BOOK REVIEWS

Trade and Income Distribution

By William R. Cline

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Reviewed by Lisa M. Lynch

One of the few things American economists have actually been able to agree on is the emergence over the past 25 years of a growing inequality in income and wages. Labor economists have put forward a variety of explanations for this trend including: changes in technology that have increased the demand for skilled workers at a rate that out paces the supply of skilled labor (skill-biased technological change); a decrease in the real value of the minimum wage; the declining power of unions; a rise in the number of unskilled immigrants in the labor market; and an increase in worldwide trade. Yet economists have come to no consensus on the relative importance of these different factors in explaining increased wage inequality. As a result, no consensus exists on the appropriate policy responses to this phenomenon. William R. Cline's book, *Trade and Income Distribution*, addresses one of the most contentious aspects of the debate on growing wage inequality—the impact of trade and immigration.

The first chapter of this volume summarizes trends in income inequality and poverty levels. Cline presents data on a number of different dimensions of income inequality including: trends in family and household income, wealth distribution, wage trends for full-time workers in the top decile relative to those in the bottom decile, and wages of college graduates relative to those with high school degrees. These measures all point to the same broad pattern of increasing inequality, which has been apparent since the early 1970s—an increase in the ratio of skilled to unskilled wages of approximately 20 percent. Cline also discusses research showing a negative correlation for OECD countries between the degree of openness to manufactured imports from developing countries and domestic manufacturing. This apparent correlation, when viewed alongside the concurrent growth of inequality in the United States over a period in which trade became more important in the U.S. economy, has

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led many public figures—from Ross Perot to Pat Buchanan—to call for an end to or reversal of trade liberalization. However, correlation is not the same thing as causality and Cline proceeds to explore how we could determine the causal role of trade versus other forces—especially technological change—in widening inequality.

According to economic theory, the primary reason to expect increased trade to generate increased inequality is the Stopler-Samuelson theory. This theory predicts that when countries trade, the price of the abundant factor within each country rises while that of the scarce factor falls. In the United States, the abundant factor is skilled labor; therefore, wages of skilled workers who produce exports should rise while wages for unskilled workers should fall as we import more goods produced by unskilled workers.

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This leads to the question of how much empirical evidence exists and suggests that trade has caused rising inequality in the United States? The second chapter in *Trade and Income Distribution* presents a critical review of the literature on this question. This chapter represents a significant contribution in the debate over the role of trade in rising inequality, not because of new arguments or evidence, but rather because it provides a coherent explanation of the different positions taken by researchers in the field. Cline has clearly organized the evolution of the debate on this question by dividing the protagonists into at least five camps.

The first camp, which Cline labels "Development Economists 1," focused on the employment impact of trade on import-competing industries in the 1970s and 1980s. This group found little empirical support for claims of major job dislocation in developed economies attributable to the growth of trade with developing economies, though there was much discussion about the possibility that their findings might actually underestimate the true dislocation effects of trade. Since this group's work did not distinguish between the experiences of skilled and unskilled workers, it sheds little light on the emergence of aforementioned rising wage inequality.

The next camp, "Labor Economists 1," emerging in the early 1990s, was critical in documenting this issue. In order to explain the growing inequality, they put more weight on skill-biased technological change than on trade and immigration. More generally, this group argues that because trade is such a small part of the U.S. economy—as is the impact of immigrants on the workforce—trade and immigration cannot be used to explain such marked increases in inequality.

However, there is also a third group of economists, "Labor Economists 2," that places more weight on the role of trade and immigration in widening wage inequality. In particular, Borjas, Freeman and Katz[1] argue that the effect of trade on inequality was modest until the end of the 1970s, but grew during the 1980s such that trade and immigration were responsible for 20 percent of the growth in the college graduate/high school graduate wage differential and 40 percent of the worsening in the relative position of high school dropouts as compared to the rest of the workforce. In a recent up-date of this paper, these authors re-examine their original work for a longer period of time, from 1980 to 1995.[2] They argue that the combined impact of less-developed countries' trade and immigration on the growth of the college graduate/high school graduate wage differential is closer to 10 percent, but for high school graduates versus high school dropouts the effect is 50 to 60 percent, mostly due to immigration. This last finding has had an explosive impact on the current debate on U.S. immigration policy.

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Labor economists are not the only ones divided on the relative importance of trade and immigration on wages. Trade economists are equally divided both among themselves and with labor economists. "Trade Economists 1," initially led by Bhagwati, Lawrence and Slaughter, criticize, on both theoretical and empirical grounds, labor economists who argue that trade has a significant impact on wages.[3] In particular, they point to the lack of empirical evidence that relative prices of low skill-intensive goods fell as predicted by the Stopler-Samuelson theory.

However, there is no consensus on this issue among trade economists. "Trade Economists 2," led by Leamer and others, suggests a larger role for trade and immigration.[4] By modifying some of the definitions used to generate data used by both trade and labor economists, Leamer finds some of the expected price movement not found by "Trade Economists 1." Yet this second group of trade economists find a larger role for growing economic openness only by changing the theoretical perspective used to analyze this issue. In a revision of "Trade Economists 1," Paul Krugman criticizes Leamer's thesis and concludes that "Labor Economists 2" are not far off in their estimate of the impact of trade and immigration on wage inequality, due mainly to good guesswork.[5]

At this point a non-economist's head might be spinning in an effort to keep track of all the sides in this debate. Because so many other economic shocks were occurring during the time period examined by researchers, it is extremely difficult to do the kind of *ceteris paribus* exercise we would like. As a result, finding the smoking gun on the relative impact of trade versus technological change or the declining value of the minimum wage on overall wage levels is no easy task. In the third and fourth chapters, Cline tries to clarify the debate by presenting some simulated results using a modified version of Krugman's model and his own Trade and Income Distribution Equilibrium (TIDE) model to look at this issue in a general equilibrium framework. Cline rejects both the early estimates by some economists that minimized the role of trade on rising inequality and those by other economists that seem to suggest an overwhelming role for trade. Instead he presents what might be called a "Goldilocks" estimate of the impact of trade and immigration on increased inequality in the United States: 20 to 25 percent of the increase in inequality is due to trade and immigration. This number is very similar to the most recent estimates presented by Borjas, Freeman and Katz, even though the manner in which Cline calculates his figures is quite different.

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Unfortunately, Cline leaves the reader with relatively little discussion of the policy implications of his critical review of the literature and his own simulations. For example, in the simulation results presented in chapters 3 and 4, Cline predicts with one model that trade had a relatively small impact on inequality in the past but will have an increasing impact on it in the future. In another model he finds that trade's impact on inequality in the future will most likely decline as the relative supply of skilled labor in the United States increases. A non-economist might conclude that this is contradictory, but both of these models have a common and clear policy implication: in order to minimize the potential disruptive effect of trade in the future it is critical to increase investment in the skills of U.S. workers.

When we look at the relative skill levels of U.S. workers compared with other similarly developed economies, we see that there is much work to be done. Table I presents some disturbing findings from the recent OECD International Adult Literacy Survey, such as the fact that there are about three times as many employees with minimal reading and math skills in the United States as there are in Germany.

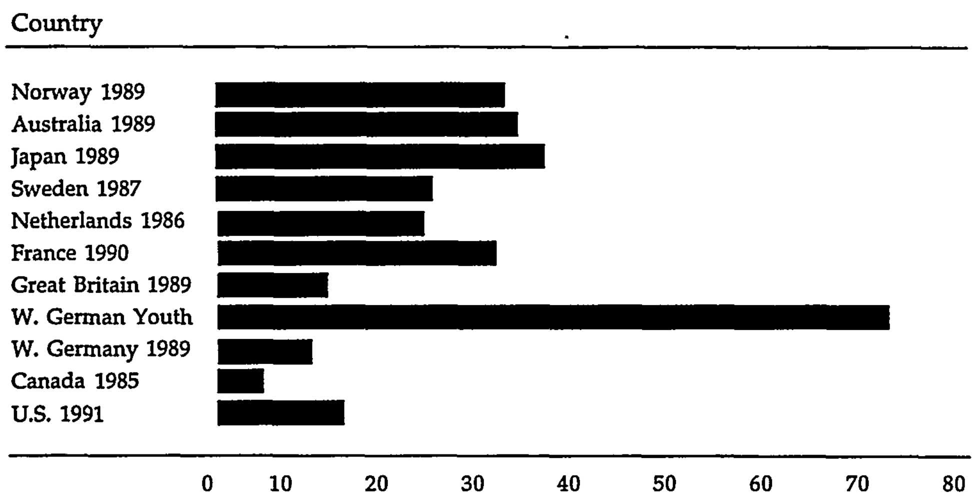
More generally, if one compares the variation in skills and the changes in wage inequality across countries, one sees that those countries with a higher variation in skills also experienced more growth in inequality over the period 1979 to 1990. The data might not be quite so disturbing if workers in the United States were getting more post-school training than workers in other developed economies but we find this is not the case (Figure I). For the United States to return to being a country that grows together rather than apart, there must be a much greater investment in education and training. Pinning down how much of the rising inequality is due to trade, immigration or technology does not alter this policy conclusion.

Table I
Percent of Employees at Various Literacy Levels by Changes in Male Inequality 1979-1990

Math level	Very High 4/5	Medium 3	Low 2	Minimal 1	Inequality (Males)
Country					
United States	27.1	32.5	24.5	**15.9**	+.28
Germany	27.6	45.2	22.9	**4.3**	-.06
Canada	27.6	36.0	25.0	**11.4**	+.13
Netherlands	24.8	48.0	21.2	**6.0**	.00
Sweden	38.1	39.8	17.4	**4.7**	.00

Source: Lynch (1998) using data from OECD, *Literacy, Economy and Society: Results from the International Adult Literacy Survey, 1995* (revised data) and Freeman and Katz (1995).

Figure I
Percent of Workers Receiving Firm-Provided Training



Source: Lynch (1994)

While my main criticism of this book is its underdeveloped policy discussion, Cline does include a short appendix to his book on "Employment and Wage Growth in Europe and the United States." Although this appendix is not directly related to the topic of his book, it is an elegant re-examination of the great American job machine and the persistent problem of unemployment in Europe. He concludes that more jobs have been created in the United States than in Europe in part because the population growth in the United States has been greater than in Europe; more people means more jobs. He also points out that it is not so clear that the United States is better off than Europe since we have created more net new jobs but the average inflation-adjusted wage of the existing jobs has been declining. He argues that more training will be necessary to improve the wages of American workers.

Overall, the primary strength of this book is that it is written to be of interest both to those who have been involved in some of the more technical aspects of this debate and to those non-specialists who want to have a better understanding of the issues behind the political rhetoric. The book highlights the need to ensure that the "losers" in trade are given the means to eventually become "winners " if the United States hopes to reverse its recent pattern and grow in an equitable, rather than an inequitable, direction.

Notes

1. G. Borjas, R. Freeman, and L. Katz, eds., *Immigration and the Work Force: Economic Consequences for the United States and Source Areas* (Chicago: University of Chicago Press, 1992).
2. G. Borjas, R. Freeman, and L. Katz, "How Much Do Immigration and Trade Affect Labor Market Outcomes?" *Brookings Papers on Economic Activity*, no. 1 (1997): 1-67.
3. J. Bhagwati, "Free Traders and Free Immigrationists: Strangers or Friends?" Russell Sage Foundation Working Paper, no. 20 (1991), and R. Lawrence and M. Slaughter, "Trade and U.S. Wages: Great Sucking Sound or Small Hiccup?" *Brookings Papers on Economic Activity*, no. 2 (1993): 161-226.
4. E. Leamer, "Wage Effects of a U.S.-Mexican Free Trade Agreement" in *The Mexico-U.S. Free Trade Agreement*, edited by P. Garber (Cambridge, MA: MIT Press, 1993).
5. Paul Krugman, "Growing World Trade: Causes and Consequences," *Brookings Papers on Economic Activity*, no. 1 (1995): 327-377, and Paul Krugman, "Technology, Trade and Factor Prices," Stanford University Economics Department, 1995.