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Peter Stenberg, Thomas Rowley, and Andrew Isserman

Economic Development After Military Bases Close

The Department of Defense is realigning its domestic network of military bases and closing many bases. Since 1988, 73 major bases have been slated for closure, 17 in nonmetro areas. The experiences of rural communities that had bases close during 1960-82 suggest that closures can create a range of economic difficulties, but also unique development opportunities for affected communities.

IN 1988, the U.S. Department of Defense (DoD) began a major restructuring of the Nation's domestic military base system. So far, three rounds of debate and decisionmaking have resulted in the scheduled closing of 180 bases, including 73 large installations. The last planned round begins in 1995 and will slate more bases for closure.

Two factors have driven recent rounds of closures and realignments. First, from 1988 to 1991, the number of active duty military personnel, including personnel posted overseas, the National Guard, and reserves, fell 173,000 to 2,597,000. By 1999, the President's budget calls for an active duty force of 1,453,000, the lowest level since before the Korean War. The National Guard and reserves by 1999 will have fallen 200,000 in a decade.

Second, new directions in military preparedness and investment in new high-tech weaponry, which often leads to the need for larger testing space, give impetus to realignment of bases. Small bases in some cases are outmoded and no longer appropriate. In other cases, bases need to be enlarged.

Closures affect communities across the Nation. Counties now experiencing major base closures are shown in figure 1. Some of these counties face more than one base closing, and many more counties (not shown) have bases undergoing realignment, either losing some military units to other bases or gaining units from other bases.

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Of the 73 major bases slated to close, 17 are in nonmetro areas. How successful each of these nonmetro counties will be in redeveloping its bases or in shifting to economies that do not depend on the military will not be known for several years. The typical base closure takes 4 to 7 years to complete.

More Closures in 1995

In addition to the bases already facing closure, 1995 looms as a watershed year for other military installations. It is the last of the scheduled four rounds determining realignments and closures. The easiest decisions were made in the 1988 round. In some cases, long underused bases were slated for closure. Many difficult decisions have been held to the final round.

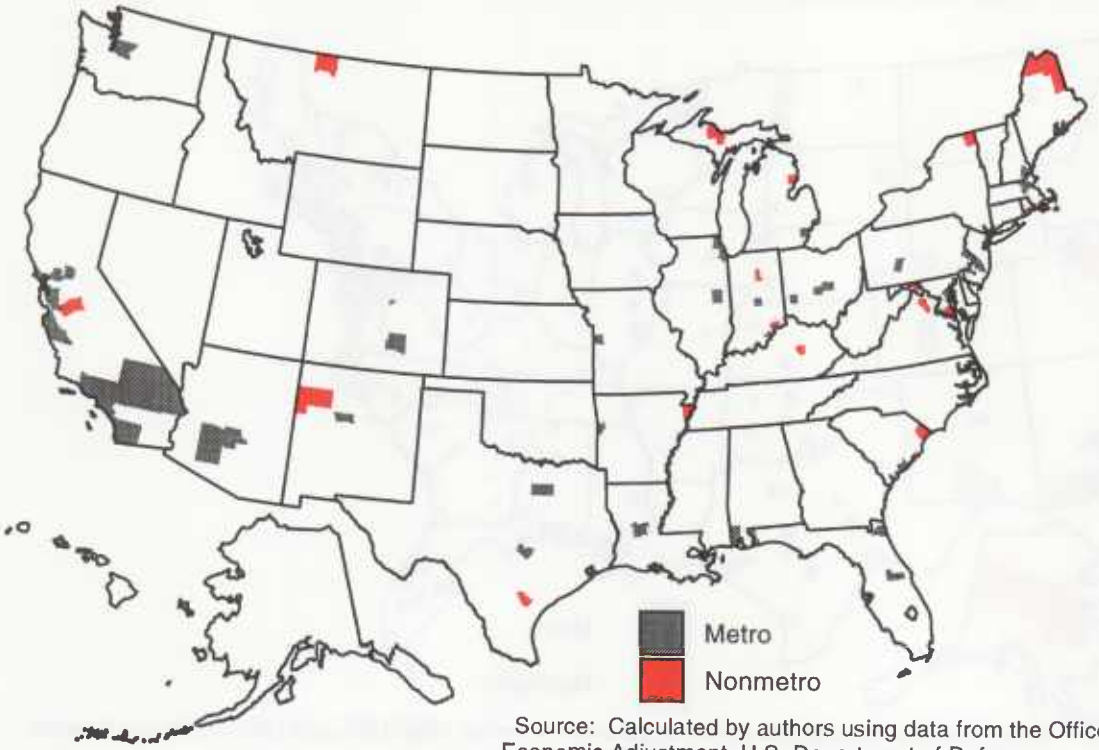
As of 1993, the 50 States stood at about 460 major DoD military installations and properties (fig. 2). Every State had at least one active duty, National Guard, reserve military base, or other major military property, such as an Army Ammunition Plant. Nearly half of the major military installations, however, are found in just nine States—California, Virginia, Texas, Florida, Maryland, New York, Georgia, Pennsylvania, and Hawaii. Five States held no active duty military bases, although each of these had one or two reserve or National Guard bases—Iowa, Minnesota, Oregon, Vermont, and West Virginia.

Nonmetro counties have maintained about a 22-percent share of Federal military personnel over the last 25 years despite significant swings in the overall number of military personnel. With the planned 30-percent decline in military personnel by 1999, the numbers based in both nonmetro and metro areas will decline. Whether non-

Figure 1

Counties facing major base closures from 1988, 1991, 1993 rounds

Fewer nonmetro than metro counties currently face closure of a major military base



Source: Calculated by authors using data from the Office of Economic Adjustment, U.S. Department of Defense.

metro areas' share will stay at 22 percent remains to be seen.

Although it is too early to know how rural communities will deal with recent base closures, some lessons can be drawn from bases closed in other rural communities during the 1960's and 1970's. The experiences of those communities suggest what communities currently facing closures may expect.

Economic Effects of Earlier Base Closures

The effects of base closure on a community vary depending on several factors. The extent of the local economy's dependence on the base, the national and regional economic climates at time of closure, the preparedness of the local community for conversion, the size of the base, and the size of the local community all affect the outcome of base conversion. The time it takes a community to acquire base facilities after closure also affects, at least in the short run, the community's recovery from the closure. The faster the community gains possession, the faster it can realize economic gains from base facilities.

Between 1960 and 1982, a few more than 100 major bases were closed. Of the affected communities, 83 requested, and subsequently received, help from DoD's Office of Economic Adjustment (OEA) to mitigate the impact from the closure of their 97 bases (fig. 3). Other communities also coped with base closures, but the 83 communities are the only ones for which DoD maintains records on pre- and post-closure employment.

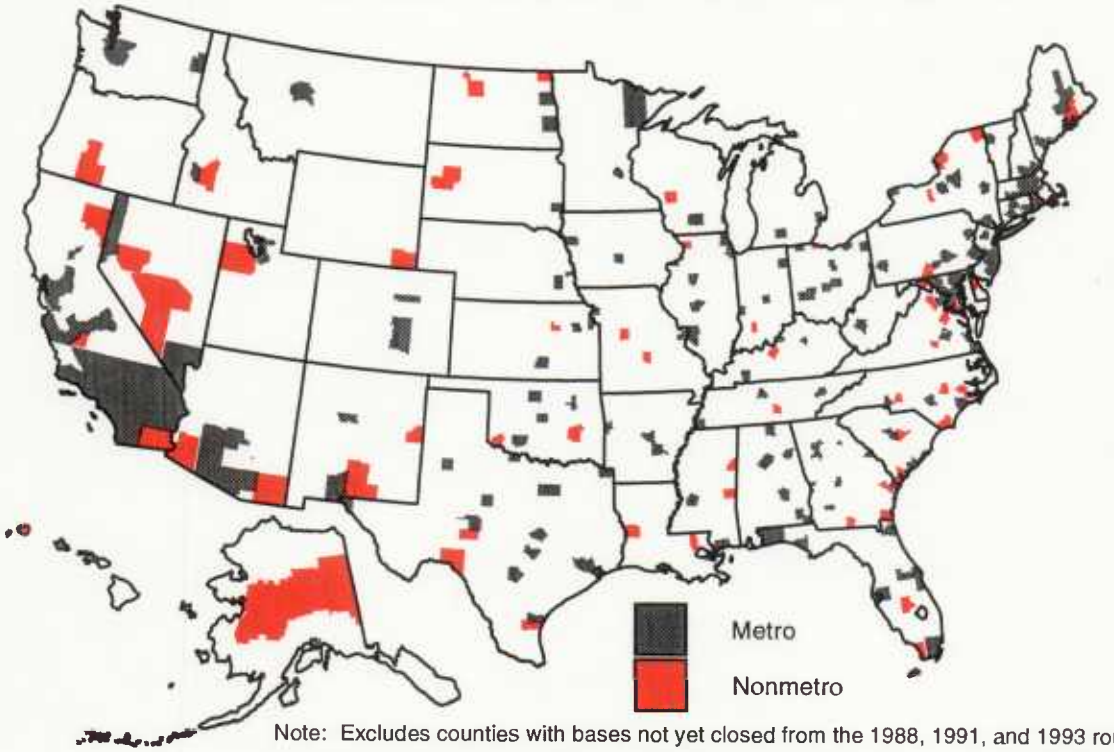
Earlier studies of the effect of base closures on these communities concentrated on short-term effects (within 1 to 2 years after base closures) and did not look at differences between metro and nonmetro communities. The major findings of those studies are summarized in "Other Studies of Base Closures and Redevelopment," p. 19. This study looks at longer term economic trends and at how nonmetro communities fared (see Rowley and Stenberg in "For Further Reading..." for more details).

Onbase Job Losses. Of the 83 base closures, 33 were in nonmetro counties. On average, the nonmetro counties lost fewer onbase civilian jobs than the 50 metro counties lost (table 1). The 18 bases with the greatest losses were all in metro counties, indicating the larger size of metro base facilities. Average job loss due to military transfers was slightly greater in nonmetro counties than metro counties.

Figure 2

Counties with major military bases, 1993

The last planned round of base realignments and closures is likely to affect many of these counties



Note: Excludes counties with bases not yet closed from the 1988, 1991, and 1993 rounds and for which no known reuse as a major military base is being considered.

Source: Calculated by authors using data from the U.S. Department of Defense.

While rural military bases tend to be smaller, they typically have a larger share of local jobs than urban bases do. Nonmetro base-closing counties lost an average of 3.3 percent of total county employment to civilian onbase job cuts, while metro counties lost only 1.3 percent. Seven of the eight top civilian onbase job losers relative to total employment were nonmetro counties. In terms of military transfers, the average percentage of total county employment lost by nonmetro counties (6.7 percent) was more than double that lost by metro counties (2.5 percent).

Combining the two types of losses, the average nonmetro base-closing county lost nearly 10 percent of its total county employment, compared with less than 4 percent lost by the average metro county. At the extreme, the nonmetro and metro counties facing the greatest challenges each lost about 34 percent of total employment.

The loss of civilian jobs on base is more damaging to a local off-base economy than the military transfers because civilian workers live off the base and make more of their purchases there than do military personnel. Although rural areas lost fewer civilian jobs, those jobs were a larger percentage of their jobs, suggesting that the rural economies may have sustained proportionally greater negative off-base effects of closure.

New Onbase Jobs. Conversion of former base facilities in metro counties added more than twice as many new jobs as conversion of nonmetro bases, according to DoD statistics (table 1). Metro areas housed the nine leading former bases in absolute number of jobs gained and 15 of the top 20. In percentage terms, nonmetro counties fared better, recouping 308 percent of lost civilian jobs on average, while metro counties recouped 169 percent. These statistics, however, do not distinguish between jobs on the former bases that were simply movements within the counties and gains from outside the county.

These averages are pushed up by a few counties that made very large gains in employment. Only two-thirds of all counties (70 percent of nonmetro and 68 percent of metro) individually regained as many civilian jobs as they lost. Thus, the remaining one-third suffered net reductions in onbase employment, some severely. Mobile (a metro county in Alabama) lost a net total of 7,745 civilian jobs on base. Dauphin County, PA (also metro), lost a net total of 7,250 civilian jobs. The worst of the nonmetro

Other Studies of Base Closures and Redevelopment

Studies by the U.S. Department of Defense (especially by Lynch and MacKinnon) and other accounts of communities which experienced major base closures suggest the following conclusions regarding near term (1-2 year) effects:

- Regardless of the relative size of a base, there is little effect on a community's unemployment rate. This perhaps surprising finding results from active military personnel being transferred from the area and significant efforts being made to transfer and relocate civilian personnel, thus keeping the majority of military and civilian personnel out of the local labor market. In addition, the transferred defense personnel and, particularly, their dependents vacate many local jobs, thus freeing up positions for those who directly or indirectly lost their jobs due to the closure.
- Salary levels for the jobs created on base after closure tend to be lower than for the civilian and military jobs lost.
- Community per capita income levels are not drastically affected by base closures.
- Changes in retail sales resulting from base closures are minimal. Apparently, military personnel, many of whom are housed on base, contribute less to the off-base local economy than is popularly believed. Base personnel and the base procurement office generally make few local purchases.
- A community over the first few years after closure usually experiences a decline in population. New economic activities usually do not quickly replace the military transfers and lost civilian jobs. Population in smaller communities, where the bases account for large proportions of population, are affected more severely than large communities.
- Housing vacancies and costs are affected by a major base closure when onbase housing units are released into the local housing market. The increased housing stock lowers local home sales prices. Likewise, when off-base rental units are vacated by military and civilian personnel, the increased vacancies depress local rents.

The studies have also stressed that base closures have benefited some communities. Among the findings are

- Community leadership becomes organized for future development efforts.
- Federal program assistance leads to professional economic development plans.
- Federal assistance focuses on affected communities.
- Prime acreage and facilities at the former base become available for redevelopment.
- New educational facilities are created to build a skilled labor force.
- Many previously unmet social and economic needs of the community are satisfied by newly available facilities on the former bases (such as housing, health, recreation, education, and airport facilities) at little or no cost to the community.
- New job opportunities are provided by new and expanding industry.
- A community's economy becomes more diversified.
- The community, through an imposed self-evaluation, emerges with greater confidence and renewed spirit about the future.

cases were Monroe County, FL, and Fall River County, SD—each lost a net total of 508 civilian jobs.

When military transfers are included, the nonmetro counties averaged a lower proportion of jobs regained than the metro counties. The nonmetro counties averaged only 54 percent of total onbase jobs regained compared with the 83 percent regained by the average metro county.

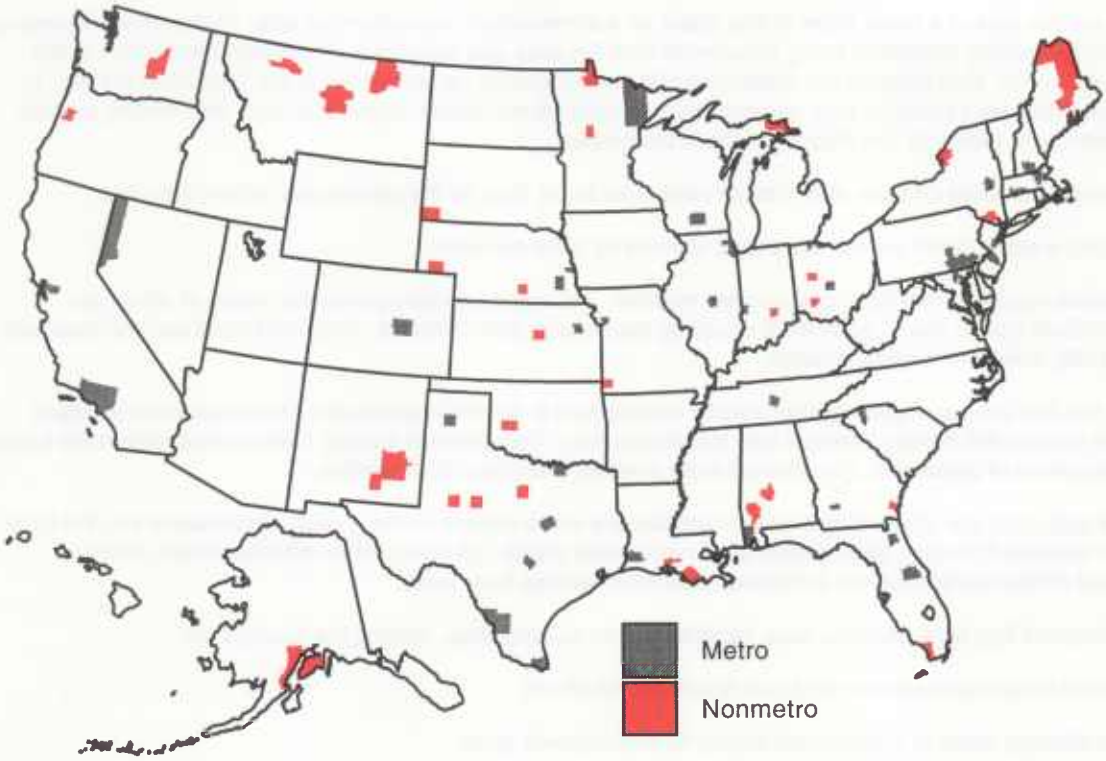
County Growth Rates. Looking not only at base redevelopment, but at total job, income, and population growth in the closure counties allows comparisons with all metro and nonmetro counties. The 40 (19 nonmetro and 21 metro) counties where military bases closed between 1970 and 1982 were used in this analysis. Counties where military bases closed before 1970 were not analyzed because they may have already passed through the period of negative economic effects from the closure before 1969, the first year for which we have jobs and income data from the Bureau of Economic Analysis.

The average rates of employment and population growth for metro and nonmetro base-closing counties lagged their counterparts nationwide (table 2). In base-closing counties, population grew much more slowly than employment, helping to explain how their real per capita income growth could nearly keep pace with the income

Figure 3

Selected counties where military bases closed during 1960-82

Base closures during 1960-82 were widely distributed



Note: These are counties where one or more bases closed and assistance from DoD's Office of Economic Adjustment was requested. Other counties that had bases close but did not request assistance are not shown.

Source: Calculated by authors using data from the Office of Economic Adjustment.

Table 1

Employment effects of military base closures, 1969-88

On average, redevelopment of former bases more than made up for civilian jobs lost, but did not replace the total number of civilian and military jobs that the bases had provided

Item	Base-closing counties (1)	Civilian jobs lost on base (2)	Military transfers (3)	Civilian jobs added on former base (4)	Jobs regained as a percentage of civilian jobs lost[1] (5)	Jobs regained as a percentage of jobs lost and transfers[2] (6)
	Number				Percent	
All bases:						
Total	83	87,079	132,376	162,185	NA	NA
Average	NA	1,049	1,595	1,954	186	74
Nonmetro:						
Total	33	12,018	55,855	36,970	NA	NA
Average	NA	364	1,693	1,120	308	54
Metro:						
Total	50	74,061	76,487	125,215	NA	NA
Average	NA	1,481	1,530	2,504	169	83

NA = Not applicable. [1]Column 4 divided by column 2. [2]Column 4 divided by the sum of columns 2 and 3.

Source: Calculated by the authors using data from the Office of Economic Adjustment, U. S. Department of Defense.

Two Counties' Experiences with Base Closures

Rural communities dealing with base closures grapple with a number of difficult issues concerning redevelopment: 1) how to organize and coordinate redevelopment efforts, 2) which base facilities to acquire for civilian use, 3) which redevelopment strategy to adopt and implement, and 4) how to finance redevelopment. Each community's approach to resolving these issues will necessarily vary with its circumstances, but a look at the experiences of other communities can provide valuable insight into these questions and into the redevelopment process. Two cases of particular interest to base closure communities today are Loring Air Force Base in Aroostook County, ME, and Donaldson Air Force Base in Greenville County, SC.

Aroostook County, Maine

Recovery from the closure of Loring AFB is key for the economic vitality of Aroostook, a nonmetro county situated in the northern part of Maine near the Canadian border. The base, prior to closure on September 30, 1994, was an integral part of the area's economy, contributing between $130-140 million annually. Closure of the base resulted in an estimated transfer of 2,875 military personnel and the loss of 1,326 onbase civilian jobs.

After the announcement of closure in April 1991, State and local officials organized the Loring Readjustment Committee (LRC). Its purpose was to adopt a reuse plan for the base facilities. The LRC's plan, however, was not accepted by the U.S. Air Force. In the meantime, the Loring Development Authority (LDA) was created by the Maine State Legislature, to take on the task of implementing the reuse plan. Given the failure of the first plan, however, the LDA must first adopt an adequate reuse plan, submit that plan to the Air Force, and then, after acceptance, oversee implementation. The plan was, at this writing, nearly complete.

In the meantime, some reuse of the base has begun. Two Federal departments have been slated to use the former base. DoD's Financial and Accounting Service will provide jobs for 625 civilian Federal employees and occupy the former base hospital. Because the base hospital was primarily an administrative facility, little renovation is needed. In addition, the U.S. Department of Labor will locate a Job Corps training center on the property. The center will house and train some 300 students and provide up to 150 jobs for administrators, teachers, and support personnel. This reuse will require major renovation.

The LDA has also made arrangements (pending approval by the Air Force) for interim leases to operate the golf course and bowling alley and for a flax fiber production company to occupy other facilities. The U.S. Fish and Wildlife Service is also seeking to create a National Wildlife Refuge on 4,400 of the base's 8,700 acres. The refuge would protect vital wetlands and habitat for eagles, osprey, woodcocks, and moose.

Ultimately, the reuse of the base depends on several factors: the acceptance by the Air Force of the reuse plan, completion of an Air Force environmental impact statement (EIS), clean up of sites on the base designated as hazardous, and the terms of transfer of the property from the Air Force to the LDA should the plan be accepted.

Continued—

Table 2

Selected county economic and population changes, 1969-88

Nonmetro counties with base closures experienced much slower employment and population growth than all nonmetro counties just as metro counties with closures lagged all metro counties; per capita income growth was little affected by base closures

Counties	Employment	Real per capita income	Population
		Percent	
All nonmetro counties	37	39	20
19 counties with base closures during 1970-82	28	33	8
All metro counties	79	37	45
21 counties with base closures during 1970-82	51	36	22

Source: Calculated by the authors using employment and income data from the U.S. Department of Commerce, Bureau of Economic Analysis and population data from the Bureau of the Census.

growth in all counties while their employment growth did not keep pace.

Measuring County Effects with Control Group Methods. The analysis up to this point answers the question of how nonmetro base-closing counties grew compared with all

Greenville County, South Carolina

When the closure of Donaldson Air Force Base was announced in 1963, the city and County of Greenville appointed a management committee to oversee the redevelopment of Donaldson's property. Acquisition was fairly straightforward because the deed to Donaldson contained a reverter clause. Upon closure, this clause automatically transferred the property from DoD to the city and county.

Although the management committee was responsible for property management, they did not have the authority to sell or lease. Instead, when the committee found a potential buyer or leaser, it had to go to the city council for a series of hearings and wait for approval. The flaws in this system quickly became apparent, and the Donaldson Development Commission was created.

The Commission was granted the authority to sell, lease, and make improvements on the property. By consensus, the Commission decided to make Donaldson into an industrial park. Given shifts in the local economy, the skills of the local labor pool, and the nature of the base facilities, this turned out to be a sound strategy. Greenville's economy in 1963 was dominated by the textile industry which was mechanizing and decreasing its labor needs. The presence of Greenville Technical College and Clemson University's engineering program also added skilled workers to the labor pool.

A number of base facilities were adaptable to civilian use. Those that were not, including the hospital and barracks, were removed and sold for scrap. The base's gas lines and sewer system attracted a Union Carbide plant, and the railroad line was taken over by Southern Railroad. The water lines were taken over by the Greenville Water System, and the electric utility was sold to Duke Power which upgraded the facility to provide efficient, reasonably priced service to businesses. Base airport facilities were ultimately taken over by Lockheed, Inc. By 1993, Donaldson Industrial Air Park had 81 businesses employing nearly eight times as many workers as the military base had employed, and the Air Park generates local tax revenues of about $4.25 million annually.

Officials in both Aroostook and Greenville counties stressed good management, appropriate plans, and the creation of a redevelopment authority with the power to implement its strategies as important components of successful redevelopment. As one official stated, "Base closure counties must define what they are going to do and what they can do best. Officials must be especially careful to choose a strategy that makes sense—a strategy that will accommodate their area."

by Caroline Thompson

Caroline Thompson was a student intern at ERS when she researched and wrote this piece. Information on Aroostook County was later updated by Tom Rowley.

other nonmetro counties. This comparison, however, does not answer the question of how well the communities might have done if the bases had stayed open. To address this question, we turn to a quasi-experimental control group method of analysis (developed with National Science Foundation support at the Regional Research Institute of West Virginia University).

Seven major military bases closed in nonmetro areas during the 1970's. They were Kincheloe Air Force Base, MI, Webb Air Force Base, TX, Fort Wolters, TX, Craig Air Force Base, AL, Glynco Naval Air Station, GA, Truman Annex, FL, and the Newport Naval Base, RI. Each of the eight directly affected counties (Fort Wolters was partially in two counties) was analyzed using a control group of 20 counties similar to it in economic structure, prior growth, location, and income level and sources (see Isserman and Stenberg in "For Further Reading..." for more details).

The affected counties all experienced employment decline for the first few years after the onset of the drawdown in military personnel, but they began to grow again soon after the closure process was complete. Some grew more rapidly than their control group, but by 1991, three closure counties had not regained the level of employment that they had attained 15 years earlier.

Most case studies showed no declines in retail employment even immediately after the base closures, but there were exceptions. Retail trade employment declined by 200 jobs after the base closures in both Chippewa and Glynn counties, but grew to 1,300 and 4,100 jobs more than their preclosure peaks by 1991. In both cases, retail employment growth quickly caught up to growth in their control groups. Also, despite the greatest loss of civilian and military jobs from its base closure, Newport had only a 1-year decline of 35 retail trade jobs. These findings are consistent with arguments that onbase facilities absorb much of military personnel's retail expenditures. Hence, the off-base ramifications of closure are often much smaller than feared.

The drastic decline in overall economic conditions predicted by base closure opponents is not evident. Three of the counties grew faster than their control groups. In Glynn county, GA, the lost military jobs were replaced when another Federal agency took over part of the naval air station as a training center. Parker County, TX, home

This motel, an airport, a corrections facility, and several manufacturing firms are part of the redevelopment of the former Kincheloe Air Force Base in Michigan. *Photo by Peter Stenberg, USDA-ERS.*

of part of Fort Wolters, benefited from the outward expansion of the Dallas-Ft.Worth metro area and is now part of it. Despite the closure of Ft. Wolters, Parker County employment doubled in less than two decades. Likewise, Monroe County, FL, doubled in employment and easily absorbed the closure of Truman Annex, which has yet to be fully redeveloped.

The other five counties did not benefit from strong regional growth. They still lag behind their control groups. For Newport County, RI, and Chippewa County, MI, the employment gap remains roughly equal to the lost Federal civilian and military jobs. Dallas County, AL, lags behind its control group by 44 percent in total employment growth and still has not grown sufficiently to make up for all the jobs lost on the base.

The remaining two counties fared even worse because other regional economic factors compounded their decline. Howard County, TX, remains below its preclosure employment level and almost 50 percent behind its control group after losing 2,000 oil-related mining and petrochemical manufacturing jobs in the 1980's. Likewise, Palo Pinto County, TX, lost 2,000 mining and manufacturing jobs and stands 70 percent behind its control group's employment growth rate. Gains in these sectors had mitigated the effects of the base closures in the 1970's, but their subsequent decline hit the local economy severely.

Conclusion

Analysis of earlier base closures indicates that some rural areas have not replaced the jobs lost when their bases closed. They do not suffer dire consequences, but they do fall behind the Nation and their control group counterparts. Other base-closing counties were located in the path of growth and quickly replaced their lost military and civilian jobs. The pivotal determinants of a rural county's post-military prospects appear to be its location and its economic base.

Seventy-three major military bases are in the process of closing. Hundreds more face reduction in the number of personnel. In 1995, more major military bases will be slated for closure or realignment. As with the loss of any major employer, the closure of a military base can harm its host community. Rural communities, with their typically small economic bases, face great challenges from base closures.

The land, buildings, and other physical assets of a closed military base are, however, often provided to the local community at little or no cost. Such assets, wisely and strategically used, can often lead to redevelopment of the local economy, making it stronger than before the base closed (see "Two Counties' Experiences with Base Closures," pp. 21-22).

The success of military base conversion depends upon such factors as the attributes of the particular facilities involved and the amount and quality of planning for conversion. The vitality of the local economy and its position in regional and national economies, however, are the dominant factors in how well the community does after closure. Base closures in rural areas with few alternative employment prospects pose the most difficult economic redevelopment challenge.

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