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## Globalization, Adjustment, and Compensation

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Carl Davidson and Steven J. Matusz

# Globalization, Adjustment, and Compensation

*NOTE: This article highlights some of the research findings that appear in the authors' new book, International Trade and Labor Markets, which was published by the Upjohn Institute.*

**W**hile academicians generally argue that reducing trade barriers enhances aggregate welfare, legislation aimed at liberalizing trade often meets fierce opposition in public and political arenas. Counted among the opposition are groups concerned about the losses suffered by workers whose jobs disappear under the weight of import competition. Even academic economists, who tend to rail against protectionist sentiment, readily admit that freer trade does harm some groups, perhaps even displaces workers.

Indeed, a burgeoning literature attempting to measure the losses to dislocated workers has produced some disquieting findings. For example, Jacobson, LaLonde, and Sullivan (1993) estimate that the average dislocated worker suffers a loss in expected lifetime income of \$80,000. Kletzer (2001) finds similar but less-dramatic results. In her study, the average dislocated worker takes a 12 percent pay cut, while the median worker sees her wage fall by 5 percent. Troubled by such large personal losses, some academic economists have joined the growing movement in the policy community in calling for direct compensation of workers dislocated by trade liberalization.<sup>1</sup>

For more than half a century the benefits of freer trade have been understood in the context of the

Samuelson compensation principle: the winners gain enough from liberalization to allow them to fully compensate the losers without exhausting all of their gains.<sup>2</sup> Thus, one way of viewing those who have been pushing for “wage insurance” for dislocated workers is that they are just taking this argument to its logical conclusion—if we can afford to compensate these workers, we should.<sup>3</sup> After all, if we choose to liberalize trade, we must realize that we are choosing to harm some groups. One might argue that equity requires coupling policies aimed at liberalizing trade with policies aimed at compensating displaced workers.

Not everyone would find an equity-based argument for compensation

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compelling. Some might point out that the dislocated workers were receiving economic rents when trade barriers protected their jobs, calling into question policies that would provide these workers with even more compensation by subsidizing them when they switch sectors. Even in the absence of equity considerations, practical political

considerations suggest coupling liberalization with compensation. Since those opposed to freer trade often fight against liberalization, an offer to compensate displaced workers for their losses might convince some groups to change their position and offer support instead, making freer trade easier to achieve.

The academic literature is surprisingly silent regarding the design of optimal policies aimed at compensating displaced workers. Indeed, there is only a modest amount of literature devoted to any issue related to compensating those harmed by

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liberalization.<sup>4</sup> One reason is that the vast majority of all of the academic research connecting worker welfare and globalization begins from a premise of frictionless factor markets, where all adjustments that might be motivated by liberalization occur instantly. These models focus on the long run and leave no room to address many of the concerns outlined above.

In our monograph, *International Trade and Labor Markets: Theory, Evidence, and Policy Implications* (Davidson and Matusz 2004), we first show that traditional trade analysis can rather easily be extended to allow for equilibrium unemployment, job displacement, and gradual adjustment, and that doing so provides many new insights. We then use our extended model to tackle difficult issues such as the one raised above: if society desires to compensate those who are harmed by liberalization, what is the best way to go about it?

The general-equilibrium model that we use to address the issue of optimal compensation has several important components that are missing from standard trade models. In our model, workers must first train to acquire skills and then search for employment in either

a “high-tech sector,” where significant skills and training are required and wages are high, or a “low-tech sector,” in which training is quick and cheap, far fewer skills are required, and pay is low. We assume that workers vary in ability, and we show that equilibrium results in all workers with ability above a critical level being drawn to the high-tech sector with all other workers in low-tech jobs.

To study the issue of adjustment and compensation, we assume that the low-tech sector is initially protected by a small tariff and then show that liberalization harms two groups: those low-tech

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workers who choose to shift to the high-tech sector (the movers), and those workers who remain trapped in the (previously protected) low-tech sector because they do not have enough skills to make the acquisition of high-tech jobs attractive (the stayers). The movers, who are the displaced workers in our setting, lose for two reasons. First, although some wind up with better-paying jobs after relocating, others take a pay cut when they find reemployment in the high-tech sector. Second, these workers bear all of the adjustment costs imposed on the economy by liberalization—they must first retrain and then search for new jobs, both of which are costly processes.

We then turn to the issue of compensation by searching for the policy that fully compensates each group for their losses while imposing the smallest deadweight loss on the economy.<sup>5</sup> One of the advantages of our model is that it is rich enough to allow us to compare all of the compensation programs that have been at the center of the policy debate: wage subsidies, employment subsidies, training subsidies, and unemployment insurance (which is basically what trade adjustment assistance has been in the United States).

We find that there are two rules that an optimal compensation program should satisfy. First, a program should have a large impact on the welfare of the *average* worker in the targeted group. If that is the case, then full compensation can be achieved with only a modest-sized program. Second, if we define the *marginal* worker to be the worker who is just indifferent between high- and low-tech jobs under free trade, then an optimal program should have only a small impact on this worker’s welfare. The reason for this is that any compensation scheme distorts incentives and results in some workers making inefficient labor market decisions. If the marginal worker’s welfare is largely insensitive to the policy measure, then full compensation can be achieved while generating only a small amount of labor misallocation.

Applying these two rules, we find that it is optimal to use a wage subsidy to compensate movers, whereas an employment subsidy (a subsidy to employed workers which is independent of the wage) works best to compensate the stayers. The main reason for the difference in the policy prescription has to do with the composition of the workforce in the two sectors: the high-tech sector is populated with high-ability workers,

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whereas the low-tech sector attracts largely low-ability workers. As a result, the average high-tech worker has *higher* ability than the marginal worker, whereas the average low-tech worker has an ability level *below* that of the marginal worker. With a wage subsidy, the size of the transfer received by a worker is

increasing in the wage, which is increasing in ability. Thus, workers with high ability value wage subsidies more highly than their lower-ability counterpart. This makes the wage subsidy an attractive tool to use when compensating the movers—the average mover will value the program much more than the marginal worker—thus, a

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modest-sized program can be used, generating only a small amount of inefficient labor reallocation. In contrast, the wage subsidy will lead to too much labor reallocation if used to compensate the stayers. This is due to the fact that the marginal worker will value the wage subsidy considerably more than the average stayer (since the average stayer has lower ability than the marginal worker).

As there are no distortions in our model (other than the initial tariff), we know that the gains from trade are large enough to fully compensate those harmed by liberalization, but theory alone does not tell us if the costs of the compensation are large or small relative to the gains from trade. To get a handle on the relative magnitude of the costs of compensation, we close our monograph by calibrating the model using parameter estimates based on U.S. labor market data. We find that the overall cost to society is likely to be modest, (in terms of deadweight loss) provided the right policy is used. However, attempting to compensate the losers might completely wipe out the gains from freer trade if the wrong policy is used.

The continuing rapid pace of global integration brings with it a continuing flow of displaced workers. It is incumbent upon policy analysts to carefully consider the distribution and magnitude of adjustment costs that stem from global shocks, and to think deeply about the optimal design of policies targeted at reducing those costs. By formally modeling the training and search processes that are at the core of the adjustment process, our monograph is one of the first rigorous treatments of the type of policy concerns that arise when we take into account adjustment costs. Our hope is that our work demonstrates that such issues can be tackled in tractable settings, and that this will trigger other academics to start taking these issues more seriously.

### Notes

1. See, for example, Jacobson, LaLonde, and Sullivan (1993); Parsons (2000); and Kletzer (2001).

2. This argument ignores the fact that such compensation is rarely offered.

3. See, for example, Baily, Burtless, and Litan (1993); Jacobson, LaLonde, and Sullivan (1993); Burtless et al. (1998); Parsons (2000); Kletzer (2001); Kletzer and Litan (2001); and Hufbauer and Goodrich (2001).

4. There are a small number of papers that are relevant. First, there are those that ask whether the losers could be compensated by the winners without eating away all the gains from freer trade. Using a traditional full employment model of trade, Dixit and Norman (1980, 1986) have shown that there does indeed exist a commodity tax scheme that can achieve this objective—thus, liberalization can lead to a true Pareto gain. However, Brecher and Choudhri (1994) and Feenstra and Lewis (1994) have raised concerns about whether this scheme will work when unemployment is present or factors of production are not perfectly mobile.

Second, a paper by Brander and Spencer (1994) focuses on the optimal design of a wage subsidy program aimed at compensating dislocated workers for their losses. In a simple partial equilibrium model in which the distribution of wages is held fixed, they compare wage subsidies programs in which the subsidy is tied to the gap between the pre-liberalization wage and the postliberalization wage earned by displaced workers. Their goal is to determine whether the subsidy should be an increasing or decreasing function of this gap. Their analysis finds support for the Lawrence and Litan (1986) position that the wage subsidy should be “tapered”—that is, they show that the optimal subsidy is decreasing in the wage gap.

5. As noted above, society may wish to offer such compensation due to equity concerns or simply to make it easier to enact liberalizing legislation.

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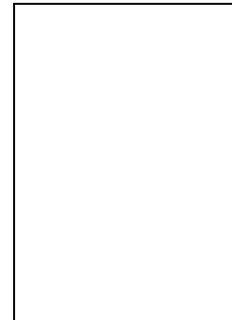
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For information on how to order this book, see p. 8 or visit <http://www.upjohninstitute.org/publications/books.html>.

Two additional books about the impact of international trade on jobs in the United States are also available from the Institute: *Imports, Exports, and Jobs: What Does Trade Mean for Employment and Job Loss?*, by Lori Kletzer, and *Job Creation, Job Destruction, and International Competition*, by Michael W. Klein, Scott Schuh, and Robert K. Triest.