The Impact of International Trade on U.S. Employment Levels and Composition

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THE IMPACT OF INTERNATIONAL TRADE ON U.S. EMPLOYMENT LEVELS AND COMPOSITION

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ABSTRACT

The purpose of this paper is to provide background information and some statistics relevant to a discussion on trade policy. The focus is primarily on the impacts of imports on U.S. employment levels. The paper consists of four parts, the first three of which are theoretical in nature.

Parts 1 through 3 are successively: 1) the economics of international trade, 2) labor markets and the impact of international trade in U.S. labor markets, and 3) the issue of U.S. government intervention in markets. The fourth part of this paper examines the data collected for this study on imports, domestic production, and employment levels.

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INTRODUCTION

During the recent recession in the United States, two events, some say related events, caused considerable attention to be drawn to U.S. foreign trade policies. Relatively high U.S. unemployment rates (Table 1) were observed in some industries while imports of products produced by those industries were at high levels (Table 2).

Table 1. Annual U.S. unemployment rates

S.I.C*	Description	1980	1981	1982
22	Textile mill products	8.4	10.6	13.5
23	Apparel	11.6	11.5	15.4
33	Primary metals	9.8	8.5	19.8
34	Fabricated metals	9.9	9.6	15.6
37	Transportation	13.6	10.4	15.3
	Civilian labor force	7.1	7.6	9.7

* Standard Industrial Classification.

Because of media coverage, imports of autos from Japan and steel from many parts of the world are perhaps the most well-known cases of these events.

The immediate conclusion of many was that the imports were an important, if not the most important, cause of the observed unemployment levels. Subsequently, and currently, there are demands to alter U.S. foreign trade policies to "correct" this perceived problem.

Table 2. U.S. Production and Imports in Billions of Dollars

S.I.C	Description	Prod.	Imp.	Prod.	Imp.	Prod.	Imp.
22	Textile mill products	46.2	2.3	50.7	2.8	47.2	2.2
23	Apparel	*	7.0	*	8.3	*	8.4
33	Primary metals	134.0	19.0	138.0	21.6	107.0	15.4
34	Fabricated metals	116.9	4.7	123.1	5.3	114.0	5.2
37	Transportation	191.4	31.4	219.8	34.4	195.1	36.7

* unavailable

On the other side of the protectionist debate are U.S. industries which depend heavily on foreign trade. Spokespeople for sectors such as agriculture argue that if protectionism increases on a worldwide basis, farmers and everyone who deals with them will be adversely affected. Economic activity will decline and unemployment will occur. Thus, a complete analysis would require the examination of two nearly separate issues.

First, it would be necessary to investigate the relationship between international trade and the size and composition of the American labor force. Secondly, it would require a separate analysis of the total impacts on the U.S. economy of foreign trade so that all costs and benefits of trade could be identified and measured.

Then, and only then, could the costs and benefits of trade to the American labor force and other costs of trade be weighed against the benefits of trade. After all this, it would then be appropriate to examine alternatives to U.S. trade policies.

The purpose of the study is to provide background information for those involved in the discussion on trade

policy, outline in a detailed way the elements of a thorough analysis, and present preliminary statistics.

The paper has four parts. Parts 1 and 2 are mainly theoretical. In Part 1, the economics of international trade are discussed. Part 2 is an examination of the demand for labor, and the role international trade can play in the U.S. labor markets. Part 3 looks at the question of U.S. government involvement in international trade through policy options, and the general issue of governmental intervention in markets. Part 4 includes the empirical results associated with data collected for this study.

THEORY OF INTERNATIONAL TRADE

Economic theory is often used to argue for the unfettered flow of goods and services among nations. Each nation exports the goods for which it holds a "comparative advantage," and imports goods for which it has a "comparative disadvantage." A nation's comparative advantage arises from a combination of differences in technology and resource endowments, vis-a-vis its trading partners. Thus, goods which are relatively low cost to produce in nation "A", are exported to higher cost nations, while nation "A" imports products or goods with high domestic production costs.

This theory identifies at least three advantages which accrue from free trade.

First, under free trade, consumers have access to a much wider array of goods and services at lower prices than would be available under a closed or isolated market. For example, without trade American consumers would either not have available, or would have to pay much higher prices for, such products as bananas, coffee, cocoa, electronic equipment, optics, and small automobiles. Many of our trading partners would have to do without meat products, low priced cereals, soybean derivatives, high tech instruments, etc. In a real sense, free trade enhances the purchasing power of consumers worldwide.

Second, free trade leads to an efficient utilization of world resources. Through the exercise of comparative advantage and the resulting specialization of production, each country

devotes its resources to the production of goods which are produced most efficiently.

Third, trade creates economic interaction which results in economic development and growth in each participating country at a rate higher than would typically occur in isolation. For example, the purchase of U.S. agricultural commodities in Japan stimulates the U.S. economy, thereby increasing the demand for Japanese products in the U.S. market. The true effect of these economic interactions may be more easily understood when seen in negative terms. Figure 1 illustrates the history of economic activity of the 1930s, which occurred as countries practiced trade protectionism. As The Depression set in during 1929, each of the industrialized economies attempted to forestall economic collapse by erecting higher and higher barriers to trade. The consequence of this protectionism (or trade war), it is argued, was a spiraling down of the total world economy (Lawrence, 1983).

It is, of course, difficult to assign the responsiblity for having initiated the trade war of the thirties, but however it began, once underway, each country reacted to the other by retaliating with higher tariffs, quotas, and other protectionist devices. Trade volumes were continually cut, causing those industries which relied on trade to be further crippled. The struggle to shift economic hardship to one's neighbors resulted in heightened international distrust and tension before World War II. Since then, virtually every economic downturn has been accompanied by calls for protection of threatened domestic industries.

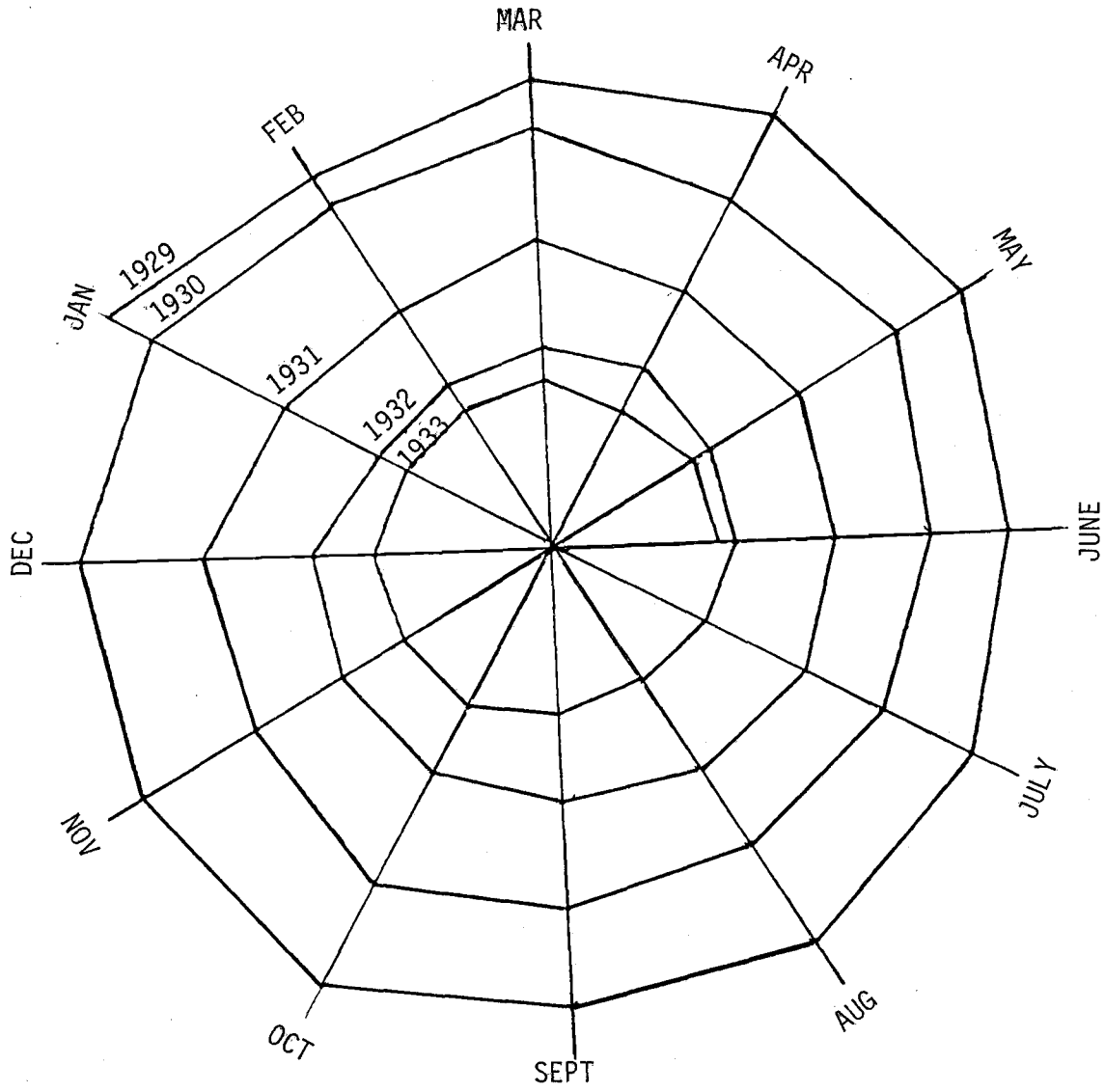

Figure 1. The contracting spiral of world trade.

Source: League of Nations, "World Economic Study, 1932-33," Geneva, 1933, page 8.

If the theoretical case for free trade is so clear, do nations impose protectionist measures? Most obviously, the world simply does not operate as smoothly as theory assumes. It is assumed, for instance, that resources are perfectly mobile, at least within any given country. That is, as one industry declines because of competition from imports, the resources devoted to that industry can be easily shifted to the growth sectors created by increased exports.

In reality, we know this is not true. Certain resources, particularly labor, are not fully adaptable to new production settings in new geographical settings. International trade which causes the decline of any industry or sector also may cause very painful adjustments; nations may either try to ease the pain of this adjustment, or prevent it altogether through protectionism.

In a dynamic world, comparative advantage or disadvantage can shift. Industries in one country, which were once strong growth, may find themselves facing intense competition from emerging industries in trading partner nations. The political costs associated with the demise of the once basic industry may be too great for policy makers to resist.

Using protectionist measures to ease the pain of adjustment to declining industries may backfire. A retaliatory protectionist move on the part of a trading partner may cripple an industry which has or is developing a comparative advantage. In this way, the costs of adjustment are actually shifted from the inefficient declining sector to the efficient growth sector.

Nations also may justify protectionism with the argument they are providing breathing room to an emerging "infant"

industry. They believe that a particular industry will develop comparative advantage if given the appropriate protected environment. Too often, however, these infant industries fail to mature and rely on long-term protectionism.

Also, countries may pursue noneconomic objectives, using protectionism as the means to those ends. For example, protectionism or protectionist measures are sometimes imposed in the name of national defense. Nations feel the need to maintain a viable production system for goods and services which they view to be essential in national emergencies. So, inefficiency is maintained in the name of preparedness and national security.

The national defense argument for protection occasionally goes beyond credibility. For example, this agreement has been used as a basis to protect domestic sugar producers. More recently, the footwear industry of America has appealed to Congress for increased protection because, it contends, a viable domestic footwear industry is essential to our national security.

In other instances, protectionism is imposed to protect the national health. Certain goods and services are deemed to be inappropriate or unacceptable for consumption. Many countries, for instance, have a zero import quota on certain kinds of drugs or narcotics. Although a black market may arise to serve the demand for these products, the official government position is that their importation threatens the national well-being.

Finally, nations often impose protectionist measures in retaliation for what they view as unfair trade practices of their trading partner(s). Recently, for example, The People's Republic

of China temporarily suspended purchases of U.S. grain in response to stricter U.S. import quotas on textiles.

A policy of retaliatory protectionism may lead to an insidious march of action and reaction leading to a fully developed trade war. There are some who believe that this turn of events may be approaching. Arguing that the United States is moving toward a strong protectionist posture similar to that of the Smoot-Hawley Tariff of 1930, the Far Eastern Economic Review (October 25, 1984) observed the following:

> "The European (Economic) Community, which is already sliding towards greater protectionism, will need little excuse to emulate the U.S. The U.S. move could be defended as giving it a weapon to demand market openings elsewhere--in Japan notably--and to retaliate if it does not happen. But that idea is about as convincing as the notion of a well-stocked armory being used for defense purposes only. Developing countries--again notably in Asia--which are liberalizing their own trade regimes, at no small economic and political cost, will almost certainly equip themselves with retaliatory capability too, just as the rest of the world did at the time of Smoot-Hawley."

Although there are cases where societal benefits from trade theoretically outweigh the costs, the benefits and cost are not identical. The benefits from trade often tend to fall broadly across society. The costs often fall heavily on a relative few. Each member of society realizes long-term benefits from the efficient utilization of resources. But these benefits to the individual are difficult to measure and are only vaguely felt. The costs of a lost job, however, are very immediate and precise. Thus, even though most economists argue that free trade best serves the global community, nations persist in creating barriers to the realization of such a world.

EMPLOYMENT IMPACTS OF INTERNATIONAL TRADE

The demand for labor, as an input in any production process, is said to be derived from the demand for the product(s) produced by that labor. The demand for labor in the steel industry is a direct function of the demand for steel. And the demand for steel is a function of the demand for the products that are made from steel.

So, when economic growth gives rise to increased demand for autos, buildings, or bridges, the derived demand for steel is transmitted back through these market-production linkages in an increased demand for steel industry labor. But, the final product demand is not the sole determinant of labor demand.

Extending this simplest case, trade can influence employment through its impact on the demand for the products of a particular sector or industry in a particular country. If products from abroad begin to displace domestic production in the domestic market, demand for labor in the domestic industry falls while demand for labor in the overseas industry rises. Returning to the steel industry, it has been widely held that competition from imports has reduced the demand for domestically produced steel and, in turn, has reduced steel industry employment in the United States.[1/] This is the simple explanation for employment declines inmany industries facingimport competition.

1/ Reductions in the demand for labor are theoretically transferred to the labor force as reductions in the real wage. However, it is not hard to see how reduction in the demand for labor can lead to unemployment as well, particularly if wages are not permitted to decline (in the presence of labor unions).

As with the most simple explanations of complex relationships, the above is, at a minimum, incomplete. In a more thorough assessment of the employment impacts of trade, several additional linkages must be considered. One, of course, is that imports may reduce the derived demand for labor and exports increase it. Some or all of the negative employment effects of imports may be offset by the positive impacts of exports. The pragmatic problem here is that those workers released from the production of import competitive products may not be able to find employment in expanding export oriented industries. An unemployed steelworker in Youngstown, Ohio, probably is not employable in the microprocessor industry in San Jose, California.

Two, it is important to recall that many goods traded internationally are not final goods, but intermediate or capital[2/] goods. They are combined with labor to produce final goods. In these instances, imports may actually create employment. The importation of steel for use in domestic auto production may increase the demand for labor in the auto industry, but decrease the demand for labor in the domestic steel industry. If these goods are complementary to labor, then their availability at low relative prices tends to increase the demand for labor. The import of intermediate or capital goods may increase demand for labor in the industry which utilizes them, but there may be a decrease in demand for labor in domestic

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2/ In this context, "capital goods" are machinery, equipment, etc.

industries which also produce intermediate or capital goods, if such industries exist.

Some imported final goods may contain domestically produced and exported intermediate goods. Thus, increased demand for these final good imports can result in increased derived demand for labor in exportable intermediate goods industries. Imported textiles may be made from domestically produced and exported cotton. Thus, increased textile imports may decrease the demand (derived) for labor in domestic textile production while increasing the demand (derived) for domestic cotton production and for cotton production labor. Korea, for example, imports U.S. cotton and "adds value" with low cost labor by converting our cotton to cloth to be sold in the U.S. market.

Sorting out the net effect of these various import-induced shifts in labor demand is a complicated process, so the remainder of this report will rely largely on the more simplistic, direct or first-round approach to evaluating trade impacts on employment. Still, it is important to remain cognizant of the much more complex relationships underlying any discussion of domestic employment and the consequences of trade.

As suggested, increased trade and sectoral employment changes have occurred simultaneously. There is a natural tendency to assume that trade is the only important variable responsible for changes in employment. Often, however, this is not the case. Even in the absence of trade, industries grow, mature, and ultimately begin to decline. This dynamic process is reflected in the labor market.

Reductions in sales and the resultant unemployment and/or declines in wages for a domestic industry may result, at least in part, from two market related effects. These two effects are illustrated in Figure 2. First, basic changes in the general economy may lead to reduced demand for the product(s) of the industry in question. The completion of the interstate highway system reduced the demand for concrete and steel. Today, new cars are sold primarily as replacements, rather than to new consumers, since almost every family now has a car. As a nation and its consumers reach at least some interim level of economic maturity, the growth in demand for certain products slows, often stagnates, and sometimes demand declines. Figure 2 illustrates the case of a decline in demand for product "X". Over time, demand shifts left from D_t to D_{t+1}. If costs of production (supply) remain unchanged, the consumption and output of "X" will drop from Oq_t to Oq'_t. And if this reduced output requires fewer workers, employment in this industry will decrease.

Further, as an industry matures, the costs of production may actually rise. Plant and equipment may become antiquated, labor wage rates and management salaries may rise, and (or), the cost of extracting basic resource inputs (as in the case of steel) may increase.[3/] This effect is shown in Figure 1 as a shift in supply from S_t to S_{t+1}. The result, combined with the demand

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3/ In extractive industries, the most accessible, least cost resources are extracted first. America's high grade, near-surface iron ore was mined first. As these low cost minerals were used up, the input cost of iron ore for steel manufacturing rose. At the same time, steel-making capital began to wear out and labor wage rates rose.

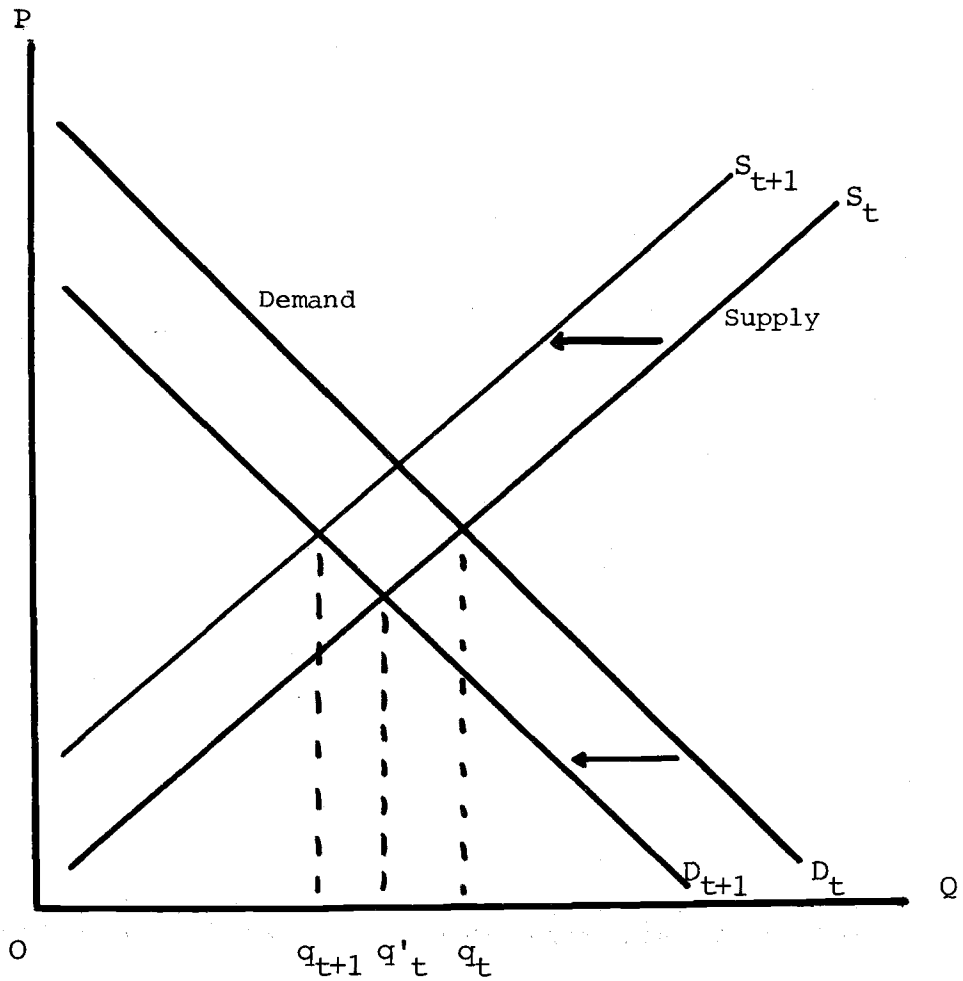

Figure 2. The output effects of shifts in demand and supply.

shift, is an added drop in output from Oq_t to Oq_{t+1}. Thus, total output has declined by $Oq_t - Oq_{t+1}$ leading to a decrease in the (derived) demand for labor for the production of "X".

In some cases where this scenario has occurred (or is occurring), the industry's management attempts to offset rising production costs with investment in new production techniques. Often these techniques involve the substitution of capital for labor. The unemployment impact may be larger than the corresponding output impact.

If an industry caught in this dilemma is also experiencing strong competition from imports, the output and employment impacts may be exacerbated. Competitive imports cause the demand faced by the domestic produce to further decrease (shift left).[4/] The important point is that in a mature economy, it is inappropriate to conclude that falling demand, which results in falling employment, can be entirely assigned to any one cause (e.g., import competition). Rather, changes within each industry must be evaluated in terms of a much more complex set of underlying structural dynamics.

POLICY AND UNEMPLOYMENT

In two sections of this report, the general importance and value of foreign trade and its impact on the labor force have

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4/ Just as imports can compound the problems of a declining domestic industry, exports can accelerate economic growth in a vital or expanding industry. Exports serve to increase demand (left to right). The importance of low cost raw or immediate inputs can reduce production costs and thus shift supply to the right as well. Output and employment may both increase.

been discussed. However, not all individuals and groups benefit from foreign trade. In this section, governmental intervention to assist those negatively impacted by foreign trade will be examined.

First, the general issues associated with governmental interaction in market activities will be discussed. Second, the impact of foreign trade on certain sectors of U.S. currency will be specifically examined and the government's response will be detailed.

Actions taken by society to solve problems in the trade case are similar to others taken by the U.S. government over many years to deal with economic losses faced by members of society. These other instances are exemplified by (but are not limited to):

1. Interstate Commerce Act of 1887 - employee compensation in a railroad merger or other consolidation;
2. Federal Communications Act Amendments of 1943 - employee compensation in the consolidation or merger of communications carriers; and
3. Milwaukee Railroad Restructuring Act of 1979 - workers laid off from the Milwaukee Railroad, Disaster Relief Act of 1974 - etc.

What these and a plethora of other acts have in common is that some actors (businessmen and individuals) have been indemnified from a broad range of negative economic events. These Acts, which are similar to insurance policies for those covered, are typically of three types.

The first type is strictly compensatory in nature. That is, there is no attempt to prevent the negative economic event from occurring (disaster relief programs perhaps being the most obvious example).

The second type of program, although not often thought of in the same terms as the first, is those Acts which attempt to preclude the cause without compensation to those affected. A good example here would be one mentioned earlier, the banning of certain imports (heroin, for instance). Any law which strictly precludes certain types of economic activity would fall into this category.

Finally, there are numerous cases where both kinds of actions are precipitated under a single piece of legislation. For this report, the Trade Act of 1974 is perhaps the best example. Included in that Act are provisions for both compensation and provisions for precluding imports which might have negative economic consequences.

Standard economic treatment in these cases (interfering in the market) involves the examination of two separate issues. First, there needs to be some determination with respect to the total costs and benefits of an economic act. Secondly, the distribution of those costs and benefits among individuals should be examined. In the welfare decisions (What should our reaction to imports be?), the above two issues are central. Identifying the appropriate criteria, however, is not the same as coming to any conclusions.

For instance, an intuitive approach here would be to attempt to take actions which give the greatest net benefits, and then, through other means, compensate those who might lose in the process. Adoption of this policy, however, requires being aware that the act of compensation itself is not a costless process. Economists and others are increasingly and correctly including

the costs of intervention in their calculations when discussing the possibility of "correcting" some problem associated with laissez-faire.[5/] It would require, at a minimum, identifying all who did lose and estimating their losses. Further, it would require some determination of which losers are deemed worthy of compensation and which are not (are all losers to be compensated? Should we compensate heroin dealers who lose profits because we decide their product is illegal?).

It could be that a policy might exhibit benefits net of the compensation issue and still be prohibited. On the other hand, a policy which on the surface appears to have negative net benefits may be encouraged because it leads to "salutary" distributional effects. For example, a particularly depressed segment of the population receives substantial benefits. What this means, for instance, is that those provisions in the Trade Act of 1974 for controlling import levels might be invoked rather than those calling for compensation even when the net benefits of unrestricted trade are positive.

These are the types of dilemmas that face economists, policymakers, and society in general. There are lengthy debates about which acts to allow and which to attempt to prevent. After that decision, it must be decided which injured parties (those not allowed to do something they wish to do, those negatively

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5/ For example, in a recent paper regarding the management of the U.S. fisheries resources, J.L. McHugh (1978) argued with respect to a particular management tool. "Correction of these difficulties would be costly, perhaps too costly to justify anticipated benefits."

impacted by others' actions, or even those unlucky enough to be negatively affected by their own actions) should be compensated.

The above means that the process should begin with identifying total costs and benefits which accrue to the United States from foreign trade. The thought of attempting such a project is staggering, but in its absence, the U.S. government is being pressured to act. An article in The Wall Street Journal is typical of the pressures being brought to bear on the U.S. government to "do something about the problem of imports:"

> "After a nine-month investigation of Houdailles's (a Florida-based machine toolmaker) a Washington law firm turned up a mountain of allegations of unfair Japanese trade practices: that the Tokyo Government had established an 'international cartel' to help its machine-toolmakers, had showered producers with research grants and tax breaks, and (this was the clincher) had channeled $100 million to the industry from a kitty financed with revenues from bicycle race wagering...even uncovered what he considers the 'perfect' remedy for the U.S. industry: Under an obscure section of the tax code, the President has the power to deny the U.S. investment tax credit for the purchase of any Japanese machine-tool product."

Although comprehensive studies of the issues studied in this paper are missing, there is considerable research in the general area. In 1972, S. Magee estimated the value of net benefits to eliminating all U.S. restrictions on trade would be slightly less than $258 billion.

In a recent paper, Lawrence shows that a considerable share of the decline in manufacturing employment in the United States in the 1970s is attributable to a decline in demand by U.S. consumers for products of the manufacturing sector. His research indicates that foreign trade as a whole, considering both exports and imports, actually led to an increase in manufacturing employment in the United States between 1973 and 1980. Since

1980, however, Lawrence indicates that approximately one-third of all manufacturing jobs lost in the United States can be attributed to foreign trade. This loss of manufacturing employment, although attached to foreign trade, was mostly caused by the rapid appreciation of the U.S. dollar and not to a change in other factors affecting U.S. competitiveness in world markets.

In general, empirical work suggests that on the whole and for specific industries that have been examined independently, the net benefits of the U.S. participation in foreign trade are positive. This being the case, the final issue would be to examine the distribution of the costs and benefits, and this is an even more staggering task than the estimation of net total benefits.

Many studies [Krueger (1967 and 1980), Frank (1977), Grossman (1982), Walters (1982)] have looked at this very issue. Typically, these studies are most concerned with the impact of imports on U.S. employment levels by industry. Less work has been done on the impacts to U.S. businesses (apart from the labor force issue). The result of this body of research indicates that significant import levels in certain industrial classifications have had inputs which range from insignificant to extremely large on employment levels. Some of the industries most highly impacted have been: radio and television, manufacturers (Grossman, 1982) woolen mills, apparel, leather and leather products (Krueger, 1980).

In response to these documented losses to the U.S. labor force, and losses perceived by U.S. businesses, the provisions of

the Trade Act of 1974 were invoked 2,518 times in its first five years, covering some 582,226 workers, and $8,864.2 million in compensation was authorized. In the first four years, the provisions for business compensation was invoked 283 times and $114.4 million was disbursed (Richardson, 1982). Estimates of the costs (losses to consumers) and benefits (increased profits - higher wages, etc.) of action taken under the Act to limit imports in certain industries are not as readily available, although there is no reason to suspect they are not large.

EMPIRICAL RESULTS

The principal data collected for this study are for 1975 to 1982. The complete data set is found in Appendix 1. Data were collected on employment, unemployment, production, imports, and exports for the Standard Industrial Classification (S.I.C.) codes 20-38 inclusive. These codes include all U.S. manufacturing except S.I.C. 39 (miscellaneous). Each of these two-digit codes is identified on the first page of Appendix 1.

This section includes a discussion and summary of these statistics. The first important point is that much of the discussion will examine changes between 1975 and 1982. Any analysis of change over time is importantly affected by the particular dates selected for analysis. We do not believe that any substantive differences would emerge if we were to look at any other set of data over roughly the same period.

Both1975 and 1982 were severe recessionyears. RealGNP declined by 1.2% in 1975 and 1.9% in 1982. Greater declines in GNP were only in 1946 (-14.7) and 1933 (-2.2), the end of World

Table 3. U.S. imports by S.I.C. codes for 1975 in millions of dollars.

S.I.C.	Imports
Wheat	$ 5.0
Corn	18.8
20	6,690.1
21	37.7
22	1,200.4
23	3,074.3
24	1,726.3
25	428.3
26	2,751.7
27	319.2
28	3,224.9
29	7,754.0
30	1,389.7
31	1,368.9
32	1,018.0
33	8,061.3
34	2,191.0
35	5,731.8
36	5,716.3
37	13,914.0
38	1,710.6

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

Table 4. U.S. imports by S.I.C. codes for 1982 in millions of dollars.

S.I.C.	Imports	Percent Change from 1981	Percent Change from 1975-1982
Wheat	$ 9,561.0	-17.77%	42.91%
Corn	227.0	6.27%	502.12%
20	2,225.0	-19.85%	85.35%
21	8,432.0	2.19%	174.27%
22	3,059.0	-20.94%	77.20%
23	1,354.0	.39%	216.13%
24	5,468.0	-4.98%	98.71%
25	547.0	-18.85%	71.37%
26	7,632.0	-9.46%	136.66%
27	15,643.0	-5.05%	101.74%
28	2,937.0	-3.58%	111.34%
29	4,496.0	5.67%	228.44%
30	2,398.0	-11.26%	135.56%
31	15,352.0	-28.91%	90.44%
32	5,186.0	-1.96%	136.70%
33	14,994.0	-14.76%	161.59%
34	20,097.0	3.64%	251.57%
35	36,657.0	6.41%	163.45%
36	5,379.0	-7.07%	214.45%
37	36,657.0	6.41%	163.45%
38	5,379.0	-7.07%	214.45%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years). Bureau of Industrial Economics.

Table 5. U.S. exports by S.I.C. codes for 1975 in millions of dollars.

S.I.C.	Exports
Wheat	$ 5,162.2
Corn	4,447.8
20	5,328.3
21	401.2
22	1,212.8
23	621.3
24	1,617.0
25	149.9
26	2,367.8
27	555.5
28	8,599.1
29	1,138.4
30	1,268.9
31	227.2
32	878.1
33	3,784.5
34	3,979.8
35	19,898.8
36	6,635.5
37	17,427.6
38	3,478.0

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

Table 6. U.S. exports by S.I.C. codes for 1982 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Imports	Percent Change from 1981	Percent Change from 1975-1982
20	$11,079.0	-13.97%	107.93%
21	1,287.0	1.72%	220.79%
22	1,766.0	-25.70%	45.61%
23	1,271.0	-23.67%	104.57%
24	2,863.0	-6.19%	77.06%
25	564.0	-9.93%	276.25%
26	4,210.0	-11.72%	77.80%
27	1,358.0	4.12%	144.46%
28	20,021.0	-7.98%	132.83%
29	6,402.0	59.85%	462.37%
30	2,631.0	-9.67%	107.34%
31	498.0	-1.72%	119.19%
32	1,860.0	-10.80%	111.82%
33	4,872.0	-44.40%	28.74%
34	7,692.0	4.14%	93.28%
35	38,919.0	-9.06%	95.58%
36	18,173.0	-1.19%	173.88%
37	29,702.0	-12.16%	70.43%
38	8,371.0	-.78%	140.68%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years). Bureau of Industrial Economics.

War II, and at the height of The Depression. Between 1975 and 1982, GNP in constant 1972 dollars increased by $253.8 billion (approximately 21%).

Shipments from manufacturing rose by $1.06 billion in nominal dollars between 1975 and 1982 for those industrial classifications included in this study (Tables 7 and 8).[6/] This is a 124% increase over 1975 and is a substantial real increase (the implicit GNP deflator for this period grew by only 81%). Total employment in these manufacturing industries increased by approximately 1.2 million persons. Both imports and exports grew substantially during this period in real terms; imports grew slightly faster. From 1975 to 1982, exports in S.I.C. classes 20-38 grew by 105.5% while the appropriate deflator grew by 99.3%. In nominal dollars, in 1975 exports were equal to 9.3% of domestic production for S.I.C. codes 20-38. In 1975, imports in nominal dollars were equal to 8.0% of domestic production. In 1982, those same figures are 86% for exports and 8.5% for imports.

In general, three things seem striking about the above results. First, U.S. manufacturing industries made robust gains in the real value of their shipments. These results seem even more surprising when contrasted to the impression held by many that this was a period of widespread industrial malaise in the United States. Secondly, while imports and exports grew substantially in real terms, their relative importance, measured as a percent of industry shipments, remained nearly constant

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6/ The S.I.C. codes are defined on Page 1 of the Appendix.

Table 7. Shipments (production) by U.S. manufacturers for S.I.C. codes for 1975 in millions of dollars.

S.I.C.	Production
20	172,157.6
21	8,059.9
22	31,063.6
23	31,430.2
24	25,094.5
25	12,372.8
26	41,711.5
27	38,125.1
28	89,721.2
29	69,484.6
30	27,191.2
31	6,323.0
32	27,073.9
33	80,817.0
34	68,738.7
35	95,752.5
36	64,213.9
37	113,500.6
38	22,058.7

Source: Annual Survey of Manufacturers (various years), U.S. Census Bureau.

Table 8. Shipments (production) by U.S. manufacturers for S.I.C. codes for 1982 in millions of dollars with the change from 1975 (percent), the change from 1975 (millions), and the change from the previous year.

S.I.C.	Production 1982	Percent Change from 1975-1982	Change from 1975-1982	Percent Change from 1981
20	$277,324.0	61.09%	105,166.4	1.91%
21	14,455.0	79.34%	6,395.1	10.09%
22	47,455.0	52.00%	16,153.4	-6.06%
23				
24				
25				
26	78,989.0	89.37%	37,277.5	-1.55%
27				
28	172,803.0	92.60%	83,081.8	-4.24%
29	206,430.0	197.09%	136,945.4	-7.90%
30	50,163.0	84.48%	22,971.8	-5.66%
31				
32	44,005.0	62.54%	16,931.1	-8.32%
33	107,031.0	32.44%	26,214.0	-24.60%
34	113,967.0	65.80%	45,228.3	-7.84%
35	180,612.0	88.62%	84,859.5	-10.38%
36	140,550.0	118.88%	76,336.1	.25%
37	195,370.0	72.13%	81,869.4	-4.80%
38	48,873.0	121.56%	26,814.3	1.20%

Source: Annual Survey of Manufacturers (various years), U.S. Census Bureau.

(exports dropped by about .7% and imports increased by about .5%), although the distance was narrowing, exports continued to exceed imports for all manufacturing industries in total.

Finally, and perhaps most surprising of all, total employment in U.S. manufacturing grew by more than one million persons. This fact is extremely important if certain national policies to stop the generally assumed decline in manufacturing employment in the U.S. are considered. In fact, between 1975 and 1982, this employment grew substantially.

All the above statistics are for the most aggregated level of data collected for this study. As attention is turned from all of manufacturing to the two-digit S.I.C. industries individually, a different picture emerges. A quick look at a few of these industries reveals some important results. In 1982, the primary metals industry (33) had lost nearly one fourth of its labor force (more than 300,000 jobs). Interestingly, as late as 1979, this industry had an employment level above that in 1975. Industry shipments in 1981 were approximately equal to those in 1975 in real terms, while both imports and exports showed real increases of about the same magnitude. In 1982, the primary metals industry was devastated. Domestic production dropped in nominal terms by nearly one-fourth. In this one year, employment dropped by nearly 20%. Exports declined by almost 45%, and importantly, imports declined by nearly 30%. However, from 1975 to 1982, imports, as a percent of production, increased from almost 10% to more than 14%. As bad as these results are, 1983

Table 9. U.S. total and U.S. manufacturing total employment (million), unemployment (percent), and unemployed level (thousand) for 1975 by S.I.C. codes.

S.I.C.	Employment Level	Percent Unemployment	Unemployment Level
Ag. Prod.	4,542.1	3.60%	111.0
20	1,701.0	10.40%	198.0
21	69.0	13.10%	10.0
22	745.0	13.80%	119.0
23	1,214.0	14.50%	206.0
24	606.0	12.90%	90.0
25	500.0	12.20%	70.0
26	610.0	9.20%	62.0
27	1,267.0	6.30%	85.0
28	1,148.0	8.60%	81.0
29	229.0	3.00%	7.0
30	589.0	13.30%	90.0
31	246.0	12.70%	36.0
32	644.0	9.90%	71.0
33	1,227.0	10.40%	142.0
34	1,350.0	11.60%	177.0
35	2,212.0	8.60%	209.0
36	1,880.0	8.00%	263.0
37	1,850.0	12.90%	274.0
38	151.0	8.00%	13.0
CIVILIAN LABOR FORCE			
Unemployment Level			7,929.0
Percent Unemployment		8.50%	
Employment Level	85,536.0		

Source: Annual Average Unemployment Rates and Levels 1975-1983. Current Population Survey Data, U.S. Department of Labor. Bureau of Labor Statistics--July 1984.

Table 10. U.S. total and U.S. manufacturing total employment (million), unemployment (percent), and unemployed levels (thousand) for 1982 by S.I.C. codes, and the percent change in each from the previous year and from 1975.

	Employment Level	Percent Change from 1981	Percent Change from 1975	Percent Unemployment	Percent Change from 1981	Unemployment Level	Percent Change from 1981
Ag. Prod.	3,401.0	2.13%	-25.12%	14.70%	21.49%	260.0	29.35%
20	1,733.0	-2.64%	1.88%	11.80%	18.00%	232.0	17.77%
21	74.0	7.25%	7.25%	10.30%	37.33%	9.0	50.00%
22	688.0	-7.53%	-7.65%	13.40%	27.62%	107.0	22.99%
23	1,150.0	-8.87%	-5.27%	15.30%	35.40%	207.0	28.57%
24	627.0	-5.43%	3.47%	17.20%	36.51%	114.0	34.12%
25	461.0	-9.61%	-7.80%	15.20%	74.71%	80.0	66.67%
26	689.0	-5.75%	12.95%	7.60%	40.74%	57.0	39.02%
27	1,621.0	1.69%	27.94%	7.00%	34.62%	116.0	33.33%
28	1,213.0	-5.60%	5.66%	7.20%	41.18%	94.0	36.23%
29	229.0	-1.29%	.00%	5.30%	32.50%	13.0	30.00%
30	643.0	-3.45%	9.17%	13.20%	22.22%	98.0	22.50%
31	251.0	-3.09%	2.03%	17.20%	31.30%	52.0	33.33%
32	539.0	-14.72%	-16.30%	13.20%	53.49%	80.0	35.59%
33	925.0	-19.43%	-24.61%	19.80%	132.94%	227.0	112.15%
34	1,264.0	-11.17%	-6.37%	15.60%	62.50%	230.0	52.32%
35	2,558.0	-9.23%	15.64%	11.50%	94.92%	326.0	86.29%
36	2,295.0	-.95%	22.07%	9.60%	41.18%	243.0	42.94%
37	1,931.0	-8.35%	4.38%	15.30%	47.12%	331.0	37.92%
38	600.0	-1.48%	297.35%	9.20%	80.39%	49.0	48.48%
				CIVILIAN LABOR FORCE			
Unemployment Level						10,678.0	29.97%
Percent Unemployment				9.70%	27.63%		
Employment Level	99,526.0	1.23%	16.36%				

Source: Annual Average Unemployment Rates and Levels 1975-1983. Current Populations Survey Data, U.S. Department of Labor. Bureau of Labor Statistics--July 1984.

showed a continuing deterioration. Another 120,000-plus jobs were lost and imports as a percent of production increased.

Similar results, although not as devastating, can be found for the textile (22) and apparel (23) industries. Employment declines from 1975-1982 are more than 120,000 (averaged over 6%) for these two combined. Again, however, nearly all this decline occurred in 1982. In fact, employment levels in the apparel industry were nearly 4% larger in 1981 than they were in 1975. Production data for these two industries are not available for 1982 and later years. Real production showed steady but small declines from 1978 to 1981, while nominal growth for both was about 60%. Since 1982 production figures are not available, import and export levels cannot be compared. Similarly 1982 also was a bad year for the primary metals industry. Exports in both industries declined by nearly one fourth, and imports declined in textiles by approximately 20%, but increased by about 2% in apparel. Again, as in the primary metals industry, these general results seem to be continuing in 1983 and 1984.

Other industries which show declines in employment between 1975 and 1982 are fabricated metals (34), more than 6%, stone, clay, and glass products (32), down more than 16%, furniture and fixtures (25), down about 8%. Only one of these had shown declines before 1982; stone, clay, and glass employment was down by almost 2%. Industries 34 and 32 have seen a small increase in the relative importance of imports, while 25 showed a growth in the relative importance of exports to imports.

On the other side of the coin, with respect to employment, are 12 of the 19 industries which showed employment growth

between 1975 and 1982, some spectacular.[1/] Five industries grew by more than 10%, two by more than 20%. Printing and publishing (27) grew by more than 400,000 new jobs. Both of these industries show significant real gains in production, exports, and imports, except 27 shows a real decline in imports.

Of the remaining industries showing growth in employment, those which increased by more than 10 percent include: machinery (35), up by more than 15% (more than 300,000 jobs) and paper and allied products (26), which grew by almost 13% (just under 80,000 jobs).

Although manufacturing employment in the U.S. grew by more than one million workers between 1975 and 1982, it is obvious that these increases were not spread uniformly. There are significant disparities. Real hardship is found especially in textiles, apparel, and primary metals. In each of these hardest hit industries, imports grew significantly as a percentage of production between 1975 and 1982, and indications are that all these trends will continue into 1984. There is unassailable logic to the argument that imports are leading the decline in employment in certain U.S. industries.

Little else can be offered about the import problem for a number of reasons. First, although considerable time and effort has been spent on data collection for this study, the level of

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[1/] Number 38, instruments-related products, shows the most spectacular growth of all, an increase of almost 300% between 1975 and 1984. This is attributable to what seems to be a statistical change in the way in which this industry is defined. Between 1976 and 1977, employment increased from 155,000 to 520,000 and grew steadily since. Since 1977, the industry shows an increase of about 15%.

aggregation (2-digit S.I.C. codes) is quite coarse. There is likely as much variation among industries within the 2-digit codes as there was noted in this paper between all manufacturing and the individual industries represented by the 2-digit codes. The 2-digit codes should probably be broken into 3- or even 4-digit classifications before anything else can be determined. Such an endeavor would be extremely time-consuming and expensive.

Secondly, a complete analysis would require a separation of the effects of the 1982 recession from other effects. As noted, the latest recession was more severe than any since the end of World War II and the depression of the 1930s. There is every reason to believe that many of the changes documented in this paper are attributable to the recession. Once past, several of these negative consequences would begin to reverse. Just like other economic variables, the recession effects are likely to be widely varied within the industries looked at here. Separating out the effects of the recession would be important and extremely difficult.

Finally, this report suffers as do most of its type by the failure to consider changes of other important variables (besides imports and exports) and their impacts on employment. The mere juxtaposition of import-export and employment statistics (Kellner, 1984) is simply not sufficient. Detailed theoretical and practical analysis is required on such variables as the U.S. and worldwide demand for products of the industries in question and U.S. and worldwide substitution of capital for labor through technological development. We have been unable to find

any comprehensive study of employment change over time which addresses more than a few of these concerns.

Even if significant employment loss from import competition was documented for an individual industry at the 4-digit S.I.C. level, it remains problematical to suggest the adoption of U.S. foreign trade or domestic policy to either prevent the imports or preserve those jobs.[8/] As was pointed out in the more theoretical sections of this report, international trade usually takes place because of certain comparative advantages. Protecting industries which cannot compete on international markets requires serious thought. Also, protectionism for whatever reason has been seen to lead to further levels of protection, often to the detriment of all. Foreign trade is seen as an economic and political complex requiring considerable time and resources to understand. The analysis to draw firm conclusions is simply not available.

SUMMARY

The Trade Act of 1974, and its import control and compensation provisions and other trade policy issues, tariffs, quotas, etc., should be seen in the larger context of a societal desire to insure its citizens against negative economic consequences of many types. In most cases, this desire has led

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8/ Nothing being said here should be construed as saying that the U.S. government should do nothing to ease the real hardships ofeitherlongterm unemployment or completejob loss. There currently exist many options other than importrestriction and industry or firm subsidy to accomplish this.

to the enactment of laws which attempt to preclude certain acts and provisions to compensate for losses which are incurred. Many examples of these types of laws and actions taken under their auspices can be cited. What cannot often be cited is a clear understanding of who the winners and losers are, whether there are net benefits or losses, and whether the action taken is effective.

Finally, in the foreign trade case, it appears that actions are often taken (import quotas, etc.) in the face of real economic hardships, associated with long-term and structural unemployment in several declining industries (the steel industry is a good example) even when a thorough understanding of the issues does not exist. Thus, better understanding of the issues, and more information with respect to the costs and benefits are clearly in order. Without this additional information, actions taken to alleviate perceived problems may in fact create situations worse than the original. Actions, no matter how pure the motive, can be wrong.

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APPENDIX

On the following pages you will find the data collected for this study. It includes information on the following: 1) imports and exports by value; 2) employment and unemployment levels (the actual numbers employed and unemployed), and the unemployment rates; and 3) production.

All the data have been collected when available for 1975-1983. When appropriate, the data set also will include the percentage change in each value from year to year, and the cumulative percentage change from our base year, 1975.

S.I.C.	Description
20	Food and Kindred Products
21	Tobacco Products
22	Textile Mill Products
23	Apparel, other Textile Products
24	Lumber and Wood Products
25	Furniture and Fixtures
26	Paper and Allied Products
27	Printing and Publishing
28	Chemicals, Allied Products
29	Petroleum and Coal Products
30	Rubber, Misc. Plastic Products
31	Leather, Leather Products
32	Stone, Clay, and Glass Products
33	Primary Metals Industries
34	Fabricated Metal Products
35	Machinery, Except Electric
36	Electric, Electronic Equipment
37	Transportation Equipment
38	Instruments, Related Products
39	Misc. Manufacturing Industries

U.S. Imports by S.I.C. codes for 1975 in millions of dollars.

S.I.C.	1975 Imports
Wheat	$ 5.0
Corn	18.8
20	6,690.1
21	37.7
22	1,200.4
23	3,074.3
24	1,726.3
25	428.3
26	2,751.7
27	319.2
28	3,224.9
29	7,754.0
30	1,389.7
31	1,368.9
32	1,018.0
33	8,061.3
34	2,191.0
35	5,731.8
36	5,716.3
37	13,914.0
38	1,710.6

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. imports by S.I.C. codes for 1976 with the percent change from previous year in millions of dollars.

S.I.C.	1977 Imports	Percent Change Previous Year
Wheat	$ 3.4	-32.00%
Corn	11.0	-41.49%
20	6,838.6	2.22%
21	49.9	32.36%
22	1,549.4	29.07%
23	4,246.5	38.13%
24	2,659.0	54.03%
25	624.0	45.69%
26	3,395.2	23.39%
27	366.4	14.79%
28	4,272.8	32.49%
29	8,920.1	15.04%
30	1,645.0	18.37%
31	2,252.5	64.55%
32	1,207.2	18.59%
33	8,719.8	8.17%
34	2,536.4	15.76%
35	6,385.1	11.40%
36	8,970.0	56.92%
37	17,388.1	24.97%
38	2,269.3	32.66%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. imports by S.I.C. codes for 1977 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Imports	Percent Change Previous Year	Percent Change from 1975
Wheat	$ 3.3	-2.94%	-34.00%
Corn	12.0	9.09%	-36.17%
20	7,427.5	8.61%	11.02%
21	48.4	-3.01%	28.38%
22	1,653.1	6.69%	37.71%
23	4,763.7	12.18%	54.95%
24	3,570.4	34.28%	106.82%
25	766.4	22.82%	78.94%
26	3,667.3	8.01%	33.27%
27	391.1	6.74%	22.53%
28	4,851.8	13.55%	50.45%
29	9,197.3	3.11%	18.61%
30	1,938.5	17.84%	39.49%
31	2,479.7	10.09%	81.15%
32	1,505.0	24.67%	47.84%
33	10,703.3	22.75%	32.77%
34	3,093.1	21.95%	41.17%
35	7,597.3	18.98%	32.55%
36	10,287.1	14.68%	79.96%
37	20,771.8	19.46%	49.29%
38	2,843.2	25.29%	66.21%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. imports by S.I.C. codes for 1978 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Imports	Percent Change Previous Year	Percent Change from 1975
Wheat	$ .1	-96.97%	-98.00%
Corn	10.6	-11.67%	-43.62%
20	8,670.5	16.74%	29.60%
21	52.6	8.68%	39.52%
22	2,091.6	26.53%	74.24%
23	6,197.5	30.10%	101.59%
24	4,506.5	26.22%	161.05%
25	990.4	29.23%	131.24%
26	4,131.9	12.67%	50.16%
27	537.9	37.54%	68.52%
28	6,273.1	29.29%	94.52%
29	8,104.1	-11.89%	4.52%
30	2,617.0	35.00%	88.31%
31	3,274.8	32.06%	139.23%
32	2,124.0	41.13%	108.64%
33	14,903.2	39.24%	84.87%
34	4,112.8	32.97%	87.71%
35	10,895.0	43.41%	90.08%
36	12,476.1	21.28%	118.25%
37	26,105.5	25.68%	87.62%
38	3,928.4	38.17%	129.65%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. imports by S.I.C. codes for 1979 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Imports	Percent Change Previous Year	Percent Change from 1975
Wheat	$ 1.0	900.00%	-80.00%
Corn	9.7	-8.49%	-48.40%
20	10,453.4	20.56%	56.25%
21	54.1	2.85%	43.50%
22	2,099.0	.35%	74.86%
23	6,339.1	2.28%	106.20%
24	4,876.9	8.22%	182.51%
25	1,123.2	13.41%	162.25%
26	4,975.3	20.41%	80.81%
27	581.9	8.18%	82.30%
28	6,907.2	10.11%	114.18%
29	11,697.5	44.34%	50.86%
30	2,931.1	12.00%	110.92%
31	3,751.9	14.57%	174.08%
32	2,428.4	14.33%	138.55%
33	16,577.9	11.24%	105.65%
34	4,511.7	9.70%	105.92%
35	14,180.0	30.15%	147.39%
36	14,021.9	12.39%	145.30%
37	27,997.6	7.25%	101.22%
38	4,176.8	6.32%	144.17%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. imports by S.I.C. codes for 1980 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Imports	Percent Change Previous Year	Percent Change from 1975
Wheat	$ 1.5	50.00%	-70.00%
Corn	7.3	-24.74%	-61.17%
20	11,244.8	7.57%	68.08%
21	99.9	84.66%	164.99%
22	2,298.8	9.52%	91.50%
23	6,984.9	10.19%	127.20%
24	3,834.8	-21.37%	122.14%
25	1,187.8	5.75%	177.33%
26	5,423.7	9.01%	97.10%
27	663.0	13.94%	107.71%
28	7,714.4	11.69%	139.21%
29	14,039.0	20.02%	81.05%
30	2,872.6	-2.00%	106.71%
31	3,645.6	-2.83%	166.32%
32	2,479.1	2.09%	143.53%
33	18,970.2	14.43%	135.32%
34	4,651.2	3.09%	112.29%
35	15,290.5	7.83%	166.77%
36	15,976.4	13.94%	179.49%
37	31,366.5	12.03%	125.43%
38	4,873.1	16.67%	184.88%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. imports by S.I.C. codes for 1981 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Imports	Percent Change Previous Year	Percent Change from 1975
Wheat	$ .2	-86.67%	-96.00%
Corn	16.6	127.40%	-11.70%
20	11,627.3	3.40%	73.80%
21	213.6	113.81%	466.58%
22	2,776.0	20.76%	131.26%
23	8,251.1	18.13%	168.39%
24	3,869.2	.90%	124.13%
25	1,348.7	13.55%	214.90%
26	5,754.6	6.10%	109.13%
27	674.1	1.67%	111.18%
28	8,429.6	9.27%	161.39%
29	16,475.7	17.36%	112.48%
30	3,046.2	6.04%	119.20%
31	4,254.8	16.71%	210.82%
32	2,702.3	9.00%	165.45%
33	21,594.7	13.83%	167.88%
34	5,289.7	13.73%	141.43%
35	17,590.0	15.04%	206.88%
36	19,392.0	21.38%	239.24%
37	34,448.0	9.82%	147.58%
38	5,788.1	18.78%	238.37%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. imports by S.I.C. codes for 1982 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Imports	Percent Change Previous Year	Percent Change from 1975
Wheat	$ 9,561.0	-17.77%	42.91%
Corn	227.0	6.27%	502.12%
20	2,225.0	-19.85%	85.35%
21	8,432.0	2.19%	174.27%
22	3,059.0	-20.94%	77.20%
23	1,354.0	.39%	216.13%
24	5,468.0	-4.98%	98.71%
25	547.0	-18.85%	71.37%
26	7,632.0	-9.46%	136.66%
27	15,643.0	-5.05%	101.74%
28	2,937.0	-3.58%	111.34%
29	4,496.0	5.67%	228.44%
30	2,398.0	-11.26%	135.56%
31	15,352.0	-28.91%	90.44%
32	5,186.0	-1.96%	136.70%
33	14,994.0	-14.76%	161.59%
34	20,097.0	3.64%	251.57%
35	36,657.0	6.41%	163.45%
36	5,379.0	7.07%	214.45%
37	36,657.0	6.41%	163.45%
38	5,379.0	-7.07%	214.45%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. Exports by S.I.C. codes for 1975 in millions of dollars.

S.I.C.	1975 Exports
Wheat	$ 5,162.2
Corn	4,447.8
20	5,328.3
21	401.2
22	1,212.8
23	621.3
24	1,617.0
25	149.9
26	2,367.8
27	555.5
28	8,599.1
29	1,138.4
30	1,268.9
31	227.2
32	878.1
33	3,784.5
34	3,979.8
35	19,898.8
36	6,635.5
37	17,427.6
38	3,478.0

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. exports by S.I.C. codes for 1976 with the percent change from previous year in millions of dollars.

S.I.C.	Exports	Percent Change Previous Year
Wheat	$ 3,879.0	-24.86%
Corn	5,225.1	17.48%
20	6,177.4	15.94%
21	536.0	33.60%
22	1,451.8	19.71%
23	791.4	27.38%
24	2,162.8	33.75%
25	206.3	37.63%
26	2,537.0	7.15%
27	617.9	11.23%
28	9,844.3	14.48%
29	1,272.5	11.78%
30	1,358.6	7.07%
31	243.4	7.13%
32	1,047.3	19.27%
33	3,078.2	-18.66%
34	4,103.2	3.10%
35	20,972.4	5.40%
36	8,182.0	23.31%
37	18,504.9	6.18%
38	3,978.6	14.39%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. exports by S.I.C. codes for 1977 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Exports	Percent Change Previous Year	Percent Change from 1975
Wheat	$ 2,699.5	-30.41%	47.71%
Corn	4,139.1	-20.78%	-6.94%
20	7,242.1	17.24%	35.92%
21	637.4	18.92%	58.87%
22	1,406.1	-3.15%	15.94%
23	920.5	16.31%	48.16%
24	2,153.2	-.44%	33.16%
25	230.7	11.83%	53.90%
26	2,452.0	-3.35%	3.56%
27	681.4	10.28%	22.66%
28	10,637.6	8.06%	23.71%
29	1,323.6	4.02%	16.27%
30	1,546.0	13.79%	21.84%
31	264.5	8.67%	16.42%
32	1,159.4	10.70%	32.04%
33	2,916.3	-5.26%	-22.94%
34	4,526.5	10.32%	13.74%
35	21,463.5	2.34%	7.86%
36	8,812.8	7.71%	32.81%
37	18,878.3	2.02%	8.32%
38	4,511.0	13.38%	29.70%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. exports by S.I.C. codes for 1978 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Exports	Percent Change Previous Year	Percent Change from 1975
Wheat	$ 4,334.8	60.58%	-16.03%
Corn	5,282.8	27.63%	18.77%
20	9,017.1	24.51%	69.23%
21	766.5	20.25%	91.05%
22	1,496.3	6.41%	23.38%
23	1,083.0	17.65%	74.31%
24	2,436.4	13.15%	50.67%
25	310.5	34.59%	107.14%
26	2,516.7	2.64%	6.29%
27	814.5	19.53%	46.62%
28	12,503.7	17.54%	45.41%
29	1,605.1	21.27%	41.00%
30	1,757.9	13.71%	38.54%
31	326.7	23.52%	43.79%
32	1,388.0	19.72%	58.07%
33	4,418.9	51.52%	16.76%
34	5,050.4	11.57%	26.90%
35	24,780.4	15.45%	24.53%
36	11,166.3	26.71%	68.28%
37	22,814.3	20.85%	30.91%
38	5,319.7	17.93%	52.95%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. exports by S.I.C. codes for 1979 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Exports	Percent Change Previous Year	Percent Change from 1975
Wheat	$ 5,264.8	21.45%	1.99%
Corn	7,006.4	32.63%	57.53%
20	10,662.0	18.24%	100.10%
21	965.3	25.94%	140.60%
22	2,161.2	44.44%	78.20%
23	1,421.5	31.26%	128.79%
24	3,525.9	44.72%	118.05%
25	349.0	12.40%	132.82%
26	3,224.7	28.13%	36.19%
27	957.7	17.58%	72.40%
28	17,586.2	40.65%	104.51%
29	2,138.9	33.26%	87.89%
30	2,164.3	23.12%	70.57%
31	426.9	30.67%	87.90%
32	1,631.8	17.56%	85.83%
33	9,613.0	117.54%	154.01%
34	5,598.1	10.84%	40.66%
35	29,933.6	20.80%	50.43%
36	13,537.1	21.23%	104.01%
37	26,230.3	14.97%	50.51%
38	6,438.7	21.04%	85.13%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. exports by S.I.C. codes for 1980 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Exports	Percent Change Previous Year	Percent Change from 1975
Wheat	$ 6,374.6	21.08%	23.49%
Corn	8,541.3	21.91%	92.03%
20	12,083.7	13.33%	126.78%
21	1,091.5	13.07%	172.06%
22	2,543.8	17.70%	109.75%
23	1,628.6	14.57%	162.13%
24	3,700.4	4.95%	128.84%
25	469.5	34.53%	213.21%
26	4,684.3	45.26%	97.83%
27	1,105.2	15.40%	98.96%
28	21,332.6	21.30%	148.08%
29	2,861.7	33.79%	151.38%
30	2,617.1	20.92%	106.25%
31	510.4	19.56%	124.65%
32	1,907.0	16.86%	117.17%
33	11,473.7	19.36%	203.18%
34	6,523.9	16.54%	63.93%
35	38,001.5	26.95%	90.97%
36	16,353.6	20.81%	146.46%
37	29,483.1	12.40%	69.17%
38	7,689.5	19.43%	121.09%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. exports by S.I.C. codes for 1981 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Exports	Percent Change Previous Year	Percent Change from 1975
Wheat	$ 7,844.0	23.05%	51.95%
Corn	7,981.5	-6.55%	79.45%
20	12,878.3	6.58%	141.70%
21	1,265.3	15.92%	215.38%
22	2,377.0	-6.56%	95.99%
23	1,665.1	2.24%	168.00%
24	3,051.8	-17.35%	88.73%
25	626.2	33.38%	317.75%
26	4,768.9	1.81%	101.41%
27	1,304.3	18.01%	134.80%
28	21,758.4	2.00%	153.03%
29	4,005.0	39.95%	251.81%
30	2,912.7	11.29%	129.55%
31	506.7	-.72%	123.02%
32	2,085.1	9.34%	137.46%
33	8,763.3	-23.62%	131.56%
34	7,386.0	13.21%	85.59%
35	42,795.7	12.62%	115.07%
36	18,392.4	12.47%	177.18%
37	33,813.7	14.69%	94.02%
38	8,436.9	9.72%	142.58%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

U.S. exports by S.I.C. codes for 1982 with the percent change from previous year and 1975 in millions of dollars.

S.I.C.	Exports	Percent Change Previous Year	Percent Change from 1975
20	$11,079.0	-13.97%	107.93%
21	1,287.0	1.72%	220.79%
22	1,766.0	-25.70%	45.61%
23	1,271.0	-23.67%	104.57%
24	2,863.0	-6.19%	77.06%
25	564.0	-9.93%	276.25%
26	4,210.0	-11.72%	77.80%
27	1,358.0	4.12%	144.46%
28	20,021.0	-7.98%	132.83%
29	6,402.0	59.85%	462.37%
30	2,631.0	-9.67%	107.34%
31	498.0	-1.72%	119.19%
32	1,860.0	-10.80%	111.82%
33	4,872.0	-44.40%	28.74%
34	7,692.0	4.14%	93.28%
35	38,919.0	-9.06%	95.58%
36	18,173.0	-1.19%	173.88%
37	29,702.0	-12.16%	70.43%
38	8,371.0	-.78%	140.68%

Sources: U.S. Commodity Exports and Imports as Related to Output (various years). U.S. Bureau of the Census. U.S. Industrial Outlook (various years), Bureau of Industrial Economics.

Shipments (production) by U.S. manufacturers for S.I.C. codes for 1975 in millions of dollars.

S.I.C.	1975 Production
20	$172,157.6
21	8,059.9
22	31,063.6
23	31,430.2
24	25,094.5
25	12,372.8
26	41,711.5
27	38,125.1
28	89,721.2
29	69,484.6
30	27,191.2
31	6,323.0
32	27,073.9
33	80,817.0
34	68,738.7
35	95,752.5
36	64,213.9
37	113,500.6
38	22,058.7

Source: Annual Survey of Manufacturers (various years), U.S. Census Bureau.

U.S. total and U.S. manufacturing total employment (million), unemployment (percent), and unemployed level (thousand) for 1975 by S.I.C. codes.

S.I.C.	Employment Level	Percent Unemployment	Unemployment Level
Ag. Prod.	4,542.1	3.60%	111.0
20	1,701.0	10.40%	198.0
21	69.0	13.10%	10.0
22	745.0	13.80%	119.0
23	1,214.0	14.50%	206.0
24	606.0	12.90%	90.0
25	500.0	12.20%	70.0
26	610.0	9.20%	62.0
27	1,267.0	6.30%	85.0
28	1,148.0	8.60%	81.0
29	229.0	3.00%	7.0
30	589.0	13.30%	90.0
31	246.0	12.70%	36.0
32	644.0	9.90%	71.0
33	1,227.0	10.40%	142.0
34	1,350.0	11.60%	177.0
35	2,212.0	8.60%	209.0
36	1,880.0	8.00%	263.0
37	1,850.0	12.90%	274.0
38	151.0	8.00%	13.0

CIVILIAN LABOR FORCE

Unemployment Level			7,929.0
Percent Unemployment		8.50%	
Employment Level	85,536.0		

Source: Annual Average Unemployment Rates and Levels 1975-1983. Current Population Survey Data, U.S. Department of Labor. Bureau of Labor Statistics--July 1984.

U.S. total and U.S. manufacturing total employment (million), unemployment (percent), and unemployed levels (thousand) for 1976 by S.I.C. codes, and the percent change in each from 1975.

S.I.C.	Employment Level	Percent Change Previous Year	Unemployment Percent	Percent Change Previous Year	Unemployment Level	Percent Change Previous Year
Ag. Prod.	4,373.9	-3.70%	4.40%	22.22%	151.0	36.04%
20	1,692.0	-.53%	9.50%	-8.65%	177.0	-10.61%
21	63.0	-8.70%	8.00%	-38.93%	6.0	-40.00%
22	844.0	13.29%	8.80%	-36.23%	82.0	-31.09%
23	1,251.0	3.05%	11.00%	-24.14%	155.0	-24.76%
24	698.0	15.18%	8.70%	-32.56%	67.0	-25.56%
25	504.0	.80%	9.60%	-21.31%	53.0	-24.29%
26	649.0	6.39%	6.90%	-25.00%	48.0	-22.58%
27	1,303.0	2.84%	5.40%	-14.29%	74.0	-12.94%
28	1,136.0	-1.05%	5.20%	-39.53%	63.0	-22.22%
29	237.0	3.49%	2.70%	-10.00%	7.0	.00%
30	614.0	4.24%	8.90%	-33.08%	60.0	-33.33%
31	272.0	10.57%	10.40%	-18.11%	32.0	-11.11%
32	675.0	4.81%	6.90%	-30.30%	50.0	-29.58%
33	1,251.0	1.96%	7.50%	-27.88%	102.0	-28.17%
34	1,409.0	4.37%	8.60%	-25.86%	133.0	-24.86%
35	2,237.0	1.13%	6.20%	-27.91%	147.0	-29.67%
36	2,031.0	8.03%	7.30%	-8.75%	160.0	-39.16%
37	1,967.0	6.32%	7.20%	-44.19%	153.0	-44.16%
38	155.0	2.65%	5.80%	-27.50%	10.0	-23.08%
CIVILIAN LABOR FORCE						
Unemployment Level					7,406.0	-6.60%
Unemployment Percent			7.70%	-9.41%		
Employment Level	88,494.0	3.46%				

Source: Annual Average Unemployment Rates and Levels 1975-1983. Current Population Survey Data. U.S. Department of Labor. Bureau of Labor Statistics--July 1984.

U.S. total and U.S. manufacturing total employment (million), unemployment (percent), and unemployed levels (thousand) for 1977 by S.I.C. codes, and the percent change in each from the previous year and from 1975.

S.I.C.	Employment Level	Percent Change Previous Year	Percent Change from 1975	Unemployment Percent	Percent Change Previous Year	Unemployment Level	Percent Change Previous Year
Ag. Prod.	4,169.9	-4.66%	-8.19%	11.20%	154.55%	171.0	13.25%
20	1,764.0	4.26%	3.70%	9.70%	2.11%	190.0	7.34%
21	71.0	12.70%	2.90%	8.80%	10.00%	7.0	16.67%
22	906.0	7.35%	21.61%	7.50%	-14.77%	74.0	-9.76%
23	1,257.0	.48%	3.54%	10.10%	-8.18%	140.0	-9.68%
24	718.0	2.87%	18.48%	7.90%	-9.20%	62.0	-7.46%
25	510.0	1.19%	2.00%	8.50%	-11.46%	47.0	-11.32%
26	694.0	6.93%	13.77%	5.20%	-24.64%	38.0	-20.83%
27	1,327.0	1.84%	4.74%	5.10%	-5.56%	71.0	-4.05%
28	1,132.0	-.35%	-1.39%	4.10%	-21.15%	48.0	-23.81%
29	230.0	-2.95%	.44%	2.60%	-3.70%	6.0	-14.29%
30	690.0	12.38%	17.15%	7.10%	-20.22%	52.0	-13.33%
31	275.0	1.10%	11.79%	10.50%	.96%	32.0	.00%
32	673.0	-.30%	4.50%	7.80%	13.04%	57.0	14.00%
33	1,290.0	3.12%	5.13%	5.80%	-22.67%	79.0	-22.55%
34	1,416.0	.50%	4.89%	6.90%	-19.77%	104.0	-21.80%
35	2,315.0	3.49%	4.66%	4.50%	-27.42%	109.0	-25.85%
36	2,026.0	-.25%	7.77%	6.30%	-13.70%	137.0	-14.38%
37	2,123.0	7.93%	14.76%	5.30%	-26.39%	115.0	-24.84%
38	520.0	235.48%	244.37%	5.10%	-12.07%	28.0	180.00%
CIVILIAN LABOR FORCE							
Unemployment Level						6,991.0	-5.60%
Unemployment Percent				7.10%	-7.79%		
Employment Level	90,546.0	2.32%	5.86%				

Source: Annual Average Unemployment Rates and Levels 1975-1983. Current Population Survey Data. U.S. Department of Labor. Bureau of Labor Statistics--July 1984.

U.S. total and U.S. manufacturing total employment (million), unemployment (percent), and unemployed levels (thousand) for 1978 by S.I.C. codes, and the percent change in each from the previous year and from 1975.

S.I.C.	Employment Level	Percent Change Previous Year	Percent Change from 1975	Unemployment Percent	Percent Change Previous Year	Unemployment Level	Percent Change Previous Year
Ag. Prod.	3,956.6	-5.12%	-12.89%	8.90%	-20.54%	142.0	-16.96%
20	1,874.0	6.24%	10.17%	7.20%	-25.77%	146.0	-23.16%
21	73.0	2.82%	5.80%	11.60%	31.82%	10.0	42.86%
22	871.0	-3.86%	16.91%	5.90%	-21.33%	55.0	-25.68%
23	1,285.0	2.23%	5.85%	9.20%	-8.91%	131.0	-6.43%
24	724.0	.84%	19.47%	7.90%	.00%	56.0	-9.68%
25	554.0	8.63%	10.80%	5.90%	-30.59%	34.0	-27.66%
26	705.0	1.59%	15.57%	4.50%	-13.46%	33.0	-13.16%
27	1,429.0	7.69%	12.79%	4.80%	-5.88%	71.0	.00%
28	1,189.0	5.04%	3.57%	2.70%	-34.15%	33.0	-31.25%
29	242.0	5.22%	5.68%	2.30%	-11.54%	6.0	.00%
30	708.0	2.61%	20.20%	7.50%	5.63%	57.0	9.62%
31	283.0	2.91%	15.04%	8.50%	-19.05%	26.0	-18.75%
32	679.0	.89%	5.43%	5.50%	-29.49%	40.0	-29.82%
33	1,220.0	-5.43%	-.57%	4.20%	-27.59%	54.0	-31.65%
34	1,444.0	1.98%	6.96%	5.40%	-21.74%	83.0	-20.19%
35	2,485.0	7.34%	12.34%	3.40%	-24.44%	86.0	-21.10%
36	2,144.0	5.82%	14.04%	5.10%	-19.05%	117.0	-14.60%
37	2,230.0	5.04%	20.54%	4.30%	-18.87%	99.0	-13.91%
38	560.0	7.69%	270.86%	4.30%	-15.69%	25.0	10.71%
CIVILIAN LABOR FORCE							
Unemployment Level						6,202.0	-11.29%
Unemployment Percent				6.10%	-14.08%		
Employment Level	94,373.0	4.23%	10.33%				

Source: Annual Average Unemployment Rates and Levels 1975-1983. Current Population Survey Data. U.S. Department of Labor. Bureau of Labor Statistics--July 1984.

U.S. total and U.S. manufacturing total employment (million), unemployment (percent), and unemployed levels (thousand) for 1979 by S.I.C. codes, and the percent change in each from the previous year and from 1975.

S.I.C.	Employment Level	Percent Change Previous Year	Percent Change from 1975	Unemployment Percent	Percent Change Previous Year	Unemployment Level	Percent Change Previous Year
Ag. Prod.	3,774.2	-4.61%	-16.91%	9.30%	4.49%	148.0	4.23%
20	1,789.0	-4.54%	5.17%	7.90%	9.72%	154.0	5.48%
21	64.0	-12.33%	-7.25%	12.80%	10.34%	9.0	-10.00%
22	823.0	-5.51%	10.47%	6.30%	6.78%	56.0	1.82%
23	1,279.0	-.47%	5.35%	9.70%	5.43%	138.0	5.34%
24	730.0	.83%	20.46%	6.50%	-17.72%	45.0	-19.64%
25	567.0	2.35%	13.40%	6.30%	6.78%	38.0	11.76%
26	726.0	2.98%	19.02%	3.90%	-13.33%	29.0	-12.12%
27	1,507.0	5.46%	18.94%	4.50%	-6.25%	70.0	-1.41%
28	1,217.0	2.35%	6.01%	3.50%	29.63%	44.0	33.33%
29	255.0	5.37%	11.35%	2.10%	-8.70%	5.0	-16.67%
30	731.0	3.25%	24.11%	6.60%	-12.00%	52.0	-8.77%
31	275.0	-2.83%	11.79%	9.30%	9.41%	28.0	7.69%
32	706.0	3.98%	9.63%	5.80%	5.45%	43.0	7.50%
33	1,262.0	3.44%	2.85%	4.20%	.00%	55.0	1.85%
34	1,495.0	3.53%	10.74%	5.90%	9.26%	94.0	13.25%
35	2,747.0	10.54%	24.19%	3.20%	-5.88%	89.0	3.49%
36	2,293.0	6.95%	21.97%	4.50%	-11.76%	109.0	-6.84%
37	2,298.0	3.05%	24.22%	6.10%	41.86%	146.0	47.47%
38	584.0	4.29%	286.75%	4.10%	-4.65%	25.0	.00%
CIVILIAN LABOR FORCE							
Unemployment Level						6,137.0	-1.05%
Unemployment Percent				5.80%	-4.92%		
Employment Level	96,945.0	2.73%	.14%				

Source: Annual Average Unemployment Rates and Levels 1975-1983. Current Population Survey Data. U.S. Department of Labor. Bureau of Labor Statistics--July 1984.

U.S. total and U.S. manufacturing total employment (million), unemployment (percent), and unemployed levels (thousand) for 1980 by S.I.C. codes, and the percent change in each from the previous year and from 1975.

S.I.C.	Employment Level	Percent Change Previous Year	Percent Change from 1975	Unemployment Percent	Percent Change Previous Year	Unemployment Level	Percent Change Previous Year
Ag. Prod.	3,705.3	-1.83%	-18.42%	11.00%	18.28%	175.0	18.24%
20	1,763.0	-1.45%	3.64%	8.80%	11.39%	170.0	10.39%
21	57.0	-10.94%	-17.39%	8.70%	-32.03%	5.0	-44.44%
22	782.0	-4.98%	4.97%	8.20%	30.16%	70.0	25.00%
23	1,250.0	-2.27%	2.97%	11.30%	16.49%	160.0	15.94%
24	669.0	-8.36%	10.40%	13.40%	106.15%	91.0	102.22%
25	510.0	-10.05%	2.00%	9.00%	42.86%	50.0	31.58%
26	706.0	-2.75%	15.74%	6.90%	76.92%	53.0	82.76%
27	1,554.0	3.12%	22.65%	5.60%	24.44%	92.0	31.43%
28	1,286.0	5.67%	12.02%	4.50%	28.57%	60.0	36.36%
29	225.0	-11.76%	-1.75%	3.20%	52.38%	7.0	40.00%
30	687.0	-6.02%	16.64%	9.60%	45.45%	73.0	40.38%
31	267.0	-2.91%	8.54%	9.70%	4.30%	29.0	3.57%
32	637.0	-9.77%	-1.09%	9.20%	58.62%	64.0	48.84%
33	1,169.0	-7.37%	-4.73%	9.80%	133.33%	12.7	-76.91%
34	1,477.0	-1.20%	9.41%	9.90%	67.80%	162.0	72.34%
35	2,790.0	1.57%	26.13%	5.60%	75.00%	165.0	85.39%
36	2,294.0	.04%	22.02%	6.80%	51.11%	171.0	56.88%
37	2,100.0	-8.62%	13.51%	13.60%	122.95%	323.0	121.23%
38	604.0	3.42%	300.00%	4.90%	19.51%	31.0	24.00%
CIVILIAN LABOR FORCE							
Unemployment Level						7,637.0	24.44%
Unemployment Percent				7.10%	22.41%		
Employment Level	97,270.0	.00%	.14%				

Source: Annual Average Unemployment Rates and Levels 1975-1983. Current Population Survey Data. U.S. Department of Labor. Bureau of Labor Statistics--July 1984.

U.S. total and U.S. manufacturing total employment (million), unemployment (percent), and unemployed levels (thousand) for 1981 by S.I.C. codes, and the percent change in each from the previous year and from 1975.

S.I.C.	Employment Level	Percent Change Previous Year	Percent Change from 1975	Unemployment Percent	Percent Change Previous Year	Unemployment Level	Percent Change Previous Year
Ag. Prod.	3,330.0	-10.13%	-26.69%	12.10%	10.00%	201.0	14.86%
20	1,780.0	.96%	4.64%	10.00%	13.64%	197.0	15.88%
21	69.0	21.05%	.00%	7.50%	-13.79%	6.0	20.00%
22	744.0	-4.86%	-.13%	10.50%	28.05%	87.0	24.29%
23	1,262.0	.96%	3.95%	11.30%	.00%	161.0	.63%
24	663.0	-.90%	9.41%	12.60%	-5.97%	85.0	-6.59%
25	510.0	.00%	2.00%	8.70%	-3.33%	48.0	-4.00%
26	731.0	3.54%	19.84%	5.40%	-21.74%	41.0	-22.64%
27	1,594.0	2.57%	25.81%	5.20%	-7.14%	87.0	-5.43%
28	1,285.0	-.08%	11.93%	5.10%	13.33%	69.0	15.00%
29	232.0	3.11%	1.31%	4.00%	25.00%	10.0	42.86%
30	666.0	-3.06%	13.07%	10.80%	12.50%	80.0	9.59%
31	259.0	-3.00%	5.28%	13.10%	35.05%	39.0	34.48%
32	632.0	-.78%	-1.86%	8.60%	-6.52%	59.0	-7.81%
33	1,148.0	-1.80%	-6.44%	8.50%	-13.27%	107.0	742.52%
34	1,423.0	-3.66%	5.41%	9.60%	-3.03%	151.0	-6.79%
35	2,818.0	1.00%	27.40%	5.90%	5.36%	175.0	6.06%
36	2,317.0	1.00%	23.24%	6.80%	.00%	170.0	-.58%
37	2,107.0	.33%	13.89%	10.40%	-23.53%	240.0	-25.70%
38	609.0	.83%	303.31%	5.10%	4.08%	33.0	6.45%
CIVILIAN LABOR FORCE							
Unemployment Level						8,273.0	8.33%
Unemployment Percent				7.60%	7.04%		
Employment Level	98,313.0	.01%	14.94%				

Source: Annual Average Unemployment Rates and Levels 1975-1983. Current Population Survey Data. U.S. Department of Labor. Bureau of Labor Statistics--July 1984.

U.S. total and U.S. manufacturing total employment (million), unemployment (percent), and unemployed levels (thousand) for 1982 by S.I.C. codes, and the percent change in each from the previous year and from 1975.

S.I.C.	Employment Level	Percent Change Previous Year	Percent Change from 1975	Unemployment Percent	Percent Change Previous Year	Unemployment Level	Percent Change Previous Year
Ag. Prod.	3,401.0	2.13%	-25.12%	14.70%	21.49%	260.0	29.35%
20	1,733.0	-2.64%	1.88%	11.80%	18.00%	232.0	17.77%
21	74.0	7.25%	7.25%	10.30%	37.33%	9.0	50.00%
22	688.0	-7.53%	-7.65%	13.40%	27.62%	107.0	22.99%
23	1,150.0	-8.87%	-5.27%	15.30%	35.40%	207.0	28.57%
24	627.0	-5.43%	3.47%	17.20%	36.51%	114.0	34.12%
25	461.0	-9.61%	-7.80%	15.20%	74.71%	80.0	66.67%
26	689.0	-5.75%	12.95%	7.60%	40.74%	57.0	39.02%
27	1,621.0	1.69%	27.94%	7.00%	34.62%	116.0	33.33%
28	1,213.0	-5.60%	5.66%	7.20%	41.18%	94.0	36.23%
29	229.0	-1.29%	.00%	5.30%	32.50%	13.0	30.00%
30	643.0	-3.45%	9.17%	13.20%	22.22%	98.0	22.50%
31	251.0	-3.09%	2.03%	17.20%	31.30%	52.0	33.33%
32	539.0	-14.72%	-16.30%	13.20%	53.49%	80.0	35.59%
33	925.0	-19.43%	-24.61%	19.80%	132.94%	227.0	112.15%
34	1,264.0	-11.17%	-6.37%	15.60%	62.50%	230.0	52.32%
35	2,558.0	-9.23%	15.64%	11.50%	94.92%	326.0	86.29%
36	2,295.0	-.95%	22.07%	9.60%	41.18%	243.0	42.94%
37	1,931.0	-8.35%	4.38%	15.30%	47.12%	331.0	37.92%
38	600.0	-1.48%	297.35%	9.20%	80.39%	49.0	48.48%
CIVILIAN LABOR FORCE							
Unemployment Level						10,678.0	29.07%
Unemployment Percent				9.70%	27.63%		
Employment Level	99,526.0	1.23%	16.36%				

Source: Annual Average Unemployment Rates and Levels 1975-1983. Current Population Survey Data. U.S. Department of Labor. Bureau of Labor Statistics--July 1984.

Shipments (production) by U.S. manufacturers for S.I.C. codes for 1976 in millions of dollars with the change from 1975 (percent) and the change for 1975 (million).

S.I.C.	Production	Percent Change from 1975	Change from 1975
20	$180,929.7	5.10%	8,772.1
21	8,786.1	9.01%	726.2
22	36,389.2	17.14%	5,325.6
23	34,758.4	10.59%	3,328.2
24	31,239.4	24.49%	6,144.9
25	14,232.0	15.03%	1,859.2
26	48,218.1	15.60%	6,506.6
27	42,837.8	12.36%	4,712.7
28	104,138.6	16.07%	14,417.4
29	82,347.0	18.51%	12,862.4
30	31,765.2	16.82%	4,574.0
31	7,176.0	13.49%	853.0
32	30,635.2	13.15%	3,561.3
33	93,001.8	15.08%	12,184.8
34	77,507.1	12.76%	8,768.4
35	105,525.2	10.21%	9,772.7
36	73,867.1	15.03%	9,653.2
37	141,025.5	24.25%	27,524.9
38	25,030.1	13.47%	2,971.4

Source: Annual Survey of Manufacturers (various years), U.S. Census Bureau.

Shipments (production) by U.S. manufacturers for S.I.C. codes for 1977 in millions of dollars with the change from 1975 (percent), the change from 1975 (million), and the change from the previous year.

S.I.C.	Production	Percent Change from 1975	Change from 1975	Percent Change Previous Year
20	$192,911.6	12.06%	20,754.0	6.62%
21	9,050.6	12.29%	990.7	3.01%
22	40,550.5	30.54%	9,486.9	11.44%
23	40,245.1	28.05%	8,814.9	15.79%
24	39,919.4	59.08%	14,824.9	27.79%
25	16,978.0	37.22%	4,605.2	19.29%
26	52,085.7	24.87%	10,374.2	8.02%
27	49,716.2	30.40%	11,591.1	16.06%
28	118,153.2	31.69%	28,432.0	13.46%
29	97,452.7	40.25%	27,968.1	18.34%
30	39,552.8	45.46%	12,361.6	24.52%
31	7,607.4	20.31%	1,284.4	6.01%
32	35,476.6	31.04%	8,402.7	15.80%
33	103,179.4	27.67%	22,362.4	10.94%
34	90,023.5	30.96%	21,284.8	16.15%
35	122,187.7	27.61%	26,435.2	15.79%
36	88,433.1	37.72%	24,219.2	19.72%
37	166,945.0	47.10%	53,453.4	18.39%
38	28,897.8	31.00%	6,839.1	15.45%

Source: Annual Survey of Manufacturers (various years), U.S. Census Bureau.

Shipments (production) by U.S. manufacturers for S.I.C. codes for 1978 in millions of dollars with the change from 1975 (percent), the change from 1975 (million), and the change from the previous year.

S.I.C.	Production	Percent Change from 1975	Change from 1975	Percent Change Previous Year
20	$216,071.2	25.51%	43,913.6	12.01%
21	9,950.7	23.45%	1,890.8	9.95%
22	42,280.8	36.11%	11,217.2	4.27%
23	42,742.0	35.99%	11,311.8	6.20%
24	46,552.6	85.51%	21,458.1	16.62%
25	19,565.9	58.14%	7,193.1	15.24%
26	57.000.0	36.65%	15,288.5	9.44%
27	56,064.1	47.05%	17,939.0	12.77%
28	129,357.3	44.18%	39,636.1	9.48%
29	103,871.1	49.49%	34,386.5	6.59%
30	43,195.8	58.86%	16,004.6	9.21%
31	8,224.7	30.08%	1,901.7	8.11%
32	41,719.3	54.09%	14,645.4	17.60%
33	118,082.0	46.11%	37,265.0	14.44%
34	101,336.0	47.42%	32,597.3	12.57%
35	143,169.3	49.52%	47,416.8	17.17%
36	100,530.1	56.56%	36,316.2	13.68%
37	188,773.3	66.32%	75,272.7	13.07%
38	33,701.2	52.78%	11,642.5	16.62%

Source: Annual Survey of Manufacturers (various years), U.S. Census Bureau.

Shipments (production) by U.S. manufacturers for S.I.C. codes for 1979 in millions of dollars with the change from 1975 (percent), the change from 1975 (million), and the change from the previous year.

S.I.C.	Production	Percent Change from 1975	Change from 1975	Percent Change Previous Year
20	$235,974.7	37.07%	63,817.1	9.21%
21	10,601.3	31.53%	2,541.4	6.54%
22	45,135.5	45.30%	14,071.9	6.75%
23	43,029.9	36.91%	11,599.7	.67%
24	49,826.3	98.55%	24,731.8	7.03%
25	21,067.0	70.27%	8,694.2	7.67%
26	65.199.4	56.31%	23,487.9	14.38%
27	62,667.4	64.37%	24,542.3	11.78%
28	147,673.7	64.59%	57,952.5	14.16%
29	148,366.6	113.52%	78,882.0	42.84%
30	46,847.9	72.29%	19,656.7	8.45%
31	9,002.6	42.38%	2,679.6	9.46%
32	45,962.8	69.77%	18,888.9	10.17%
33	137,379.4	69.99%	56,562.4	16.34%
34	113,597.2	65.26%	44,858.5	12.10%
35	166,470.2	73.85%	70,717.7	16.28%
36	116,031.9	80.70%	51,818.0	15.42%
37	201,625.0	77.64%	88,124.4	6.81%
38	37,740.2	71.09%	15,681.5	11.98%

Source: Annual Survey of Manufacturers (various years), U.S. Census Bureau.

Shipments (production) by U.S. manufacturers for S.I.C. codes for 1980 in millions of dollars with the change from 1975 (percent), the change from 1975 (million), and the change from the previous year.

S.I.C.	Production	Percent Change from 1975	Change from 1975	Percent Change Previous Year
20	$256,188.7	48.81%	84,031.1	8.57%
21	12,194.6	51.30%	4,134.7	15.03%
22	47,255.0	52.12%	16,191.4	4.70%
23	45,781.8	45.66%	14,351.6	6.40%
24	47,144.0	87.87%	22,049.5	-5.38%
25	22,314.7	80.35%	9,941.9	5.92%
26	72,791.9	74.51%	31,080.4	11.65%
27	69,543.9	82.41%	31,418.8	10.97%
28	162,517.2	81.14%	72,796.0	10.05%
29	198,673.1	185.92%	129,189.0	33.91%
30	47,341.8	74.11%	20,150.6	1.05%
31	9,789.3	54.82%	3,466.3	8.74%
32	46,083.1	70.21%	19,009.2	.26%
33	133,930.1	65.72%	53,113.1	-2.51%
34	116,194.3	69.04%	47,455.6	2.29%
35	180,727.3	88.74%	84,974.8	8.56%
36	128,587.3	100.25%	64,373.4	10.82%
37	186,515.8	64.33%	73,015.2	-7.49%
38	44,138.7	100.10%	22,080.0	16.95%

Source: Annual Survey of Manufacturers (various years), U.S. Census Bureau.

Shipments (production) by U.S. manufacturers for S.I.C. codes for 1981 in millions of dollars with the change from 1975 (percent), the change from 1975 (million), and the change from the previous year.

S.I.C.	Production	Percent Change from 1975	Change from 1975	Percent Change Previous Year
20	$272,139.6	58.08%	99,982.0	6.23%
21	13,129.9	62.90%	5,070.0	7.67%
22	50,262.2	61.80%	19,198.6	6.36%
23	49,822.9	58.52%	18,392.7	8.83%
24	46,807.1	86.52%	21,712.6	-.71%
25	23,865.0	92.88%	11,492.2	6.95%
26	80,233.8	92.35%	38,522.3	10.22%
27	77,260.6	102.65%	39,135.5	11.10%
28	180,459.2	101.13%	90,738.0	11.04%
29	224,131.4	222.56%	154,646.8	12.81%
30	53,172.8	95.55%	25,981.6	12.32%
31	10,467.5	65.55%	4,144.5	6.93%
32	48,000.4	77.29%	20,926.5	4.16%
33	141,942.1	75.63%	61,125.1	5.98%
34	123,661.6	79.90%	54,922.9	6.43%
35	201,539.1	110.48%	105,786.6	11.52%
36	140,194.4	118.32%	75,980.5	9.03%
37	205,221.7	80.81%	91,721.1	10.03%
38	48,291.4	118.92%	26,232.7	9.41%

Source: Annual Survey of Manufacturers (various years), U.S. Census Bureau.

Shipments (production) by U.S. manufacturers for S.I.C. codes for 1982 in millions of dollars with the change from 1975 (percent), the change from 1975 (million), and the change from the previous year.

S.I.C.	Production	Percent Change from 1975	Change from 1975	Percent Change Previous Year
20	$277,324.0	61.09%	105,166.4	1.91%
21	14,455.0	79.34%	6,395.1	10.09%
22	47,217.0	52.00%	16,153.4	-6.06%
23				
24				
25				
26	78,989.0	89.37%	37,277.5	-1.55%
27				
28	172,803.0	92.60%	83,081.8	-4.24%
29	206,430.0	197.09%	136,945.4	-7.90%
30	50,163.0	84.48%	22,971.8	-5.66%
31				
32	44,005.0	62.54%	16,931.1	-8.32%
33	107,031.0	32.44%	26,214.0	-24.60%
34	113,967.0	65.80%	45,228.3	-7.84%
35	180,612.0	88.62%	84,859.5	-10.38%
36	140,550.0	118.88%	76,336.1	.25%
37	195,370.0	72.13%	81,869.4	-4.80%
38	48,873.0	121.56%	26,814.3	1.20%

Source: Annual Survey of Manufacturers (various years), U.S. Census Bureau.