

Wage Inequality Rose Worldwide in the 1980s

During the 1980s, wage inequality in the United States increased substantially. Differences in wages between college graduates and high school dropouts, between experienced and inexperienced workers, and even among workers with similar education and experience all rose. According to two NBER studies, comparable changes occurred in most other advanced countries. Only in countries with high minimum wages or very centralized union-management bargaining systems did wage inequality remain stable during this period.

In **Cross-Country Patterns of Change in Relative Wages** (*NBER Working Paper No. 4085*), **Steven Davis** reports that overall wage inequality increased during the 1980s in Australia, Canada, Germany, Japan, Sweden, the United Kingdom, and the United States. Among the advanced countries he studies, wage inequality was stable only in France and the Netherlands.

However, Davis finds that even in France, inequality among the top earning half of workers also rose. This was offset by declining inequality among the bottom half of French workers, though, caused by a large increase in the French minimum wage and economy-wide union contracts, which raised the wages of low-skilled workers relative to other workers.

Davis also reports that patterns of changes in wage inequality by education group were similar in the various countries. Over five-year periods in the 1970s, the ratio of wages of college graduates to high school graduates fell by 8 percentage points in the United States, 6 percentage points in the United Kingdom, 9 percentage points in Sweden, 13 percentage points in Canada, and 17 percentage points in Aus-

tralia. Over five-year periods in the 1980s, this pattern was reversed: the ratio rose by 11 percentage points in the United States, 8 percentage points in the United Kingdom, and 3 percentage points in Canada, Sweden, and Australia.

In a related study, **A Comparison of Changes in the Structure of Wages in Four OECD Countries** (*NBER Working Paper No. 4297*), **Lawrence Katz**, **Gary Loveman**, and **David Blanchflower** estimate the effect of an increased number of college graduates on relative wages. They find that as the supply of college graduates grew faster during the 1970s, the wage premium for a college education shrank.

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In the 1980s, in contrast, the growth rate in the supply of college graduates fell by almost 50 percent in the United States, the United Kingdom, and Japan, and the wage premium rose. In France in the 1980s, the growth rate in the supply of college graduates fell only slightly, and wage differences among education groups were stable.

Katz, Loveman, and Blanchflower conclude that the demand for well-educated workers has been increasing for at least the past two decades. During the 1970s, supply more than kept pace with demand, but in the 1980s demand outpaced supply, and the wage premium for college graduates rose.

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They also find that the wages of manual laborers fell dramatically relative to the wages of nonmanual workers in the United States and the United Kingdom, fell moderately in Japan, and narrowed very slightly in France. They attribute this pattern to a large decline in manufacturing employment in the United States and the United Kingdom, continued strength in Japanese manufacturing, and the leveling effect of minimum wages and economywide bargaining in France.

Community College Education Pays Off

It is now well established that years spent at college pay off in higher earnings during an individual's career. Even the 20 percent of the civilian labor force with one to three years of college earn 15 percent more on average than high school graduates do.

Now a new NBER study by **Thomas Kane** and **Cecilia Rouse** shows that the returns on a year at a two-year community college and on a year at a four-year college are about the same. For every year of credits they complete, students at either type of institution earn 8 to 9 percent more than high school graduates of similar ability and family background. Moreover, those with bachelor or associate degrees do not earn significantly more than others with a similar number of college credits and no degree. In other words, it is primarily the course work rather than the credentials that increases subsequent earnings.

In **Labor Market Returns to Two- and Four-Year Colleges: Is a Credit a Credit and Do Degrees Matter?** (NBER Working Paper No. 4268), Kane and Rouse observe that roughly 50 percent of those entering college today start at community colleges. Also, “. . . community colleges are the port of entry for a disproportionate share of those marginal students most likely to be affected by state and federal financial aid policies.” Kane and Rouse note that 20 percent of federal Pell Grants and 10 percent of Guaranteed Student Loans go to students at community colleges. In addition, 20 percent of state postsecondary education expenditures are devoted to community colleges.

Women with associate degrees are one exception to the minor differences in wages between those with a degree and those with similar college credits but no degree. The authors speculate that this apparent ac-

creditation effect reflects the value of associate degrees in nursing, which comprise one-quarter of the associate degrees for women.

The data in this paper came from the National Longitudinal Survey of the High School Class of 1972 (NLS-72), and from the National Longitudinal Survey of Youth (NLSY), which looks at high school graduates of 1976 to 1982. The NLS-72 sampled 22,652 seniors, and resurveyed most of them in 1973, 1974, 1976, 1979, and 1986. In 1984, transcripts for about 14,000 sample members were obtained for all post-secondary schools reported by the students through 1979. Grades, course credits by field, and any degrees obtained were included on the transcripts. The NLSY involved interviews with 12,686 youths aged 14 to 21 in 1979.

“The returns on a year at a two-year community college and on a year at a four-year college are about the same.”

The NLS-72 included 626 individuals who reported periods of college enrollment at schools that had no record of their attendance. These individuals earned no more than high school graduates did, the authors find. So it is the actual course work—not the claim of education—that apparently boosts an individual's wages after leaving school. **DRF**

Investment and Trade Promote Growth

Between 1960 and 1985, income per adult more than quintupled in Singapore, and approximately quadrupled in Japan, Korea, and Hong Kong. At the same time, income per adult in Bangladesh, India, and Sri Lanka rose by only 35 to 45 percent. Now a new NBER study by **John Helliwell** finds that investment in physical capital was the most important source of the Asian growth. Investments in education did *not* contribute significantly to growth in Asia, although they did help to raise income in other parts of the world.

In **International Growth Linkages: Evidence from Asia and the OECD** (NBER Working Paper No. 4245), Helliwell examines the growth rates of 98 developed and developing countries. He reports a slight tendency for the poor countries to grow more rapidly than the rich ones, although this tendency is outweighed by differences in investment rates and other factors. He also finds that openness to foreign trade and international capital flows lead to higher growth in Asia. Countries with relatively few trade

barriers and looser controls on foreign exchange transactions tended to grow faster than otherwise similar countries, he concludes.

In a related study, **Trade and Technical Progress** (*NBER Working Paper No. 4226*), Helliwell reports that openness to foreign trade also increased growth among 19 developed countries. Gains in efficiency were largest in those countries where the most trade occurred. High rates of investment also increased growth by making more capital available to each worker. But high investment did not raise the rate of technical progress, which alone caused efficiency to rise 60 percent on average in the OECD during 1963–89.

“Investment in physical capital was the most important source of the Asian growth.”

Finally, Helliwell concludes that, among developing Asian countries, the democracies grew less rapidly than the other countries, after accounting for differences in investment and openness. However, he also finds that the demand for democracy rises with income. Thus, as Asian countries become richer, they are likely to become more democratic.

CO₂ Emissions Will Grow More Slowly Than World Income

Between 1955 and 1985, man-made emissions of carbon dioxide (CO₂) grew by 3.2 percent a year. By

1985 annual emissions totaled 5.5 billion tons. Although it is far from clear what effect these emissions will have on the earth’s climate, a recent NBER study by **Douglas Holtz-Eakin** and **Thomas Selden** concludes that they will continue to grow, but at a slower rate, as world population and income rise in the future.

“CO₂ emissions increase with per capita income, but at a decreasing rate.”

In **Stoking the Fires? CO₂ Emissions and Economic Growth** (*NBER Working Paper No. 4248*), Holtz-Eakin and Selden estimate that the rate of growth of CO₂ emissions will decline to 1.8 percent annually between 1985 and 2025. But total annual emissions will almost double, to 10.2 billion tons. The cumulative effect of these emissions will be to add almost 300 billion tons of CO₂ to the atmosphere by 2025.

After analyzing the data on 130 countries, Holtz-Eakin and Selden find that CO₂ emissions increase with per capita income, but at a decreasing rate. As a result, their predictions of future CO₂ emissions are relatively insensitive to their estimates of future income growth: a 10 percent error in their forecast of future income would change their estimate of cumulative CO₂ emissions by about 5 percent.

The authors also conclude that changes in technology, or the price of oil and coal within the historical range, will have only a small effect on cumulative emissions. “CO₂ emissions can be slowed only by taxes that are large relative to historic fossil fuel prices.”

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