# BRAC's Impact on Regional Economies

*By Jim Lee*

This article presents key findings of a study that investigates the impact of the 2005 round of BRAC on local economies across the United States. In contrast to the common methodology, which generates projections of potential economic impacts from input-output models, this study applies statistical methods to historical data of U.S. counties. The results reveal considerable resilience of local economies to base closures or downsizing. Base expansions, on the other hand, spur local employment and income. There is also evidence supporting different impact sizes across military divisions, and across employment types.

Since the end of the Cold War, the U.S. Department of Defense (DOD) has undergone a series of restructuring process in the context of base realignments and closures (BRAC). The goal of the BRAC process is to reduce the excess infrastructure among the U.S. military forces. Since the first round of BRAC began in 1989, more than 350 installations have been closed. The fifth and most recent round of BRAC recommendations was first released in a report DOD in May 2005. The Coastal Bend community shared much of the pain during that BRAC round, which resulted in a complete shutdown of formerly Naval Station Ingleside in San Patricio County by 2011.

In March 2013, across-the-board federal government spending cuts, commonly known as sequestration, and the partial government shutdown later in October, further heightened concerns about the impact of additional reductions of the military workforce on regional economies. The next BRAC round is slated to begin by 2015.

## Bird Eye's View of BRAC 2005

The 2005 BRAC list includes 24 major base closures, defined as those with a replacement value over $100 million; and 24 major realignments, defined as having a net loss of 400 or more military and civilian personnel. That list also included 44 installations for major expansion, meaning a net gain of 400 or more positions.

The 2005 BRAC round eliminated a total of about 12,000 civilian positions among those affected military installations. The realignment and closing processes officially began in 2008, so that those affected sites effectively faced a 4-year window to make the transition. For the majority of bases in the BRAC list, workforce relocation spread across the run-up period. Most base closures were officially completed a few months before the September 2011 deadline.

The experiences of the last BRAC round were particularly interesting in the sense that it was substantially different from its predecessors in terms of its process and scope. In particular, it was the first stand-alone BRAC round authorized by Congress, and it focused on the transformation of military forces rather than the excess capacity of the military infrastructure. According to DOD, the four previous BRAC rounds together reduced about 20 percent of its capacity with a net saving of nearly $18 billion by 2001. By comparison, the 2005 BRAC Commission reported that its list of recommendations would result in a total saving of $15 billion in defense spending over 20 years.

The 2005 BRAC round involved 439 military installations. Nearly half of the installations were operated by the Army, and the rest were split about equally between the Navy and the Air Force. Most closures or major realignments took place in installations never appeared on previous BRAC rounds. On the other hand, the 2005 list does include the closure of a few relatively new bases, such as Naval Station Ingleside in San Patricio County, which began operation only in 1992.

The BRAC list contains at least one installation in every state, except Hawaii. California tops the list with 36 installations, followed by Texas with 29 installations, and Virginia with 22. Out of the 439 installations in the list, 190 were closed and 120 were downsized with a net reduction in military personnel. On the other hand, 129 installations experienced a net gain in military personnel through transfers from other installations. Texas as a whole in fact gained over 6,000 positions.

**Figure 1** below shows the distribution of net direct job changes across the states. Negative numbers represent net job losses (shaded areas) and positive numbers represent net job gains (clear areas). On the net, Maryland gained the most (9,293 jobs), whereas Connecticut lost the most (8,586 jobs). The figures in square brackets show the numbers of counties where affected military installations were located. The average number of affected counties is 5.4 across the 50 states. Texas contains the most (18 counties), followed by California (17 counties), Pennsylvania (16 counties), and Virginia (12 counties).

*Figure 1:* **Net Direct Employment Change in BRAC 2005**



*Notes: Negative numbers represent net job losses and positive numbers represent net job gains. The numbers of affected counties are listed in square brackets.*

While there is no clear pattern across affected military bases, **Figure 1** above exhibits some clustering characteristic among states within a broadly defined region. For instance, the southern region between Texas and Florida either gained jobs or experienced modest job losses. A similar pattern can be found among the central states of Michigan, Indiana, and Ohio.

*Table 1*: **2005 BRAC Employment Change by Installation**

|  | Average | Minimum | Maximum |
|---|---|---|---|
| Total Direct Jobs | -27.63 | -22,925 | 11,858 |
| Military | 8.80 | -7,096 | 11,354 |
| Civilian | -42.85 | -15,754 | 5,729 |
| Contractor | 6.42 | -972 | 2,058 |

*Source: 2005 BRAC Commission Report.*

**Table 1** shows some statistics for the direct job change data. The list of BRAC recommendations resulted in a net loss of 27.63 direct jobs on average among installations. A typical installation shed 24 jobs. The size of the net direct job change, however, varied widely across installations. One installation gained as many as nearly 12,000 direct jobs (Fort Belvoir in Virginia), while the largest closure led to a loss of 23,000 direct jobs (leased space in Arlington and Fairfax counties in Virginia).

The 2005 BRAC list of direct job changes is broken down by employment type: uniformed military personnel, civilian workers, and contractors. Although the difference between the two non-military job positions is rather arbitrary in economic sense, contractors, such as consultants, tend to be more specialized in their skills than other civilian employees. As opposed to civilian personnel that are employed directly by DOD, contractors are classified as private-sector workers. In comparison with previous BRAC rounds, in which the majority of job losses were military, the 2005 round resulted in an average net loss of civilian jobs, while a net gain on average occurred among military jobs among the installations in the 2005 list. The 2005 BRAC affected military installations spread across 277 counties. Counties with a net loss in military forces (195 counties) were about twice as many as those with a net gain (82 counties). The impact of the closure of Naval Station Ingleside in San Patricio County was exceptional in the sense that the base accounted for nearly 10 percent of its county workforce—one of the largest shares in the 2005 BRAC list.

## Input-Output Modeling Methodology
The 2005 BRAC Commission's Report to the President contains estimates for the impact of BRAC on local employment by metro area. Given the estimates for direct and total job changes in the BRAC report, the average job multiplier is 1.8 across all installations in the BRAC list. This means that one direct job lost from a base closure or downsizing would have, on average, generated a total reduction of 1.8 jobs in its surrounding metro area. Those multipliers draw on the Bureau of Economic Analysis's RIMS II model (Regional Input-Output Model System), which generates estimates for employment changes in other parts of the local economy given a change in employment directly affected by the BRAC process.

The RIMS multipliers are derived from a static input-output model that can be customized for a particular region. Another popular regional input-output model is IMPLAN. The use of multipliers derived from those input-output models represents the most prominent methodology for "impact studies" conducted by private consultants, including Lee (2012). Such methodology does suffer some drawbacks. One major drawback is the assumption of excess capacity in an economy, so that the expansion of one industry under investigation does not "crowd out" other industries in that economy. In other words, the model ignores the opportunity cost of resources that a military base utilizes. Following a base closure, however, some land, capital and labor resources may shift to economic activities other than military. As such, the adverse impact on local aggregate economic activity depends on the efficiency of the local labor market in terms of wage flexibility and the extent and direction of capital and labor flows across local industries.

Another drawback of input-output based analyses stems from the assumption that local communities would not undertake any action to alleviate the potential effects of base closures or realignments. As a result of those major limitations, their estimates reflect projections of the *potential* impacts from a given economic event instead of *actual* impacts.

## Not All Jobs are Created Equal
The following outlines the major findings of a study by Lee (2014), as published in a leading academic journal in the field of military economics. This study differs from most studies discussed above in that it takes a broad view of the BRAC impacts on local economies as a whole, instead of case studies of individual communities. In addition, it applies statistical methods to historical data instead of generating projections or future forecasts that are subject to the drawbacks as discussed above.

Lee (2014) analyzed changes in county employment and income between 2005, when the last BRAC round began to take shape, and 2011, when the process concluded. The statistical analyses took into account different characteristics and locations of the affected military bases, as well as a number of non-BRAC factors that might have also affected local economies. The data reflect the economic performance of BRAC affected counties relative to other counties within their states over the 7-year run-up period. The study finds that the impact of 2005 BRAC on the local economy was influenced by a number of factors. First, the reduction of a certain amount of workforce generated more adverse regional economic effects among Air Force bases than Navy or Army bases. Second, the overall size of economic impact varied by the specific type of base employment. In particular, contractors generated a spillover effect on other local industries more than twice as that of military or civilian personnel. This is partly because contractors on average earn substantially more than the other base employees. Third, the economic impacts between base expansions and consolidations are not symmetric: When a military base expanded, the local community tended to add relatively more private jobs between 2005 and 2011. The local economy, however, did not perform poorly by 2011 when its military base was downsized, except in the case of a complete shutdown or closure.

As with most statistical applications, those findings should be interpreted with caveats. For instance, the study intended to generalize BRAC effects by essentially uncovering the historical experience of a *typical* U.S. local community with military presence. With hindsight, the experience of the San Patricio community, which was affected by the last BRAC round, was anything but typical.

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## Economic Pulse

**(continued)**

With another round of BRAC in sight, Workforce Solutions of the Coastal Bend has commissioned a study (Lee, 2012) to estimate the potential impacts of various scenarios for the two major military bases in South Texas, namely Corpus Christi Army Depot and Naval Air Station Kingsville. That study adopts the conventional methodology that relies on predetermined multipliers to generate estimates for the effect of a reduction of the existing military workforce on other parts of the local economy.

Among other things, the historical evidence presented by the same author in Lee (2014) underscores the importance of local labor markets' dynamism and local communities' redevelopment efforts, both of which have been proved to yield job creation in private industries that could offset some of the job losses in the case of a base closure or realignment. This perspective should also be taken into consideration by local officials in formulating their next BRAC strategies.

***Works Cited in this Article:***
1. Jim Lee, "The Economic Value of the Possible Changing Role of Military Bases in the Coastal Bend," report prepared for Workforce Solutions of the Coastal Bend, May 2012.
2. Jim Lee, "The Regional Economic Effects of Military Base Realignments and Closures," *Defense and Peace Economics*, 2014 (forthcoming).

***Note:*** Additional data are available online at pulse.cob.tamucc.edu.