

*The Impact of
International Trade*

*on Maine Manufacturing
Workers 2001 to 2005*



MAINE
DEPARTMENT OF
LABOR
*Center for Workforce
Research and Information*

The Impact of International Trade on Maine Manufacturing Workers

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In Memory of Michael Burnett

July 29, 1946 to August 29, 2008

Michael Burnett was a valued employee of the Maine Department of Labor, Center for Workforce Research and Information, who passed away on August 29, 2008. Michael made valuable contributions to the State of Maine during his career as a Senior Economic Research Analyst and as an economic development professional. This paper is a fine example of the kind of work that Mike produced. His life was too short and we will miss his wisdom and insight.

Preface

Maine's economy is in transition and has been so for some time. New technologies, emerging foreign competitors, changes in consumer tastes and preferences, and innovation in business and industrial organization have contributed to volatile labor markets and shifting workforce requirements. Maine workers have been hit with job loss, plant closings and changing patterns in the demands for skills. For some workers, these transitions have led to finding new jobs, starting new careers, learning new skills and increasing their wages. Many other workers, however, have struggled to make transitions and maintain livelihoods.

We at the Maine Department of Labor remain deeply committed to understanding the impacts and consequences of a dynamic economy. We are particularly focused on how economic changes impact Maine workers. More recently, job losses and plant closings triggered by the forces of foreign competition have hit Maine's manufacturing sector hard. These workers however qualify for extra benefits including longer term unemployment insurance, assistance with relocation, and tuition assistance for retraining. This report examines the employment and earnings experiences of these Maine workers over time. Through studies such as this, we hope to learn more about best strategies, patterns of resource allocation and service prescriptions that aid in the transition of Maine workers from one economy to the next one.

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John Dorrer, Director
Center for Workforce Research and Information
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Executive Summary

As early as 1962, it was recognized that liberalizing trade barriers with other countries benefitted the country as a whole due to cheaper imports, but adversely affected workers in industries competing with those imports. Accordingly, the Manpower Development and Training Act, passed in conjunction with the 1962 General Agreement on Tariffs and Trade, had a Trade Adjustment Assistance (TAA) provision. TAA had special wage and training benefits for workers displaced by free trade. Although it was sometimes mired in controversy, TAA in some form has continued to the present.

Because so many Maine manufacturing employers and workers have been affected by trade issues, the Maine Department of Labor decided to measure the post-layoff wages of TAA workers and compare them to a non-TAA group of workers laid-off over the same time period, 2001-2005. In all, there were 12,028 manufacturing workers laid-off over this period: 4,968 received TAA certification and 7,060 were not certified. The standard of comparison was the Employment and Training Administration's 80 percent rule: Following certification, a worker must realize an 80 percent wage replacement of pre-layoff wages.

At first glance, it appeared that the non-TAA workers fared much better than their TAA counterparts because 67 percent reached the 80 percent benchmark compared to only 44 percent of the TAA workers. Further analysis revealed that non-TAA workers had a huge advantage over the TAA workers due to recalls by the layoff employers and resumption of their previous wage levels. Far fewer TAA workers were recalled and in fact, many (50) of the TAA layoff employers closed. The next stage of the analysis involved comparing the post-layoff wage outcomes following training. Fifty-six percent of the TAA workers realized 80 percent or more wage replacement, but the non-TAA workers still led with a 64 percent advantage. Again, this advantage appeared to be due to recalls. Although the post-training 80 percent wage replacement figure of 56 percent is an improvement over the pre-training percentage, it is not considered to be satisfactory. The problem lies in Maine's (or any state's) ability to replace generally high paying manufacturing jobs, which are rapidly disappearing, with suitable employment opportunities.

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Introduction

Many of Maine's layoffs and plant closings in recent years have been in manufacturing industries. When manufacturing job losses can be linked to international trade and outsourcing or, more simply, globalization, federally funded programs are available to mitigate the impact of those losses. In Maine, where these programs are administered through CareerCenters, the primary program is Trade Adjustment Assistance (TAA). When an employer is certified under TAA, its workers are eligible for income assistance and training services that far surpass those of conventional state and federal assistance programs.

Although many workers laid off in Maine over the years have been TAA eligible, many others have not. A central questions posed for policy makers, therefore are:

- ✓ Does the TAA program generate the intended post-layoff employment and wage outcomes for certified workers?
- ✓ How do their outcomes compare with the reemployment and earnings of other laid-off manufacturing workers?

In order to answer these questions, the Maine Department of Labor studied the employers, industries, and workers involved in layoffs; reviewed the characteristics of the industries and workers; and measured the post-layoff employment and wage outcomes of TAA and non-TAA workers.

The years 2001 through 2005 were considered to be an appropriate period for the study because there were a substantial number of layoffs in manufacturing and a significant proportion of them were trade-related. In addition, the period spanned a business cycle and there were sufficient data available for examining the context of the layoffs.

The MDOL undertook the study because many of the state's manufacturing employers are in older, traditional industries that are increasingly being undercut by lower-priced imports. The aging workforce in these industries has skills for which there are few alternative applications. If the post-layoff employment experiences of these workers are not due to the application of education and technical skills, can they benefit from training programs designed to meet the needs of a post-manufacturing, service-oriented employment base? This study is an attempt to answer this question.

Part I: Project Scope and Methodology

As early as 1962, federal legislation aimed at helping American workers adapt to trade-related job losses was introduced. The latest variant of this legislation was enacted in 2002, and eligibility for assistance was expanded to include not only import competition, but also the “export” of domestic employment to other, usually less-developed, countries. The intervening forty years have witnessed both the expansion of free trade and the growing globalization of markets. This study examines some of the impacts of free trade and globalization on Maine labor markets and assesses the legislative efforts to mitigate their negative consequences, especially job loss and earnings reduction. In addition, the study:

- Identifies the industrial sectors (by NAICS Code) of TAA-certified firms and workers as well as those of workers not TAA-certified, but eligible for services under the Workforce Investment Act (WIA);
- Provides demographic data, including occupation, on these workers;
- Examines the services received from CareerCenters and determines which workers took advantage of expanded TAA programs, especially training; and
- Compares the post-layoff outcomes (re-employment and earnings) of TAA and non-TAA workers.

Because there are so many issues relating to the impact of liberalized trade, the measurement of that impact, and the relative merits of TAA-type programs, this study was undertaken after a thorough review of the historical and trade-related literature in order to set the study into its broader context and to shed some light on Maine’s experience of globalization.

Methodology

MLS Data

The Maine Department of Labor Mass Layoff Statistics (MLS) data on confirmed layoff events in manufacturing were the primary source of information for the study. MLS is a federal-state cooperative statistical effort developed by the U.S. Department of Labor (USDOL), Bureau of Labor Statistics (BLS). With data from each state’s Unemployment Insurance (UI) database, MLS uses a standardized, automated approach to identify, describe, and track the effects of layoff events. In Maine, employers that have at least twenty initial claims for UI filed against them during a consecutive five-week period generate a potential layoff event. These employers are then contacted to confirm the key criterion—that at least twenty workers were separated from employment for at least thirty days. Once the key criterion is confirmed, it is deemed a layoff event, and information is obtained on the total number of workers separated, the reasons for the separations, and recall expectations. UI claimants are identified by such demographic characteristics as age, ethnic group, gender, place of residence, and race.

MLS data were used to identify the layoff events as well as the workers involved. These data were then used to access Maine UI benefits and tax databases in order to identify TAA workers, obtain wage records, and determine educational and occupational data. The Quarterly Census of Employment and Wages database linked firm names and industry codes to the layoff events. Finally, the CareerCenter One Stop Operating System (OSOS) database provided detailed information on services and training programs that were or could have been utilized by eligible workers.

Data Counts

The data are from four different databases. Each is designed to meet specific user objectives and thus has specific data fields. At times, the use of the different databases leads to different data counts. For example, the MLS database indicates that the number of UI claimants during the study period is 12,028. However, since many of the claimants were in more than one layoff event, there were 15,309 claims to examine. The data are presented annually. With multiple layoffs for some workers, there are multiple employers, perhaps in several industries. Different years, as well as multiple employers and industries, also lead to different data counts. It is important, therefore, to be clear in identifying the data from which any conclusions are drawn.

Time Frames

The layoff events are from the MLS database and are tracked on a quarterly basis. Likewise, the wage records from the UI database are quarterly. Therefore, if the layoff occurs during the first quarter of 2001 (2001Q1), then the first post-layoff quarter from which worker experience can be drawn is 2001Q2. The study is based on the experiences of TAA and non-TAA Unemployment Insurance (UI) claimants over 16 post-layoff quarters running from 2001Q2 through 2005Q2. Pre-layoff earnings are based on the four quarters prior to the layoff quarter. Obviously, the post-layoff experience of workers laid off later in the study period is more limited than that of workers laid off earlier in the period. This speaks to the need for continuing the study over a longer time period so that post-layoff experience can be standardized.

Employment and Wages

Measuring post-layoff employment and wages is especially problematic because many workers have several post-layoff employers, each with its own wage records. One approach to monitoring post-layoff outcomes would have been to select the employer paying the highest wages for the post-layoff period and use the average of those wages for comparison. However, because of the number of multiple layoffs, many workers were recalled for several quarters and then let go again. Recalls often yield the highest post-layoff wages, but the ensuing wages—with other employers—were more indicative of the actual post-layoff experience. With the exception of one part of the study where TAA recalls were excluded (Table 11), the highest wages approach was not used. The approach used was to sum all post-layoff wages for each quarter and compare the derived totals for TAA to non-TAA workers.

Data Processing

One challenge of this study is the huge amount of data involved. There were 15,309 claims that generated 337,000 wage records. The resulting spreadsheet from the OSOS database had 114,000 records. Determining the post-layoff outcomes required processing 20 quarters of data for both TAA and non-TAA workers. Microsoft Access was used as the processing system and numerous queries were used to generate the desired datasheets.

Part II: Background Issues

The 1962 Trade Expansion Act, strongly endorsed by President Kennedy as the chief component of the so-called “Kennedy Round” of the General Agreement on Tariffs and Trade (GATT), was the first legislation linking both liberalized trade barriers and training assistance for workers likely to be displaced by freer trade. The legislation was well received by business and both Democrats and Republicans, but was strongly opposed by organized labor. Indeed, the worker protection component of the legislation, the Manpower Development and Training Act, was passed primarily due to pressure from the AFL-CIO. It can be argued that the legislation was not so much popular as it was not strongly opposed, other than by labor interests. At that time, the U.S. had a positive trade balance and near full employment, manufacturing accounted for thirty percent of total employment, and imports were less than five percent of GDP.¹

Although the linkage between liberalized trade and worker retraining assistance made it landmark legislation, the Trade Expansion Act was, at best, only modestly successful. Ten years later, only 52,000 workers were enrolled, due chiefly to strict eligibility requirements. In 1974, the Comprehensive Employment and Training Act (CETA) decentralized control and loosened eligibility requirements.

By the early 1980's, enrollment had grown to well over one million. Also at that time, CETA was under fire because of alleged corruption and mismanagement and was replaced by the Job Training Partnership Act (JTPA).²

Today, federal law provides two major programs to assist in training laid-off workers. The Workforce Investment Act (WIA), which replaced JTPA in 1998, includes programs available for workers regardless of prior work history. TAA is available only for workers laid off by employers certified by USDOL as experiencing trade-related job loss. In addition, some provisions of the version of TAA in force under the Trade Adjustment Assistance Reform Act of 2002 are not available under the WIA or under previous versions of TAA.

U.S. trade policy has been accomplished through multilateral agreements such as the GATT, regional agreements such as the North American Free Trade Agreement (NAFTA), and bilateral or Free Trade Agreements (FTAs) between two countries. The public debate surrounding these agreements has generated claims and counterclaims, but little hard data as to the extent of the impact on U.S. workers. There appear to be no widely accepted conclusions regarding trade liberalization or globalization except that trade is one of several factors causing industry-specific job loss.

For example, the concurrence of a mild recession in Maine in the U.S. in 2000–2001 and the increase in globalization and trade-related activity raises some questions. Were trade-related layoffs accelerated by an overall economic downturn in Maine and the rest of the country? Alternatively, in the absence of liberalized trade policies, would many of these layoffs have occurred anyway? Other factors influencing trade patterns and layoffs are changing consumer tastes and preferences that trigger the demand for new and different products (imports). These factors can alter currency exchange rates between countries. At times, currency exchange rates are possibly a larger contributor to altered trade patterns and job losses than liberalized trade agreements.

The aforementioned impact on U.S. workers is sometimes difficult to pin down, but the general argument can be summarized in the following way.

International trade benefits an economy by lowering prices, encouraging higher productivity, and improving consumer choice. However, these gains from trade are "net" gains. On the way to realizing these net gains, an increase in imports usually contributes to plant closings and worker layoffs. The gains from international trade tend to be very large and are widely distributed throughout an economy. By contrast, the costs associated with liberalizing trade tend to be smaller, relative to the benefits, but they are heavily concentrated by industry, location, and worker demographics. The fact that the gains from international trade almost always outweigh the costs does not mean that the costs are any less real. The costs can be very significant for individual workers and their families. In addition, the costs can potentially undermine efforts to further liberalize trade.³

Maine's situation is complicated by the fact that the state has a rural industrial economy. While both Maine and the U.S. have the same TAA-eligible industries, many in Maine are located in isolated, small communities, where they are, or at one time were, the only sizeable employer. This makes reemployment without relocation especially difficult. In addition, some of the affected industries and employers have fared better than others.

For example, in the case of textiles, significant technological innovation occurred following WWII. The least innovative firms did not survive; the most innovative firms competed successfully both domestically and internationally, albeit with fewer but better paid workers. Thus, much of the steady decline in textile employment during the last 50 years may have been due in large part to the introduction of labor-saving capital rather than import competition.

By contrast, technological improvements in the apparel industry occurred sporadically and incrementally and fewer firms within the industry adopted the advances that were developed. This lack of innovation can explain why apparel has lagged textiles in wages, both nationally and in Maine. Import competition appears to be the chief engine of wholesale layoffs and closings, but as in the case of textiles, workers in the few innovative surviving firms have had substantial real wage gains.⁴ In short, it is fair to say that there are multiple factors, including trade, that contribute in varying degrees to job loss.

Charts 1 and 2 compare U.S. and Maine employment changes in TAA-eligible industries, i.e., industrial sectors within which some firms have been certified by DOL as having suffered employment losses as a result of international trade. The charts cover the time period 1981–2005 and depict the experience of those industries TAA-certified in both Maine and the U.S. Maine's traditional industries—apparel, leather products, paper products, textile products, textiles, and wood products—declined dramatically both in Maine and the U.S. as a whole. In some of these industries, there was a steady, year-to-year decline. In others, the patterns varied. One industry of note is textiles, which consists of all non-apparel textile products. In Maine, more than 50 percent of textile manufacturing firms have fewer than five employees. With few barriers to entry, this industry has many small new entrants. The new firms, however, have not offset the employment losses resulting from the closing of the larger firms.

Chart 1
TAA Certified Industries, United States, 1981- 2005

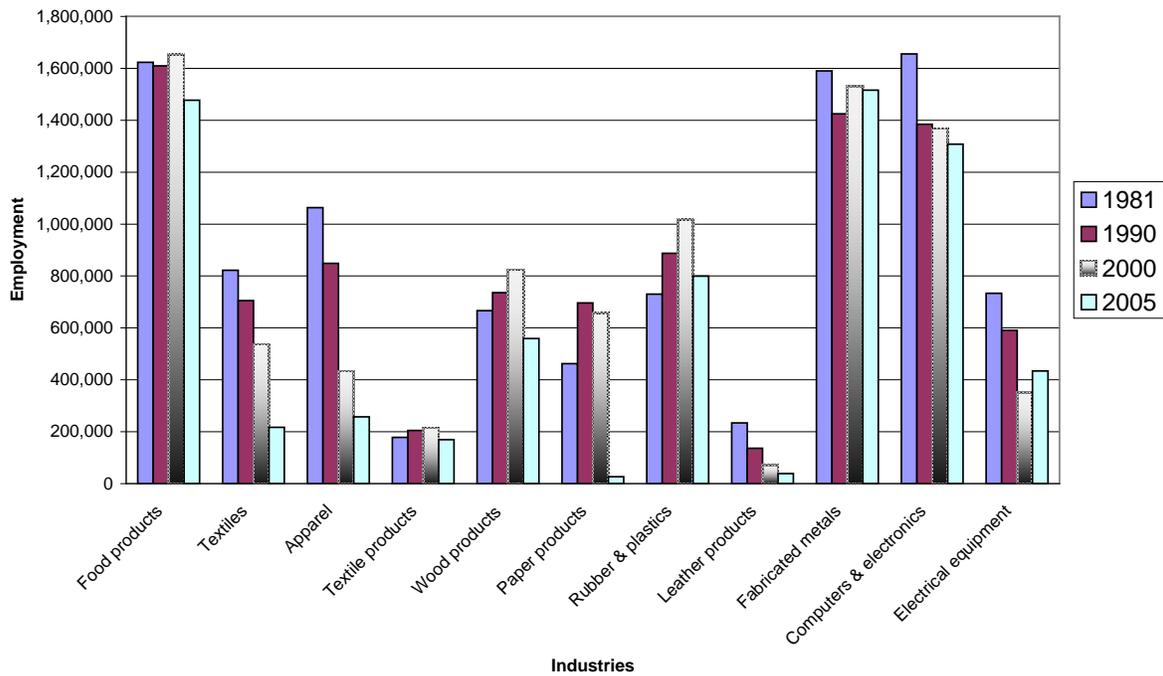
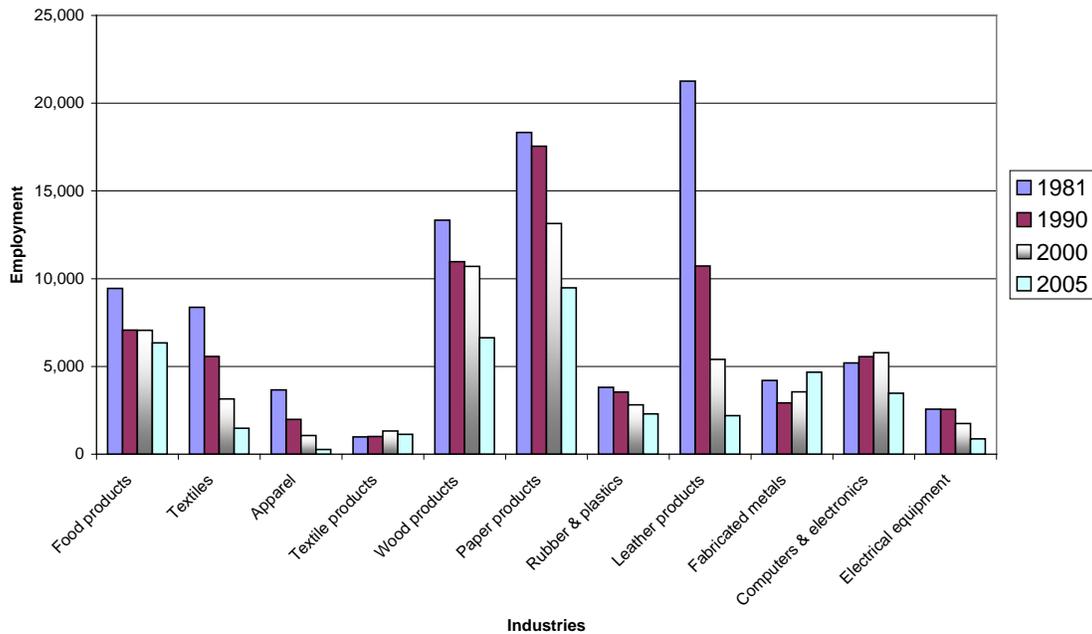


Chart 2
TAA Certified Industries, Maine, 1981- 2005



**In Maine, the current TAA certification for food products applies exclusively to seafood.*

On the next page, Table 1 compares U.S. and Maine employment changes in these industries during the study period (2001–2005) only and includes all employers. (Comparative analysis us-

ing MLS data is based on firms with 20 or more employees.) Maine fared substantially worse than the U.S. in all but fabricated metal, rubber and plastics, and textiles. The U.S. drop in plastics and rubber was due primarily to imports in the tire industry. Maine was not affected by these imports but did have a decline in plastics.

Table 1. Percent change in TAA industry employment, Maine and U.S., 2001-2005

Industry	Maine			United States		
	2001	2005	Percent Change	2001	2005	Percent Change
Food Products	6,895	6,358	-7.8%	1,554,605	1,477,142	-5.0%
Textiles	2,257	1,481	-34.4%	330,072	216,646	-34.4%
Textile products	1,462	1,137	-22.2%	203,341	169,339	-16.7%
Apparel	1,099	268	-75.6%	426,027	257,616	-39.5%
Leather products	4,011	2,195	-45.3%	59,571	39,077	-34.4%
Wood products	7,148	6,636	-7.2%	570,296	559,063	-2.0%
Paper products	12,255	9,476	-22.7%	577,030	482,922	-16.3%
Rubber and plastic products	2,480	2,293	-7.5%	894,801	799,774	-10.6%
Fabricated metal products	5,185	4,672	-9.9%	1,668,100	1,515,902	-9.1%
Computers & electronics	5,767	3,479	-39.7%	1,748,134	1,307,944	-25.2%
Electrical equipment	1,254	869	-30.7%	552,013	433,676	-21.4%
Total	49,813	38,864	-22.0%	8,583,990	7,259,101	-15.4%

Source: Quarterly Census of Employment and Wages

Economic theory suggests that as these industries decline, there should be an increase in real wages due to the greater efficiency of the surviving firms. Table 2 compares changes in nominal and real wages during the study period.

Table 2. Changes in nominal and real wages, TAA industries, Maine and U.S., 2001-2005

Industry	Maine				United States			
	Nominal Wages		Real Wages		Nominal Wages		Real Wages	
	2001	2005	Wages 2005	Percent Change	2001	2005	Wages 2005	Percent Change
Food Products	\$519	\$566	\$513	-1.2%	\$615	\$684	\$620	0.8%
Textiles	\$562	\$657	\$595	6.0%	\$575	\$650	\$589	2.5%
Textile products	\$459	\$564	\$511	11.4%	\$509	\$586	\$531	4.3%
Apparel	\$352	\$516	\$468	32.9%	\$444	\$567	\$514	15.7%
Leather products	\$518	\$587	\$532	2.7%	\$550	\$662	\$600	9.1%
Wood products	\$544	\$635	\$576	5.8%	\$574	\$656	\$595	3.6%
Paper products	\$999	\$1,115	\$1,011	1.2%	\$880	\$988	\$895	1.8%
Rubber and plastic products	\$643	\$734	\$665	3.5%	\$682	\$767	\$695	1.9%
Fabricated metal products	\$690	\$767	\$695	0.7%	\$720	\$816	\$740	2.7%
Computers & electronics	\$855	\$1,179	\$1,069	25.0%	\$1,243	\$1,483	\$1,344	8.1%
Electrical equipment	\$717	\$906	\$821	14.5%	\$777	\$912	\$827	6.4%

Source: Quarterly Census of Employment and Wages

The Consumer Price Index (CPI) used to convert the 2005 wages into "constant" dollars is from BLS, taken from the Federal Reserve Bank of Minneapolis. It is based on annual average CPI and is equal to $.9063 = CPI_{01}/CPI_{05}$.

Real wages are the 2005 nominal wages expressed in 2001 dollars. They reflect an actual improvement in a worker's standard of living—nominal pay increases have exceeded the rate of inflation. These gains, however, apply only to the workers still employed at the end of 2005. It is not known whether there was new investment in the industries with real wage gains, and therefore higher productivity—only that there were gains. Anecdotal evidence from industry histories suggests that, over time, new capital investment did take place and led to greater productivity. Rising real wages in some industries seem to bear this out.

Proponents of TAA-type programs argue that despite innovation and productivity gains, the negotiated trade agreements favor imports, and affected workers are entitled to the extended unemployment and training benefits afforded by TAA. Others argue against the continuation of TAA programs because there is very little demonstrated improvement to worker earnings.

The lack of complete, useful data from state programs makes evaluating the effectiveness of both TAA and WIA programs—especially training—difficult. According to the U.S. Government Accountability Office:

Little is known on a national level about the outcomes of those being trained. Certain aspects of the [USDOL] database have been found to be incomplete and unverified. Additionally, data generally cannot be compared across states or local areas because of variations in data definitions.⁵

Part III: 2001–2005 Overview

To summarize what happened in Maine during 2001–2005, there were:

- 211 confirmed manufacturing layoff events that affected 111 firms;
- 20,206 separations;
- 15,309 claims for UI benefits filed by 12,028 workers;
- 50 business and worksite closings;
- 68 firms that received TAA certification; and
- 4,968 workers who received TAA certification and 7,060 workers who did not.

Table 3. Manufacturing layoff events by North American Industry Classification System, Maine, 2001 to 2005

NAICS Description	Number of Events	Initial Claims	Separations
Food products	19	1,121	1,521
Textiles & textile mill products	16	1,100	1,481
Apparel	10	637	688
Wood products	38	1,307	1,552
Paper products	29	3,054	3,964
Chemicals & petroleum products	10	1,691	1,918
Rubber & plastic products	3	116	155
Leather & leather products	20	1,588	1,946
Primary metals & fabricated metal products	8	431	595
Industrial & commercial machinery	5	220	267
Electronic & electrical equipment	29	2,357	2,708
Transportation equipment	12	1,039	1,007
Miscellaneous manufacturing	12	648	2,404
Total	211	15,309	20,206

Source: Quarterly Census of Employment and Wages

Some industries are combined because employer information does not meet disclosure standards.

Table 3 includes both claims and separations. Separations are the actual number of workers laid off as reported by employers. Claims are those filed by workers applying for UI benefits. Since claims represent roughly 75 percent of actual laid-off workers, they are a good proxy for the actual number of separations. The 15,309 claims were filed by 12,028 workers, many of whom were involved in several layoff events.

Table 4 shows the frequency of the reasons for layoffs given by the affected employers. Note that “Import Competition,” and “Overseas Relocation,” which are evidence of free trade and globalization, together account for 42 events and 22 closings. If we ignore “seasonal,” then these two reasons represent 25 percent of the remaining 169 events. “Slack Work,” “Financial Difficulty,” “Contract Cancellation,” and “Bankruptcy” are often associated with recession. In fact, in 2001 – 2002, a mild recession occurred in Maine.

* Data not disclosed (Table 4)

Table 4. Reasons for layoffs, Maine, 2001-2005

Reason	Frequency	Closings
Bankruptcy	6	5
Contract Cancellation	6	*
Domestic Relocation	3	*
Financial Difficulty	10	8
Import Competition	38	19
Material Shortage	4	0
Overseas Relocation	4	3
Plant or Machine Repair	3	0
Product Line Discontinued	4	*
Reorganization	19	9
Seasonal	42	0
Slack Work	65	3
Other	7	3
Totals	211	50

Source: Mass Layoff Statistics program

Table 5 shows industries by firm size (number of employees) for 2001, the first year of the study period. While several employers in each industry sought and received TAA certification, the comparative analysis in this study, using MLS data, is based on firms with 20 or more employees. Therefore, 763 of the 1,141 firms (67 percent) are not included. However, 92 percent of the employment in these industries is in firms with more than 20 employees.

Table 5. Firms by number of employees in TAA industries, Maine, 2001

Industry	All firms	1-4	5-9	10 - 19	20 - 49	50 - 99	100 or more
Food products	221	89	37	40	26	12	17
Textiles	36	6	6	6	6	8	4
Textile product mills	71	38	11	6	8	4	4
Apparel	30	11	5	4	4	3	3
Leather products	42	12	4	3	5	2	16
Wood products	263	97	41	30	46	24	25
Paper products	56	14	2	5	10	4	21
Rubber & plastics products	60	16	12	12	10	4	6
Fabricated metal products	279	125	46	43	36	18	11
Computer & electronic products	58	15	6	5	14	9	9
Electrical equipment	25	8	3	5	3	1	5
Total	1,141	431	173	159	168	89	121

Source: Quarterly Census of Employment and Wages

Before moving to consider TAA eligible workers, three important points should be made about TAA eligible firms:

- ✓ They accounted for the bulk of manufacturing layoffs during the study period;
- ✓ TAA eligible layoff events tended to be larger than non-TAA layoffs; and
- ✓ TAA firms had, in 2001, disproportionately large shares of their sector's employment and paid below average wages compared to their non-TAA peers.

Over the 2001 to 2005 period, TAA related layoff events accounted for 87% of manufacturing layoff events in Maine, but 92% of the separations resulting from these events. The average separation per event was 100 for TAA firms, but only 63 for non-TAA firms. TAA related separations accounted for 92% of all manufacturing separations over the study period. This share ranged from a high of 97% in the Electronics & Electrical Equipment sector to lows of 80% in the Food and Industrial and Commercial Machinery sectors.

In 2001, the firms that went on to suffer a TAA eligible layoff event by 2005 accounted for only 2% of all firms in their sectors, but 7% of all employment. In addition, these "TAA to be" firms paid average weekly wages that were 20% below the averages paid by the non-TAA firms in their own sectors. This wage discrepancy ranged from a low of 72% in the Rubber & plastics, and Leather sector to a high of 99% in the Metals sector.

Table 5a presents these data.

Table 5a. TAA Firms in 2001

Industry	% of firms	% of Employment	% of Non-TAA Avg. Wage
Textile Mill Products and Apparel	2%	14%	87%
Lumber and Wood Products; and Furniture and Fixtures	1%	4%	96%
Paper and Allied Products	5%	6%	93%
Rubber and Miscellaneous Plastics Products; and Leather and Leather Products	6%	8%	72%
Primary Metal Industries and Fabricated Metal Products	1%	2%	99%
Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks and Miscellaneous Manufacturing	2%	29%	85%
Total	2%	7%	80%

Source: Mass Layoff Statistics Program and Quarterly Census of Employment and Wages

These data tend to confirm the point made earlier that those firms most likely to be vulnerable to international competition are those using more workers and paying lower wages (and thus probably not investing in productivity enhancing capital equipment) relative to their peers.

Part IV: Comparative Analysis of TAA and Non-TAA Workers

Of the total of laid-off workers, 4,968 were certified for TAA and 7,060 were not. Table 6 shows that TAA workers, as a group, were older than non-TAA workers. Roughly 62 percent of TAA workers were 45 years of age or older, as compared to 42 percent of non-TAA workers. Many of the TAA industries are Maine's traditional industries (found in rural areas), and it is likely that several generations of the same families have been employed in them. Non-TAA workers are generally younger. They have had no "family ties" to the traditional industries and have had more options open to them.

Table 6. Age groups of TAA and Non-TAA workers*

Age Group	All	Percent	TAA	Percent	Non-TAA	Percent
Under 25	647	5.4%	81	1.6%	566	8.0%
25 - 34	2,051	17.1%	525	10.6%	1,526	21.6%
35 - 44	3,246	27.0%	1,265	25.5%	1,981	28.1%
45 - 54	3,710	30.8%	1,943	39.1%	1,767	25.0%
55 and Over	2,362	19.6%	1,151	23.2%	1,211	17.2%
Information not available	12	0.1%	3	0.1%	9	0.1%
Total	12,028	100.0%	4,968	100.0%	7,060	100.0%

Source: Unemployment Insurance Benefits Program

* Age is based on the date the worker first applied for benefits

Table 7 shows that the percentage of TAA workers who were female was higher than for non-TAA workers. This is more than likely due to the nature of TAA industries. Apparel, Food products, and Textile manufacturers, for example, have traditionally had more female workers.

Table 7. Gender of TAA and Non-TAA workers

Gender	All	Percent	TAA	Percent	Non-TAA	Percent
Male	7,903	65.7%	3,025	60.9%	4,878	69.1%
Female	4,125	34.3%	1,943	39.1%	2,182	30.9%
Total	12,028	100.0%	4,968	100.0%	7,060	100.0%

Source: Unemployment Insurance Benefits Program

The age and gender data are consistent with national data, although corresponding national surveys over precisely the same time period could not be found. Lori Kletzer examined "high import competing" industries over the 1977 to 1997 period and found that the female share of the workforce was basically the same as Maine's TAA industries. For the 1990-1999 period she found that 32 percent of the "high import competing" industry workers were 45 or older compared to 25 percent of the "low import competing" industries. Over the same period, 45 percent of the "high import competing industries" were 45 percent female compared to 35 percent of the "low import competing" industries."⁶

There are occupational data for 87 percent of the TAA workers and 98 percent of the non-TAA workers. Since they are manufacturing workers, it is not surprising that production occupations predominate. One category worth noting is "structural work." Several firms are classified as manufacturing because most of their business involves the manufacture of building material. They also engage in construction activity; thus many of their laid-off employees are construction workers. All of these firms were non-TAA and all of the layoffs were seasonal.

Table 8. Occupations of TAA and Non-TAA Claimants

Occupation	TAA		Non-TAA	
Professional & technical	111	2.2%	344	4.9%
Administration & management	244	4.9%	382	5.4%
Clerical and office support	171	3.4%	203	2.9%
Sales	45	0.9%	132	1.9%
Service occupations	64	1.3%	256	3.6%
Forestry	9	0.2%	216	3.1%
Production	2,493	50.2%	2,637	37.4%
Structural work	124	2.5%	1,130	16.0%
Distribution & handling	1,076	21.7%	1,585	22.5%
Information not available	631	12.7%	175	2.5%
Total	4,968	100.0%	7,060	100.0%

Source: Bureau of Employment Services

During 2001–2005, the Bureau of Employment Services switched from the Dictionary of Occupational Titles (DOT) to the Standard Occupational Classification System (SOC). Data are based on DOT and SOC two-digit codes and descriptions are combined from DOT and SOC.

Slightly more TAA workers than non-TAA workers were high school graduates. Otherwise, in terms of educational attainment, there was little difference between the TAA and non-TAA workers.

Part V: Training Programs for Job Seekers

The primary assistance available to unemployed workers is provided under TAA and WIA.⁷ WIA is for all workers regardless of their work history, while TAA who experienced trade-related job losses.

Workforce Investment Act

WIA authorized the establishment of a state Workforce Investment Board (WIB) and additional local WIBs to administer local workforce development needs and “One-Stop” career centers (Maine’s CareerCenters). They provide three sequential tiers of services.

1. Core services include access to career and labor market information and job listings as well as some job search assistance.
2. Intensive services (for those who have not found employment through core services) include case management, comprehensive assessments, and life-skills workshops and involve staff assistance, leading to an individualized employment plan.
3. Training services (for those who have not found employment through core and intensive services) include classroom-based skills training and employer-linked on-the-job training, leading to a specific occupation.

Because of the costs involved, workers cannot move to a higher level of service until a lower level has proven unsuccessful. The emphasis is on job placement as soon as possible. Some critics argue that this deemphasizes training and leads to lower skilled employment than potentially would have been possible with training. In addition, intensive and training services are provided with priority given to those who have low incomes or are receiving public assistance. Most recently laid-off manufacturing workers do not have low incomes and are not receiving public assistance.

Unlike TAA, WIA is universal (not tied to specific layoff events). Workers may or may not be receiving or eligible for UI benefits. A major problem is that each state gets a fixed allocation based on a formula. Therefore, the program is universal only as long as the funding lasts.

In practice, workers fall into one of three categories: adults (18 or older), dislocated workers, and youths. (This study did not examine youths.) WIA sets aside 20 percent of the Congressional authorization for dislocated worker programs. One of these is the National Emergency Grant program which provides additional services for dislocated workers. For several reasons, this program has been used extensively and successfully in Maine. For one thing, it allows states to bypass the aforementioned low income and public assistance priorities and allocate funds directly to dislocated workers. For another, as a competitive grant program, it often has been targeted to areas particularly stressed by layoffs.

Trade Adjustment Assistance

TAA is designed to help workers return to jobs with similar wages in stable industries. Training and income support are provided if necessary. Although it’s capped, TAA is an entitlement program (whereas WIA is formula-based), and funding is channeled directly to workers.

A petition for TAA certification can be submitted by an employer, by a group of three or more workers, by CareerCenter staff, or by another worker representative, such as a union. The petition is reviewed by USDOL Division of Trade Adjustment Assistance (DTAA). After receiving a TAA petition, DTAA investigators analyze facts contributing to the layoffs or work reductions in order to determine if the following eligibility requirements are met.

1. The workers' firm produces a product;
2. A required minimum of the workforce (three workers in groups of fewer than 50 or five percent of the workforce in groups of 50 or more) has been laid off in the 12 months preceding the date of the petition or is threatened with layoffs; and
3. One of the following:
 - a. Increased imports contributed importantly to an actual decline in sales or production and to layoffs or threat of layoffs; or
 - b. There has been a shift in production to certain countries outside the US; or
 - c. There has been a shift in production outside the US and there has been or is likely to be an increase in the import of like or similar articles; or
 - d. Loss of business as a supplier of component parts, a final assembler, or a finisher for a TAA-certified firm contributed importantly to an actual decline in sales or production and to layoffs or threat of layoffs.

When a petition is approved, the workers are notified. They must then register for individual certification. Any worker, if laid off by a certified employer, will be approved. For unknown reasons, many workers do not register. Potentially, some of the non-TAA workers included in this study could have been covered by TAA.

The Trade Adjustment Assistance Reform Act of 2002 has the following specific provisions not available in WIA or previously in TAA:

- Eligibility has been expanded to include “downstream” workers—those in firms providing additional value-added activity for a certified employer.
- Alternative Trade Adjustment Assistance (ATAA) is a form of wage insurance that encourages older workers (50+) (for whom training is not appropriate) to return to work quickly, even at a lower paying job. ATAA provides 50 percent of the pay gap between the new and old jobs and is available for two years to a maximum of \$10,000.
- A tax credit is provided for 65 percent of health care insurance premiums.
- A Trade Readjustment Allowance (TRA) is income support to individuals in approved training for up to 78 weeks following the exhaustion of the 26-week UI benefits.
- A relocation allowance is provided for up to 90 percent of the cost of moving to secure suitable employment.
- A job search allowance is available to cover expenses incurred when seeking employment outside the immediate commuting area if suitable employment is not available in the area.
- Training, intended to achieve reemployment as quickly as possible at a skill level as high or higher than the job of separation, is available for a maximum of 104 weeks, with income support for 78 weeks. If remedial education is required, an additional 26 weeks of training may be available.

Part VI: Post-layoff Comparison of the Two Claimant Groups

Wage Recovery

Table 9 presents a comparison of TAA and non-TAA wage outcomes. The left side of the table shows the number and percent of workers with no wages at any time during the post-layoff period. Overall, a higher percentage of TAA workers had no wages, probably because as a group they are older and many chose retirement. The higher number of females among TAA workers also may be a factor.

The right side shows the number and percent of workers achieving at least 80 percent of their pre-layoff average wages. (80 percent is the criterion used by the Employment and Training Administration as the measure of successful reemployment.) It is surprising that more non-TAA workers (67 percent) reached the 80 percent criterion than TAA workers (44 percent). Several factors could account for this result. One is that younger workers tend to have lower wages, making it easier to match pre-layoff wages without retraining. Another is that non-TAA workers in WIA are, by definition, those who have low incomes, making it easier to match pre-layoff wages. By far, the biggest factor is that many more non-TAA workers were recalled, thus reestablishing their former wages.

Table 9. TAA and Non-TAA workers with eighty percent or more wage replacement, Maine, 2001-2005

Year	Number	No Post Wages	Percent	TAA		
				With Wages	Post Avg-Pre Avg Ratio Greater than 80 Percent	Percent of Total with Wages by Year
2001	1,423	98	6.9%	1,325	671	50.6%
2002	1,260	115	9.1%	1,145	491	42.9%
2003	2,016	235	11.7%	1,781	807	45.3%
2004	991	146	14.7%	845	400	47.3%
2005	429	35	8.2%	394	51	12.9%
Total	6,119	629	10.3%	5,490	2,420	44.1%

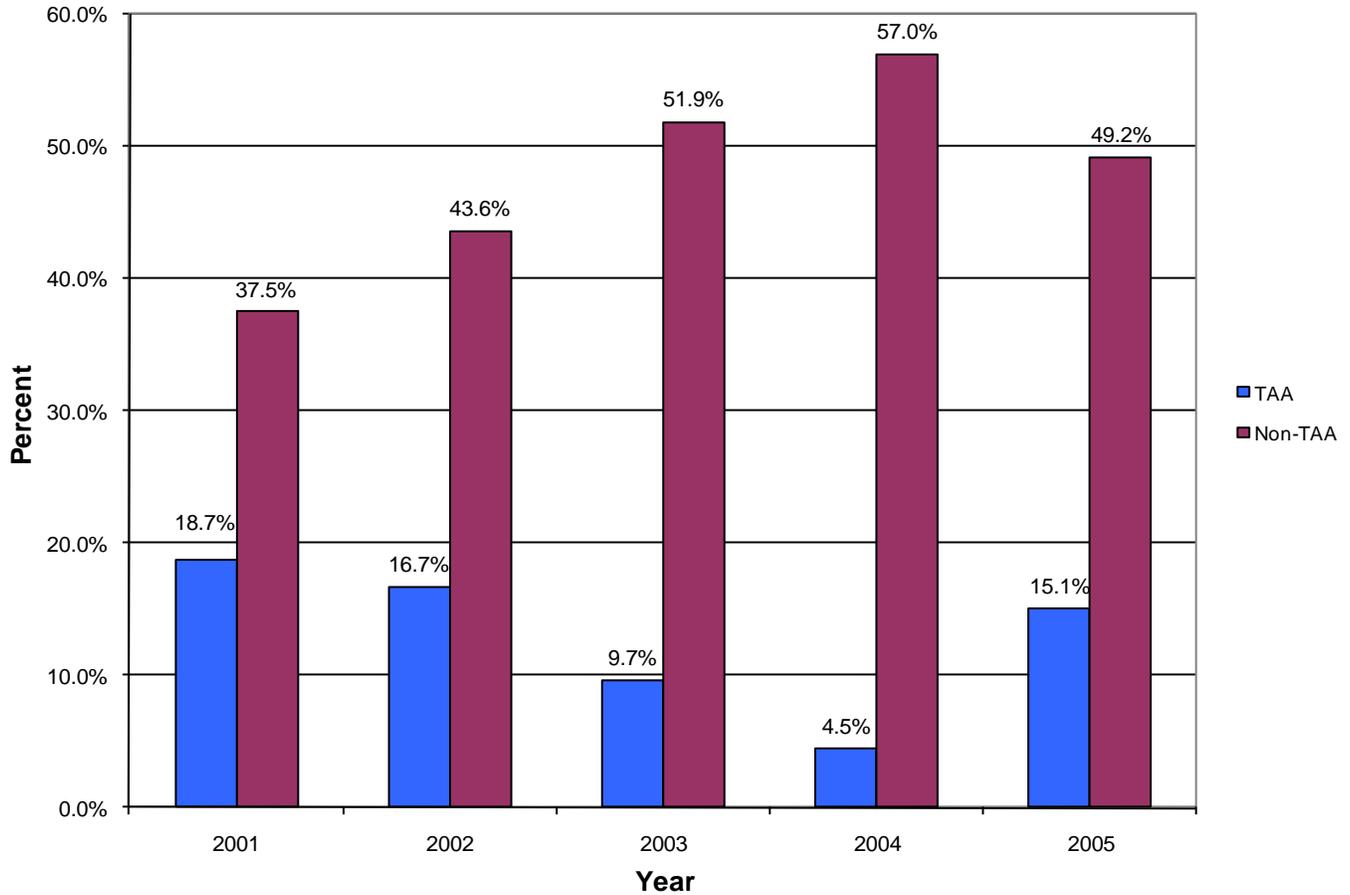
Year	Number	No Post Wages	Percent	Non-TAA		
				With Wages	Post Avg-Pre Avg Ratio Greater than 80 Percent	Percent of Total with Wages by Year
2001	2,054	155	7.5%	1,899	1,239	65.2%
2002	1,855	135	7.3%	1,720	1,220	70.9%
2003	2,001	112	5.6%	1,889	1,384	73.3%
2004	1,307	69	5.3%	1,238	860	69.5%
2005	1,967	169	8.6%	1,798	1,035	57.6%
Total	9,184	640	7.0%	8,544	5,738	67.1%

Source: Mass Layoff Statistics Program

Chart 3 shows that non-TAA workers had an overwhelming edge in recalls. However, the chart does not indicate how long recalled workers remained on the job.

The difference in recall experiences is partially explained by the fact that TAA certification suggests that a firm is closing or downsizing. All 50 closings during the study period were TAA firms. Non-TAA workers were often from firms with periodic and seasonal layoffs and recalls. There were, in fact, 1,580 workers from such firms. Additionally, non-TAA firms without seasonal layoffs began to recover beginning in 2003, while, at the same time, several large TAA firms closed.

Chart 3
Percent of Workers Recalled by the Layoff Employer



In their best year (2001) fewer than 20 percent of TAA workers were recalled by their employers. Where did those not recalled go? Table 10 shows the NAICS Sectors in which the not recalled TAA workers attained their highest post layoff wages.

Table 10. Sector distribution of TAA workers not recalled, 2001-2005

Sector	2001	2002	2003	2004	2005
Construction	5.4%	6.0%	8.3%	9.9%	6.5%
Manufacturing	22.2%	20.9%	19.9%	26.1%	29.2%
Wholesale trade	4.3%	2.4%	4.4%	5.2%	4.9%
Retail trade	14.5%	12.6%	10.1%	12.8%	11.9%
Administrative & support services	14.5%	17.1%	18.9%	6.6%	17.3%
Healthcare	18.1%	18.2%	10.7%	13.7%	8.6%
Accommodation & food service	5.4%	4.5%	4.7%	2.1%	5.9%

The manufacturing sector accounted for the most reemployment but the percentage was never greater than 29 percent. The other relatively high reemployment sectors have a high-end wage structure, but these jobs would not, for the most part, be open to former production workers.

Training Program Participation

Of the 4,968 TAA workers, 4,305 (87 percent) registered for WIA at CareerCenters at least once. For the purpose of this study, TAA workers are those eligible for Trade Readjustment Assistance (TRA) income support during training. However, there are TAA workers eligible for training but not TRA. Therefore, the actual number of TAA workers is somewhat understated.

Of the 7,060 non-TAA workers, 1,295 (18 percent) registered for WIA. These numbers are misleading because the data for assessing the CareerCenters services for non-TAA workers are available only for those registered for WIA. (If a worker registered under the Wagner-Peyser program, as many do, the data were not available.)

Both TAA and non-TAA workers received core services and, if unsuccessful at finding employment, moved on to intensive services. Then, if workers were still unsuccessful, they entered training. At this point, TAA workers had a distinct advantage, because TRA is available for up to 78 weeks, once UI benefits have been exhausted. In Maine, non-TAA workers do not receive income support during training beyond that provided by UI benefits, unless they qualified for the Dislocated Worker Benefits program which could provide up to 26 additional weeks of benefits.

Training

CareerCenter services include occupational skills and other forms of training. Occupational skills training is most associated with career changes, because it usually consists of developing skills for new occupations as determined by the development of an employment plan. It is most used by TAA workers and is usually long-term. Case management is most used by non-TAA workers. It consists of several types of brief training activities that are more remedial in nature.

Tables 11 and 12 show registrations that exceed the numbers given previously because some workers are registered during more than one year. They also show those registered in training for each year, the number employed at the time of exit (which assumes training was completed), and the number of placement occupations that match the training activity. Please note that while employment at time of exit and placement-to-training matches can be seen as positive outcomes, unemployment or non-matching employment is not a negative outcome. Sometimes, employment is not immediately available or the training, however important, is not linked to a specific occupation. Other times, employment, such as self-employment or military service, is not covered by the UI program and is not included in the post-training numbers.

Table 11. TAA registered at CareerCenters, employed, and with jobs matching training, 2001-2005

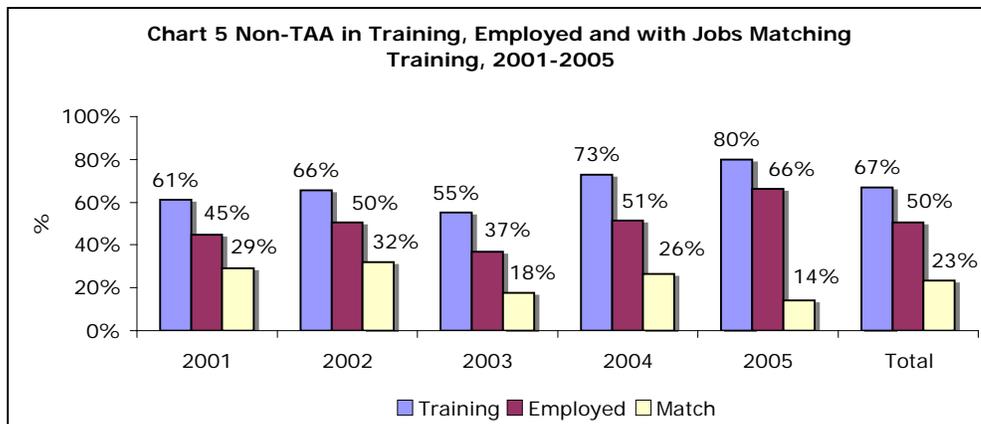
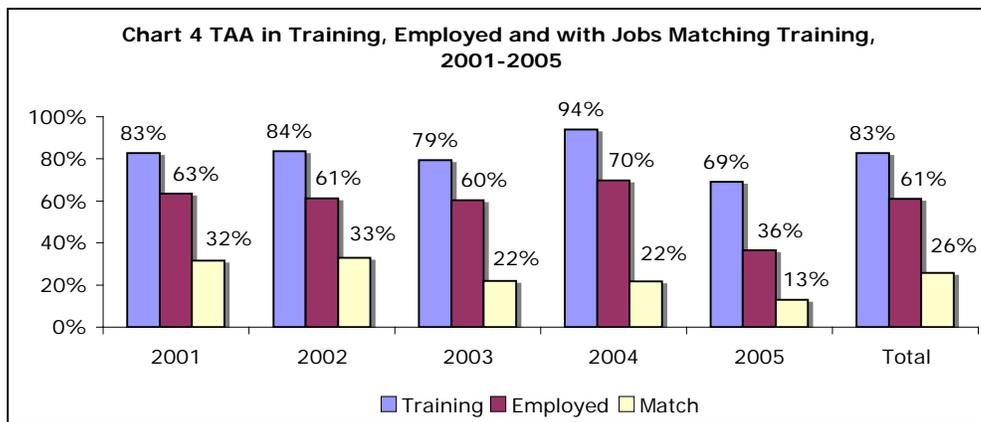
Year	Registered	Training	Percent	Employed	Percent	Placement	
						Matched Training	Percent
2001	1,218	1,008	82.8%	773	63.5%	385	31.6%
2002	1,028	861	83.8%	631	61.4%	339	33.0%
2003	1,680	1,333	79.3%	1,015	60.4%	368	21.9%
2004	885	832	94.0%	618	69.8%	192	21.7%
2005	390	270	69.2%	142	36.4%	51	13.1%
Total	5,201	4,304	82.8%	3,179	61.1%	1,335	25.7%

Table 12. Non-TAA registered at CareerCenters, employed, and with jobs matching training, 2001-2005

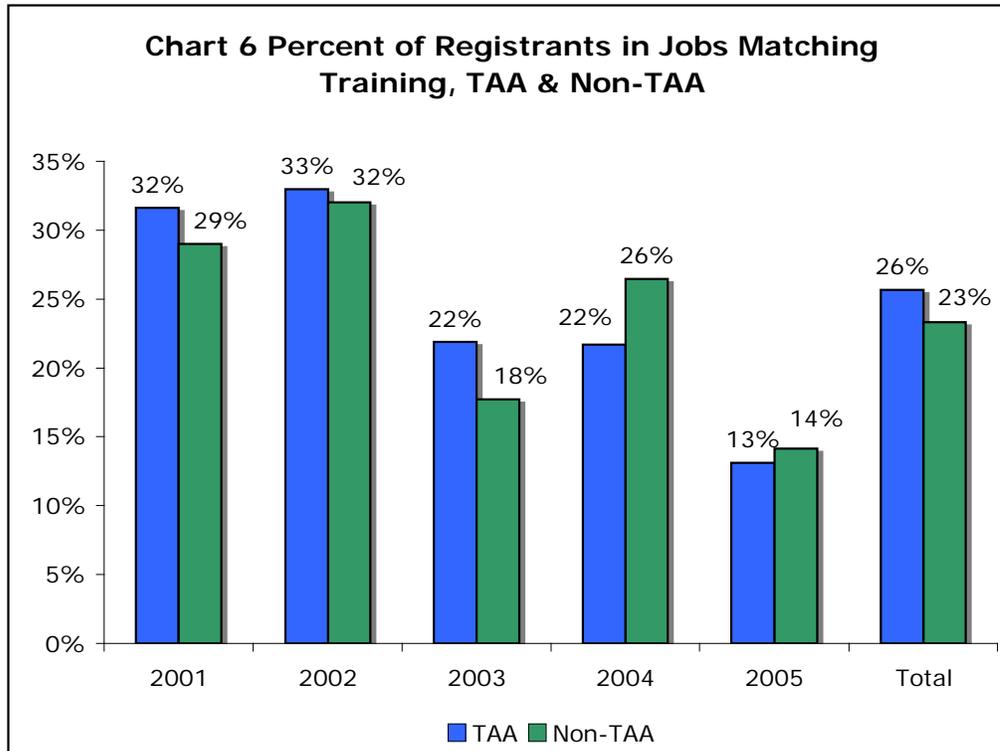
Year	Registered	Training	Percent	Employed	Percent	Placement	
						Matched Training	Percent
2001	386	236	61.1%	173	44.8%	112	29.0%
2002	256	168	65.6%	129	50.4%	82	32.0%
2003	288	159	55.2%	106	36.8%	51	17.7%
2004	185	135	73.0%	95	51.4%	49	26.5%
2005	368	294	32.9%	244	25.8%	52	14.1%
Total	1,483	992	55.2%	747	40.3%	346	23.3%

Source: Bureau of Employment Services

Charts 4 and 5 show these outcomes as percentages of the number of workers registered at CareerCenters. Blue indicates the percentage of those registered who are in training programs; maroon indicates the percentage of those registered who have employment at the time of exit; and yellow indicates the percentage of those who have employment that matches training. TAA's emphasis on training is evident. With the exception of 2005, almost 80 percent or more of TAA workers were registered in training programs. For non-TAA workers, the percentages were significantly lower.



It is striking, however, that the percentages of workers in jobs matching their training is not significantly different between the two groups and that for the entire five-year period, the share for TAA workers is slightly higher than for non-TAA workers. Chart 6 presents the training segments of Charts 4 and 5 side by side.



Post-training Wage Outcomes

After training, the wage outcomes for TAA workers improved substantially. The percentage of non-TAA workers who achieved 80 percent of their pre-layoff wages was higher than that for TAA workers, but the non-TAA workers' training consisted, for the most part, of short-term case management prior to being recalled. (Furthermore, only TAA workers received income support during training.) Recalls still heavily influence the non-TAA workers' reemployment earnings.

Part VII: Conclusion

Of the 12,028 workers who were laid off during 2001-2005, 4,968 or 41 percent were certified for TAA. There were actually 15,309 claims for UI benefits because some workers were involved in several layoff events, which is a common pattern in manufacturing. The large number of claimants and the layoff-recall-layoff cycle made precise tracking of individual employment and wage outcomes difficult. Yet, some very informative data were revealed.

1. Maine age and gender data matched US data: TAA workers were older and included a higher percentage of females than non-TAA workers.
2. Education and occupational data were generally the same for both TAA and non-TAA workers and, for the most part, reflected a manufacturing or blue-collar background.
3. About 3,486 non-TAA workers were eligible for TAA certification but failed to apply.
4. Far more non-TAA workers than TAA workers were recalled by their pre-layoff employers. Therefore, non-TAA workers benefited as far as pre-layoff wage recovery was concerned.
5. Only 44 percent of the reemployed TAA workers achieved 80 percent of their pre-layoff wages but, when only those in training were considered, 56 percent reached that level.
6. After training, the gap between TAA and non-TAA workers achieving 80 percent of their pre-layoff wages narrowed.
7. Based on wage data, dislocated manufacturing workers are best off when they are reemployed in manufacturing.
8. During 2001-2005, Maine lost 88 manufacturing firms and 13,180 jobs.

Could more than 56 percent of TAA workers achieve 80 percent of their pre-layoff wages? If not, it would mean that 44 percent of workers affected by globalization are doomed to a lower standard of living and perhaps tenuous employment. A more realistic percentage would be available if additional post-layoff quarters were studied so that the wage outcomes of 2004 and 2005 separations could be examined. This report has post-layoff data through 2006Q3. How these workers fared during 2007 is unknown.

But additional quarters for evaluation won't necessarily change the five-year average of 56 percent with 80 percent wage recovery. In 2001 and 2002, additional post-layoff quarters were studied and only 56 and 62 percent of TAA workers respectively achieved the 80 percent wage recovery rate.

Why did 3,486 workers eligible for TAA certification fail to apply? Was age a factor? These data point toward a larger problem regarding workers' failure to apply for benefits. According to the USDOL Office of Workforce Security, only 32 percent of total unemployed workers (including non-manufacturing) apply for any of the UI programs, including even the most basic program that would yield a weekly benefit check. TAA would yield a check for up to 78 weeks; pay for child care, health insurance (via tax credit), and 90 percent of job search and relocation expenses; and subsidize the worker through the training period. Yet more than 40 percent of those eligible didn't even apply. Was a recall or another job available? Did the workers retire? Were the workers simply unable to live on the weekly UI benefit amount, no matter how long they could collect it? Was the idea of a new career or returning to school intimidating? These possible reasons for low program participation are often cited by CareerCenters counselors.

The heart of these issues and the greatest challenge for policymakers is the fact that Maine's manufacturing unemployed are better off going back into manufacturing, but the state's manufacturing base is rapidly shrinking. The loss of so many manufacturing firms and jobs during 2001-2005 was not due to a business cycle. Indeed, from 2005-2007, an additional 34 firms and 2,030 jobs disappeared. So, with manufacturing jobs an unlikely reemployment option, what training should TAA workers pursue? And will there be job openings to match that training?

The 56 percent figure for workers recovering wages won't be improved upon unless there is training that matches suitable jobs and those suitable jobs exist. The existence of such jobs and the availability of relevant training also would encourage at least some of the 3,486 workers who did not apply for TAA certification to do so.

Some of the workers may not have applied for certification because they already had transferable skills and quickly regained suitable employment before enrolling in TAA. These workers are thought to be generally more highly skilled and are able to find jobs close to their prior earnings. Recent changes in enrollment procedures to enroll all eligible workers at the time of separation may affect future studies in this area in response to the replacement ratio of the workers.

Footnotes

1. Rosen, Howard. "Reforming Trade Adjustment Assistance: Keeping a 40-Year Promise." Paper presented at the Peterson Institute for International Economics conference on Trade Policy in 2002. February 2002.
2. Friedlander, Daniel, David H. Greenberg, and Philip K. Robins, "Evaluating Government Training Programs for the Economically Disadvantaged," *Journal of Economic Literature*, vol. 35, no. 4, December 1997.
3. Rosen, "Reforming Trade Adjustment Assistance: Keeping a 40-Year Promise."
4. Klein, Michael W., Scott Schuh, and Robert Triest, *Job Creation, Job Destruction, and International Competition*, Boston: WE Upjohn Institute for Employment Research, October 2003.
5. U.S. Government Accountability Office, Workforce Investment Act, Report to Congressional Requesters, June 2005, GAO-05-650.
6. Kletzer, Lori, "Job Loss from Imports: Measuring the Costs," Peterson Institute for International Economics, September, 2001.
7. U.S. Department of Labor Employment and Training Administration web site, Workforce Investment Act, Adults and Dislocated Worker Program.

See page 13

The program descriptions are taken for the most part from *Training Policy in Brief. An overview of Federal Workforce Development Policies (2007)*, by Gwen Rubenstein and Andrea Mayo⁷ and from the specific public laws enabling each program.

Descriptions of TAA and WIA, for the most part, are taken from *Training Policy in Brief* and specific public laws enabling each program.

Glossary

Abbreviations

Abbreviations	Description
CWRI	Center for Workforce Research and Information
ETA	Employment and Training Administration (US Department of Labor)
FTA	Free Trade Agreement
GATT	General Agreement on Tariffs and Trade
MDOL	Maine Department of Labor
MLS	Mass Layoff Statistics program
NAFTA	North American Free Trade Agreement
NAICS	North American Industry Classification System
OSOS	One Stop Operating System database - CareerCenter activity
TAA	Trade Adjustment Assistance or Trade Adjustment Act
TRA	Trade Readjustment Allowance
UI	Unemployment Insurance
UI Benefits	Unemployment Insurance employee benefits program database
UI Tax	Unemployment Insurance employer tax program database
USBLS	US Bureau of Labor Statistics (U.S. Department of Labor)
USDOL	US Department of Labor
WIA	Workforce Investment Act
WIB	Workforce Investment Board

Terminology

Terminology	Description
claimant	Separated worker filing for /receiving benefits
claims (initial claims)	Separated workers filing for UI benefits
globalization	An international institutional, legal and political structure allowing for increasingly freer movement of labor, commodities, final goods and capital.
import competition	Inflow of foreign-made goods into markets usually served by domestic producers
Industry sector	Basic industry classification: construction, manufacturing etc.
Industry subsector	More detailed breakout of a sector: Textiles, Apparel, etc.
layoff event	At least 20 workers separated for more than 30 days
money or nominal wages	Actual wages paid expressed in dollars.
outsourcing	Replacing local production activity with out of state or out of country contracted labor or by moving work to another state or country.
productivity	A measure of changes in output per unit of input, usually labor. In this study, productivity is associated with an increase in real wages resulting from the introduction of innovative technology to the production process
real wages	Money or nominal wages expressed in <i>constant</i> dollars thereby eliminating the effects of inflation. This study uses the Consumer Price Index to convert nominal wages into real wages.
recall	Employment by layoff employer during the post-layoff period
reemployment	Employment by any employer during the post-layoff period.
separations	Actual number of workers who were laid-off
wage recovery	Percent of pre-layoff average wages realized from post-layoff reemployment

