

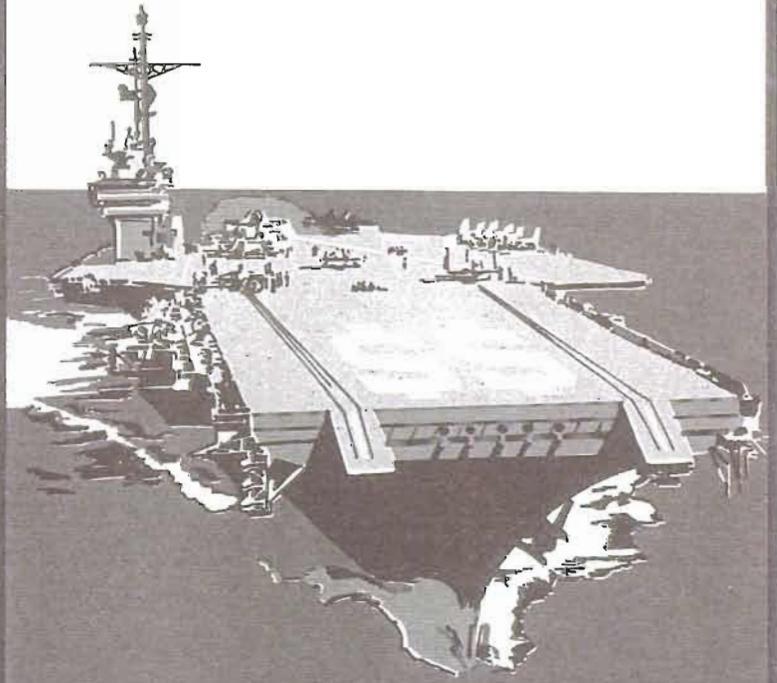
BUSINESS REVIEW

Federal Reserve Bank of Philadelphia

ISSN 0007-7011

JULY · AUGUST 1981

The Defense Sector: A Source of Strength for Philadelphia's Economy



&
Can Services Sustain
a Regional Economy?

EDITOR'S NOTE: A REGIONAL FOCUS

JULY/AUGUST 1981

BUSINESS REVIEW

Federal Reserve Bank of Philadelphia
100 North Sixth Street
(on Independence Mall)
Philadelphia, Pennsylvania 19106

The BUSINESS REVIEW is published by the Department of Research every other month. It is edited by John J. Mulhern, and artwork is directed by Ronald B. Williams. The REVIEW is available without charge.

Please send subscription orders, changes of address, and requests for additional copies to the Department of Research at the above address or telephone (215) 574-6444. Editorial communications also should be sent to the Department of Research or telephone (215) 574-6426.



The Federal Reserve Bank of Philadelphia is part of the Federal Reserve System—a

System which includes twelve regional banks located around the nation as well as the Board of Governors in Washington. The Federal Reserve System was established by Congress in 1913 primarily to manage the nation's monetary affairs. Supporting functions include clearing checks, providing coin and currency to the banking system, acting as banker for the Federal government, supervising commercial banks, and enforcing consumer credit protection laws. In keeping with the Federal Reserve Act, the System is an agency of the Congress, independent administratively of the Executive Branch, and insulated from partisan political pressures. The Federal Reserve is self supporting and regularly makes payments to the United States Treasury from its operating surpluses.

This issue of the BUSINESS REVIEW contains articles by three Philadelphia Fed representatives to the Economic Development Task Force of the Philadelphia Past, Present, and Future project.

The first article spotlights the turnaround in Federal spending on national security programs. It attempts to present a coherent picture of how the Philadelphia region might incorporate defense industry considerations into its overall economic development planning. The second article takes on the broad theoretical question, which applies to any region, of the role that services can play in fostering and sustaining local economic vitality. Then, focusing on Philadelphia, it shows how employment has changed by sector in the city and the region, and it analyzes the local impact of growth in the service sector.

The aim of both articles is to improve the information available to policymakers and the public and to suggest courses of action for the upcoming period of industrial transition in the region.—J.J.M.

The Defense Sector: A Source of Strength for Philadelphia's Economy

By John J. Mulhern*

To judge from the press coverage and the remarks by local officials, September 30, 1980—the day that the USS Saratoga sailed up the Delaware River and into the Naval Shipyard at the foot of Broad Street—was a great day for Philadelphia and its economy. And indeed it was. The Saratoga, and the two giant aircraft carriers that are scheduled to follow her into overhaul in 1983 and 1985, should give the local economy a perceptible boost.

But the carriers, for all their imposing size, may be less important as a direct source of employment and revenue than as a reminder

of where defense industry overall fits into the regional economy. For Department of Defense outlays are an important part of the Federal presence in the region, and a part that could show considerable growth in the current decade. In fact, based on the Administration's plans, they might represent the only areas of significant increase in Federal spending here over the next few years.

How much growth there will be in Defense outlays depends in part on how well the region's Congressional delegation makes its case for jobs and contracts. It depends even more, however, on what the region has to offer and on how well the offering is marketed by industry and local government. In an era when defense is reemerging as a growth sector, the region that addresses it as an industrial development issue will be in position to reap the greatest economic benefits.

*John J. Mulhern, who specializes in organization and strategic planning, joined the Department of Research in 1976. He received his Ph.D. from the State University of New York at Buffalo.

DEFENSE ACTIVITY IN PERSPECTIVE

The Philadelphia area has a long history of defense business, dating back to colonial times. As the largest city in North America in the eighteenth century, second in size only to London in the English-speaking world, Philadelphia was a dominant commercial site. When the War for American Independence broke out, she came forward as not only the political hub but also the military-industrial center of a fledgling nation.

Philadelphia shipwrights built or converted several of the Continental Navy's first ships, Philadelphia chandlers outfitted these ships, and Philadelphia sailors and marines manned these ships. Local arsenals cast their guns and shot, and their gunpowder was produced in factories along the Delaware. Livestock and produce for provisions were brought in from the area's rich farmland, and cloth for uniforms and bandages was supplied by local mills. Philadelphia bankers helped finance these efforts.

The presence of industries that could support an army and a navy had a measurable influence on the course of that war and other American wars, and America's struggles provided markets and growth for some of the region's principal industries—shipbuilding, munitions, clothing and textiles, heavy equipment, and finance. The traces of this influence can be discerned throughout the history of the regional economy.¹

In more recent times, Philadelphia was a major industrial supporter of American efforts during World War II and the Korean War. Records indicate that both of these conflicts generated heavy demand for the products of Philadelphia industry. After each period of industrial mobilization, however, demand for war material would fall off, the number of civilian and military personnel

employed directly by the Federal government in defense jobs would shrink, and suppliers would have to retrench.

The Vietnam standdown also was followed by large manpower and spending cutbacks; but however serious their impact on the defense establishment overall, they left Philadelphia's defense-industry infrastructure largely intact. And it appears that many of the region's recently displaced defense-related jobs and incomes could be recouped during the present decade, giving a much-needed lift to the regional economy.

THE DEFENSE SECTOR: HOW LARGE HAS IT BEEN?

By most indicators, the defense sector has been in decline nationwide since the end of the 1960s, with national defense purchases falling to around five percent of gross national product from over nine percent in 1968. But even so, defense has remained an important part of Philadelphia's regional economy.

One way to get a grip on the size of the defense sector in the region is to look at total Department of Defense outlays in Philadelphia and the seven surrounding counties that with it make up the Standard Metropolitan Statistical Area.² These outlays include direct military payroll expenditures for members of the Armed Services, payroll for civilians who work for the individual Services or DOD, and contracts issued to area businesses. In 1980, DOD outlays in the region stood (in nominal dollars) at over \$3.1 billion.

The direct payroll portion of DOD outlays amounted to over \$1 billion. Part of this payroll went to personnel currently employed at area activities, of whom the majority are civilians; part of it was compensation for

¹J. Thomas Scharf and Thomas Westcott, *History of Philadelphia 1609-1884*. Philadelphia: L. H. Everts & Co., 1884.

²Federal outlay information is taken from publications or tapes provided by the Community Services Administration of the U.S. Department of Commerce and the Washington Headquarters Services of the Department of Defense.

retired, reserve, and national guard personnel. Payroll appears to make up a fairly stable Defense outlay core. Even after showing some weakness during the 1970s, DOD salaries made up more than half of all Federal salary and expense outlays in the region in 1980, or about 3.4 percent of the region's total nonagricultural payroll.³

The closing of the Frankford Arsenal in 1977 occasioned a loss of around 3,000 jobs. But despite these and some other sizable losses, the Philadelphia city total stood at almost 26,000 overall in 1980, making it still one of the largest concentrations of Defense

employment in the nation (see PHILADELPHIA RANKS NINTH. . .). Meanwhile, DOD activities in the other counties of the region were holding their own or adding people, reflecting a national trend.⁴ The part of the SMSA outside Philadelphia counted a total of 23,000 DOD employees at the end of the period.⁵ Thus DOD total employment

⁴"Two Urban Initiatives: A Report Card," summaries published by the Northeast-Midwest Institute, March 1979, states: "Federal civilian employment dropped by 41,419 in central cities while it increased by 26,559 in Standard Metropolitan Statistical Areas (SMSAs)—strong evidence of flight from central cities to the surrounding suburbs."

⁵Manpower figures are taken from Department of Defense, *Distribution of Personnel by State, by Selected Locations*, 1980. Much of DOD's employment strength

³Bureau of Labor Statistics, *Employment and Earnings* 27, 12 (December 1980), B-8, C-13. Data for September 1980.

**PHILADELPHIA RANKS NINTH
IN DEPARTMENT OF DEFENSE PERSONNEL**

Installation/City	Military	Civilian	Total
San Diego	40,021	18,694	58,715
Arlington	16,863	27,283	44,146
Fort Bragg	40,237	3,853	44,090
Fort Hood	39,253	3,353	42,606
Washington	15,402	16,204	31,606
Norfolk	15,565	14,671	30,236
Camp Pendleton	25,218	2,215	27,433
Camp LeJeune	24,323	2,684	27,007
Philadelphia	3,103	22,591	25,694
Fort Stewart	22,865	1,878	24,743

SOURCE: Department of Defense, *Distribution of Personnel by State, by Selected Locations*, September 30, 1980.

added up to 2.6 percent of the region's nonagricultural jobs in 1980.

More difficult to trace than direct hires are the jobs that result from contracts issued by DOD activities to private-sector firms, even though figures for prime contract awards (\$2.1 billion in the region in 1980) are published with the other Federal outlay numbers. Philadelphia's large defense-industry contractors are mainly regional offices or subsidiaries of conglomerates headquartered elsewhere, whose records aren't easy to get. Further, because many defense prime contractors subcontract their work to firms some distance away and because both primes and subs depend upon a far-flung network of suppliers, it is very costly to assemble a clear and complete picture of where contract jobs and dollars finally end up.⁷

in the region appears to have been in commercial/industrial-type jobs—those that are similar to jobs in the private sector rather than being uniquely military. In 1972, for example, 12,800 DOD employees were working in commercial/industrial jobs in Philadelphia alone, with the largest concentrations in the Naval Base complex at the foot of Broad Street, the Defense Personnel Support Center compound at Twentieth and Oregon Avenues, the Defense Industrial Supply Center reservation on Tabor Avenue in the Northeast, and the Frankford Arsenal. (See Department of Defense, *Commercial/Industrial Type Activity Inventory, 1972-79*.) To the north and west of the city were 500 more employees at the Willow Grove Naval Air Station and the Naval Air Development Center in Warminster. And about 1,900 more were on the payrolls at McGuire Air Force Base and Fort Dix in New Jersey's Burlington County. The commercial/industrial employment total actually had risen slightly to about 12,900 in 1979, the last year for which numbers are available.

⁶Contractor identities are given in Department of Defense, *Military Prime Contract Awards over \$10,000 by State, County, Contractor, and Place*, which is issued annually.

⁷The Department of Defense now has a program that traces subcontracts of \$10,000 or more to first-tier and second-tier subcontractors when the prime contract or first-tier subcontract is expected to exceed \$500,000. According to the latest report available under this program, which gives final data for 1979, Pennsylvania

Some idea of employment at contractors, however, can be gleaned from Bureau of the Census surveys of shipments by defense-oriented industries. The 1974 survey, for example, shows 17,400 employees engaged in DOD-related work at reporting plants in the Philadelphia SMSA.⁸ The 1978 survey shows 13,700 such employees at reporting plants.⁹ Assuming that employment in defense-products industries in the region runs roughly parallel to defense-industry employment nationwide, 1978 probably was the bottoming-out year, and the next survey should show more employees than the last. The fact that Defense contract outlays in the region have been trending upward with the Philadelphia consumer price index since the mid-1970s also suggests stability in defense-industry employment in the area (see DEFENSE CONTRACTS IN THE REGION MOVE WITH THE CPI).

Thus whether measured by total outlays, direct DOD employment, or contract dollars, the defense sector appears to have been a sizable contributor to the regional economy through the 1970s.

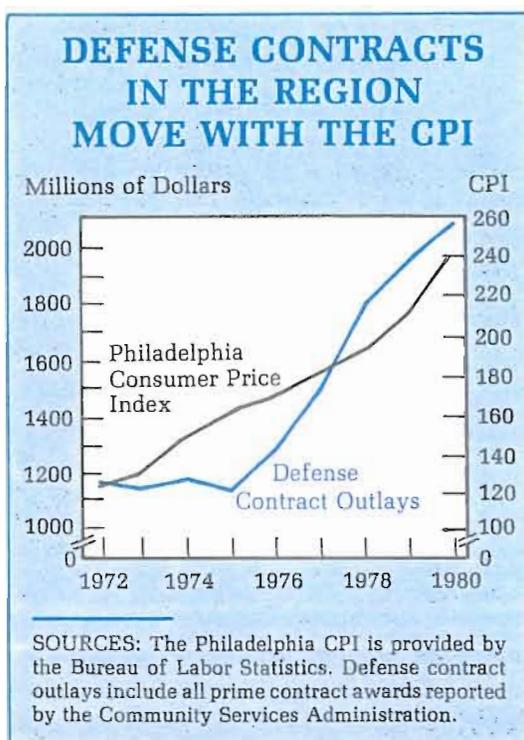
WHERE THE IMPACT IS FELT

The Defense outlays that come into the region have an obvious direct effect on

firms awarded \$180 million in subcontracts overall, sent \$134 million out of state, and received \$168 million in subcontracts from other states. Thus Pennsylvania was a net gainer. New Jersey was an even bigger winner, getting over seven dollars back for every subcontract dollar it sent to other states (\$300 million coming into the state, \$41 million flowing out). Department of Defense, *Geographic Distribution of Subcontract Awards, 1979*.

⁸U.S. Bureau of the Census, *Shipments of Defense-Oriented Industries, 1974*, MA-175(74)-1, U.S. Government Printing Office, Washington, D.C., 1976, p. 15.

⁹U.S. Bureau of the Census, *Shipments to Federal Government Agencies, 1978*, MA-175(78)-1, U.S. Government Printing Office, Washington, D.C., 1980, p. 17



people who are hired to work in DOD activities as well as on firms that sell their products to the Armed Services and DOD agencies. They have effects also on workers in supporting industries through the jobs they elicit and on local government through the tax payments they engender.

Who Works for DOD? The Department of Defense is not only a large employer but also a diversified one. Philadelphia has a wide variety of jobs in its DOD activities, ranging over manufacturing and services.

Although several kinds of in-house manufacturing are found in Philadelphia, including such exotic species as official flag making for clients ranging from military units to cabinet officers, by far the largest DOD manufacturing operation in Philadelphia is the Naval Shipyard. At the end of 1980 the Shipyard employed about 10,000 people. About four out of five shipyard jobs are blue-

collar jobs, and that percentage is likely to rise as more people are hired to meet the increased workload.

Naval shipyard jobs tend to be very stable, with low turnover rates. In fact, these jobs are so stable that until recently many of them were filled by employees who had signed on in World War II. Since the mid-1970s, however, the average age of workers at the Philadelphia Naval Shipyard has fallen to under 40 years. And average age could drop further as new workers are brought on.

Of the service-providing activities, some are in the technical business, such as the Naval Ship Engineering Station adjacent to the Shipyard, but most are assigned mainly to some phase of the logistics cycle—letting contracts, administering contracts, or managing inventories. Employees at these activities are mainly white-collar workers, and their jobs range from clerical to senior executive.

As at the Shipyard, employment at these activities is sensitive to volume. The number of jobs at a contracting activity does not vary directly with the number of contracts written, of course. Because of budgetary and administrative constraints, personnel adjustments occur only with a lag. Productivity improvements in contract management and inventory management also tend to restrain employment from growing apace with volume. But overall, more defense contracts and more inventory will show up in more white-collar jobs at the logistics activities.

Many of these pockets of direct-hire DOD employment buy housekeeping services, security, and the like from local suppliers. In this way they inject some money and some jobs directly into the private economy. And they are the source of private-sector jobs in less direct ways as well.

Defense Jobs Generate Other Jobs. When the Department of Defense is directed to overhaul a ship or to procure a production run of aircraft or tracked vehicles, its planners must consider more than just the selec-

tion of a shipyard or a prime contractor to do the work. They must try to take into account also the subcontractors that may be involved and the suppliers that may furnish materials. The reason is that most DOD programs are supported or supplied by workers outside the Department of Defense, so that the effect of each DOD hire or prime contract award is multiplied through the rest of the economy. Economists sometimes use factors that they call employment multipliers when they try—with greater or less success—to forecast the number of related jobs that will flow from hires of a certain kind (see **EMPLOYMENT MULTIPLIERS: NOT EASY TO CALCULATE**).

A study prepared for the Federal Reserve Bank of Philadelphia in 1966 uses a regional multiplier of 1.64 for government enterprise overall—a multiplier which is among the lowest on the list.¹⁰ Using this multiplier for

DOD direct employment in Philadelphia in 1980 gives a total impact of over 42,000 jobs. The total for the SMSA is about 80,000 jobs.

Recent discussion of the employment multipliers for defense industry in Philadelphia has focused on the number of secondary jobs that would flow from the Service Life Extension Program (SLEP) for aircraft carriers. Wharton Econometric Forecasting Associates, for example, developed multipliers which suggest that, on average, each SLEP job eventually would generate 1.4 other jobs in the region, for a total impact of 2.4 times the number of direct jobs.¹¹ Assuming that SLEP required the Philadelphia Naval Shipyard to bring in about 5,100 additional civilian and military employees,

the Philadelphia Metropolitan Area," research report prepared for the Federal Reserve Bank of Philadelphia, October 1966, p. 4.

¹¹Wharton Econometric Forecasting Associates, Inc., "SLEP Multiplier Analysis with the Philadelphia Quarterly Econometric Model," November 30, 1978.

¹⁰James R. Westkott, "Employment Multipliers for

EMPLOYMENT MULTIPLIERS: NOT EASY TO CALCULATE

Employment multipliers are notoriously difficult to calculate on a national level, where inter-regional exports and imports do not need to be distinguished explicitly since they are included in the totals. They are even more difficult to calculate on a regional level for industries that belong to a national market, since almost any portion of the multiplier effect may be felt only outside the region.

Further, employment multipliers differ from industry to industry at any given time, and they change at different rates over time. These differences in rates of change have to do with changing production techniques which result in higher worker output. Improvements in metallurgical methods, for example, can increase the output per hour of production workers in bearing factories. If demand for bearings remains constant, fewer workers will be required to meet that demand and the pertinent multiplier will have to be adjusted downward. At the same time, it may be necessary to adjust a multiplier upward in another industry—say for firms that manufacture supplies and equipment for metallurgical research.

Despite the difficulties with employment multipliers, and although they cannot be assessed with a high measure of accuracy until after the fact if at all, policymakers can't afford simply to ignore them. Multipliers must be used at the Federal level in targeted employment-support programs if these programs are to be kept from missing the mark: using too high a multiplier will cause policymakers to overestimate the effect, for example, of allocating a certain contract to a labor surplus area, while using too low a multiplier will produce the opposite result.

At the state and local level, officials who work in industrial development need to have some idea about the total effect on employment of acquiring a firm of a given kind. If Firm A will bring in 1,000 direct jobs and 500 indirect ones, while Firm B brings in the same number of direct jobs but 1,000 indirect ones, it may be to the point to concentrate one's resources on acquiring Firm B.

the increase in secondary jobs would be about 7,100, raising the total to over 12,000 additional jobs by the end of the program. This figure would more than offset the loss of the entire current-year contribution (3,400 jobs) of the Comprehensive Employment and Training Act program in Philadelphia.¹²

Complete unanimity on multipliers is hard to come by. But the consensus seems to be that, on average, each direct DOD hire will add at least one and at most two indirect jobs to the regional economy. And since workers in DOD and defense contractor jobs, along with the workers in supporting industries,

¹²Mayor's Office, City of Philadelphia, "Proposed Federal FY 1982 Budget: Projected Impact on the City of Philadelphia," April 1981, p. 2-B. The 3,400 number represents slots (equivalent to labor years) under Title II-D and Title VI. Since more than one individual can occupy the same slot in a given year, it is estimated that the number of people reached by the program in a given year could be as high as double the number of slots.

The Naval Sea Systems Command—the Navy bureau that manages ship and boat construction and repair—cites studies that show an all-regions multiplier for total shipyard employment, not just the SLEP increment:

Unlike other labor-intensive industries, shipbuilding and ship repair employs large numbers of highly-skilled, relatively highly-paid craftsmen. The payroll of a shipyard, whether Government-owned and -operated or privately-owned and -operated, is thus a significant economic factor for the community in which it is located. Various analyses of the economic-multiplier effects of shipbuilding and ship-repair activity have produced estimates that each dollar spent on shipwork increases the gross national product by \$3.30 and each person employed in shipwork generates employment for seven others in supporting manufacturing and services. (Letter to the author from John F. Elwyn, Executive Director for Industrial and Facility Management, Naval Sea Systems Command, 17 April 1981.)

Assuming that the Yard were staffed to its current ceiling of 9,650 jobs, the total effect of yard employment would be to keep over 77,000 people on various military and civilian payrolls, using the Navy multiplier of eight (seven indirect or induced jobs plus the direct job).

pay taxes just as other people do, adding these workers to the employment rolls helps to broaden the tax base.

Taxes are raised in different ways in the different parts of the Philadelphia region. In Philadelphia itself, the main source of revenue is the wage tax, which since 1977 has been levied at a rate of 4.3125 percent on earnings received in the city. DOD civilian direct employment reported by four of several DOD accounting activities generated \$14.4 million in wage-tax revenue in 1980, or about 3 percent of the city wage tax. The total wage-tax take from direct and indirect jobs is difficult to estimate but must be considerably larger.

Thus, through the effect of multipliers and the contribution of both direct and indirect employment to the tax base, Defense outlays have an appreciable impact on the regional economy. And that impact could increase over the next four years.

MORE DOLLARS FOR DEFENSE

The defense sector appears to be on the verge of a sizable increase in funding. While the Philadelphia region, especially the city, is likely to see its Federal grant income fail to grow or even decline in the next four years, its core of Defense employment outlays should get by unscathed. Contract awards to defense contractors in the region also can be expected to increase.

A Shift in Outlays. After having dropped to less than a quarter of total Federal budget outlays in the late 1970s, Defense now is estimated to rise to one-third of the total budget by 1984.¹³ Based on this estimate, Defense will be increasing its share of GNP by about two-tenths of a percent a year on average, while nondefense outlays will be losing ground by about one percent of GNP each year.

¹³Congressional Budget Office, "An Analysis of President Reagan's Budget Revisions for Fiscal Year 1982," March 1981, p. xiv.

The Congressional Budget Office describes the year-to-year growth of defense spending in this way:

Defense spending would grow by an average of 17.1 percent annually between 1980 and 1984 [under the Administration plan], while non-defense spending would be held to an increase of about one percent a year after 1981. In real terms, adjusting for inflation, defense spending would grow by an average of over 8 percent per year between 1980 and 1984, but non-defense spending would fall to a level 15-percent lower in 1984 than in 1980.¹⁴

Where are the nondefense reductions likely to occur? Pretty much across the board. And they will cut into the region's Federal grant income.

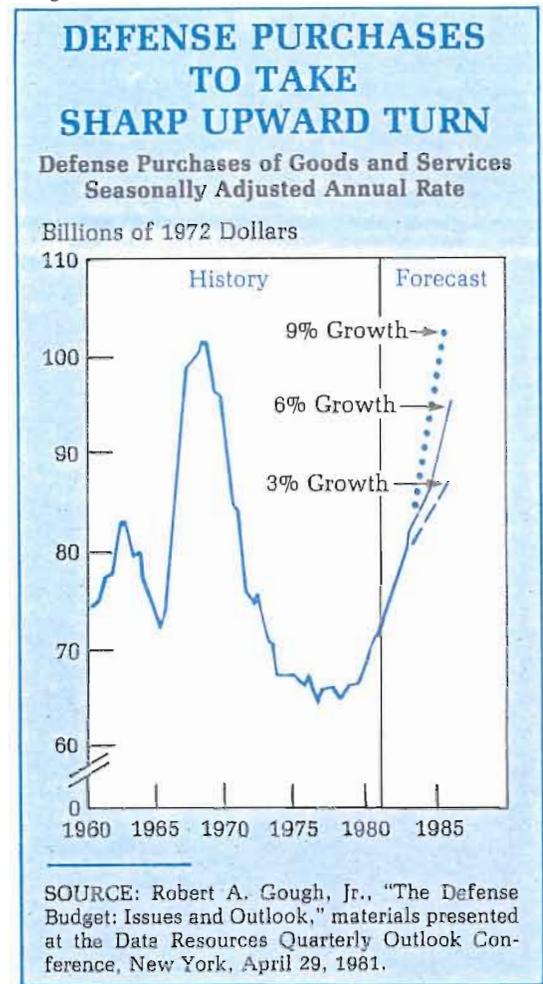
In a recent press release, the Philadelphia city administration has focused on four programs which could suffer losses under current Federal proposals. These include CETA, the Economic Development Administration, Medicaid, and public transit. The projected loss for 1981 from these four programs amounts to \$48.4 million. Philadelphia might be able to offset these losses, however, with revenues from elsewhere.

While the ultimate shape of the Federal budget is hard to forecast in detail, the shift toward more growth in spending for national defense and less for other things may give Philadelphia certain advantages that other urban centers do not enjoy. Philadelphia already has one of the nation's largest DOD labor forces. It also has the kinds of installations that will be affected most by a step-up in defense procurements.¹⁵ But Phila-

delphia is not likely to benefit to the fullest unless it makes an active effort to retain its present defense jobs and to go after new ones.

The Defense Outlook. Many defense analysts anticipate a sharp upswing in DOD purchases over the next four or five years, continuing a trend that became visible in 1979 (see DEFENSE PURCHASES TO TAKE SHARP UPWARD TURN). This increase

Diverse Notes on the Philadelphia Experience (Cambridge: The MIT Press, 1971), p. 18.



¹⁴"An Analysis of President Reagan's Budget Revisions for Fiscal Year 1982," March 1981.

¹⁵Walter Isard and Thomas W. Langford, *Regional Input-Output Study: Recollections, Reflections, and*

will be reflected in direct civilian hires. The DOD budget calls for increasing civilian direct hires by 55,000 over 1980 levels by the end of fiscal 1982.¹⁶ Some of these hires could be in Philadelphia.

Defense-related industry, which supplies both hardware and services, also makes for jobs, and here the numbers are spectacular: DOD budgeters anticipate an increase of some 445,000 workers over current levels by the end of fiscal 1983—nearly half a million new jobs. Philadelphia could have some of these jobs also.

This defense market will be targeted by many areas of the country. And so Philadelphia must be prepared to compete for defense-

industry jobs if it hopes to keep what it has and to get more. The competition for defense work is political in some measure, since statute and regulation can require the Federal government to pay some attention to local economic conditions in allocating work or awarding contracts (see **REPEALING THE MAYBANK AMENDMENT**). Also political is the give-and-take in the legislative and executive branches that influences the flow of work and dollars. But part of the competition is just heads-up industrial development effort, which consists in finding out what the customers want and seeing that it's made available.

What do Defense customers want? At this stage in their history, the Armed Services and the DOD agencies want cost-effective performance and adherence to schedule, and they want them across the board. These desiderata put pressure on in-house manu-

¹⁶News Release, Office of the Assistant Secretary of Defense (Public Affairs), No. 77-81, March 4, 1981, Figure 10.

REPEALING THE MAYBANK AMENDMENT: WOULD IT BRING CONTRACTS TO PHILADELPHIA?

Unlike other executive departments, the Department of Defense is required in most cases to buy goods and services at the lowest cost. Exceptions are made, however, to channel funds to small and minority-owned businesses. And an effort has been renewed recently to use DOD contracts to target aid to what are known as labor surplus areas—jurisdictions with populations of 50,000 or more whose unemployment rate for the prior two years has exceeded the national average by 20 percent. The Maybank Amendment, which has been a part of every Defense appropriation bill since 1953, exempts DOD from having to target procurements to labor surplus areas.

Rescinding the Maybank Amendment might bring more Defense contracts into labor surplus areas, and Philadelphia is a labor surplus area (along with Bristol Township, Chester City, Montgomery County less Abington Township and Lower Merion Township, Camden City, and Gloucester County in this SMSA). But it doesn't follow that Philadelphia or any other Northeast or Midwest jurisdiction would gain very much: as of February 1981 there were nearly 1,100 other labor surplus areas in the country, and more than half of them were in the South and West.* Philadelphia would have to compete against those other LSAs. Also, rescinding the Maybank Amendment might harm parts of the SMSA outside the city which are not labor surplus areas and which have seen their share of Defense contracts growing. Burlington County, for example, received over \$360 million in Defense contract outlays in 1980. In Pennsylvania, Delaware County led the way with about \$300 million in 1980, reflecting real growth of 16 percent since 1972. Montgomery County, although a labor surplus area, followed with \$173 million and a startling 44-percent real growth for the nine years.

*"Why the Maybank Amendment Should Be Repealed," material circulated by the Northeast-Midwest Congressional Coalition, p. 5.

facturing activities such as the Philadelphia Naval Shipyard, because the Yard has to compete with other naval shipyards and with private shipyards. If it can't be responsive, it won't get the work. Cost-effective performance has become the main driver in allocation decisions for in-house DOD work. And in the extreme case, work that could be done in house will be farmed out to private industry if industry can produce more cost-effectively.¹⁷

The pressure on DOD to accomplish in-house work cost-effectively comes from both the Administration's budgeters and the Congress. It is transmitted to managers in the field, both civilian and military, in a number of ways, including through performance measures that translate into dollars. Under the merit pay system of the Office of Personnel Management, which replaced the U.S. Civil Service Commission, civilian managers are beginning to compete for shares of what corresponds to a bonus plan in private industry, and the competitors are being evaluated by quantitative productivity measures on an annual basis. For military people the monetary rewards come less swiftly—but they do come, in the form of selection for fast-track career opportunities and eventual promotion

to senior positions.

In some instances, of course, as with contracting, contract administration, and inventory management, all the work is done in house and there is virtually no competition. Under the supply system of the Defense Logistics Agency, for example, which procures items used in common by all the Services, each commodity group is assigned to one activity, and that activity buys for the whole country. The Defense Industrial Supply Center, for example, handles common-use nuts, bolts, rods, and sheet metal for all the Services everywhere. And the Defense Personnel Support Center fills the same role for food, clothing, and medical supplies. Short of a major base realignment, these Philadelphia installations have no competition to fear.

In this respect the logistics activities are in a very different position from the firms with which they do business. Many of those firms find themselves in a highly competitive position, since the Defense Acquisition Regulations make cost the overriding consideration in contract award. All other things being equal, the low-cost bidder gets the job. Thus firms in this region must keep their costs in line—energy costs, labor costs, and the rest—if they are to compete successfully with companies in other parts of the country.

Also, they must be able to produce the goods that will be most in demand. A recent presentation by Robert Gough of Data Resources, Inc., the Massachusetts econometric forecasting firm, lists the ten industries that DRI expects to see the largest volume increases over the next five years, based on real military spending growth from six percent to nine percent (see *THESE INDUSTRIES MAY GROW*). Some of these, such as tanks and tank accessories, clearly are not the old Philadelphia defense industries. But others, such as munitions and shipbuilding, clearly are. If Philadelphia's shipbuilding industry were to grow by as large a percentage as the industry nationwide, it would be

¹⁷While concern for cost-effectiveness is not new to DOD, it seems to receive more emphasis each year as automated management information systems provide more and better data in better formats to people at the policy level. Further, DOD currently operates a well developed defense management education and training establishment which teaches its managerial personnel to use these systems. As defense budgets bottomed out in the 1970s and as field operations came to be scrutinized ever more closely, more exacting management procedures became institutionalized. The evolution of defense management techniques provides the background for recent statements by the Secretary of Defense such as the following: "We believe we have identified significant savings from efficiencies and reforms in current operations. The money saved in this way can then be applied to enhancing our military capability." Statement before the House Armed Services Committee, March 10, 1981.

THESE INDUSTRIES MAY GROW

The Ten Industries Most Impacted by an Increase in Military Spending
(Percent change in industrial production from six percent to nine percent growth
in real military spending)

	1983	1984	1985	1986
New Military Facilities	1.9	5.0	8.0	13.4
Ammunition, Except Small Arms	1.8	5.0	7.7	12.8
Other Ordnance & Accessories	1.6	4.1	6.4	10.6
Complete Guided Missiles	1.3	3.7	6.0	10.2
Tanks & Tank Accessories	1.4	3.6	5.8	9.6
Small Arms Ammunition	1.2	3.2	5.1	8.5
New Industrial Buildings	0.4	2.0	4.6	8.1
Aircraft Engines & Engine Parts	1.2	3.2	5.0	8.0
Shipbuilding & Repairing	1.2	3.1	4.8	7.9
Aircraft Parts & Equipment	1.1	2.8	4.3	6.8

SOURCE: Robert A. Gough, Jr. "The Defense Budget: Issues and Outlook," materials presented at the Data Resources Quarterly Outlook Conference, New York, April 29, 1981.

adding about 1,735 direct jobs by 1986 over and above those envisaged by the Wharton study. Based on the Wharton multiplier, over 2,500 further indirect jobs would be forthcoming, for a total of 4,164 new jobs in the region.

Further, Philadelphia firms need not limit themselves strictly to their traditional defense emphases. In the modern era of tiered sub-contractors and suppliers, firms find themselves participating in contract awards in many different ways. A manufacturer, for example, may make a repair part for a piece of mechanical or electrical equipment used by the Air Force even though it has had no history of dealing directly with the aviation industry. DOD contracting officers are en-

couraged to seek alternative sources for many of the items they purchase. The appearance of new sources of supply would be welcome to them.

But whether firms in this region will come forward as new or bigger defense-industry participants may depend on the information and the assistance they receive from local industrial development groups. Identifying firms that might begin supplying defense requirements or might increase their share of the market is not an insuperable task, nor is providing them with the program information they will need to compete effectively. Much of this information on both firms and programs is available in the public domain. Some firms might require tax inducements

and other kinds of creative financing assistance to enter this field, of course, especially small business firms. But the payback could dwarf other industrial development efforts.

Further, in order to compete successfully for new defense business, a region must offer certain advantages. It must have a reliable source of workers in its school systems—at least as reliable as other regions. It must have adequate highway and rail access. A former Pennsylvania Secretary of Commerce has listed “transportation, taxes, adequacy of sites, safety, and labor availability” as the items of chief interest in corporate deliberations over where to locate new facilities.¹⁸ These items apply to the private sector in an obvious way. Because of the dependence of Defense installations on private-sector sources, they apply to the public sector as well.

In short, the upturn in the volume and pace of Defense procurement offers a remarkable opportunity to the Philadelphia region as to others. Certain of the DOD activities in the region will grow even without much local effort, and Philadelphia's industrial capacity almost surely will have to be called upon to help attain the goals of a more ambitious program of naval ship construction and repair.¹⁹ But the region probably won't

¹⁸Summary of statements by Norval D. Reece in John J. Mulhern, ed., *Finding Solutions to Philadelphia's Economic Problems* (Philadelphia: Federal Reserve Bank of Philadelphia, 1979), p. 5.

¹⁹Provided, that is, that the capacity is maintained. A case in point is Sun Ship in Chester, Pennsylvania, which has the ability to construct both naval and merchant ships but which recently has withdrawn from

realize all the economic benefits that it could without a program to identify requirements and sources, match them to one another, and assist with financing.

TO SUM UP . . .

Defense business is nothing new to Philadelphia. DOD maintained its presence in the region throughout the 1970s, even though it was eclipsed by growth in other forms of Federal involvement.

With the new Administration's adjustment of programs and spending plans, Defense outlays show more growth than any other Federal outlays over the next few years. DOD activities should be seeing more people and larger payrolls. And contractors in private industry should detect a sharp upward move in new orders for defense products. All of these changes would tend to boost employment and local government revenue.

Other regions almost surely will be competing aggressively for this increased DOD business. Philadelphia is well positioned to compete and could realize sizable economic benefits. The opportunity is there.

the ship-construction business. Shipbuilding industry work nationwide occupied about 80,000 workers (equivalent production workers) in 1980. If current trends were to continue, the number would fall to under 20,000 in 1987. The new Navy ship construction program would be large enough to restore employment to current levels by 1987, but only after a three-year trough; and in that three-year period, many of the most marketable ship-construction workers could move into other industries. The result could be a delay in Navy ship construction, cost overruns, and difficulty in performing to specification, since new workers would have to be hired and trained—a multiyear process—at the end of the trough.