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Inequality in America: What role for human capital policies?

Growth in the quality of the workforce has been a major source of U.S. productivity growth and economic mobility in the past century. But recently, growth in the quality of the workforce has slowed down.[1] The growth in educational attainment across cohorts of Americans born since 1950 has decelerated compared to the trend in the preceding 50 years. Measured correctly, the proportion of high school dropouts in entering cohorts of workers has increased in the past twenty years, even among the nonimmigrant population.[2] This has serious implications for growth in aggregate real wages.

The slowdown in the growth in the quality of the U.S. labor force came during a period of increasing wage differentials between skilled and unskilled workers. Around 1980, the measured wage premium for higher-skilled workers in the United States began to increase substantially. Adolescent white males from the top half of the family income distribution responded to the new economic incentives with higher college attendance rates, but the response of those from lower-income families was weaker (Figure 1). Across all demographic groups, the already substantial socioeconomic, racial, and ethnic gaps in college attendance widened. Because education is a primary determinant of earnings, these disparate responses to the new market for skills widened racial, ethnic, and family-related wage differentials, contributing to rising economic inequality among U.S. households.[3]

Our current understanding of the causes of the gaps and trends visible in Figure 1 is limited. The debate over

This article discusses issues addressed by James Heckman, Henry Schulz Distinguished Professor of Economics at the University of Chicago, in his seminar of the same title at the University of Wisconsin–Madison in November 2004. The seminar is one in a IRP seminar series devoted to the causes and consequences of inequality.

Figure 1. College participation among white males aged 18–24.

Source: Computed from the Current Population Survey P-20 School Reports and the October report.

Note: These are high school graduates and GED holders either living at home or financially dependent on their parents while attending college.

appropriate and cost-effective solutions for increasing the supply of skilled labor in an economically efficient way has been intense. There is no shortage of policy proposals. Disparities in educational attainment are seen as important contributors to rising income inequality. The uneven quality of U.S. schools has been held responsible. Much emphasis has been placed on reforms such as school choice, charter schools, and achievement testing, and on second-chance remediation programs—publicly provided job training or exam certification (through the General Educational Development or GED test)—as an alternative to high school graduation.[4]

The analyses of James Heckman and his colleagues[5] ground the policy analysis of these issues on clearly formulated and empirically justified economic models. It is possible through trial and error to stumble onto effective policies without understanding the causes of the problems being addressed. A far more promising approach is to undertake empirically grounded studies of the mechanisms and the institutions that produce skills, and this is what they do. A consideration of policies based on economic fundamentals is more likely to lead to innovative solutions that address problems with the supply of skills (what economists call "human capital problems") than is a synthesis of "treatment effects" from different programs with different features in different environments. In the research summarized here, Heckman and his colleagues consider the acquisition of human capital in the context of economic models of life-cycle learning and skill accumulation, rather than in the narrower framework of just looking at policies that worked in the past. From this broader perspective, they conclude that most commonly recommended remediation policies appear likely to have only modest effects on skill formation.[6]

The best evidence, Heckman contends, strongly suggests that longer-term factors such as the environment provided by the parents and family resources available to children over the life cycle are far more decisive in promoting readiness for postsecondary schooling and social attachment than is family income during the brief period of adolescence. Factors operating during early childhood cumulate in adolescence in the form of crystallized cognitive abilities, attitudes, and social skills that explain inequalities in later socioeconomic attainment. This insight, says Heckman, should shape our understanding of the processes involved in skill formation and the policies most likely to be effective in raising the skill levels of the workforce and remedying past neglect.

The remainder of this article summarizes some principal findings of research conducted by Heckman and colleagues on the relative effectiveness of widely advocated

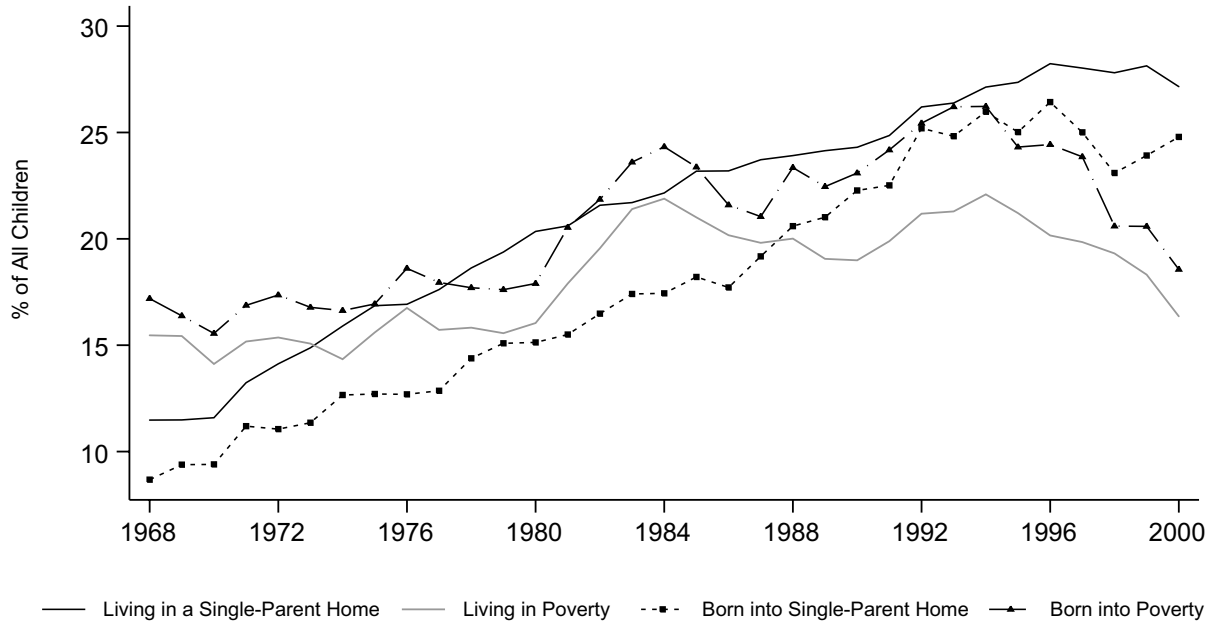

Figure 2. Children born or living in adverse environments, 1968–2000.

Source: Current Population Survey March Supplement, 1968–2000.

Note: Poverty is defined as living in a household with income below the federal poverty line, which is adjusted for age and number of family members. Single-parent homes include cohabiting partners.

human capital policies: early intervention programs for young children, interventions for adolescents, and, more briefly, job training for adults.[7]

Family environment and achievement

A greater proportion of American children are exposed to adverse family environments than in the past. Relatively more children are born into or are living in overwhelmingly poor, often single-parent homes, in which parents have low levels of educational attainment (Figure 2). These disadvantages are associated with poor child educational and economic outcomes. Children from disadvantaged families are less likely to complete high school or enroll in postsecondary education. Children from single-parent families are less likely as adults to complete high school, graduate from college, or be employed than are children from two-parent families.

Acquiring skills is a dynamic process. Much evidence concerning child development suggests that investments at different stages of the life cycle are vital to the formation of different types of abilities.[8] The skills acquired in one stage affect both initial capacities and the technology of learning at the next stage. Human capital is produced over the life cycle by families, schools, and firms, although most discussion has focused on schools as the major producers. Yet schools work with what parents bring them, operating more effectively if parents reinforce them by encouraging and motivating children. The child development literature tells us that younger mothers and mothers with less schooling provide less cognitive and emotional stimulation to their children. When the opportunities for forming particular skills or abilities are missed, remediation is costly, and full remediation is often prohibitively expensive.

The ability that drives college participation is shaped early in life. For all race and ethnic groups, important differences in child ability among income groups, as measured by cognitive test scores, appear as early as age 6 (see, for example, Figure 3A). These gaps in achievement are significantly reduced, but not eliminated, when the mother's education and ability, and family structure, are included as statistical controls (Figure 3B). The same is true when we examine gaps at other ages. Moreover, cognitive abilities appear to be fairly well determined by an early age (in the sense that IQ at later ages is highly correlated with IQ at age 10) and disparities cannot be completely eliminated at later ages. Test score differentials based on income also emerge quite early in children's behaviors and attitudes (their "noncognitive skills"—see Figure 4A). The gaps in behavioral skills are, however, significantly reduced once we account for the mother's ability, for family income and family structure, and for location (Figure 4B)—a finding of considerable policy significance. This correlational evidence is

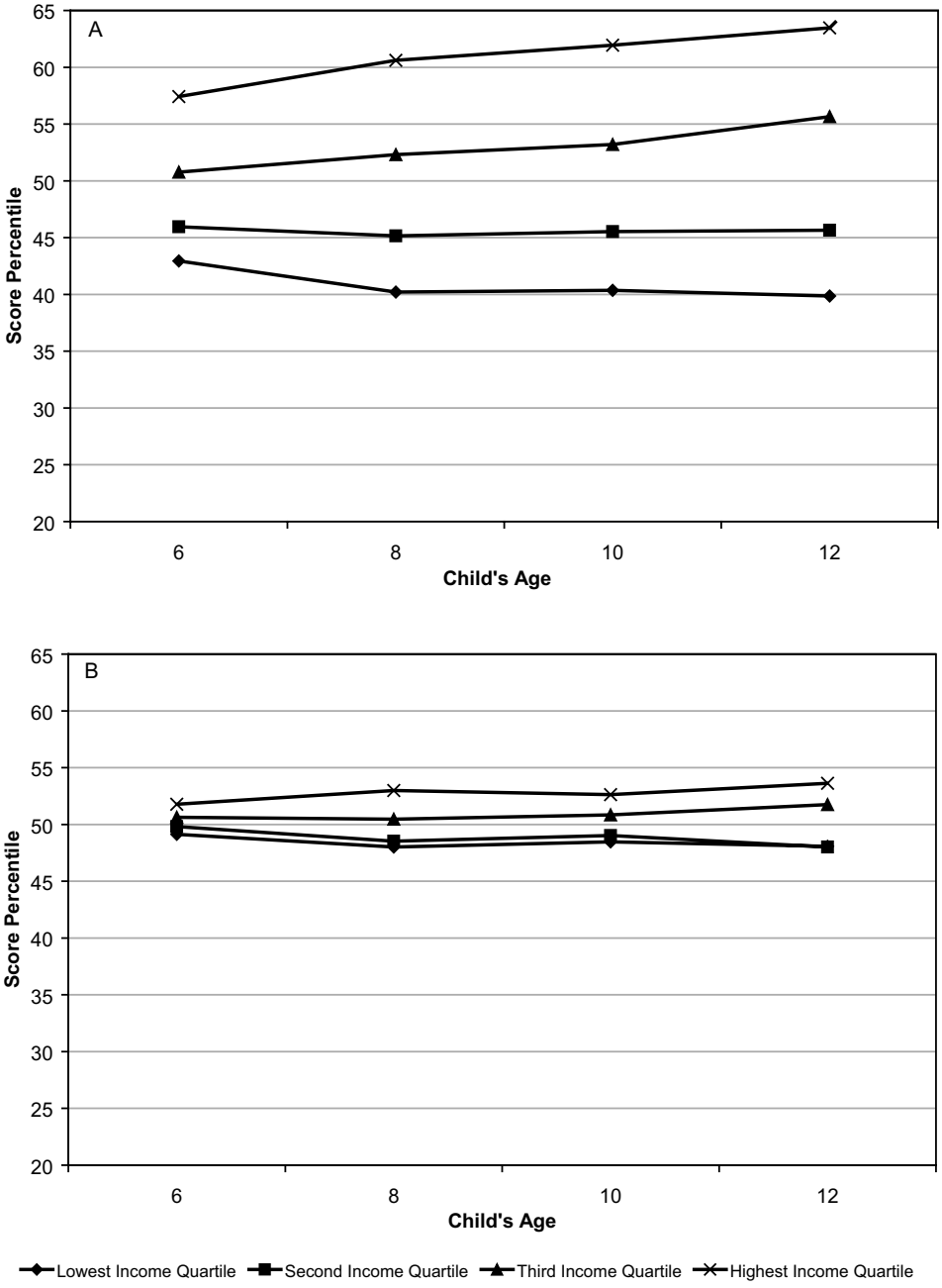

Figure 3. A. Average percentile rank on the PIAT-Math score, by income quartile. B. Residualized average PIAT-Math Score.

Source: P. Carneiro and J. Heckman, "Human Capital Policy," in *Inequality in America: What Role for Human Capital Policies?* ed. J. Heckman and A. Krueger (Cambridge, MA: MIT Press, 2003).

Note: The income measure we use is average family income between the ages of 6 and 10. Income quartiles are then computed from this measure of income. In Figure 3B, the score is residualized on maternal education, maternal AFQT, and living in a single-parent family at each age (we use AFQT corrected for the effect of schooling).

bolstered by experimental evidence, discussed below, that suggests that compensation for early family disadvantage can partially remediate the disadvantage.

The ability that is formed early largely accounts for the gaps in schooling by family income and by demographic groups. Steven Cameron and James Heckman show that, controlling for this ability, minorities are more likely to attend college than whites.[9] Tuition and family income during the child's adolescent years play only minor roles in accounting for schooling differentials once ability is controlled for.

The importance of noncognitive skills

The role of cognitive ability in shaping schooling and labor market outcomes is well established. Current edu-

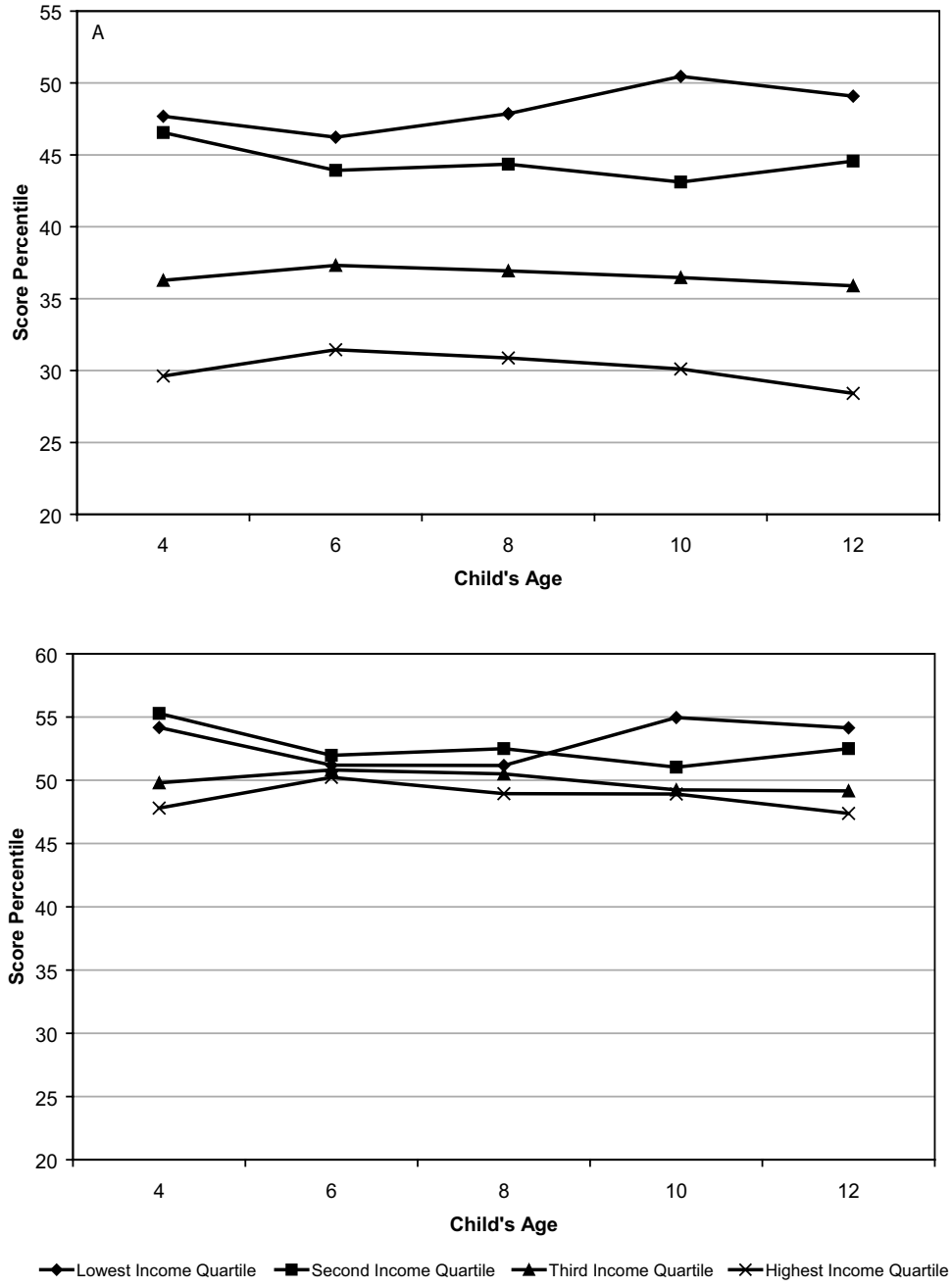

Figure 4. A. Average percentile rank on Antisocial Score, by income quartile. B. Residualized average Antisocial Score.

Source: P. Carneiro and J. Heckman, "Human Capital Policy," in *Inequality in America: What Role for Human Capital Policies?* ed. J. Heckman and A. Krueger (Cambridge, MA: MIT Press, 2003).

Note: The income measure we use is average family income between the ages of 6 and 10. Income quartiles are then computed from this measure of income. In Figure 3B, the score is residualized on maternal education, maternal AFQT, and living in a single-parent family at each age (we use AFQT corrected for the effect of schooling).

cational policy and much economic analysis focus on academic achievement tests as the major output of schools. Performance evaluations of the kind mandated under the No Child Left Behind Act of 2001[10] and other evaluations of educational reforms are based almost exclusively on changes in scores on achievement tests. Yet this focus on measured achievement misses the big picture of child development, because achievement tests measure only a few of the many skills required for a successful life.[11] It is common knowledge that motivation, trustworthiness, and other behavioral skills are crucial for success. Perseverance, dependability, and consistency are important predictors of grades in school, for example, and employers and supervisors rate job stability and dependability as highly valued traits.[12] More comprehensive evaluations of educational systems and proposed

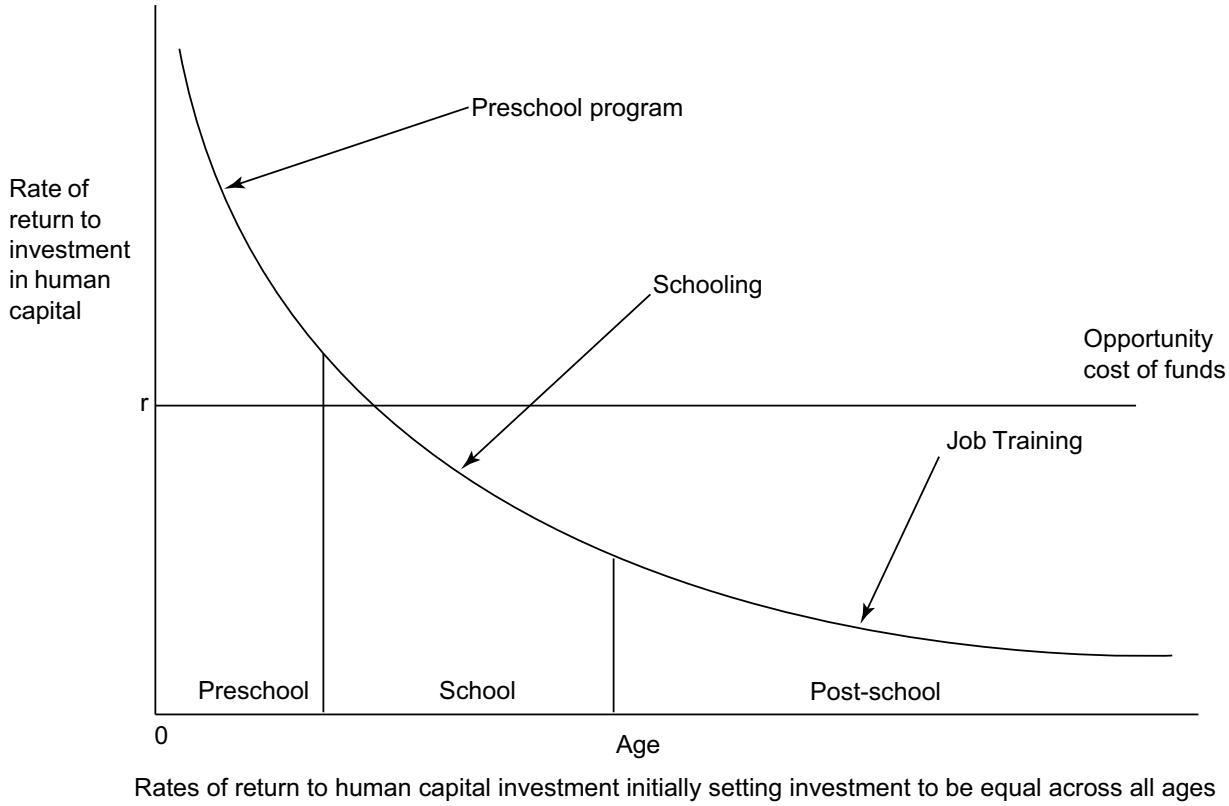

Figure 5. Rates of return to human capital investment.

Source: J. Heckman, "Policies to Foster Human Capital," *Research in Economics* 54, no. 1 (2000): 3–56.

Note: Investment is initially set to be equal across all ages.

reforms would take into account their effects in producing the noncognitive traits also valued in the market.

The neglect of noncognitive skills in analyses of earnings, schooling, and other life outcomes is in part due to the lack of any reliable means of measuring them. There is no single, identified, dominant factor for noncognitive skills that is equivalent to the psychometricians' "*g*," or general intelligence, which summarizes intelligence tests and their effects and often summarizes the scores of achievement tests. Indeed, it is unlikely that one will ever be found, given the diversity of character traits that fall into the category of noncognitive skills.[13] Much of the evidence is derived from self-reported assessments of persistence, self-esteem, optimism, and the like, and these may be as much a consequence as a cause of the measures being investigated.

In a series of studies of the GED, Heckman and his colleagues produce evidence about noncognitive skills that avoids some of the ambiguities in self-reported data.[14] In any consideration of the quality of the U.S. workforce, the GED, a high school equivalency diploma that administers cognitive tests to self-selected high school dropouts, is of considerable importance. The GED is stressed in many government training programs such as the Job Corps. Prisons encourage inmates to take the GED as part of a rehabilitation process. GED recipients now constitute around 15 percent of all persons certified with new high school credentials in the United States as a whole.

GED recipients are demonstrably as smart as ordinary high school graduates who do not go on to college, whether cognitive ability is measured by the Armed Forces Qualification Test (AFQT) or by *g*. They have better AFQT test results than high school dropouts who do not take the GED, they earn more, have higher hourly wages, and finish more years of high school before they drop out. But when their measured ability is taken into account, GED recipients obtain lower levels of schooling, earn no more and have higher turnover rates than other dropouts. The unmeasured factors that account for this relatively poor performance appear to lie in the area of noncognitive skills.[15] GED holders, Heckman and his colleagues contend, are the "wise guys," who lack the ability to think ahead, persist in tasks, or adapt to their environment. Among white male high school dropouts, for example, GED recipients have the highest levels of participation in illegal drug use and selling, fighting, vandalism, and petty theft. GED holders are the ones who drop out of the military and fail to complete college.[16] Their performance relative to that of high school graduates and high school dropouts demonstrates the importance of noncognitive skills in economic life.

The implications for policy

Early investment in children

From the evidence that the ability decisive in producing schooling differentials is shaped early in life, Heckman draws a first, straightforward conclusion. A society that seeks to eliminate ethnic and income differentials in schooling and skill attainment must start with young children, and cannot rely on later tuition policy or job training to compensate for neglect in the early years. An important corollary is that public dollars will be more efficiently spent if more human capital investment is directed toward the young.

Figure 5 diagrams Heckman's argument, plotting the rate of return to human capital at different stages in the life cycle. Age, the horizontal axis, is a surrogate for a person's position in the life cycle. The vertical axis represents the rate of return on investment at each age, under the benchmark that the same amount of investment is made at each age. All else equal, the return to a dollar of investment made when a person is young is higher than the return to the same dollar amount made at a later age. Early investments generate returns over a longer time horizon, and also raise the productivity of later investments: learning begets learning, and skills acquired early facilitate later learning. The optimal policy is to invest more in younger children relative to investment in older children, although the investments made at early ages have to be followed up by investment at later ages if the early investments are to bear fruit.[17] Heckman goes on to argue that Figure 5 also describes the return to investment given current expenditure in place.

Small-scale studies of early childhood investments in children have shown remarkable success; interventions in those years have lasting effects on learning and motivation. In school and out of it, participants in the High/Scope Perry Preschool Program, an intensive, two-year preschool program for highly disadvantaged children that ran from 1962 to 1967, have consistently been more successful than a comparable sample of nonparticipants obtained through randomization.[18] Participants performed better than nonparticipants in almost every area of schooling and of work and social life—from lower rates of special education placement and greater rates of high school graduation, through greater likelihood of employment, higher earnings, more stable marriages, and less delinquency and adult criminal activity. The effectiveness of the program has been matched by its cost-efficiency over the long term (Table 1).

It may be questioned whether programs such as the Perry Preschool Program can be replicated in a permanent, larger-scale fashion. There is encouraging evidence from a study of the Chicago Child-Parent Centers (CPC), an early intervention program for children attending Chicago public schools in very low income neighborhoods.[19]

Table 1
Economic Benefits and Costs of Two Early Childhood Interventions

	Perry	Chicago CPC
Child Care Benefit	986	1,916
Earnings Increase	40,537	32,099
K-12 Savings[a]	9,184	5,634
College/Adult Costs from Extra Education	-782	-644
Reduced Crime	94,065	15,329
Reduced Welfare Use	355	546
Future Generation Earnings Effect[b]	6,181	4,894
Reduced Abuse/Neglect	0	344
Total Benefits	150,525	60,117
Total Costs	16,514	7,738
Net Present Value	134,011	52,380
Benefits-to-Costs Ratio	9.11	7.77

Source: S. Barnett, "Cost-Benefit Analysis of Preschool Education," PowerPoint presentation, 2004, available on the Web site of the National Institute for Early Education Research, http://nieer.org/resources/files/BarnettBenefits.ppt.

Notes: All values are discounted at 3 percent and are in 2004 dollars. Numbers differ slightly from earlier estimates because FG Earnings for Perry and Chicago were estimated using the ratio of FG Earnings Effect to Earnings Effect (about 15 percent) that was found in Abecedarian data.

[a]The K-12 Savings arise from the improvement in student quality and represent a reduction in special education costs.

[b]Future Generation (FG) Earnings Effect represents the improvement in the earning of the descendants of the program participants.

Since 1967, CPC, one of the nation's oldest federally funded preschool programs, has served over 100,000 children at some 24 sites. Participants have consistently performed better in school, have been less likely to run afoul of the juvenile justice system, and have earned more than nonparticipants. The benefits of CPC substantially outweigh costs (see Table 1).

Research on successful early childhood interventions has found that the social skills and motivation of children are more easily altered than intelligence. Programs such as the Perry Preschool Program and the CPC have primarily improved social skills and motivation, and only affect measured achievement through their effects on motivation and not through their effects on IQ. Ten years after entering the Perry Program, participants had almost exactly the same IQ scores as nonparticipants although their achievement test scores were higher, suggesting that the good results of these programs are due in large part to improvements in the noncognitive area—children's motivations, attitudes, persistence in tasks, and social integration. Direct measures of postprogram social performance bolster this evidence. There is suggestive evidence from the Abecedarian program that enriched and sustained early interventions conducted at early ages (starting at 4 months of age) can boost IQ.[20]

Interventions in the adolescent years

A second policy conclusion derives from recognition of the importance of noncognitive skills. Motivation and self-discipline are more malleable at later ages than is IQ. There is evidence that mentoring and motivational programs oriented toward disadvantaged teenagers are effective and can *partially* remedy the consequences of early neglect. Programs for juveniles appear to have a relatively high payoff, although not as high as the payoff to enriched early interventions, because of the social skills and motivation they impart. Mentoring programs for young teenagers like Big Brothers/Big Sisters have shown broad, positive, social and academic impacts on participating school-aged children. Such programs recruit mentors who play a broad supportive role; they make no specific attempts to ameliorate particular difficulties or improve school achievement. One random-assignment study found, for example, that 18 months after being matched with a mentor, Little Brothers and Little Sisters were less likely to have initiated drug or alcohol abuse, hit someone, or skipped school; they had higher average grades and were more likely to express confidence in themselves and to report a better relationship with their parents.[21]

Programs aimed at increasing the skills and earnings of disadvantaged youth also suggest that some types of sustained intervention can positively affect their learning and their subsequent employment and earnings. The Quantum Opportunity Program offered disadvantaged minority students counseling and financial incentives for every hour spent in improving school and market skills, beginning in 9th grade. All participants were kept in the program for four years, whether or not they stayed in school. Two years after completing the program, about one-third more participating students had graduated from high school, and their arrest rates were one-half those of nonparticipants. A cost-benefit analysis of this program estimated positive net social returns.[22]

Other programs have demonstrated similar results for adolescents still in school. Ohio's Learning, Earning, and Parenting Program (LEAP) and the Teenage Parent Demonstration (TPD) projects provided financial incentives for teenage parents on welfare to stay in school or take GED classes, or imposed penalties for failure to enroll. LEAP improved graduation rates; TPD had mixed effects. Both show positive postprogram effects on earnings and employment among individuals who were still in school when they entered the program, but meager or even negative effects for dropouts. The reasons are unclear. Is there little advantage in intervening in the lives of young people who have already made the decision to drop out, or do those who choose to drop out have less ability and less motivation?[23] The available evidence does not say.

The evidence suggests that sustained interventions targeted at adolescents still enrolled in school can positively affect their learning and their subsequent employment and earnings. In either case, though, these programs hardly work miracles, says Heckman. Their success is more modest than that of early interventions; adolescent interventions can only alleviate and not reverse early damage caused by bad environments.

Job training for adults

Job training encompasses activities ranging from formal classroom instruction through make-work, subsidized employment, and job search. Heckman and his colleagues find that the rate of return to classroom training is sizable, but generally is lower for other components of training.[24] In evaluating any public program, they note, it is necessary to account for the welfare costs of raising the funds, as well as the direct costs of providing the services. Incorporating such factors as benefit duration, interest rates for discounting, and the welfare costs of taxes vitally affects estimates of the economic returns to training.[25]

The heterogeneity of activities subsumed under "job training" is matched by the heterogeneity of the estimated effects. Direct job creation typically provides few long-run benefits. Formal classroom training and on-the-job training appear to help women reentering the job market, but not prime-aged men. To be effective, these programs must be very strongly tailored to the local labor market.[26] Treatment appears to be most effective for those at the high end of the wage distribution, with little effect for those at the bottom, and the returns to job training for older workers and displaced workers are very low. A cost-benefit accounting similar to that made for early childhood programs finds meager net benefits per dollar of program expenditures even for the Job Corps, widely considered to be one of the more successful government training programs. Over the four-year course of the program, participants earned only about $3 more per week than they would have if they had not enrolled.[27] The best available evidence, Heckman concludes, indicates that job-training programs are an inefficient transfer mechanism and an inefficient investment policy for low-skilled adults.[28]

Conclusion

The studies summarized here offer a blueprint for the life cycle analysis of human capital accumulation that, Heckman states, requires much further elaboration. Many gaps in the evidence on skill formation over the life cycle must be filled, and a more explicit dynamic theory accounting for uncertainty is necessary for conducting and interpreting future empirical work. Research by Cunha and Heckman begins this task.[29] Heterogeneity and uncertainty are pervasive features of human capital investment. Much more work on efficient targeting is necessary. Targeting those groups that can best benefit from

interventions will clearly improve the efficiency of the interventions, but identifying such groups has proved elusive and politically precarious.

Moreover, it is too simplistic to explain the slowdown in the growth of schooling attendance rates solely in terms of trends in bad family environments. The trends for failed families show continuing deterioration, whereas the trends in schooling participation rates are flat. But the research examined here demonstrates the first-order importance of abilities and motivation in producing skills. Cognitive and noncognitive deficits emerge early, and if uncorrected create low-skilled adults. Studies of a limited set of small-scale, high-quality interventions suggest that these early deficiencies can be partially remedied, but perhaps only by intervening early and actively in failing families—a conclusion that in itself raises difficult ethical questions for a society that values the privacy and autonomy of the family. ■

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[1]See, for example, B. DeLong, C. Goldin, and L. Katz, "Sustaining U.S. Economic Growth," in *Agenda for the Nation*, ed. H. Aaron, J. Lindsay, and P. Nivola (Washington, D.C.: Brookings Institution Press, 2003); D. Ellwood, "The Sputtering Labor Force of the 21st Century: Can Social Policy Help?" in *The Roaring Nineties: Can Full Employment Be Sustained?* ed. A. Krueger and R. Solow (New York: Russell Sage Foundation, 2001); and P. Carneiro and J. Heckman, "Human Capital Policy," in *Inequality in America: What Role for Human Capital Policies?* ed. J. Heckman and A. Krueger (Cambridge, MA: MIT Press, 2003).

[2]See Carneiro and Heckman, "Human Capital Policy."

[3]A. Jones, Jr., and D. Weinberg, *The Changing Shape of the Nation's Income Distribution, 1947–1998*, Current Population Report P60-204, U.S. Census Bureau, Washington, D.C., June 2000.

[4]See, for example, E. Hanushek and D. Kim, "Schooling, Labor Force Quality, and Economic Growth," National Bureau of Economic Research Working Paper 5399, Cambridge, MA, 1995.

[5]J. Heckman, "Policies to Foster Human Capital," *Research in Economics* 54, no. 1 (2000): 3–56; Carneiro and Heckman, "Human Capital Policy;" F. Cunha and J. Heckman, "The Technology of Skill Formation," presented at Minneapolis Federal Reserve Conference, October 2003, and at the Society of Economic Dynamics and Control, Florence, July 2004.

[6]The research briefly summarized here is discussed in detail in Carneiro and Heckman, "Human Capital Policy." F. Cunha, J. Heckman, L. Lochner, and D. Masterov develop formal models of the skill formation process and interpret the empirical evidence in light of their implications in a chapter titled "Interpreting the Evidence on Life Cycle Skill Formation," forthcoming in *Handbook of Education Economics*, ed. E. Hanushek and F. Welch (Amsterdam: North Holland, 2005).

[7]Policies not considered in this summary, but fully examined in the articles on which it is based, are tax and subsidy policies to reduce tuition or supplement family resources of children during their college-going years. The evidence, says Heckman, suggests we should be skeptical that generous college scholarship policies and tax subsidies during the college-going years will provide a solution to the slowdown in the growth of skills in the U.S. labor force. Carneiro and Heckman, "Human Capital Policy," critically examine the claim that family credit constraints during the adolescent years play a fundamental role in the attainment gaps evidenced in Figure 1. They conclude that a small group in the United States, around 8 percent of youth, is credit-constrained in this short-run sense, and that policies remedying these constraints would be cost-effective, but, even if carefully targeted, would not substantially reduce gaps in schooling across family income levels or substantially increase the growth in labor force quality.

[8]J. Shonkoff and D. Phillips, *From Neurons to Neighborhoods: The Science of Early Childhood Development* (Washington, D.C.: National Academy Press, 2000). See the synthesis in Cunha, Heckman, Lochner, and Masterov, "Interpreting the Evidence on Life Cycle Skill Formation."

[9]S. Cameron and J. Heckman, "The Dynamics of Educational Attainment for Blacks, Whites and Hispanics," *Journal of Political Economy* 109, no. 3 (2001): 455–99.

[10]107 P.L. 110.

[11]Measured achievement reflects both cognitive ability ("IQ") and the motivation to acquire the specific knowledge tested by the exams.

[12]S. Bowles, H. Gintis, and M. Osborne, "The Determinants of Earnings: A Behavioral Approach," *Journal of Economic Literature* 39, no. 4 (2001):1137–76; R. Klein, R. Spady, and A. Weiss, "Factors Affecting the Output and Quit Propensities of Production Workers," *Review of Economic Studies* 58, no. 2 (1991): 929–54; J. Heckman, J. Stixrud, and S. Urzua, "The Effects of Cognitive and Non-Cognitive Skills on Labor and Behavioral Outcomes," unpublished manuscript, University of Chicago, Department of Economics, 2004.

[13]See Heckman, Stixrud, and Urzua, "The Effects of Cognitive and Non-Cognitive Skills on Labor and Behavioral Outcomes."

[14]J. Heckman, ed., *The GED,* unpublished book-length manuscript, University of Chicago, Department of Economics, 2004.

[15]J. Heckman and Y. Rubinstein, "The Importance of Noncognitive Skills: Lessons from the GED Testing Program," *American Economic Review* 91, no. 2 (2001): 145–49. The AFQT battery of tests is the primary measure of aptitude for determining eligibility for admission into the Armed Services and identifying aptitude for particular training. Heckman, Stixrud, and Urzua, "The Effects of Cognitive and Non-Cognitive Skills on Labor and Behavioral Outcomes," present additional evidence on this issue.

[16]S. Cameron and J. Heckman, "The Nonequivalence of High School Equivalents." *Journal of Labor Economics*, 11 no. 1 (1993): 1–47, and Heckman, ed., *The GED*.

[17]Cunha and Heckman, "The Technology of Skill Formation," and Cunha, Heckman, Lochner, and Masterov, "Interpreting the Evidence on Life Cycle Skill Formation," develop the technology of skill formation that underlies this figure, which first appeared in J. Heckman, "Policies to Foster Human Capital," *Research in Economics*, 54, no. 1 (2000): 3–56.

[18]The most recent report from this project is L. J. Schweinhart, J. Montie, Z. Xiang, W. S. Barnett, C. R. Belfield and M. Nores, *Lifetime Effects: The High/Scope Perry Preschool Study Through Age 40*, Monographs of the High/Scope Educational Research Foundation, 14 (Ypsilanti, MI: High/Scope Press, 2005). For a summary, see http://www.highscope.org/Research/PerryProject/PerryAge40SumWeb.pdf.

[19]The CPC has been the subject of an intensive matched-group comparison analysis for over two decades through the Chicago Longitudinal Study, directed by IRP affiliate Arthur Reynolds. A summary of the cost-benefit analysis of this program when participating children reached young adulthood is "A Cost-Benefit Analysis of the Chicago Child-Parent Centers," *Focus* 23, no. 1 (Winter 2004): 50–52. A full report of program findings is A. Reynolds, *Success in Early Intervention: The Chicago Child-Parent Centers* (Lincoln: University of Nebraska Press, 2000).

[20]C. Ramey, D. Bryant, F. Campbell, J. Sparling and B. Wasik, "Early Intervention for High-Risk Children: The Carolina Early Intervention Program," in *14 Ounces of Prevention: A Casebook for Practitioners*, ed. R. Price, E. Cowen, R. Lorion, and J. Ramos-McKay (Washington, D.C.: American Psychological Association, 1988). On the conse-

quences for IQ, see F. Campbell, E. Pungello, S. Miller-Johnson, M. Burchinal, and C. Ramey, "The Development of Cognitive and Academic Abilities: Growth Curves from an Early Childhood Educational Experiment," *Developmental Psychology*, 37 (2001): 231–42.

[21]J. Tierney and J. Grossman, *Making a Difference: An Impact Study of Big Brothers/Big Sisters* (Philadelphia: Public/Private Ventures, 1995).

[22]R. Taggart, *Quantum Opportunity Program Opportunities* (Philadelphia: Industrialization Center of America, 1995).

[23]J. Heckman, "Policies to Foster Human Capital."

[24]J. Heckman, R. LaLonde, and J. Smith, "The Economics and Econometrics of Active Labor Market Programs," in *Handbook of Labor Economics*, vol. 3A, ed. O. Ashenfelter and D. Card (New York: North-Holland, 1999): pp. 1865–2097.

[25]See, for example, Carneiro and Heckman, "Human Capital Policy," Table 2.13.

[26]Carneiro and Heckman, "Human Capital Policy," Table 2.14, and Heckman, LaLonde, and Smith, "The Economics and Econometrics of Active Labor Market Programs."

[27]J. Burghart and P. Schochet, *National Job Corps Study: Impacts by Center Characteristics* (Princeton: Mathematica Policy Research, 2001).

[28]The returns to private sector training are not so well studied as the returns to public sector training. In general, it is the more able, skilled, or motivated employee that undertakes such training, and the returns on investment are comparably high, ranging between 16 and 26 percent (see Carneiro and Heckman, "Human Capital Policy," Table 2.11) Private firms have in general shown little interest in training disadvantaged workers; the task is difficult and the returns are likely to be low.

[29]Cunha and Heckman, "The Technology of Skill Formation."

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Economic inequality and educational attainment across a generation

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Economic inequality in the United States has grown substantially over the past three decades. In 1973, the top 5 percent of families had about 15 percent of income; they now have about 21 percent of the even larger pie (Figure 1). Among families, income inequality has increased by about 20 percent, when the standard Gini coefficient is used to gauge this disparity.[1] This growth in inequality has affected many aspects of life in America, and is reflected, for example, in greater segregation of neighborhoods by income, and in the consequent decline of urban neighborhoods in which many poor and minority children live.[2] However, little is known about the effects of the increasing inequality on the prospects for the next generation of Americans, the children who are growing up in this more unequal economic environment.

It is now clear that the century-long improvement in educational attainment in the United States slowed or declined over the same period during which economic inequality increased.[3] Our research posed questions about the possible relationships between these trends. We asked: Does the increase in economic inequality among families and neighborhoods impede or enhance the overall level of schooling attainment among those children who experience it? Is the disparity in levels of schooling among children growing up in a more unequal environment likely to be greater or less than that among children reared in a less unequal environment?[4]

We examined the effect of increased inequality on three educational outcomes of a cohort of children who grew up during the 1970s and 1980s. These outcomes are the number of years of schooling completed, the probability of graduating from high school, and the probability of

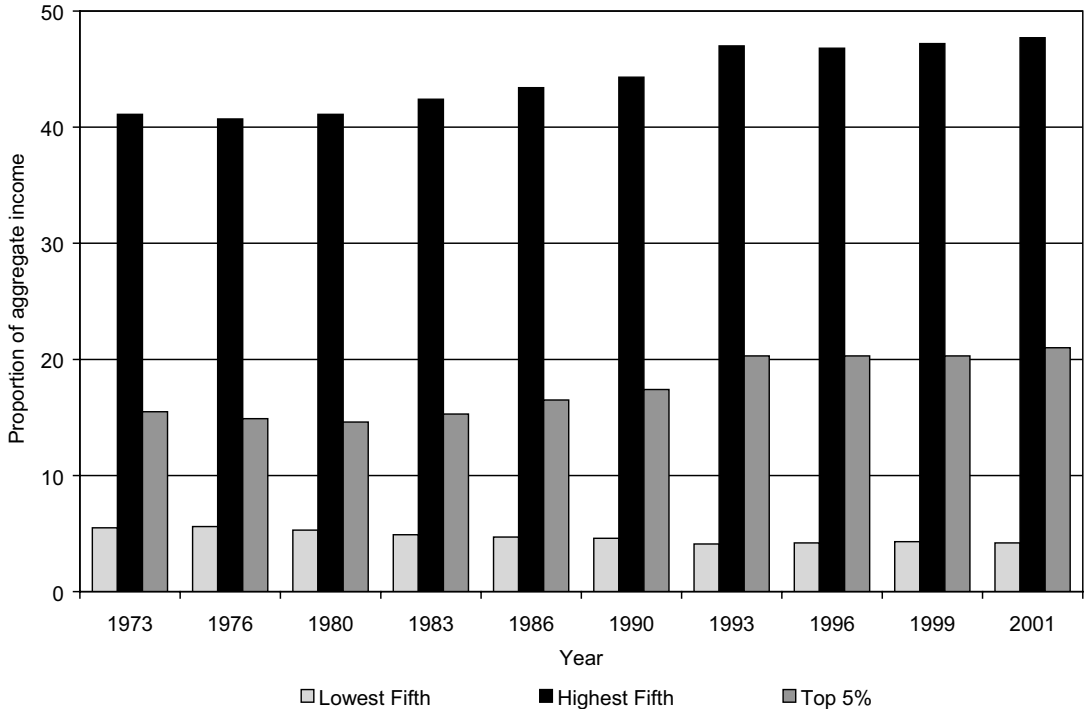

Figure 1. Trends in the shares of aggregate income in the United States, 1973–2001.

Source: U.S. Census, Historical Income Tables—Families, Table F-2, on the Census Web site at http://www.census.gov/hhes/income/histinc/f02.html.

attending college. In this summary article, we discuss only years of schooling completed.

Our procedure was straightforward. We first statistically estimated a model over this cohort of children in which we measured the effect of a number of important determinants on the level of educational outcomes. We drew from the existing literature for guidance regarding the family and economic variables found to be significantly related to schooling outcomes.[5] Our main concern was to establish the effects of family income and wealth and of state income inequality on the schooling attainments of young people, though our model incorporated other important determinants of educational achievement, as we note below.

With the estimates from this model in hand, we directly increased the variation (that is, the inequality) in these centrally important economic variables—call them the "inequality-increasing variables"—to "simulate" the effect of growing economic inequality. In our model of attainment these variables were quantified as (1) the ratio of family income to the poverty line, (2) family net worth, (3) the Gini coefficient of family income in the state of residence, and (4) state public tuition or fees for postsecondary education. We sought to estimate the effect of simulated changes in these four variables while the children were growing up on both the average level of their schooling attainment and the disparities in attainment among the children; we emphasize in this article the effects of simultaneous changes in all four variables.

These simulations suggested how today's young adults would fare, in terms of their educational attainment, if the extent of inequality that they faced while growing up were in fact greater than it was.

The data that we used in our estimates consist of a sample of just over 1,200 children from the Panel Study of Income Dynamics (PSID).[6] We merged census tract data on schooling and income from the 1970 and 1980 censuses, and we included a measure of income inequality in the children's states of residence when they were ages 12–15. The PSID data contain extensive longitudinal information on family members and their basic demographic characteristics, family income, living arrangements, and neighborhoods. We considered the characteristics of these children over an extended period, from the time they were age 2 until they were 15. These data also provide the total number of years of their schooling as of age 25 (an average of 12.25 years for young adults in our sample.)

Table 1
Years of Completed Schooling: Regression Results for the Core "Inequality-Changing" Variables

Family income/poverty line	
at children's ages 2–5[a]	0.384***
at children's ages 6–11[a]	-0.168
at children's ages 12–15[a]	0.336***
State gini at children's ages 12–15 (avg)	0.682
Log of positive wealth, 1984	0.050***
Public tuition & fees per full-time equivalent student in 1987	-0.036
Tuition & fees (youngest cohort), measured in later high school years	-0.154**

[a]Logged values.
** Significant at the 5% level; *** significant at the 1% level

Our estimates of the relationship between the inequality-increasing variables and years of schooling (summarized in Table 1) provided no particular surprises, in light of earlier research. First, we found that family income and wealth have positive and statistically significant links to attainment: children who grow up in families with higher income and greater wealth receive more schooling. Second, reviewing the geographic economic variables, we found that income inequality within the state (as measured by the Gini coefficient) has no significant ties to attainment. But higher state college tuition costs when children are in high school appear to deter schooling.

Our full estimation included other variables that have been shown to have a persistent and significant relationship with educational attainment.[7] Here, too, our findings are in line with previous research. Parents' schooling is positively and significantly associated with their children's high school graduation and years of schooling. Blacks, women, and children from families with a foreign-born head have higher educational attainment than those in other groups, when background characteristics such as parents' education are taken into account. Children whose families move more and who live in counties with higher unemployment are less likely to graduate from high school. The percentage of neighborhood residents who did not complete high school strongly and negatively affects educational attainment among young people in the neighborhood. But having a single parent does not appear to influence any of our three measures, once other family characteristics are accounted for.

Estimating the effect of increased economic inequality

Because these estimates were so congruent with the findings of other research, we took them to represent real links of cause and effect. Starting from this point, we systematically increased the level of inequality in our family and geographic variables, in line with the actual increase in each of these variables over the two decades from 1970 to 1990.[8] Thus, we increased wealth inequality by 25 percent, the inequality in family income/needs by 10 percent, and the disparities in state tuition and fees by 10 percent. Second, we used the adjusted values of the

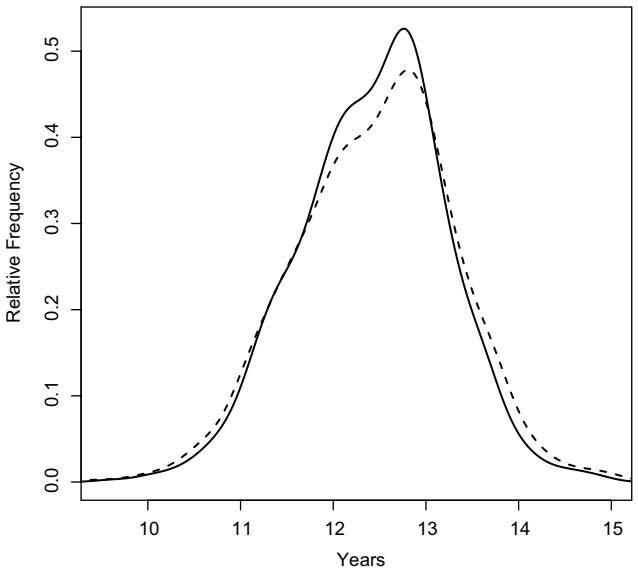

Figure 2. Actual years of completed schooling (solid line) compared with years of schooling if economic inequality were to increase (dotted line).

variables, together with the estimated coefficients from our model and the actual values of other variables, to predict how much our years of schooling attainment would change if inequality in these dimensions increased.

These results for years of schooling appear in Figure 2. There are two distributions: the predicted actual distribution of years of schooling among those in the sample (the solid line), and a predicted distribution of schooling that is based on greater inequality in our family and geographic variables (the dotted line). The difference between the two distributions reflects the effect of increased economic inequality on schooling.

In Table 2, we report in greater detail our findings for both the average level and the inequality of schooling among children in our sample, both under actual circumstances and as economic inequality increases. We first assessed the effect of each economic inequality factor singly. Of the four factors, family wealth appears to have the greatest effect. But because the real changes in the distribution of each of these measures of economic inequality reflect essentially the same underlying social forces and economic arrangements, it would be misleading only to consider each in isolation. Thus the results in the last line, reflecting the joint change in all four measures, summarize the general effect of increases in economic inequality on the distribution of economic attainment.

From estimates such as those in Table 2, we can begin to answer the questions posed at the beginning of this article.

Does the increase in economic inequality among families and neighborhoods have implications for the educational attainment of the children in these families and neighborhoods?

The answer is yes, in two ways. Average achievement goes up slightly, but so does the variability of achievement. Average years of schooling increase by less than 1 percent. Inequality, in contrast, increases substantially, by over 8 percent when all four measures of inequality are considered together. Moreover, a higher proportion of students do not complete high school or 11th grade (Table 2).

Is the schooling of children growing up in a more unequal economic environment likely to be more unequal?

Again the answer is yes, especially if they are already disadvantaged (Table 3). For example, increased economic inequality increases average schooling for whites, but barely changes it for blacks. It does, however, increase the number of black students dropping out before year 11, by around 13 percent. [9]

Conclusions

Our estimates suggest that increases in economic inequality of the magnitude experienced in the United States over

Table 2
Predicted Actual Years of Education versus Years of Education if Inequality Increases

Years of Education	Mean Years	Median Years	SD	%< 12 Years	%< 11 Years
Predicted Actual Years	**12.597**	**12.643**	**0.816**	**19.1**	**1.9**
Changes in Inequality-Increasing Factors					
SD of family income/needs[a] +10%	12.612	12.670	0.848	19.9	2.1
SD of family wealth[a] +25%	12.636	12.696	0.852	19.6	2.5
Gini + state change in Gini	12.615	12.668	0.817	19.0	1.9
SD of tuition +10%	12.593	12.639	0.817	19.5	1.9
Four factors changed	**12.665**	**12.727**	**0.885**	**19.1**	**2.5**
%Change	**+0.5**		**+8.4**	**+0.9**	**+32.0**

Note: Based on the weighted, preferred model. Percentages have been rounded.
[a]Logged values.

Table 3
The Effect of Greater Inequality on Years of Education: White versus Black Children

	Mean Years	Median Years	SD	% <12 Years	% <11 Years
White Children					
Predicted actual years	12.686	12.75	0.849	17.3	2.8
All four factors changed	12.781	12.84	0.908	17.3	2.9
Difference (%)	+0.7	+0.7	+6.9	0	+3.6
Black Children					
Predicted actual years	12.141	12.08	0.654	36.9	3.9
All four factors changed	12.146	12.11	0.708	38.7	4.4
Difference (%)	+0.4	+0.2	+11.9	+4.9	+12.8

the past few decades have intergenerational effects with broad social implications. In particular, the increase in family income and wealth inequality leads to greater dispersion of educational attainment, primarily because those at the bottom of the educational distribution have fallen further below the average level of education.[10] Thus those who had the least human capital to begin with are placed at an even greater relative disadvantage. When this relative economic disadvantage is compounded by racial disadvantage, the effect is even greater, and the racial gap in education becomes larger.

Because labor market success is linked to schooling achievement, the consequence of widening disparities in schooling is likely to be further increases in earnings inequality. Thus the cycle of disadvantage we have already observed is likely to be further magnified unless policies are adopted to counter or at least to mitigate the effects of the growing economic disparity. One potentially productive route would be to provide greater resources for preschool opportunities for 3- and 4-year-olds, improving school readiness and perhaps levels of schooling. Tuition subsidies to encourage postsecondary schooling may be another route. But the finding that tuition costs are significantly, and negatively, associated with high school completion suggests that tuition subsidies are likely to be more effective if young people and their parents know about them during the high school years, well before they reach the point of deciding whether to apply for college. ■

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[1]The Gini coefficient is a measure of inequality that consists of a number between zero and one. Zero = perfect equality, 1 = perfect inequality. In discussing family income, the higher the Gini coefficient, the greater the level of income inequality. From 1970 to 2001 the Gini coefficient of household income in the United States rose from 0.394 to 0.456.

[2]In partnership with the Carnegie Corporation, the Russell Sage Foundation launched a research initiative to examine social inequality on a number of dimensions, including family well-being, educational opportunity, health care and coverage, legal services and criminal justice, political participation and representation, banking and credit, housing, pension provision, environmental quality, and even access to computers and the Internet. Literature reviews and working papers from this project are posted on the foundation's Web site, http://www.russellsage.org/programs/proj_reviews/si/index.htm. One IRP contribution to the project is R. Haveman, G. Sandefur, B. Wolfe, and A. Voyer, "Trends in Children's Attainments and Their Determinants as Family Income Inequality Has Increased," in *Social Inequality*, ed. Katherine Neckerman (New York: Russell Sage Foundation, 2004). On the issue of inequality, see also P. Jargowsky, *Poverty and Place: Ghettos, Barrios, and the American City* (New York: Russell Sage Foundation, 1997); D. Massey, "The Age of Extremes: Concentrated Affluence and Poverty in the Twenty-First Century," *Demography* 33, no. 4 (1996): 395–412.

[3]See "Inequality in America: What Role for Human Capital Policies?" in this *Focus*, p. 1.

[4]The research report here is discussed in greater detail in M. Campbell, R. Haveman, G. Sandefur, and B. Wolfe, "What Does Increased Economic Inequality Imply about the Future Level and Dispersion of Human Capital?" working paper for the Russell Sage Foundation Project on Social Inequality, January 2005. On the Foundation's Web site at http://www.russellsage.org/programs/proj_reviews/si/wphaveman01.pdf.

[5]See Haveman and colleagues, "Inequality of Family and Community Characteristics in Relation to Children's Attainments."

[6]We began with 29 years of data on over 2,600 children born between 1966 and 1970, and followed them from 1968 to 1999. We retained only individuals who remained in the survey until age 21 and for whom we had all information on core variables.

[7]Among them are race and gender, parental schooling and family structure (including the number of siblings), having a foreign-born parent, how often the family moved, and the high school dropout rate in the neighborhood. Full regressions for the demographic and other variables discussed in this article are available from the authors.

[8]To do so, we used several public sources. From Current Population Survey (CPS) data, we estimated that from 1970 to 1990 the standard deviation of family income increased by 9 percent and the standard deviation of wealth increased by 25 percent. We also based our increases in the Gini coefficient on CPS data on changes in the coefficient for each state from 1970 to 1990. Although the average level of public tuition increased fourfold over this period, inequality among levels is difficult to determine; we used a 10 percent increase, which is approximately the increase in tuition inequality between public four-year universities and two-year colleges, according to the National Center for Education Statistics. In the simulation, we adjusted each simulated outcome value by a constant, so as to preserve the mean value for each variable.

[9]To determine where these increases in inequality are most concentrated, we calculated two standard ratios for the measures of attainment: first, the ratio of those at the 90th percentile of the distribution of schooling to those at the median (the 50th percentile), and second, the ratio of those at the median to those at the bottom of the distribution of schooling, the 10th percentile. The effect of increases in family and geographic economic inequality was concentrated among those with the lowest levels of schooling—in every case we calculated, the 50/10 ratio increased substantially more than the 90/50 ratio.

To test the validity of our estimates, we calculated three indexes of inequality, the Gini coefficient, the Theil inequality coefficient, and the Theil entropy index, which differentially weight changes in different parts of the distribution. These estimates are discussed in the full report on which this summary is based (see note 4).

[10]The results from our simulations appear to be reflected in actual patterns of change in attainment during past decades. Using data from the Current Population Survey, we found that from 1979 to 1991, mean years of schooling among young adults aged 22–25 increased by just over a third of a year, and the standard deviation of years of schooling increased by 0.08 years, a value very like our simulated increase of 0.07 years.

Equal opportunities for children: Social welfare expenditures in the English-speaking countries and Western Europe

Irwin Garfinkel, Lee Rainwater, and Timothy M. Smeeding

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In all developed nations, governments frequently affirm the importance of providing equal opportunities and a fair chance at life to every child. The Bush administration in the United States vows to "leave no child behind," the Labour government in the United Kingdom to halve child poverty in ten years and eliminate it in twenty. Yet by many conventional measures of child poverty, there exist widespread disparities within and across these nations. The Luxembourg Income Study (LIS), using a measure of disposable income, finds great variation in the percentages of children in developed nations who are living below the poverty level.[1] At one end of the spectrum in the year 2000 was Finland, with 2.8 percent of children below poverty; at the other end was the United States, with 21.9 percent of children below poverty. The English-speaking nations in general compare poorly with the major European nations by this measure.

But how one judges the success of a nation's policies to improve the well-being of children depends very much upon how one measures the nation's performance. In this article we take into account social welfare benefits not usually included in the standard measures of income and poverty—especially expenditure on two very large in-kind benefits, education and health care—to gain a better understanding of public and family resources at the disposal of children.

The ultimate test of efforts to equalize children's opportunities would have a very broad reach, judging family and state inputs by such "outputs" as future health status, educational attainment, and economic and social well-being. Our goal is more modest: to measure the degree to which social welfare expenditures, broadly defined, close the gap in the economic resources afforded to poor versus middle-income children and poor versus rich children in rich countries.[2]

The nations we choose include the four largest predominantly English-speaking countries, Australia, Canada, the United Kingdom, and the United States. To provide a wider European context, we also include Belgium, France, the Netherlands, and Germany, and Finland and Sweden from the northern tier.

Adjusting the measure of income

To construct our measures of welfare state expenditures we use data sources compiled by the Organisation for Economic Co-operation and Development (OECD), in particular the *OECD Social Expenditure Database,* which includes many categories of cash and in-kind social benefits—old age and disability, occupational injury, sickness, unemployment, family benefits and services, public health expenditures, and housing benefits, among others. We derive employer-provided benefits and aggregate tax expenditures from data compiled by the OECD and the Employee Benefit Research Institute (EBRI) in the United States.[3] Microdata concerning household market income in the ten nations come from the LIS database, which now contains household income data files for 29 nations, covering the years 1967 to 2002. The LIS data give us good estimates of the distribution of cash expenditures, and the income and earnings data enable us to estimate the payroll, property, and sales tax burdens across income classes. We begin with the household, which, for cross-national comparisons of inequality, is the only comparable income-sharing unit available for most nations, including those discussed here. From this we derive a measure of adjusted income per child.[4]

Health care and education spending

Health care and education constitute the greatest portion of noncash benefits for children in every nation we examined. The amounts spent on these two and some other in-kind benefits suggest that studies that take account only of cash transfers are omitting very large components of what the welfare state does. In this analysis we make a first attempt at incorporating in-kind benefits into the comparative analysis of welfare states.

Education spending is represented simply by the spending per elementary and secondary school child in each country as estimated by the OECD; we add the value of early childhood education for children aged 3–5.[5]

Luxembourg Income Study Summer Workshop, 2005

The Luxembourg Income Study has made comparable over 130 large microdata sets containing comprehensive measures of income and economic well-being for a set of 29 modern industrialized welfare states. The LIS databank currently covers countries including: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Luxembourg, Mexico, the Netherlands, Norway, Poland, Romania, Russia, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan, the United Kingdom, and the United States.

The LIS Summer Workshop is a one-week pre- and postdoctoral workshop designed to introduce young scholars in the social sciences to comparative research in income distribution and social policy using the LIS database. The 2005 Summer Workshop, our 17th such event, will be held in Luxembourg. Arrival will be the evening of Sunday, July 10 and departure the afternoon of Saturday, July 16. Tuition of €1,200 will cover instructional materials, accommodations, and full board. Transportation to and from Luxembourg is the responsibility of the student. Applications are available from the LIS homepage at: http://www.lisproject.org/workshop.htm and are due by April 15, 2005. Please note that space is limited.

The language of instruction will be English. The course of study will include a mix of lectures and assistance and direction using the LIS database to explore a research issue chosen by the participant. Workshop faculty will include the entire LIS staff (including Timothy Smeeding, Overall Project Director; Janet Gornick, Associate Project Director, Markus Jäntii, LIS Research Director; and John Coder, LIS Technical Director) and other experienced LIS users.

For more information about the workshop, please contact:

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We use OECD estimates of health care spending per capita.[6] From cross-national estimates of the cost of health care for people of different ages, we assume that health care spending increases with age. The baseline is the average government cost of subsidized health care per capita for people aged 19–34. Costs range from a low of 75 percent of the baseline for children below age 18 to a high of 4 times the baseline for adults over age 75. We assume an equal distribution of health and education expenditures across the income distribution in all countries except the United States. Because the United States, alone among the nations examined, does not have a universal, national health insurance or health service, we impute average expenditure for individuals in each income quintile, adjusted for age. Our data for this imputation come from the EBRI and the Centers for Medicare and Medicaid Services. For uninsured persons, we impute an amount equal to about half the amount provided the insured.[7]

We call our measure of post-tax, post-transfer income that includes noncash benefits *full income*, as opposed to the commonly used measure of post-tax, post-transfer *cash* or *disposable income*.

Measures of redistributive effects

The difference between market income (primarily earnings) and full income for those in each income decile is a rough accounting measure of the redistributive effect of welfare state expenditures. To the extent that transfers induce changes in work, savings, or marriage behavior, the measure is biased. Especially for households with children, however, it provides a useful first approximation of the fiscal effects of state policies and their efforts to redistribute opportunities.[8]

From the distribution of all children across income quintiles, we compute the full income of a low-income, median-income, and high-income child.[9] The difference between children living in families with high and low incomes, respectively, can be seen as a measure of "economic distance": we like to think of it as a measure of equality of opportunity within the nation. Nations with smaller economic distances have more equality of opportunity across the population of children. We focus on the distance between the low- and middle-income child as a measure of "fair chance." All this is designed to show which nations leave many children behind, which ones give them a good start, and by how much.

Aggregate social welfare spending and gross domestic product

A tabulation of aggregate social welfare benefits (Figure 1), makes several important points.

First, all these countries spend a substantial fraction—a least a quarter—of their gross domestic product (GDP) on social welfare.

Second, there is some variation within the English-speaking countries, and the relative position of the United States depends on whether tax-subsidized, employer-provided health insurance and pensions are counted. The United States ranks last if employer-provided health and pension benefits are not counted; it puts nearly 23 percent

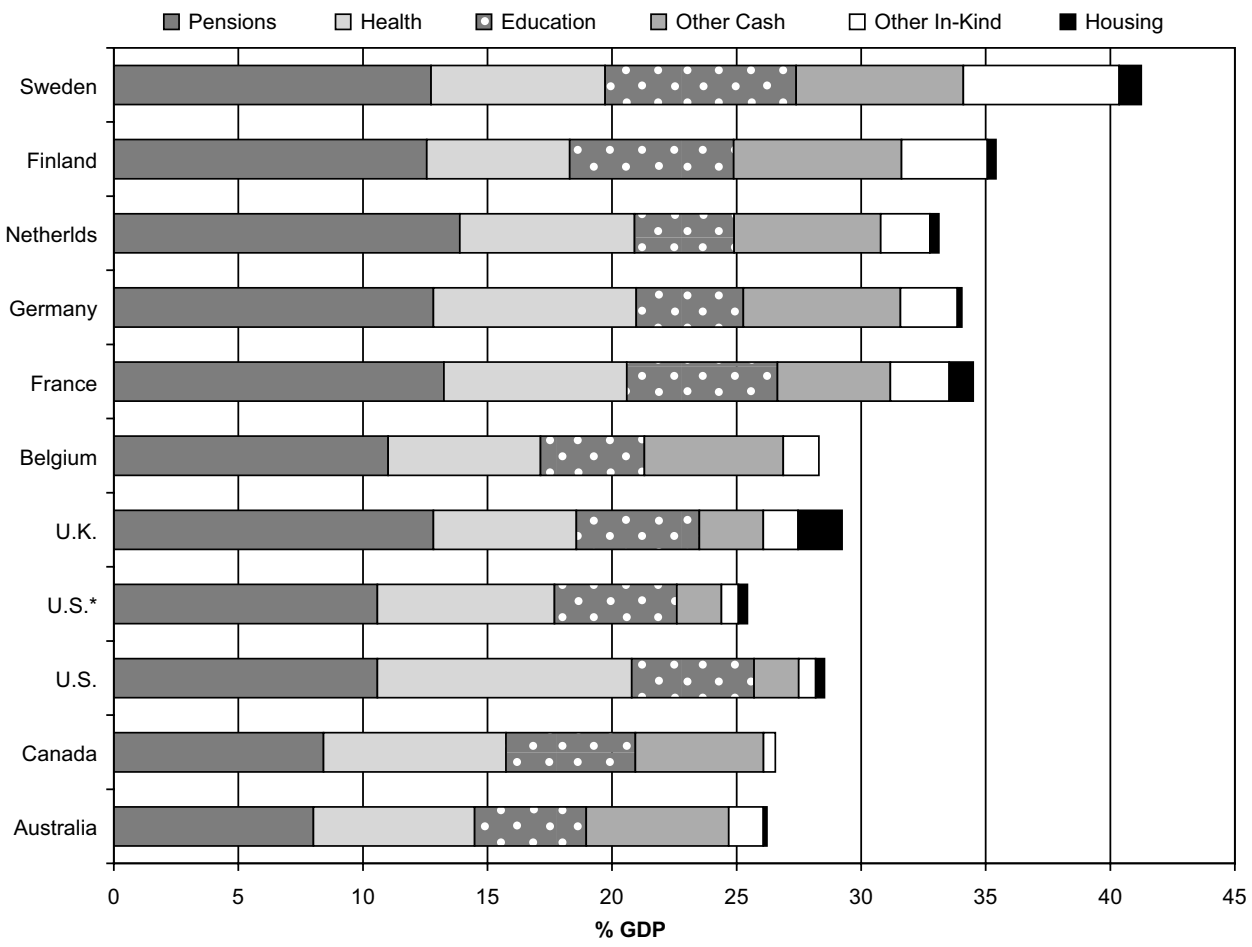

Figure 1. Size and composition of welfare state expenditures in 10 OECD nations.

Note: The asterisked U.S. bar subtracts employer-provided health insurance and pension benefits. All other bars include employer-provided health and pension benefits. Data from the OECD and the Employee Benefit Research Institute.

of GDP into social welfare expenditures. It ranks second at nearly 29 percent, just below the United Kingdom, if employee health and pension benefits are counted. None of the other countries rely upon employer-provided health insurance and all rely much less on employer-provided pensions.

Third, in the broader context of the continental West European and Scandinavian nations, the differences among the English-speaking nations are much smaller than the differences between these nations and all the others.[10] Most of these differences are attributable to history, culture, and political choices. The Scandinavian countries, where expenditures are highest, have had strong labor movements and social democratic parties committed to reducing class and gender inequalities. In other continental European countries, particularly those with strong Catholic parties, corporatist and statist traditions have encouraged the state to play a major role in providing economic security.[11] In the English-speaking countries, strong beliefs in limited government, in the tradition of 19th century liberalism, have curbed this kind of intervention.

Adding taxes

If the gross value of cash transfers is adjusted to take into account income taxes on those transfers and the level of indirect taxes (sales and value-added taxes), the differences in social welfare expenditures shrink. The Scandinavian and continental European countries are more likely to tax cash transfers and to finance social welfare expenditures through indirect taxes than the English-speaking countries, most particularly the United States. Sweden still spends the most and the United States the least, but the ratio of Swedish to U.S. expenditures declines from about 1.5 to about 1.2.

Absolute levels of expenditures

The relationship of welfare state expenditures to GDP, although a good measure of the degree to which countries differ in the proportion of income devoted to welfare state functions, is not a good indication of the absolute amounts of such expenditures. Although Sweden devotes over 40 percent of GDP per capita to social welfare expenditures and the United States only 25 percent, the United States spends a good deal more than 25/40 of the

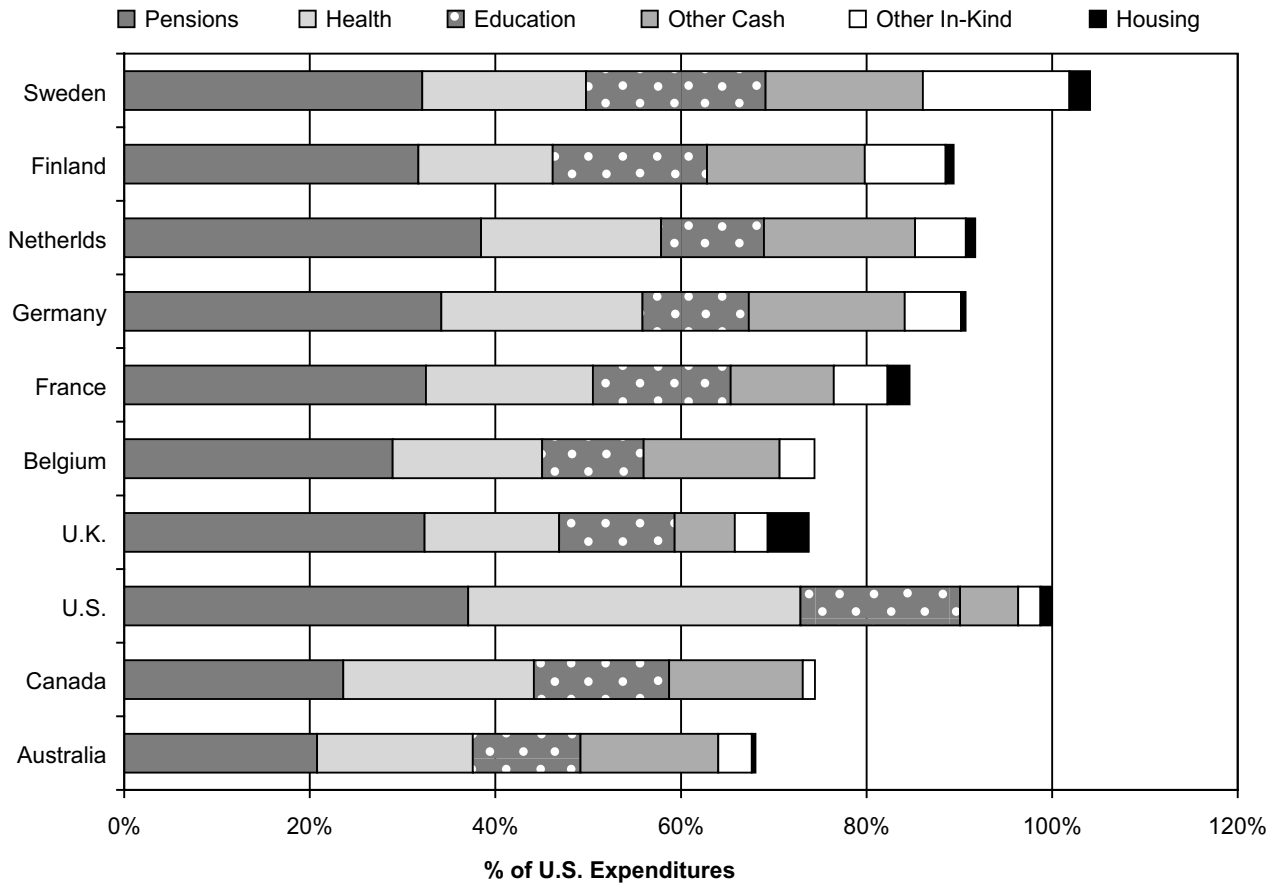

Figure 2. Per capita social welfare expenditures relative to the United States (U.S. = 100%), fiscal year 1997. Data from the OECD.

amount spent by Sweden, where GDP per capita is only 70 percent of U.S. GDP per capita. To compare absolute levels of expenditures across countries, we multiply the proportions of GDP devoted to social welfare in every nation (Figure 1) by the ratio of its GDP to U.S. GDP. By this measure, real per capita social welfare expenditures in the United States are larger than expenditures in all other nations except Sweden (Figure 2). The other English-speaking nations still lag behind the continental European and Nordic nations.

The major domains of state welfare spending are also clear from Figures 1 and 2. In most countries, the biggest single share of social welfare expenditures is for cash retirement pensions, including employer-provided pensions, and the second biggest is for health. Spending on education is the third largest component of expenditures. The proportion spent on housing is everywhere very small; the United Kingdom, at 2 percent, is the most generous.

In several areas, the United States is an outlier. It spends much more on health than other industrialized countries— $4,631 per capita, more than twice the OECD median ($1,983)—yet U.S. citizens fall below the OECD median in their usage of health services. Americans, it appears, pay more, but receive fewer services in return than people in other OECD nations.[12]

The United States was a pioneer in free public education, and throughout most of the 20th century led all other nations in the expansion of secondary and higher mass education. As Figure 1 shows, it is no longer in the lead, primarily because it lags behind the Scandinavian countries, France, and the United Kingdom in expenditures on early childhood education.

The United States also spends markedly less than all other countries on cash transfers (other than pensions) and on near-cash benefits.[13] In 1999, U.S. spending on cash and near-cash assistance for the nonelderly (families with children and the disabled) was less than 3 percent of GDP, not even half the amounts spent by Canada or the United Kingdom, and not a quarter of Finnish expenditures. Comparisons of child well-being that rely on disposable-income figures reflect these lesser cash and near-cash expenditures and show a 20-year trend. From 1980 to 1999, the United States has increasingly diverged even from the other English-speaking nations; by 1999 its per capita welfare expenditures were closer to those of Mexico than of other OECD nations (Figure 3).

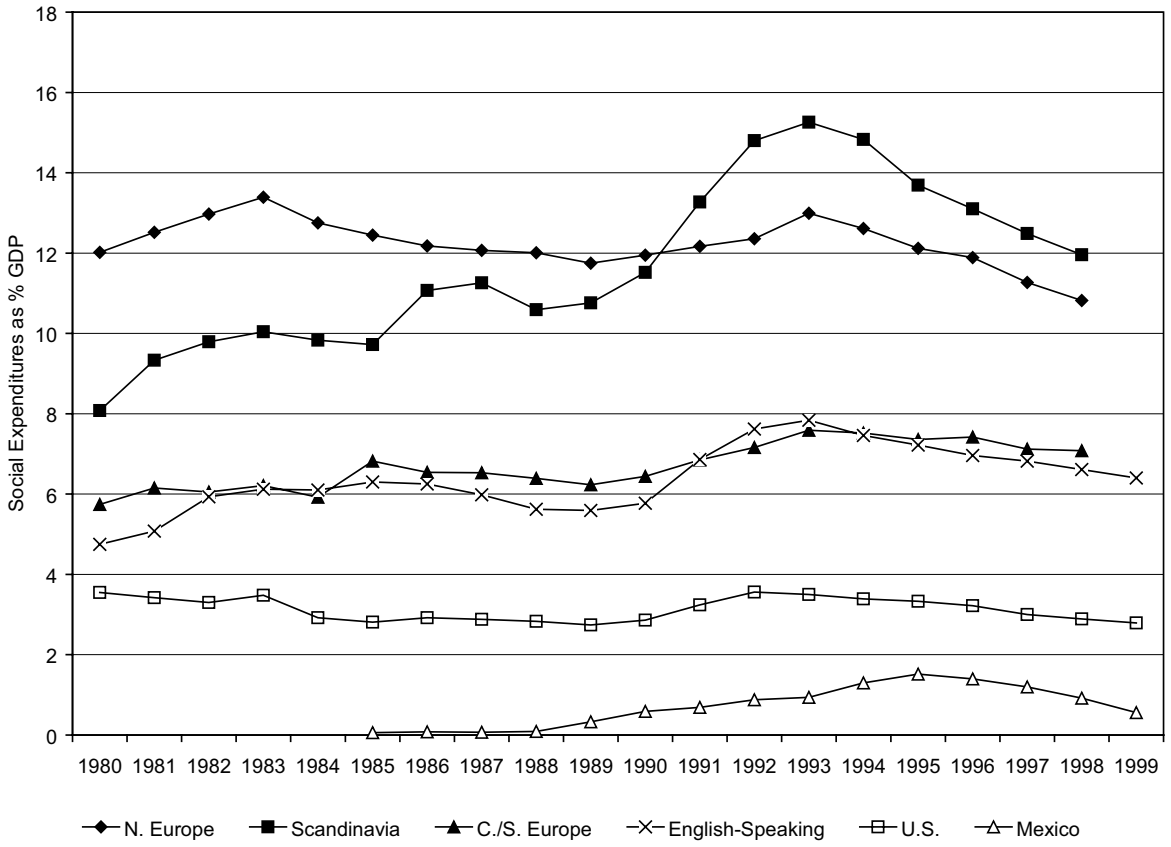

Figure 3. Average social expenditures on the nonelderly population in 6 groups of 17 OECD nations.

Source: OECD, *1980–1998: 20 Years of Social Expenditures—The OECD Database*. OECD, Paris, 2002. http://www.oecd.org/dataoecd/3/63/2084281.pdf

Note: Total nonelderly expenditures include all cash plus near-cash spending (e.g., food stamps) and public housing. Health care and education spending are excluded here. Northern Europe includes **Belgium**, Denmark, **Netherlands**; Scandinavia includes **Finland**, Norway, **Sweden;** Central/Southern Europe includes Austria, **France, Germany,** Italy, Luxembourg, Spain; English-speaking countries include **Australia, Canada, U.K.**, and the **United States** (shown separately).

The redistributive effects of expenditures on resources for children

To what degree do these expenditure differences among countries affect the distribution of resources for children? In all countries, welfare state benefits, net of taxes, substantially increase the resources available to children in the bottom quintile, where market incomes are low and social welfare benefits are high (Table 1). The range of increase, however, is very great. In all the English-speaking nations, children in the bottom quintile get very large increases in their market incomes from welfare state benefits, ranging from 137 percent in the United States to 772 percent in the United Kingdom. In both countries, many parents in this lowest quintile are single mothers with little or no earnings. In all countries examined, the taxes required to finance welfare state benefits take a nontrivial proportion of resources from families in the high-income quintile, from 12 percent to 28 percent. The United States, Finland, and the Netherlands take the least from these families.

In most nations, taxes paid and benefits received by families with children are close to equal. The biggest gains and losses are relatively small: for families with children in Finland, net benefits increase market income by 7 percent (Table 1, last column). In Belgium and France, families with children are net taxpayers, losing, on average, over 9 percent of market income.

Measuring the relative well-being of children within countries

We examine three measures: (1) to replicate previous research, we estimate cash disposable income, which adds cash and near-cash transfers to market income and subtracts direct taxes; (2) we estimate full income, which takes into account noncash transfers and indirect taxes; finally, (3) we adjust full income by including some estimates of the quantity and quality of services received. (See Table 2.)

Table 1
Mean Net Total Benefits to Households with Children (Transfers, School, Day Care, Health) as a Percentage of Market Income

	Average Net Benefit as Percentage of Market Income, for Household Equivalent Market Income Quintiles[a]					
Nation and Year of Data	1 (Low)	2	3	4	5 (High)	All Families with Children
Australia 1994	747.8	41.3	5.3	-7.7	-21.9	3.6
Canada 1997	205.2	31.1	4.3	-7.6	-18.8	1.3
United Kingdom 1999	772.1	82.6	4.7	-9.9	-20.5	6.6
United States 2000	136.9	33.3	11.2	-0.6	-12.9	5.5
Belgium 1997	218.6	8.0	-9.4	-19.0	-28.2	-9.5
France 1994	60.8	2.7	-9.0	-14.4	-24.7	-9.2
Germany 2000	187.4	17.7	-2.8	-11.6	-21.2	-1.9
Netherlands 1999	129.2	15.9	1.3	-6.6	-14.3	2.5
Finland 2000	173.9	28.5	9.1	-5.1	-12.0	7.2
Sweden 2000	184.9	20.3	-4.0	-14.0	-21.0	-2.1

Note: In row 1, the 747.8 percent in column 1 indicates that in Australia, the average child in the lowest income quintile receives net benefits equal to nearly 8 times the family's net income, the -21.9 percent in column 5 that the average child in the highest quintile loses nearly 22 percent of market income through welfare state transfers and taxes. The 3.6 percent in the last column shows that in Australia families with children pay just a little less in taxes to finance social welfare benefits than they receive.

[a]Market income consists of earnings, interest, dividends, rents, and private pensions. To arrive at equivalent income per child, household income is divided by the square root of household size.

Cash disposable income

A fair chance: If a "fair chance" is identified as the ratio of the income of the child at the 10th percentile of cash disposable income to the income of the child at the median (the P10/P50 ratio in Table 2), the United States fares very poorly; the income available to the poorer child is just 39 percent of that available to the child at the median. These ratios for the other English-speaking nations range from 45 to 53 percent; the continental nations have ratios in the 50s, and in Sweden children at the 10th percentile have family incomes that are 63 percent of the income available to children at the median (not in Table 2).

A measure of equal opportunity: the ratio of the child at the 90th percentile of income to the child at the 10th percentile (the P90/P10 ratio in Table 2) is greatest in the United States, over 5 to 1. For comparison, the average P90/P10 ratio for ten countries is just over 3.5 to 1. In Finland and Sweden, the children at the highest level have incomes around 2.5 times the income of children at the lowest level (not shown in Table 2).

After-tax, after-transfer full income

Use of the full income measure changes the results substantially. In all countries except Finland, the distance between poor and rich children shrinks. In the United States, the P90/P10 ratio is now 3.1; the ten-country average is 2.7 (Table 2).

Full income changes the ratios dramatically for two main reasons. First, compared to other industrialized nations the United States is short on cash and long on in-kind benefits. Second, the big-spending welfare states rely more heavily on indirect taxation and taxation of cash benefits than the United States. The United States provides by far the highest values of education and health care benefits and therefore the highest total benefits to families with children. In the United States, cash benefits are on average 14 percent of all benefits; health and education spending absorbs 85 percent of benefits. In the other nations, health and education spending makes up between 40 and 48 percent of total benefits, and cash benefits are much higher. For those who cling to the notion that the U.S. welfare state is undersized, the U.S. benefit to each household with children becomes staggeringly large when health and education spending is included; the average benefit is $23,982 and the median $22,259.

Adjustments for the quantity and quality of services

The preceding results are sensitive to a number of assumptions that may prove to be untrue. First, the results assume that noncash benefits are the same for rich and poor children. For the United States, our full-income calculations took into account differences in health benefits, but assumed education spending was equal. But school spending relative to children's needs differs, though estimates of the size of the difference vary; moreover, such differences may exist in other nations.[14]

The valuation of in-kind benefits is particularly knotty in cross-national research. In large part, the differences between U.S. expenditures on education and health and those elsewhere are due to the higher absolute salaries of U.S. doctors, nurses, teachers, and the like.[15] But do dif-

Table 2
Redistributive Effects of U.S. Social Welfare Benefits to Children in Comparative Perspective

Children's Median Income Measure	Low Income (P10/P50)		High Income (P90/P50)		Economic Distance (P90/P10 decile ratio)[a]	
	United States	10-Country Average	United States	10-Country Average	United States	10-Country Average
Equivalent Disposable (Cash) Income	39%	53%	207%	178%	5.24	3.57
Full Income	58	61	181	162	3.12	2.72
Quality-adjusted	52	61	195	162	3.74	2.74
Adjusted for 10-nation avg. benefit	56	61	182	162	3.24	2.68

Note: "Low income" figure in columns 1and 2 indicates that the income of the child at the 10th percentile is 39 percent of the income of the child at the median in the United States, compared to 53 percent across the 10 countries. The measure of economic distance reflects the ratio of the income of the child at the 90th income percentile to that of the child at the 10th income percentile—5.4 times in the United States and 3.57 times across the 10 states. For definitions of the income measures, see the text.

[a]Small differences in the 90/10 averages are due to rounding errors.

ferences in expenditures translate dollar for dollar into differences in the quantity and quality of services?

We approach this problem empirically in two ways. One simple way is to assume that the *quantity and quality* of health and education services are the same across nations. We thus simulate equal benefits, using the mean benefit across nations but preserving the differences in financing costs. This procedure heavily discounts the value of U.S. health and education benefits. A second approach is to use purchasing power parity (PPP) to adjust expenditures, controlling for the quantity of care. This adjustment reduces differences across nations but does not eliminate them.

Table 2 compares each of these three measures for the United States with the same measures averaged across all 10 nations. In both cases, differences between the full income measure and the two quality-adjusted measures are relatively small, compared to the difference based on disposable income. No matter how we have valued benefits, they make a large difference in the resources available to children, especially in the United States. And in all the scenarios examined, the addition of health and education expenditures reduces differences among nations in general and improves the position of the United States in particular.

The sensitivity of our findings to the measures of health and education expenditures emphasizes the importance of undertaking research on differences in those expenditures within income classes in each country. And even if expenditures are equal, there are other conceptual problems. For example, per pupil expenditures in some inner-city U.S. schools are equal to or even higher than expenditures in some suburban districts. But inner-city schools may have inferior physical plants, less qualified teachers, and students with greater learning and disciplinary problems. The same is true for health care, in which the United States is often accused of having a "two-track" system, one for the well-off and the other for the poor. It is not clear how to resolve these issues.

More generally, should expenditures be valued at their cost to the government? Economists generally assume that in-kind benefits are worth less to recipients than their cash value would be. Because the proportion of in-kind to cash income is largest among poor children and their families, the difference between market value (cost to the government) and the value to recipients is likely to be largest for these families. Discounting in-kind benefits in general and discounting them more for lower-income groups would bring the results closer to the disposable income than to the full income results. Without further research we cannot know if doing so undervalues in-kind benefits for children. But the importance of these benefits in the spectrum of welfare state programs makes it clear that we should make every effort to value them.

Conclusions

In all nations, the redistributive effects of social welfare expenditures are large, both raising the level of resources at the bottom of the income ladder and reducing levels of resources at the top. But the rankings are very sensitive to the assumptions and measures used. Among the four English-speaking nations examined here, for example, the United States ranks last if employer-provided health benefits are not counted, but second if they are. But because U.S. GDP is so much higher than the GDP of the other nations, *per capita* social welfare expenditures in the United States are barely below the level of Sweden and higher than in all the other nations we consider.

Whatever measures of income and benefits we use, however, the English-speaking nations devote less of their GDP to social welfare spending than do the continental European and Nordic nations. Poor children in the English-speaking nations are relatively worse off than their

continental European counterparts. They remain so even after we take into account in-kind benefits and the taxes required to finance them. ■

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[1]More precisely, whose disposable income places them at 50 percent or less of the median, a standard relative definition of poverty. The LIS database defines "disposable income" as the sum of market income (e.g., earnings, pensions), cash and near-cash benefits, and social insurance payments, less taxes and mandatory employee contributions. See the table of Summary Income variables on the LIS Web site, http://www.lisproject.org/techdoc/summary.pdf.

[2]This article summarizes the research reported in detail in I. Garfinkel, L. Rainwater, and T. Smeeding, "Welfare State Expenditures and the Distribution of Child Opportunities," Luxembourg Income Study Working Paper 379, June 2004. On the LIS Web site at http://www.lisproject.org/publications/liswps/379.pdf. A version presented at the Conference on "Supporting Children: English-Speaking Countries in International Context" held at Princeton University, January 7-9, 2004, is included in *Supporting Children: English-Speaking Countries in International Contex*t, ed. by N. Folbre, I. Garfinkel, S. McLanahan, and T. Smeeding (submitted to Russell Sage Foundation).

[3]OECD, *1980–1998: 20 Years of Social Expenditures—The OECD Database*, OECD, Paris, 2002; Employee Benefit Research Institute, *Employer Health Benefits, 2002*, EBRI, Washington, D.C., 2003. The methodology and assumptions we employ are fully described in the article on which this summary is based (see note 2).

[4]Various equivalence scales have been used in cross-national comparisons of well-being among households of different compositions. We adjust household incomes for differences in household size by dividing income by the square root of household size. This results in a measure of adjusted or equivalent income per child. For further information see A. Atkinson, L. Rainwater, and T. Smeeding, *Income Distribution in OECD Countries: Evidence from the Luxembourg Income Study (LIS),* Social Policy Studies no. 18, OECD, Paris, October 1995.

[5]OECD, *Education at a Glance: OECD Indicators 2002*, OECD, Paris, 2002; J. Gornick and M. Meyers, *Families that Work: Policies for Reconciling Parenthood and Employment* (New York: Russell Sage Foundation, 2003); M. Meyers, personal communication to the authors on early childhood education estimates for 12 nations, October 1, 2003. Data are insufficient to allow us to impute the costs of tertiary education.

[6]OECD, *Health Care Expenditures Database*, OECD, Paris, 2002.

[7]This is consistent with the amount of care received by the uninsured in the 1998 Medical Care Expenditure Survey; see B. Wolfe, "Estimates of Health Care Subsidies for the Uninsured Using the Medical Care Expenditure Survey," unpublished manuscript, November 16, 2002.

[8]The authors examine redistributive effects for the elderly and for those without children in "Welfare State Expenditures and the Redistribution of Well-Being: Children, Elders, and Others in Comparative Perspective," Luxembourg Income Study Working Paper No. 387. On the LIS Web site at http://www.lisproject.org/publications/liswps/87.pdf.

[9]The low-income child is measured at the 10th percentile (median of the bottom quintile); the high-income child is measured at the 90th percentile (median of the top quintile).

[10]These patterns are consistent with the findings of other comparative studies; see, e.g., G. Esping-Andersen, *The Three Worlds of Welfare Capitalism* (Princeton, NJ: Princeton University Press, 1990); T. Smeeding, "Government Programs and Social Outcomes: The United States in Comparative Perspective," presented at the conference on Poverty, the Distribution of Income, and Public Policy, University of California, Berkeley, December 2003; revised 2004.

[11]See, e.g., P. Lindert, *Growing Public: Social Spending and Economic Growth since the Eighteenth Century* (New York: Cambridge University Press, 2004).

[12]G. Anderson, U. Reinhardt, P. Hussey, and V. Petrosyan, "It's the Prices, Stupid: Why the United States Is So Different from Other Countries," *Health Affairs* 22, no. 3 (2003): 89–105.

[13]These include unemployment insurance, cash assistance, the earned income credit and other child tax credits and allowances, family leave, and health insurance. The pattern is similar for near-cash expenditures such as those for housing and food stamps.

[14]Some studies find that education spending in the United States may differ by up to 50 percent between rich and poor districts. Other work using the LIS data found that benefits per student differed by only about 10 percent across the income distribution, but that when differences in needs arising from poverty, disability, and English as a second language were included, benefits for children in the highest income quintile were 25–30 percent larger than those for poor children. For discussions of these issues, see D. Card and A. Payne, "School Finance Reform, the Distribution of School Spending, and the Distribution of SAT Scores," NBER Working Paper 6766, Cambridge, MA, 1998; K. Wilson, K. Lambright, and T. Smeeding, "School Finance and Equality of Opportunity: Equal Dollars or Equal Chances for Success?" unpublished manuscript, Syracuse University Center for Policy Research, June 2004.

[15]Anderson and others, "It's the Prices, Stupid."

Social policy in the upper Midwest: A new Web resource

As part of a full-scale revision of its World Wide Web site IRP is developing a resource of links to data and organizations important in social policy issues for the seven Midwestern states that constitute the primary focus of IRP's Area Poverty Center activities (http://www.irp.wisc.edu/research/midwest.htm). These states are very diverse. Comprising almost one-fifth of the nation's population, they range from small, mostly rural states like Iowa to larger states with significant urban populations (Michigan, Illinois, and Ohio). The states vary in the proportion of the population that is nonwhite (from 4 percent in Iowa to 19 percent in Illinois) and in per capita income (from around $28,000 in Indiana and Iowa to over $34,000 in Minnesota).[1]

In the states of the upper Midwest, over 5 million people had incomes below the poverty line in the 2000 Census. Poverty rates are below the national average (12.1 percent in 2001–2003), but nonetheless span a wide range, from 7.1 percent (Minnesota) to 11.8 percent (Illinois). These seven states also represent a significant share of the national public assistance caseload. In 1994, they composed about one-fifth of the (then) Aid to Families with Dependent Children population; despite disproportionately sharp caseload reductions, they still represented nearly 17 percent of the national Temporary Assistance for Needy Families (TANF) population in December 2003. In 2003, there were over 3.8 million people in these states enrolled in the Food Stamp Program—nearly 18 percent of the total U.S. caseload. Of 42.8 million Medicaid recipients in 2000, 6.3 million, nearly 15 percent, came from the seven states. Nearly 3 million people in the seven states claimed an earned income tax credit; they received in all $4.6 billion, 14.7 percent of the amount paid out by the federal government.

The states of the upper Midwest vary in civic traditions, political orientation, and systems of social assistance. In one respect, however, they are alike: they have long been recognized as social policy innovators. No area of the country more aggressively exercised the flexibility available under federal waiver policy during the years before passage of welfare reform legislation in 1996, and the states have adopted widely differing programs since then. Thomas Gais, director of the Federalism Research Group at the Rockefeller Institute of Government, noted in 2000, "The Midwest states now have more experience with work-based, time limited welfare systems than any other region of the country."[2]

One consequence of this reform activity was the sharp drop in welfare caseloads already noted. At the beginning of 1996, 834,000 individuals in the seven states were receiving cash assistance. By 2001 those numbers were down by more than half, though in the uncertain economic times that have followed, some states have seen small increases.

In undertaking reform, the states of the upper Midwest took different directions. Wisconsin and Ohio integrated their TANF and workforce development systems into one state agency, whereas Michigan and Illinois kept these systems separate. Michigan and Minnesota aggressively used TANF benefits to supplement earnings; Wisconsin did so through its state Earned Income Tax Credit and its innovative child support policies. Illinois and Michigan softened their time limits by introducing state programs to support some families after five years, whereas Wisconsin and Ohio imposed shorter time limits. Iowa combined strict sanction policies with enriched service programs for challenged families. Indiana, Illinois, Iowa,

Wisconsin Welfare Reform: Two Views

The year 2004 saw the publication of two widely discussed books on the Wisconsin welfare reforms of the 1990s. These are *American Dream: Three Women, Ten Kids, and a Nation's Drive to End Welfare* (New York: Viking Press), by Jason DeParle, a New York Times writer who has long covered social policy, and *Government Matters: Welfare Reform in Wisconsin* (Princeton University Press), by Lawrence Mead, a political scientist in the Department of Politics at New York University and an IRP associate. Both authors presented seminars in Fall 2004 at IRP, Jason DeParle on September 30, 2004, and Lawrence Mead on October 21, 2004.

The two seminars, and the books on which they were based, offered a fruitful contrast in perspectives on Wisconsin's reforms. Are they, as Mead declares, a triumph of social policy? Or do the troubling stories that DeParle tells signify that something is seriously amiss with welfare reform in the state? Underlying such questions is the thorny issue of how we define success (an issue addressed in an article by Maria Cancian and Daniel R. Meyer in the Summer 2004 issue of *Focus*). Mead, for example, focuses on work promotion; DeParle looks to a broader combination of outcomes.

Professor Mead's research on welfare reform in Wisconsin has appeared in the following IRP Discussion Papers: DP 1164-98, 1184-99, 1230-01, 1231-01, 1232-01.

Recent IRP research on welfare reform may be found on the IRP Web site, http://www.irp.wisc.edu/research/welreform.htm

and Michigan have operated welfare through state employees; Minnesota, Ohio, and Wisconsin have relied heavily on local governments.

The precipitous caseload declines in these seven states were not matched by declining investments in low-income families and children. After1996 all seven states made significant investments in policies directed at low-income families. They experimented with one-stop centers for program participants with multiple needs, complex community networking, devolution to county and private agencies, and even the development of virtual agencies. Low-income families now receive assistance through an array of programs delivered by state tax systems, community-based service systems, for-profit organizations, and state and local public human service and labor organizations.

Between 1996 and 2000, state expenditures related to TANF increased by $200 million, and the budgetary purpose of the expenditures changed dramatically. The proportion of all TANF funds spent on traditional cash assistance across the seven states fell from 72 percent in 1996 to 30 percent in 2000. Spending on workforce development activities increased from 8 percent of TANF spending in 1996 to 12 percent in 2000. Work supports, such as child care, grew from 14 percent of spending in 1996 to 40 percent in 2000. Notably, the proportion of TANF spending on family formation, family stability, and youth development tripled over the four years, as states quickly recognized that moving low-income adults into the labor market was only a first step in the reform agenda. New workers must be nurtured through a variety of supports, and functioning families must be promoted and strengthened.

Changes and retrenchment in the ambitious programs of the later 1990s have been made necessary by the tough economic times that came after 2000, rapidly rising state Medicaid costs, and state inability to sustain the higher spending of federal TANF funds in years 3–5 of the TANF block grant that is needed to compensate for state underspending in the first two years of the grant. The WELPAN group of Midwestern welfare administrators has been working with IRP to determine the impact on current spending on social welfare programs.■

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[1]Data are from the Census Bureau's State & County Quickfacts and the *Statistical Abstract of the United States*, 2003. Population figures are from the 2000 Census (the 2003 estimates from the Census Bureau's American Community Survey are not markedly different). Some state information is drawn from IRP's newsletter, *Focus*; see "Welfare Then, Welfare Now: Expenditures in Some Midwestern States," Vol. 22, No. 1, 2002, pp. 11–14. On TANF, see the annual reports of the Administration for Children and Families in the federal Department of Health and Human Services.

[2]Thomas Gais, "Concluding Comments: Welfare Reform and Governance," *Learning from the Leaders*, ed. Carol Weis (Albany NY: Rockefeller Institute Press, 2000), p. 173.

The CNSTAT workshop on experimental poverty measures, June 2004

John Iceland

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The Committee on National Statistics (CNSTAT) convened a workshop on June 15–16, 2004, to review federal research on alternative methods for measuring poverty. The workshop had been requested by the U.S. Office of Management and Budget to evaluate progress in moving toward a new measure of poverty, as had been recommended in 1995 by a CNSTAT panel on poverty measurement:

> Our major conclusion is that the current measure needs to be revised: it no longer provides an accurate picture of the differences in the extent of economic poverty among population groups or geographic areas of the country, nor an accurate picture of trends over time. The current measure has remained virtually unchanged over the past 30 years. Yet during that time, there have been marked changes in the nation's economy and society and in public policies that have affected families' economic well-being, which are not reflected in the measure.[1]

Since the publication of the panel's report, there has been much research on elements of its recommendations by a variety of government agencies, think tanks, and universities. The Census Bureau has also produced a large number of alternative measures of poverty. However, the methods used to produce these alternatives have changed from year to year, so that there are no consistent time series of alternative poverty statistics.

Thus, the workshop had three explicit goals: (1) obtain feedback from the scientific community on which components of alternative measures are methodologically sound, (2) specify elements of the poverty measure for which more research is necessary, and (3) trim the number of experimental measures issued in Census Bureau reports. The planning group for the workshop asked several researchers to summarize the research conducted on particular elements of alternative poverty measures, to discuss the technical issues that have arisen, and to outline the strengths and limitations of alternative approaches.[2] Discussants and panel participants then assessed the soundness of different alternative measures.

Background: The current official poverty measure

The current official poverty measure has two components—poverty thresholds and a particular definition of family income that is compared to these thresholds. Mollie Orshansky, an economist at the Social Security Administration, developed poverty thresholds in 1963 and 1964 by using the "Economy Food Plan" (the lowest-cost food plan) for families of different types and sizes prepared and priced by the U.S. Department of Agriculture. To arrive at overall threshold figures, Orshansky multiplied the price of the food plans by three, based on information from the 1955 Household Food Consumption Survey that indicated that families of three or more people had spent about one-third of their after-tax income on food in that year. The thresholds have been updated yearly for inflation using the Consumer Price Index (CPI).

The definition of family resources is the Census Bureau's definition of income—gross annual cash income from all sources, such as earnings, pensions, and cash welfare. A family and its members are considered poor if their income falls below the poverty threshold for a family of that size and composition.[3]

The current official poverty measure was, for a time, a sensible indicator of material deprivation in the United States. When first adopted by the Office of Economic Opportunity in 1965, the poverty lines were set at a dollar level that coincided with people's views of poverty. The method of measuring people's resources—gross cash income—also managed to fairly accurately capture the income people had to meet their basic needs.

Over the past 40 years, however, the poverty measure has become increasingly outdated. Poverty lines based on the cost of food no longer capture families' basic needs because of the rapid growth in housing prices and other expenditures, such as medical care and child care, relative to food prices. Today, people spend closer to one-sixth of their income on food rather than one-third. In the 1960s, the official poverty threshold for a four-person family coincided with people's views of the dollar amount needed to support such a family, as reported in public opinion surveys. By the 1990s this was no longer true.[4]

Recommendations of the NRC Report

Calculating the poverty threshold

A new threshold should be calculated by determining, for a reference family of two adults and two children, a dollar amount for food, clothing, shelter, and utilities, and then increasing that dollar amount by a modest percentage to allow for other needs (such as household supplies, personal care, and non-work-related transportation). The dollar amount would be scaled down from the median spending for those four basic items using data gathered in the Consumer Expenditure Survey.

This threshold would then be adjusted for families of different sizes and types by using an equivalence scale.

The resulting thresholds would be further adjusted for housing cost variations across regions and metropolitan areas of different population sizes.

Calculating family resources

Family resources are defined as the value of cash income from all sources plus the value of near-money benefits that are available to buy goods and services covered by the new thresholds, minus some basic expenses.

Cash income sources are the same as those in the current official Census Bureau poverty measure.

Near-money income includes food stamps, housing subsidies, school breakfast and lunch subsidies, home energy assistance, assistance received under the Women, Infants, and Children nutritional supplement program (if the data are available), the Earned Income Tax Credit, and realized capital gains (or losses).

Basic expenses to be subtracted include taxes, child care, and other work-related expenses of working parents, medical out-of-pocket costs, and, if the data are available, child support payments made to another household. Taxes represent a nondiscretionary expense in that people cannot spend this money. Child care and other work-related expenses (such as commuting expenses) are also subtracted because these costs are often incurred if parents are to work and earn labor market income.

An article by K. Short, T. Garner, D. Johnson, and P. Doyle, *Experimental Poverty Measures: 1990 to 1997*. Current Population Report P60-205, U.S. Census Bureau, Washington, D.C., 1999, contains detail on the actual operationalization and implementation of the NRC-recommended poverty measure.

Many also believe that the definition of money income used in the official measure—gross cash income—inadequately captures the amount of money people have at their disposal to meet basic needs. It has been argued that taxes should be subtracted from income, because this money cannot be spent to meet basic needs, and that in-kind or near-money government benefits—such as food stamps, housing and child care subsidies, and the EITC—should be added, because they are intended to meet such needs. The omission of these items from the official definition of income has become increasingly serious in recent years because government transfers are now concentrated in benefits that are not considered part of families' gross cash income. The unfortunate result is that the current official poverty measure no longer accurately captures either people's perceptions of poverty or the effect of various policies on poverty.

Recommendations in the 1995 NRC report and subsequent research

In response to the increasingly apparent weaknesses of the official poverty measure, the U.S. Congress appropriated funds for an independent scientific study of the official poverty measure; this led to the 1995 report of the National Research Council (NRC) panel, *Measuring Poverty: A New Approach*. (The panel's main recommendations appear in the box on this page.)

The release of the NRC report has been followed by considerable research activity. Two Census Bureau reports have been devoted to experimental poverty measures.[5] From 1999 to the present the Census Bureau has also released a number of alternative poverty measure estimates in materials that accompany the annual official poverty report. Some 50 research papers on experimental poverty measures have been written by researchers in various government agencies, including the Census Bureau, the Bureau of Labor Statistics, the Department of Health and Human Services, the Office of Management and Budget, and the Social Security Administration, to name a few, and by researchers at think tanks and various universities.[6] This research has helped identify strengths and weaknesses in the NRC recommendations.

As noted above, Census Bureau reports have offered a large number of alternative measures of poverty, which have also changed from year to year. The second experimental poverty report, for example, presented 24 alternative poverty measures with estimates from 1990 to 1999.[7] The subsequent 2002 annual official poverty report included tables based on six NRC-related experimental measures that were a subset of some of those contained in the second experimental poverty report and that covered the years 2001–2002.[8] With the information available, one cannot piece together a single time series of alternate measures from 1990 to 2002.

A summary of the workshop proceedings

The general purpose of the June 2004 CNSTAT workshop was to revisit the 1995 NRC recommendations and evaluate the findings of the subsequent research. The workshop planning committee believed that some of the NRC recommendations were so widely accepted that they did not warrant much discussion. Specifically, the measure of family income should consist not only of gross cash income (the current official definition), but it should also, as the 1995 NRC panel had recommended:

- Account for taxes (subtract taxes, add the Earned Income Tax Credit and realized capital gains/losses).
- Add the value of food stamps and other near-cash benefits, including child care subsidies, school lunch subsidies, home energy assistance, and, if the data are available, benefits received under the Women, Infants, and Children nutrition program and the school breakfast program.
- Subtract from income any child support payments made by the payer, if the data are available.

Workshop sessions therefore focused on setting and updating a reference family poverty threshold; equivalence scales; geographic adjustments to thresholds; incorporating medical out-of-pocket expenses, work-related expenses including child care, and the value of housing; and data issues and other miscellaneous topics. After lengthy discussions, and at times significant disagreements, participants did reach consensus on a number of issues.

Adopting a new poverty measure

There was broad support for adopting a new poverty measure. Some favored calling this a "low-income" measure, believing that this term more precisely describes the measure. Most participants favored having just one new poverty measure rather than several, though there was also support for having data available to calculate poverty in alternative ways in order to gauge the effect of different elements of the new measure on poverty estimates. Many also expressed support for continuing to calculate and publish the current poverty measure for the foreseeable future, given how familiar that measure is to many people.

Setting the reference family threshold

Most workshop participants supported the NRC panel's recommended approach to setting the reference family threshold (for a family of two adults and two children), as implemented in current Census Bureau reports on experimental poverty measures. This method involves determining the dollar value of food, clothing, shelter, utilities, and a little more, using Consumer Expenditure (CE) data. This dollar value does not actually differ much from the reference family threshold in the current official measure.

There was little support for an alternative "equal rate" method, which would set the new threshold at a level that would, by design, produce a poverty rate that equaled the official poverty rate in a particular base year (after which it would presumably diverge in one direction or another). The advantages of this method are that it would provide a more seamless change in measured poverty rates from the current official measure, and it would provide a good sense of how the composition of the poverty population differs when using the alternative measure. But most participants believed these advantages were outweighed by the main disadvantage of this method : that the threshold would in essence be an artifact and not inherently meaningful, since its level would depend entirely on the official poverty rate in a given year.

Adjusting the reference family threshold over time

There was broad agreement on using the NRC panel's recommended "quasi-relative" approach for annually updating the threshold. This involves using the latest three years of CE data on expenditures on items in the threshold. The advantage of this method over "absolute" poverty thresholds, which are adjusted over time only for inflation, is that CE-based thresholds change as *real* expenditures on basic items change. The reasoning here is that CE-based calculations will allow the thresholds to retain their social significance for longer periods of time than absolute thresholds. Thresholds in the quasi-relative approach are based on expenditures for certain basic needs, and not just median (or mean) incomes as a whole, as often is done in purely "relative" poverty measures.

Equivalence scales

Many participants favored using a three-parameter equivalence scale to adjust thresholds for families of different sizes and compositions. Specifically, the recommended scale takes into account the following three factors: (1) children consume less on average than adults; (2) economies of scale dictate that a decreasing dollar amount should be added to the poverty threshold for each additional family member; and (3) the first child in a single-adult family increases the scale more than the first child in a two-adult family.[9] The three-parameter scale is therefore a little more refined than the two-parameter scale recommended by the 1995 NRC panel. The three-parameter scale has been implemented in many of the experimental poverty measures included in Census Bureau reports.[10] A few participants expressed support for research on whether more factors should be taken into account in equivalence scales, such as age of children and household production by stay-at-home parents. Some researchers hold that family spending on basic needs is different if there is one stay-at-home parent than if both parents work. For example, families in which both parents work or a single parent works often incur higher food expenses because they are less likely to prepare home-cooked meals.

Geographic adjustments to thresholds

Many, though certainly not all, workshop participants agreed that geographic price adjustments to the poverty thresholds *should not* be incorporated into a new poverty measure at this time. Although nearly all participants agreed that incorporating geographic adjustments to poverty thresholds was appropriate in principle, many felt that the methods currently available to make these adjustments were too technically problematic and too crude, especially in light of their substantial effect on state-level poverty rates—a politically sensitive issue (see the article in this *Focus* on geographic adjustments).

One problem with current methods used in experimental poverty measures is that they account only for variations in housing and not other items.[11] They are also based only on rental costs. Moreover, since some of these methods involve using rental cost estimates developed by the U.S. Department of Housing and Urban Development to run their Section 8 certificate and voucher program, they may not be suitable for poverty measurement purposes.

At the workshop, some of those most familiar with the technical issues indicated that improving these methods to a technically acceptable level is still some time away. Many participants thought that constructing appropriate adjustments should not hold up the implementation of a new poverty measure, and nearly all placed a high priority on continued research on improving methods to determine geographic variations in housing and other components of the threshold.

Medical out-of-pocket expenses

There was broad agreement on accounting for medical out-of-pocket spending, but no clear consensus on how to incorporate these costs. The method receiving greatest support includes expected medical out-of-pocket expenses in the poverty thresholds themselves, rather than subtracting actual expenses from resources. It entails calculating average expenses for different family types using several factors: whether family members have health insurance, self-reported health status, presence of elderly family members, and family size. This approach explicitly treats medical out-of-pocket expenses as a basic need, along with food, clothing, shelter, and utilities.

One advantage of this method is that these expenses can be adjusted for the underconsumption of medical care by the uninsured, whose need for health care may exceed their actual spending. The thresholds can reflect the minimum resources needed by an uninsured family to buy a health insurance policy. One criticism is that the use of expected rather than actual out-of-pocket expenses overestimates actual medical costs for many families and underestimates the costs for a few families that experience high medical expenses in a particular year. This may indeed occur, but it was pointed out that erroneous poverty classifications resulting from this method were rather modest; the same error also applies to accounting for the cost of housing in the thresholds. Many participants also argued that extreme values observed in the data should not be allowed to affect the calculation of expected out-of-pocket expenses.

Child care and other work-related expenses

Most participants agreed that a new poverty measure should account for work expenses. There was strong support for incorporating expected child care and work-related expenses in a poverty measure—that is, assigning fixed amounts based on a family's demographic characteristics and labor force participation. Such an approach treats child care and work-related expenses as a basic need among families where both parents work or where a single parent works.

Work-related expenses other than child care are calculated by subtracting 85 percent of the median of work-related expenses reported in the Survey of Income and Program Participation (SIPP) by all workers for every week they worked. Total family work-related expenses are capped so that they do not exceed the earnings of the lower-earning parent in a family. Similarly, child care expenses are calculated by subtracting a flat amount equal to 85 percent of the median cost of child care reported in the SIPP by all working families with children under 12 years old. Different medians are used, depending on the number and ages of the children.

This approach to work-related expenses assigns such expenses to more families than actually report incurring them. Nevertheless, expenses per family are, in the aggregate, lower with this method than when subtracting actual expenses.

Incorporating the value of housing

Many participants favored incorporating the value of housing in a new measure by making distinctions among the income needs of owners with substantial mortgages, owners with low or no mortgages, and renters. The current official poverty measure makes no such distinctions. The crux of the problem is that people who own a home outright or have low mortgages have more money to spend on other basic needs (such as food and clothing) than either renters or people with large mortgages.

The 1995 NRC report noted the complex and highly technical nature of discussions of these ownership distinctions. Many of the approaches involve accounting for the flow of services that owners obtain from their homes by adding a "rental equivalence value" or "imputed rent" to homeowners' incomes that would also be consistent with the value of housing represented in the thresholds. These terms refer to the estimated amount of money owners would receive if they rented out their homes. The value added is net of owners' spending on their mortgages, property taxes, and maintenance costs. The thinking is

that if the rental equivalence value is not added to the homeowners' incomes, then people who own their homes with low or no mortgages would appear to be no better off than otherwise similar renters or homeowners with higher costs.

Workshop participants tended to favor incorporating the value of housing to homeowners in a new poverty measure, but there was little discussion concerning which exact method should be adopted, given the highly technical aspects of the methods available. Most participants also agreed that estimates of housing subsidies should be added to family resources.

Data and other topics

Most participants favored the continued use of the Current Population Survey as the main data source for poverty statistics. Although many agreed that the SIPP does a more thorough job of collecting income data, the SIPP currently has a few shortcomings. An important one is that many people—especially low-income households—drop out of the survey over the course of a panel, likely introducing some bias into the poverty estimates over time. This bias could be overcome by reintroducing "overlapping" panels (a strategy that was dropped after the 1993 panel), in which a new 3- or 4-year panel is implemented every year. Another shortcoming of the SIPP is that data have not consistently been released in a timely manner. These shortcomings are, however, potentially addressable.

A final statistical issue centered on the importance of operationalizing a single new poverty measure that is internally consistent and statistically defensible. Many of the workshop presentations noted that changes in one element of the measure (e.g., items to be included in the threshold) sometimes affect the subsequent implementation of another element (e.g., the construction of the equivalence scales).

Areas for future research

Workshop participants advocated developing improved methods for incorporating geographic adjustments to the thresholds and supported more research on whether equivalence scales should incorporate more than three parameters. Many participants favored eventually using SIPP data rather than CPS data as the main source for poverty statistics, but only if attrition problems are addressed and the data are released in a more timely manner.

Areas for future research also include the use of an alternative unit of analysis other than the official "family," intrahousehold resource allocation in nonfamily households, and the feasibility and practicality of accounting for wealth and/or household production (the work of a stay-at-home parent) in a new poverty measure. ■

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[1]C. Citro and R. Michael, *Measuring Poverty: A New Approach,* a report of the Committee on National Statistics of the National Research Council (Washington, D.C.: National Academy Press, 1995), p. 1.

[2]The workshop planning group consisted of Rebecca Blank and Timothy Smeeding (Co-chairs), David Betson, Graham Kalton, and Barbara Wolfe. Constance Citro, Michele Ver Ploeg, Michael Siri, and Tanya Lee of the National Academies helped organize the workshop and I served as the rapporteur. A more extended review is J. Iceland, *Experimental Poverty Measures: Summary of a Workshop* (Washington, D.C.: National Research Council, 2005), available from the National Academies Press or on-line at http://books.nap.edu/catalog/11166.html.

[3]Since its adoption, the official poverty measure has undergone minor changes; see Citro and Michael, *Measuring Poverty*, pp. 24–25.

[4]Citro and Michael, *Measuring Poverty*; D. Vaughan. "Exploring the Use of the Public's Views to Set Income Poverty Thresholds and Adjust Them over Time," *Social Security Bulletin* 56, no. 2 (1993): 22–46.

[5]K. Short, T. Garner, D. Johnson, and P. Doyle, *Experimental Poverty Measures: 1990 to 1997*, Current Population Report P60-205, U.S. Census Bureau, Washington, D.C.; K. Short, *Experimental Poverty Measures: 1999*, Current Population Report P60-216, U.S. Census Bureau, Washington, D.C., 2001.

[6]Many of these papers are available on a Census Bureau Web site. See http://www.census.gov/hhes/www/povmeas.html.

[7]Short, *Experimental Poverty Measures: 1999*.

[8]B. Proctor and J. Dalaker, *Poverty in the United States: 2002,* Current Population Report P60-222, U.S. Census Bureau, Washington, D.C., 2003.

[9]When compared to the two-parameter scale originally recommended by the 1995 NRC panel, the three-parameter scale provides more economies of scale between single adults and childless couples and more similarity between the scales for families of one parent and two children vs. two parents and one child.

[10]Short and colleagues, *Experimental Poverty Measures: 1990 to 1997*; Short, *Experimental Poverty Measures: 1999.*

[11]See, for example, Short, *Experimental Poverty Measures: 1999*.

Adjusting the poverty measure for geographic variations: What difference would it make?

When the federal government distributes social welfare program funds, one criterion for allocation is the degree of poverty in particular states. Title I funding for schools, for example, takes into account the number of school-aged children whose family income is below the poverty line. The State Children's Health Insurance Program (SCHIP), Community Development Block Grants, and funding provided under the Individuals with Disabilities Education Act are other large programs that also take poverty rates into consideration.

The official measure that generates poverty rates for the nation at large and for state and local jurisdictions has long been criticized for its omissions and inadequacies, as discussed in the accompanying article by John Iceland. In 1995, a study by a National Academy of Sciences (NAS) panel on Poverty and Family Assistance recommended a series of changes; none has yet been implemented.[1]

Prominent among these changes was a suggested adjustment for regional variation in the cost of living. The official poverty measure does not take into account such differences. Housing costs vary significantly across the country and housing expenditures are a large component of household budgets. The NAS panel therefore recommended a first and partial step toward accounting for regional differences: adjusting the poverty thresholds for geographic differences in the cost of housing. But the panel was also careful to differentiate between use of the poverty measure for statistical purposes and its use for administrative purposes, such as setting eligibility and benefit standards for government assistance programs. There is, the panel noted, no necessary relationship between a statistical measure of need and the extent to which programs can or should be devised to alleviate need. Indeed, the poverty guidelines for welfare programs issued each year by the U.S. Department of Health and Human Services already include some geographic variation—they are 25 and 15 percent higher in Alaska and Hawaii, respectively.

Although differences in regional and state poverty rates are of interest in themselves, the authors' concern is more immediately practical. If poverty rates were adjusted for regional variation, what kinds of changes would ensue in the distribution of poverty and the allocation of federal funds?

To examine this issue the authors compared statistics produced by the current official poverty measure and an experimental poverty measure. They calculated state shares of the national total of people below poverty for the groups in which they were interested, using first the official measure and then an alternative measure that incorporated geographic adjustments.[2] In the analyses they pooled three recent years (1999–2001) of data from the Current Population Survey (CPS) to reduce variance in our results. Finally, they illustrated the consequences of introducing the experimental measure by examining what would happen to the allocation of funds under the major federal health insurance program for children, the SCHIP.

These results should be interpreted with caution. The amounts that the federal government ultimately distributes to the states are based not only on the data but on the interactions of the data with regulatory features and the allocation formulas for particular programs, as the authors note below.

Ways of adjusting for regional differences

The NAS panel developed a set of indexes for adjusting poverty thresholds in metropolitan and nonmetropolitan areas in each of the nine Census Bureau divisions of the country. To do so it used 1990 census data on rents for two-bedroom apartments that had plumbing, kitchen facilities, and electricity, and into which the occupant had moved within the last five years. First, metropolitan areas were grouped into five categories by population size; nonmetropolitan areas were included in the smallest category. The panel then computed index values using the cost of housing at the 45th percentile of housing costs for each area. Ultimately, the panel was able to create housing indexes for 41 geographic areas.

By this measure, the largest metropolitan areas of the Northeast and the West, with index values over 1.2, were the most expensive areas. The cheapest areas were

This *Focus* article summarizes a longer report, Charles Nelson and Kathleen Short, "The Distributional Implications of Geographic Adjustment of Poverty Thresholds," U.S. Bureau of the Census, Washington, D.C., December 8, 2003. A summary version, prepared for the National Academy of Sciences Workshop on Experimental Poverty Measures, June 2004, is C. Nelson, "Geographic Adjustments in Poverty Thresholds," May 26, 2004. The article in this *Focus* by John Iceland, rapporteur for the workshop, summarizes workshop conclusions.

nonmetropolitan areas and small cities (fewer than 250,000 inhabitants) in the Midwest, South, and West, with index values under 0.9. These indexes, the panel thought, were an improvement over existing procedures but were inevitably inaccurate because of the limitations in the available data. Housing costs vary widely within relatively small areas, and capturing the differences accurately requires housing data at a very fine level of detail.

The limitations in this approach were particularly apparent when these indexes were used to examine state poverty rates. The NAS panel indexes were grouped by geographic location rather than housing costs per se. So, for example, all metropolitan areas in the New England division were given the same index value, even though costs vary widely. A Census Bureau report on alternative poverty measures found that the NAS indexes generated poverty rates that differed significantly from the rates under the official poverty measure and also from other experimental measures. For example, the official poverty rate for Maine was 10.1 percent. The rate calculated using the NAS indexes rose to 12.5 percent, whereas estimates using several alternate housing indexes, in contrast, produced rates of between 9.5 and 9.9 percent.[3] Clearly, indexes for a given census division might not adequately reflect differences in the cost of housing within that division.[4]

A second Census Bureau report on alternative poverty measures used geographic indexes based on Fair Market Rents (FMRs).[5] FMRs, which are prepared annually by the Department of Housing and Urban Development to administer Section 8 housing programs, are available for all metropolitan statistical areas and nonmetropolitan counties in the United States.[6] The Census Bureau analysts calculated two indexes for each state, one for metropolitan and the other for nonmetropolitan areas. These indexes thus provided finer-grained data than the NAS indexes used in the first report. There are some difficulties with the FMR indexes, but overall, they are updated regularly, allow housing prices to vary more widely within and among states, and appear to yield more reasonable estimates of poverty than other calculated indexes.[7] The FMR indexes are used in the analyses summarized here.

What changes does geographic adjustment bring?

State poverty rates and the geographic distribution of the poor both change, in some cases substantially, when geographic adjustments are added to the calculation of poverty thresholds. Poverty rates in states where housing costs are relatively low decline, as would be expected. For example, the poverty rate drops in Alabama from 14.8 to 10.2 percent, and in Mississippi from 16.8 to12.8 percent. Conversely, in states with high housing costs, poverty rates rise considerably. The California rate rises from 13.1 to 18.4 percent and the New York rate from 14.1 to 18 percent.[8]

These differences in overall poverty rates translate into substantial differences in the geographic distribution of poor people in the United States. Using the same four states as an example, the authors find that the proportion of the U.S. poor population living in Alabama drops from 2 to 1.3 percent; the Mississippi share of the poor drops from 1.4 to 1 percent. The increases in the number of the poor in states with high housing costs, which also tend to be states with large populations, are comparably great. California's share of the U.S. poor population rises from 13.7 to 17.9 percent, and New York's share from 8.2 to 9.7 percent. Under the alternative measure, 19 states had lower poverty rates, 9 had higher rates. There was no substantial difference for the remaining 23 states, including the District of Columbia (Figure 1).

For school-aged children (5–17 years old), the differences between the poverty rates under the official and the geographically adjusted measure are also substantial.[9] In gauging the effect of geographic adjustment on poverty estimates, schoolchildren are a particularly important subgroup because their circumstances are used in the formula for distributing Title 1 funds, approximately $12 billion a year, to states and localities. For this group, the pattern in the four states used as examples resembles the changed distribution for the entire poverty population, but the differences for the Southern states are greater. Using the experimental measure, the school-age poverty rate dropped from 19.1 to 9.3 percent in Alabama and from 22.3 to 13.1 percent in Mississippi; it rose from 17.4 to 20.7 percent in California and from 19.6 to 20.4 percent in New York. These changes are also reflected in the

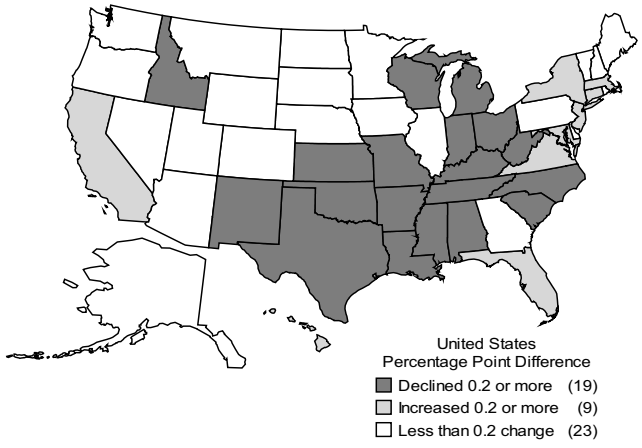

Figure 1. Changes in the state distribution of all people in poverty when the official poverty measure is geographically adjusted. Three-year average, 1999–2001.

Source: C. Nelson and K. Short, "The Distributional Implications of Geographic Adjustment of Poverty Thresholds," U.S. Bureau of the Census, Washington, D.C., December 8, 2003, Table 3.

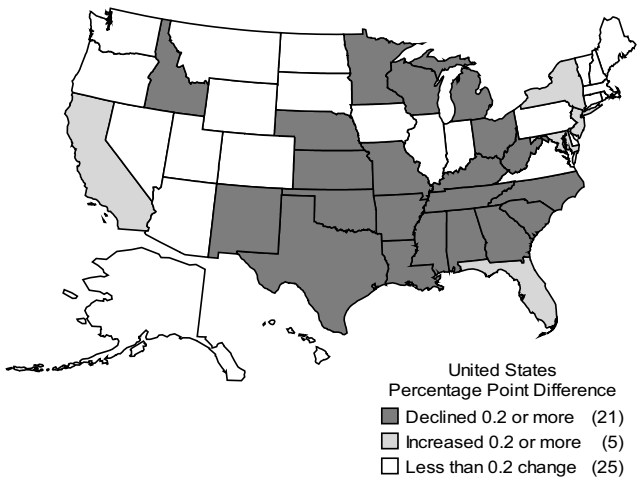

Figure 2. Changes in the state distribution of related children aged 5–17 in poverty when the official poverty measure is geographically adjusted. Three-year average, 1999–2001.

Source: C. Nelson and K. Short, "The Distributional Implications of Geographic Adjustment of Poverty Thresholds," U.S. Bureau of the Census, Washington, D.C., December 8, 2003, Table 5.

geographic distribution of related school-aged children in poverty (Figure 2). Again, substantially more states have lower poverty rates under the alternative measure; almost half show little or no difference.

Funding for other programs that use poverty thresholds would also change if the official poverty measure were to be replaced by the geographically adjusted measure. Take, for example, the percentage of children who do not have health insurance and who live in families with incomes under 200 percent of poverty. This particular statistic is used in calculating the allocations of federal funds under the SCHIP, which is administered by the Centers for Medicare and Medicaid Services, an agency of the Department of Health and Human Services, and which allocates $3–4 billion annually to the states. Although 42 states would see little change in the percentage of children in this category, 5 (mostly Southern) states would see declines of 0.2 percentage points or more, and 4 states (California and states in the Northeast) would see similar increases.

In the next section of this article the SCHIP is used as an example of how program funding might change if the poverty measure were to include adjustments for regional variation in housing costs.

Geographic adjustment and the SCHIP funding formula

The SCHIP provides a particularly convenient tool for exploring the effects of geographic adjustment, for its formula uses direct CPS estimates of low-income children and low-income uninsured children; it is, the authors note, the only federal funding formula to do so.

The SCHIP formula uses three components: the number of children under 19 who are living in families with incomes under 200 percent of the family's poverty threshold, the number of such children without insurance, and a cost factor. This last factor is based on a calculated ratio of the state's average annual wage in the health industry to the national average annual wage in that industry. In addition, statutory limits insure that there are "floors and ceilings"—for example, a state cannot receive less than 90 percent of its previous year's allocation. The allocations for fiscal year 2004 based on this formula ranged from $3.8 million in Vermont to $534 million for California. Total allocations for the fiscal year were $3.1 billion.

Geographic adjustment, as would be expected, makes substantial differences (Figure 3). It would, moreover, result in a fairly large reallocation of funding from Southern states to states in the West and Northeast. Only 9 states would see no change in their allocations. Of the other 42, 17 (including the District of Columbia) would see increases ranging from 0.5 percent (Michigan) to over 27 percent (New Jersey). The remaining 25 states would all see declines, and 7 of them would lose over 10 percent of their allocation. Louisiana and Alabama would lose the most—14.5 percent—followed by Kentucky, Arkansas, West Virginia, Idaho, and North Dakota. Details of the reallocation for a selection of states appear in Table 1; these are the low- and high-housing-cost states, Alabama, Mississippi, California and New York; two other states with over a million poor children under the current official definition (Florida and Texas); and a Midwestern

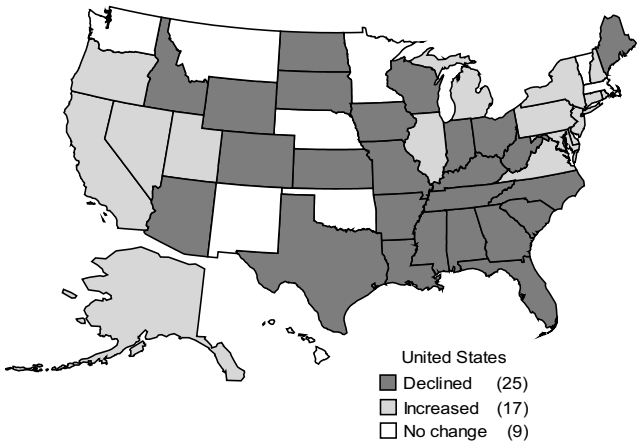

Figure 3. Changes in the State Children's Health Insurance Program allotments when the official poverty measure is geographically adjusted, FY 2004.

Source: C. Nelson and K. Short, "The Distributional Implications of Geographic Adjustment of Poverty Thresholds," U.S. Bureau of the Census, Washington, D.C., December 8, 2003, Table 10.

Table 1
State Children's Health Insurance Program (SCHIP) Funding Allocations for Selected States, FY 2004, under Different Poverty Definitions: Official vs. Alternative Measures

State	No. of Children (000)		Adjusted Proportion of Total Allocation (%)		State Allocation		
	Official	Geographically Adjusted	Official	Geographically Adjusted	Official	Geographically Adjusted	Percentage Change
Selected States with Low Housing Costs							
Alabama	314	334	1.74	1.49	$54,679.333	$46,775,427	-14.5
Mississippi	229	243	1.17	1.08	36,897,326	33,905,608	-8.1
Selected States with High Housing Costs							
California	2,701	3,726	17.00	18.12	533,990,797	569,275,528	6.6
New York	1,130	1,632	6.89	7.69	216,455,790	241,641,263	11.6
Other States with over 1 Million Children							
Florida	1,054	1,327	6.16	6.00	193,614,837	188,491,700	-2.7
Texas	1,937	2,279	10.53	9.57	330,851,514	300,735,755	-9.1
Midwestern States							
Illinois	661	888	3.85	4.00	120,969,643	125,623,444	3.9
Indiana	317	371	1.72	1.56	54,026,680	48,986,132	-9.3
Iowa	125	152	0.63	0.61	19,703,423	19,231,441	-2.4
Michigan	488	635	2.84	2.85	89,138,280	89,610,392	0.5
Minnesota	171	230	0.97	0.97	30,626,504	30,626,504	0.0
Ohio	602	708	3.30	3.28	103,803,316	103,152,819	-0.6
Wisconsin	248	304	1.38	1.31	43,504,958	41,271,821	-5.1

group. For one of the seven Midwestern states, there would be no difference; four would see small changes, and two would be fairly substantial losers.

The adjusted measure of need discussed here represents only one component of a complex allocation formula and process. Such a change rarely occurs alone; it is more likely to take place in the context of other changes to formulas or policies. Adjusting poverty thresholds for geographic differences in the cost of living would clearly be a complex statistical activity, and because relevant data are currently limited, it might well result in erroneous poverty classifications. These issues, however, are subject to empirical resolution. The question of how to resolve the differences between gainers and losers if such a change were implemented is less easily answered. The consequences within the Midwestern regional grouping alone reveal how complex might be the political and policy processes of revising the poverty measure.■

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[1]C. Citro and R. Michael, *Measuring Poverty: A New Approach* (Washington, D.C.: National Academy of Sciences, 1995).

[2]The experimental measure does include a few other differences, but analyses including the official measure, this experimental measure, and another experimental measure that did not include the geographic adjustment showed that the regional adjustment is by far the major contributor to state-level differences in the proportion of people in poverty.

[3]K. Short, "Where We Live: Geographic Differences in Poverty Thresholds," Poverty Measurement Working Paper, U.S. Census Bureau, Washington, D.C., January 2001.

[4]Also in 1995, the General Accounting Office (GAO, now the Government Accountability Office) explored the feasibility of methods of adjusting poverty thresholds for geographic cost-of-living variance. From a long list, only three were considered even moderately promising. U.S. General Accounting Office, *Poverty Measurement: Adjusting for Geographic Cost-of-Living Differences*, GAO/GGD-95-64, March 1995.

[5]K. Short, *Experimental Poverty Measures: 1999*, Current Population Report P60-216, U.S. Census Bureau, Washington, D.C., 2001.

[6]Section 8 housing vouchers subsidize rent so that low-income families can afford decent and safe housing. The family pays 30 percent of its income toward rent and utilities, and a subsidy paid to the landlord covers the rest. Income eligibility limits for the voucher program are set as percentages of the local area median income. Difficulties with the FMRs are summarized in Nelson, "Geographic Adjustments."

[7]A report on poverty from the Census Bureau explored six alternative poverty measures based on the NAS panel's recommendations. Three of them are adjusted for regional differences in housing costs although they differ in their treatment of medical costs. B. Proctor and J. Dalaker, *Poverty in the United States: 2002*, Current Population Report P60-222, U.S. Census Bureau, Washington, DC, 2003.

[8]The national poverty rate is 0.9 percentage points lower under the official measure than under the geographically adjusted measure; even factoring this in, the differences are still large.

[9]The national poverty rate for this group is 15.1 percent under the official definition and 13.1 percent under the geographically adjusted definition.

Temporary downturn? Temporary staffing in the recession and the jobless recovery

Jamie Peck and Nik Theodore

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The temporary staffing industry (TSI), once a relatively marginal player in the U.S. economy, has recently assumed a significant role as a large-scale labor market "mediator." The TSI and its temporary workforce now account for a disproportionate share of the burden of labor market adjustment. Focusing on the recession of 2001 and the wider employment slowdown of 2000–2004, this article examines the distinctive role of the industry in the American labor market. During the course of the last three decades, we suggest, the TSI has moved from the role of stopgap-staffing provider, supplying short-term cover for eventualities like maternity leaves and seasonal spikes in demand, to a more systematic and continuous role as an intermediary between companies and their preferred labor supplies across a broad array of industries and occupations. In this much wider role, the TSI is increasingly shaping processes of labor market adjustment at a macroeconomic scale. The TSI effectively delayed and weakened the jobs recovery after the recession. It also intensified the impact of the recession, the burden of which was disproportionately carried by temp workers.

The unprecedented wave of temporary job losses around the time of the 2001 recession, which saw the TSI lose one-fifth of its workforce in the space of a few months, would be viewed as a catastrophe for most industries. Yet this capacity to absorb and displace labor market shocks is very much part of the rationale of the TSI. The course of the recession and the subsequent "jobless" recovery emphasizes the unique nature of the TSI and its product—mediated labor.[1] Temporary staffing agencies derive their income from fees charged to employers for the temporary employment of workers registered with the agency. Temps are paid directly by the agencies, which in legal terms are the employer of record. The workplaces to which temps are assigned—in occupations as diverse as clerical work, general laboring, accountancy, and nursing—therefore become little more than places of work. The temp employment relationship, in formal terms, is focused on the agencies themselves.

The spectacular growth of temporary employment in the United States—from less than a quarter million in the early 1970s to a daily workforce of nearly 2.7 million in 2000—has been greeted with periodic forecasts that the "death of the job" is imminent.[2] In fact, fewer than three jobs in every hundred in the United States are filled by temporary staff on a typical working day. But visualizing the temporary workforce as if it were in a zero-sum relationship with the permanent workforce misses the true significance of these employment practices.

Staffing agencies have assumed important new roles in screening, recruitment, placement, and reassignment; in job design; in supervision and labor control; and in the structuring of remuneration and incentive systems. These diverse functions of the TSI, which over the past three decades have become interwoven with mainstream employment practices across the economy, illustrate the wider effects of mediated contingent work in ways that simple head counts of temporaries cannot. By positioning themselves between the worksite employer and the employee, staffing companies shield firms from many of the costs of workforce management, remuneration, and adjustment. Worksite employers are not liable for unemployment insurance or workers' compensation claims, nor do they have to pay employee benefits such as health insurance and pensions.

It has become clear that mediated work arrangements are here to stay, not just for a few firms and industries, but across large sectors of the labor market. But we seem to be witnessing more than the proliferation of "triangulated" employment relationships.[3] Instead, we draw attention here to the emergence of a triangulated employment structure, within which the reach and significance of mediated work relationships has been markedly extended. A key piece of evidence is the weight carried by the TSI and its workforce during the most recent recession, which was significantly out of proportion to its share of jobs or GDP. In our view, the recession of 2001, the phase of temporary employment growth that preceded it, and the period of extended labor-force restructuring that is following in its wake together represent a watershed in both the evolution of the TSI and the wider economy.

The changing role of the TSI

"Bad times don't affect us much," the manager of a Chicago temporary staffing business confidently proclaimed in the mid-1990s, echoing sentiments common in the

industry at the time.[4] In the wake of the recession of the early 1990s, the TSI had experienced double-digit rates of annual growth, and the secular prospects looked just as promising.

The 1990-91 recession had hardly been painful for the TSI: it had lost just 5.1 percent of its workforce during the downturn, recovering very quickly as cautious employers again saw the attraction of hiring temps on a no-commitments basis. During this time, in which "downsizing" entered the popular lexicon, employers increasingly turned to staffing agencies to help transform their workforces on a more flexible basis and manage the costs of future business fluctuations.

This was the prelude to the TSI's most successful decade. Temporary employment growth was sustained at a high rate throughout the long boom of the 1990s. Riding the rising market, many temp agencies convinced themselves that the business had become acyclical. The oft-repeated line was that employers would turn to temp services in tight labor markets in order to access workers, but they would still be there in slack labor markets by virtue of increased economic uncertainty.

The large-scale shakeout of temporary jobs that occurred just before, during, and after the 2001 recession saw industry revenues fall by 10.4 percent. But it was the TSI's workforce that bore the brunt of the downturn, as census and industry sources reveal that total employment in the sector plummeted by 21–28 percent—between four and five times the rate of TSI job loss experienced in the early 1990s recession.[5] In nine years of strong growth after 1991, the TSI had added more than 1.5 million new workers; the subsequent downturn removed between one-third and one-half of this newly mobilized temporary workforce. During the 9-month course of the officially designated recession of 2001, temp agency workers—which as a group represented just 2.5 percent of the workforce—accounted for fully 23 percent of net job losses in the labor market.

That such a relatively small sector of the U.S. labor market could absorb close to one-quarter of economy-wide net job losses speaks to the unique function of mediated work practices like temporary staffing in periods of intense restructuring. During the boom years of the 1990s, many large organizations embraced a policy of continuous workforce restructuring in which temporary staffing became an important element. This meant, however, that large-scale workforce fluctuations would reverberate through the TSI as never before. As the economy slipped into recession, the TSI was called upon to carry much of the strain of initial layoffs. A simple measure of the elasticity of temp employment can be derived by calculating what might be termed the "flexibility quotient"—the ratio of the share of aggregate, economy-wide job losses accounted for by the TSI over the TSI sector's share of the employment stock—which rose from 3.8 in the early 1990s recession (i.e., the TSI's share of national job losses was 3.8 times its share of the employment stock) to 10.7 in the recession of 2001.

Such findings lend credence to arguments, from a range of perspectives, that the TSI is beginning to assume an important and ongoing "macroregulatory" role in the U.S. labor market, providing a means to manage and dissipate the effects of product market and personnel fluctuations, to tap skills required on a discontinuous basis, and to (re)establish a form of at-will employment relationship among some segments of the labor supply. Lawrence Katz and Alan Krueger have estimated that, by facilitating more flexible employment arrangements and efficiently connecting jobseekers to temp jobs, the activities of the TSI accounted for half of the nationwide reduction in unemployment during the 1990s.[6] They also argued that in counteracting labor shortages and placing downward pressure on labor costs, the TSI contributed to macroeconomic efficiency by alleviating inflationary pressures. Whether or not these specific contentions are accepted, the TSI can be seen to have played a structural role in both growing and increasing the flexibility of the labor supply under extremely tight job-market conditions, bringing about changes to the functioning of labor markets that have been characterized as permanent.[7]

The TSI in recession and recovery

It is now well established that the last two phases of recession and recovery in the United States have broken with historical trends in a number of ways, not least their anemic postrecession employment performance. Although there is continued debate about the causes of the jobless recoveries in the early 1990s and the early 2000s, it is increasingly acknowledged that the robust job growth that was once a typical feature of recoveries may be a thing of the past. Moreover, the fact that the recovery following the 2001 recession has been even weaker than its predecessor—spawning the neologism "jobloss recovery"—has focused attention on the particularities of recent labor-market history.

In the recovery following the 1981 recession, increases in temporary employment accompanied overall job growth, with temporary workers accounting for an exaggerated, but modest 5.4 percent of net employment growth after 12 months of recovery, 4.4 percent after 24 months, and 4.2 percent after 30 months (see Figure 1). In the weak recoveries following the 1991 and 2001 recessions, however, total employment has been slow to rebound, while the TSI has assumed a significantly larger role. Between March 1991 (the end of the recession) and March 1992, the economy continued to lose jobs, despite an increase in temporary employment during the period. Within two years, however, sustained employment growth had been restored (although some 22 percent of net job growth was accounted for by temporary positions).

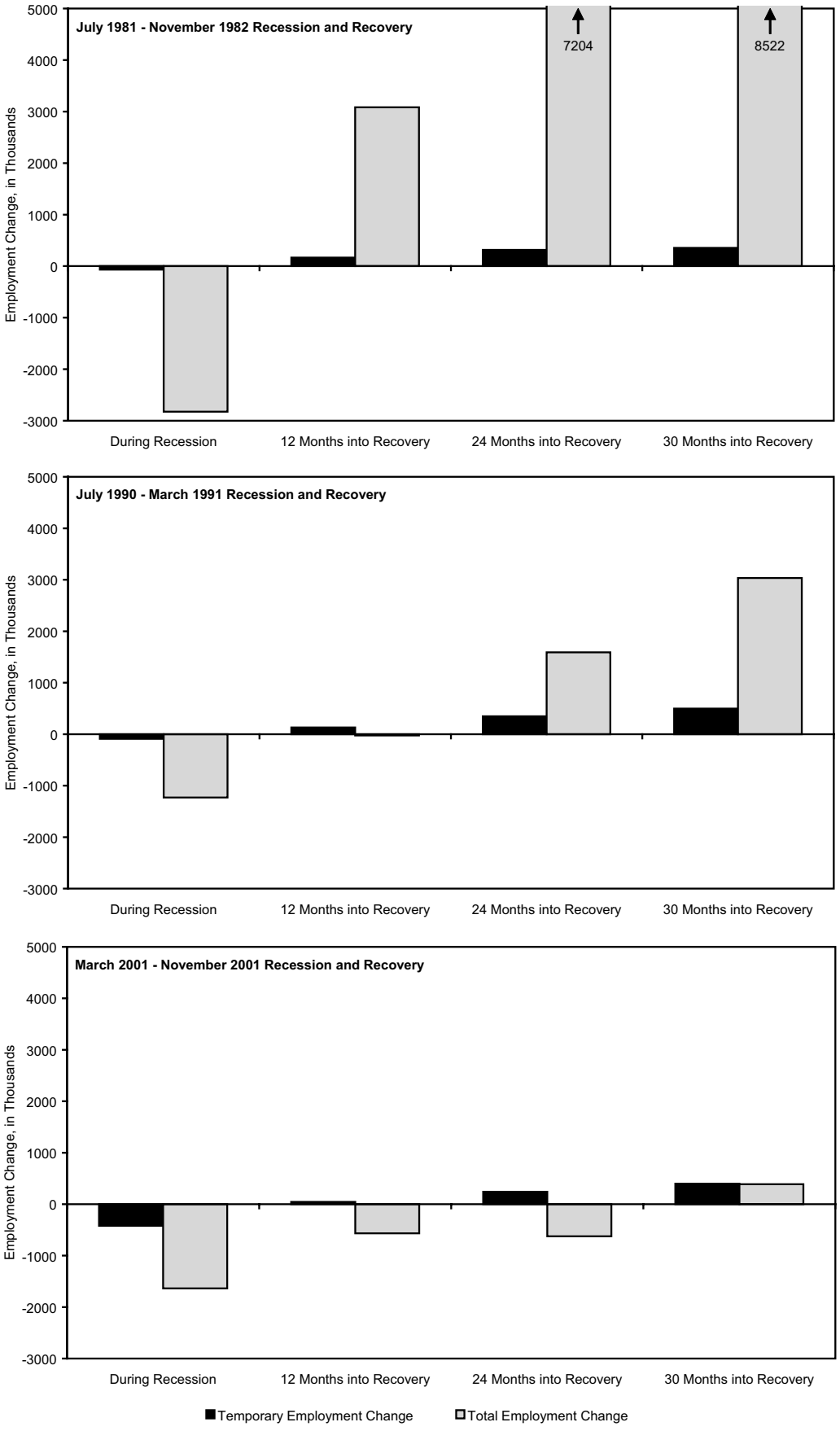

Figure 1. Changes in temporary and total employment.

Source: U.S. Bureau of Labor Statistics, unpublished data.

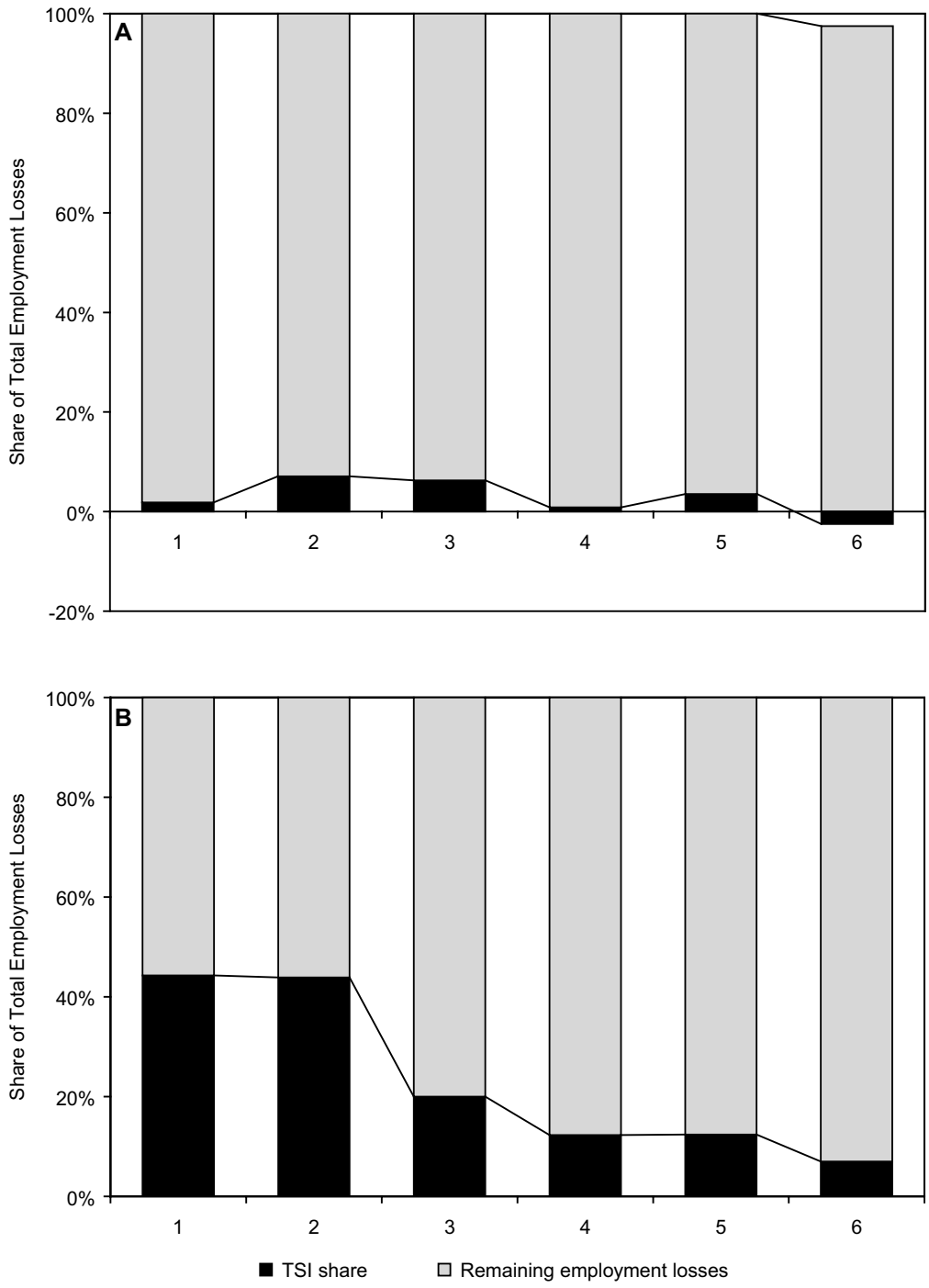

Figure 2. TSI employment losses as a share of total employment losses, 1990-91 recession and 2001 recession, United States. A. July 1990 recession and ensuing employment slowdown, bimonthly periods; B. March 2001 recession and ensuing employment slowdown, bimonthly periods.

Source: U.S. Bureau of Labor Statistics, Current Employment Statistics.

The jobless recovery of the 2000s revealed that this new dynamic between temporary employment and the wider labor market had become entrenched. As the bottom panel of Figure 1 shows, only after 30 months of recovery did the economy began to add jobs overall, with the TSI continuing to play a leading role. This suggests that a qualitatively different tradeoff has come into play in the relationship between the hiring of temporary and permanent workers in the course of the two jobless recoveries. Not only are employers adding temporary workers well in advance of permanent employees (as has been the pattern over the past 30 years), flexible employment strategies now appear to be a central feature of an elongated process of workforce adjustment, as employers add workers employed in temporary contracts, while continuing to shed permanent employees.

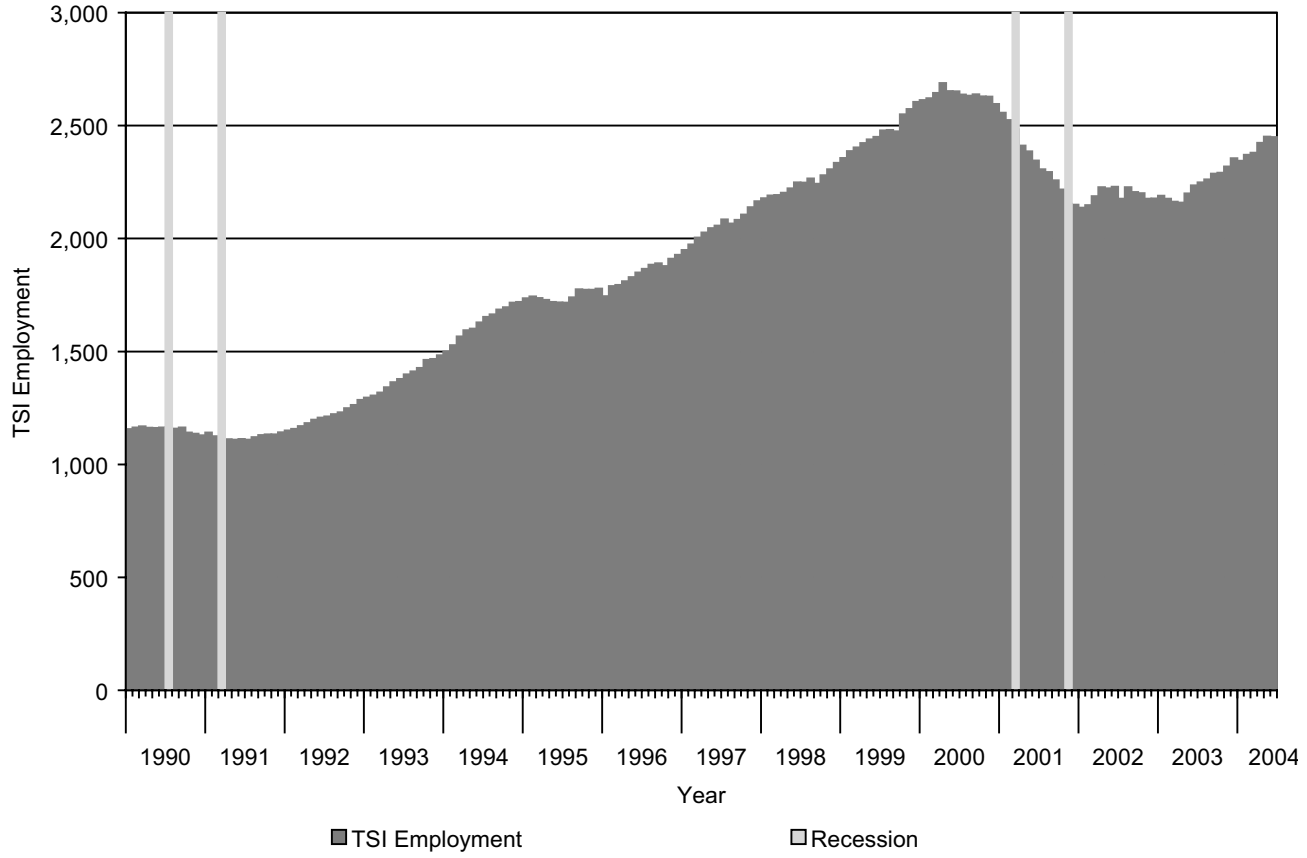

Figure 3. TSI monthly employment across the business cycle, United States, 1990–2004.

Source: U.S. Bureau of Labor Statistics, Current Employment Statistics.

During the nine recoveries prior to the 2001 recession, GDP growth averaged 4.3 percent in the first nine quarters following the recession, employment growth averaged 1.8 percent, and productivity growth averaged 3.1 percent. In the aftermath of the recession of 2001, however, GDP growth occurred at a rather more sluggish 3.4 percent, but employment growth was actually negative, at -0.1 percent, while productivity growth surged to 5.1 percent. There is evidence that the shift toward flexible and mediated work arrangements is playing a significant role in this process of work intensification, though it is clearly not the only factor in play (Robert Pollin attributes this historically weak employment performance to well-established forces like speed-up—"a decidedly old-fashioned, low-tech source of productivity growth," as well as to factors like the movement of jobs overseas and IT productivity gains).[8] In their analysis of the last two (jobless) recoveries, Stacy L. Schreft and Aarti Singh plausibly conclude that firms have become more likely to substitute more flexible labor inputs—like temp and part-time work, and increased overtime—for less flexible ones:

> The very availability of just-in-time employment practices can contribute indirectly to the joblessness of a recovery. Just-in-time employment lets firms wait and see that a recovery is robust before hiring, yet still expand production on short notice by hiring temps and using overtime. It allows them to lay off workers and delay hiring to a greater extent, which is exactly what happened in the jobless recoveries [of the early 1990s and early 2000s].[9]

In this context, staffing companies have become important institutional actors. Just as they were attributed a significant, structural role in driving down rates of unemployment to record lows during the 1990s boom,[10] it would seem that they have performed an equally important function in the post-2001 recovery, albeit now in the form of tempering sustained employment growth. No longer, it seems, is the TSI merely a leading indicator of wider labor market conditions. Increasingly, it is implicated in establishing and maintaining these conditions.

In the early months of the 2001 recession the TSI shouldered the brunt of economy-wide job losses. Its share of economy-wide net job losses during the first four months of the recession was 44 percent, more than 17 times the sector's share of the total employment stock (see Figure 2). All told, during the course of the 2001 recession, the TSI eliminated 370,200 temp positions, reducing employment in the industry to 1997 levels. These job losses are especially striking given that the TSI had experienced

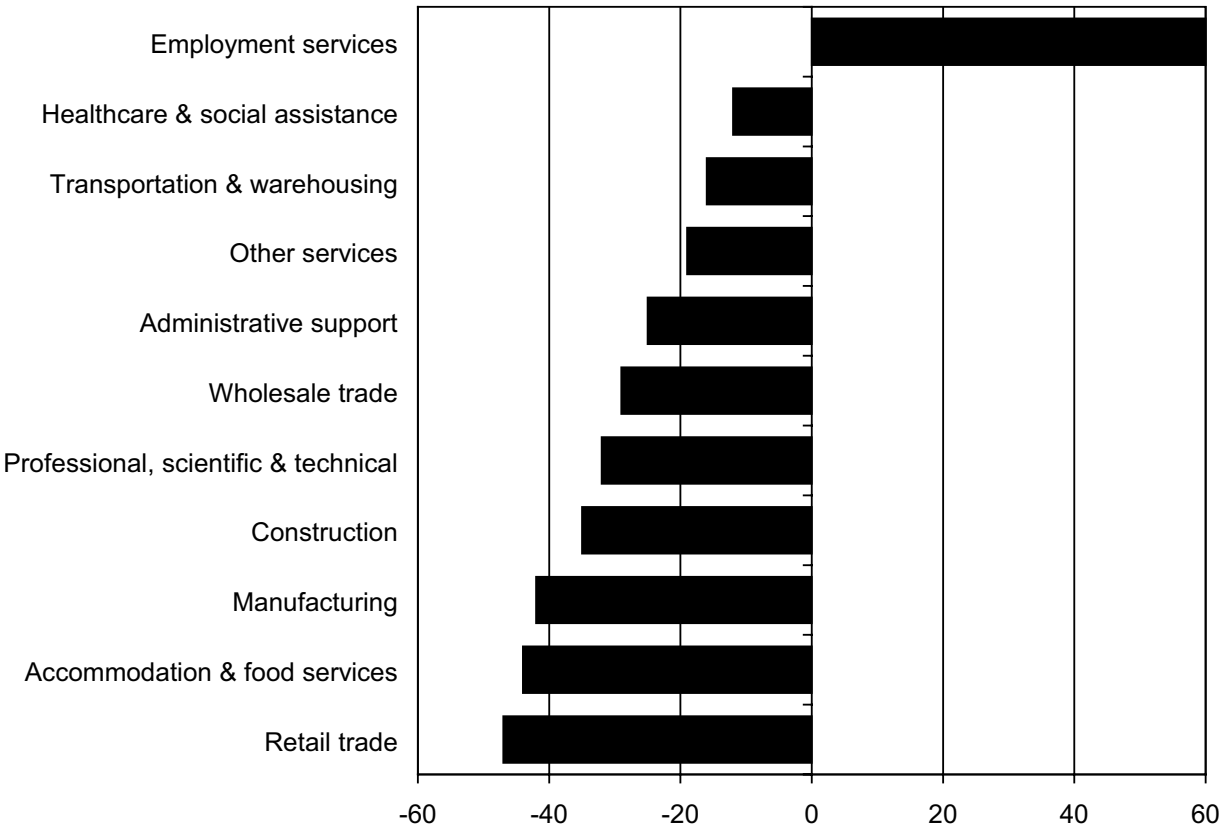

Figure 4. Percentage change in Unemployment Insurance weeks claimed by industry, selected states, United States 1993-2000.

Source: US Department of Labor, Employment & Training Administration, unpublished data, 2001.

Note: states include Arizona, California, Florida, Illinois, Massachusetts, New York, Texas, and Washington.

a net loss of daily placements in 9 of 10 months preceding the onset of the recession, even as employment growth among the permanent workforce was maintained. In addition, it continued to contract for several months after November 2001, when the recession was officially declared over. By the time TSI employment levels stabilized in early 2002, the industry had lost 552,000 jobs, or 20.5 percent of its peak employment.

Comparison of the 2001 recession and its predecessor (see Figure 2) shows a marked increase in the absorptive capacity of the TSI between these two recessions. Although the total size of the TSI increased significantly during the 1990s boom (when employment in the sector rose by 122 percent), the industry's macroeconomic elasticity, its capacity to absorb large-scale job fluctuations, grew considerably faster. At its peak, the TSI never carried more than 13 percent of monthly economy-wide job losses in the early 1990s recession. Its peak absorptive capacity during the 2001 recession was more than three times this level, at 44 percent.

The TSI not only grew strongly during the 1990s, it also became much more deeply embedded in the wider economy. Sales increased almost fourfold, from $17 billion in 1990 to $64 billion in 2000, and daily placements rose from 1.1 million in 1991 to more than 2.5 million by the end of the decade.[11] During the course of the 1990s, some 108 million employment placements were made by staffing companies. The largest share of TSI market growth came from manufacturing: it was estimated that one-third of temp placements in the 1990s were in factories, which if added to manufacturing payrolls would largely cancel out—at least in quantitative terms—aggregate job losses in the sector during the decade.[12] Even though growth rates slowed in the second half of the 1990s, as the industry encountered a problem of worker shortages in historically tight labor markets, the expansion continued, with daily employment peaking at 2.69 million in April 2000 (see Figure 3).

One indication of the structural role played by the TSI can be seen in the way that the costs of compensating unemployed workers have been progressively shifted away from worksite employers and toward the TSI and its workforce. From 1993 to 2000, temp agencies were designated as the primary employer for a growing share of UI claimants, while industries across the board, from retail to construction and manufacturing—the de facto "employers" of temporary workers—all reduced their exposure (Figure 4). In other words, during the 1990s, the TSI increasingly absorbed the costs of workforce adjustment,

as industries pursued a strategy of employment externalization. This helps explain the distinctive employment dynamics of the recent flexible recession and the jobless recovery that followed. Temps were in line to absorb the brunt of business fluctuations. And they did. The TSI facilitated an especially rapid employment shakeout in the prelude to, and early stages of, the 2001 recession. And during the recovery, the TSI again did brisk business, while hiring into regular jobs remained anemic.

Conclusion

Although the TSI has been characterized as a "shock absorber" for the wider economy, the experience of the recent boom and bust in the temp business suggests that this is perhaps more appropriately characterized as shock displacement.[13] Temp agencies have proved to be remarkably efficient organizations for mediating the costs of workforce flexibility, translating the discontinuous labor demands of employers into market opportunities and reconfiguring local labor supplies in ways that are maximally responsive to these fluctuating demand-side requirements.

It is these processes, writ large, that account for many of the peculiar employment dynamics of the 2001 recession and its aftermath. The TSI is no longer just a cyclical industry; in many respects it has become part of the cycle itself. Mediated work has become a key component of the strategic calculus of personnel managers. Meanwhile, the TSI has become an important part of the infrastructure of the U.S. labor market, facilitating new kinds of employment contracting on a very large scale, and reshaping workplace and market norms in the process. The TSI now shoulders a disproportionate share of the costs and risks of economy-wide labor market adjustment. Although some would argue that this enables improved organizational efficiency at the enterprise level, many of the labor market consequences are deleterious. The establishment of the TSI as a large-scale labor market intermediator during the 1990s facilitated very rapid downsizing across the economy, whereas the subsequent employment recovery was both muted and delayed. The growing temp workforce is chronically exposed to these risks, being defined by its lack of employment protection. The last two flexible recessions, and the sluggish recoveries that followed them, may therefore signify the emergence of a distinctive pattern of labor market adjustment. In these transformed circumstances, the TSI is becoming an increasingly important player in the wider economy. ■

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[1]Economic commentators increasingly use the term "jobless recovery" to describe economic expansion without job creation. See, e.g., E. L. Groshen and S. Potter, "Has Structural Change Contributed to a 'Jobless Recovery'," *Current Issues in Economics and Finance* 98, Federal Reserve Bank of New York, 2003, and S. Schreft and A. Singh, "A Closer Look at Jobless Recoveries," *Federal Reserve of Kansas City Economic Review*, Second Quarter (2003): 45–72.

[2]See, e.g., L. Morrow, "The Temping of America," *Time*, March 29, 1993: 40–41.

[3]This triangulated employment relationship of agency-mediated temporary work has been described by H. Gottfried, "In the Margins: Flexibility as a Mode of Regulation in the Temporary Help Service Industry," *Work, Employment and Society* 6 (1992): 443–60.

[4]A more detailed discussion occurs in the full report of this research on the TSI, which draws on a program of work involving interviews with more than 75 temporary staffing firms, together with a number of investment analysts, regulators, and labor-market policy organizations, conducted between 1995 and 2003 in Chicago, Milwaukee, Tampa, Boston, Atlanta, Detroit, Los Angeles, New York, London, Brussels, and Amsterdam. In the analysis we also made use of the TSI trade press and other industry sources, as well as secondary data from the Bureau of Labor Statistics. The full report, J. Peck and N. Theodore, "Flexible Recession: The Temporary Staffing Industry and Mediated Work in the United States," is available from the authors. The research presented in this paper draws upon projects funded by the Ford Foundation and the Rockefeller Foundation. We are especially grateful to Stacy L. Schreft at the Federal Reserve of Kansas City for her advice and assistance concerning unpublished BLS data.

[5]During the TSI downturn of 2000–2004, temp payrolls shrank by between 556,000 workers (according to the Bureau of Labor Statistics count) and 740,000 (on the modified count favored by the American Staffing Association), with job losses being particularly heavy in the manufacturing segment of the business. Data used here refer to those temporary workers placed by staffing agencies. They do not include direct-hire temporaries recruited by businesses themselves.

[6]L. Katz and A. Krueger, "The High Pressure Labor Market of the 1990s," Working Paper no. 416, Industrial Relations Section, Princeton University, 1999.

[7]*Economic Report of the President* (Washington, DC. U.S. Government Printing Office, 2004).

[8]For additional discussion, see R. Pollin, "Deepening Divides in the U.S. Economy," Working Paper no. 82, Political Economy Research Institute, University of Massachusetts, Amherst.

[9]Schreft and Singh, "A Closer Look at Jobless Recoveries."

[10]Katz and Krueger, "The High Pressure Labor Market of the 1990s."

[11]S. P. Berchem, *The Bright Spot* (Alexandria, VA: American Staffing Association, 2004).

[12]*Economic Report of the President*, 2004, p. 73.

[13]M. Carnoy, M. Castells, and C. Benner, "Labour Markets and Employment Practices in the Age of Flexibility: A Case Study of Silicon Valley," *International Labour Review* 136 (1997): 27–48; C. Benner, *Work in the New Economy: Flexible Labor Markets in Silicon Valley* (Oxford: Blackwell, 2003).

Fixed-term employment and its poverty implications: Evidence from Spain

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The growing importance of nonstandard work arrangements during the past two decades has been at the center of much public debate in the United States. Contingent employment and employment through temporary work agencies constitute a rapidly growing sector of the U.S. labor market, particularly among disadvantaged workers.[1] The U.S debate has its counterpart in other developed nations, particularly in the European Union (EU), which has often been criticized for the "rigidities" of its labor market structure. In this article we offer a broad overview of contingent employment in one EU country, Spain.

In Spain as in the United States, employees with nonstandard work arrangements, particularly those on fixed-term contracts, have often been found to have lower job stability and lower pay compared to those in regular full-time jobs.[2] Fixed-term employees may have worse working conditions than those in similar permanent jobs, even after accounting for human capital differences; they experience frequent periods of unemployment and consequent sharp income fluctuations that endanger their economic self-sufficiency. They are thus exposed to a higher poverty risk than workers holding open-ended contracts.

We examine the links between fixed-term employment, earnings, and the likelihood of life in poverty using Spanish data from the European Community Household Panel (ECHP). The Spanish labor market provides a unique opportunity to study fixed-term jobs, as more than a third of its workforce is employed in such positions.[3] We also investigate possible differences in the earnings and poverty implications of fixed-term employment between men and women and among employees with shorter- or longer-term contracts. We consider three kinds of short-term contracts: those lasting up to 6 months, those lasting up to a year, and those lasting more than a year.

The legal basis for short-term employment in Spain

Much current employment regulation in Spain is rooted in the 1980 Workers' Statute and its 1984 reform, which recognized the need for flexibility and modernization of labor market institutions and employment contracts following the end of General Francisco Franco's regime. The Workers' Statute accommodated the needs of a changing labor market and an economy in recession by deregulating the use of fixed-term contracts by firms. In particular, the new regulations introduced an array of work relationships that departed from the previous pattern of paternalistic employment regulations that protected lifetime jobs. Fixed-term contracts offered firms the possibility of hiring and dismissing workers at a much lower cost. The Workers' Statute also regulated working conditions for fixed-term and indefinite workers, requiring equal wages for the same type of job.[4]

As a result of these changes, fixed-term work quickly grew from less than 10 percent in the early 1980s to about 30 percent of the workforce in the latter half of the decade. In response to this rapid growth, reforms passed during the 1990s and in 2001 sought to provide incentives for firms to offer open-ended rather than fixed-term work contracts by reducing the dismissal costs associated with firing permanent workers. Fixed-term employment has shown considerable resilience, though it has fallen in magnitude from 35 percent in the mid-1990s to approximately 24 percent of all workers today.[5] More important, despite the legislation's mandate to pay equal wages, fixed-term workers have been found to earn lower wages than their counterparts holding open-ended work contracts.[6]

The Spanish workforce

The unemployment rate in Spain is relatively high (10–11 percent; see Figures 1 and 2 for men and women, respectively).[7] This compares to 5.4 percent in the United States in 2004, and around 8 percent for the 15 European Union countries in 2004. Particularly notable is the low rate of labor force participation of Spanish women relative to female labor force participation in the United States; around 62 percent are not in the labor market (Figure 2), likely reflecting the relatively recent entrance of Spanish

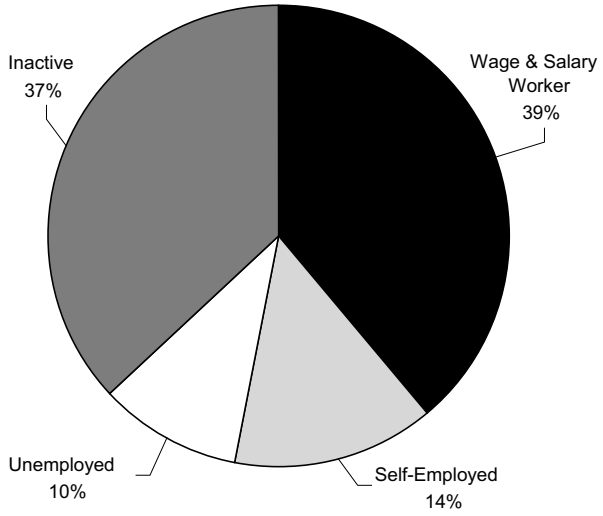

Figure 1. Work status of men.

Source: Spanish data from the European Community Household Panel, 1994–99.

women into paid work. Also notable is the significant fraction of male workers who are self-employed (about 14 percent; Figure 1). Some of this self-employment may mask unemployment.

More women than men hold fixed-term or informal jobs: 31 percent of male workers (Figure 3) and 43 percent of female workers (Figure 4). The percentage of workers in each fixed-term category is similar for men and women. The largest gender difference is found with respect to the fraction of men and women holding "other" wage and salary jobs. This large category includes positions such as apprenticeships, training jobs, and informal jobs lacking a formal work contract. The percentage of women holding this type of work arrangement—considered to be the

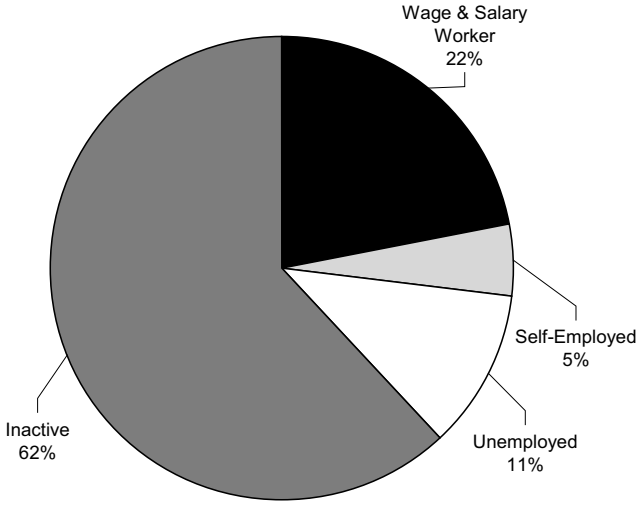

Figure 2. Work status of women.

Source: Spanish data from the European Community Household Panel, 1994–99.

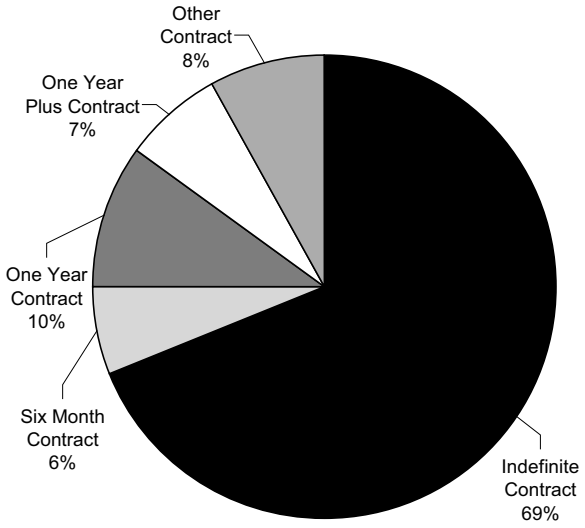

Figure 3. Contracts held by male workers.

Source: Spanish data from the European Community Household Panel, 1994–99.

lowest quality among all wage and salary jobs—is more than twice that of men in this category (18 percent compared to 8 percent).

Who are the fixed-term workers?

On average, fixed-term workers earn less than those with indefinite contracts, and longer contracts are associated with higher income. Some of the reasons are clear from the demographic characteristics set out in Table 1. Fixed-term workers tend to be younger and are less likely to be

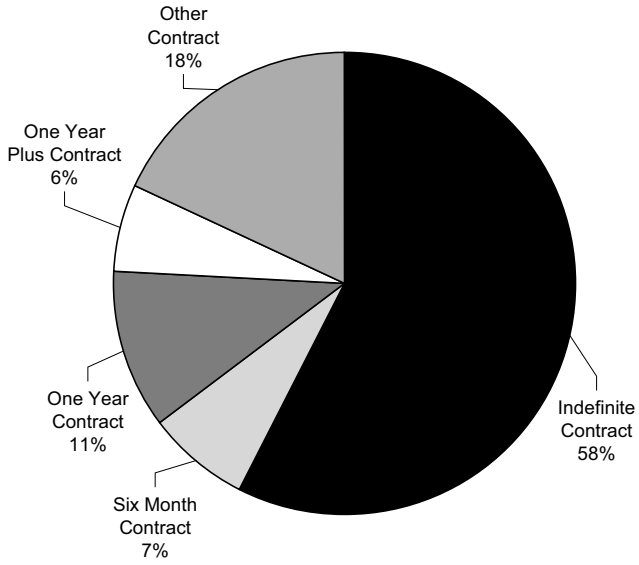

Figure 4. Contracts held by female workers.

Source: Spanish data from the European Community Household Panel, 1994–99.

Table 1
Demographic Characteristics of Men and Women in Permanent and Temporary Jobs

Demographic Characteristics	Men			Women		
		Temporary			Temporary	
	Permanent	6 Months or Less	7 to 12 Months	Permanent	6 Months or Less	7 to 12 Months
Labor income (in thousands)	2,079	757	1,005	1,627	626	818
Other income (in thousands)	1,254	1,590	1,681	2,223	1,869	1,939
Age	41	32	31	39	30	30
Married	76%	39%	38%	60%	40%	40%
Have college eegree	23%	7%	7%	36%	15%	19%
Occupation						
Professionals/technicians	14%	5%	3%	25%	7%	11%
Office workers	11	3	5	20	19	19
Service workers	10	9	16	17	29	29
Unskilled workers	9	36	23	12	26	19
Industry						
Agriculture	3%	13%	5%	1%	4%	2%
Manufacturing	24	24	25	13	22	15
Construction	7	22	19	1	1	2
Trade	14	17	24	16	32	33

married than workers with indefinite contracts, suggesting that entry-level workers are particularly likely to be on fixed-term contracts. Fixed-term workers are also less educated and less skilled, as indicated by their occupations. Highly skilled workers in professional and technical occupations are more likely to hold an indefinite work contract than a fixed-term contract, whereas unskilled workers are unlikely to hold long-term contracts. Finally, fixed-term contracts are often linked to the temporary or seasonal nature of certain tasks. As a result, the incidence of fixed-term employment is significantly higher in agriculture, construction, and trade for men, and manufacturing and trade for women.

Poverty incidence

Lower earnings for fixed-term workers, relative to their counterparts with indefinite work contracts, are associated with an increased risk of poverty (Table 2).[8] For both men and women, the poverty rate for workers with an indefinite work contract is considerably lower than the poverty rate for those with fixed-term contracts. The highest poverty rates are found among the unemployed and the self-employed. Workers in the "other" category have the next-highest poverty rates.

Poverty rates also vary among fixed-term workers according to the length of their work contracts; the shorter the duration of the work contract, the higher the poverty rate. Finally, the figures in Table 2 show that although overall poverty rates are similar for men and women, there are striking gender differences in poverty rates for particular job types. For instance, male employees with short-term contracts of up to six months have a poverty rate 10 percentage points higher than that of their female counterparts. Similarly, the poverty rate for men with short-term contracts of six months to one year is twice that of women with comparable contracts.

Transitions into and out of poverty

In the United States, much of the debate concerning contingent work has centered on whether such jobs are a dead end, or whether they offer opportunities for unskilled individuals to move into employment and ultimately into better jobs—that they are, in effect, a ladder out of poverty. We explore this aspect of fixed-term employment in Spain in Table 3, which shows the transitions of fixed-

Table 2
Poverty Rates by Type of Job

Type of Job	Men	Women
Permanent	5%	2%
Temporary, six months or less	24	14
Temporary, seven to twelve months	14	7
Temporary, more than one year	8	7
Other salaried	27	24
Self-employed	28	25
Unemployed	37	31
Out of the labor force	19	20
All	**18**	**19**

Table 3
Poverty Transitions for Men and Women by Work Status over a One-Year Period

Past Work Status	Poverty Transition: Men	Poverty Transition: Women
Nonpoor Entering Poverty		
Permanent	3%	1%
Six months	14	8
Up to one year	7	5
One year plus	7	3
Other salaried	13	13
Self-employed	16	15
Unemployed	19	19
Out of labor force	8	10
Poor Leaving Poverty		
Permanent	58%	56%
Six months	43	49
Up to one year	42	59
One year plus	73	84
Other salaried	40	35
Self-employed	50	50
Unemployed	34	38
Out of labor force	34	38

term workers into and out of poverty. Among those who were working and not in poverty at the beginning of the period, poverty entry rates are highest for the self-employed, followed by those in the "other" category. The next highest poverty entry rates among workers are for those with short-term contracts of up to six months. Even among fixed-term workers with longer contracts, poverty entry rates are two to three times as large as those for workers with indefinite contracts.

The second panel of Table 3 shows that workers with longer-term contracts of one year or more actually have higher poverty exit rates (of 73 to 84 percent) than workers with indefinite contracts (for whom this rate ranges from 56 to 58 percent). Since fixed-term work is often used as a means to enter the labor market, workers with longer fixed-term contracts may exhibit greater upward income mobility than their counterparts with indefinite work contracts, who could be stuck in dead-end permanent jobs (one should bear in mind, however, that those in permanent jobs have poverty rates very much smaller than all fixed-term workers, as Table 2 shows). Fixed-term workers with short-term contracts were once again at a disadvantage, with significantly lower rates of exit from poverty (42 to 59 percent).

Conclusions

Two of the defining characteristics of the Spanish labor market are its traditionally high unemployment rates and high rates of fixed-term employment. This environment increases the value of job security to Spanish workers as well as the likelihood of poverty for workers with more precarious work arrangements.

Workers with fixed-term and other nonstandard work arrangements are typically younger, less educated, less skilled, and earn lower incomes than their counterparts with open-ended contracts. They also have poverty rates nearly 5 times larger than those with indefinite contracts. In fact, it is men and women holding shorter-term fixed contracts of up to one year who display the highest rates of persisting poverty among all workers.

Overall, the study suggests that not all short-term work is created equal. Fixed-term contracts of a year or more, for example, may help lift workers out of poverty. But as long as workers with short-term contracts continue to make up a substantial proportion of all workers, we need a better understanding of the poverty implications of short-term work. ■

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[1]C. Heinrich, "Performance Management in Federal Employment and Training Programs," *Focus* 23, no. 1 (2004): 20–26; D. Autor and S. Houseman, "The Role of Temporary Employment Agencies in Welfare to Work: Part of the Problem or Part of the Solution," *Focus* 22, no. 1 (2002): 63–70.

[2]J. Handler, *The Poverty of Welfare Reform* (New Haven: Yale University Press, 1995); J. Peck and N. Theodore, "Commentary: 'Work First': Workfare and the Regulation of Contingent Labour Markets," *Cambridge Journal of Economics* 24, no. 1 (2000): 119–38; S. Houseman, *Temporary, Part-Time, and Contract Employment in the United States: A Report on the W.E. Upjohn Institute's Employer Survey on Flexible Staffing Policies*, Report to the U.S. Department of Labor, W.E. Upjohn Institute for Employment Research, Kalamazoo, MI, 1997; L. Segal and D. Sullivan, "Trends in Homeownership: Race, Demographics, and Income," Federal Reserve Bank of Chicago *Economic Perspectives* 22, no. 2 (1998): 53–72. In the United States, workers with fixed-term contracts may also be known as limited-term employees, or LTEs.

[3]*Encuesta de Población Activa* 2003 [Survey of the Working Population], conducted quarterly by the National Institute of Statistics (INE).

[4]The Supreme Courts have reaffirmed the unconstitutionality of paying different wages to workers carrying out the same type of job on various occasions; see TS 13-5-91, RJ 3909, RJ 5483, and RJ 118. Additionally, the Constitutional Courts in TCo 177/1993 have stated that shorter contract duration is not sufficient to justify a lower rate of pay. For these legal decisions see *Memento Social 2004*, published by Francis Lefebvre, S.A., Spain.

[5]This figure remains 35 percent when other nonindefinite workers, such as employees in apprenticeships or/and informal jobs lacking a written contract, are included.

[6]J. Jimeno and L. Toharia, "The Effects of Fixed-Term Employment on Wages: Theory and Evidence from Spain," *Investigaciones Económicas* 17, no. 3 (1993): 475–94; S. Bentolila and J. Dolado, "Labor Flexibility and Wages: Lessons from Spain," *Economic Policy* 18 (1994): 53–99.

[7]Data used here come from six consecutive waves (1994–1999) of the European Community Household Panel, a longitudinal survey of European Union member countries. The survey includes 8,000 households from Spain.

[8]We used a relative poverty line defined as falling below 60 percent of the median modified OECD equivalent income used by EUROSTAT. According to this scale, the number of equivalent adults, which measures the household needs normalized by the needs of a single adult, is given by: [1 + 0.5*(#Adults) + 0.3*(#Children)], and where: Equivalent income = (Household Disposable Income/Equivalent Adults).

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