Offsets in Defense Trade

Seventeenth Study

Conducted Pursuant to Section 723 of the Defense Production Act of 1950, as Amended

U.S. Department of Commerce
Bureau of Industry and Security

February 2013

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Executive Summary

This is the seventeenth annual report to Congress on the impact of offsets in defense trade prepared by the U.S. Department of Commerce's Bureau of Industry and Security (BIS) pursuant to Section 723 of the Defense Production Act (DPA) of 1950, as amended.[1] Offsets in defense trade encompass a range of industrial compensation arrangements required by foreign governments as a condition of the purchase of defense articles and services from a non-domestic source.

BIS collects data annually from U.S. firms involved in defense exports with associated offset agreements in order to assess the impact of offsets in defense trade.[2] In 2011, U.S. defense contractors reported entering into 59 new offset agreements with 27 countries valued at $5.48 billion. The value of these agreements equaled 50.9 percent of the $10.76 billion in reported contracts for sales of defense articles and services to foreign entities with associated offset agreements. In 2011, U.S. firms reported 745 offset transactions (transactions conducted to fulfill offset agreement obligations) with 31 countries with an actual value of $4.01 billion, and an offset credit value of $5.18 billion.

This report notes that exports of defense articles and services can lower overhead costs for the Department of Defense; help sustain production facilities, workforce expertise, and the supplier base to support current and future U.S. defense requirements; promote interoperability of defense systems, subsystems and components between the United States and friends and allies; and contribute positively to U.S. international account balances. However, offset agreements and associated offset transactions can negate some of the potential economic and industrial base benefits accrued through defense exports if the offset activity displaces work that would otherwise have been conducted in the United States.

The U.S. Government has established an interagency team to consult with foreign nations on limiting the adverse effects of offsets in defense procurement. The data collected by BIS is utilized in the multilateral and bilateral consultations of the team and its working group.

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[1] Codified at 50 U.S.C. app. § 2172 (2009).

[2] Pursuant to 15 CFR Part 701 (2012).

1 Background

Offsets in defense trade encompass a range of industrial compensation arrangements required by foreign governments as a condition of the purchase of defense articles and services from non-domestic suppliers. This mandatory compensation can be directly related to the purchased defense article or service or it can involve activities or goods unrelated to the defense sale.

In 1984, the U.S. Congress amended the Defense Production Act (DPA) to require the President to submit an annual report to Congress on the impact of offsets on the U.S. defense industrial base.[3] The Office of Management and Budget was the first agency appointed as the interagency coordinator for preparing the report for Congress. In 1992, Congress amended the DPA and directed that the Secretary of Commerce function as the President's Executive Agent in preparing the annual report to Congress.[4] Section 723 of the DPA authorizes the Secretary of Commerce to develop and administer the regulations necessary to collect offset data from U.S. firms.[5] The Secretary of Commerce has delegated this authority to the Bureau of Industry and Security (BIS). BIS published its offset reporting regulation in 1994.[6] BIS amended its offset regulation in 2009.[7]

The U.S. Government policy on offsets in defense trade states that the government considers offsets to be "economically inefficient and trade distorting," and prohibits any agency of the U.S. Government from encouraging, entering directly into, or committing U.S. firms to any offset arrangement in connection with the sale of defense articles or services to foreign governments.[8] U.S. defense contractors generally see offsets as a reality of the marketplace for companies competing for international defense sales. Several U.S. defense contractors have informed BIS that offsets are usually necessary in order to make defense sales – sales which can help support the U.S. industrial base.

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[3] See Pub. L. 98-265, April 17, 1984, 98 Stat. 149.

[4] See Pub. L. 102-558, Oct. 28, 1992, 106 Stat. 4198; see also Part IV of Exec. Order No. 12,919, 59 Fed. Reg. 29,525 (June 3, 1994) and Exec. Order 13603. Fed. Reg. 16651(March 22, 2012).

[5] Previously, the offset report was submitted pursuant to Sec. 309 of the Defense Production Act of 1950. However, as a result of the Defense Production Act Reauthorization of 2009, Pub. L. 111-67, which rewrote Title III of the Act and introduced a new Sec. 723 on offsets, the report is now submitted pursuant to Sec. 723. Section 723 is largely the same in content as the prior Sec. 309.

[6] See 59 Fed. Reg. 61,796 (December 2, 1994) codified at 15 C.F.R. § 701.

[7] See 74 Fed. Reg. 68,136 (December 23, 2009) codified at 15 C.F.R. § 701.

[8] Defense Production Act Amendments of 1992 (Pub. L. 102-558, Title I, Part C, §123).

This is the seventeenth report to Congress on offsets in defense trade that BIS has prepared. This report reviews offset data for the 19-year period from 1993-2011.[9] BIS has structured this report similarly to reports published in 2008 through 2011; the chapters correspond with the sequence of events for defense sales involving offsets. In preparing this report, BIS has incorporated data from other U.S. Government sources, including the Department of Defense, the Bureau of the Census, and the Bureau of Economic Analysis.

BIS published a notice in the *Federal Register* on March 20, 2012 reminding the public that U.S. firms are required to report annually on contracts for the sale of defense articles or defense services to foreign governments or foreign firms that are subject to offset agreements exceeding $5,000,000 in value, and offset transactions completed in performance of existing offset commitments for which offset credit of $250,000 or more has been claimed from the foreign representative.[10] Twenty-one firms reported offset agreement and transaction data to BIS for calendar year 2011. The data elements collected each year from industry are listed in Section 701.4 of the BIS offset reporting regulation and were referenced in the notice.

BIS prepared this report in consultation with the Departments of Defense, State and Labor, and the Office of the United States Trade Representative. Collectively these agencies are members of the interagency working group established by Congress chartered to consult with foreign nations on limiting the adverse effects of offsets in defense procurement.[11]

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[9] The initial offsets report, issued in 1996, covered the time period from 1993 to 1994; each subsequent offset report added an additional year to the reporting period, with the exception of the eighth report, which added two years.

[10] See 77 Fed. Reg. 16,207 (March 20, 2012).

[11] See Pub. L. 108-195, Dec. 19, 2003, 117 Stat. 2892, which required the President to establish an interagency team to consult with foreign nations on limiting the adverse effects of offsets in defense procurement without damaging the economy or the defense industrial base of the United States, or its defense production or defense preparedness. The statute provided that the interagency team be comprised of the Secretaries of Commerce, Defense, Labor and State, and the United States Trade Representative; that the President appoint a chair of the interagency team; and that the interagency team report to the Congress on its consultations. President Bush designated the Secretary of Defense as the chair of the interagency team, who delegated that responsibility to the Under Secretary of Defense for Acquisition, Technology and Logistics. In turn, the Under Secretary established an interagency working group, chaired by the Director, International Cooperation, to conduct the consultations on behalf of the team, which took on the role of a high-level steering group.

2 Defense Export Sales with Offset Agreements

In 2011, nine U.S. firms reported entering into 59 contracts that had related offset agreements for the sale of defense items and services. These contracts, signed with 27 countries, were valued at $10.76 billion. The offset agreements were valued at $5.48 billion which equaled 50.9 percent of the value of the signed defense export sales contracts. During 2011, reported offset agreements ranged from a low of 25 percent of the defense export sales contract value to a high of 100 percent.

In 2011, nearly 80 percent of the signed offset agreements reported by U.S. industry included penalties for non-performance of the offset obligation. Those penalties ranged from liquidated damages, increases in the obligation amount or offset requirement, reduction of the value of the signed export sales contract, or the requirement for prime contractors to post performance bonds.

During 1993-2011, 53 U.S. firms reported entering into 830 offset-related defense export sales contracts worth $122.67 billion with 47 countries. The associated offset agreements were valued at $83.73 billion.

Table 2-1: Summary of Defense Export Sale Contract Values with Related Offset Agreements, 1993-2011

Year	Contract Value ($ millions)	Offset Agreement Value ($ millions)	Percent of Offset Agreement to Contract Value	U.S. Firms (Number)	Agreements (Number)	Countries (Number)
1993	$13,935.00	$4,784.43	34.33%	17	28	16
1994	$4,792.42	$2,048.72	42.75%	18	49	20
1995	$7,529.92	$6,102.58	81.04%	20	47	18
1996	$3,119.67	$2,431.62	77.94%	16	53	19
1997	$5,925.47	$3,825.53	64.56%	15	60	20
1998	$3,029.20	$1,768.15	58.37%	12	41	17
1999	$5,656.62	$3,456.89	61.11%	10	45	11
2000	$6,576.21	$5,704.81	86.75%	10	43	16
2001	$7,116.00	$5549.55	77.99%	12	35	13
2002	$7,406.23	$6,094.81	82.29%	12	41	17
2003	$7,293.05	$9,110.44	124.92%	11	32	13
2004	$4,927.51	$4,329.69	87.87%	14	40	18
2005	$2,259.87	$1,464.13	64.79%	8	25	18
2006	$5,088.53	$3,573.91	70.23%	14	46	21
2007	$6,735.74	$5,437.57	80.73%	11	44	19
2008	$6,286.16	$3,664.43	58.29%	15	53	17
2009	$10,700.53	$6,696.44	62.58%	13	59	21
2010	$3,524.81	$2,200.77	62.44%	14	30	14
2011	$10,764.62	$5,481.60	50.92%	9	59	27
Total	**$122,667.56**	**$83,726.09**	**68.25%**	**53**	**830**	**47**

Source: BIS Offset Database
Note: Due to rounding, totals may not add up exactly. Figures for certain previous years have been revised.

3 Offset Transactions

In 2011, 21 U.S. firms reported concluding 745 offset transactions with 31 countries to fulfill offset agreement obligations. The offset transactions reported by U.S. firms had an actual value of $4.01 billion in 2011 and a credit value of $5.18 billion. In 2011, U.S. industry reported that 77 offset transactions (10.3 percent of all transactions completed during the 12 month period) had a multiplier greater than "one" applied and 30 transactions (4.0 percent of all transactions completed during the 12 month period) had a multiplier of less than "one" applied.[12]

During 1993-2011, a total of 62 U.S. firms reported 12,100 offset transactions with 50 countries. The actual total value of the offset transactions reported from 1993-2011 was $60.23 billion and the total credit value was $72.12 billion. See Table 3-1.

Table 3-1: Summary of Offset Transactions, 1993-2011

Year	Actual Offset Transaction Value ($ millions)	Credit Offset Transaction Value ($ millions)	U.S. Firms (Number)	Transactions (Number)	Countries (Number)
1993	$1,897.88	$2,213.62	22	444	27
1994	$1,934.86	$2,206.09	21	566	26
1995	$2,890.49	$3,592.59	21	711	26
1996	$2,875.82	$3,098.02	22	634	26
1997	$2,720.58	$3,272.31	19	578	26
1998	$2,312.17	$2,623.21	20	582	29
1999	$2,059.73	$2,808.33	13	513	25
2000	$2,208.18	$2,846.44	16	627	24
2001	$2,559.08	$3,277.70	16	618	25
2002	$2,632.53	$3,301.01	18	735	26
2003	$3,565.51	$4,010.65	17	690	31
2004	$4,934.53	$5,365.74	16	710	33
2005	$4,721.98	$5,439.03	13	624	30
2006	$4,705.84	$4,906.42	16	661	28
2007	$3,804.53	$4,741.70	19	633	28
2008	$3,290.90	$4,768.41	22	672	30
2009	$3,495.37	$4,041.25	23	666	28
2010	$3,608.15	$4,423.55	25	691	28
2011	$4,011.56	$5,182.57	21	745	31
Total	**$60,229.69**	**$72,118.66**	**62**	**12,100**	**50**

Source: BIS Offset Database
Note: Due to rounding, totals may not add up exactly. Figures for certain previous years have been revised.

[12] A multiplier is a factor applied to the actual value of certain offset transactions to calculate the credit value earned. Foreign purchasers use multipliers to provide firms with incentives to offer offsets that benefit targeted areas of economic growth. When a multiplier greater than "one" is applied to the value of a service or product offered as an offset, the defense firm receives a higher credit value toward fulfillment of an offset obligation than would be the case without application of a multiplier. Conversely, foreign purchasers apply multipliers less than "one" to discourage certain types of transactions.

U.S. firms are required to classify offset transactions by type (direct or indirect) and report to BIS offset transactions by category specifically describing the nature of the transaction. In the offset reporting regulation, BIS has categorized offset transactions as one of the following: co-production, technology transfer, subcontracting, credit assistance, training, licensed production, investment, purchases, and other.[13] See Annex E for definitions of each offset transaction category.

In 2011, direct offsets (transactions directly related to the defense export sale with an associated offset agreement) accounted for 48.7 percent of the actual value of reported offset transactions. Indirect offsets (transactions not directly related to the defense export sale with an associated offset agreement) accounted for 51.1 percent of the actual value of reported offset transactions.[14] During 1993-2011, direct offsets accounted for 40.8 percent of the actual value of the reported offset transactions, with indirect offsets accounting for 58.5 percent.

The top three offset transaction categories reported by industry for 2011 were purchases, subcontracting, and technology transfer. These three categories represented 81.6 percent of all offset transactions reported for 2011 based on quantity, 77.0 percent of the transactions based on actual value, and 72.6 percent of the transactions based on credit value. Based on the total number of transactions reported in 2011 that included a multiplier greater than "one", technology transfers and investments accounted for 22.1 percent each, subcontracting accounted for 16.9 percent, and purchases accounted for 15.6 percent.

The top three offset transaction categories reported by industry for the 19-year reporting period (1993-2011) were also purchases, subcontracting, and technology transfer (on the basis of quantity, actual value, and credit value). During 1993-2011, based on quantity, the top three offset transaction categories that included multipliers greater than "one," were purchases, technology transfer, and subcontracting.

See Annex C for a summary of reported offset transactions by type, category, value, and with multipliers on an annual basis during the 19-year reporting period (1993-2011).

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[13] With respect to the export of any item or technology from the United States, U.S. export control laws apply. Whether or not an export is associated with an offset agreement, U.S. exporters must comply with U.S. export control requirements, which include, among other things, licensing requirements. License applications are carefully reviewed by the appropriate U.S. Government agencies to ensure that the proposed export of an item (commodity, software or technology) or service is consistent with U.S. laws, regulations, and foreign policy and national security considerations. Where no license is required, U.S. exporters must comply with end-use and end-user restrictions.

[14] The total does not equal 100 percent because a small number of reported offset transactions are not specified as direct or indirect.

4 Impact of Offsets on the U.S. Industrial Base

Defense export sales can be an important component of U.S. defense contractors' revenues and further U.S. foreign policy and economic interests. Exports of major defense systems can also lower overhead and unit costs for the Department of Defense (DOD); and help sustain production facilities, workforce expertise, and the supplier base to support current and future U.S. defense requirements. Exports also promote interoperability of defense systems between the United States and friends and allies and contribute positively to U.S. international trade account balances. However, offset agreements and associated offset transactions can negate some of the potential economic and industrial base benefits accrued through defense exports if the offset activity displaces work that otherwise would have been conducted in the United States and/or if competitors are established in foreign countries.[15]

Studies and discussions between industry and U.S. Government officials indicate that, at times, U.S. prime contractors develop long-term supplier relationships with foreign subcontractors based on short-term offset requirements. These new relationships, combined with the mandatory offset requirements related to offset agreements, can limit future business opportunities for U.S. subcontractors and suppliers, with negative consequences for the domestic industrial base. Other kinds of offsets, such as technology transfers, may increase research and development spending and capital investment in foreign countries for defense or non-defense industries, thereby helping to create or enhance current and future competitors to U.S. industry.

Export and Offset Activity Trends

According to Census, the value of U.S. merchandise exports totaled $1.48 trillion in 2011. Based on end-use export data published by Census, defense-related merchandise exports totaled $14.9 billion in 2011, or approximately one percent of total U.S. merchandise exports.[16] In 2011, U.S. industry reported entering into offset-related defense export sales contracts worth $10.8 billion. The value of U.S. merchandise exports cannot be directly compared with the value of defense export sales contracts and offset agreements because export data reflect actual shipments made during the calendar year and there is usually a delay of several years between the

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[15] See GAO report on offset activities, "Defense Trade: U.S. contractors Employ Diverse Activities to Meet Offset Obligations," December 1998 (GAO/NSIAD-99-35), pp 4-5.

[16] The value of defense exports includes the exports categorized under the following export end-use codes: (50000) Military aircraft, complete; (50010) Aircraft launching gear, parachutes, etc.; (50020) Engines and turbines for military aircraft; (50030) Military trucks, armored vehicles, etc.; (50040) Military ships and boats; (50050) Tanks, artillery, missiles, rockets, guns, and ammunition; (50060) Military apparel and footwear; and (50070) Parts for military-type goods. The end-use data series does not include exports of defense services. See www.census.gov/foreign-trade/statistics.

conclusion of a contract for a defense sale and the beginning of shipments. See Table 4-1 for defense-related merchandise exports and offset activity trends from 2003–2011.

Table 4-1: U.S. Merchandise Exports and Reported Offset Activity

Year	Total Merchandise Exports ($ millions)	Defense-Related Merchandise Exports ($ millions)*	Defense-Related Exports as a Percentage of Total Merchandise Exports	Value of Reported Defense Export Sale Contracts with Related Offset Agreements ($ millions)	Value of Reported Offset Agreements ($ millions)	Value of Reported Offset Transactions ($ millions)
2003	$724,770.98	$11,509.11	1.59%	$7,293.05	$9,110.44	$3,565.51
2004	$814,874.65	$11,844.30	1.46%	$4,927.51	$4,329.69	$4,934.53
2005	$901,081.81	$12,834.77	1.42%	$2,259.87	$1,464.13	$4,721.98
2006	$1,025,967.50	$16,628.72	1.62%	$4,951.97	$3,437.35	$4,705.84
2007	$1,148,198.72	$16,893.87	1.47%	$6,735.74	$5,437.57	$3,804.53
2008	$1,287,442.00	$16,594.06	1.29%	$6,286.16	$3,664.43	$3,290.73
2009	$1,056,042.96	$14,795.97	1.40%	$10,700.53	$6,696.44	$3,495.37
2010	$1,278,263.20	$15,314.04	1.17%	$3,209.39	$2,038.48	$3,608.13
2011	$1,480,431.90	$14,861.21	1.00%	$10,764.62	$5,481.60	$4,011.56

Sources: BIS Offset Database and the U.S. Census Bureau, End-Use Export Data and U.S. Trade in Goods – Balance of Payments Basis vs. Census Basis. *2010 data was revised by Census.

Economic Impact of Offsets on U.S. Industrial Activity and Employment

BIS amended its offset reporting regulation in 2009 to require that companies assign the appropriate North American Industry Classification System (NAICS) code(s) to each offset-related defense export sales contract and to each offset transaction reported. Prior to 2009, BIS required industry to classify offset transactions and defense export sales by broad industry descriptions. The change to NAICS classification reporting has allowed BIS to gather more accurate information on defense export sales with related offset agreements and offset transactions. This enhances BIS's ability to assess the economic impact of offsets on the U.S. industrial base by allowing BIS to better utilize other data published by statistical agencies of the U.S. Government.

Reported Defense Export Sales by Industry Sector

Industry sectors, as defined in the NAICS, include both manufacturing and non-manufacturing (including services) sectors. During 2009-2011, 91.7 percent of the reported defense export sales contracts with offset agreements were manufacturing-related based on the total value of reported contracts (89.2 percent based on the total number of reported export sales contracts). The top four industry sectors reported by industry during 2009-2011 were aircraft manufacturing (NAICS 336411); other guided missile and space vehicle parts and auxiliary equipment

manufacturing (NAICS 336419); other aircraft parts and auxiliary equipment manufacturing (NAICS 336413); and radio and television broadcasting and wireless communications equipment manufacturing (NAICS 334220). These four categories represented 57.4 percent of all defense export sales contracts reported during 2009-2011 based on quantity and 78.73 percent of the defense export sales contracts based on value. See Table 4-2.

Table 4-2: Reported Defense Export Sales by Industry Sector, 2009-2011

Industry Sector Manufacturing/Services	Value of Reported Defense Export Sales Contracts	Percent of Total Value of Defense Export Sales Contracts	No. of Defense Export Sales Contracts	Percent of the Total Number of Defense Export Sales Contracts
Aircraft Manufacturing	$13,351,576,837	53.43%	47	31.76%
Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	$4,202,450,000	16.82%	18	12.16%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	$1,199,765,652	4.80%	7	4.73%
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	$906,600,000	3.63%	13	8.78%
Small Arms, Ordnance, and Ordnance Accessories Manufacturing	$807,485,996	3.23%	13	8.78%
All Others	$2,450,069,930	9.80%	34	22.97%
Total Manufacturing	$22,553,944,115	91.71%	132	89.19%
Total Services and Other Non-Manufacturing	$2,072,015,569	8.29%	16	10.81%
Total	**$24,625,959,684**	**100.00%**	**148**	**100.00%**

Source: BIS Offset Database

Reported Offset Transactions by Industry Sector

During 2009-2011, 68.8 percent of reported offset transactions were manufacturing-related based on the total value of reported offset transactions (72.4 percent based on the total number of reported offset transactions). The top four industry sectors reported by industry during 2009-2011 were aircraft manufacturing (NAICS 336411); other aircraft parts and auxiliary equipment manufacturing (NAICS 336413); aircraft engine and engine parts manufacturing (NAICS 336412); and search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing (NAICS 334511). These four categories represented 38.5 percent of all offset transactions reported for 2009-2011 based on quantity and 47.4 percent of offset transactions based on value. See Table 4-3.

Table 4-3: Reported Offset Transactions by Industry Sector, 2009-2011				
Industry Sector				
Manufacturing	**Total Value**	**Percent of the Total Value**	**Number of Transactions**	**Percent of the Total Number of Transactions**
Aircraft Manufacturing	$2,206,277,250	19.85%	359	16.61%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	$1,299,623,577	11.69%	241	11.15%
Aircraft Engine and Engine Parts Manufacturing	$1,033,765,681	9.30%	85	3.93%
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	$733,283,828	6.60%	148	6.85%
Other Manufacturing	$1,230,061,883	11.07%	731	33.85%
Total Manufacturing	$7,651,112,169	68.84%	1,564	72.37%
Services and Other Non-Manufacturing				
Engineering Services	$668,774,713	6.02%	100	4.63%
Software Publishers	$438,136,139	3.94%	15	0.69%
Industrial Building Construction	$380,973,092	3.43%	12	0.56%
Other Services and Non-Manufacturing	$1,117,327,614	10.05%	471	21.80%
Total Services and Other Non-Manufacturing	$3,463,963,203	31.16%	597	27.63%
Total, All Transactions	**$11,115,075,372**	**100.00%**	**2,161**	**100.00%**
Source: BIS Offset Database				

BIS compared defense export sales contracts and offset transactions reported for 2009-2011 with data published by the Census on total 2009-2011 U.S. shipments of selected manufacturing industry sectors to provide context for the volume of offset activity relative to the U.S. economy. Industry reported defense export sales contracts with 22 NAICS codes and offset transactions with 164 NAICS codes. The comparison of 2009-2011 offset-related data with 2009-2011 U.S. shipment data highlights that, while the reported defense export sales contracts accounted for a significant percentage compared to U.S. shipment data in certain manufacturing industry sectors, reported offset transactions data did not account for a significant percentage in other manufacturing industry sectors. See Table 4-4.

Table 4-4: 2009-2011 Reported Defense Export Sales and Reported Offset Transactions and 2009-2011 U.S. Shipments by Industry Sector			
Reported Defense Export Sales Contracts			
Industry Sector **Manufacturing**	**Value of Reported 2009-2011 Defense Export Sales Contracts**	**Total Value of 2009-2011 U.S. Shipments**	**Percent of Defense Export Sales Contracts to Total U.S. Shipments**
Aircraft Manufacturing	$13,351,576,837	$254,763,597,000	5.241%
Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	$4,202,450,000	$7,407,310,000	56.734%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	$1,199,765,652	$97,094,126,000	1.236%
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	$906,600,000	$82,273,031,000	1.102%
All Others	$807,485,996	$14,382,008,635,000	0.006%
Total Manufacturing	$22,553,944,115	$14,823,546,699,000	0.152%
			Reported Offset Transactions
Industry Sector **Manufacturing**	**Value of Reported 2009-2011 Offset Transactions**	**Total Value of 2009-2011 U.S. Shipments**	**Percent of Transactions to Total U.S. Shipments**
Aircraft Manufacturing	$2,206,277,250	$254,763,597,000	0.866%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	$1,299,623,577	$97,094,126,000	1.339%
Aircraft Engine and Engine Parts Manufacturing	$1,033,765,681	$80,646,909,000	1.282%
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	$733,283,828	$137,452,578,000	0.533%
Other Manufacturing	$1,230,061,883	$14,253,589,489,000	0.009%
Total Manufacturing	$7,651,112,169	$14,823,546,699,000	0.052%
Source: BIS Offset Database and U.S. Census *2011 Annual Survey of Manufactures*			

Note: Certain shipment data is suppressed by the U.S. Census Bureau in accordance with federal law so that the operations of an individual establishment or company are not disclosed.

Offset-Related Impact Analysis

Given the variety of the reported defense export sales contracts and the number of reported offset transactions, it is not possible to determine precisely the impact of the defense export sales contracts, offset agreements, and offset transactions on industrial activity and employment. Utilizing the Bureau of Economic Analysis' *Benchmark Input-Output Accounts of the United States* (I/O accounts)[17], and Census' *Annual Survey of Manufactures* data,[18] BIS has developed a method to approximate the value added shipment and employment impact of offset activities across the United States economic sectors.

During 2009-2011, industry reported defense export sales contracts valued at $17.86 billion in manufacturing industry sectors for which Census publishes annual employment and value-added data by NAICS code. Based on the I/O accounts, the value of inputs from all other industry sectors associated with the $17.86 billion in defense export sales contracts was $21.06 billion as shown in Table 4-5.[19] For the purpose of this analysis, BIS has assumed that all the work associated with the defense export sales contracts would be conducted in the United States. However, this is not necessarily an accurate assumption. According to Census' *Annual Survey of Manufactures* data, this $21.06 billion in inputs would create or sustain 72,700 employment opportunities.[20] As shown in Table 4-5, the I/O accounts also demonstrate how these defense export sales contracts have a positive multiplier effect not only on selected U.S. manufacturing industry sectors but on hundreds of other U.S. economic sectors that supply inputs related to the export sales contracts.

Conversely, for the purpose of this analysis, BIS considers offset transactions to have a negative impact on U.S. inputs because the offset transactions are primarily conducted outside the United States and represent activity that is not provided by sectors of the U.S. economy. For the purpose of this analysis, BIS has also assumed that all the work associated with offset transactions would have been conducted in the United States if there were no offset agreement in

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[17] The I/O accounts show the dollar value of inputs from all industries required to produce a dollar's worth of an industry's output. The I/O accounts provide an extensive accounting of the production of goods and services by each industry, which includes the goods and services purchased by each industry, the income earned in each industry, and the distribution of sales for all goods and services to industries and final uses.

[18] With the availability of 2011 offset data, BIS' analysis under the revised method of measuring offset-related impact is based on three years of data, which will compensate somewhat for annual fluctuations. The basis for estimating the impact of offset activity on industrial activity and employment utilizes the NAICS codes data reported by Census and the I/O accounts.

[19] The multiplier effect in the I/O model occurs because the total inputs supplied to an industry sector consist of direct inputs (the product and services directly used in generating the output) supplied to that industry sector plus the indirect inputs (additional economic activities) created by the supplying industry sectors.

[20] BIS analysis utilizes the 2011 *Annual Survey of Manufactures*, U.S. Census Bureau, November 2012.

place. This is not necessarily an accurate assumption. According to Census' *Annual Survey of Manufactures* data, the $6.21 billion for which Census publishes annual employment and value-added data by NAICS code (valued at $8.06 billion with the I/O multiplier applied) in reported offset transactions during 2009-2011 could have created or sustained 32,775 employment opportunities if the work associated with those transactions were performed in the United States. As shown in Table 4-5, the I/O accounts provides an approximation of the multiplier effect across all U.S. economic sectors had these transaction been performed in the United States.

Table 4-5 also shows the net impact in terms of inputs across all sectors of the U.S. economy resulting from offset-related defense export sales contracts. BIS derived this information by subtracting the reported offset transaction-related data from the reported defense export sales contracts-related data. In ten manufacturing industry sectors shown in Table 4-5, as well as a number of other industry sectors captured in the "all other" category, the data indicate a negative impact on U.S. employment opportunities. However, the results indicate an overall net gain on U.S. manufacturing opportunities arising from export sales contracts with associated offset agreements, resulting in a positive $13.0 billion in added "input" opportunities for the U.S. industrial base, and a net gain of 39,925 in employment opportunities created or sustained during the 2009-2011 period. As a caveat, as noted above, certain NAICS categories associated with offset-related export contracts and transactions are not included in the I/O data provided by BEA. Therefore, the net employment impact analysis may be slightly understated for both reported export sales contracts and reported offset transactions.

Table 4-5: Employment Opportunities Created or Sustained in Manufacturing Industry Sectors, 2009-2011			
Positive Economic Activities as Defined by Export Sales Contracts Benefiting U. S. Prime Contractors			
Export Sales Contracts in Manufacturing Industry Sectors	**Total Inputs**	**Value-added Output / Employee**	**Employment Opportunities Created or Sustained**
Aircraft manufacturing	$14,704,379,965	340,330	43,206
Other aircraft parts and auxiliary equipment manufacturing	$1,553,377,862	203,524	7,632
Broadcasting and wireless communications equipment manufacturing	$1,392,043,412	247,958	5,614
Other engine equipment manufacturing	$790,034,052	184,295	4,287
Military armored vehicle, tank, and tank component manufacturing	$705,393,989	212,041	3,327
Aircraft engine and engine parts manufacturing	$684,002,887	242,262	2,823
Search, detection, and navigation system and instrument manufacturing	$608,739,664	232,388	2,619
Guided missile and space vehicle manufacturing	$441,506,822	233,437	1,891
Optical instrument and lens manufacturing	$89,241,322	161,291	553
Printed circuit assembly (electronic assembly) manufacturing	$91,990,444	123,033	748
Total	$21,060,710,419		72,700
Negative Economic Activities as Defined by Offset Transactions			
Offset Transactions Related to Manufacturing Industry Sectors	**Total Inputs**	**Value-added Output / Employee**	**Employment Opportunities Created or Sustained**
Aircraft manufacturing	$2,429,820,791	340,330	7,140
Other aircraft parts and auxiliary equipment manufacturing	$1,682,667,352	203,524	8,268
Broadcasting and wireless communications equipment manufacturing	$550,580,345	247,958	2,220
Other engine equipment manufacturing	$18,111,968	184,295	98
Military armored vehicle, tank, and tank component manufacturing	$63,212,577	212,041	298
Aircraft engine and engine parts manufacturing	$1,695,509,590	242,262	6,999
Search, detection, and navigation system and instrument manufacturing	$915,018,472	232,388	3,937
Guided missile and space vehicle manufacturing	$429,753,479	233,437	1,841
Optical instrument and lens manufacturing	$145,766,552	161,291	904
Printed circuit assembly (electronic assembly) manufacturing	$131,493,684	123,033	1,070
Total	$8,061,934,810		32,775
Net Impact of Economic Impact from Export Sales Contracts and Offset Transactions			
Net Employment Opportunities Created or Sustained	**Total Inputs**	**Value-added Output / Employee**	**Net Employment Opportunities Created or Sustained**
Aircraft manufacturing	$12,274,559,174		36,066
Other aircraft parts and auxiliary equipment manufacturing	-$129,289,490		-636
Broadcasting and wireless communications equipment manufacturing	$841,463,067		3,394
Other engine equipment manufacturing	$771,922,084		4,189
Military armored vehicle, tank, and tank component manufacturing	$642,181,412		3,029
Aircraft engine and engine parts manufacturing	-$1,011,506,703		-4,176
Search, detection, and navigation system and instrument manufacturing	-$306,278,808		-1,318
Guided missile and space vehicle manufacturing	$11,753,343		50
Optical instrument and lens manufacturing	-$56,525,230		-351
Printed circuit assembly (electronic assembly) manufacturing	-$39,503,240		-322
Total	$12,998,775,609		39,925
BIS Offset Database and BEA's *Benchmark Input-Output Accounts of the United States*			

Research and Development and Offset- Related Technology Transfer Trends

Comparing reported offset transactions involving technology transfer to total research and development (R&D) expenditures in the United States provides, for purposes of context, a measure of the magnitude of this type of offset activity. Because 2010 and 2011 total U.S research and development data was not available from the National Science Foundation, 2009 data will be utilized to illustrate the relationship between the offset-related technology transfer and total U.S. research and development expenditures. Table 4-6 provides the available data for the 2003-2011 period.[21] For example, as shown in Table 4-6, in 2009, the value of reported offset transactions that involved technology transfers was $986.7 million, equivalent to 0.25 percent of total R&D spending in the United States.[22]

Table 4-6: Trends in U.S. R&D Spending and Reported Offset Transactions Involving Technology Transfer, 2003-2010

Year	Reported Technology Transfer Offset Transactions	Total Private and Federal R&D Expenditures	Technology Transfer Transactions as a Percentage of R&D Spending
2003	$547,446,305	291,239,000,000	0.19%
2004	$669,457,809	302,503,000,000	0.22%
2005	$1,479,648,075	324,993,000,000	0.46%
2006	$717,679,906	350,162,000,000	0.20%
2007	$709,925,212	376,960,000,000	0.19%
2008	$958,313,688	403,040,000,000	0.24%
2009	$986,715,904	400,458,000,000	0.25%
2010	$874,836,815	N/A	N/A
2011	$672,618,738	N/A	N/A

Sources: BIS Offset Database and the National Science Foundation, National Center for Science and Engineering Statistics, *National Patterns of R&D Resources: 2009 Update: 2011,* June 2012.

Note: 2010-2011 R&D expenditure data was not released prior to publication of this report. 2003-2008 Private and Federal R&D data has been revised.

BIS does not collect data from industry on the specific technologies transferred as a result of offset agreements and offset transactions. However, anecdotal information obtained from industry suggests that "cutting edge" or nascent technologies under development in the United States are less likely to be transferred to foreign companies in fulfillment of offset obligations than are mature technologies. Regardless, any transfer of export-controlled technology must be approved through the U.S. Government's export licensing processes. The existence of an offset

[21] 2009 R&D data is the latest available from the National Science Foundation.

[22] This figure does not mean that U.S. industry lost 0.25 percent of its R&D spending in 2009. Rather, the number indicates that the actual value of offset transactions involving technology transfer was equivalent to 0.25 percent of domestic R&D spending in this sector.

agreement does not allow companies to circumvent the established licensing processes managed by the Departments of Commerce and State, in consultation with DOD.

Domestic Defense Productive Capability

DOD has stated that the industrial base on which it draws must be reliable, cost-effective, and sufficient to meet strategic objectives. DOD's ultimate objective is to have reliable, cost-effective, and sufficient industrial capabilities to develop, produce, and support the defense material necessary to support national defense.[23]

DOD is willing to use reliable foreign suppliers when such use offers comparative advantages in performance, cost, schedule, or coalition operations. DOD has negotiated bilateral Reciprocal Defense Procurement Memoranda of Understanding (RDP MOUs) with 23 countries. The RDP MOUs include procurement principles and procedures that provide transparency and access for each country's industry to the other country's defense market. The RDP MOU relationship facilitates defense cooperation and promotes rationalization, standardization, and interoperability of defense equipment. For example, based on these RDP MOUs, the Secretary of Defense or Deputy Secretary of Defense has made blanket public interest exceptions to the Buy American Act (41 U.S.C. 10a-d) for 22 of the 23 RDP MOU partners. As a result of these blanket exceptions, these 22 countries' products are evaluated on the same basis as domestic products in competitive DOD procurements.

Despite the capabilities that may accrue to foreign firms resulting from offset agreements signed with U.S. industry, purchases from foreign firms do not represent a significant share of DOD's total purchases.[24] According to DOD, its prime contract purchases of manufactured items categorized under DOD Claimant Program codes A1A-A7 (which exclude most commercial manufactured items) totaled $119.2 billion in Fiscal Year 2011. Of the $119.2 billion, contracts made with U.S. entities totaled $116.4 billion, while DOD prime contracts made with foreign entities totaled $2.8 billion, accounting for approximately 2.36 percent of the total. DOD reports that in Fiscal Year 2011, its prime contract purchases of manufactured items overall totaled approximately $150.7 billion. DOD reports that the value of its procurement of U.S.-origin goods (from U.S. sources) totaled approximately $145.0 billion in Fiscal Year 2011, compared

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[23] See Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics), Office of Manufacturing and Industrial Base Policy, *Annual Industrial Capabilities Report to Congress*, August 2012.

[24] For example, see Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics), *Report to Congress – Department of Defense FY 2011 Purchases of Supplies Manufactured Outside the United States*, May 2012.

with DOD purchases of manufactured goods from foreign sources which totaled $5.67 billion (3.76 percent of the total).[25]

See Annex D for an overview of DOD's Fiscal Year 2011 prime contract purchases of manufactured items from U.S. and foreign firms, by Claimant Program codes.

[25] Id.

5 Utilization of Annual Report

BIS is a member of the Interagency Working Group on Offsets (IaWG) which engages foreign nations on ways to limit the adverse effects of offsets. BIS consulted with members of the IaWG in completing this report.

The data contained in this report is also considered and utilized by representatives of the United States during bilateral and multilateral discussions with foreign governments to limit the adverse effects of offsets.

Annex A – Not For Public Release

Annex B – Not For Public Release

Annex C – Overview of Offset Transactions by Category, 1993-2011

Table C-1: Offset Transactions by Type							
Year	**Total**	**Direct**	**Indirect**	**Unspecified**	**Direct**	**Indirect**	**Unspecified**
	Actual Value ($ millions)				**% Distribution**		
1993	$1,897.88	$636.65	$1,197.37	$63.85	33.55%	63.09%	3.36%
1994	$1,934.86	$628.17	$1,202.38	$104.32	32.47%	62.14%	5.39%
1995	$2,890.49	$1,108.76	$1,756.84	$24.89	38.36%	60.78%	0.86%
1996	$2,875.82	$1,248.79	$1,625.64	$1.40	43.42%	56.53%	0.05%
1997	$2,720.58	$1,041.70	$1,657.52	$21.37	38.29%	60.93%	0.79%
1998	$2,312.17	$1,469.68	$842.37	$0.13	63.56%	36.43%	0.01%
1999	$2,059.73	$699.79	$1,348.52	$11.43	33.98%	65.47%	0.56%
2000	$2,208.18	$785.63	$1,411.91	$10.63	35.58%	63.94%	0.48%
2001	$2,559.08	$944.15	$1,614.93	-	36.89%	63.11%	-
2002	$2,632.53	$958.25	$1,672.95	$1.33	36.40%	63.55%	0.05%
2003	$3,565.51	$1,112.99	$2,446.96	$5.56	31.22%	68.63%	0.16%
2004	$4,934.53	$2,535.71	$2,398.33	$0.50	51.39%	48.60%	0.01%
2005	$4,721.98	$1,797.53	$2,924.45	-	38.07%	61.93%	-
2006	$4,705.84	$1,688.94	$2,998.60	$18.30	35.89%	63.72%	0.39%
2007	$3,804.53	$1,890.09	$1,905.57	$8.87	49.68%	50.09%	0.23%
2008	$3,290.90	$1,571.05	$1,719.23	$0.62	47.74%	52.24%	0.02%
2009	$3,495.37	$1,299.22	$2,190.87	$5.28	37.17%	62.68%	0.15%
2010	$3,608.15	$1,194.19	$2,276.96	$137.00	33.10%	63.11%	3.80%
2011	$4,011.56	$1,955.16	$2,049.07	$7.33	48.74%	51.08%	0.18%
Total	**$60,229.69**	**$24,566.44**	**$35,240.45**	**$422.80**	**40.79%**	**58.51%**	**0.70%**
	Credit Value ($ millions)				**% Distribution**		
1993	$2,213.62	$737.40	$1,407.54	$68.68	33.31%	63.59%	3.10%
1994	$2,206.09	$802.47	$1,294.81	$108.82	36.38%	58.69%	4.93%
1995	$3,592.59	$1,302.57	$2,250.70	$39.31	36.26%	62.65%	1.09%
1996	$3,098.02	$1,182.01	$1,880.01	$36.00	38.15%	60.68%	1.16%
1997	$3,272.31	$1,183.49	$2,039.12	$49.71	36.17%	62.31%	1.52%
1998	$2,623.21	$1,629.41	$991.27	$2.54	62.12%	37.79%	0.10%
1999	$2,808.33	$1,133.99	$1,604.02	$70.32	40.38%	57.12%	2.50%
2000	$2,846.44	$1,146.35	$1,689.46	$10.63	40.27%	59.35%	0.37%
2001	$3,277.70	$1,295.60	$1,982.10	-	39.53%	60.47%	-
2002	$3,301.01	$1,127.74	$2,171.94	$1.33	34.16%	65.80%	0.04%
2003	$4,010.65	$1,215.47	$2,783.23	$11.96	30.31%	69.40%	0.30%
2004	$5,365.74	$2,664.81	$2,700.43	$0.50	49.66%	50.33%	0.01%
2005	$5,439.03	$1,870.94	$3,568.09	-	34.40%	65.60%	-
2006	$4,906.42	$1,634.97	$3,257.64	$13.80	33.32%	66.40%	0.28%
2007	$4,741.70	$2,498.80	$2,226.24	$16.67	52.70%	46.95%	0.35%
2008	$4,768.41	$2,755.76	$2,009.31	$3.34	57.79%	42.14%	0.07%
2009	$4,041.25	$1,598.42	$2,437.55	$5.28	39.55%	60.32%	0.13%
2010	$4,423.55	$1,779.69	$2,604.86	$39.00	40.23%	58.89%	0.88%
2011	$5,182.57	$2,837.76	$2,337.49	$7.33	54.76%	45.10%	0.14%
Total	**$72,118.66**	**$30,397.65**	**$41,235.80**	**$485.22**	**42.16%**	**57.17%**	**0.67%**

Source: BIS Offset Database
Note: Due to rounding, totals may not add up exactly. Figures for certain previous years have been revised.

Table C-2: Number of Offset Transactions by Type and with Multipliers						
	Number of Transactions				Transactions with Multipliers Greater than 1	
Year	Total	Direct	Indirect	Unspecified	Number of Transactions	Percent of Total Transactions
1993	444	160	280	4	66	14.9%
1994	566	178	383	5	83	14.7%
1995	711	204	505	2	110	15.5%
1996	634	228	404	2	64	10.1%
1997	578	202	372	4	61	10.6%
1998	582	241	340	1	87	15.0%
1999	513	212	296	5	87	17.0%
2000	627	216	409	2	83	13.2%
2001	618	225	393	-	115	18.6%
2002	735	200	534	1	84	11.4%
2003	690	180	506	4	64	9.3%
2004	710	375	334	1	74	10.4%
2005	624	210	414	-	52	8.3%
2006	661	288	371	2	33	5.0%
2007	633	294	337	2	88	13.9%
2008	672	227	443	2	73	11.0%
2009	666	238	427	1	59	9.0%
2010	691	207	483	1	88	12.9%
2011	745	261	482	2	77	10.3%
Total	**12,100**	**4,346**	**7,713**	**41**	**1,448**	**12.0%**

Source: BIS Offset Database
Note: Because of rounding, totals may not add up exactly. Figures for certain previous years have been revised.

Table C-3: Number of Offset Transactions by Category and Type and with Multipliers					
	Number of Transactions, 1993-2011				Number of Transactions with Multipliers Greater than 1
Transaction Category	Total	Direct	Indirect	Unspecified	
Co-production	558	558	-	-	27
Credit Assistance	165	14	151	-	26
Investment	269	34	230	5	94
Licensed Production	194	123	69	2	20
Other	746	167	571	8	194
Purchase	5,765	-	5,763	2	423
Subcontracting	2,654	2,654	-	-	201
Technology Transfer	1,397	633	745	19	329
Training	352	163	184	5	134
Total	**12,100**	**4,346**	**7,713**	**41**	**1,448**

Source: BIS Offset Database

Table C-4: Offset Transactions by Category, Type, and Value, 1993-2011								
Transaction Category	**Actual Values ($ millions)**				**Percent by Column Total**			
	Total	**Dir.**	**Ind.**	**Unsp.**	**Total**	**Dir.**	**Ind.**	**Unsp.**
Co-production	$3,722.67	$3,722.67	-	-	6.18%	15.15%	-	-
Credit Assistance	$2,065.51	$220.86	$1,844.66	-	3.43%	0.90%	5.23%	-
Investment	$1,793.54	$331.76	$1,384.33	$77.46	2.98%	1.35%	3.93%	18.32%
Licensed Production	$1,287.24	$661.33	$601.88	$24.03	2.14%	2.69%	1.71%	5.68%
Other	$3,770.96	$754.60	$2,992.73	$23.63	6.26%	3.08%	8.49%	5.59%
Purchase	$22,289.39	-	$22,282.06	$7.33	37.01%	-	63.23%	1.73%
Subcontracting	$12,983.44	$12,983.44	-	-	21.55%	52.85%	-	-
Technology Transfer	$11,123.00	$5,317.66	$5,516.84	$288.49	18.47%	21.65%	15.65%	68.23%
Training	$1,193.94	$574.12	$617.97	$1.86	1.98%	2.34%	1.75%	0.44%
Total	**$60,229.69**	**$24,566.44**	**$35,240.45**	**$422.80**	**100.00%**	**100.00%**	**100.00%**	**100.00%**
Transaction Category	**Credit Values ($ millions)**				**Percent by Column Total**			
	Total	**Dir.**	**Ind.**	**Unsp.**	**Total**	**Dir.**	**Ind.**	**Unsp.**
Co-production	$4,198.63	$4,198.63	-	-	5.82%	13.81%	-	-
Credit Assistance	$2,309.81	$290.11	$2,019.70	-	3.20%	0.95%	4.90%	-
Investment	$3,296.77	$676.97	$2,491.64	$128.16	4.57%	2.23%	6.04%	26.41%
Licensed Production	$1,733.32	$913.25	$788.84	$31.23	2.40%	3.00%	1.91%	6.44%
Other	$5,895.26	$1,905.97	$3,903.06	$86.26	8.17%	6.27%	9.47%	17.78%
Purchase	$24,145.12	-	$24,137.79	$7.33	33.48%	-	58.54%	1.51%
Subcontracting	$14,752.60	$14,752.60	-	-	20.46%	48.53%	-	-
Technology Transfer	$13,434.83	$6,295.57	$6,920.40	$218.86	18.63%	20.71%	16.78%	45.11%
Training	$2,352.32	$1,364.57	$974.37	$13.38	3.26%	4.49%	2.36%	2.76%
Total	**$72,118.66**	**$30,397.64**	**$41,235.80**	**$485.22**	**100.00%**	**100.00%**	**100.00%**	**100.00%**

Source: BIS Offset Database
Note: Due to rounding, totals may not add up precisely.

Table C-5: Offset Transactions by Category ($ thousands)															
	Co-Production			Credit Assistance			Investment			Licensed Production			Other		
Year	Actual Value	Credit Value	No. of Transactions	Actual Value	Credit Value	No. of Transactions	Actual Value	Credit Value	No. of Transactions	Actual Value	Credit Value	No. of Transactions	Actual Value	Credit Value	No. of Transactions
1993	$35,550	$35,550	6	$340,492	$366,794	12	$41,499	$41,500	13	$37,851	$41,451	8	$50,967	$68,168	17
1994	$111,895	$112,185	10	$3,494	$21,639	3	$93,265	$98,474	17	$45,424	$67,629	15	$148,742	$163,370	36
1995	$86,898	$86,898	11	$374,248	$468,930	20	$117,152	$363,556	9	$5,110	$4,965	2	$197,760	$295,647	51
1996	$16,952	$22,052	3	$244,270	$258,970	15	$10,656	$10,656	2	$26,425	$26,425	1	$113,266	$257,647	42
1997	$28,339	$28,339	22	$168,410	$168,410	20	$85,126	$271,538	6	$0	$0	0	$454,159	$487,010	64
1998	$94,332	$98,283	30	$43,920	$43,920	4	$0	$0	0	$0	$0	0	$144,550	$157,246	54
1999	$47,803	$47,803	19	$16,888	$16,888	3	$28,475	$219,079	9	$460	$23,000	2	$303,704	$713,077	65
2000	$27,691	$27,691	15	$9,952	$9,952	2	$56,233	$108,521	8	$9,816	$9,816	1	$302,950	$388,093	50
2001	$16,575	$80,300	2	$4,726	$8,027	3	$61,825	$91,837	8	$25,000	$25,000	1	$48,656	$82,960	14
2002	$0	$0	0	$29,453	$29,453	1	$24,484	$85,234	12	$0	$0	0	$135,848	$149,847	28
2003	$260,250	$266,465	18	$51,610	$51,610	6	$175,281	$228,813	14	$1,500	$0	1	$145,262	$297,232	34
2004	$1,395,766	$1,268,666	105	$141,234	$170,453	20	$162,077	$393,819	15	$13,679	$13,679	3	$211,266	$273,924	33
2005	$309,409	$322,204	74	$61,028	$76,828	10	$185,819	$192,387	19	$123,836	$268,326	5	$95,146	$152,360	34
2006	$383,587	$432,089	93	$442,028	$453,521	28	$118,733	$124,593	17	$62,000	$64,000	3	$174,010	$136,966	29
2007	$398,250	$496,255	83	$76,997	$84,164	8	$106,953	$158,986	21	$2,972	$2,972	1	$662,926	$1,046,377	64
2008	$243,888	$519,084	51	$41,641	$54,171	5	$116,063	$168,033	22	$10,393	$10,393	2	$226,486	$626,111	44
2009	$107,080	$107,080	13	$6,377	$6,377	3	$111,923	$160,883	17	$207,742	$214,696	43	$118,210	$242,668	31
2010	$148,300	$237,583	2	$8,745	$19,700	2	$185,338	$306,236	25	$380,277	$398,213	45	$116,107	$222,297	38
2011	$10,104	$10,104	1	$0	$0	0	$112,643	$272,628	35	$334,752	$562,728	61	$120,943	$134,257	18

Table C-5: Offset Transactions by Category ($ thousands) (continued)												
	Purchase			Subcontracting			Technology Transfer			Training		
Year	Actual Value	Credit Value	No. of Transactions	Actual Value	Credit Value	No. of Transactions	Actual Value	Credit Value	No. of Transactions	Actual Value	Credit Value	No. of Transactions
1993	$703,850	$865,524	226	$336,368	$405,101	109	$300,307	$320,504	32	$50,994	$69,027	21
1994	$694,506	$735,909	288	$267,518	$319,081	95	$462,569	$495,849	68	$107,448	$191,956	34
1995	$863,425	$932,133	367	$830,419	$887,985	147	$334,328	$395,024	71	$81,146	$157,453	33
1996	$1,090,104	$1,116,434	298	$721,298	$733,511	175	$476,657	$426,849	60	$176,196	$245,478	38
1997	$837,071	$894,517	245	$848,489	$868,412	141	$289,527	$492,451	67	$9,460	$61,636	13
1998	$582,198	$595,910	253	$1,215,476	$1,244,506	164	$196,765	$413,335	63	$34,929	$70,007	14
1999	$869,591	$883,930	203	$452,464	$476,331	140	$336,018	$396,856	69	$4,330	$31,370	3
2000	$840,845	$915,622	299	$598,427	$832,488	149	$293,377	$430,962	76	$68,887	$123,299	27
2001	$1,132,958	$1,250,367	331	$721,569	$921,615	155	$529,343	$788,885	89	$18,427	$28,710	15
2002	$1,302,590	$1,690,401	453	$826,348	$929,994	163	$287,465	$383,076	66	$26,344	$33,004	12
2003	$1,790,932	$1,835,692	422	$506,058	$602,288	101	$547,446	$563,306	75	$87,170	$165,247	19
2004	$1,351,878	$1,463,620	213	$848,650	$849,886	207	$669,458	$782,957	85	$140,524	$148,739	29
2005	$1,975,390	$2,393,048	286	$485,233	$508,445	91	$1,479,648	$1,504,264	100	$6,473	$21,167	5
2006	$2,029,212	$2,280,352	252	$690,033	$690,033	150	$717,680	$637,598	75	$88,558	$87,265	14
2007	$916,823	$963,306	219	$879,561	$921,161	169	$709,925	$905,483	56	$50,120	$162,998	12
2008	$940,543	$956,295	327	$680,294	$863,968	122	$958,314	$1,462,126	86	$73,283	$108,226	13
2009	$1,469,915	$1,463,299	322	$472,836	$675,964	119	$986,716	$1,093,956	105	$14,571	$76,325	13
2010	$1,236,776	$1,275,374	369	$605,563	$805,934	121	$874,837	$1,074,883	74	$52,207	$83,329	15
2011	$1,660,778	$1,633,384	392	$996,839	$1,215,890	136	$672,619	$866,470	80	$102,878	$487,079	22

Source: BIS Offset Database
Note: Figures for certain previous years have been revised.

Annex D – Department of Defense's Prime Contract Purchases of Manufactured Items from U.S. and Foreign Firms, Fiscal Year 2011

DOD Claimant Program	Total Purchases	Foreign Purchases	U.S. Purchases	Foreign Purchases as Percent of Total
A1A – Air Frames & Spares	$37,302,593,911	$461,377,023	$36,841,216,888	1.24%
A1B – Aircraft Engine & Spares	$5,111,295,160	$71,113,147	$5,040,182,013	1.39%
A1C – Other Aircraft Equipment	$5,814,861,939	$128,504,934	$5,686,357,005	2.21%
A2 – Missile & Space Systems	$11,091,717,927	$69,363,204	$11,022,354,723	0.63%
A3 – Ships	$20,926,799,314	$21,248,799	$20,905,550,515	0.10%
A4A – Combat Vehicles	$8,935,535,198	$1,165,852,603	$7,769,682,595	13.05%
A4B – Non Combat Vehicles	$6,608,309,819	$162,773,654	$6,445,536,165	2.46%
A5 – Weapons	$5,108,806,840	$398,569,571	$4,710,237,269	7.80%
A6 – Ammunition	$3,912,254,467	$154,588,344	$3,757,666,123	3.95%
A7 – Electronic & Communication Equipment	$14,397,700,951	$174,752,882	$14,222,948,069	1.21%
A8C – Separately Procured Containers and Handling Equipment	$55,447,592	$173,330	$55,274,262	0.31%
A9 – Textiles, Clothing, and Equipage	$2,896,931,078	$10,839,699	$2,886,091,379	0.37%
B1 – Building Supplies	$24,798,486	$3,875,158	$20,923,328	15.63%
B3 – Transportation Equip.	$1,494,386	$0	$1,494,386	0.00%
B9 – Production Equipment	$456,792,596	$83,364,184	$373,428,412	18.25%
C9A – Construction Equipment	$608,635,524	($112,591)	$608,748,115	-0.02%
C9B – Medical & Dental Supplies and Equipment	$4,741,570,980	$34,181,331	$4,707,389,649	0.72%
C9C – Photographic Supplies and Equipment	$63,850,110	$1,355,019	$62,495,091	2.12%
C9D – Materials Handling Equipment	$100,295,041	$13,400,585	$86,894,456	13.36%
C9E – All Other Supplies and Equipment	$22,515,917,594	$2,711,644,337	$19,804,273,257	12.04%
Unknown - Not coded	$9,722,249	$0	$9,722,249	0.00%
Total	$150,685,331,162	$5,666,865,213	$145,018,465,949	3.76%

Source: Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics), *Report to Congress – Department of Defense FY 2011 Purchases of Supplies Manufactured Outside the United States*, May 2012.

Annex E – Glossary and Offset Example

Actual Value of Offset Transactions: The U.S. dollar value of the offset transaction without taking into account multipliers or intangible factors.

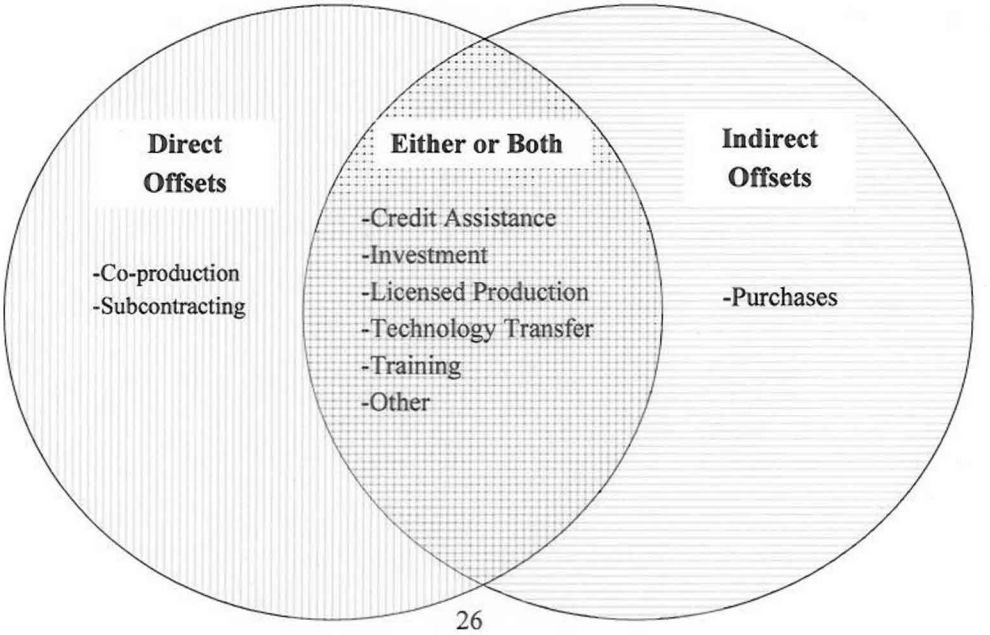
Co-production: Transactions that are based upon government-to-government agreements authorizing the transfer of technology to permit foreign companies to manufacture all or part of U.S.-origin defense articles. Such transactions are based upon an agreement specifically referenced in Foreign Military Sales (FMS) Letters of Offer and Acceptance (LOA) and a government-to-government Memorandum of Understanding (MOU). Co-production is always classified as a direct offset.

Credit Assistance: Credit assistance includes direct loans, brokered loans, loan guarantees, assistance in achieving favorable payment terms, credit extensions, and lower interest rates. Credit assistance specifically excludes the use of "banked" offset credits (credits that exceed the requirement of the offset agreement and are permitted, by the terms of the agreement, to be applied to future offset obligations). Credit assistance is nearly always classified as an indirect offset transaction but can also be direct.

Credit Value of Offset Transactions: The U.S. dollar value credited for the offset transaction by application of a multiplier, any intangible factors, or other methods. The credit value may be greater than, equal to, or less than the actual value of the offset.

Direct Offsets: An offset transaction directly related to the article(s) or service(s) exported or to be exported pursuant to the military export sales agreement. The diagram below illustrates how each category may be classified as direct and/or indirect offsets.

Indirect Offsets: An offset transaction unrelated to the article(s) or service(s) exported or to be exported pursuant to the military export sales agreement. The diagram below illustrates how each category may be classified as direct and/or indirect offsets.



Investment: Investment arising from an offset agreement, often taking the form of capital dedicated to the establishment of a foreign entity unrelated to the defense sale or to expanding the U.S. firm's subsidiary or joint venture in the foreign country. Investment can be either a direct or indirect offset.

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. Licensed production is not pursuant to a co-production government-to-government MOU. In addition, licensed production almost always involves a part or component for a defense system, rather than a complete defense system. Licensed production transactions can be either direct or indirect offsets.

Multiplier: A factor applied to the actual value of certain offset transactions to calculate the credit value earned. Foreign purchasers use multipliers to provide firms with incentives to offer offsets that benefit targeted areas of economic growth. When a "positive" multiplier is applied to the price of a service or product offered as an offset, the defense firm receives a higher credit value toward fulfillment of an offset obligation than would be the case without application of a multiplier. Conversely, foreign purchasers apply "negative" multipliers to discourage certain types of transactions not thought to be in the best economic interest of the receiving entity.

> Example: A foreign government interested in a specific technology may offer a multiplier of "six" for offset transactions providing access to that technology. A U.S. defense company with a 120 percent offset obligation from a $1 million sale of defense systems ordinarily would be required to provide technology transfer through an offset equaling $1.2 million. With a multiplier of six, however, the U.S. company could offer only $200,000 (actual value) in technology transfer and earn $1.2 million in credit value, fulfilling its entire offset obligation under the agreement.

Offset Agreement: Any offset as defined under "offsets" that the U.S. firm agrees to in order to conclude a military export sales contract. This includes all offsets, whether they are "best effort" agreements or are subject to penalty clauses.

Offset Transaction: Any activity for which the U.S. firm claims credit for full or partial fulfillment of the offset agreement. Activities to implement offset agreements are categorized as co-production, technology transfer, subcontracting, credit assistance, training, licensed production, investment, purchases, and other.

Offsets: 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 (22 U.S.C. § 2751, et seq.) and the International Traffic in Arms Regulations (22 C.F.R. §§ 120-130).

Other: An offset transaction other than co-production, credit assistance, licensed production, investment, purchases, subcontracting, technology transfer, or training.

Purchases: Purchases involve the procurement of off-the-shelf items from the offset recipient. Purchases are indirect offset transactions.

Subcontracting: In the offset context, subcontracting is the overseas production of a part or component of a U.S.-origin defense article. The subcontract does not necessarily involve license of technical information. Instead, it is usually a direct commercial arrangement between the defense prime contractor and a foreign producer.

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 defense prime contractor and a foreign entity.

Training: Generally includes training related to the production or maintenance of the exported defense item. Training, which can be either direct or indirect offset, may be required in unrelated areas, such as computer training, foreign language skills, or engineering capabilities.

OFFSET EXAMPLE

This example is for illustrative purposes only and in no way represents an actual offset agreement. Nation A purchased ten KS-340 jet fighters from a U.S. defense firm, Company B for a total of $500 million with a related 100 percent offset agreement. In other words, the offset agreement obligated Company B to fulfill offsets equal to the value of the contract, or $500 million. The government of Nation A decided what would be required of Company B in order to fulfill its offset obligation, which would include both direct and indirect offsets. The government also assigned the credit value for each category.

Direct Offsets (i.e., related to the production of the export item, the KS-340 jet fighter)

Technology Transfer: The technology transfer requirement was assigned 36 percent of the total offset obligation. Company B agreed to transfer all the necessary technology and know-how to firms in Nation A in order to repair and maintain the jet fighters. The government of Nation A deemed this capability to be vital to national security and, therefore, gave a multiplier of six. As a result, the transfer of technology actually worth $30 million was given a credit value of $180 million.

Licensed Production: Firms from Nation A manufactured some components of the KS-340 jet fighters, totaling $240 million, which accounted for 48 percent of the offset obligation. There was no multiplier associated with this activity.

Indirect Offsets (i.e., not related to the production of the export item, the KS-340 jet fighter)

Purchase: Company B purchased marble statues from manufacturers from Nation A for eventual resale. These purchases accounted for nine percent of the offset obligation, or $45 million. There was no multiplier associated with this activity.

Technology Transfer: Company B provided submarine technology to firms from Nation A, which accounted for seven percent of the offset obligation, or $35 million. There was no multiplier associated with this activity.