conducting research pertaining to degree completion.

Researchers will focus their study on the issue of placement exams, data collection, and data sharing between systems and institutions, policy development and implementation across sectors, and the information or policy signals sent to stakeholders in K-12 education and four-year institutions.

Researchers will examine relationships between previously studied high schools and local community colleges, including student matriculation rates and placement needs. To the extent that data is available, comparisons will be made regarding placement test compatibility across sectors.

NCPI researchers collect data about community colleges in four states, enabling them to conduct a cross-national comparison of K-12 schools, community colleges, and four-year institutions. Ultimately, this research will highlight gaps in knowledge and in communication between education sectors. It will augment research on the role of community colleges in K-16 reform, and provide researchers and practitioners with suggestions for more systemic reform, sharing data, and improving upon the transition between high school and community college, and from community college to four-year institutions.

A Restructuring Labor Market

Peter Cappelli and Harold Salzman, Principal Researchers

This project seeks to understand how changing employer practices and demands, which are driven by changes in the economy, affect skill development in the workforce. Specifically, it examines how employer restructuring has affected the provision of education and training. Using matched pairs of firms in the manufacturing and service industries that have undergone significant restructuring, Salzman examines changes in the organization of work, outsourcing and outside contracting, hiring patterns, skills levels required of new hires and existing workers, and education and training. In his examination of companies that are restructuring in order to understand how new forms of work organization change skill demands and affect other human resources issues, the central questions were:

- What determines whether employers encourage their workers toward further education (as opposed to training)?
- Why do some companies provide training in-house and others rely on community colleges or other public providers?

Findings.

Most corporate strategies designed to increase market responsiveness have, at their core, a desire to reduce the fixed cost commitments represented by internalized employment structures, along with less of a willingness to hire and then train unskilled workers. The demand for quicker response time and broader product lines has also led to the recasting of traditional systems of work organization. The premium that firms are willing to pay for specialized skills is increasing, particularly if the firm does not have to make a long-term commitment to the employee. When the product mix changes—and, hence, the mix of required skills and competencies is altered—firms feel relatively free to discontinue current employees, replacing them with new hires or with contract workers who can be immediately productive. A second, often complementary strategy, is to use cross-functional teams which allow a more fluid mixing of skills and competencies. A third, and increasingly attractive strategy for firms competing in uncertain product markets, is simply to outsource the task, leaving to someone else the job of finding the right mix of skills and competencies at a competitive price. All of these changes have caused a shift in the responsibility for obtaining increasingly higher levels of skill from the employer to the employee and have limited the

availability of entry-level positions for youth that often provided a clear pathway for school-to-work transitions.

Two key policy issues have emerged from this study: the extent to which there is a need for workforce skill development, and the extent to which firms will engage in training and education for youth and incumbent workers. The extent to which firms engage in workforce skill development is dependent upon an interaction of economic and organizational factors. These findings, along with those of many other studies, suggest that firms should be very concerned about improved skill development. Salzman's findings regarding corporate restructuring suggest that firms are "restabilizing" (for example, becoming interested in long-term worker tenure) and are pursuing innovation and growth strategies. This indicates that firms are interested in, and have the capacity to engage in, greater skill development. Yet, as he explored further the dynamics of skill investment by firms, he found that although firms report a shift to a higher workforce skill composition, they are not engaging in significantly greater skill development—at least for front-line workers—than in the past. This poses an apparent contradiction between the genesis of much recent U.S. policy, which is based on the contention that American employees are under-skilled and that U.S. firms need to upgrade their skill levels, and the behavior of firms that are not investing in skill development or significantly greater training.

This apparent contradiction can be explained in part by the organizational context of the skills shift and the dynamics of skill development. First, because the significant skill change tends to be compositional—through outsourcing, job restructuring, and/or work process restructuring, lower-level jobs within the core firm are eliminated, so that the remaining skills mix shifts upward (although those lower skilled jobs may still be part of the overall value chain, just located in another organization). Workforce shifts are often accomplished through the retention of higher skilled workers and by hiring higher skilled workers during periods of higher unemployment (often as a result of industry-wide downsizing). Importantly, the new skill needs reflect a change that may make some of the incumbent workforce's skills deficient but do not necessarily reflect a skills shortage in the labor market (e.g., skills deficits reflecting both previous hiring from a different pool of workers and inadequacies in education and training from previous decades).

Examining the organizational context of the skills shifts suggests three factors influencing the actual impact of the observed increase in skill requirements:

Firms have, by and large, been able to find workers at the level needed, both within their existing workforce (reduced in the restructuring) and in the labor market, though they may be recruiting from a pool of workers different from the previous pool.

The compositional shift in the workforce establishes hiring criteria at a level where skill development is at least adequate and often more than adequate for the tasks. Thus, firms may be interested in increasing rates of postsecondary attendance and completion, but less interested in the content of the specific education and skill development at the postsecondary level.

Skill shifts are often very gradual, involving only a few hires at a time. Thus, the magnitude of the problem tends to be seen as minimal, even if chronic. When there is a significant shift or change that requires a large number of new hires, it is viewed as—and usually is—an episodic event. A sudden expansion of capacity, a new plant opening, or relocation are generally not ongoing events and often occur with relatively short notice. A long-term investment for skill development is not viewed as meeting the immediate and short-lived problem. When hiring is constant, it is often viewed as a problem of turnover and thus the focus is on retention rather than development of the hiring pool.

The second explanation involves the dynamics of skill development within the firm and the countervailing factors to investing in skill development, even if skill deficits are recognized. From the perspective of human resource managers, skill development represents a competitive strategy that reflects their functional focus. For line managers, however, workforce skill is but one factor in a portfolio of competitive strategies and production or service delivery deficits. Operations-level factors may include quality systems, inventory management, scheduling, or a host of other factors—of which workforce skill is only one—and, often from the line manager's perspective, one that has the less predictable and less immediate payback. Although some of these processes require training, it is often minimal, can be done on the job, and overall the barriers to learning new methods are not seen as consequential.

Although some would say that not investing in front-line workforce skill development is a short-sighted competitive strategy, the evidence supporting this position is mixed at best.

These findings show a mixed picture in terms of investment in front-line worker skill development. Some firms are starting to rethink the initial employment strategies of low job tenure/high turnover, of using temporary workers, and even skill development strategies to "buy" skill, but some firms are also focusing on competitive strategies that depend less on front-line workers, developing competitive strategies around marketing and finance, and responding to short-term pressures to maintain and improve stock prices. Although the latter strategies may not be successful, or at least limited if pursued to the exclusion of job and skill development strategies that lead to innovation, quality, and timeliness in their product and service, the evidence on this point is not unequivocal. Thus, it is not clear the extent to which firms will sustain long-term or "deep" skill development once an initial workforce skills "upgrade" or shift in occupational composition is complete. Findings suggest that although demand for skills has increased, a number of countervailing factors within firms and in the market inhibit firms' active engagement in skill development.

The Employer's Perspective

Robert Zemsky and Peter Cappelli, Principal Researchers

With the joint sponsorship of the National Center for Postsecondary Improvement (NCPI) and the Consortium for Policy Research in Education (CPRE), the two major national surveys were conducted to capture the employment outcomes associated with postsecondary education as well as the value and utility that employers, employees, students, and parents attach to schools, colleges, universities, and other training and education providers.

The National Employer Survey (NES) was designed to gather information from employers about their workforce's education and training, their connections to schools, and their evaluation of the work readiness of high school, technical school, community college, and four-year college graduates. The National Employee Survey sampled workers from establishments participating in the Employer Survey.

Findings

In their report, "Computers, Work Organization, and Establishment Outcomes," Peter Cappelli and David Neumark found that high performance work systems do not seem to benefit employers on average, but there is some evidence that they benefit employees. This suggests that employees seem to be capturing most of the gain from these practices.

Peter Cappelli reports in "Social Capital and the Retraining Decision" that the decision by employers to retrain their current workers for new jobs, rather than laying them off and hiring new ones, seems to be driven by prior practices that build social capital between employees. Other explanations, such as paternalistic practices per se or general investments in overall training, do not predict retraining practices.

NES 1997 data was also used to support a study examining the ways in which community colleges can collaborate with community-based institutions to prepare disadvantaged youth and adults for work, advance their educational attainment, and develop the economies of the neighborhoods and communities in which they live. This project, entitled "In Support of Creating an Educated Workforce in Impoverished Communities," was supported by a grant from The Ford Foundation to Dr. Hillard Pouncy of Rutgers University. In particular, the researchers were interested in determining whether regional policies dealing with human capital development are reflected in employers' relationships with local postsecondary institutions. Dr. Pouncy and Dr. Dan Shapiro supervised the work undertaken for this project.