

EFFECTIVE AID TO TRADE-IMPACTED MANUFACTURERS

An Evaluation of the Trade Adjustment Assistance Program



ECONOMIC DEVELOPMENT
ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

November, 1998



Prepared by:

The Urban Institute

Metropolitan Housing and Communities
2100 M Street, NW ! Washington, DC 20037

The nonpartisan Urban Institute publishes studies, reports, and books on timely topics worthy of public consideration. The views expressed are those of the authors and should not be attributed to the Urban Institute, its trustees, or its funders.

Acknowledgments

This report was drafted by Christopher Walker and Kathy Pettit of the Urban Institute and Brandon Roberts of Brandon Roberts + Associates. Mark Rubin of the Urban Institute assisted with data acquisition and Diane Hendricks and Regina Madison assisted with report preparation. We acknowledge the assistance of John McNamee, Kay Fronk and Tony Meyer of the U.S. Department of Commerce.

We would like to extend special thanks to the Sponsors, Directors and staff of the twelve Trade Adjustment Assistance Centers, who complied with our data requests, gave their time to the site research teams, and helped arrange interviews.

The findings, conclusions, and analysis are the responsibility of the authors, and do not necessarily reflect the views of the Urban Institute or the U.S. Department of Commerce.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
CHAPTER 1 - OVERVIEW OF THE TRADE ADJUSTMENT ASSISTANCE PROGRAM	1
Program Overview	2
Program Operations	3
Approach to the Evaluation	6
CHAPTER 2 - TAA PROGRAM PERFORMANCE	8
Methodology for Assessing Firm Performance	10
Comparisons of Assisted and Unassisted Firms	13
The Effect of Trade Adjustment Assistance on Firm Termination Rates	13
The Effect of Trade Adjustment Assistance on Firm Sales	17
The Effect of Trade Adjustment Assistance on Firm Employment	24
Comparison of Firm Benefits to Program Costs	29
Program Features that Contribute to Performance	32
CHAPTER 3 - TRADE ADJUSTMENT ASSISTANCE TO FIRMS: PROGRAM DELIVERY .	36
Performance of the Delivery System	36
Assessment of the TAA Model and Practice	40
Best Practices	43
Best Practices Among the TAACs	43
Best Practices Among Other Business Assistance Providers	45
CHAPTER 4 - ROLE OF TAACs IN FEDERALLY FUNDED TECHNICAL ASSISTANCE ...	48
Description of Program Models	49
Manufacturing Extension Partnerships Program	49
Small Business Development Centers	49
Comparison of Program Models	50
Types of Firms Assisted	50
Scope of Assistance	52
Provider of Assistance	53
Timing of Assistance	53
Leverage	54
Control	54
Geographic Coverage	55
Conclusions	55
CHAPTER 5 - CONCLUSIONS AND RECOMMENDATIONS	57
Increased Appropriations	58
Improvements to the TAA Process and Delivery System	58
METHODOLOGICAL APPENDIX	63

EXECUTIVE SUMMARY

The Trade Adjustment Assistance (TAA) program for firms was authorized by the Trade Act of 1974, to assist manufacturing firms adversely affected by increased international trade. Most economists and policymakers believe that competition from foreign manufacturers results in higher-quality goods at lower prices. However, some domestic firms are unable to compete effectively against imported products. This may be especially true when global markets rapidly open and expand—a situation typical of the past 20 years in the United States.

To help companies respond, the TAA program pays for technical assistance to trade-impacted firms that experience declining sales and employment. To be certified, companies must make products that are being imported at increased levels and have declining sales and employment because they have lost customers, who now purchase similar imported goods. The assistance firms receive can include plant layout, management information systems, human resources, marketing and promotion, and other aid.

This report presents the analyses, findings, and recommendations from an evaluation of the TAA program. The evaluation was conducted by the Urban Institute and the consulting firm of Brandon Roberts and Associates during the period of September 1997 through April 1998. The evaluation was commissioned by the Economic Development Administration (EDA), U.S. Department of Commerce, which is the administering agency for the TAA program for firms.

The purpose of the evaluation was to address two primary questions as requested by EDA:

- C Does the business management and technical assistance provided to firms affect their economic recovery as measured by changes in company sales and employment?
- C Is the current process and system for delivering assistance still the most appropriate way to help individual firms?

TAA Program Performance

Our analysis shows that by several measures the Trade Adjustment Assistance Centers (TAACs) have helped distressed manufacturing enterprises respond to foreign imports. We compared changes in employment and sales levels of TAAC-assisted companies

before and after certification to changes in these levels for companies that were certified as eligible for TAAC assistance but which declined to seek aid under the program. We found that five years after certification, TAAC-assisted companies

- C had survived at higher rates than unassisted companies—83.8 percent of assisted companies compared with 70.7 percent of unassisted companies;
- C had added employees (4.2 percent more, on average), whereas unassisted companies registered average employment losses of 5.3 percent; and
- C had shown stronger sales growth—33.9 percent average total growth in sales for assisted companies compared with 16.2 percent for unassisted firms.

We went on to calculate the net benefits that are plausibly linked to the assistance the TAACs provided. These consist of the difference between the employment and sales levels reached by assisted firms and those of unassisted firms. We also credited the program with the jobs and sales that were “saved” because of differences in termination rates between assisted and unassisted firms.

We made both conservative and liberal assumptions in calculating benefits. On the one hand, we credited the TAA program only with that share of the benefits equal to the TAAC funds’ percentage of the total assistance package, and we did not calculate multiplier effects -- the indirect jobs and sales created by the purchases made by assisted firms. On the other hand, we considered only the TAA dollars invested in direct assistance, not all program dollars, and we did not include any investments made by firms in facilities, capital equipment or technical aid in addition to the AP.

By this method, we conclude that by the fifth year after certification the program:

- C supported one job for every \$3,451 invested,
- C generated \$87 in sales for every TAA dollar invested, and
- C yielded an estimated return on investment of 261 to 348 percent.

Reasons for Strong Performance

How did the TAA program register its documented results? Based on our field interviews with TAAC staff, local technical assistance consultants, government technical assistance providers, and assisted firms, we concluded that certain core features of the TAA program model accounted for the differences in sales, employment, and firm termination we observed. Six features of the program model are particularly important:

1. *The program provides a fairly extensive package of assistance, implemented at low cost to the firm.*

Compared with some other types of technical assistance that emphasize quick problem-solving or guidance provided to large numbers of firms, the TAA program packages assistance at comparatively large dollar amounts (typically around \$150,000). Assistance is relatively deeply subsidized: 50 percent of costs are borne by the government. This is particularly important in view of the distressed condition of firms assisted under the program.

2. *Firms “select-into” the program by their willingness to invest time and money in their own recovery, and TAAC directors target their efforts to firms that, although declining, remain strong enough to benefit from aid.*

Unlike other programs, TAA assistance is limited to assisting firms in decline, as shown by losses in sales and employment. But both firms and TAAC directors are selective. Firms must commit to a considerable investment of time and money as part of the assistance effort. Less committed firms often will decline to proceed with assistance, even after they have been certified as eligible. In addition, some TAAC directors report that they concentrate efforts on firms likely to benefit from their help. That is, even though firms may be declining, even bankrupt, they retain enough core competitive strength to benefit from, and effectively implement, the assistance they receive.

3. *The program emphasizes a complete and unbiased “diagnostic” of firm strengths and weaknesses.*

TAAC staff conduct a thorough diagnosis of firm strengths and weaknesses before assembling and submitting an Adjustment Proposal (AP) to EDA. The diagnostic is not limited to any particular area, so the resulting package is a comprehensive set of mutually supportive assistance tasks. The fact that TAAC staff are disinterested parties

is critical to the program's effectiveness. Staff have no vested interest in the type of assistance to be funded or who the provider of that assistance is. Staff have no incentive to recommend particular kinds of assistance because neither they nor their organizations stand to benefit from providing it.

4. *The program's reliance on private consultants selected through a competitive and project-specific request (instead of on-staff expertise) helps ensure a good fit between firm needs and provider response.*

The basic TAAC program model calls on private consultants to provide technical services, typically in response to a request for proposals that is competitively bid. This allows the TAAC and the firm to select from among multiple providers with the interest and the capacity to respond to the solicitation.

5. *Because the firm puts up cash and selects the consultants jointly with the TAAC, the company has a strong interest in cooperating fully during implementation.*

The firm buys a role in decisionmaking by putting up cash -- generally 48 percent of the total needed to implement the assistance package. This has two beneficial effects: The firm has a strong interest in the selection of consultants to provide assistance and a powerful incentive to cooperate throughout implementation.

6. *The program allows companies to sequence implementation tasks consistent with firm needs and ability to use staff, not the timing of providers' training courses or staff availability.*

The AP is tailored to the unique circumstances of each firm, including the appropriate sequencing of interrelated tasks. Timing is important because effective assistance in one area may depend on completing implementation tasks in another—for example, a cost accounting system may require automated inventory control.

Finally, based on our comparison across organizations and our general knowledge of business assistance, we concluded that most TAAC directors and staff are expert in the technical areas needed to implement the program. An especially strong point of program delivery, overall, was the prevalence of staff with private sector business backgrounds.

Program Issues

Despite these overall positive findings, we do raise seven issues that question whether the current TAA model and practice are getting the best possible results:

1. *Few firms that are eligible for assistance actually receive it.*

Because of the small size of the Congressional appropriation, fewer than 200 firms nationwide are brought into the TAA program annually, a small portion of the firms eligible for assistance. TAAC directors acknowledge that they manage their outreach process so that the number of firms certified is equivalent to the resources available to provide them with technical assistance. Their only policy for targeting firms is to make sure they serve firms from each of the states in their service area. There are no other criteria to guide TAACs in determining which potentially eligible firms should be selected.

2. *Not all trade-impacted firms are eligible for assistance.*

By law, firms cannot become eligible unless they demonstrate that *increases* in imports contributed significantly to their adverse economic condition. This ignores sectors in which foreign competitors already dominate the domestic market (e.g., those with a foreign market share greater than 50 percent). In addition, the requirement for a decline in employment keeps some firms from participating, because layoffs are often the last step before closure.

3. *There is a substantial backlog in delivering technical assistance.*

Early in 1998, the 12 TAACs reported an aggregate backlog of \$10.8 million in approved but unfunded technical assistance. This figure represents a portion of the total amount that the TAACs identified as necessary to help firms achieve economic recovery. The backlog in delivering assistance is related to firms' ability to implement projects and the small Congressional appropriation, which prompts TAACs to spread their provision of technical assistance over a several-year period.

4. *55 percent of TAA funding covers the cost of technical assistance to firms.*

The percentage of program funds devoted to overall technical assistance -- including the diagnostic and AP preparation and implementation -- is 55 percent. The stringent requirements and elaborate (legislatively mandated) certification process are major portions of the remaining 45 percent (which also includes TAAC overhead). In addition, certification costs

have risen in recent years because EDA has made TAACs responsible for petition investigations. Because most up-front costs are fixed, an increased Congressional appropriation would result in an increased in the share of program dollars that go to firm assistance.

5. *There is a time lag in getting assistance to firms.*

The certification and diagnostic/AP process is costly and time-consuming. On average, it takes six to eight months for a firm to engage in its first technical assistance activity after it has been identified as a strong candidate for the TAA program. In a fast-changing marketplace, delay can hamper recovery efforts. A carefully-written AP is one of the strengths of the program, and this should not be changed, but the legislatively-mandated certification process should be simplified.

6. *Cost share and fee policies across TAACs are inconsistent.*

The administration of a federal program through a decentralized network of technical assistance centers offers such advantages as proximity to clients and access to assistance providers. However, under this approach firms do not receive equal treatment across the country. The pricing and sharing of costs associated with preparing a diagnostic/AP vary among TAACs. Some TAACs, though not all, charge a monitoring fee for managing technical assistance.

7. *TAACs tend not to leverage other business assistance services.*

This assessment found some similarities between TAAC services and those of Manufacturing Extension Partnership (MEP) program. We also found instances where states operated business assistance programs that provided services similar to the TAA program. However, only a few of the TAACs aggressively work with these programs to leverage their assistance on behalf of TAAC clients. Given the scarcity of TAAC resources available to serve affected firms, the failure to leverage other resources could be a missed opportunity for assisted firms as well as for those firms that are not solicited for participation because of limited resources.

Assessment of the TAA Model and Recommended Program Changes

How can the program be more responsive to the needs of trade-impacted firms? We examine five elements for possible change: (1) program consolidation, (2) certification, (3) the

diagnostic/AP process, (4) technical assistance, (5) program evaluation, and (6) overall program management.

1. *The program could be modified to make it more effective, but it should remain as a stand-alone program.*

The TAA program is one of several programs that provide assistance to firms. Two other efforts receive the bulk of federal support: the MEP program and the Small Business Development Centers (SBDCs), funded by the Small Business Administration. (Both programs are federally-funded, but sponsored by states.) Some policymakers have questioned the need for multiple programs, and have suggested that program consolidation to improve efficiency and reduce confusion among firms. This is not a good idea for several reasons:

- C The TAA program assists firms that are very different from those served by MEPs or SBDCs. Unlike MEP clients, the TAAC clients are distressed and require comprehensive aid for recovery, and SBDC clients are retailers, service providers, or other types of firms, while TAAC clients are manufacturers and producers.
- C Unlike the other programs, the TAA program relies on private consultants. TAA clients need a comprehensive program that is uniquely packaged for each firm. A model that relies heavily on the private consulting services available throughout the marketplace is clearly superior to one that relies on whatever assistance is on staff at a particular office at a particular time.
- C TAAC staff are not direct implementers of technical assistance. They have no stake in who provides the technical assistance, so long as the provider is competent and responsive to the firm. Put another way, TAAC staff have no interest in shaping the diagnostic to include tasks that the TAAC staff could then implement.
- C The TAA program gives the firm full control over the assistance package. The firm decides who provides the assistance, in what form, when, and on what topics. The firm authorizes payment to the consultants only if it is satisfied with the quality of the work performed.

Although these features are transferable—the model could be shifted to either the MEPs or SBDCs—we don't believe it would make sense to graft the TAACs' firm-centered, consultant-provided program onto an organization that has a very different operating model.

2. *Significant changes, some of which require legislative action, should be taken to improve or eliminate the certification process.*

The certification process ensures that assistance is provided to trade-impacted firms, only, but it extends the time taken to deliver assistance, diverts limited resources, and excludes firms that arguably should receive consideration. The certification process is substantial and exceeds what is required in other programs. Moreover, the legislative requirement that certifications be approved by the Department of Commerce runs counter to the “reinventing government” trend to devolve authorities and responsibilities to the local level.

Fundamental changes will require legislative change. We recommend that:

- C The International Trade Commission (ITC) should identify trade-impacted industries, and EDA could accept this identification when they certify firms. Foreign domination of a market, in addition to increase in imports, should trigger program eligibility. The ITC should be responsible for notifying firms of the trade-impacted status of their industry.
 - C Responsibility and authority for certifying firms as eligible to participate should be devolved to each TAAC. EDA should then audit completed TAAC actions on a periodic and portfolio basis.
3. *The Diagnostic/AP process should be improved.*

The diagnostic/AP is an important reason why the TAA program has been successful, but aspects of the process could be improved. The time preparing and approving a diagnostic/AP -- two to three months -- need not take as long as it does. There are valid reasons for taking firms through an extensive diagnostic and assistance planning process, and to some extent, the timing is driven by firm needs. However, the legislative requirement that APs be approved by the Department of Commerce adds time to the process. but we found little evidence that central review added value. We also found that the primary program area in which firms are subject to different pricing and cost-share policies across TAACs is in the diagnostic/AP process. Modest changes are suggested for the diagnostic/AP process:

- C Responsibility and authority for approving adjustment proposals should be devolved to TAACs. EDA should audit completed TAAC actions on a periodic and portfolio basis. (This would require legislative change.)

C EDA should establish overall policy guidelines for charges associated with preparing a diagnostic/AP so that firms are treated equally across the country. EDA's policy to maximize a firm's payment for this activity to devote more program resources to technical assistance implementation activities should be re-affirmed.

4. *Technical assistance could be better leveraged.*

The overall TAAC model of delivering technical assistance to firms is sound, but there are unrealized opportunities to leverage other resources to make program dollars go further. We found examples where TAACs and MEPs have collaborated productively. Some TAACs, however, appear reluctant to move in this direction. We propose several ways to increase the level and percentage of resources available to finance technical assistance activities:

C EDA should encourage TAACs to leverage other resources to support the technical assistance needs of firms. Each TAAC should identify federal, state, and local resources of potential value to its clients and more frequently access resources for eligible firms. EDA might offer incentives (e.g., additional funding) to TAACs that do this particularly well.

5. *The quality of program evaluations could be better.*

Both the national program and individual TAACs do evaluations, but they are not systematic. EDA allocates funds to TAACs based on past levels of effort (numbers of certifications and APs), providing an incentive to increase the number of assisted firms. EDA could use this process to encourage faster assistance times, lower overhead costs, and more highly leveraged assistance. Several TAACs administer customer satisfaction surveys, but the methods are too different to allow comparison across TAACs. TAACs conduct a self-administered annual survey to record the employment and sales outcomes of firms that received assistance, but the definitions and collection methods vary among TAACs.

EDA should work with TAACs to improve their overall process for assessing performance. These changes do not involve the TAA legislation.

C EDA should assist each TAAC in establishing a standardized monitoring and management information system to better track program operations, determine customer satisfaction, and analyze performance.

C EDA should continue its own periodic evaluations of the program.

6. *National program management could be streamlined.*

EDA has managed the TAAC program for the past 8 years (after a 10-year hiatus in the U.S. International Trade Administration). The number of full-time program staff now stands at 4.5, significantly fewer than the 12-person staff of only four years ago. The primary duties of staff are to approve certifications and adjustment plans. These responsibilities could be devolved. EDA staff has little time to assist TAACs in their operations or help link the TAAC program with other economic development organizations and resources, including the EDA-funded network of University Centers.

EDA should undertake a number of steps to improve the overall management of the program. All of these recommendations can be accomplished through internal policy changes within EDA.

- C TAACs and EDA should continue to negotiate the number of firms to be certified and assisted during each grant cycle, as well as annual benchmarks of performance. These numbers should be established with an understanding of the number of firms potentially eligible for assistance within a service area.
- C Within the limits established by legislation, and assuming recommended changes to streamline the program are adopted, EDA should redeploy headquarters staff so that their primary responsibilities are to help TAACs carry out their responsibilities and to ensure that TAACs are doing so.
- C As the federal government's lead economic development organization, EDA should organize or participate in a review of all of the government programs that provide assistance to businesses, with the objective of creating a more efficient and effective delivery system.

CHAPTER 1

OVERVIEW OF THE TRADE ADJUSTMENT ASSISTANCE PROGRAM

The Trade Adjustment Assistance (TAA) program for firms was authorized by the Trade Act of 1974. Over the past 23 years it has become the primary instrument used by the U.S. government to assist individual manufacturing and producing firms adversely affected by increased international trade. It is important to note that the adjustment program for firms is entirely different from, and serves different purposes than, other federal efforts to respond to adverse trade impacts, such as the Department of Labor's Trade Adjustment Assistance Program for Workers and the North American Development Bank's U.S. Community Adjustment and Investment Program.

This report presents the analyses, findings, and recommendations from an evaluation of the TAA program. The evaluation was conducted by the Urban Institute and the consulting firm of Brandon Roberts and Associates during the period of September 1997 through April 1998. The evaluation was commissioned by the Economic Development Administration (EDA) of the U.S. Department of Commerce, which is the administering agency for the TAA program for firms.

The purpose of the evaluation was to address two primary questions as requested by EDA:

- C Does the business management and technical assistance provided to firms affect their economic recovery as measured by changes in company sales and employment?
- C Is the current process and system for delivering assistance still the most appropriate way to help individual firms?

Explicit in these questions is the overall issue of whether the current TAA program requirements and program delivery model achieve the best possible return on the government's efforts to assist individual firms. The TAA program is intended to remedy problems created for domestic companies by foreign trade. It does this by providing technical assistance to trade-impacted firms. In this report, we consider the TAA program in the context of other federally funded business management and technical assistance programs. The analyses and recommendations are crafted with a consideration of this context.

However, this effort does not involve an explicit assessment of whether the federal government should help firms affected by trade, or whether providing business management and technical assistance is the most effective means for doing so. The legislation authorizing this program explicitly calls for assistance to adversely affected firms and prescribes the specific means to accomplish this. Although it is recognized that some do question whether firms should be helped to adjust for any type of market changes, this issue is beyond the purview of this study. The matter of whether business management and technical assistance is the most appropriate way to help firms — versus other means such as tariffs, quotas, and tax relief — is also beyond the scope of the evaluation.

It is extremely important to note that this program is not an economic development program per se. Assistance does not depend on distressed local economic conditions, as in most EDA-sponsored assistance programs. Firms may be located in an area experiencing economic decline or growth. Likewise, assistance is not formally conditioned on some minimum number of jobs being created or saved. The legislation does, however, limit participation to firms for which the assistance is “reasonably calculated to materially contribute to the economic adjustment of the firm.” Given this context, this evaluation does not attempt to measure whether adjustment outcomes have any impact on local economic conditions.

This evaluation provides objective and accurate information on firm performance before and after receiving TAA assistance. It also compares the performance of assisted firms with a control group consisting of firms that were eligible for assistance but for various reasons never received it. The evaluation also provides a qualitative assessment of the appropriateness of the current delivery system and offers recommendations for improving service delivery in the future.

Program Overview

As noted earlier, the TAA program was first authorized in the Trade Act of 1974 (P.L. 93 - 618). Despite periodic efforts by various administrations to terminate the program, it has continued with the latest authorization (the Omnibus Appropriation Bill of 1999, which extended the program through June 30, 1999, and funded it through April 15, 1999).

Originally, the program authorized EDA to assist firms by providing loans, loan guarantees, and business management and technical assistance (hereafter referred to as technical assistance). The loan and loan guarantee portion of the program was eliminated by Congress in 1986. (The program also authorizes assistance for industry-wide projects;

however, EDA has not supported industry-wide projects in recent years and this provision is not covered in this evaluation.)

For fiscal year (FY) 1998, the TAA program had an annual appropriation of \$9.5 million. These funds were supplemented with an additional \$1.5 million in defense adjustment funds, which were targeted to assist trade-impacted firms located in areas also affected by defense adjustments. The level of appropriations has remained consistent for the past several years but is down from a high of \$14 million in FY 1985 (That amount is in non-inflation-adjusted dollars and represents only the amount of the program appropriation available for firm assistance in FY 1985.)¹

Firms eligible for assistance are identified and served through a nationwide network of 12 Trade Adjustment Assistance Centers (TAACs). Each TAAC operates under a grant relationship with EDA and is responsible for assisting firms in its geographical service area. The majority of TAACs (7 out of 12) are units within a university. Four operate as autonomous nonprofit entities reporting to a board of directors (including an employer association), and one is administered by a state agency. The annual appropriation previously cited is allocated among the 12 TAACs to support their administrative costs and to finance the technical assistance provided firms. In FY1998, TAAC grants ranged from \$1.14 million to \$700,000; the average grant was \$916,666. TAAC grant levels are based on the service needs of their geographic area and on past performance.

The TAACs were not a part of the initial TAA program. They were initiated in 1978 and over time supplanted EDA staff and became the central hub of the service delivery process. The 12 TAACs provide comprehensive service for all 50 states, with 10 of the TAACs serving multistate areas (only New Jersey and New York have single-state TAACs). The current service area configuration, which has existed for 10 years, is unique in that it does not conform to EDA's regional structure, the standard federal regions of the U.S. government, or any other known regional configuration.

The TAACs are staffed, on average, by five professionals with broad business knowledge and experience. They are, in effect, federally supported professionals (that is, they are not federal employees) specializing in business turnarounds for trade-impacted firms.² The primary responsibilities of a TAAC consist of (1) identifying firms eligible to participate in the TAA program; (2) preparing documentation to demonstrate firm eligibility; (3) developing an adjustment proposal (AP) for economic recovery of certified firms; and (4) directing the provision of technical assistance, which is usually delivered by contracted private consultants, as outlined in the AP.

Program Operations

Certification is awarded to manufacturing and production firms that demonstrate a decrease in employees and sales or in production in which increased imports “contributed importantly” to the economic decline. Certification documents are prepared by TAAC staff and approved by EDA headquarters. Firms pay none of the costs associated with the certification process because this is not mandated by legislation.

Once certified, a firm may receive assistance in conducting a diagnostic of its internal operations and in preparing an AP that identifies the technical assistance needed for economic recovery. The AP includes a budget composed of TAA and firm funds for implementing the proposed technical assistance. The diagnostic and AP are prepared under the auspices of the TAAC and are approved by EDA headquarters. Firms are expected to pay no less than 25 percent of the costs of preparing the diagnostic and AP.

Technical assistance, in accordance with the approved AP, is provided to the firms under the direction of the TAAC. In almost every instance, TAACs contract with an outside expert, typically a private consultant, to deliver the assistance. TAACs work in cooperation with the firm to identify the consultant. TAAC staff manage the consultant’s delivery of the technical assistance and handle the payment process.

Funds to finance a firm’s technical assistance are derived from each TAAC’s overall budget as well as cash from the assisted firm. EDA policy generally restricts TAACs from contributing more than 50 percent of the costs of the implementation assistance and limits the total amount of TAA funds to \$75,000 per firm. TAACs may, however, cover up to 75 percent of the cost of implementation assistance for smaller projects in which the total budget for technical assistance is less than \$30,000. This effectively caps the TAA contribution for implementation assistance at \$22,500 for small projects. (This policy went into effect in September 1995.)

The average AP covers three to five areas associated with the internal operations of a firm. A typical AP, for example, may call for technical assistance to improve a firm’s marketing and sales strategies, information systems, and quality control processes. Each of these areas requires professionals with specific expertise and, in some instances, expertise in certain types of products (e.g., marketing shellfish products versus automotive parts). TAACs often contract with different technical assistance providers during the implementation process and schedule technical assistance activities throughout a two- to three-year overall implementation process.

Table 1 provides an overview of TAA program effort between 1993 and 1997. During this period, the annual number of firm certifications averaged 172 and the annual number of approved APs averaged 120, or an average of 14 certifications and 10 APs per TAAC. Although not included in Table 1, the data for this period show that fewer than 10 percent of submitted certification petitions and APs were rejected, withdrawn, or terminated before approval.

Table 1 also provides data on the characteristics of firms receiving assistance as represented in their APs. Most firms approved for assistance are small to medium-sized manufacturers and producers. For the five-year period covered in the table, the average amount of sales was \$9.16 million and the average number of employees was 125.

Finally, Table 1 provides data on the annual average level of assistance per firm as presented in its approved AP. Over the five-year period, the average project had a total technical assistance budget of \$105,136, with the TAA program providing \$54,779, or 52 percent of the total. (The 50 percent limit on federal share became effective in September 1995.)

TABLE 1: Trade Adjustment Assistance Activities, 1993–1997						
	1993	1994	1995	1996	1997	Average
# Firms Certified	253	164	137	148	159	172
# APs	145	123	116	101	117	120
Per firm average AP Implementation Cost	\$108,275	\$116,260	\$124,137	\$88,118	\$88,888	\$105,136
Average AP cost paid by government, per firm	\$57,931	\$59,349	\$63,793	\$47,524	\$45,299	\$54,779
Average share of AP cost paid by government, per firm	53%	51%	51%	53%	51%	52%
Average Firm Sales	\$12.7MM	\$17.3MM	\$12.6MM	\$8.1MM	\$6.1MM	\$9.16MM
Average # of Firm Employees	142	158	145	87	91	125

Source: EDA records

The percentage of certified firms that obtained an approved AP and presumably engaged in some level of technical assistance has changed dramatically over the years. A study of the program in the early 1980s found that less than 30 percent of certified firms received some level of technical assistance.³ The analysis for this project, covering firms certified between 1987 and 1993, found that 43 percent of certified firms received assistance. An analysis of firms certified in 1995 found that more than 70 percent had their AP approved, a significant increase from the past. Interviews with TAAC directors revealed that they now certify only firms with a strong probability of receiving assistance.

The most important factor influencing the number of firms assisted, however, is the level of funding. As noted earlier, appropriations for the TAA program have declined in relative terms during the past 10 years, even if the supplemental defense adjustment funds for the program are considered. Declining appropriations reduce the program funding available to assist firms or to cover mandated program activities (certification and AP preparation). In 1998, we estimate that 65 percent of program funding covers the cost of technical assistance to firms or mandated program activities, and 35 percent covers fixed costs such as overhead and direct and indirect program costs.⁴

In total, 65 percent of program funding goes to technical assistance and mandated program activities: 55 percent for technical assistance implementation, and 10 percent for costs of certification, a mandated program activity.

Of the 55 percent for implementation, 33 percent goes for AP implementation costs, matched by firms at a minimum ratio of 25:75 (50:50 for larger projects), and another 22 percent covers mandated diagnostic and AP preparation costs, which are technical assistance activities that are generally matched by firms at a ratio of 25:75. Note that certification costs may be increasing because of increased TAAC certification requirements precipitated by EDA administrative changes.

A final comment on program operations involves the number of technical assistance activities taking place annually. Because there is no aggregated database that records technical assistance activities or tasks, it is difficult to determine how many firms are receiving assistance in any one-year period. Firms receive their assistance over a two- to three-year period and pursue multiple project tasks. The TAA funds identified in the AP to support these TA activities are obligated and expended as a task occurs. Thus, a firm may receive AP approval in one year but have these activities funded by appropriations from subsequent years.

We estimate that roughly 250 to 300 firms a year are engaged in some implementation assistance activity. It is likely that during FY 1998, most of the 117 firms obtaining an approved AP in FY 1997 will engage in a technical assistance activity. It is also likely that many of the 101 firms receiving AP approval in 1996 will also engage in a technical assistance activity, although it may be their second or third technical assistance project. It is also likely that some of the 116 firms approved in 1995 will undertake a project, perhaps the last approved project of their AP. Therefore, failure to appropriate funds in any year means that TAACs are not only unable to certify and assist new firms but are also not able to finance new tasks within an existing AP.

Approach to the Evaluation

As noted earlier, this evaluation documents the performance of assisted firms and assesses the appropriateness of the current system for delivering technical assistance. It focuses on the overall TAA program and is not intended to assess the performance of individual TAACs.

In accordance with parameters established by EDA, the analyses of firm performance focuses on any firm that received assistance between 1990 and 1995 and completed all assistance before the end of 1995. Thus, some firms in the analysis were certified during the 1980s, while most of the firms certified in late 1994 and in 1995 are not included in this analysis because they had not completed all of their proposed assistance. Firm performance data were obtained from Dun and Bradstreet; no data on firm characteristics or performance were obtained from the TAACs.

As will be discussed in Chapter 2, the analysis compares the performance of assisted firms with a control group of firms that were certified as eligible for assistance but did not receive it. Information on firm performance was provided by Dun and Bradstreet, as calculated by the Urban Institute (see Methodological Appendix).

The assessment of the system for delivering assistance to trade-impacted firms was based on field visits by senior project team members to each of the 12 TAACs responsible for administering this program. In each instance, information was gathered from interviews with TAAC staff, representatives of trade-impacted firms, and technical assistant consultants. In addition, the project team interviewed representatives of business assistance programs such as EDA's University Center program; the U.S. Department of Commerce's Manufacturing Extension Partnership (MEP) program; the U.S. Small Business Administration's Small

Business Development Center (SBDC) program; and several state-sponsored programs, such as New York's Industrial Effectiveness program.

Interviews were also conducted with a number of officials with ties to the TAA program or to other federal programs providing technical assistance to firms. These interviews were designed to solicit their views on the effectiveness and viability of the TAA program.

The balance of this report is divided into four chapters and a methodological appendix. Chapter 2 analyzes the impact of assistance on firm performance. Chapter 3 examines the appropriateness of the current delivery process and system. Chapter 4 analyzes whether the TAA program could be better delivered through another federally supported technical assistance program. Finally, Chapter 5 provides recommendations for providing trade-impacted firms with business management and technical assistance.

CHAPTER 2

TAA PROGRAM PERFORMANCE

The purpose of the TAA program is to help firms adjust to the negative effects of foreign trade. Most economists and policymakers believe that trade opening agreements benefit the nation as a whole: competition from foreign manufacturers can result in higher-quality goods at lower prices. However, some domestic firms initially are unable to compete effectively against imported products. This may be especially true when global markets rapidly open and expand—a situation typical of the past 20 years in the United States.

To help companies respond, the TAA program pays for technical assistance to trade-impacted firms that experience declining sales and employment. Most participants in the program are small- to medium-sized companies. At certification, the median company assisted under the program had 54 employees, and annual sales of \$4 million. To be certified, companies must make products that are being imported at increased levels and must have declining sales and employment because they have lost customers, who now purchase similar imported goods. The assistance firms receive can include a wide array of consulting services, including help with plant layout, management information systems, human resources, and marketing and promotion.

By several measures, our analysis shows that the TAA program has helped companies respond. We compared changes in employment and sales levels of TAA-assisted companies before and after certification with changes in those same levels for companies that were certified for TAA assistance but chose not to proceed with it. We found that, five years after certification, TAA-assisted companies had:

- C survived at higher rates than unassisted companies—83.8 percent of assisted companies compared with 70.7 percent of unassisted companies;
- C added employees—4.2 percent more, on average, compared with average employment losses of 5.3 percent in unassisted firms; and
- C achieved stronger sales growth—33.9 percent average total growth in sales for assisted companies compared with 16.2 percent for unassisted firms.

We estimated the net benefits that were plausibly linked to the assistance provided by the TAA program. These benefits consist of the differences between the employment and sales levels reached by assisted firms and those reached by unassisted firms. We also credited the program with the jobs and sales that were “saved” because of differences in termination rates between assisted and unassisted firms. If we credit the TAA program with a share of the benefits equal to the TAA funds’ percentage of the total assistance package, by the fifth year after certification the program:

- C “created” one job for every \$3,451 invested, and
- C generated \$87 in sales for every TAA dollar invested.⁵

Our method of calculating these results is simple and defensible, and we adopted both conservative and liberal assumptions. Conservatively, we credited the program only with jobs and sales proportionate to its total investment in the assistance package. We could have assumed that firms would have not have invested in their own recovery were it not for the TAA program, and therefore, *all* jobs and sales should be credited to the program. We have no way of knowing the number of awards for which this is true. Second, we do not consider multiplier effects; i.e., the jobs and sales supported by the additional purchases made by assisted companies. Multiplier estimates vary widely based on regional and sectoral factors that we cannot measure easily.

We also have made some liberal assumptions. We did not use total program costs in estimating the ratio of costs to benefits. Rather, we used only the amounts directly invested in firm recovery; i.e. the amounts spent on the AP and its implementation. Also, we did not credit any investments the firm may have made in its own recovery outside the TAA program; e.g., amounts it may have spent on facilities, capital equipment or other investments that may have been needed to improve performance.

Several basic features of the TAA program produce the positive results we observed. Compared with other technical assistance program models, the TAA program provides an intense package of assistance through outside consultants on a contract basis. The assistance package is jointly negotiated between the TAAC, which has no vested interest in the contents of that package, and the firm. TAACs almost always act only as a broker rather than a provider of technical services. This permits the TAAC to select the provider most appropriate for the firm’s needs. Because the firm contributes a portion of the funding, it exercises some control over consultant selection. In addition, TAAC staff invest considerable

effort at the diagnostic stage, allowing preparation of a solid plan for firm recovery. Finally, the TAACs target outreach, intake, and selection to firms that show some promise of recovery; that is, TAACs generally discourage certification applications from inquiring firms that appear to lack the competitive strength to survive.

Methodology for Assessing Firm Performance

To determine whether assistance from the TAAC contributed to the recovery of trade-impacted firms, we compared the survival, sales, and employment performance of two groups of firms:

- C firms assisted by the program between 1990 and 1995, and
- C firms certified as eligible for participation in the TAA program but which chose not to go forward with the program.

We compared sales and employment outcomes because these are factors that trigger program eligibility: Firms must show declines in sales and employment over the two years before certification. Of course, there are other types of firm performance outcomes that we could not measure. In particular, our data did not allow us to measure productivity (output per worker), which could go up as employment or even sales go down.

Unlike most previous analyses of government assistance programs, this evaluation of the TAA program makes use of a control group of companies. This group contains firms that did not receive aid, but which are similar to the companies that received assistance. The TAA two-stage process of program participation makes this possible. In stage one, the EDA certifies that firms have lost sales and employment because of foreign trade. These firms are eligible to go to stage two—the submission of an AP and a request for implementation assistance. Some firms, however, choose not to submit a proposal and end their involvement with the program after stage one.

The control group of unassisted firms resembles the assisted firms in two crucial respects:

- C their sales and employment declined because of increased imports, and
- C the owners or managers of the companies knew about the TAA program and were sufficiently interested in it that they chose to complete the certification process.

Obviously, the two groups differed in their willingness or capacity to move to stage two. This may account for some of the differences in sales and employment performance we observed, but we have no way of correcting for this difference in our analysis.

To compile our group of assisted firms, we asked each TAAC to send us a list of the firms within its jurisdiction that had completed at least one technical assistance task between 1990 and 1995 and had completed their assistance program at the time of our request (May 1998). To compile our control group, we used EDA administrative records to identify firms that had been certified between 1988 and 1993 as eligible for assistance but which did not receive implementation assistance during their eligibility period—within two years after the firm's certification date. We chose 1988 as the beginning date because 95 percent of the firms in the assisted group were certified in 1988 or later; we chose 1993 as the ending date to ensure that the firm eligibility period had expired.

Table 2 lists the number of firms in the assisted and unassisted groups by certification year. The table shows that in each year the number of participants in each group is roughly similar, although the 1994 certification year contributes a higher share to the assisted than unassisted groups, and 1990 contributes a higher share to the unassisted than the assisted group. We divided the certification years into three periods — 1988 and 1989, the recession years of 1990–1992, and the recovery years of 1993–1995. The table shows that each period's contribution to the makeup of each group is roughly the same. (Later on, we test for whether the year of certification has any effect on subsequent firm performance.)

Table 2
Number and Percentage of Certified Firms by
Program Assistance Status, 1988-1994

Certification Year	<u>Assisted</u>		<u>Unassisted</u>	
	N	Percent of All Firms	N	Percent of All Firms
1988	42	10.1	55	14.6
1989	51	12.3	46	12.2
<i>Subtotal</i>	93	22.4	101	26.8
1990	47	11.4	65	17.3
1991	76	18.4	50	13.3
1992	86	20.8	80	21.3
<i>Subtotal</i>	209	51.0	195	51.9
1993	79	19.1	80	21.3
1994	33	8.0	0	0.0
<i>Subtotal</i>	112	27.1	80	21.3
<i>Grand Total</i>	414	100.0	376	100.0

Source: Urban Institute calculations of data from
EDA and Dun and Bradstreet, Inc.

Table 3 shows the number of firms in the assisted and unassisted groups by census region. The Middle Atlantic states have somewhat fewer assisted than unassisted firms, and the New England states have somewhat more assisted than unassisted firms.

Table 3				
Number and Percentage of Certified Firms by Census Region				
	<u>Assisted</u>		<u>Unassisted</u>	
Census Region	N	Percent of All Firms	N	Percent of All Firms
East North Central	59	14.3	69	18.4
East South Central	5	1.2	8	2.1
Middle Atlantic	88	21.3	111	29.5
Mountain	31	7.5	20	5.3
New England	78	18.8	22	5.9
Pacific	63	15.2	64	17.0
South Atlantic	31	7.5	17	4.5
West North Central	45	10.9	28	7.4
West South Central	14	3.4	37	9.8
<i>Total</i>	<i>414</i>	<i>100</i>	<i>376</i>	<i>100</i>
Source: Urban Institute calculations of data from EDA and Dun and Bradstreet, Inc.				
Note: Totals include terminated firms.				

We show the U.S. Census geography in addition to the TAAC regions because we wanted to present regional groupings that reflected general economic characteristics—for example, presenting the Middle Atlantic region rather than accounting for the Mid-Atlantic, New York, and New Jersey TAACs separately. However, because the TAAC regions are relevant programmatically, we use these categories in the analysis presented below, in which we test whether region has any effect on firm performance. The breakout of assisted and unassisted firms by TAAC region is shown in Table 4.

Table 4
Number and Percentage of Certified Firms
by TAAC Region

TAAC Region	<u>Assisted</u>		<u>Unassisted</u>	
	N	Percent of All Firms	N	Percent of All Firms
Great Lakes	16	3.9	42	11.2
Mid-America	25	6.0	7	1.9
Mid-Atlantic	23	5.6	26	6.9
Midwest	58	14.0	41	10.9
New England	78	18.8	22	5.9
New Jersey	16	3.9	7	1.9
New York State	57	13.8	83	22.1
Northwest	33	8.0	23	6.1
Rocky Mountain	25	6.0	16	4.3
Southeast	28	6.8	19	5.1
Southwest	13	3.1	37	9.8
Western	42	10.1	53	14.1
<i>Total</i>	<i>414</i>	<i>100</i>	<i>376</i>	<i>100</i>

Source: Urban Institute calculations of data from EDA and
Dun and Bradstreet, Inc.

Note: Totals include terminated firms.

Comparisons of Assisted and Unassisted Firms

In this section, we examine three types of possible outcomes the TAA program could achieve. First, the TAA program could help firms facing imminent closure to make the adjustments needed to ensure survival. Second, it could help firms reverse declines in sales. Third, it could help firms reverse declines in employment. Our analysis shows that compared with our control group of unassisted companies, the program helped do all of these things.

The Effect of Trade Adjustment Assistance on Firm Termination Rates

Five years after certification, the trade-impacted firms that did not pursue further technical assistance had terminated at higher rates than firms that completed TAA-funded technical assistance tasks. As defined by the Small Business Administration, terminated

Table 5
Cumulative Firm Termination Rates
by Year After Certification

Year After Certification	<u>Assisted</u>		<u>Unassisted</u>	
	N	Percent of All Firms	N	Percent of All Firms
One	21	5.1	53	14.1
Two	38	9.2	71	18.9
Three	48	11.6	85	22.6
Four	61	14.7	96	25.5
Five	67	16.2	110	29.3

Source: Urban Institute calculations of data from EDA and Dun and Bradstreet, Inc.

Note: Table excludes firms that may have died six or more years after certification.

companies are those that no longer operate under their previous legal form, including merged companies as well as business “failures,” which entail bankruptcy or any other failure to pay what creditors are owed. Table 5 shows the cumulative termination rates of firms in each of the assisted and unassisted groups at each year after certification.

Table 5 shows that trade adjustment assistance cuts the expected termination rate in half—that is, assisted firms terminate at about half the rate of the comparison group of unassisted firms. By the fifth year after certification, 16.2 percent of assisted firms had terminated, compared with 29.3 percent of unassisted firms. The table also shows that the termination rate slows over time, suggesting that a hypothetical year 6 or year 7 termination rate would not be much higher than the year 5 rate shown for either group.

Although not shown on the table, the termination rate for certified, but unassisted, firms is about the same as the termination rate for the entire six- or eight-digit SIC codes these industries represent. Put another way, assisted firms terminate at substantially lower rates than do other firms in the same industries.

Although assisted and unassisted firms are alike in that they have been certified by the federal government as trade-impacted, there may be other differences between the assisted and unassisted firms that explain the differences in their termination rates. Previous tables have shown that there are small differences between the two groups in their regional makeup and their certification years. There is only some overlap in their industry sectors, as indicated by Standard Industrial Classification (SIC) codes.

To control for a number of possible differences between the two groups that might account for different termination rates, a logistic regression was run to determine if the assistance had an independent effect on these rates. After controlling for the effect of the time period of assistance, region, industry sector, firm performance in the years before certification, and other firm-specific variables, we found that firms that received adjustment assistance had significantly lower termination rates at year 5 than firms that did not receive assistance.

Table 6 identifies the variables that could have affected termination rates. (We used these same variables in our analysis of post-assistance changes in sales and employment rates as well.) These variables fall into four categories: firm-level variables, industry variables, time-period variables, and regional variables.

Firm variables pertain to the precertification performance of the firm, its size, and its structure. Following standard practice in estimating industry production functions, we estimate

- C firm size using the log of sales volume and number of employees at certification,
- C firm productivity using the log of the ratio of the sales volume to the number of employees at certification,
- C pre-assistance firm performance using the change in the log of sales volume and the log of number of employees between two years prior to certification and the certification year, and
- C firm structure using an indicator of whether the firm is part of a multiplan company.

Table 6
Variables Used in Logistic and Multiple
Regressions to Test for the Effects of
TAAC Assistance on Firm Performance

Variable	Definition
<i>Dependent Variables</i>	
Firm Termination	Firm terminated between certification year and end of year 5
Change in Sales 0 to 5	Change in the log of sales volume between certification year and year 5
Change in Employees 0 to 5	Change in the log of employees between certification year and year 5
<i>Firm-Level Variables</i>	
Sales at Certification	Log of the dollar volume of sales in the certification year
Employees at Certification	Log of the number of employees in the certification year
Sales/Employee at Certification	Log of ratio of sales to employees at certification
Change in Sales -2 to 0	Change in the log of sales over two years prior to certification
Change in Employees -2 to 0	Change in the log of the number of employees over two years prior to certification
Multiplant company	Dummy variable for whether plant is part of multiplant firm
<i>Industry Variables</i>	Dummies for whether or not firm is in one of two-digit Standard Industrial Classification Codes
<i>Time Period Dummies</i>	Dummies for whether firm was certified in one of 1988 through 1994. (1993 is excluded year.)
<i>Regional Dummies</i>	Dummies for whether firm is located in given TAAC region (Midwest is excluded region.)

Industry variables are dummy variables that show whether or not a firm is one of any given two-digit SIC code represented in the pool of assisted and unassisted firms. The individual industry codes are not shown on the chart, but there are 31 different industries represented.

Time period variables also are dummy variables that show whether or not a firm was certified in any given year between 1988 and 1992. Use of dummy variables requires that one of the categories represented by the variables be excluded. In the tables to follow, the 1993 certification year is excluded; that is, the effect of the 1988 through 1992 dummy variables is compared with the effect of the 1993 certification year.

The time period variables can be thought of as a proxy for national economic performance that could affect the performance of any given firm. For example, a firm may have been certified in 1988 and completed its assistance in 1990, in time for the onset of the 1990–1992 recession. We may expect that the sluggish national economy might hamper the subsequent performance of that firm, whereas the performance of a firm that completed its assistance in 1993, during a period of strong growth, might be enhanced.

Regional variables are dummy variables that indicate whether a firm is in one of the 12 TAAC regions. (Because use of dummies requires that one region be excluded, we excluded the Midwest.) Again, the regional dummy variables are proxies of regional economic health, which may have some effect on the demand for the manufactured products of the companies in one of our groups.

Table 7 shows the results of the logistic regression, excluding variables that did not have any statistically significant effect on firm termination rates. The table shows that the time period of firm certification, whether the industry is in SIC 51 (manufactured consumer goods), and whether the firm received TAAC assistance all influence firm termination rates. Compared with firms certified in 1993, firms certified in 1988 through 1991 show higher termination rates at year 5; companies certified in 1992 did not terminate at higher or lower rates than firms certified in 1993. (These differences are significant at the 0.05 level; that is, there is only a 5 percent chance that the differences we observe are due to chance, not to the effect of the measured variable.) Variables tested but shown not to affect termination rates include TAAC region, urban/rural location, all other industry dummy variables, firm sales, employment, and the ratio of sales to employees.

Finally, the table shows the independent effect of program assistance on firm termination rates. After controlling for the time period of firm certification, whether or not a firm is assisted by the program exercises an independent, and statistically significant, effect on the probability of firm survival.

The Effect of Trade Adjustment Assistance on Firm Sales

The second aspect of firm performance we investigate is firm sales: Do firms that receive TAAC assistance outperform those that are eligible for assistance but choose not to apply for it? We find that the growth in sales volume of firms that receive TAAC assistance more than double, on average, those that do not receive assistance. Even after accounting for other factors that might influence firm sales performance, we find that TAAC assistance exerts an independent and statistically significant effect.

Table 7
Results of Logistic Regression on
Firm Termination Between
Certification Year and Year 5

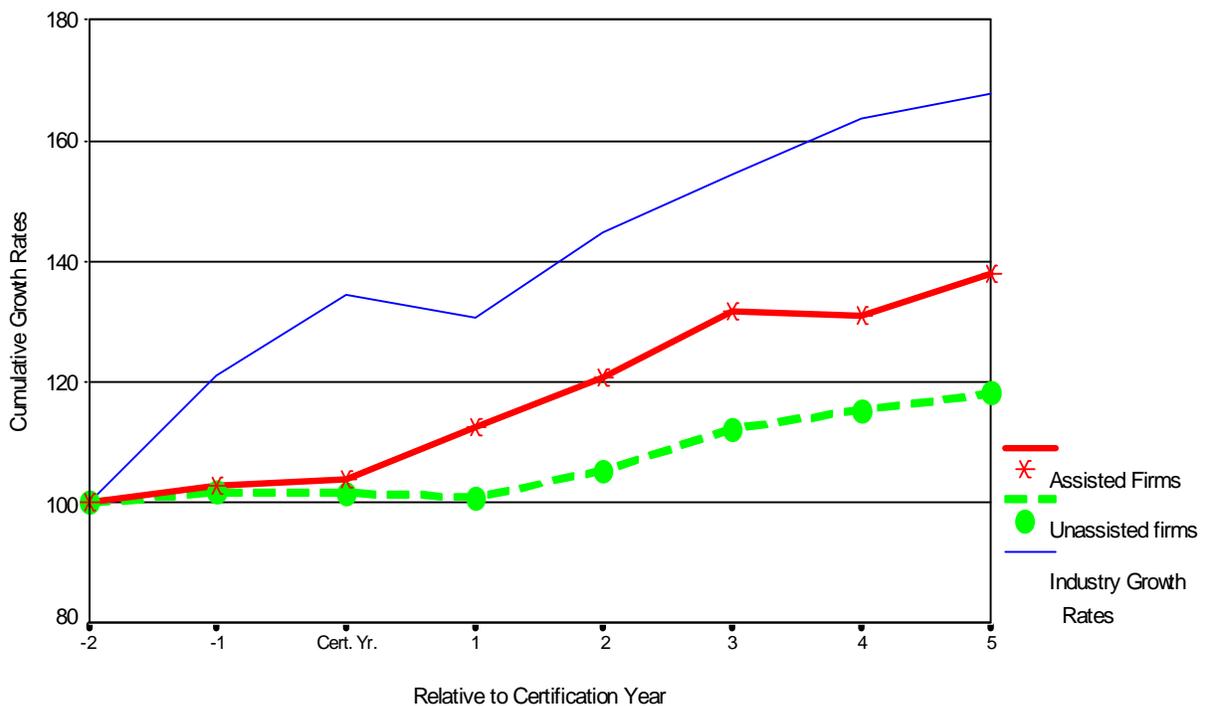
Independent Variables	Coefficients	Significance
Intercept	0.1763	0.9329
TAAC Assistance	-0.7181	0.0013
Certified 1988	0.9670	0.0065
Certified 1989	0.9688	0.0036
Certified 1990	0.9281	0.0047
Certified 1991	1.0772	0.0326
Regression Statistics		
Concordant	70.60%	
Discordant	29.00%	
Somer's D	0.417	
Observations (firms)	443	

Source: Urban Institute calculations of data from EDA and
Dun and Bradstreet, Inc.

Note: Variables are entered into the equation in the order shown.
Only significant variables are listed.

Exhibit 1 shows the cumulative average change in sales volume for three groups of firms: assisted firms, unassisted firms, and all firms in the same industries as those assisted by the TAACs. Included in the chart are companies that survived at least five years after the certification year; that is, terminated firms are excluded. For the industry comparison, we used the five-year span that, for each industry, corresponds to the five-year span used for the firm assisted from that industry. For example, if a firm in SIC 2543-0602 was certified as trade-impacted in 1990, the “all industry” line includes data for the firms from that SIC code for the years 1988 through 1995. (If more than one firm is assisted within an industry, and they have different certification years, an industry growth rate is calculated for each firm over the appropriate period.) The “all industry” group consists of firms at whatever level of disaggregation is supported by the identifying information for each assisted firm. In other words, if we know the eight-digit SIC code for an assisted firm, we use the eight-digit code to aggregate firm data for that industry; if we know the six-digit code, we aggregate to that level, and so on.

Exhibit 1
Average Cumulative Growth Rates in Sales
by Trade Assistance Status
(Two Years Before Certification as Base Year)



Source: Urban Institute calculations of data from EDA and Dun and Bradstreet, Inc.

Note: Industry Growth rates are the average mean growth rates for SIC 8-digit codes corresponding to those of the Assisted firms.

We exclude from the chart any firm that terminated at some time over the five-year period; only surviving firms are included in the chart. Thus, our comparison is unaffected by the higher termination rates of firms in the unassisted group.

Exhibit 1 shows that the sales performance of firms that received trade assistance is superior to that of unassisted firms that were certified as trade-impacted and of the industries of which they are a part. The vertical axis on Exhibit 1 is an index that takes the certification year as the base year. (Also shown in Exhibit 1 are the two years before certification). Exhibit 1 shows that by year 5 the sales volume of assisted firms is 34 percent higher than the base year (an index value of 134); the sales volume of unassisted firms is only 16 percent higher.

In the first two columns of Table 8, we present the year-to-year percentage change in sales for the assisted and unassisted firms (top panel) and the cumulative change between the certification year and each year after certification (bottom panel). We also show the corresponding figures for the two years before certification. In the third column of the table, we show the percentage-point difference between the assisted and unassisted group, and in the last column, we show the statistical probability that the observed difference could have happened by chance (using a *t*-test for differences between two group means).

The top panel of the table shows that the average percentage change in sales from year to year is not significantly different across the two groups of firms except in the first year after certification, when firms in the assisted group significantly outperform those in the unassisted group. In that year, assisted firms showed an average sales increase of 9.2 percent, compared with a slight decline of 0.8 percent for unassisted companies. However, the cumulative effect of the year-to-year differences in average change in sales is clear: After the first year (and with the exception of the sales at year 4), the increase in sales by assisted firms significantly exceeds that of unassisted firms. The gap between the assisted and unassisted firms in terms of sales growth opens immediately—between the certification year and year 1— and it continues to widen except for a brief narrowing between years 3 and 4. By year 5, assisted firms have shown an average sales growth of 33.9 percent, twice the 16.2 percent growth achieved by unassisted firms.

Although firms that received TAA assistance show sales growth superior to that of trade-impacted firms that did not seek assistance, not all TAA-assisted firms halted declines in sales. Table 9 shows that 25.8 percent of TAA-assisted firms reported sales volumes that were 5 percent or more below the levels they reported for the year they were certified; these accounted for 32.2 percent of firms that survived over the five-year period. Although one-third of TAA-assisted firms that survived never regained their earlier sales levels, this percentage was substantially less than for unassisted firms. Almost one-half (45.5 percent) of surviving unassisted firms failed to regain their certification-year sales levels. However, we recognize that firm survival may depend on some level of “downsizing.”

Table 8
Year to Year and Cumulative Average
Percent Change in Sales by
Firm Assistance Type

<u>Year to Year Change</u>		<u>Mean % Change</u>		<u>Difference %</u>	<u>Significance</u>
<i>From Year</i>	<i>To Year</i>	<i>Assisted</i>	<i>Unassisted</i>		
(2)	(1)	4.8	4.5	0.4	0.92
(1)	0	0.8	(0.0)	0.8	0.79
0	1	9.2	(0.8)	10.0 *	0.01
1	2	8.1	5.7	2.4	0.52
2	3	11.8	6.6	5.2	0.17
3	4	3.4	7.0	(3.6)	0.37
4	5	9.0	3.5	5.5	0.10
<u>Cumulative Change</u>					
<i>From Year</i>	<i>To Year</i>				
(2)	0	3.0	1.7	1.3	0.76
(1)	0	0.8	(0.0)	0.8	0.79
0	1	9.2	(0.8)	10.0 *	0.01
0	2	17.3	3.7	13.6 *	0.01
0	3	27.9	10.5	17.4 *	0.01
0	4	27.3	13.5	13.8	0.06
0	5	33.9	16.2	17.7 *	0.02

Source: Urban Institute calculations of data from EDA and Dun and Bradstreet, Inc.

Note: Certification year is year 0. Asterisk (*) indicates significance at the 0.05 level.

If we consider two negative outcomes together—firm termination or continued decline—45.7 percent of assisted firms either terminated or never regained earlier sales levels, compared with 63.6 percent of unassisted firms. If we consider the two positive outcomes together—sales stabilization or increase—54.3 percent of assisted firms and 36.4 percent of unassisted firms showed positive results by year 5.

We also tested whether the superior sales performance of assisted firms could be explained by factors other than the assistance they received. We constructed a regression equation to predict the change in the log of sales between the certification year and year 5. Table 6 lists the variables used to construct the equation. In brief, the model controls for firm-level, regional, industry, and time period variables to estimate the independent effect of assistance on sales growth.

Table 9
Number of Firms With Increased, Decreased,
and Stable Sales at Year 5
Compared with the Certification Year

Status	N	<u>Assisted</u>		<u>Unassisted</u>		
		Percent of All Firms	Percent of Surviving Firms	Percent of All Firms	Percent of Surviving Firms	
Increased	158	46.9	58.5	97	29.4	44.0
Stable	25	7.4	9.3	23	7.0	10.5
Decreased	87	25.8	32.2	100	30.3	45.5
Terminated	67	19.9	N/A	110	33.3	N/A
<i>Total</i>	<i>337</i>	<i>100</i>	<i>100</i>	<i>330</i>	<i>100</i>	<i>100</i>

Source: Urban Institute calculations of data from EDA and Dun and Bradstreet, Inc.

Note: Increase/Decrease is change of 5 percent or more.

After controlling for firm-level variables (e.g., size), region, industry, and time period variables, we find that TAA assistance has a statistically significant effect on subsequent sales growth. Table 10 shows the results of the regression equation, again showing only the variables that crossed the 0.05 level of significance. In other words, the probability that the observed relationship occurred by chance is less than 5 percent.

The regression results show that the change in the log of firm sales between certification year and year 5 is a function of a change in the ratio of sales to employment over the same period (our measure of productivity growth), the year of certification, whether the firm is part of a multiplant company, and whether it received TAA assistance. As expected, our measure of productivity growth is positively related to changes in sales. As with firm termination rates, we found that, compared with 1993, earlier certification years had a negative effect on sales. We also found that firms that were single-plant establishments showed significantly lower sales growth than those that were part of multi-plant firms. The overall

Table 10		
Results of Multiple Regression on the Change in Log of Sales Volume Between Certification Year and Year 5		
Independent Variables	Coefficients	Significance
Intercept	-0.0417	0.7590
Change in Log Sales / Employees Certification to Year 5	-0.3030	0.0001
Certified 1988	-0.2990	0.0065
Certified 1989	-0.3260	0.0036
Certified 1990	-0.2950	0.0047
Certified 1991	-0.2190	0.0326
Certified 1992	-0.1910	0.0265
Part of Multiplant Firm	-0.1270	0.0450
Industry Code 51	-0.5500	0.0328
TAA Assistance	0.2580	0.0001
Regression Statistics		
Adj R-Square	0.3459	
F value for regression	5.4860	
Mean of Dependent Variable	0.0295	
Observations (firms)	441.0000	
Source: Urban Institute calculations of data from EDA and Dun and Bradstreet, Inc.		
Note: Variables are entered into the equation in the order shown.		
Only significant variables are listed.		

predictive power of the model is modest: The R-square statistic of 0.346 indicates that the variables in our model “explain” 34.6 percent of the variation in the change in log of firm sales.

With a single exception—SIC Code 51, manufactured consumer goods (e.g., office products)—industry variables had no effect on changes in sales, nor did firm presence in one or another TAAC region. We found that firm characteristics before or at certification also had no effect on changes in sales. Sales at certification year (an indicator of firm size) and changes in the log of sales between the two years before certification and the certification year (an indicator of recent firm performance) were not significant.

Finally, we tested whether a more precise way of calculating industry effects could account for some of the changes in sales. Our general model uses industry dummy variables as proxies for sales, employment, and other changes within the industry that might account for observed changes in the sales performance. There are two problems with this procedure: The level of aggregation masks considerable within-industry variation, and the use of dummy variables allows less statistical power than would be possible than if we could observe industry changes directly. Unfortunately, we do not have the data needed to calculate each industry’s sales performance over each period corresponding to the time between certification and year 5 for each firm in the assisted and unassisted groups.

We can, however, calculate changes in industry sales for those industries represented by firms in the assisted group. To determine whether industry performance affected the performance of assisted firms, we separately estimated the regression model for only the assisted group. (This estimate is not shown on any table.) We substituted the actual growth rate for the set of industry dummy variables and removed the assistance variable from the equation (because our model included only assisted firms). We found that industry growth rates had no effect on the performance of assisted firms between certification year and year 5, giving us additional confidence in the results of the model estimated in Table 11.

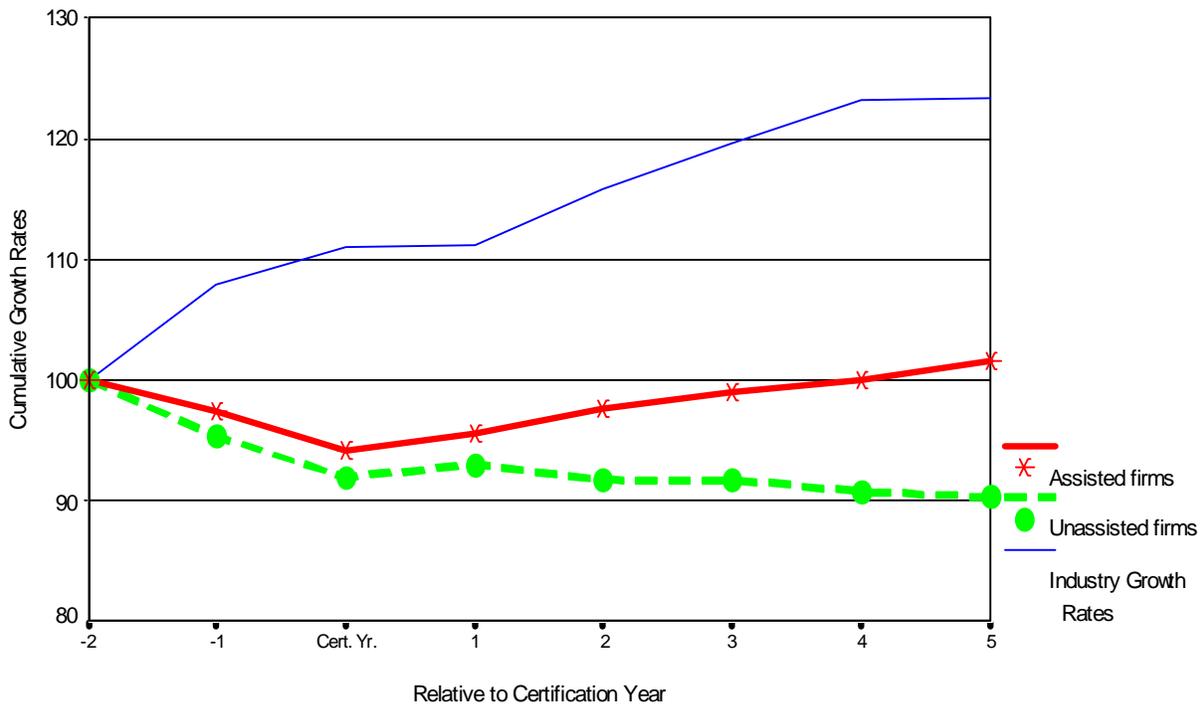
The Effect of Trade Adjustment Assistance on Firm Employment

We repeated the analysis of firm performance, replacing changes in firm sales with changes in firm employment. *As with our analysis of changes in firm sales, we found that TAA assistance exerted an independent and statistically significant effect on firm employment after controlling for changes in productivity, region, time period, and industry.*

Exhibit 2 shows the changes in firm employment between the certification year and year 5 for assisted, unassisted, and “all industries” represented by the assisted firms. Recall

from the discussion above that the “all industry” change is calculated based on the changes in employment at whatever level of disaggregation is supported by the information available on an assisted firm’s industry sector and is calculated for the time period that corresponds to the “assistance period” for the assisted firm in that industry. (If more than one firm is assisted within an industry, and they have different certification years, an industry growth rate is calculated for each firm over the appropriate period.)

Exhibit 2
Average Cumulative Growth Rates in Employment
by Trade Assistance Status
(Two Years Before Certification as Base Year)



Source: Urban Institute calculations of data from EDA and Dun and Bradstreet, Inc.

Note: Industry Growth rates are the average mean growth rates for SIC 8-digit codes corresponding to those of the Assisted firms.

The exhibit shows that the assisted firms clearly outperform firms that were certified as trade-impacted but which did not pursue assistance under the program. *By the end of year 5, assisted firms had increased their employment levels, on average, by 4.2 percent, compared*

with an average employment loss of 5.3 percent by unassisted firms. Further detail on employment changes is shown in Table 11. The pattern of year-to-year changes and the cumulative effect of those changes are similar to changes in firm sales volume previously reported. Differences in employment change between assisted and unassisted firms begin to appear in the first year after certification, and the gap widens each year thereafter. In year 1, there is a difference of 0.5 percentage points between the employment growth rates of the assisted and unassisted firms. By year 5, there is a cumulative difference of more than 9 percentage points.

Table 11
Year to Year and Cumulative Average
Percent Change in Employees by
Firm Assistance Type

<u>Year to Year Change</u>		<u>Mean % Change</u>		<u>Difference %</u>	<u>Significance</u>
<u>From Year</u>	<u>To Year</u>	<u>Assisted</u>	<u>Unassisted</u>		
(2)	(1)	0.0	(3.1)	3.1	0.09
(1)	0	(3.4)	(3.6)	0.2	0.87
0	1	(2.0)	(2.5)	0.5	0.79
1	2	2.9	(1.4)	4.3 *	0.01
2	3	1.8	(0.4)	2.2	0.21
3	4	0.6	(1.2)	1.7	0.29
4	5	0.6	(1.1)	1.7	0.28
<u>Cumulative Change</u>					
<u>From Year</u>	<u>To Year</u>				
(2)	0	(2.5)	(4.6)	2.1	0.44
(1)	0	(3.4)	(3.6)	0.2	0.87
0	1	(2.0)	(2.5)	0.5	0.79
0	2	0.2	(3.8)	3.9	0.09
0	3	1.5	(3.8)	5.4	0.07
0	4	2.6	(4.9)	7.5 *	0.03
0	5	4.2	(5.3)	9.5 *	0.01

Source: Urban Institute calculations of data from EDA and Dun and Bradstreet, Inc.

Note: Certification year is year 0. Asterisk (*) indicates significance at the 0.05 level.

As with changes in sales, not all firms showed an increase in employment levels in the period after they received TAA assistance. Table 12 shows the number of firms in each of the assisted and unassisted groups that registered increases, declines, or no change in employment levels, or which terminated operations altogether. The table shows that 33.0 percent of assisted firms continued to lose employees after certification, as did 31.4 percent of unassisted firms. If we take the two negative outcomes together—termination and continued loss of employment—we find that *52.4 percent of assisted firms and 64.3 percent of unassisted firms either terminated operations or continued to lose employment after they received assistance. Put more positively, 47.6 percent of assisted firms and 35.7 percent of unassisted firms stabilized employment levels or increased employment above certification year levels.*

Table 12
Number of Firms With Increased, Decreased,
and Stable Employment at Year 5
Compared with the Certification Year

Status	N	Assisted		Unassisted		
		Percent of All Firms	Percent of Surviving Firms	N	Percent of All Firms	Percent of Surviving Firms
Increased	113	32.8	40.6	71	21.3	31.7
Stable	51	14.8	18.3	48	14.4	21.4
Decreased	114	33.0	41.0	105	31.4	46.9
Terminated	67	19.4	N/A	110	32.9	N/A
<i>Total</i>	<i>345</i>	<i>100</i>	<i>100</i>	<i>334</i>	<i>100</i>	<i>100</i>

Source: Urban Institute calculations of data from EDA and Dun and Bradstreet, Inc.

Note: Increase/Decrease is change of 5 percent or more.

We emphasize that under some circumstances, declines in employment may be a positive firm outcome if they reflect productivity increases. We suspect that productivity increases explain why we see more frequent declines in employment for assisted companies than declines in sales.

We reestimated the regression model used to control for the effect of firm-level, time-period, regional, and industry variables on sales growth. To the model shown in Table 10, we substituted the change in number of employees between the certification year and year 5.

We also substituted the change in sales for the change in number of employees on the right-hand side of the equation. The results we obtained were quite similar.

Table 13 shows the variables in the equation that remained significant at the 0.05 level. The model shows that *after controlling for changes in estimated productivity, firm size (in volume of sales) at the certification year, and the year of certification, TAA assistance retains its statistically significant and positive relationship to employment change.* Changes in employment levels are inversely related to all variables except TAA assistance. In other words, lower sales at certification year, lower changes in sales per employee, and 1993

Table 13		
Results of Multiple Regression on the Change in Log of Employment Size Between Certification Year and Year 5		
Independent Variables	Coefficients	Significance
Intercept	1.0859	0.0115
Log Sales, Certification	-0.0750	0.0058
Change in Log Sales / Employees Certification to Year 5	-0.3030	0.0001
Certified 1988	-0.3200	0.0034
Certified 1989	-0.3450	0.0019
Certified 1990	-0.3240	0.0018
Certified 1991	-0.2550	0.0130
Certified 1992	-0.2060	0.0159
TAAC Assistance	0.2780	0.0001
Regression Statistics		
Adj R-Square	0.1269	
F value for regression	2.2100	
Mean of Dependent Variable	-0.1190	
Observations (firms)	441.0000	
Source	Urban Institute calculations of data from EDA and Dun and Bradstreet, Inc.	
Note:	Variables are entered into the equation in the order shown.	
	Only significant variables are listed.	

compared with all other certification years, are associated with increases in employment from certification year to year 5.

As with our model of sales volume change, none of the industry dummy variables were found to be significant, nor were any of the industry growth rates we calculated. None of the regional dummy variables turned out to be significantly related to employment change.

Comparison of Firm Benefits to Program Costs

The analysis to this point has shown clearly that the TAA program achieves positive results for the firms it assists. Firm survival rates, sales levels, and numbers of employees are higher for assisted firms than for firms that were certified as trade-impacted, but which did not go forward with an adjustment assistance program. Based on our analysis, we confidently conclude that the assistance provided under the TAA program contributed to these accomplishments.

Estimating the benefits of business assistance programs in relation to costs has a long but unsatisfying history. First, the estimation of benefits—such as jobs created or retained—is difficult. Our analysis, however, took advantage of our comparison group of unassisted firms to estimate the net benefits from the program; that is, the sales and employment levels achieved by the assisted firms net of the benefits achieved by those that did not receive assistance. Other analyses have had to assume that *all* jobs assisted under a program are credited to it, even though some of the jobs might have been created anyway. Such analyses seriously overestimate program benefits.

Second, some previous evaluations have credited all jobs or sales (or earnings or other positive outcomes) to a program even though other investments, including private investments, contributed to the funded project or program. We assigned a share of increased jobs or sales to the TAA program in the same proportion as the TAA assistance to total project costs. If the program contributed 50 percent of the cost of the assistance package, we assigned 50 percent of the resulting net employment or sales to the program. By doing so, we avoid another common problem in overestimating program benefits.

We recognize that in some instances, the program's assistance may have been critical to firm recovery. Under those circumstances, all jobs or sales could be appropriately credited to the program. However, because we have no way of knowing how frequently this occurred, we have chosen to credit the program with only its "share" of firm outcomes. Because of this, we may have understated the program's effects.

Third, most analyses of program benefits take a one-time snapshot of outcomes and arrive at a one-time estimate of benefits. This approach may underestimate or overestimate program benefits, depending on whether the outcomes recorded at a single point in time are increasing or decreasing. We made a series of benefit calculations that correspond to each of the five years after certification for which we have data. We also discounted the firm's sales benefits to reflect the fact that those received in the future are worth less than those received in the present. This follows the standard practice in calculating the net financial benefits of an initial investment. This discounting has no straightforward application to employment benefits; thus, we simply divided the initial investment by the number of jobs in each period.

Fourth, we do not consider multiplier effects; i.e., the jobs and sales supported by the additional purchases made by assisted companies. Multiplier estimates vary widely based on regional and sectoral factors that we cannot measure easily.

Finally, we also have made some liberal assumptions. We did not use total program costs in estimating the ratio of costs to benefits. Rather, we used only the amounts directly invested in firm recovery; i.e. the amounts spent on the AP and its implementation. We also did not credit any investments the firm may have made in its own recovery outside the TAA program, including any amounts spent on consulting assistance, capital equipment, or other investments.

Table 14 shows the results of our benefit and cost calculations. The top panel shows the change in the aggregate number of employees in the assisted and unassisted firms compared to the certification year, for each year after certification. The average number of employees in each group is the aggregate figure divided by the number of firms used to calculate the average. (Missing data for some variables accounts for the differences in number of firms used in the sales and employment calculations). We then subtract the unassisted firm average from the assisted firm average to arrive at a net number of employees per firm.

Next, we estimate a number of jobs "saved" as a result of the difference in termination rates between assisted and unassisted firms. Based on the termination rates shown in Table 5, we calculated the percent difference in rates, then applied that rate to the median number of jobs in assisted firms. For example, in the fifth year after certification, 16.2 percent of assisted firms had terminated, compared to 29.3 percent of unassisted companies, a difference of 13.1 percent. We can assume that 13.1 percent of all employees in assisted companies, at certification, would have lost their jobs if those companies terminated at the same rate as

unassisted companies. We applied the 13.1 percent rate to the per-firm median of 54 employees to arrive at an additional "program credit" of 7.1 jobs.

We "credit" the number of employees to the program based on the federal share of the total cost of the assistance package. Then we divide the average award amount (not shown) by the number of "credited" employees to arrive at a dollars-per-job estimate. We follow a

Table 14
Net Benefits of TAAC Assistance
in Relation to Program Award Amounts

	Year After Certification				
	1	2	3	4	5
Employment					
<i>Assisted Firms (N = 318)</i>					
Aggregate v. Certification Year	(1,324.0)	(1,552.0)	(984.0)	(1,137.0)	72.0
Firm Average v. Certification Year	(4.2)	(4.9)	(3.1)	(3.6)	0.2
<i>Unassisted Firms (N = 240)</i>					
Aggregate v. Certification Year	(792.0)	(3,020.0)	(2,372.0)	(3,655.0)	(3,954.0)
Firm Average v. Certification Year	(3.3)	(12.6)	(9.9)	(15.2)	(16.5)
Net Average Employment Change	(0.9)	7.7	6.8	11.7	16.7
*Plus Jobs in "Saved" Companies	4.9	5.2	5.9	5.8	7.1
Credited to Award (at 55.3%)	2.2	7.2	7.0	9.7	13.1
Dollars per Credited Employee	\$20,529	\$6,340	\$6,445	\$4,692	\$3,451
Sales					
<i>Assisted Firms (N = 315)</i>					
Aggregate (000)	44,513.0	95,572.0	401,342.0	392,001.0	607,955.0
Average	141.3	303.4	1,274.1	1,244.4	1,930.0
<i>Unassisted Firms (N = 236)</i>					
Aggregate	(57,298.0)	(34,872.0)	(62,595.0)	(53,384.0)	(78,193.0)
Average	(242.8)	(147.8)	(265.2)	(226.2)	(331.3)
Net Average Sales Change	384.1	451.2	1,539.3	1,470.7	2,261.3
*Plus Sales in "Saved" Companies	360.0	388.0	440.0	432.0	524.0
Credited to Award (at 55.2%)	411.5	464.1	1,094.6	1,052.2	1,540.3
Credited Sales / Dollar	\$30	\$34	\$80	\$77	\$113
Net Present Value of Credited Sales / Dollar (@5.5%)	\$29	\$31	\$68	\$62	\$87

Source: Urban Institute calculations of data from EDA and Dun and Bradstreet, Inc.

* Jobs and sales "saved" due to differences in firm termination rates between assisted and unassisted companies.

similar procedure to calculate the amount of sales per federal dollar invested. However, we also discount that amount by 5.5 percent per year, roughly the rate of 30-year Treasury bonds as of August 1998.

Our calculations show that once initial results are registered—after the first year after certification—federal dollars per net job decline from \$20,529 in year 1 to \$3,451 in year 5. This compares favorably with the dollars-per-job figures in evaluations estimated for other EDA programs. A recent evaluation of EDA's public works program found that six years after the initial federal investment, each permanent job cost \$3,058. If the jobs were assigned based on the EDA share of total investment (as we do here), the resulting jobs figure of \$4,857 is higher than our own year 5 estimate.⁶

Sales figures are less straightforward to interpret. Without discounting, we calculate that year 5 net sales amounted to \$113 for every dollar of federal contribution to the technical assistance package. If we discount by the 30-year Treasury bond rate, the present value of the year 5 sales attributable to the EDA investment comes to \$87. Of course, this figure cannot be understood as a return-on-investment figure; sales proceeds must cover the cost of manufacturing inputs before yielding net returns. However, if we assume profit margins of 3 to 4 percent on manufacturing operations, the calculated year 5 "profit" amounts to a return on investment in that year of \$2.61 to \$3.48 for every federal dollar spent. As with dollars-per-job, the return-on-investment figure credits the program with only its "share" of total sales; some firms would not have contributed technical assistance funds at all were it not for the TAA assistance.

Program Features that Contribute to Performance

How did the TAA program achieve the results documented in the first part of this chapter? Based on our field interviews with national TAA program staff, TAAC staff, local technical assistance consultants, government technical assistance providers, and assisted firms, we conclude that certain core features of the TAA program model account for the differences in sales, employment, and firm termination we observe. Six features of the program model are particularly important:

1. The program provides a fairly extensive package of assistance at low cost to the firm.

Compared with some other types of technical assistance that emphasize quick problem-solving or general guidance made available to large numbers of firms, the TAA program's assistance packages are comparatively large (typically around \$150,000).

Assistance is deeply subsidized. On average, nearly 50 percent of implementation costs are borne by the TAA program.

These factors are particularly important given the client group assisted: declining firms in an increasingly competitive market. Typically, these companies suffer from multiple and interrelated problems that hamper their ability to respond to market changes. The TAA package is generally large enough to pay for multiple types of specialized help that is assembled into a single package. The 50 percent share of assistance costs paid by the TAA programs appears to substantially reduce participation barriers for firms otherwise reluctant to incur new cash outlays.

2. TAA directors report targeting their efforts to firms that, although declining and sometimes bankrupt, remain strong enough to benefit from aid.

Unlike other technical assistance providers, TAACs are limited to assisting declining firms, as measured by recent drops in sales and employment levels. However, TAAC directors can be selective, to a point. In deciding whom to shepherd through the certification process, TAAC staff concentrate their efforts on firms that are likely to benefit from assistance; that is, firms with enough core competitive strength to benefit from and effectively implement the assistance they receive.

Our numbers show that some assisted firms do ultimately fail. Preceding tables have shown that a modest share of assisted firms do go out of business, and a relatively large percentage of firms do not recover their former sales or employment levels (although some of these reduce employment and sales as the price of survival.)

3. The program emphasizes a complete and unbiased diagnostic of firm strengths and weaknesses.

TAAC staff conduct a thorough diagnosis of firm strengths and weaknesses before assembling and submitting an AP to EDA. Staff spend anywhere from 24 to 40 hours visiting the firm; interviewing the owner, managers, and employees; and developing a technical assistance package upon which TAAC staff and business owners can agree. Although TAAC staff have individual specialties, most appear to have sufficient experience in doing firm diagnostics and have developed general competence across a number of business areas.

The diagnostic is not limited to any particular area. Whether or not the AP includes a particular area as part of its scope of services, TAAC staff investigate the range of possible firm problems, ranging from manufacturing to cost accounting systems to inventory control to marketing and a number of other production areas. The resulting AP is a comprehensive set of mutually supportive assistance tasks.

The fact that TAAC staff are disinterested parties is critical to the program's effectiveness. Staff have no vested interest in recommending a particular type of assistance. On rare occasions, TAAC staff provide services funded under the award. However, the assistance is almost always provided by independent consultants with expertise in the type of assistance provided. TAAC staff have no incentive to recommend particular kinds of assistance because they or their organizations will earn revenue from providing it.

4. The program's reliance on private consultants (rather than on-staff experts) selected through a competitive, project-specific request helps ensure a good fit between firm needs and provider response.

The basic TAA program model calls on private consultants to provide technical services, typically in response to a competitively bid request for proposals. This allows the TAAC and the firm to select from among multiple providers with the interest and the capacity to respond to the solicitation. Moreover, technical assistance projects are competitively bid—the scope of services is written to match the needs of an individual firm. Consultants are not on retainer, and most TAACs require consultants to visit the firm to be assisted before writing a proposal to provide services.

5. The company has a strong interest in cooperating fully during implementation because it puts up its own cash and selects the consultants jointly with the TAAC.

The firm buys a role in decisionmaking by putting up cash needed to develop their recovery strategy and implement the technical assistance package. This has two beneficial effects: the firm has a strong interest in selecting the consultants that provide the technical assistance, and the firm also has a powerful incentive to use its invested time and money to implement the technical assistance and achieve recovery goals.

6. To the extent resources are available, the program allows companies to schedule implementation tasks according to firm needs and available staff, rather than the timing of providers' training courses or staff availability.

The AP is tailored to the unique circumstances of each firm, including the appropriate sequencing of a series of interrelated project tasks. Implementation timing is important for several reasons. The effectiveness of assistance in one area may depend on completion of implementation tasks in another—for example, a cost accounting system that relies on automated inventory control. Firms may not be able to implement technical assistance tasks at certain times of the year—such as during periods of peak demand—or all at the same time—for example, if a small firm relies on a few critical staff to do multiple tasks.

Finally, we did not conduct a systematic investigation of TAAC staff qualifications or competencies, although we did talk to the staff at most of the TAACs we visited. We also visited the local MEP program offices and SBDCs in many of the TAAC regions. Based on our comparison across organizations and on our general knowledge of business assistance, we concluded that most TAAC directors and staff are expert in the technical areas needed to implement the program. We found that, without exception, TAAC staff are committed to the goals of the program. An especially strong point of program delivery, overall, was the prevalence of staff with private-sector business backgrounds.

CHAPTER 3

TRADE ADJUSTMENT ASSISTANCE TO FIRMS: PROGRAM DELIVERY

This chapter examines the appropriateness of the current TAA program model and process for providing technical assistance. This assessment responds to EDA's specific request for "recommendations for maintaining the status quo and/or improving the assistance process and the TAA program." The chapter also identifies the best technical assistance practices among the TAACs and in other business assistance programs that could be incorporated into the TAA program.

The chapter is divided into three sections. The first section identifies seven issues associated with the performance of the current system for delivering technical assistance. The second section examines the extent to which these seven issues relate to key elements of the TAA model and practice. The third section identifies best practices.

Performance of the Delivery System

The analysis in Chapter 2 found that firms receiving TAA did experience positive economic recovery and that important elements of the TAA program appear to contribute to these positive outcomes. Nevertheless, it is still appropriate to ask if the TAA program could be more effective if improvements were made to the assistance process. The assessment of the TAA program delivery system identified seven issues that question whether the current model and practice are leading to the best possible results. This section describes these seven issues.

1. Few Firms Receive Assistance

As noted in Chapter 1, approximately 150 to 175 firms nationwide are certified annually by the TAA program. There are no corresponding national data that indicate how many firms are adversely impacted by trade. As a rough estimate, there are about 4,000 firms in the six- or eight-digit SIC codes covering firms certified in the year between 1988 and 1995.

The number of firms served reflects the level of congressional appropriations. Most TAACs do not attempt to estimate or identify the overall number of eligible firms for their region because they do not have the resources to serve them. TAAC directors acknowledge that they now manage their outreach process so that the number of firms certified is approximately equivalent to the resources available to provide them with technical assistance. This approach

differs from that pursued previously, when the percentage of assisted firms to certified firms was less than 50 percent. TAAC directors also acknowledge that the only policy for targeting firms for certification is to ensure that they serve firms from each of the states in their service area. There are no other criteria to guide TAACs in determining which of the potentially eligible firms should be invited to participate. (Of course, any firm may apply if it knows about the program and decides, on its own, to apply.) The program should be either expanded through increased appropriations to include all eligible firms that wish to become certified and pursue implementation assistance or it should adopt outreach policies that identify all eligible firms and notify them of the opportunity to participate.

2. Not All Impacted Firms Eligible

In accordance with the TAA legislation, firms are not eligible unless they demonstrate that increases in imports contributed significantly to their adverse economic condition. The focus on increases ignores situations in which foreign competitors may already dominate the domestic market and therefore any of their business actions — such as pricing policies, rebates, and customer service — can have an adverse impact on domestic companies. It also does not allow for fluctuations in world economies and trade conditions. Several TAACs indicated that there have been situations in which the last American producer of a product was unable to obtain certification because imports of that product had not increased in recent years. In addition, tying eligibility to a reduction in employees keeps some firms from participating, as layoffs are often the last step before closure.

3. Substantial Backlog in Delivering Technical Assistance

Early in 1998, the 12 TAACs reported a backlog of \$10.8 million in unfunded but approved technical assistance. This figure represents a portion of the total amount that the TAACs identified as necessary to help firms achieve economic recovery. The backlog in delivering the associated assistance is tied to two factors: the ability of firms to undertake technical assistance activities and the ability of TAACs to fund all the technical assistance needs. The TAACs report, however, that even if a firm is able to undertake all of its technical assistance in one year, the TAAC cannot afford to devote a large percentage of its annual funds to a single approved AP. To do this would mean that each TAAC could only effectively finance the implementation assistance activities of four to seven firms annually, as the TAAC share of the AP is typically \$50,000, and each TAAC has approximately \$300,000 annually to spend on technical assistance activities. Thus, to serve as many firms annually as possible, TAACs wisely spread their provision of technical assistance over a period of several years. It is difficult to know for certain whether this delays or assists the recovery process. Most likely it

depends on each firm's situation. Clearly, those who could move ahead more quickly cannot do so under these circumstances.

4. Limited TAA Resources Available for Technical Assistance

As noted in Chapter 1, about 55 percent of the overall TAA program budget is used to finance technical assistance activities, including diagnostic and AP preparation and implementation assistance. The remainder of the funds support efforts related to identifying eligible firms (outreach) and certifying them, overhead, and indirect and direct costs.⁷ This suggests that the overall process of helping trade-impacted firms is burdened with up-front costs, some of which, although mandated by legislation, do not contribute significantly to a firm's economic recovery efforts. The certification process, with its stringent requirements and elaborate process, is a contributor to these costs (a typical application for certification is an inch thick). This burden has risen in recent years as EDA has made TAACs responsible for certification petition investigations. While it may be necessary to clearly establish the eligibility of trade-impacted firms, the current process may not be the most effective or cost-efficient way of achieving that objective.

5. Time Lag in Providing Assistance

The up-front TAA process (outreach, certification, and diagnostic/AP) is costly and time-consuming. Interviews with the TAACs indicate that it usually takes six to eight months for a firm to engage in its first technical assistance activity after it has been identified as a strong candidate for the TAA program. This usually breaks down as follows: three to four months to become certified as eligible, two to three months to prepare and obtain approval for the diagnostic/AP, and one month to procure a contractor to deliver assistance. In other words, about half the time needed to get assistance is due to the three to four months needed to obtain certification, a process that is mandated but, under the current approach, potentially wasteful.

This estimate is consistent with the finding reported a study conducted by the Office of Technology Assessment—"assuming things go smoothly and there are no hitches, the process outlined here takes at least 6 to 8 months."⁸ On the one hand, our estimate means that there has been little change over the past 10 years; on the other hand, TAA staff have been cut dramatically over the period with no increase in processing time. For businesses, however, the dynamics of the marketplace have changed significantly during these years. The average

product life cycle is much shorter than in the past. The six to eight month period before the full assistance package is available increases poses an obstacle to firm recovery.

6. Inconsistent Operating Policies

The administration of a federal program through a decentralized network of technical assistance centers offers some advantages, such as proximity to clients and access to assistance providers. However, firms should receive equal treatment across the country.⁹ This review identified several important variations in program operations that result in firms receiving different treatment among the TAACs. The first and most significant variation is the cost associated with preparing a diagnostic/AP. (As noted earlier, this is a necessary step to obtain technical assistance funds.) Some TAACs have elevated the firm share of this cost above the mandated 25 to 30 percent. More important, the pricing of the AP varies substantially among TAACs; some charge less than \$1,000 for the most expensive diagnostic/AP, while others charge up to \$15,000. This means that a firm's costs range from a low of \$250 to a high of \$4,500 to get what should be an equivalent product. Similarly, some TAACs charge a monitoring fee for managing the technical assistance process (up to 5 percent of the total technical assistance budget), while others charge no fee at all. Thus, although disparities arise because some TAACs have creatively responded to reduced funding levels, some firms wind up paying more than others to participate in this program.

7. Minimal Leveraging of Other Business Assistance Services

Since the TAA program started working through the TAACs in the late 1970s, the federal government has invested in two major business assistance programs. In 1982, the U.S. Small Business Administration initiated the Small Business Development Center (SBDC) program, which provides business assistance services to all types of firms (primarily retail and service firms) through a network of more than 950 local providers across the country. The program has a 1998 appropriation of \$75 million. In 1988, the U.S. Department of Commerce entered into a partnership with states to support local manufacturing assistance programs. Today the Manufacturing Extension Partnership (MEP) program has more than 75 assistance centers across the country and an annual budget of \$113.5 million.

This assessment found very little evidence that SBDCs offer similar services to the TAACs. It did, however, find some similarities between TAAC and MEP services (Chapter 4 provides a more specific comparison of the programs). The assessment also found instances in which several states operate business assistance programs that provide services similar to the TAACs. However, only several of the TAACs sought to work with these other federal

programs to obtain additional assistance on behalf of their TAAC clients. (These TAACs reported favorable relations with the agencies.) Similarly, few TAACs availed themselves of state-sponsored assistance on behalf of their firms, with one TAAC director reporting that working with other providers is not part of the TAAC's workplan. Given the scarcity of TAAC resources available to serve impacted firms, the failure to leverage other resources appears to be a major missed opportunity for assisted firms and eligible but unassisted firms.

Assessment of the TAA Model and Practice

The above seven issues raise enough questions about the performance of the TAA program and its delivery system to warrant a more detailed assessment of the program model and practices. This section examines key elements of the TAA program with the goal of improving the program's responsiveness to the needs of trade-impacted firms. Specifically, the analysis examines (1) firm certification, (2) diagnostic/AP, (3) technical assistance, (4) program evaluation, and (5) overall program management.

1. Firm Certification

The legislatively mandated certification process is designed to ensure that assistance is provided to a very specific set of firms, but the process adversely affects the overall program effort. The certification process is lengthy, which takes up limited resources that otherwise could be used for direct technical assistance activities or in outreach to additional firms. Several factors contribute to this situation. First, the certification paperwork is substantial and far exceeds the requirements for other programs, such as the Trade Adjustment Assistance Program for Workers administered by the Department of Labor. Firms assisted through the MEP and SBDC programs require no certification. A particularly burdensome step, according to TAACs, is the requirement that they contact a firm's purchasing clients to document a decline in sales. Second, the legislative requirement that certifications be approved by the Secretary of Commerce runs counter to the current trend of "reinventing government," in which authorities and responsibilities are devolved to the local level. Third, most TAACs limit their outreach to ensure that only the number of firms likely to be assisted with available funds are eventually certified; this means that many potentially eligible firms never find out about the program.

In short, significant changes, some of which require legislative action, should be taken to improve or eliminate this element of program operations.

2. **Diagnostic/AP**

By all accounts, the diagnostic/AP represents an important element of the TAA program. As noted in Chapter 2, the AP is most valued for providing a detailed adjustment plan that is connected to the provision of technical assistance resources. Although some TAAC directors and firm managers indicated that the AP had value solely as a diagnostic and plan, most believed that without implementation resources the AP would have marginal value on its own. (It was also found that the MEPs often conduct diagnostics for firms and see this tool as a precursor to future technical assistance activities.)

However, this assessment did find aspects of the current TAA diagnostic/AP process that could be improved. First, the overall time for preparing and approving a diagnostic/AP—two to three months—unnecessarily contributes to the excessive time required to get assistance to needy firms. Second, as discussed above, the legislative requirement that AP applications be approved by the Secretary of Commerce runs counter to current reinventing government trends that devolve authorities and responsibilities to the local level. Third, there is little evidence that the Secretary’s review process adds substantive value to the contents of an AP. Fourth, firms seem to be subject to different costs for the diagnostic/AP process that are solely related to the varying policies of individual TAACs. There is no apparent rationale for these differences among TAACs or in different areas of the country.

Overall, the diagnostic/AP appears to be an important part of the TAA program. Some modest modifications to various legislative and policy aspects of the process could strengthen this element for the future.

3. **Provision of Technical Assistance**

The ultimate value of the TAA program is the technical assistance provided to impacted firms. As shown in Chapter 2, the analysis found that most firms benefit from this assistance and that key elements of the TAA model contribute to these positive outcomes. Clearly, however, current resources are not sufficient to serve all eligible firms in the country. The obvious solution to this problem is to increase congressional appropriations and reduce the up-front costs associated with the delivery process. Additional complementary steps could be taken to address this situation.

The most significant opportunity is to leverage other resources. This assessment found no inherent barriers in the legislation or TAA model to impede TAACs from leveraging resources on behalf of their clients. In fact, the assessment found examples where a few

TAACs and MEPs have used such resources in productive ways. (See the section on best practices.) Some TAACs seemed inclined to move in this direction, but others are reluctant or outright unwilling to do so. This creates the possibility that some areas of the country receive greater firm assistance than other areas because of the operating approach of a TAAC. Thus, firms are treated unequally depending on their location in the country.

The overall model of delivering technical assistance to firms is sound. There are, however, significant unrealized opportunities for adjusting operating policies to encourage leveraging other resources, which would generate additional funds that could serve more firms.

4. Evaluation

Program success can often be enhanced by continuous or even periodic evaluations of performance. In reviewing TAA program operations, the assessment found some application of evaluative methods at both the program and TAAC level, but no overall systematic approach. Funds for TAAC operations are allocated by EDA, in part, on the basis of TAAC's past performance as represented by certifications and APs. This serves as an incentive for increasing the number of assisted firms. Unrealized opportunities also exist for EDA to use this process to shorten the length of time for delivering assistance, the amount of TAA resources available for technical assistance, and the level of other resources leveraged for TAAC clients.

Several TAACs administer customer satisfaction surveys to determine whether firms are pleased with their assistance and overall participation in the program. These efforts, however, are not standardized to allow comparison among TAACs. All TAACs participate in a self-administered annual survey to record the employment and sales outcomes of firms that have received assistance. This assessment found that individual TAACs use different approaches and varying methods to obtain their outcome data for preparing the effectiveness report. Whether these varying approaches lead to valid results is unclear.

EDA lacks the staff to evaluate a variety of issues relevant to TAA program operations. One of the most salient issues is the current regional configuration. The rationale and value of this configuration is not clear. It also raises the basic question as to how the TAA program fits into the array of federally supported programs that rely on a network of local providers to provide technical assistance to firms throughout the country. As will be discussed in the next chapter, this is an area that has attracted little attention from the federal government.

Evaluation is an area that should receive considerable attention both at the program level and at the individual TAAC level. Efforts in this regard, based on internal policy changes, could help strengthen program performance.

5. Program Management

The number of full-time-equivalent EDA staff for the program is now 4.5, significantly less than the 12 staff of only four years ago. Staff's primary duties are to fulfill the Secretary's responsibilities for approving certifications and adjustment plans, tasks inconsistent with current government policies to devolve authorities and responsibilities. Headquarters staff have little time and few resources to manage and assist TAACs in their operations.

As a result, this assessment found inconsistent operating policies among TAACs, which lead to unequal treatment among assisted firms. It also has resulted in the lack of linkage between the TAA program and EDA's network of economic development organizations, and, in some places, missed opportunities to link complementary EDA resources (e.g., University Centers). Effective management of the TAA program requires a different focus and approach than currently practiced by EDA. Such changes would necessitate both legislative action and redirection of current staff efforts.

Best Practices

The analysis identified a number of issues and program elements that could be strengthened to better serve impacted firms across the country. Chapter 5 presents recommendations for achieving these improvements. To some degree, a number of these recommendations are based on current best practices found among some TAACs and among other technical assistance providers. The following best practices should be considered for adoption throughout the TAA program. These best practices are presented in a way that corresponds to many of the seven performance issues identified above.

Best Practices Among the TAACs

The following best practice ideas were identified by the TAACs during the on-site reviews.

Enhancing Outreach to Impacted Firms

- C Several TAACs survey firms in their service area to determine whether they are being adversely affected by international trade. The survey also informs the firms that they can obtain assistance to address this situation. To enhance the credibility of the survey, some TAACs include letters signed by governors, state economic development directors, and congressional representatives.
- C Several TAACs use extensive databases (e.g., Dunn and Bradstreet) to identify and target firms for outreach. D&B is used to identify declining firms, which are matched with products or sectors known to have increased or significant import activity.

Reducing Backlog/Optimizing Use of Existing Technical Assistance Resources

- C At least one TAAC requires private consultants to provide discounted rates for technical assistance services under sole source contracts. This allows the TAAC to buy more technical assistance with its limited budget.
- C Several TAACs use in-house staff to perform some technical assistance activities. These efforts are generally limited to generic assistance efforts (e.g., marketing plan analysis) rather than more specific activities.
- C Several TAACs have reduced the costs of specific technical assistance activities by enrolling firms in group assistance programs. The most common form is to provide ISO 9000 certification assistance as part of a group of firms, which can reduce ISO certification costs by up to 50 percent.

Increasing Percentage of Resources Available for Technical Assistance

- C Several TAACs affiliated with universities have recently reduced the amount of institutional overhead costs associated with the TAA grant. (TAACs are not required to raise their own funds to match the federal amounts received, unlike other federal

programs such as the MEP and SBDC.) This has been accomplished by reducing the overall overhead rate, exempting contractual services (i.e., technical assistance funds) from the overhead calculation, or both.

- C Several TAACs have raised the fees assessed firms for various TAAC services. When done individually, this has the adverse impact of treating firms differently across the country. However, imposing additional fees for the AP and for monitoring technical assistance implementation across the board would generate additional revenue for providing technical assistance to other firms.

Reducing Time Lag in Providing Assistance

- C At least one TAAC has sought to streamline the assistance process by undertaking the diagnostic process prior to actual receipt of the certification. This allows the TAAC to gather all the pertinent information needed to prepare the AP immediately following formal certification. (Of course, this can be a high-risk strategy if there is any doubt that the firm will be certified.)
- C In at least one TAAC, staff perform multiple tasks in helping a firm (i.e., certification, diagnostic/AP, and technical assistance monitoring). Knowledge of the firm tends to accelerate the process as it transitions from one task to another.

Leveraging Other Resources

- C Several TAACs leverage their internal resources to better serve clients. This is primarily done during the development of the diagnostic/AP, when all TAAC staff participate in the review process and offer ideas for the preparation of the plan.
- C Several TAACs have developed working relationships with MEPs to help achieve various TAAC tasks. This includes activities for outreach, preparing diagnostics/APs, and delivering technical assistance services. One clear advantage of this approach is that firms outside a TAAC's immediate location are generally closer to an MEP office than they are to a TAAC. Such a relationship also permits the use of MEP resources that may be available to deliver a service, thus saving TAAC resources.
- C Several TAACs have used other federal assistance resources to help firms meet their technical assistance needs. In several instances, TAACs have used the local SBDC

export center to assist firms; in another instance, the U.S. Department of Commerce Export Assistance Center was used to implement an export assistance plan to a designated country.

- C Several TAACs have used state and other resources to identify firms, as well as to obtain resources for technical assistance. State and local resources are often available to support an array of firm needs, including ISO 9000 certification, skills upgrading, and capital financing.

Best Practices Among Other Business Assistance Providers

The following best practices are found among providers of business assistance services (best practices already identified among some TAACs, such as obtaining consultant discounts for services, are not repeated here). Some of these may not be appropriate for individual TAACs, or the program as a whole, but we offer them to stimulate thinking about options for program improvement. These practices were primarily identified through the on-site interviews with business assistance providers. However, in some instances, the information was gathered from secondary sources. This presentation is organized in accordance with the format used for the TAAC best practices.

Enhancing Outreach to Firms

- C In an effort to optimize their outreach activities and increase the effectiveness of their services, several state-based programs have developed targeting policies for their business assistance services. Several years ago, Arizona identified eight major economic clusters to guide the application of its economic development resources. The state's rationale was that it could not serve every deserving firm; it needed to focus its resources on those firms that would produce the most value to the state's economy. Kentucky recently took a similar approach by first consolidating the vast number of programs that provide firm assistance under the direction of the Kentucky Technology Services Corporation and then requiring that services be targeted at firms in state-identified priority sectors.

Optimizing Use of Technical Assistance Resources

- C Several business assistance programs provide services similar to the TAA program (i.e., assistance for hiring outside consultants). The percentage of resources provided

to firms, however, is less than the average TAAC assistance for firms. For example, the Northeastern Pennsylvania Industrial Resources Center program has \$800,000 available annually in project assistance funds to serve a 13-county area. These funds are limited to a maximum of \$5,000 per activity with a cap of 20 percent of total project costs.

- C The New York State Small Business Development Center program operates a sophisticated monitoring and management information system in an effort to continuously improve the performance of its services. The system measures program inputs, outputs, and outcomes on a regular basis. Client surveys provide data on satisfaction and impacts. Results of client surveys are regularly monitored and used as a tool for managing the overall program and the operations of 20-plus local centers.

Increasing Resources Available for Technical Assistance

- C Several MEPs, particularly the Florida MEP, have entered into arrangements to receive paybacks from successfully assisted firms. Florida refers to its arrangement as “gainsharing.” Under this basic approach, before the MEP assists a firm, the MEP and the firm agree to share in increased revenues or savings directly tied to the technical assistance received. For example, if the MEP’s marketing assistance results in increased sales of a particular product in a defined market, the company will share a predetermined portion of its increased revenues over a specified period of time. This mechanism is also seen as a way of assisting firms that cannot afford to pay for services.
- C Several years ago, a Michigan program required all consultants to discount their hourly service rate by a standard amount to participate in a competitive bid process for firm assistance. Several federal programs cap the maximum daily rate consultants can use in bidding to provide program services.
- C A regional office of the Massachusetts MEP program recently developed a loan fund to provide capital to firms in its service area. The loan program, created in partnership with the U.S. Small Business Administration and local financial institutions, helps manufacturing companies improve their manufacturing processes and business practices by financing project assistance needs.

Leveraging Other Resources

- C A number of MEPs across the country have established formal partnerships with other organizations to assist them in the delivery of services. In some places, these partnerships are with other federal programs, such as the SBDCs, Export Assistance Centers, and U.S. Environmental Protection Agency's Small Business Assistance Program. Some MEPs have established partnerships with industry organizations, such as Arizona's partnership with the state affiliate of the National Association of Manufacturing and Illinois' partnership with local utilities.

CHAPTER 4

ROLE OF TAACs

IN FEDERALLY FUNDED TECHNICAL ASSISTANCE

The TAA program is intended to help remedy damages to domestic manufacturers caused by foreign imports. It does this by providing technical assistance to these firms. Two other efforts receive the bulk of federal support to business assistance activities: the federally-funded, state-based MEPs, funded by the Department of Commerce through the National Institute for Standards and Technology (NIST), and the university-based SBDCs, funded by the Small Business Administration.

Over the years, some policymakers have questioned the need for multiple funding streams for programs that assist businesses, suggesting that program consolidation could create efficiencies in administration and delivery, and reduce confusion among potential customers. In our research, we asked three questions that are linked to this issue:

- C Are there services provided by TAACs that are not provided by the other programs?
- C Are there services provided by other programs that TAACs cannot provide?
- C Are there differences in the quality of the services provided by both TAACs and other organizations?

We were not asked to collect detailed program performance information for the MEP or SBDC programs, although we did obtain descriptive information from the national offices and some evaluative information on program outcomes at local offices. However, we did speak with representatives of both SBDCs and MEPs located in the same cities as the TAAC offices, as well as national staff for both programs. On the basis of our conversations with these officials, TAAC staff, TAAC consultants, and assisted companies, we conclude that

- C the services that TAACs provide or fund sometimes are the same type of services provided by others, but there are many features of the TAA program model that make it a unique provider, and
- C because TAACs rely on private consultants to deliver services, and services are not restricted to particular types of technical assistance, there are few services provided by other organizations that are not also provided by TAACs.

Description of Program Models

The TAA program has been described in detail in other chapters of this report. The other programs were established at different times and were intended to serve very different purposes than the TAA program. This section describes these programs briefly. The next section compares their basic features.

Manufacturing Extension Partnerships Program

Established in 1989, the MEP program operates through more than 400 nonprofit centers and field offices to provide technical services to manufacturing enterprises. Centers are jointly funded by the federal government and states. Most policy decisions regarding center sponsorship, specialization, outreach, cooperation and partnerships, and financing are made by state government agencies within guidelines established by the Department of Commerce. Within the Department, the program is managed by NIST. NIST supports advanced technology development through grant award programs and laboratory research.

MEP centers primarily focus on small to medium-sized manufacturing enterprises across a range of industrial classifications. For the most part, MEP centers are direct providers of services, such as assisting firms with production and management tasks, conducting training seminars and courses, and providing written materials and other forms of education and information-sharing. Some MEPs — perhaps most — concentrate on off-the-shelf products and services that help firms with standard problems or tasks. ISO 9000 certification is a prime example. As of March 1995 the program had assisted about 25,000 firms (at much higher annual appropriation levels than the TAA program).

The MEPs are jointly funded by federal and state governments (in roughly equal amounts), although centers have relied on fee income, at least in part, since the beginning of the program. In recent years, the Department has encouraged MEPs to shift toward a more balanced public- and private-sector funding approach. Some MEPs have adopted a goal that at least half of the 70 percent nonfederal share be derived from fees companies pay for MEP services. Some centers already have reached that standard. However, the new emphasis has pushed most centers to either begin charging for services previously provided free or more aggressively market the services that have generated fee income in the past.

Small Business Development Centers

The Small Business Administration funds a national program of SBDCs that provide business assistance services to small firms, including start-up companies, in service, manufacturing, retail, and other sectors. Most states have a single lead center, which operates 10 to 20 service locations throughout the state. As with the MEPs, the state centers make policy regarding client services, sponsorship, funding, and other operational features. Actual practices appear more uniform across SBDCs than across MEPs.

The SBDC focus is on small (often very small) businesses. The staple product of an SBDC is business planning assistance, a common need among small, often marginal, businesses and especially for the apparently large number of clients who seek help in starting up a business. Many of the SBDCs are based at universities. They provide services using primarily center staff, but they may also use staff from other university departments. Emphasis is on providing immediate advice to business owners rather than implementing long-term programs of assistance to effect major changes in business operations, technologies, or management. The SBDCs do not currently charge for the services they provide; however, they are expected to begin charging fees for their business consulting services in the future.

Comparison of Program Models

There are a number of differences among the TAACs, MEPs, and SBDCs in terms of the assistance they provide, who provides the assistance, how much it costs, and other details. Exhibit 3 compares the major program features of each provider. Overall, the exhibit shows considerable differences among the three types of providers. Although there are overlaps among TAACs, MEPs, and SBDCs, the missions, clients, and types of assistance are quite different. Although MEPs could in theory perform some of the tasks now undertaken by TAACs, we question the wisdom of a funding stream for activities likely to be segregated within an organization with a different culture, mission, and set of incentives.

Types of Firms Assisted

The TAA program model is adapted to the special circumstances of the target clientele. Some features of the model could be changed to help the TAACs better serve that clientele, as pointed out elsewhere in this report. The typical TAAC client is a small manufacturing enterprise, often family owned, that has recently lost customers because of the superior price or quality of imported goods. Our interviews with TAAC staff and assisted companies suggests that while these firms usually have a core manufacturing technology that is

reasonably competitive, the firm managers lack the kind of information needed to allocate and manage production inputs or to price products appropriately. These managers have also tended to rely on traditional customers. They have not explored new markets very thoroughly or expertly and have not updated their marketing materials.

Exhibit 3
Comparison of TAA, MEP, and SBDC Programs

Program Characteristic	Trade Adjustment Assistance Centers (TAACs)	Manufacturing Extension Partnerships (MEPs)	Small Business Development Centers (SBDCs)
Types of Firms Assisted	Declining manufacturing enterprises in trade-impacted industries.	Small and medium-sized manufacturing enterprises.	Small retail, service, manufacturing, and other businesses, often start-ups.
Scope of Assistance	Comprehensive and in-depth.	Some in-depth and selective, others shallow and selective. Varies across MEPs.	Shallow and selective.
Assistance Provider	Private consultants.	MEP staff (primarily) and private consultants.	SBDC staff (primarily) and university staff.
Time to Get Assistance	Six to eight months for certification and AP approval.	Less than one month; no certification or AP	Less than one month; no certification or AP
Program Leverage	70:30 federal to private (small projects) 50:50 (large projects)	30:70 federal to state/private.	50:50 federal to state/university/private.
Control	Firm matches funding and selects provider.	Firm pays fee for offered service from preselected provider.	Preselected provider services are free to firm.

Program Characteristic	Trade Adjustment Assistance Centers (TAACs)	Manufacturing Extension Partnerships (MEPs)	Small Business Development Centers (SBDCs)
Geographic Coverage	Multistate	Substate	Substate
Funding (FY 1998)	\$11 million (\$1.5 million from Defense Adjustment)	\$114 million	\$75 million

Although some of these same types of companies may approach MEPs for assistance, the typical MEP firm is larger, financially stronger, and more often in growth sectors than the typical TAAC client. The products and services of the MEPs tend to emphasize plant-floor innovations and ISO 9000 certification to aid in export markets. SBDCs tend not to assist manufacturing enterprises. National figures show that about 19 percent of firms assisted by SBDCs are manufacturers. SBDC customers tend more often to be small retailers, restaurateurs, and other small entrepreneurs who may have only rudimentary accounting, management, and production practices. Their needs typically are for basic business planning assistance.

Scope of Assistance

Assistance offered by SBDCs and MEPs tend more often to be retail, over-the-counter services compared with the TAACs, which do customized packages provided by specialized consultants. Because TAACs focus on declining companies to the exclusion of all others, they have a clientele in need of in-depth services. In some ways, the typical TAAC client is between the very unsophisticated SBDC customer needing rudimentary help and the MEP client needing some highly specialized aid.

In the SBDC case, exposure to printed materials and referrals to educational or other programs may be enough to help clients make initial decisions about entry into business or about the kinds of help they might commission on their own. In any event, the level of assistance needed is small, as are the businesses assisted. Typically, SBDC clients qualify as microenterprises according to the definition of the Small Business Administration (firms employing fewer than five persons, including the owner). In the MEP case, firms with in-house

technical and professional expertise may seek selected services offered over-the-counter to solve isolated problems. The MEP model presumes that the typical firm is reasonably well able to judge the kinds of assistance it needs and recognize the appropriateness of the assistance an MEP might provide.

TAAC clients employ more workers, on average, than typical SBDC clients, and may use moderately to highly technical manufacturing procedures. The TAAC clients often are owned and managed by persons who have in-depth knowledge of manufacturing technology but lack sufficient education and training in business management and marketing. These owners know they need help—they apply to the program—but they aren't always sure what kind of help they need. Therefore, the TAACs provide a diagnostic process that is more in-depth and comprehensive than that typically provided by MEPs.

Provider of Assistance

An important distinction among technical assistance models is the provider. In the TAAC model, the needs assessment, or diagnostic, is conducted by TAAC staff, but assistance is provided to the firm by consultants. The company and TAAC contract with a consultant to provide services agreed upon in the diagnostic process. Because the firm is a party to the contract, it exercises final control over consultant selection. In very few instances are TAAC staff involved directly in the provision of technical assistance services.

By contrast, the SBDCs and the MEPs most often provide both diagnostic and consulting services using their own staff. This is almost always the case with SBDCs, although SBDC staff may recommend a list of consultants that a client may contract on his or her own. MEP arrangements are more complicated. Some MEPs provide all services using their own staff, while others use outside consultants to provide help. In almost all cases, however, at least some of the aid is provided by MEP staff.

As noted in the opening of this chapter, recent changes in federal policy on MEP financing may encourage MEPs to increase their reliance on their own staff because of the need to generate fee income. In principal, this may make sense. However, *we find that one major strength of the TAA program is the complete separation of the diagnostic and assistance transactions. Unlike MEPs and SBDCs, TAACs have no incentive to tailor the diagnostic to fit the capacity of their own staff: the providers are independent consultants.*

Timing of Assistance

Partly because of the type of assistance provided as well as the legislative and policy constraints under which TAACs operate, MEPs and SBDCs typically provide assistance more quickly than TAACs. Few rules constrain the types of enterprises that can be assisted by MEPs and SBDCs. In the former instance, they need only be manufacturing enterprises; in the latter, only small businesses. The TAA program, in contrast, requires firms to document losses in sales and employment because of increased foreign imports. Although useful assistance is provided to the firm during the diagnostic phase, the process as a whole substantially slows the assistance firms get compared with other programs.

Leverage

The TAA program is less highly leveraged than the MEP program, but about the same as the SBDCs. The MEP program is more highly leveraged in terms of federal dollars, at 30:70 federal to other funds, although the state contributes to the 70 percent nonfederal share. Assuming the state share comes to 50 percent of the nonfederal share, the public-to-private leverage comes to 60:40, closer to the TAAC ratio of 50:50. As the exhibit notes, the SBDCs are 50 percent funded by the federal government; the remainder of the costs are picked up by states or the university sponsors of each center. Only a small, but increasing, portion of costs are borne by private sector clients.

Control

Who decides what assistance gets provided, by whom, at what cost, when, and how? In the TAA program model, TAAC staff perform an in-depth diagnostic that typically involves two visits to the firm, interviews with the owners and staff, and observation of plant layout and processes. The diagnostic/AP must be accepted and endorsed by the firm, increasing its control of the technical assistance process. The final diagnostic becomes the basis for an award request to EDA. On approval, the diagnostic guides the scope of services used to competitively solicit consulting services in each of the technical areas identified as critical to firm recovery. At this stage, the company becomes the primary decisionmaker. Although TAAC staff recommend a slate of consultants to which the invitation to bid is sent, the firm owner or manager makes the final decision on whom to select. From this point on, payment to consultants is triggered only by the firm's satisfaction with the work performed.

MEPs have some elements of the TAAC model. Although MEPs vary in their approach, one common pattern is for an MEP staff person to perform a diagnostic of firm

needs. These may cover a range of technical areas, but on the basis of our interviews, we believe that the diagnostics typically do not cover the same variety of areas at the same depth as those produced by the TAACs. As one indicator, the amount of time devoted to the diagnostic process by MEP staff is usually about eight hours or less. This is substantially less time than the 40 - 60 hours spent by TAAC staff. This approach may work well for firms that already have competitive positions. It may not be a good model for distressed companies.

The MEP model does not preclude staff from investing large amounts of time in the diagnostic process, but MEPs have incentives to invest time in firms that are likely to want the services the MEPs themselves provide—services that are available off the shelf or that take advantage of the existing skill mix of MEP staff. Again, this may work well for the types of firms that MEPs target: those with fairly specialized needs and the ability to judge the appropriateness of MEP assistance to their particular circumstance. However, in our opinion it is not a model that would serve TAAC clients well. Most MEPs do not have resources available to hire private consultants to deliver services that MEP staff cannot provide. SBDCs, which rely almost entirely on in-house staff and don't perform extensive diagnostics, clearly are not appropriate providers of assistance to the types of firms TAACs target.

Geographic Coverage

The TAA program serves the 50 states and the District of Columbia through 12 centers, 10 of which serve multistate regions (the New York and New Jersey TAACs are the exceptions). In contrast, the MEPs and SBDCs operate multiple centers within each state. The more extensive MEP and SBDC networks would make outreach to potential clients easier than through the current TAA program.

At current funding levels, it would make little sense to shift the TAA program to the MEPs, even if we believed that the MEPs could deliver the same assistance that TAACs provide at the same level of quality. Annual TAAC funding is about \$11 million nationally. Divided among 12 regions, this comes to roughly \$830,000 per organization, which allows TAACs to cover staff costs and leave sufficient assistance funds to support a meaningful but underfunded program. If funds were allocated equally on a state-by-state basis to MEPs (for example), each state's share of the annual appropriation would average \$200,000. Once staff costs were paid, little would be left for firm assistance.

Conclusions

Chapter 2 documented the positive results achieved by the TAA program, and we identified features of the TAA model that we believe accounted for the program's results. Chapter 3 identified some weaknesses in the program. In this chapter, we consider whether a transfer of TAA program functions to either MEPs or SBDCs would be a good idea. We conclude that it is not.

- C The TAA program assists firms that are very different from those served by MEPs or SBDCs. Compared with MEP clients, TAAC clients are usually distressed and require comprehensive aid. Unlike SBDC clients, TAAC clients are manufacturers, not retailers, service providers, or other types of firms.
- C The TAA program provides assistance through private consultants, not staff. Because TAAC clients need a comprehensive program that is uniquely packaged for each firm, a model that relies heavily on the private consulting services available throughout the marketplace seems clearly superior to one that relies on whatever expertise is available at a particular office.
- C The TAA program gives the firm full control over the assistance package. The firm decides who provides the assistance, in what form, when, and on what topics. The firm authorizes payment to the consultants only if it is satisfied with the quality of the work performed.

Although these features are transferable—the model could be shifted to either the MEPs or SBDCs—we don't believe it would make sense to incorporate the TAACs' firm-centered, consultant-provided program into an organization that has a very different operating model.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Firms participating in the TAA program do well as a result of the assistance they receive. The findings on firm performance indicate that both sales and employment increase after assistance and do so at rates significantly better than in similar firms that did not receive assistance. The depth and breadth of technical assistance, as well as the ability to customize the assistance to the individual needs of a firm and deliver it through the best available outside experts, contribute to these positive outcomes.

Although overall performance is positive, the TAA program can be improved. There are opportunities to refine the process of assisting firms by speeding up the delivery of technical assistance and leveraging other resources on behalf of firms. These improvements can also free up resources so that a modest number of additional firms can be assisted. There is, however, a significant need to serve many more deserving firms nationwide.

Increased congressional appropriations are necessary if more firms are to be served. If the TAA program cannot serve significantly more than 150 to 200 firms annually, serious consideration should be given to finding other ways besides direct technical assistance to firms (e.g., through tariffs, quotas, or tax relief) to compensate the thousands of firms annually affected by trade. As noted earlier, it is not within the purview of this evaluation to assess the merits of various means of assisting trade-impacted firms.

However, it must be noted that as efforts have been made to expand the opportunities for international trade (e.g., the North Atlantic Free Trade Agreement, or NAFTA), resources to assist adversely impacted firms have declined. Instead, additional resources have been allocated to assist workers and communities possibly affected by trade. Why firms have received virtually no attention is not clear, particularly when in recent years the federal government has made unprecedented investments to help firms become more competitive. This situation is even more unclear if adverse trade impacts are viewed from a domino-type perspective, in which the first negative impact hits the firm, the second the workers, and the third the community, once the firm has closed and the workers are unemployed.

To serve more firms nationwide and improve the overall effectiveness of the TAA program, two general recommendations are offered:

C Additional funds should be appropriated to support the TAA program effort, and

C Major changes should be made in the TAA process and delivery system.

The following section provides specific comments and actions for each of these recommendations.

Increased Appropriations

The program has demonstrated that it effectively serves trade-impacted companies. We have pointed out, however, that only a small fraction of firms estimated to be eligible for program assistance actually are certified as eligible for help. We take no position on whether the federal government should provide trade adjustment assistance; given that Congress has chosen to do so, we find that the TAA program works. Therefore, if Congress is at all serious about using trade adjustment assistance as a trade remedy, it makes considerable sense to increase appropriations to the Trade Adjustment Assistance program.

Improvements to the TAA Process and Delivery System

The following proposed changes are offered in the context of maintaining but improving the current TAA model and framework for delivering services. As noted in Chapter 4, there are no benefits and many downsides associated with merging current TAA program resources into another federal business assistance program such as the MEP. Even if resources are greatly increased for the TAA program, this assessment found no indication that the MEPs or any other program would welcome the responsibility of assisting trade-impacted firms. In fact, until the federal government develops overall policy to guide its myriad business assistance programs, it is not recommended that ad hoc consolidation-type changes be made to individual programs.

The proposed changes to the TAA process and delivery system are designed to achieve four objectives: (1) accelerate the delivery of business assistance services, (2) increase the amount and percentage of technical assistance resources available to firms, (3) increase the number of firms getting assistance, and (4) reduce the nonassistance activities associated with the program. Several of these changes require modifications to the TAA legislation; others can be accomplished through internal policy changes within EDA. The following recommendations are presented according to the key program elements addressed in Chapter 3.

1. Firm Certification

Fundamental changes are proposed for the certification process. These changes will require modifications in the legislation as well as operating policies within EDA and other federal organizations:

- C The International Trade Commission (ITC) could certify industries as trade-impacted (based on their analyses of industry sectors and products groups affected by foreign competition), and EDA could accept this designation for its certification. (ITC currently does related analyses in response to requests under Section 201, Trade Act of 1974.) An increase in trade activity should be an element of such analyses, but certification should be permitted under other considerations, such as the foreign domination of a market. The ITC should have responsibility for notifying firms of their designation at least annually.
- C Responsibility and authority for certifying firms as eligible to participate should be devolved to each TAAC. EDA should then exercise its authority to audit completed TAAC actions on a periodic and portfolio basis. Eligibility should be based on ITC designation and a decrease in sales as reflected solely on a firm's balance sheet. Eligibility should not be based on decreased jobs.

2. Diagnostic/AP

Modest changes are suggested for the diagnostic/AP process. The first change requires a modification to the legislation.

- C Responsibility and authority for approving APs should be devolved to each TAAC. EDA should then exercise its authority to audit completed TAAC actions on a periodic and portfolio basis.
- C EDA should establish overall policy and guidelines concerning charges associated with preparing a diagnostic/AP so that firms are treated equally across the country. This does not mean that all firms would be charged the same amount -- fee schedules based on firm size or other factors may make sense -- but each TAAC should adhere to national policies on fee-setting. EDA's overall policy should be to maximize a firm's payment for this activity (without deterring program participation) in order to generate more revenue for technical assistance activities.

3. **Provision of Technical Assistance**

One change is proposed to increase the level and percentage of resources available to finance technical assistance activities. This change does not appear to require modifications to the legislation, although it may be useful to have it codified.

- C EDA should strongly encourage and perhaps even mandate that TAACs leverage other resources to support firm technical assistance needs. Each TAAC should identify federal, state, and local resources of potential value to its clients and be held accountable for accessing such resources for eligible firms. EDA might offer incentives (e.g., additional funding) to TAACs that do particularly well at this.

4. **Evaluation**

EDA should work with TAACs to improve their overall process for assessing performance. These changes do not require modifications in the TAA legislation.

- C EDA should assist each TAAC in establishing a standardized monitoring and management information system in order to better track program operations, determine customer satisfaction, and analyze performance.

- C EDA should fund periodic evaluations of the TAA program.

5. **Program Management**

EDA should undertake a number of steps to improve the overall management of the program. While most of these changes can be made through internal actions, one of the recommendations requires both a modification in legislation and internal policy changes within EDA.

- C TAACs and EDA should negotiate the number of firms to be certified and assisted for each grant cycle, as well as annual benchmarks of performance. These numbers should be established with a firm understanding of the number of firms potentially eligible for assistance within a service area.

- C EDA should redeploy and retrain its headquarters staff so that its primary responsibilities are to assist TAACs in their efforts to help trade-impacted firms and to

ensure that TAACs are doing so. This change requires the enactment of the previous recommendations to devolve certification and AP approval authority to the TAACs.

- C EDA should develop an overall plan outlining how the TAA program fits within and links to EDA's internal structure (e.g., regional offices) and its network of economic development organizations. This plan should identify responsibilities and appropriate actions for each partner.
- C EDA should exercise its position as the federal government's lead economic development organization to sponsor or participate in a review of all of the government's assistance programs for business, with the objective of creating a more efficient and effective delivery system.

6. Summary

In our recommendations, we have emphasized the major "fixes" we believe the program needs. However, a number of immediate changes will improve the effectiveness of the program in the short run, pending more important and necessary changes in the long run. These short-term changes are as follows:

- C Accept fewer than three customer-certified declines in purchases if one or two of the purchasers represent more than 50 percent of the affected product line.
- C Accept without challenge the Customs Service identification of the Harmonized Tariff Schedule number.
- C Define the 25 percent rule as it relates to declines in sales to apply to a product line, not a stock-keeping unit, which is unnecessarily restrictive.

In summary, a number of important steps can be taken to help the TAA program become an even more effective resource for businesses impacted by trade. Several of these recommendations require legislative action:

- C Take appropriate steps to eliminate the requirement that *Federal Register* notification precede each certification; since 1981, only one request has been challenged (unsuccessfully).

- C Designate trade-impacted firms based on analyses and identification of industry sectors and product groups affected by foreign competition and assign this responsibility to the ITC.
- C Devolve to TAACs the responsibility for certifying firms as eligible to participate.
- C Devolve to TAACs the responsibility for approving adjustment assistance proposals.

To implement changes, EDA management should approach the TAA program from a perspective that gives priority to delivering effective assistance to as many firms as possible, rather than to certifying firms as eligible for assistance. These changes would ensure that EDA operates the TAA program in the best interest of its customers—trade-impacted firms.

METHODOLOGICAL APPENDIX

Data Sources

The TAAC regions provided a list of certified firms that received assistance between 1990 and 1995. They also prepared a comparable list of firms that were certified but chose not to receive assistance from the TAA program. We sent these firm names and addresses to Dun and Bradstreet to match them with DUNS numbers (unique identifiers assigned by Dun and Bradstreet). The match was completed by name and state only for the 206 firms whose street addresses were not available. Using the DUNS number, we received financial reports and description information for the years 1986–1998. Dun and Bradstreet also provided data for all firms in the same time period with Standard Industrial Classification (SIC) codes represented by the assisted firms.

Preparation of the Analysis Database

For each year we requested, Dun and Bradstreet selected the most recent report available, which may have been filed several years before. Our analysis excluded reports that were more than one year ahead or behind the year indicated.

Using the certification year as year 0, we standardized the calendar years to the number of years before or after certification. For example, the 1990 report for a firm certified in 1988 was considered information for year 2. The 1990 report for a firm certified in 1991 was considered year –1. For a firm certified in 1993, the 1990 report would not be included in the analysis. We calculated data from two years before certification to five years after certification. The fifth year was not available for firms certified in 1994.

We selected the descriptive information (name, address, SIC code, etc.) recorded at the year of certification or the nearest year for data not available at year 0. Although the non-TAAC firm data began in 1986, Dun and Bradstreet did not institute eight-digit SIC coding until 1989. Because of this inconsistency in the data, we chose the descriptive information contained in the year 1989 for the non-TAAC firms, the earliest certification year with full SIC information. If no 1989 record was available, the information was taken from the year closest to 1989.

Of the firms analyzed, 63 percent operated at single locations. Another third were headquarters, and 4 percent were branches of parent firms. All types of firms were included equally in our analysis.

In addition to the sales volume, the financial information included the employment figures for the firm as a whole and for that particular location. Employment in this report reflects the firm's total employment figures. More than 80 percent of the TAAC firms that survived had sales and employment values for seven or eight of the study years. Twenty-eight firms, or 3 percent of the surviving firms, did not have any financial information available that met our criteria.

Dun and Bradstreet provided out-of-business flags for the firms that did not indicate the year of termination. For TAAC-certified firms, we accepted these flags unless the firm filed a report for the final analysis year after certification. In this case, we assumed that the organization failed after the period of study.

Quality and Outliers

Dun and Bradstreet recorded real values or the low end of a reported range for 99 percent of employment and 78 percent of sales for the TAA-certified firms. An additional 20 percent of the sales figures were estimated using norms based on the industry and size of the firm. Dun and Bradstreet does not impute missing employment numbers.

We used the same procedure for the extreme values in both the TAA-certified and non-TAA certified firms. We first set any zero value of sales or employment to missing. Since the distribution of the growth rates for sales and employment were skewed toward the higher end, we set growth rates in the top 0.5 percent of the period's distribution to missing. All annual changes were considered one group, while the rates covering more than one year were considered separately. We set all net gains in employment and sales in the top one-half of the period's distribution to missing.

Bivariate and multivariate analysis

Analysis of means excluded terminated organizations and organizations missing the respective sales or employment information for the certification year. We considered any difference resulting in a probability value of 0.05 or less to be significant.

The regressions did not include any terminated organizations or organizations certified in 1994. The regression excluded organizations that were missing any one variable.

Industry growth rates

We used the financial information from the firms that were not TAA certified to calculate the industry growth rates. After creating sales and employment growth rates for each firm, we determined the mean rate for each SIC code. Seven sets of growth rates were calculated for each SIC code, one for each possible certification year. We then matched the industry growth rates to each TAA-certified firm. The overall average of the mean growth rates for the industry was computed by averaging the mean rate for each SIC combination.

ENDNOTES

¹Office of Technology Assessment, *Trade Adjustment Assistance: New Ideas for an Old Program*, June 1987, p. 34.

²Hornbeck, J.F., *Trade Adjustment Assistance for Firms: Economic and Policy Issues*, Congressional Research Services, September 20, 1996, p. CRS-4.

³U.S. Department of Commerce, Office of the Inspector General, *International Trade Administration Trade Adjustment Assistance: No Cure for Import-Injured Firms*, Report Number D-068-5-006, March 1985, p. 4.

⁴Letter from Phillip A. Singerman, Assistant Secretary for Economic Development, to Honorable Phillip M. Crane, Chairman, Subcommittee on Trade, Committee on Ways and Means, U.S. House of Representatives, April 3, 1997.

⁵Some estimates of the performance of other programs have assumed that all benefits (e.g., jobs or sales) can be attributed to program assistance, on the assumption that “but for” public funding, firms would not take steps on their own to acquire technical help. Although this doubtless is true for some firms aided by the TAA program, we have no way of knowing the number of firms involved. Therefore, we have chosen to use a more conservative estimate.

⁶Rutgers University et al., *Public Works Program -- Performance Evaluation*, prepared for the Economic Development Administration, U.S. Department of Commerce, May 1997.

⁷This calculation is based on the assumption that the average diagnostic/AP costs \$8,000; thus, the federal share is \$6,000.

⁸OTA, p. 54.

⁹Although in theory all participants in a federal program should be treated equally, there is some rationale for allowing different approaches and participation requirements in programs in which there is a local match. For example, the MEP program, which can require its local partners to contribute up to 70 percent of the costs after they have been in the program for five years, places no specific conditions on the amount MEPs can charge firms for services. Thus, firms in different MEP service areas may pay different costs to obtain similar services. Without any local match in the TAA program, it is difficult to find a rationale to support similar differences among TAACs.