

CREATIVE DESTRUCTION AND GLOBALIZATION

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Employment in the U.S. textile and apparel industries has been declining for more than a quarter of a century. Employment reached its peak in 1973, and since then it has declined by 57 percent in textiles and 63 percent in apparel through March 2002. Total employment also decreased in the steel and automobile industries and in the broader manufacturing sector over the same period. These employment figures from particular industries and a single sector of the U.S. economy might leave the mistaken impression that the entire U.S. economy has been shrinking. On the contrary, this extended period was one of extraordinary prosperity in which total employment in the country grew by 71 percent, worker productivity (including textiles, steel, and autos) grew by 57 percent, and income per capita grew by 72 percent. Declining employment in certain traditional industries did not prevent increasing affluence for the average American. These contradictory employment experiences for textiles, steel, and autos and for the general economy represent the forces of what Joseph Schumpeter (1934) called “creative destruction.” Innovations that stimulate general economic growth simultaneously destroy specific jobs as emerging technologies replace older technologies. Creative destruction has gotten more attention recently because it is a major component of globalization, and many prominent job losses have been attributed to import competition.

During this period 1.5 million jobs were destroyed in textiles and apparel, but total employment in the economy grew. For each textile job eliminated, 36 more jobs were created in other industries. Employment in the U.S. steel industry declined by 361,000 during the period, but more jobs were created elsewhere. The new jobs created did not all require the same skills or have the same location as the old

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jobs, and workers had to acquire new skills and migrate to new locations to get new jobs. At the same time textile employment was falling in the major textile producing state of North Carolina, there was a large net migration to the state from other states and from other countries. Many workers entered occupations that did not exist previously and produced newly invented goods. Some displaced workers with poor alternatives had to accept lower wages in their new jobs, but wages and productivity for the average worker increased substantially. For each \$1 lost by workers who were hurt, other workers gained more than \$1. Goods became more abundant and income per person rose precisely because less labor was necessary to produce each unit. Wages of unskilled workers did fall relative to those of skilled workers, but this change in relative wages revealed new information about the increase in demand for skilled workers, and it provided a powerful signal to unskilled workers about the payoff from acquiring additional skills.

Merely counting the number of jobs destroyed in an industry without also taking account of the additional goods made possible by an innovation can be very misleading about the effects of economic changes. It confuses means (jobs) and ends (goods and services). For example, automatic dishwashers do the work that could have been done by workers using their hands. Is the destruction of millions of hours of hand dishwashing jobs a tragedy? In periods of rapid innovation, such as the recent episode of globalization, economic growth accelerates, but so does the rate of destruction of certain jobs and creation of other jobs (Caballero and Hammour 2000). Simply adding up the number of jobs destroyed misses the benefits from accelerated economic growth. Politicians and the popular press focus their attention on jobs destroyed or jobs threatened by economic change, but this emphasis on “destruction” of old jobs misleads the public about the “creative” aspect of creative destruction and its contribution to economic growth. Policies that protect traditional jobs and technologies from innovation interfere with enhancement of worker productivity that contributes to better jobs and higher income.

Sources of Economic Growth

The main sources of economic growth are technical change, investment, and trade, but these variables often interact with each other. Investment and trade are frequently the channels through which new technology is introduced into an economy. For example, a technical innovation may be a new method of production, but the method cannot be implemented without investment in new plant and

equipment and human capital. Similarly, the new technology may be introduced in one country, but transmission to other countries may require trade or international investment. These innovations increase worker productivity and make it possible for industry employment to decrease at the same time industry production is increasing. Movement of workers from lower to higher productivity jobs is an integral component of creative destruction and a major source of economic growth (Caballero and Hammour 2002).

From 1973 to the present, world steel *production* increased at the same time there was a large reduction in world steel *employment* as a result of a tripling in steel output per worker. In U.S. agriculture, more than six million jobs were destroyed in the 20th century, but increased worker productivity made it possible to feed a domestic population that grew by more than 150 million people, while continuing to be the world's largest agricultural exporter. The invention of the automobile destroyed many jobs related to producing and servicing horses and buggies. In 1900, 109,000 people were employed in the carriage and harness industry, and there were 238,000 blacksmiths. Current employment in those activities is negligible, but the introduction of automobiles, trucks, tractors, and other motor vehicles has had a major effect on the productivity and mobility of workers in many industries. It also created entirely new occupations related to designing, producing, marketing, and servicing vehicles. More recent innovations in technology and trade have made it possible to provide food, clothing, and transportation for consumers by using less labor per unit than in the past. As a result of productivity improvement, labor has been released to produce other goods that are in greater demand, including entirely new goods.

Some innovations reallocate workers across industries (for example, automobiles versus horses and buggies). However, some important innovations reallocate workers across firms within the same industry. In a growing economy new jobs are being created by innovative firms at the same time old jobs are being destroyed at less innovative firms and plants in the same industry. The churning of the labor market can be seen from recent plant-level data on gross job creation and job destruction in textiles and apparel since 1972 (Levinsohn and Petropoulos 2001). Although total employment has declined for decades in both textiles and apparel, the two industries have been quite different in terms of rates of technical innovation and investment. Textile mill production has been more amenable to technical change, and more investment has occurred than in apparel. At the same time some textile plants were laying off workers or shutting down, other textile plants were opening using new technology and hiring new workers.

The apparel industry has been more labor intensive and less amenable to technical innovation. Apparel plants spent less on investment, created fewer new jobs, and have been less competitive in the world market. The United States is a net importer of both textiles and apparel, but net imports are much greater and have increased faster for apparel. Greater innovation by U.S. textile producers has allowed them to be more competitive for certain types of products. As a result, the United States is one of the 10 largest gross exporters of textile mill products, even though it is a net importer of textile products.

Technical Change, Trade, and Employment

Some people (for example, spokesmen for the U.S. steel or textile industries) accept technical change as a legitimate and desirable way to promote economic growth, but they oppose imports because trade is said to destroy domestic jobs. Representatives of certain U.S. textile firms (for example, Roger Milliken) contradict themselves by advocating and implementing labor-saving technology (i.e., destroying textile jobs of American workers) at their U.S. plants, while at the same time urging the government to restrict textile imports that destroy textile jobs. Technical change and trade both destroy particular jobs, and they both contribute to higher income through creative destruction. The equivalence of technical change and trade can be used to illustrate the process of creative destruction. Suppose that with traditional technology workers can produce either 10 units of cloth or 100 units of food. With new technology in cloth production, the same workers can produce 20 units of cloth or 100 units of food. One can say equivalently that worker productivity in cloth doubled or that labor per unit of cloth was cut in half. Real income has increased as people can now have twice as much cloth without consuming less food.

Instead of technical change, suppose there is a new opportunity to trade with a country where cloth is cheaper and people are willing to sell 20 units of cloth for 100 units of food. If workers who could have produced 10 units of cloth at home instead produce 100 units of food, the food can be traded for 20 units of cloth. The opportunity to trade allows domestic workers to indirectly double their productivity or cut in half the labor necessary to produce a unit of cloth. Both technical change and trade have produced the same increase in the standard of living and the same decrease in employment in the cloth industry. The higher-income countries have developed institutions that are less resistant to innovation than poorer countries. Greater job security has come at a high price in stagnant economies.

Evidence on Innovations and Economic Growth

There is a large body of empirical evidence indicating that technical change, investment, and trade contribute to economic growth (Dollar 1992, Caballero and Hammour 2002). In the statistical literature on the determinants of economic growth the variables with the closest correlation to growth are trade and investment (Levine and Renelt 1992). (Technical change is not as easy to quantify.) Although a high correlation between trade and growth is logically consistent with the possibility that some third variable is influencing both of them, attempts to disentangle these relationships indicate trade contributes to faster growth (Frankel and Romer 1999). Countries that are more open to international influences and provide a favorable investment climate are the ones that have grown the fastest. Additional evidence comes from the Economic Freedom Index presented by the Heritage Foundation (O'Driscoll, Holmes, and O'Grady 2002). It includes specific government policies that influence trade and investment, and countries with the greatest economic freedom tend to be countries with highest incomes today. There are enormous differences in income per capita across countries today (approximately \$30,000 per person per year in the richest countries versus \$300 in the poorest countries), but at the time of the Industrial Revolution the differences were negligible (Maddison 1995, Lucas 2000). Thus, nearly the entire difference in incomes across countries can be attributed to differences in when countries began participating in the Industrial Revolution. The key components of that revolution are developing knowledge that leads to technical change, providing an economic climate that encourages investment, and economic policies that promote trade and mobility of capital and labor.

Barriers to the adoption of new technology can be a major impediment to growth (Prescott and Parente 1994, Caballero and Hammour 2000), and variation in the size of barriers to adopting technology over time and space contributes to differences in income per capita. Institutions (economic, legal, political, religious) that make it more difficult for new technology to replace old technology inhibit economic growth. The Taliban of Afghanistan are an extreme example of excluding new ideas, but barriers to innovation are an important barrier to growth in most low-income countries. Openness to trade contributes to growth by weakening resistance to adopting new technology. Technical change, investment, and trade are the “creative” aspects of creative destruction, and they are the innovations that generate economic growth.

Opposition to Creative Destruction

In spite of net economic benefits from innovations that produce creative destruction, frequent opposition to economic change has been observed (Mokyr 1992). The Luddites are a dramatic example of violent resistance to technological change in 19th-century England (Thomis 1970). Textile workers whose jobs were threatened destroyed labor-saving machinery. The printing press was an earlier innovation that had an enormous effect on European literacy by making books more affordable to the general population. However, opponents of change were able to reduce its effect in the Ottoman Empire. Scribes and calligraphers opposed the introduction of the printing press because it reduced the demand for their services. Conservative Muslims claimed that printing the word of Allah was sacrilegious, and an alliance among these groups successfully prevented the use of the printing press to produce copies of the Koran for centuries (Lewis 1993). Opposition to imports that threaten domestic jobs has been common throughout history, and the recent campaign to restrict imports to save jobs of American steelworkers is an example. There have also been attempts to protect local jobs from trade with other states in the United States, even though the Commerce Clause of the U.S. Constitution calls for free trade among the states. A North Carolina law prohibits residents from buying wine from other states via the Internet. However, as a result of a challenge by a thirsty oenophile, a federal court found (March 2002) the law to violate the U.S. Constitution. In the 19th century, following the introduction of refrigerated railcars, Minnesota passed a law prohibiting purchases of meat from other states (at the urging of state meat producers). After a legal challenge, the state law was found to be unconstitutional. The success of Wal-Mart in displacing small “mom and pop” stores in many parts of the country led owners of small stores in several states to attempt to use the power of state and local government to prevent Wal-Mart from opening stores in their areas.

Opponents of economic change have used many different methods to try to protect their jobs. Violence and the threat of violence have been used to discourage introduction of new technology. Laws and regulations restricting technology have been passed, usually rationalized by health and safety considerations. Craft guilds and labor unions have restricted the use of technology or required more workers relative to machinery than firms would otherwise use. Competition from new workers and firms has been restricted by granting monopoly rights (challenged as early as the Magna Carta), occupational licensing, or by immigration barriers. There has also been organized op-

position to mergers and other business reorganizations that destroy jobs of redundant workers. These methods and others are components of mercantilism that Adam Smith criticized in the *Wealth of Nations*.

In the United States, members of Congress have become agents for protectionist constituents. Members are elected from geographical districts, and constituents have come to expect elected officials to protect them from economic changes that threaten their jobs, even if for each \$1 gained by the protectionist more than \$1 is lost by residents in other districts. For years presidents of both parties and the Joint Chiefs of Staff have attempted to close redundant military bases, but opposition by Congress has made it nearly impossible to close bases. Congress has demonstrated the same fierce opposition to abandoning expensive weapons projects, even when the weapons have been shown to be faulty, obsolete, or unnecessary. The recent Crusader artillery system is an example of a weapon that was opposed by the president and his military advisers, but it was strongly supported by members of Congress, especially those from Oklahoma, where it would be produced.

Why Resist Beneficial Innovations?

Why do some people resist economic changes that raise income for society as a whole? Even the most beneficial changes have an adverse effect on someone, and injured parties have a personal interest in resisting change. For society as a whole, these are special-interest groups, but even small minorities may prevail in the political process if they are well organized. It is easier to prevail if the gains to special interest groups are concentrated, but the larger total cost imposed on others is spread evenly among many people (Bacqir 2002; Weingast, Shepsle, and Johnsen 1981). In this case there is a lower cost of organizing the special-interest gainers than in organizing the diverse losers. Organized farm groups in the United States and in most high-income countries have successfully supported policies that have transferred large amounts of money to them, in spite of imposing larger losses on the rest of society. A small group of American sugar producers has persuaded the government to block imports and keep the domestic price of sugar 3 to 5 times the world price for many years. The policy has persisted in spite of all the major soft drink producers abandoning sugar for corn sweetener and many U.S. candy producers moving to Canada or Mexico. It is in the narrow interest of certain well-paid steelworkers to oppose steel imports that threaten their premium pay and their jobs, even though steel protectionism imposes

greater losses on steel users. In the more prosperous economies, the majorities that benefit from innovations have developed institutions that protect themselves from the power of influential minorities.

At least since the time of Adam Smith there has been an awareness of the economic benefits from specialization. However, there are also disadvantages from having workers specialize in particular tasks. As the economy becomes more specialized and more complex, there are more specialized workers with a vested interest in protecting the current pattern of employment (Wicksteed 1933). To illustrate the relationship between specialization and resistance to job destruction, first consider a hypothetical simple economy with no specialization. Let the economy consist entirely of self-sufficient farmers who grow their own food, build and repair their own houses, make their own clothes, and trade nothing with other households. Technical change that cuts in half the cost of growing food, building houses, or making clothes would allow them to have twice as many of the old goods, or the released time would allow some labor time to be allocated to other more valuable goods. Households are both suppliers and demanders of their own labor time, and they would welcome creative destruction. Here there is no conflict between what is best for individual households and what is best for society as a whole. Adopting the innovation would be beneficial, real income would increase, and there would be no confusion between jobs and useful output by self-sufficient workers.

Suppose that some people are relatively more productive at building houses than at growing food. If the more skilled builders construct more houses than they use, they can trade surplus houses to people who are relatively more productive at growing food. Trade is equivalent to an increase in productivity. As a result of specialization, both parties will have higher incomes in the sense of more food and more houses than when they were self-sufficient. However, the specialized builders are now net sellers of houses and net buyers of food. They gain from any economic changes that increase the demand for houses or decrease the supply of houses. The self-interest of builders no longer coincides with the interests of society as a whole. In the words of Philip Wicksteed (1933: 361): "Thus, any man who lives by supplying any want, dreads anything which tends either to dry up that want or supply it more easily or abundantly. It is to his interest that scarcity reign in the very thing which it is his function to make abundant, and that abundance should reign everywhere else."

The specialized builders might gain if good things happen to their customers and national income rises. For example, customers become more productive, their incomes rise, and they demand more or better

houses. However, builders might also gain if bad things happen to their customers and national income falls. Storms might damage or destroy homes, and incomes of their customers would fall. National income would fall, but the incomes of builders would rise. In the facetious example of Frederic Bastiat (1964), storms that break windows create jobs for window repairmen. If job creation were unambiguously good for society, even more jobs could be created by encouraging people to deliberately break windows. Tying one hand behind each window repairman would create additional jobs. The self-interest of the specialist is no longer aligned with that of society as a whole. Builders would not construct houses in remote locations where no one was willing to buy a house. However, they would build in remote areas if the houses were paid for by taxpayers. Builders might even support “job creation” programs in which they built houses and immediately destroyed them, if taxpayers paid the bill. It would also be in the interest of builders to block entry of new builders into the industry (apprenticeship programs, immigration of new builders) and to block the introduction of new technology that would lower the cost of people building or repairing their own houses. Builders would support programs that reduced national income provided they increased the incomes of builders. Specialization is economically beneficial, but it creates special interest groups of producers whose narrow interests are anti-social. They represent a potential lobby to preserve the status quo and oppose economic innovation (St. Paul 2002).

Information, Transport Costs, Globalization, and Creative Destruction

The process of globalization observed in recent decades has produced substantial economic benefits, but it has also provoked strong opposition. Globalization consists of closer integration of national and regional markets, and it is a result of lower costs of information and transportation and relatively liberal national trade policies. Globalization has contributed to economic growth, but it has also led to greater concern by workers about the prospect of lower earnings or job losses—that is, the destructive part of creative destruction. As a result of lower costs of information and transportation, a wider range of goods and services has been traded and goods are now being transported over longer distances. There are now fewer local product markets that are sheltered from competition originating in distant

regions or countries, and there are fewer sheltered local jobs. A wider range of goods and services and jobs has become vulnerable to creative destruction (Thesmar and Thoenig 2000).

With lower transport costs, goods (including perishables) that would not have been shipped between two locations in the past are now traded regularly. Americans once relied on California and Florida growers to provide some fresh fruits and vegetables during the American winter. Now Americans take for granted regular supplies of fresh products from Chile, New Zealand, and other Southern Hemisphere suppliers. In the past, services rarely entered international trade because the provider would have to travel long distances to supply the service. Now services are one of the fastest growing components of international trade. Providers of computer programming and software in India regularly transmit their services electronically to American clients (*The Economist* 2003). The opportunity to provide services to customers on the other side of the world without workers having to travel long distances has been beneficial to both the buyers and the long-distance suppliers. However, by increasing the supply of these services, trade threatens the jobs and earnings of Americans who provide competing services. Occupations that were once sheltered from long-distance competition are no longer sheltered.

As a result of lower cost information and transportation, there are now fewer businesses and jobs in the United States that are sheltered from competition from other states. The development of electronic commerce has given local consumers access to suppliers in distant locations, but it has also made local firms and local workers more vulnerable to the forces of creative destruction. Retail automobile dealers who once had some local monopoly power over certain brands of automobiles now face competition from dealers all over the country. State government officials face diminished power because of the Internet. States have always had some difficulty collecting their taxes on mail-order purchases made by their residents from out-of-state firms, but access to the Internet has made tax collection on out-of-state purchases even more difficult.

Lower cost transmission of information makes information advantages disappear more quickly. Workers, firms, and countries gain from specialization based on comparative advantage, but comparative advantage depends on technology prevailing at a point in time. A country may have a temporary comparative advantage in producing autos due to a temporary technological advantage. Once the technology spreads to other countries, the comparative advantage may change, and the exporter of autos may become an importer of autos.

This process has been described as a product cycle. The United States has gone from being a net exporter of steel and autos to a net importer of steel and autos. The product cycle implies that the demand for specialized labor skills also follows a cycle. The comparative advantage of countries and the comparative advantage of workers are temporary. With globalization, information about new technology spreads more rapidly, the length of technological gaps gets shorter, and the duration of comparative advantage gets shorter. Specialties for firms, workers, and countries will change more frequently, and creative destruction will occur more frequently. Innovation and creative destruction are still beneficial for society as a whole, but with globalization more workers may feel threatened by actual or prospective job losses. Globalization may make it easier to form political coalitions opposed to beneficial economic change (St. Paul 2002).

The backlash against globalization and creative destruction can be explained by an increase in the degree of specialization, an increase in the range of products subject to international and domestic trade, and an increase in the frequency of economic innovations. More jobs are currently vulnerable to creative destruction, and some workers whose jobs are not currently vulnerable may become increasingly concerned about future vulnerability. Concern about future jobs and the increasing complexity of the economy may explain the protectionist sentiments of some workers whose jobs are not currently threatened. A finer division of labor and a more complex economy may make it increasingly difficult for some people to see that the additional goods generated by creative destruction dominate the jobs lost. Individual workers are understandably concerned about the security of their own jobs and incomes, but protectionists have also invoked nationalism and xenophobia in an attempt to strengthen their case against trade. Demagogic politicians have also attempted to exploit the fears of workers by promising policies that protect current jobs in their districts without acknowledging the higher economic cost of protection. Specialization by workers has net economic benefits, but it also creates a set of workers and voters who have a vested interest in opposing certain kinds of economic changes that would be beneficial for society as a whole.

Blocking Change Promotes Economic Stagnation

Globalization is a result of technical change that lowered costs of information and transportation and freer trade policies by governments. Technical change is permanent, but trade policies can be

changed. There is already an organized backlash against globalization in many countries, including the United States. Fast track negotiating authority for the president expired in 1994, and for eight years Congress rejected presidential requests to restore the authority. In August 2002 Congress finally granted the authority after a close vote in the House (215–212) and after trade adjustment assistance was liberalized in several ways. The Bush administration promised open trade, but it has already produced higher tariffs against steel and lumber. The earlier episode with globalization prior to World War I was followed by a policy backlash against freer trade and migration that lasted for decades and reached its peak with the infamous Smoot-Hawley tariff (O'Rourke and Williamson 1999).

One can find many examples of individual countries alternating between open economies that encourage innovation and closed economies that stifle it. Around the year 1000 China was wealthier and more technologically advanced than Western Europe (Maddison 1995). However, China turned inward, protected local monopolies, and resisted change, and by 1977 it had become one of the poorest countries in the world. Since reopening its economy, China has become one of the world's major trading countries, and it has grown at rates unmatched by countries in the modern era. Arab countries that were world leaders in science and technology centuries ago (*The Economist* 2002) have turned inward, blocked the flow of information (for example, relatively few books have been translated into Arabic) and adoption of new technology. With the exception of oil producers, the result has been low income and low rates of growth in the Arab world. Japan was extremely closed prior to the arrival of Commodore Perry in 1853 and the Meiji restoration. After opening the economy, growth accelerated and Japan caught up with Western economies in terms of income per capita (Prescott and Parente 1994).

Recent protectionist arguments in the United States have emphasized the shrinkage in employment in the manufacturing sector, including textiles, steel, and autos. However, the large and continuous decline in the percentage of the U.S. work force employed in manufacturing has been matched by a similar decline in Western Europe, Japan, and all the high-income countries in the world. These other countries have also experienced a decline in the relative size of agriculture and mining and an increase in the relative share of the services sector. The services sector is now the largest employer in nearly all the high-income countries. The decline in employment in manufacturing is not an American tragedy, but an integral part of the process of economic growth. The United States could protect more jobs in steel, autos, and textiles and return to the job structure of

1973, but the cost would be returning to the 1973 average income level that was approximately half of what it is today.

Forward-Looking Policies and Economic Growth

Trying to protect traditional jobs, firms, and industries is backward looking. A forward-looking or growth-oriented policy would recognize the importance of technical change, investment, and trade. It would recognize that innovations are the source of growth by rewarding new ideas, new techniques, and new products. Creative destruction is an integral part of growth, and a well-functioning labor market is important for growth. As new products and new techniques for producing old products emerge, supplies and demands for products change, and supplies and demands for particular labor skills also change. Workers must be prepared to learn new skills and migrate to the location of new jobs in response to market opportunities. High mobility has been an important component of a flexible U.S. labor market. In recent decades there has been a massive migration of domestic workers from the North to the South and West, and a large migration of foreign workers from lower-income countries to the United States. The United States has a comparative advantage in research and development that produces new technology. However, that advantage depends partly on continued immigration of scientists and engineers to the United States. For many years the majority of new doctoral degrees in science, engineering, and mathematics granted by American universities has been earned by foreign students, and many have remained in the country to work. Continued success in research and development depends on a liberal immigration policy. The possibility of outsourcing part of the production process gives firms greater access to workers with particular skills (*The Economist* 2003). Some firms have hired domestic specialists to perform particular tasks ranging from janitorial services to specialized research. Other firms have used international outsourcing either with other firms or with foreign divisions of their own firms. To the extent that international outsourcing is feasible for some service, such as computer programming, the relevant labor market for the firm is the entire world. The opportunity to hire services in the world labor market can lower costs for firms and increase national income, but it does make more local workers vulnerable to creative destruction.

The democratic political process contains some biases toward protectionism that must be overcome to promote economic growth. Special interest groups can block socially beneficial innovations more easily if the benefits from innovations are spread evenly across con-

gressional districts but the costs are concentrated in a few districts (Bacqir 2002; Weingast, Shepsle, and Johnsen 1981). It is generally believed that members of the House of Representatives are more protectionist on average than senators, and senators are more protectionist than presidents. The reason is that House members will ignore the adverse effects of tariffs in other districts of the same state and in other states. Senators will ignore adverse effects of tariffs in other states, but presidents must take into account both the adverse effects and the favorable effects of tariffs in the entire country. After Congress denied fast track negotiating authority to presidents for eight years, President Bush was granted fast track authority in August 2002. However, the voting margin was substantially greater in the Senate (64-34) than in the House (215-212). In the important textile producing state of North Carolina, a majority of the House members in President Bush's own party voted against granting him negotiating authority. Open-trade policies depend on successful negotiation between the president and his own Congress as well as between the president and foreign governments.

By definition of economic growth, the value of gains to some people exceeds the value of losses to other people. Persuading the public to accept the negative aspects of creative destruction would be easier if the gainers were better organized politically. Recently an organization of steel users has argued loudly against higher steel tariffs, although so far they have been unsuccessful in lowering steel tariffs. Also since economic growth provides net benefits, there exists potential for compensating losers such that everyone gains from growth. According to Acemoglu and Robinson (2000), extending the franchise to a broader share of the work force was one way that Western democracies persuaded workers to accept the regular reallocation of workers to jobs that is inherent in growth-oriented trade policies. Since World War II the United States has used various forms of trade adjustment assistance to workers displaced by trade liberalization. However, an unintended side effect of the program has been an increase in the average duration of unemployment. In August 2002 Congress renewed the assistance program and extended benefits to suppliers of firms who are directly harmed by imports, and health insurance benefits were offered to workers harmed by imports. There are proposals to compensate displaced workers without increasing the duration of unemployment, including a program of worker-financed severance pay (Rogerson and Schindler 2002). Reemployment accounts that compensate displaced workers after they have taken new jobs is another suggestion intended to avoid lengthening the spell of unemployment for workers. In industries where economic rents of

some workers are protected by seniority, limiting compensation to more senior workers could overcome the opposition to change by senior workers and also limit the budgetary cost of the compensation program (St. Paul 2002).

Conclusion

Creative destruction is a necessary component of the process of economic growth. The benefits from new technology, investment, and trade are not possible without a continuous reallocation of workers among jobs. The improvements in information and transportation associated with globalization have allowed a wider range of goods and services to be traded over longer distances. These innovations have produced enormous economic benefits, but they can be realized only if the labor market is responsive to changes in supply and demand. The recent wave of innovations has increased the number of jobs that are vulnerable to dislocation associated with creative destruction. Opposition to globalization has taken the form of policies designed to protect traditional jobs, but these jobs can be preserved only by giving up economic growth that generates creative destruction.

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