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August 2006

# ILR Impact Brief - The Sources of International Differences in Wage Inequality

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# ILR Impact Brief - The Sources of International Differences in Wage Inequality

## **Abstract**

Wage inequality in the U.S. exceeds that of Canada, Denmark, Finland, Italy, Netherlands, Norway, Sweden, and Switzerland. Some researchers have pointed to the higher relative rewards for higher cognitive skill and more education in the U.S. as an important cause of this difference; others emphasize the greater diversity of labor market skills within the American population. This paper uses recently collected international data on cognitive skills, earnings, age, and years of formal schooling to assess the relative importance of population heterogeneity and higher relative pay for more cognitive skill in explaining higher U.S. wage inequality.

## **Keywords**

international, wage, equality, education, age

## **Comments**

### **Suggested Citation**

Blau, F. D. & Kahn, L. M. (2006). *The sources of international differences in wage inequality* (ILR Impact Brief #10). Ithaca, NY: School of Industrial and Labor Relations, Cornell University.  
<http://digitalcommons.ilr.cornell.edu/briefs/21/>

For a more in-depth analysis, see Blau, F. D. & Kahn, L. M. (2003). *Do cognitive test scores explain higher U.S. wage inequality?*

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# IMPACT BRIEF

BRIEF # 10 / AUGUST 2006 / ILR SCHOOL / WWW.ILR.CORNELL.EDU

## The Sources of International Differences in Wage Inequality

**Research question:** Wage inequality is greater in the United States than in eight other western nations; to what extent does the greater variation in adult literacy among Americans explain these differences in wage inequality?

**Conclusion:** The wider distribution of cognitive test scores among adults in the U.S. offers only a partial explanation for this country's higher wage inequality. Significantly more important are the larger wage gaps in the U.S. between people with higher levels and people with lower levels of measured cognitive skill and between those with more years and those with fewer years of schooling; higher wage variation associated with "unexplained/unobserved" factors is another source of wage inequality. The higher returns to skill and education in the U.S. probably reflect lower levels of coverage by collective bargaining contracts and a larger relative supply of low-skilled workers.

**Policy implications:** Labor market institutions, such as widespread union membership and coverage by collectively bargained contracts (as is the case in many European countries), may boost wages at the bottom and reduce overall wage inequality but also price some younger and/or less skilled workers out of the labor market. In the U.S., expanding the supply of higher skilled workers may reduce wages for this group and thereby lessen wage inequality; that is, policies designed to narrow the

gaps in cognitive skill and years of education may begin narrowing the disparity in wages.

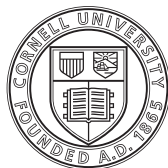
**Abstract:** Wage inequality in the U.S. exceeds that of Canada, Denmark, Finland, Italy, Netherlands, Norway, Sweden, and Switzerland. Some researchers have pointed to the higher relative rewards for higher cognitive skill and more education in the U.S. as an important cause of this difference; others emphasize the greater diversity of labor market skills within the American population. This paper uses recently collected international data on cognitive skills, earnings, age, and years of formal schooling to assess the relative importance of population heterogeneity and higher relative pay for more cognitive skill in explaining higher U.S. wage inequality.

The central focus here is the relationship between wage inequality and cognitive skill, where cognitive skill is defined by test results for three dimensions of adult literacy (prose, document, and quantitative). Compared to other countries in this study, the U.S. evidences the greatest inequality in both wages and test scores. Further analysis of the data reveals that the wage and test score inequality differentials between the U.S. and other countries diminish at the bottom when native-born adults only are considered.

Sorting out why wage inequality is greater in the U.S. requires something of a stepwise approach. To begin, the data show that measured cognitive skill and years of schooling strongly affect wages. For all countries in the study, for men as well as women, higher test scores and

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more education each lead to higher levels of compensation. The effect is most striking in the U.S., where skills and education are more highly rewarded (through wages and salary) than elsewhere and where test scores are more widely dispersed. Indeed, the returns to higher test scores and more education for American men were greater than in any of the other countries, whereas American women placed first in returns to education and third in returns to cognitive skill.

Why then, do more cognitive skill and more education generate higher pay in the U.S.? Earlier studies suggest that returns to skill and education reflect country-specific supply of and demand for particular cognitive competencies and the differential effect of wage-setting institutions, such as collective bargaining and minimum wage laws. This study does not directly examine the role of market forces but does establish that greater levels of coverage by collective bargaining are associated with lower financial returns (i.e., pay) to years of schooling, age, and test scores. It is worth noting that the share of workers covered by union contracts is far lower in the U.S. than in the eight other countries studied here while the labor force participation rate is higher at the bottom of the skill market.

Having established a relationship between cognitive test scores and wages in general and identified likely reasons for higher rewards to more highly skilled labor in the U.S., what remains unexplained is the higher degree

of wage inequality in the U.S. Clues to this last piece of the puzzle can be found by statistically modeling the effect of human capital characteristics (test scores, education, and age), wages, and unobserved/residual factors. The analysis reveals that the distribution of cognitive test scores explains only 3%-13% of the greater wage inequality in the U.S. and that higher rewards for higher levels of cognitive skills and education are far more important, accounting for 28%-55% of the difference; unobserved/residual inequality explains the rest. (These unobserved factors may include unmeasured skills, such as work motivation, as well as unmeasured aspects of the wage structure, such as wage differentials among companies.)

**Methodology:** Cognitive test data drawn from the 1994-1998 International Adult Literacy Survey and other data from the Organisation for Economic Cooperation and Development are combined with a statistical methodology that enables the researchers to identify and explain the sources of wage inequality across countries.

**Source publication:** "Do Cognitive Test Scores Explain Higher U.S. Wage Inequality?" appeared in *The Review of Economics and Statistics*, February 2005, Volume 87(1):184-193.

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