Offsets In Defense Trade

Prepared By The

U.S. Department of Commerce

[The following material is extracted from a May 1996 U.S. Department of Commerce study entitled, *Offsets in Defense Trade: A Study Conducted under Section 309 of the Defense Production Act of 1950, As Amended.* The report was produced by the Strategic Analysis Division in the Office of Strategic Industries and Economic Security of the Bureau of Export Administration (BXA). Future such reports are to be published on an annual basis. A complete copy of the report is available through BXA. Phone: 202-482-4060; Fax: 202-482-5650; E-mail: bbotwin@bxa.doc.gov.]

Introduction

This is the first report on offsets in defense trade prepared under the direction of the Department of Commerce pursuant to the 1992 amendments to Section 309 of the Defense Production Act of 1950. The Bureau of Export Administration (BXA) within the Department of Commerce has been delegated authority to compile these required annual reports. To assist in preparation of the reports, BXA was given authority under these amendments to collect data from U.S. firms involved in offset agreements in connection with sales of weapon systems or defense-related items to foreign countries or foreign firms. The data collected for this report covers offset transactions and agreements entered into during the time period 1993-1994. In brief, the data indicates that over the 2-year period offset percentages of sales are slightly lower than in previous years. In addition, the data shows the use of indirect offsets has increased relative to direct offsets in defense trade. Additional data is needed to substantiate these trends. Overall, offsets continue to be an important and necessary factor in international transactions involving the sale of defense articles.

Legislation

On April 17, 1984, Congress enacted amendments to the Defense Production Act of 1950, which included the addition of Section 309. This new section required the President, no later than 18 months after the date of enactment, and annually thereafter, to submit to the Committee on Banking, Finance, and Urban Affairs of the House of Representatives and the Committee on Banking, Housing, and Urban Affairs of the Senate a report on the impact of offsets on the defense preparedness, industrial competitiveness, employment, and the trade of the United States. Additional minor modifications to Section 309 have been made in subsequent years by the Congress.

When Section 309 was first enacted, the Office of Management and Budget (OMB) was appointed as the interagency coordinator in the preparation of the annual offsets report for the Congress. These reports were to be prepared in consultation with the Departments of Commerce, Defense, and Labor, and the Office of the United States Trade Representative.

This interagency report continued as structured, with minor adjustments, until 1992, when Section 309 underwent major modifications. The interagency coordination role was transferred from OMB to the Secretary of Commerce. In addition, the Secretary was given authority to develop and administer regulations to collect from industry the offset data required for the report. This responsibility was later delegated to the Department's Bureau of Export Administration (BXA). A change was also made in Section 309, adding a sales reporting threshold previously cited in the National Defense Authorization Act for fiscal year 1991. The offset agreement threshold was reduced from $50 million to $5 million for U.S. firms entering into foreign defense sales contracts subject to offset agreements. On a per-transaction level, firms must report all offset transactions for which they receive offset credits of $250,000 or more. . . .

Federal Register Notices

On April 26, 1994, BXA published in the *Federal Register* (59 FR 21678) a proposed rule on reporting of offsets in military exports. The notice was designed to elicit comments, suggestions, information, or advice relative to the proposed regulation. Twenty responses were received commenting on the proposed rule. The two major topics raised by industry concerned the requirements to submit semi-annual reports and to report each individual transaction undertaken to fulfill an offset commitment. The rule was amended to address these concerns. In addition, some companies commented that they would not report the actual and stated value of offset agreements because the data was proprietary. This issue was resolved, after industry was given assurances that the data would be held confidential, pursuant to the offset regulation and the Defense Production Act, and would not be reported in a way that would reveal individual company operations.

The proposed rule was then finalized and published in the *Federal Register* (Vol. 59, No. 231). It became effective on December 2, 1994. It was determined that the rule would primarily affect large defense contractors that engage in offset agreements with foreign governments. The rule was not expected to pose an excessive burden on firms engaged in offset transactions. It was known that these firms must prepare periodic accounts of progress toward fulfillment of offset obligations for foreign entities that are party to the offset agreement. Moreover, the information to be collected was less than that required by these foreign parties. With regard to new offset agreements entered into, the information requested was readily available and was estimated to take a minimal amount of time to assemble by industry participants.

To avoid double counting, firms provided data only for those offset transactions which they were directly responsible for reporting to the foreign customer (i.e., prime contractors reported for their subcontractors if the subcontractors were not a direct party to the offset agreement). Reports were delivered to BXA's Office of Strategic Industries and Economic Security. The first industry reports were submitted to BXA before March 15, 1995, and covered offset transactions valued at $250,000 or more completed during the calendar year 1993, as well as information regarding new offset agreements entered into during the year. After this initial submission, companies provided an additional filing by June 15, 1995, covering calendar year 1994. All subsequent annual filings will be due on June 15 of each year. For the time period 1993-1994, BXA collected data from 26 firms having offset obligations resulting from military-related export sales.

Reporting on Offset Transactions

The final *Federal Register* notice outlined the information to be submitted. Offset Transaction Reports were to include an itemized list of offset transactions completed during the report period, with the following data elements:

Name of Country - Country of entity purchasing the weapon system, defense item or service subject to offset.

Name or Description of Weapon System, Defense Item, or [Defense] Service subject to offset.

Name of Fulfilling Entity - Entity fulfilling offset transaction (including first tier subcontractors).

Name of Offset Receiving Entity - Entity receiving benefits from offset transaction.

Offset Credit Value - Dollar value credits claimed by fulfilling entity including any intangible factors/multipliers.

Actual Offset Value - Dollar value of the offset transaction without multipliers/intangible factors.

Description of Offset Product/Service - Short description of the type of offset (e.g., co-production, technology transfer, subcontract activity, training, purchase, cash payment, etc.)

Broad Industry Category - Broad classification of the industry in which the offset transaction was fulfilled (e.g., aerospace, electronics, chemicals, industrial machinery, textiles, etc.)

Direct or Indirect Offset - Specify whether the offset transaction was a direct or indirect offset.

Name of Country in which Offset was Fulfilled - United States, purchasing country, or third country.

Offset transactions of the same type (same fulfilling entity, receiving entity, and offset product/service) completed during the same reporting period could be combined.

Reporting on Offset Agreements Entered Into

In addition to the itemized list of offset transactions completed during the specified time period, U.S. firms were asked to provide information regarding new offset agreements entered into during the year, including the following elements:

Name of Country - Entity purchasing the weapon system, defense item, or service subject to offset.

Name or Description of Weapon System, Defense Item, or [Defense] Service subject to offset.

Names/Titles of Signatories to the offset agreement

Value of Export Sale subject to offset (approximate)

Total Value of the offset agreement

Term of offset agreement (months)

Description of Performance Measures (e.g., "best efforts", liquidated damages)

To date, industry has cooperated fully with BXA in the reporting of offsets information.

Background

Offsets are industrial compensation practices mandated by many foreign governments when purchasing defense articles. Definitions of offsets used by industry and government are sometimes inconsistent. Most parties, however, use the defense trade term offsets, which was developed by a U.S. Government interagency group in 1986. In defense trade, offsets include mandatory co-production, licensed production, subcontractor production, technology transfer, countertrade, and foreign investment. Offsets may be direct, indirect, or a combination of both. Direct offsets refer to compensation, such as co-production or subcontracting, "directly" related to the system being exported. Indirect offsets apply to compensation unrelated to the exported item, such as foreign investment or countertrade.

Countries require offsets for a variety of reasons: to ease (or "offset") the burden of large defense purchases on their economy; to increase or preserve domestic employment; to obtain desired technology; and to promote targeted industrial sectors. In extensive discussions with BXA, U.S. prime contractors reported that defense exporters often must fulfill these demands or risk losing a valuable sale. Moreover, industry informed BXA that, in most cases, defense exporters cannot even submit a bid proposal without including an offset package.

Since World War II, U.S. defense industries have been major players in the international arms market. Co-production/licensed production in defense trade were initially encouraged by the U.S. Government to help rebuild the war-ravaged economies and industrial bases of Western Europe and Japan. Co-production/licensed production of U.S. weapon systems in foreign countries began in the late 1950s and early 1960s. The NATO countries and Japan were the first to receive co-production/licensed production agreements from the United States.

During the Cold War, it was in the best interests of the U.S. to ensure that allied countries were strong militarily as well as economically. Offsets have served important foreign policy and national security objectives of the U.S., such as increasing the industrial capabilities of allied countries, standardizing military equipment, and modernizing allied forces. The use of offsets is now commonplace. Today, virtually all of the defense trading partners of the United States impose some type of offset requirement, and at times the stated value of the offset exceeds that of the sales contract.

The type of offsets that buyer countries are demanding is changing as many countries face decreasing security threats and excess capacity in their arms industries. Foreign governments typically use direct offsets involving co-production to justify expensive arms purchases, claiming that the purchase will boost local employment and national security by helping to maintain domestic defense industries.

Increased competition for a declining number of international arms contracts should continue to foster offset agreements. U.S. technology and weapon systems, notably aerospace, are generally the best available on the world market, and U.S. defense firms generally have competitive advantages over foreign concerns in the range of direct and indirect offsets they can provide.

While offsets are used as a "marketing tool" by arms exporters, buying governments now have greater market leverage and expanded choice. The industry reported to BXA that buyer countries often appear ready to absorb higher costs associated with many offsets, particularly co-production agreements, apparently to gain access to technology and increase local employment. In cases where buyers recognize that the costs outweigh the benefits of a particular direct offset, industry noted that the buyers are more than likely to emphasize indirect offsets rather than stop demanding them altogether. As a result, many buyer countries now prefer indirect offsets as a means to promote economic development, to diversify arms industries, or to improve their balance of trade. The BXA offset data supports this trend.

The newer offset customers, especially in the Middle East, are seeking to diversify their economies rather than build or maintain a defense industry. Pacific Rim countries such as Singapore, Taiwan, and South Korea are seeking offset deals that include increased technology transfer, particularly in aircraft design, to become self-sufficient in military production and to overcome industrial weaknesses that are hindering their efforts to compete in the world aerospace market with U.S. and European manufacturers. Japan's policy of co-producing defense items has a similar objective.

Here are two examples of the offset demands by foreign trading partners that U.S. industry must attempt to fulfill in order to export high value U.S. defense products:

- In selling an aerospace platform to Switzerland, the U.S. prime contractor is making efforts to market millions of dollars worth of Swiss-made metal-forming and metal-cutting machine tools to "offset" the platform's purchase price.

- A similar deal with Spain required the U.S. prime contractor to locally source aircraft parts and related software (direct offsets), as well as take back wine, chemicals, stone products, canned fruits and vegetables, and motor vehicle parts as compensation (indirect offsets).

In both examples, the offsetting products may have either displaced U.S. defense subcontractors manufacturing the same component or increased competition for U.S. industry sectors not related to fighter aircraft.

The *Offsets in Military Exports* reports prepared by OMB from 1985 to 1990 highlighted a growing trend in offset demands by buying countries around the world for direct offsets (related to the weapon sale) and indirect offsets (not related to the sale). Indirect offset demands have expanded dramatically beyond defense/aerospace to affect other industries such as automobiles, semiconductors, software, and telecommunications. The 1993-1994 data gathered by BXA highlights a continuation of this trend of expanded indirect offsets. Of the actual offset transactions that took place in 1993 and 1994:

- 1/3 of the offsets were direct (related to the weapon systems sold)
- 2/3 were indirect (not related to the weapon systems sold)
- 3/4 of total offsets (direct and indirect) involved the purchase or subcontracting of goods and services or the transfer of technology.

In the 1993-94 data, as shown in this report, there were 127 different Standard Industrial Classification (SIC) codes affected by direct and indirect offsets.

Offsets Definitions

Listed below are offset definitions as outlined in the *Federal Register* (Vol. 59, No. 231) dated December 2, 1994, prepared by BXA; and *Offsets in Military Exports,* OMB, dated December 1988.

Offsets: Industrial compensation practices required as a condition of purchase in either government-to-government or commercial sales of defense articles and/or defense services as defined by the Arms Export Control Act and the International Traffic in Arms Regulations.

Military Export Sales: Exports that are either Foreign Military Sales (FMS) or commercial (direct) sales of defense articles and/or defense services as defined by the Arms Export Control Act and International Traffic in Arms Regulations.

Direct Offsets: Contractual arrangements that involve defense articles and services referenced in the sales agreement for military exports.

Indirect Offsets: Contractual arrangements that involve goods and services unrelated to the exports referenced in the sales agreement.

Co-production: Overseas production based upon government-to-government agreement that permits a foreign government(s) or producer(s) to acquire the technical information to manufacture all or part of a U.S. origin defense article. It includes government-to-government licensed production. It excludes licensed production based upon direct commercial arrangements by U.S. manufacturers.

Licensed Production: Overseas production of a U.S. origin defense article based upon transfer of technical information under direct commercial arrangements between a U.S. manufacturer and a foreign government or producer.

Subcontractor Production: Overseas production of a part or component of a U.S. origin defense article. The subcontract does not necessarily involve license of technical information and is usually a direct commercial arrangement between the U.S. manufacturer and a foreign producer.

Overseas Investment: Investment arising from the offset agreement, taking the form of capital invested to establish or expand a subsidiary or joint venture in the foreign country.

Technology Transfer: Transfer of technology that occurs as a result of an offset agreement and that may take the form of: research and development conducted abroad; technical assistance provided to the subsidiary or joint venture of overseas investment; or other activities under direct commercial arrangement between the U.S. manufacturer and a foreign entity.

Countertrade: In addition to the types of offsets defined above, various types of commercial countertrade arrangements may be required. A contract may include one or more of the following mechanisms:

> **Barter:** A one-time transaction only, bound under a single contract that specifies the exchange of selected goods or services for another of equivalent value.
>
> **Counter-purchase:** An agreement by the initial exporter to buy (or to find a buyer for) a specific value of goods (often stated as a percentage of the value of the original export) from the original importer during a specified time period.
>
> **Compensation (or Buy-Back):** An agreement by the original exporter to accept as full or partial repayment products derived from the original exported product.

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Statistical Assessment

The data collected for this report covers only the years 1993 and 1994, which is not a long enough period to establish definitive trends in offsets. However, a comparison of this latest data with previously collected offsets data was made to see if any trends were discernible. Two as yet inconclusive trends are, first, a minor decline in the percent of offset obligations to defense export sales contracts, and second, a rather significant increase in the use of indirect offsets relative to direct offsets.

The decrease in percent offsets was very small, from 57.2 percent average for the 1980-1987 period to 54.8 percent for the latter period, although this number is calculated absent two major sales to the Middle East and Asia. These two sales totaled almost $10 billion, and represented more than half the reported exports for the two years. Had these sales been included, the world average offsets figure would have been misleading.

The increase in indirect offsets is based on a comparison of OMB data on new offset agreements with BXA actual transaction data. The OMB data on new agreements reports direct offsets at 37 percent, indirect offsets at 41 percent, and "unknown" at 22 percent. Here, indirect represent about 53 percent of the known OMB reported offsets. BXA transaction data reports direct offsets at 31 percent and indirect at 62 percent. Unknown or combination offsets are 7.5 percent. Indirect represent about 67 percent of the known offsets.

Historical Perspective, 1980-1987

Offsets data previously collected by the U.S. Government under Section 309 of the Defense Production Act, as amended, has been partially reprinted in this assessment to provide a historical perspective. This section is a summary of the data collected and prepared by the Interagency Coordinating Committee on Offsets Reports, chaired by the Office of Management and Budget, and published in the December 1988 *Offsets in Military Exports* report. Collected during 1988 from a mandatory survey of 36 U.S. defense prime contractors, the data covers U.S. military export sales contracts (valued at $500,000 or more) that involved offset agreements between January 1, 1980, and December 31, 1987.

Table 1 presents export sales contracts with offset agreements totaled $34.8 billion from 1980 to 1987. These contracts involved 30 different countries or country groups (i.e., NATO or EPG).

TABLE 1: Value of Military Export Sales Contracts with Offset Agreements by Country, Annually, 1980-1987
(Millions of Dollars)

Country	1980-87	1980	1981	1982	1983	1984	1985	1986	1987
Australia									
Value of sales contracts . . .	3,393.5	99.6	327.8	2,194.5	*	*	264.8	438.5	25.8
Value of offset obligations .	1,271.4	23.0	92.8	959.2	*	*	65.1	115.7	3.0
Belgium									
Value of sales contracts . . .	389.1	*	0	0	*	*	0	*	*
Value of offset obligations .	336.3	*	0	0	*	*	0	*	*
Canada									
Value of sales contracts . . .	3,874.1	*	*	*	*	116.0	148.0	*	43.4
Value of offset obligations .	3,024.2	*	*	*	*	75.6	117.8	*	31.8
Egypt									
Value of sales contracts . . .	383.0	0	0	*	*	0	*	0	0
Value of offset obligations .	87.8	0	0	*	*	0	*	0	0
European Participating Group									
Value of sales contracts . . .	5,219.0	*	*	*	2,897.4	0	*	0	0
Value of offset obligations .	2,209.9	*	*	*	233.6	0	*	0	0
Federal Republic of Germany									
Value of sales contracts . . .	1,328.8	*	0	0	0	0	*	*	0
Value of offset obligations .	792.3	*	0	0	0	0	*	*	0
Greece									
Value of sales contracts . . .	841.1	*	0	*	*	*	*	667.0	*
Value of offset obligations .	330.9	*	0	*	*	*	*	298.1	*
Israel									
Value of sales contracts . . .	6,083.7	708.7	880.2	22.8	1,290.6	2,752.0	183.2	64.7	181.6
Value of offset obligations .	1,384.2	272.2	213.9	4.8	221.1	480.6	104.9	23.5	63.2
NATO Group									
Value of sales contracts . . .	667.4	*	*	0	0	0	*	0	*
Value of offset obligations .	320.4	*	*	0	0	0	*	0	*
Netherlands									
Value of sales contracts . . .	820.7	81.0	0	0	*	684.8	*	*	0
Value of offset obligations .	512.4	20.8	0	0	*	463.1	*	*	0

TABLE 1: Continued

Country	1980-87	1980	1981	1982	1983	1984	1985	1986	1987
Republic of Korea									
Value of sales contracts . . .	1,055.8	0	0	*	203.8	141.9	*	392.3	194.4
Value of offset obligations .	488.0	0	0	*	116.8	68.7	*	189.7	79.4
Singapore									
Value of sales contracts . . .	511.5	0	0	*	*	0	*	*	0
Value of offset obligations .	153.1	0	0	*	*	0	*	*	0
Spain									
Value of sales contracts . . .	2,151.3	*	0	*	*	*	20.8	72.8	0
Value of offset obligations .	2,851.1	*	0	*	*	*	4.9	26.5	0
Sweden									
Value of sales contracts . . .	381.7	0	*	*	*	0	0	*	*
Value of offset obligations .	663.3	0	*	*	*	0	0	*	*
Switzerland									
Value of sales contracts . . .	370.9	*	*	*	*	0	*	0	*
Value of offset obligations .	248.5	*	*	*	*	0	*	0	*
Turkey									
Value of sales contracts . . .	2,701.7	0	0	0	*	*	*	0	0
Value of offset obligations .	1,583.1	0	0	0	*	*	*	0	0
United Kingdom									
Value of sales contracts . . .	1,800.8	*	0	0	*	213.1	*	*	*
Value of offset obligations .	1,896.5	*	0	0	*	235.1	*	*	*
All Other[1]									
Value of sales contracts . . .	2,842.8	*	0	*	102.1	262.1	1,091.9	171.9	1,125.0
Value of offset obligations .	1,775.7	*	0	*	51.4	127.7	379.7	50.1	1,146.4
Total all countries									
Value of sales contracts . . .	34,816.9	6,529.9	2,506.5	2,548.7	8,701.3	5,485.8	3,790.4	2,209.5	3,044.7
Value of offset obligations .	19,929.1	3,609.9	2,189.9	1,054.5	4,466.7	2,261.6	2,319.9	1,046.4	2,980.9

* Suppressed to avoid disclosing information on individual firms.

Source: Offsets in Military Exports, Office of Management and Budget, December 1988.

[1] Consists of Brazil, Denmark, France, Indonesia, Italy, Luxembourg, New Zealand, Norway, the People's Republic of China, the Philippines, Portugal, Saudi Arabia, and [the former] Yugoslavia.

The largest value of export contracts in a single year was $8.7 billion reported in 1983. The smallest value, $2.2 billion, was reported in 1986. The offset agreements, or obligations associated with these contracts, are shown on Table 2. The obligations were valued at $19.9 billion, or 57.2 percent of the value of the sales. Several countries, including Spain, Sweden, and the United Kingdom, had offsets of greater than 100 percent relative to the sales contract.[2]

TABLE 2: Value of Military Export Sales Contracts and Associated Offset Obligations by Country, 1980-1987 (Millions of Dollars)

Country	Value of export sales contracts	Value of offset obligations	Offset obligations as percentage of sales
Australia	3,393.5	1,271.4	37.5
Belgium	389.1	336.3	86.4
Canada	3,874.1	3,024.2	78.1
Egypt	383.0	87.8	22.9
European Participating Group	5,219.0	2,209.9	42.3
Federal Republic of Germany	1,328.8	792.3	59.6
Greece	841.1	330.9	39.3
Israel	6,083.7	1,384.2	22.8
NATO Group	667.4	320.4	48.0
Netherlands	820.7	512.4	62.4
Republic of Korea	1,055.8	488.0	46.2
Singapore	511.5	153.1	29.9
Spain	2,151.3	2,851.1	132.5
Sweden	381.7	663.3	173.8
Switzerland	370.9	248.5	67.0
Turkey	2,701.7	1,583.1	58.6
United Kingdom	1,800.8	1,896.5	105.3
All Other[3]	2,842.8	1,775.7	62.5
Total all countries	**34,816.9**	**19,929.1**	**57.2**

[2] For more accurate comparability with 1993 and 1994 data, which will be presented shortly, the export sales contracts and offset obligations were translated to constant 1996 dollars using the GDP deflator. Restated, the 1980-1987 export sales contracts were $53.9 billion, and the related offset agreements $30.9 billion.

[3] Consists of Brazil, Denmark, France, Indonesia, Italy, Luxembourg, New Zealand, Norway, the People's Republic of China, the Philippines, Portugal, Saudi Arabia, and [the former] Yugoslavia.

Source: Offsets in Military Exports, Office of Management and Budget, December 1988.

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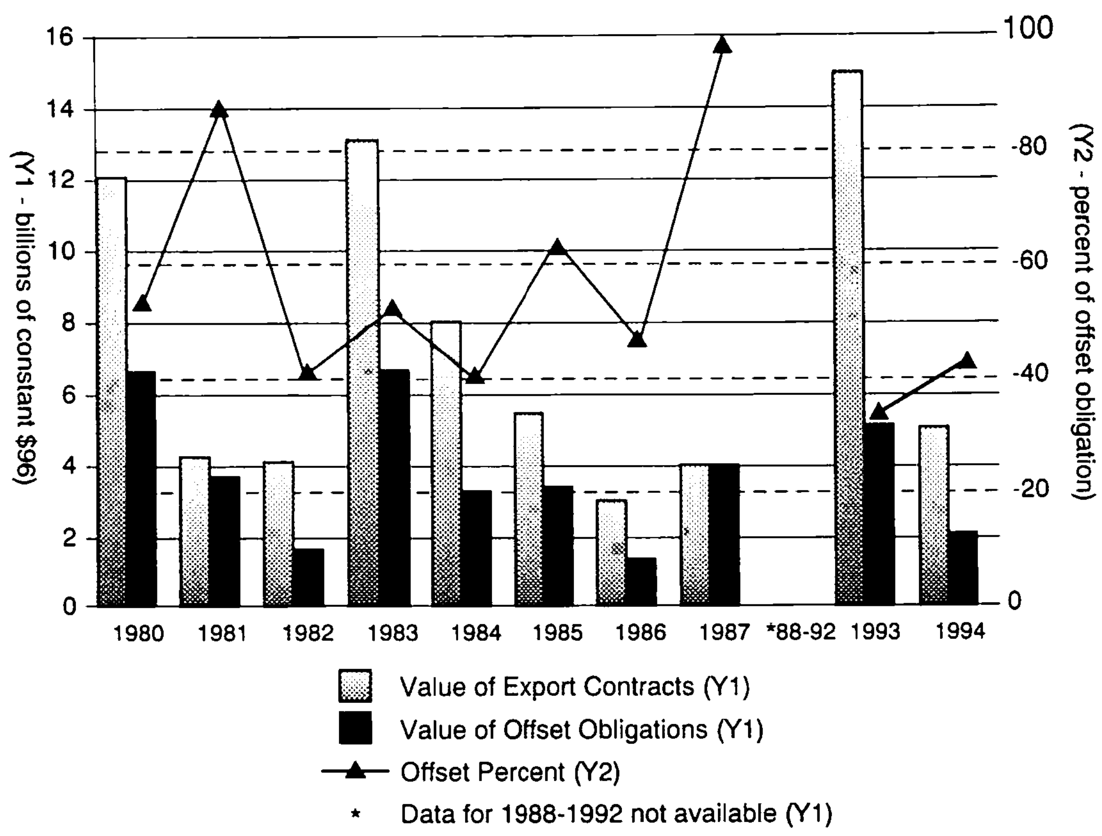
Comparison of OMB and BXA Data:

Graph I compares the OMB 1980 to 1987 offset data with the BXA 1993 and 1994 data. No data was collected for the years 1988 through 1992. Three elements are shown on the graph: the value of export sales contracts (the gray bar), the value of offset obligations (the black bar), and the percent of the offsets to sales agreements (the line with arrowheads). The percentages of offset obligations to new export contract values fluctuate widely from year to year, as do the values of the export sales contracts and offset obligations. The lowest percentage occurred in 1993, at slightly under 35 percent, and the highest in 1987, at over 98 percent. In 1993, there was one export sale to Taiwan of nearly $6 billion with limited offsets. If this particular sale were removed, the overall percentage of new offset obligations would increase from 34.5 percent to 52.1 percent in 1993. Similarly, removal of a major Middle Eastern sale would push the offset obligation in 1993, to nearly 70 percent.

Graph 1: Offset Obligations: Selected Years

(in billions of constant $96)



Source: *Offsets in Military Exports*, OMB, and BXA *Federal Register* Offset Data

BXA Statistics, 1993-1994

Summary

This section of the report analyzes new offset obligations and offset transactions data provided by U.S. defense prime contractors in response to the December 1994 BXA *Federal Register* notice. The data covers the years 1993 and 1994. Future BXA Offsets in Defense Trade reports will add annual increments to this data. In summary, new offset obligations in 1993 were $4.8 billion based on sales contracts of $13.9 billion. In 1994, the new obligations were $2.0 billion based on sales contracts of $4.8 billion. Offset transactions, which are counted toward the fulfillment of existing offset agreements, totaled about $1.9 billion in both 1993 and 1994. Roughly one-third of these offset transactions for both years were direct, or related to the defense system listed on the export sales contract. Also, about three-fourths of all transactions (i.e., direct and indirect) involved the purchase or subcontracting of goods and services, or the transfer of technology.

European and NATO allies have the highest overall offset obligation demands. In 1993 and 1994, European countries represented less than one-fourth of the value of the export contracts, but more than 45 percent of the value of the new offset requirements. The percentage of offsets to export contract values reported for Europe as a whole was 69 percent. For the Middle East and Pacific Rim countries, these percentages were much lower, although individual countries had rates above 60 percent. The recent trend shows a relative increase in export and offset activity to regions outside of Europe and NATO. The worldwide decline in military spending has shifted the emphasis of many offset obligations toward products and technology that benefit commercial sectors.

The original OMB and BXA data as well as a newly released GAO report[4] also support a trend toward newer buyer countries seeking to diversify their economies rather than build or maintain a defense industry. Pacific Rim countries such as Singapore, South Korea, and Taiwan are seeking offset deals that include increased technology transfer, particularly in aircraft design, to become self-sufficient in defense production and to overcome industrial weaknesses that are hindering their efforts to compete in the world aerospace market with U.S. and European manufacturers. Japan's policy of co-producing defense items has a similar objective.

Aerospace weapon systems (aircraft, engines, missiles, etc.) export sales overwhelmingly dominate offset agreements. In fact, about 90 percent of the total value of actual offset transactions reported were offsets referenced to aerospace-related sales agreements. However, of the total actual transactions, aerospace products and services represented slightly over 51 percent, with the remainder allocated across dozens of other industry sectors. In total, offset transactions were identified to a conservative estimate of 127 Standard Industrial Classification (SIC) industry groupings at the 4, 3, or 2-digit levels. Had all transactions been identified to the 4-digit level, many more industries would undoubtedly be represented. The top 40 industry groups each involved more than $10 million in transactions for the two years. Some of the more dominant industries are shown in Table 10. The industries are shown at the 2, 3, or 4-digit level.[5]

[4] "Military Exports: Offset Demands Continue to Grow," U.S. General Accounting Office, Washington, DC. April 1996.

[5] The listed industries are for the greatest level of detail provided by the industry reports. Some reports were at the 2-digit level, while others were at 3- or 4-digit levels. The industries shown on the table do not overlap.

Table 10. Selected Standard Industrial Classification (SIC) Industry Groups Reported in Offset Transactions		
SIC Code	**Industry Description**	**% of Total Offsets**
372	Aircraft and Parts	38.2
3728	Aircraft Parts	5.6
367	Electronics	9.6
35	Industrial Machinery	9.2
357	Computer Hardware	1.5
3731	Shipbuilding and Repair	8.3
366	Telecommunications Equipment	2.9
8742	Management Consulting Services	1.6

Source: BXA *Federal Register* Offset Data

New Offset Agreements

1993 New Offset Agreements: As Table 11 highlights, there were 29 new agreements reported by 18 companies in 1993. Almost half of these new obligations were with European countries. These sales were made to the following eight countries: Denmark; Greece; the Netherlands; Norway; Portugal; Spain; Switzerland; and the United Kingdom. They collectively account for the highest offset percentage, 78 percent of that region's sales, although these sales accounted for only 21 percent of the dollar value of 1993 total sales. On average, the European offset agreements are to be met within 91 months.

Table 11. New Offset Obligations by Region, 1993					
Region	**# Deals**	**Sale ($mil)**	**Offset ($mil)**	**% Offset**	**# Months**
Europe	14	2,985.017	2,338.053	78.3%	91
Middle East	4	4,143.861	1,462.100	35.3%	96
Pacific Rim	7	6,717.659	943.766	14.0%	78
Other Areas	4	98.467	50.515	51.3%	83
World Total	29	13,945.004	4,794.434	34.4%	87
World w/o large sales	*27*	*4,045.004*	*2,794.434*	*69.1%*	

* The well publicized multi-billion dollar sales of F-16s to Taiwan and F-15s to Saudi Arabia had an unusually large influence on the World totals for offsets. The numbers in italics are perhaps more representative of the true incidence of offsets.

Source: BXA *Federal Register* Offset Data

Pacific Rim nations—Malaysia, South Korea, and Taiwan—accounted for half of new export sales, while accounting for the smallest overall offset percentage, at only 14 percent of the value.[6] For 1993, Pacific Rim agreements also have the shortest average completion time, 78 months.

The remaining new agreements in 1993 were equally divided between the Middle East and an "Other Areas" category. Sales to Middle Eastern countries were almost 30 percent of reported 1993 total export sales, making the region second only to the Pacific Rim in terms of dollar value of sales. The offset requirement averages 35 percent of that region's sales. Countries included in this category are Kuwait, Saudi Arabia, and Turkey.[7] The average fulfillment requirement for 1993 Middle Eastern agreements is 96 months, the longest time frame of any region.

The final regional category is defined as "Other Areas," based upon either the unique geographic or trade relationships the United States has with these countries. In 1993, new agreements to Canada and Israel were included in this classification. The average offset percentage to these countries was second only to that for Europe, yet total sales were much smaller than those to other regions, accounting for less than one percent. The average fulfillment requirement for 1993 agreements was 83 months.

1994 New Offset Agreements: The total number of new offset agreements reported in 1994 was 49, a significant increase over the number of new agreements entered into in 1993. These 49 agreements were reported by 18 companies. While the number of new obligations increased in comparison to 1993, the total dollar value decreased by almost 57.3 percent. The regional distribution of these new agreements followed a similar pattern to 1993, with the largest number of agreements with European nations, followed by Pacific Rim countries.

Table 12. New Offset Obligations by Region, 1994

Region	# Deals	Sale ($mil)	Offset ($mil)	% Offset	# Months
Europe	20	1,5085.234	764.053	50.7%	88
Middle East	6	819.200	417.300	50.9%	88
Pacific Rim	9	1,915.447	508.138	26.5%	72
Other Areas	14	549.539	358.448	65.2%	63
World Total	49	4,792.420	2,048.716	42.8%	78

Source: BXA *Federal Register* Offset Data

[6] The share of total sales and corresponding offsets reported for Pacific Rim nations is understated, perhaps significantly, because of an interpretation error in BXA's *Federal Register* data collection request. As a result, no data was submitted on co-production offsets with Japan. Almost all offset arrangements with Japan are related to government-to-government co-production agreements.

[7] Although a member of NATO, for purposes of this report Turkey is included in the Middle Eastern category.

The overall offset percentage for the European agreements was significantly less than those in 1993, dropping from 78 percent to almost 51 percent. These obligations were made with eleven countries: Belgium; Greece; Italy; the Netherlands; Norway; Portugal; Slovenia; Spain; Sweden; Switzerland; and the United Kingdom. The average time requirement to fulfill the agreements also declined slightly from 1993 levels, dropping from 91 to 88 months.

New offset agreements with Pacific Rim nations increased slightly from seven in 1993 to nine in 1994. As was seen with the European agreements, the dollar value of the Pacific Rim agreements dropped by 28 percent in comparison to 1993, while the percentage offset rose to almost 27 percent. The average number of months to fulfill the agreements was 72 months, down from 78 months in 1993. The Pacific Rim nations with whom new obligations were entered in 1994 were Singapore, South Korea, and Taiwan.

There was also an increase in the number of new agreements formed in the Middle East, rising from four to six, but again, the dollar value of these new obligations was almost 20 percent lower. The percentage of the offsets rose, however, from 35 percent in 1993 to almost 51 percent in 1994. New deals were reported with Saudi Arabia, Turkey, and the United Arab Emirates. The average number of months for the offset fulfillment was 88, equal to that for the European agreements, but lower than the average of 96 months in 1993.

The remaining regional category, "Other Areas," is the only grouping which shows an increase in new offset agreements, total dollar value, and the offset percentage when compared to 1993. The number of new transactions reported rose from four to 14; the value of these sales increased fivefold. The offset percentage for these obligations was 65 percent, an increase from 51 percent in 1993. The average number of months to fulfill these agreements was 63, much lower than the average of 83 months the year before. The nations included in this category are Australia, Canada, and Israel.

Collectively, the number of new offset agreements entered into was higher in 1994 than in 1993, while the total value of these agreements dropped sharply from $4,794 million in 1993, to $2,049 million in 1994. This was accounted for mostly by the decline in Europe, which fell from $2.33 billion to only $765 million in 1994. Europe accounted for only 37 percent of the new obligations established in 1994. Export sales also fell sharply over the two years from almost $14 billion to $4.8 billion. The average offset percentage increased somewhat, from 34.4 percent in 1993, to 42.8 percent in 1994. The average length of time to fulfill these new offset agreements varied by year, averaging 87 months (7.25 years) for those new obligations in 1993 and 78 months (6.5 years) for those in 1994. These time frames are much shorter than the average for the 1980-1987 period, which was 132 months (11 years).

Offset Transactions: While the previous section provides an overview of the new agreements reported in 1993 and 1994, this section provides a detailed view of the actual offset transactions reported for this period. Industry reported over 1,000 transactions. The great majority of these offset transactions are not connected with the new agreements addressed in the last section. They are in some cases continuing fulfillments of offset obligations agreed to over 10 years ago. Each transaction contains over a dozen data elements as reported by industry. The resulting database can be compiled in numerous ways. The most important include direct and indirect, by type offset, by region, and a breakout by industrial sector. The synopsis of the data presented in these various ways is provided in a series of tables in this section.

Transactions Summary: As shown on Table 13, a total of 26 companies submitted offset transactions data for the 1993-1994 reporting period. Of these companies, 23 reported in 1993, and 21 reported in 1994. The transactions reference a total of 107 defense export systems sales that have taken place in the last 15 years or so. These systems were exported to 37 different country destinations. Europe was, by far, the region with the highest number of destination listings with 68 percent of the total. Countries in the Pacific Rim[8] comprised 14 percent and the Middle East region comprised eight percent. "Other Areas" destinations included Australia, Canada, Israel, and New Zealand; these comprised 11 percent of the total.

Table 13. Transactions Summary, 1993-1994 by Referenced Exported Systems			
Transaction Data	**1993**	**1994**	**1993-1994**
Companies Reporting	23	21	26
Exported Systems	70	70	107
Export Destinations	33	32	37
Destinations by Region:			
Europe	22	22	25
Middle East	2	3	3
Pacific Rim	5	4	5
Other Areas	4	3	4

Source: BXA *Federal Register* Offset Data

Looking beyond the referenced exported systems, an overview of reported transactions from the recipients' side appears in Table 14. A total of 26 U.S. firms reported 1,010 offset related transactions during the 1993-1994 reporting period. A total of 503 different entities in both the public and private sectors were recipients or beneficiaries of these transactions.

On a regional basis, Europe had the most transactions with 672 or two-thirds of the total. The countries of Australia, Canada, Israel and New Zealand ("Other Areas" region) together ranked second with 177 or 17.5 percent. The Pacific Rim ranked third with 124 or 12 percent and the Middle East region received the least number of transactions with 37 or only 3.7 percent of the total. Based on the new offset agreements data, it is likely that the value of transactions with Europe will decline in the future, as the Middle East and Asia increase.

The actual value of all transactions during the two-year reporting period was $3.8 billion. The actual dollar value of transactions by region follows a similar ranking pattern with Europe receiving the highest amount by a large margin with $2.6 billion (69 percent). The Pacific Rim region, ranking second, received $585 million or 15 percent; the "Other" region, ranking third, received $501 million or 13 percent; and the Middle East, ranking fourth, received $100 million or 2.6 percent.

[8] As mentioned earlier, the share of total sales and corresponding offsets reported for Pacific Run nations is understated, perhaps significantly, because of an interpretation error in BXA's *Federal Register* data collection request. As a result, no data was submitted on co-production offsets with Japan.

Table 14. Transactions Summary, 1993-1994 by Reported Transactions			
Transaction Data	1993	1994	1993-1994
Companies Reporting	23	21	26
Reported Transactions	445	565	1,010
Transaction Recipients (Public & Private)	271	334	503
Transactions by Region:			
Europe	302	370	672
Middle East	15	22	37
Pacific Rim	45	79	124
Other Areas	83	94	177
Transactions by Region: (Actual Value)	$1,898,880	$1,935,325	$3,834,205
Europe (in $000s)	$1,454,531	$1,193,724	$2,648,255
Middle East (in $000s)	$52,730	$47,290	$100,020
Pacific Rim (in $000s)	$172,784	$412,026	$584,810
Other Areas (in $000s)	$218,835	$282,285	$501,120
Transactions by Region: (Credited Value)	$2,214,620	$2,205,875	$4,420,495
Europe (in $000s)	$1,686,509	$1,321,847	$3,008,256
Middle East (in $000s)	$91,730	$109,920	$201,650
Pacific Rim (in $000s)	$179,379	$490,459	$669,838
Other Areas (in $000s)	$257,002	$283,649	$540,651

Source: BXA *Federal Register* Offset Data

The average dollar value per transaction for all regions was approximately $3.8 million. The Pacific Rim, highly focused on aerospace, had the highest average dollar value per transaction at $4.7 million, with Europe second at $3.9 million. The "Other Areas" region and the Middle East had similar individual transaction values with $2.8 million and $2.7 million.

The total credit value for all transactions reported in 1993-1994 was approximately $4.4 billion, exceeding actual total value by $586 million, or about 15 percent. Credit values are dollar values credited toward offset obligations. While most transactions receive no special credit, the buyer government may provide incentives in the form of extra credits to the offset fulfiller to transfer technology, or create business for a domestic company. The credit value for Europe is again the highest value for the regions highlighted at $360 million in extra credit (13.6 percent more than actual). The Pacific Rim extra value is $85 million (14.5 percent), and again the "Other Areas" region is $40 million (7.9 percent). The Middle East, however, is the most spectacular at $102 million, more than 100 percent above actual transaction values.

Offsets Transactions by Type for Direct, Indirect, and Combination: The actual value of the transactions and the resulting amounts credited toward the offset obligations are each detailed for the nine types of offsets on these tables. Table 15 contains the aggregate totals for these values. The particular order in which the offset types are displayed is arbitrarily taken from the 1993 values shown on Table 15, which are arranged from largest to smallest.

Table 15. Offset Transactions Subgrouped by Type, 1993 and 1994
Total for Direct, Indirect, and Combination (Both)
(in thousands of dollars)

Year	Category	Offset Type	Actual Transaction Values			Values Credited Toward Offsets		
			Value ($000s)	% of Category	% of All	Value ($000s)	% of Category	% of All
1993	**Total**	**Total**	**$1,898,880**	**100%**	**100%**	**$2,214,620**	**100%**	**100%**
1993	Total	Purchase	665,839	35.1%	100%	794,975	35.9%	100%
1993	Total	Subcontractor Activity	375,919	19.8%	100%	477,190	21.5%	100%
1993	Total	Credit Transfer	278,221	14.7%	100%	304,523	13.8%	100%
1993	Total	Technology Transfer	183,307	9.7%	100%	203,504	9.2%	100%
1993	Total	Training	167,994	8.8%	100%	186,027	8.4%	100%
1993	Total	Other	119,840	6.3%	100%	137,042	6.2%	100%
1993	Total	Lic. Production/Assembly	37,851	2.0%	100%	41,451	1.9%	100%
1993	Total	Co-production	35,550	1.9%	100%	35,550	1.6%	100%
1993	Total	Investment	34,358	1.8%	100%	34,358	1.6%	100%
1994	**Total**	**Total**	**$1,935,325**	**100%**	**100%**	**$2,205,875**	**100%**	**100%**
1994	Total	Purchase	601,701	31.1%	100%	682,829	30.9%	100%
1994	Total	Subcontractor Activity	360,323	18.6%	100%	372,379	16.9%	100%
1994	Total	Credit Transfer	3,494	0.2%	100%	21,639	1.0%	100%
1994	Total	Technology Transfer	462,569	23.9%	100%	495,849	22.5%	100%
1994	Total	Training	107,912	5.6%	100%	191,520	8.7%	100%
1994	Total	Other	149,602	7.7%	100%	164,230	7.4%	100%
1994	Total	Lic. Production/Assembly	45,424	2.3%	100%	67,629	3.1%	100%
1994	Total	Co-production	111,895	5.8%	100%	112,185	5.1%	100%
1994	Total	Investment	92,405	4.8%	100%	97,614	4.4%	100%

Source: BXA *Federal Register* Offset Data

Table 15 shows that, in 1994, while the overall totals were nearly the same, significant changes occurred in nearly every type's value from the previous year. For example, technology transfer, in the fourth position, rose from $183 million in 1993 to $463 million in 1994, an increase of more than 150 percent, advancing technology transfer to second place in 1994. In the opposite direction, credit transfers, in the third position, fell from $278 million to only $3.5 million, down almost 99 percent, putting credit transfers in last place in 1994.

This volatility is partly explained by the steady attrition of transactions on completed older agreements and an increase of new ones. Annual regional variations may also explain some of the volatility. Europe, for instance, dropped from $1.45 billion in offset transactions in 1993 to $1.19 billion in 1994, down about 18 percent. However, the Pacific Rim was up dramatically, rising from $173 million to $412 million, an increase of almost 140 percent. The technology transfer referred to above was the result of a major jump in indirect offsets of that type in the Pacific Rim in 1994 and a doubling of European direct offsets of that type in that year.

Purchases are the leading offset transaction type in each of the two years, comprising well over 30 percent of the value. Purchases are predominantly indirect: in fact, indirect offsets account for more than three-fourths of their total. For 1993, purchases made up 35 percent of the actual transaction value reported, with subcontractor activity accounting for almost 20 percent and credit transfers accounting for almost 15 percent. In 1993 credited values exceeded actual values by 16.6 percent. In 1994, purchases still made up a significant 31 percent of the actual transaction value; subcontractor activity fell to just under 19 percent and technology transfer grew from about 10 percent in 1993 to 24 percent of actual transaction value in 1994. The same pattern is revealed in the values credited toward offsets in the two years. In 1994 credited values once again exceeded actual values by 14 percent. Other types, such as marketing assistance, maintenance agreements, rentals, unspecified sales, investment analysis, and other miscellaneous items, were 6.3 percent in 1993, and 7.7 percent in 1994.

* * * * * * *

Offset by Region for Direct, Indirect and Combination: Table 19 breaks down offset totals by region and by category of offset. The data shows that European offset transactions make up more than 60 percent of each category for both years, with the exception of 1994, when transactions with "Other Areas" countries (Canada, Australia, New Zealand, and Israel) made up almost 2/3 of the actual transaction value for the combination offsets.

The portion of total offsets accounted for by direct transactions varied by region. The 1993 data for Europe shows that direct offsets made up only 25.8 percent of the total European offsets value of $1.45 billion, while in the Pacific Rim, direct offsets accounted for 55.5 percent of the region's total. The 1994 figures show an even wider variation: direct offsets accounted for almost 65 percent of all offsets for the Middle East, while for "Other Areas" countries, direct offsets were only 27.4 percent of the region's total. Europe captured nearly two-thirds of the world's direct offset transactions in 1993 and 1994. In 1993, Europe alone claimed more than three-fourths of the offset transactions, and almost 85 percent of the indirect category.

Similar variations appear in the data collected for indirect offsets for each region. As Table 19 shows, in 1993 indirect offsets made up 36.9 percent of the Pacific Rim's total offset value, while they accounted for 68.7 percent of Europe's total. In 1994, however, indirect offsets made up a larger portion of the Pacific Rim's offsets, growing to 66.7 percent. In Europe, indirect offsets accounted for 63.7 percent of the year's total for the region, a slight decrease. Both the Middle East and the "other" region saw a significant decrease in the percentage of total offsets accounted for by indirect offsets.

For the "Both," or combination category, the "Other Areas" region led with 15 percent of its total offsets in 1993 and 37.6 percent in 1994 accounted for by these offsets. In contrast, there were no combination offsets reported for the Middle East for either year.

Table 19: Offset Transactions by Region, 1993 and 1994
Total for Direct, Indirect, and Combination (Both)
(in thousands of dollars)

		Europe: Actual Transaction Values			Pacific Rim: Actual Transaction Values			Middle East: Actual Transaction Values			Other Areas*: Actual Transaction Values		
Year	**Category**	**Value ($000)**	**% of category**	**% of region total**	**Value ($000)**	**% of category**	**% of region total**	**Value ($000)**	**% of category**	**% of region total**	**Value ($000)**	**% of category**	**% of region total**
1993	**Total**	**$1,454,531**	**76.6%**	**100.0%**	**$172,784**	**9.1%**	**100.0%**	**$52,190**	**2.7%**	**100.0%**	**$218,835**	**11.5%**	**100.0%**
1993	Direct	$374,687	64.3%	25.8%	$95,886	16.5%	55.5%	$23,017	4.0%	44.1%	$88,847	15.3%	40.6%
1993	Indirect	$999,739	84.0%	68.7%	$63,766	5.4%	36.9%	$29,173	2.5%	55.9%	$97,159	8.2%	44.4%
1993	Both	$80,105	63.5%	5.5%	$13,132	10.4%	7.6%	$0	0.0%	0.0%	$32,829	26.0%	15.0%
1994	**Total**	**1,193,724**	**62.9%**	**100.0%**	**$412,026**	**21.7%**	**100.0%**	**$11,266**	**0.6%**	**100.0%**	**$282,285**	**14.9%**	**100.0%**
1994	Direct	$390,406	65.1%	32.7%	$124,825	20.8%	30.3%	$7,263	1.2%	64.5%	$77,473	12.9%	27.4%
1994	Indirect	$760,658	64.8%	63.7%	$274,986	23.4%	66.7%	$4,003	3.4%	35.5%	$98,757	8.4%	35.0%
1994	Both	$42,660	26.5%	3.6%	$12,215	7.6%	3.0%	$0	0.0%	0.0%	$106,055	65.9%	37.6%

* Other = Canada, Australia, New Zealand, and Israel

Source: BXA Federal Register Offset Data

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Defense Diversification & Competitive Enhancement Needs Assessment

BXA is involved in a number of defense diversification activities designed to maintain and enhance the U.S. defense subcontractor base. One tool used by BXA to provide assistance is the Competitive Enhancement and Defense Diversification Needs Assessment Survey (OMB Control Number 0694-0083). This voluntary survey is directed toward small and medium-sized businesses, and seeks to match the defense conversion and competitive enhancement needs of these firms with assistance programs available through the federal and state governments. It has been mailed to subcontractors of U.S. defense prime contractors around the country. The survey gathers basic information about the firms' operations, including sales, employment, and exports. In addition, BXA included a multi-part question on offsets in defense trade:

1. *Has your firm been involved in an offset agreement?*

2. *Has your firm been negatively affected by offset agreement practices? (For example: have you ever lost a sale because of an offset agreement, or have new competitors been created due to offset agreements)*

3. *Has your firm been positively affected by offset agreements?*

Respondents were asked to comment if they responded positively to any of these questions. The responses to the question provide the subcontractors' perspective on the issue, both positive and negative, complementing the offset information received from the defense prime contractors in response to the December 1994 Department of Commerce *Federal Register* notice. The DPA Section 309(b)(1)(A) and (2) allows for the inclusion of offset data gathered from other studies, as well as recommends analysis of the affects of offsets on lower tier subcontractors.

The total number of respondents to the BXA Needs Assessment survey was 1,153 firms nationwide. On average, these 1,153 firms reported 180 employees, classifying them as small firms under the Small Business Administration's definition. These firms also reported an average of 31 percent of sales going to defense endmarkets.

Of the total number of respondents, 976, or 85 percent, of them responded to the question of *involvement* in offset arrangements. Breaking down the respondents further, of the 976 responding, 152, or 16 percent, said they were involved in these arrangements, while the remaining 824 were not.

Of the 976 who responded to the question of involvement, 204 reported either a positive or negative *impact of offsets.* This figure is higher than the number for firms *involved* in offsets; firms could be positively or negatively impacted by offsets without being directly involved in these arrangements. Of the 204, 34, or 17 percent, reported that they were positively affected by offsets, while 170, or 83 percent, indicated that they were negatively impacted by offsets.

Company Comments on Offsets

Listed below are comments received from the Defense Diversification Needs Assessment Survey respondents regarding offset arrangements, and represent firms in the aircraft and parts, electronic components, fabricated metal products, metal working machinery and equipment, and numerous other industry sectors. They have been divided into categories according to the nature of their responses. While this information is only anecdotal, it provides a perspective on the impact of offset agreements on the subcontractor base.

The first group of responses are from those who commented negatively on offset arrangements. The majority of those respondents to the Defense Diversification Needs Assessment Survey who provided comments mentioned that they had lost business due to these arrangements:

- A world-class aerospace and naval forging manufacturer in the midwest stated that they had "lost significant amounts of work due to prime contractors utilizing foreign sources to satisfy offset requirements."

- A northeastern precision aerospace machine shop reported, "We've lost 20 percent of our business to mandated offset agreements. In the future this will grow substantially. This is our number one problem."

- A manufacturer of rolled rings for aerospace applications stated, "Our company has been significantly affected by [prime engine contractor's] offset agreements to Asia and Europe. I estimate that our company has lost more than 50 percent of our business due to offset agreements."

- A western distributor of optical materials for a wide range of commercial and defense end uses said, "[Offsets have] occurred on military equipment used by NATO countries; production goes to European countries for U.S. hardware. It also seems that optics are sourced offshore for defense applications which has a negative impact on U.S. industry."

- A west coast machine shop reported, "We've lost processing work on the jobs that went overseas as a result of aircraft and military hardware sales." Another aerospace machine shop stated, "[The aerospace prime contractor we supply] participates in an offset program which seems to have introduced increased competition and possible lost orders to American manufacturers."

Other firms commenting on offset agreements and their impact reported that new foreign competitors had been created through technology transfer resulting from offset agreements.

- A world-class aerospace and naval forging manufacturer in the midwest stated that "prime contractors had transferred technology developed domestically to offshore suppliers in offset agreements."

- A west coast composite material firm noted that the aircraft primes "have introduced foreign companies to [U.S.] composite fabrication techniques." These firms are now competitors to the company for both U.S. and foreign business.

- A midwest company that designs and manufactures pumps and valves for aircraft applications reported, "New competitors created as a result of offsets. Foreign countries now designing indigenous aircraft using this technology."

- A western producer of castings for commercial, aerospace and defense industries reported, "New competitors were created or strengthened due to an offset program, hence, we lost the contracts."

A few companies reported that they had refused to transfer technology in cooperation with an offset agreement:

- A defense aircraft lighting systems company in the southwest refused to participate in offsets and lost business: "Offset agreement would have meant the loss of some proprietary techniques."

- An east coast producer of communication equipment said, "We've lost a sale to a French Government customer who insisted that we work with a French company to manufacture a product developed by us."

- Some firms reported that, because of offset agreements, they had been forced to change suppliers or consider opening new facilities overseas:

- A midwestern precision machine shop supplying the aerospace, medical, and computer markets stated, "We have aided a customer's offset requirements by purchasing castings overseas and then supplying completed machined parts ready for assembly."

- A semiconductor material manufacturer on the west coast reported, "We have made plans to increase investment in Japan and Korea in order to meet pressures to be more active in these countries. Korea is more overt in suggesting the need for on-shore investment."

Finally, some firms reported incidents where offset agreements had raised overall program costs:

- A manufacturer of microwave components and circuits stated that "offset agreements by the prime contractors involving . . . microwave products almost never work because of the complexity of the products." The firm noted that often they have to become involved again later in the process to make the product work, adding to the overall cost of the system.

- A manufacturer of precision parts for aircraft engines reported that "domestic suppliers of precision engine parts have been devastated by offsets because engine prime contractors have been using offshore suppliers to fulfill offsets." They added, "The domestic supplier base is evaporating." Ironically, the company added that they now sell worldwide to the very suppliers who displaced them in the offset agreement.

- Other respondents provided positive comments on offset agreements. Many indicated that offset agreements had resulted in maintained or increased sales.

- A midwest company that designs and manufactures pumps and valves for aircraft applications reported, "[Offsets] kept mature program in production, profit margin generally quite favorable."

- A New England producer of communications products stated, "Due to the offset arrangement, our firm received development funds which were used to launch a new family of products."

- A midwestern producer of precision aerospace parts reported that the firm had received business from foreign companies that were supposed to perform offset work because the foreign firms were unable to fulfill the agreement.

- A western materials firm commented that offsets had resulted in "sales to foreign companies" of advanced composite materials.

- Another materials firm based in California provides service to firms that had required a composite offset and has gained new markets as a result.
- A midwest distributor of packing materials assists his prime contractor by doing business with companies in the countries his prime is selling into; the distributor's purchases result in offset credits for the prime.
- A western producer of cable products indicated that the firm was able to enter the market in Greece as a result of an offset agreement.
- A midwest company providing service to the machine tool industry reported that offset agreements had allowed them to team up with other firms to enter new markets overseas.

Finally, some firms reported that, while they had to give up something in the offset process, in return they had gained market share. Of those responding, many had given up previous generation technology or some production, or had been forced to modify their own procurement habits in exchange for increased sales of their own products.

U.S. Government Policy on Offsets

The 1990 U.S. Government Policy on Offsets in Military Exports

The U.S. Government Policy on Offsets in Military Exports is the only current public U.S. policy on the issue. This policy is a result of the National Defense Authorization Act for Fiscal Year 1989,[9] which required the President to establish a comprehensive defense trade offset policy. The policy notes that the U.S. Government views certain offsets to be economically inefficient and market distorting. The policy directs that certain principles should be followed to minimize the adverse effects of offsets, while not hampering U.S. firms' ability to compete for military export sales. This policy was issued on April 16, 1990, by the White House Press Secretary in the following statement:

"The President announced today his policy on Offsets in Military Exports. This responds to the requirement under FY 1989 National Defense Authorization Act, Section 825, 10 U.S.C. 2505."

"The President stated that the United States Government is committed to the principles of free and fair trade. Consequently, the United States Government views certain offsets for military exports as economically inefficient and market distorting."

"Mindful of the need to minimize the adverse effects of offsets in military exports, while ensuring that the ability of U.S. firms to compete for military export sales is not undermined, the President has established the following policy:

— No agency of the U.S. Government shall encourage, enter directly into, or commit U.S. firms to any offset arrangement in connection with the sale of defense goods or services to foreign governments.

— U.S. Government funds shall not be used to finance offsets in security assistance transactions except in accordance with currently established policies and procedures.

[9] Pub. Law No. 100-456, Section 825; 10 U.S.C. 2505 (subsequently renumbered as 10 U.S.C. 2532 by Pub. Law No. 102-585).