

# **Offsets in Defense Trade**

## **Eighteenth 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**

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## Executive Summary

This is the eighteenth 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.<sup>1</sup> 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.<sup>2</sup> In 2012, U.S. defense contractors reported entering into 43 new offset agreements with 17 countries valued at \$10.1 billion. The value of these agreements equaled 40.4 percent of the \$25.0 billion in reported contracts for sales of defense articles and services to foreign entities with associated offset agreements. In 2012, U.S. firms reported 690 offset transactions (transactions conducted to fulfill offset agreement obligations) with 30 countries with an actual value of \$3.4 billion, and an offset credit value of \$3.8 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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<sup>1</sup> Codified at 50 U.S.C. app. § 2172 (2009).

<sup>2</sup> Pursuant to 15 CFR Part 701 (2013).

## 1 Background

Offsets in defense trade encompass a range of industrial and commercial benefits provided to foreign governments as an inducement or condition to purchase military goods or services, including benefits such as co-production, licensed production, subcontracting, technology transfer, purchasing, and credit assistance. 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.<sup>3</sup> 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.<sup>4</sup> 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.<sup>5</sup> The Secretary of Commerce has delegated this authority to the Bureau of Industry and Security (BIS). BIS published its offset reporting regulation in 1994.<sup>6</sup> BIS amended its offset regulation in 2009.<sup>7</sup>

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.<sup>8</sup> 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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<sup>3</sup> See Pub. L. 98-265, April 17, 1984, 98 Stat. 149.

<sup>4</sup> 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).

<sup>5</sup> 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.

<sup>6</sup> See 59 Fed. Reg. 61,796 (December 2, 1994) codified at 15 C.F.R. § 701.

<sup>7</sup> See 74 Fed. Reg. 68,136 (December 23, 2009) codified at 15 C.F.R. § 701.

<sup>8</sup> Defense Production Act Amendments of 1992 (Pub. L. 102-558, Title I, Part C, §123).



This is the eighteenth report to Congress on offsets in defense trade that BIS has prepared. This report reviews offset data for the 20-year period from 1993-2012.<sup>9</sup> BIS has structured this report similarly to reports published in 2008 through 2012; 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 (Census), and the Bureau of Economic Analysis.

BIS also published a notice in the *Federal Register* on April 11, 2013, 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 by the foreign representative.<sup>10</sup> Twenty-two firms reported offset agreement and transaction data to BIS for calendar year 2012. 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.<sup>11</sup>

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<sup>9</sup> 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.

<sup>10</sup> See 78 Fed. Reg. 21,592 (April 11, 2013).

<sup>11</sup> 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. The President 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 2012, 11 U.S. firms reported entering into 43 contracts that had related offset agreements for the sale of defense items and services. These contracts, signed with 17 countries, were valued at \$25.02 billion. The offset agreements were valued at \$10.11 billion which equaled 40.4 percent of the value of the signed defense export sales contracts. During 2012, reported offset agreements ranged from a low of six percent of the defense export sales contract value to a high of 140 percent.

In 2012, nearly 60.5 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, or the requirement for prime contractors to post performance bonds.

During 1993-2012, 54 U.S. firms reported entering into 888 offset-related defense export sales contracts worth \$149 billion with 45 countries and two multi-country arrangements. The associated offset agreements were valued at \$94.8 billion.

<b>Table 2-1: Summary of Defense Export Sale Contract Values with Related Offset</b>						
<b>Year</b>	<b>Contract Value (\$ millions)</b>	<b>Offset Agreement Value (\$ millions)</b>	<b>Percent of Offset Agreement to Contract Value</b>	<b>U.S. Firms (Number)</b>	<b>Agreements (Number)</b>	<b>Countries (Number)/Multi-Country Arrangements</b>
1993	\$13,935	\$4,784	34.33%	17	28	16
1994	\$4,792	\$2,049	42.75%	18	49	20
1995	\$7,632	\$6,204	81.30%	21	48	18
1996	\$3,120	\$2,432	77.94%	16	53	19
1997	\$5,925	\$3,826	64.56%	15	60	20
1998	\$3,079	\$1,786	57.99%	14	42	17
1999	\$5,657	\$3,457	61.11%	11	45	11
2000	\$6,576	\$5,705	86.75%	10	43	16
2001	\$7,116	\$5,550	77.99%	12	35	13
2002	\$7,406	\$6,095	82.29%	12	41	17
2003	\$7,293	\$9,110	124.92%	11	32	13
2004	\$4,928	\$4,330	87.87%	14	40	18
2005	\$2,260	\$1,464	64.79%	8	25	18
2006	\$5,265	\$3,655	69.42%	15	48	21
2007	\$6,736	\$5,438	80.73%	11	44	19
2008	\$6,294	\$3,672	58.35%	16	54	17
2009	\$10,841	\$6,731	62.08%	15	61	21
2010	\$4,239	\$2,783	65.65%	16	35	14
2011	\$10,879	\$5,586	51.35%	9	62	27
2012	\$25,025	\$10,108	40.39%	11	43	17
<b>Total or Average</b>	<b>\$148,998</b>	<b>\$94,763</b>	<b>63.60%</b>	<b>54</b>	<b>888</b>	<b>47</b>
Source: BIS Offset Database						
Note: Due to rounding, totals may not add up exactly. Figures for certain previous years have been revised. The values shown have not been adjusted for inflation.						

### 3 Offset Transactions

In 2012, 22 U.S. firms reported concluding 690 offset transactions with 30 countries to fulfill offset agreement obligations. The offset transactions reported by U.S. firms had an actual value of \$3.44 billion in 2012 and a credit value of \$3.84 billion. In 2012, U.S. industry reported that 63 offset transactions (9.13 percent of all transactions completed during the 12 month period) had a multiplier greater than “one” applied and 41 transactions (5.94 percent of all transactions completed during the 12 month period) had a multiplier of less than “one” applied.<sup>12</sup>

During 1993-2012, a total of 62 U.S. firms reported 12,836 offset transactions with 46 countries and two multi-country arrangements. The actual total value of the offset transactions reported from 1993-2012 was \$63.5 billion and the total credit value was \$76 billion. See Table 3-1.

<b>Year</b>	<b>Actual Offset Transaction Value (\$ millions)</b>	<b>Credit Offset Transaction Value (\$ millions)</b>	<b>U.S. Firms (Number)</b>	<b>Transactions (Number)</b>	<b>Countries (Number)/Multi-Country Arrangements</b>
1993	\$1,898	\$2,214	22	444	27
1994	\$1,935	\$2,206	21	566	26
1995	\$2,890	\$3,593	21	711	26
1996	\$2,876	\$3,098	22	634	26
1997	\$2,721	\$3,272	19	578	26
1998	\$2,312	\$2,623	20	582	29
1999	\$2,060	\$2,808	13	513	25
2000	\$2,208	\$2,846	16	627	24
2001	\$2,559	\$3,278	16	618	25
2002	\$2,633	\$3,301	18	735	26
2003	\$3,566	\$4,011	17	690	31
2004	\$4,935	\$5,366	16	710	33
2005	\$4,722	\$5,439	13	624	30
2006	\$4,706	\$4,906	16	661	28
2007	\$3,805	\$4,742	19	633	28
2008	\$3,291	\$4,768	22	671	30
2009	\$3,495	\$4,041	23	702	28
2010	\$3,608	\$4,424	25	707	28
2011	\$4,012	\$5,183	21	740	31
2012	\$3,438	\$3,843	22	690	30
<b>Total</b>	<b>\$63,536</b>	<b>\$75,981</b>	<b>62</b>	<b>12,836</b>	<b>48</b>
Source: BIS Offset Database					
Note: Due to rounding, totals may not add up exactly. Figures for certain previous years have been revised. The values shown have not been adjusted for inflation.					

<sup>12</sup> 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.<sup>13</sup> See Annex E for definitions of each offset transaction category.

In 2012, direct offsets (transactions directly related to the defense export sale with an associated offset agreement) accounted for 43.4 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 56.4 percent of the actual value of reported offset transactions.<sup>14</sup> During 1993-2012, direct offsets accounted for 41 percent of the actual value of the reported offset transactions, with indirect offsets accounting for 58.4 percent.

The top three offset transaction categories reported by industry for 2012 were purchases, technology transfer, and subcontracting. These three categories represented 81.2 percent of all offset transactions reported for 2012 based on quantity, 66.5 percent of the transactions based on actual value, and 63.2 percent of the transactions based on credit value. Based on the total number of transactions reported in 2012 that included a multiplier greater than “one”, subcontracting accounted for 48.2 percent, purchases accounted for 35.7 percent, and technology transfers accounted for 16.1 percent.

The top three offset transaction categories reported by industry for the 20-year reporting period (1993-2012) were also purchases, subcontracting, and technology transfer (on the basis of quantity, actual value, and credit value). During 1993-2012, based on quantity, the top three offset transaction categories that included multipliers greater than “one” were purchases, technology transfer, and subcontracting.

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<sup>13</sup> 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.

<sup>14</sup> The total does not equal 100 percent because a small number of reported offset transactions are not specified as direct or indirect.

See Annex C for a summary of reported offset transactions by type, category, value, and with multipliers on an annual basis during the 20-year reporting period (1993-2012).



#### 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.<sup>15</sup>

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 \$1.55 trillion in 2012. Based on end-use export data published by Census, defense-related merchandise exports totaled \$17.2 billion in 2012, or 1.11 percent of total U.S. merchandise exports.<sup>16</sup> In 2012, U.S. industry reported entering into offset-related defense export sales contracts worth \$25 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 lag of several years between the conclusion of a contract for

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<sup>15</sup> 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.

<sup>16</sup> 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](http://www.census.gov/foreign-trade/statistics).

a defense sale and the beginning of shipments. See Table 4-1 for defense-related merchandise exports and offset activity trends from 2003–2012.

<b>Year</b>	<b>Total Merchandise Exports (\$ millions)</b>	<b>Defense-Related Merchandise Exports (\$ millions)*</b>	<b>Defense-Related Exports as a Percentage of Total Merchandise Exports</b>	<b>Value of Reported Defense Export Sale Contracts with Related Offset Agreements (\$ millions)</b>	<b>Value of Reported Offset Agreements (\$ millions)</b>	<b>Value of Reported Offset Transactions (\$ millions)</b>
2003	\$724,771	\$11,509	1.59%	\$7,293	\$9,110	\$3,566
2004	\$814,875	\$11,884	1.46%	\$4,928	\$4,330	\$4,935
2005	\$901,082	\$12,835	1.42%	\$2,260	\$1,464	\$4,722
2006	\$1,025,968	\$16,629	1.62%	\$5,265	\$3,655	\$4,706
2007	\$1,148,199	\$16,894	1.47%	\$6,736	\$5,438	\$3,805
2008	\$1,287,442	\$16,594	1.29%	\$6,294	\$3,672	\$3,291
2009	\$1,056,043	\$14,796	1.40%	\$10,841	\$6,731	\$3,495
2010	\$1,278,495	\$15,304	1.20%	\$4,239	\$2,783	\$3,608
2011	\$1,480,290	\$14,852	1.00%	\$10,879	\$5,586	\$3,880
2012	\$1,545,709	\$17,220	1.11%	\$25,025	\$10,108	\$3,438

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 and 2011 data were revised by Census. The values shown have not been adjusted for inflation.

### 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 2010-2012, 87.40 percent of the reported defense export

sales contracts with offset agreements were manufacturing-related based on the total value of reported contracts (87.41 percent based on the total number of reported export sales contracts). The top five industry sectors reported by industry during 2010-2012 were aircraft manufacturing (NAICS 336411); other guided missile and space vehicle parts and auxiliary equipment manufacturing (NAICS 336419); military armored vehicle, tank, and tank component manufacturing (NAICS 336992); radio and television broadcasting and wireless communications equipment manufacturing (NAICS 334220); and other aircraft parts and auxiliary equipment manufacturing (NAICS 336413). These five categories represented 59.4 percent of all defense export sales contracts reported during 2010-2012 based on quantity and 81.4 percent of the defense export sales contracts based on value. See Table 4-2.

<b>Table 4-2: Reported Defense Export Sales by Industry Sector, 2010-2012</b>				
<b>Industry Sector</b>	<b>Value of Reported Defense Export Sales Contracts</b>	<b>Percent of Total Value of Defense Export Sales Contracts</b>	<b>Number of Defense Export Sales Contracts</b>	<b>Percent of the Total Number of Defense Export Sales Contracts</b>
<b>Manufacturing/Services</b>				
Aircraft Manufacturing	\$25,439,765,045	62.99%	41	28.67%
Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	\$4,009,713,000	9.93%	19	13.29%
Military Armored Vehicle, Tank, and Tank Component Manufacturing	\$1,289,600,000	3.19%	7	4.90%
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	\$1,082,484,864	2.68%	10	6.99%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$1,058,365,652	2.62%	8	5.59%
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	\$901,419,874	2.23%	11	7.69%
All Others	\$1,516,820,128	3.76%	29	20.28%
<b>Total Manufacturing</b>	<b>\$35,298,168,563</b>	<b>87.40%</b>	<b>125</b>	<b>87.41%</b>
<b>Total Services and Other Non-Manufacturing</b>	<b>\$5,086,664,394</b>	<b>12.60%</b>	<b>18</b>	<b>12.59%</b>
<b>Total</b>	<b>\$40,384,832,957</b>	<b>100.00%</b>	<b>143</b>	<b>100.00%</b>
Source: BIS Offset Database				

#### *Reported Offset Transactions by Industry Sector*

During 2010-2012, 70.4 percent of reported offset transactions were manufacturing-related based on the total value of reported offset transactions (73.3 percent based on the total number of reported offset transactions). The top five industry sectors reported by industry during 2010-2012 were aircraft manufacturing (NAICS 336411); other aircraft parts and auxiliary equipment manufacturing (NAICS 336413); aircraft engine and engine parts manufacturing (NAICS



336412); guided missile and space vehicle manufacturing (NAICS 336415); and search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing (NAICS 334511). These five categories represented 42.1 percent of all offset transactions reported for 2010-2012 based on quantity and 52.2 percent of offset transactions based on value. See Table 4-3.

<b>Table 4-3: Reported Offset Transactions by Industry Sector, 2010-2012</b>				
<b>Industry Sector</b>	<b>Total Value</b>	<b>Percent of the Total Value</b>	<b>Number of Transactions</b>	<b>Percent of the Total Number of Transactions</b>
<b>Manufacturing</b>				
Aircraft Manufacturing	\$2,477,163,356	22.67%	401	18.76%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$1,252,195,122	11.46%	253	11.84%
Aircraft Engine and Engine Parts Manufacturing	\$1,000,974,078	9.16%	81	3.79%
Guided Missile and Space Vehicle Manufacturing	\$516,100,172	4.72%	57	2.67%
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	\$460,354,958	4.21%	107	5.01%
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	\$371,563,332	3.40%	329	15.40%
Other Manufacturing	\$1,618,323,264	14.81%	339	15.86%
<b>Total Manufacturing</b>	<b>\$7,696,674,282</b>	<b>70.44%</b>	<b>1,567</b>	<b>73.33%</b>
<b>Services and Other Non-Manufacturing</b>				
Engineering Services	\$719,302,766	6.58%	102	4.77%
Other Support Activities for Air Transportation	\$532,608,365	4.87%	57	2.67%
Software Publishers	\$352,019,662	3.22%	8	0.37%
All Others	\$1,625,246,705	14.88%	403	18.86%
<b>Total Services and Other Non-Manufacturing</b>	<b>\$3,229,177,497</b>	<b>29.56%</b>	<b>570</b>	<b>26.67%</b>
<b>Total, All Transactions</b>	<b>\$10,925,851,779</b>	<b>100.00%</b>	<b>2,137</b>	<b>100.00%</b>
Source: BIS Offset Database				

BIS compared defense export sales contracts and offset transactions reported for 2010-2012 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.<sup>17</sup> Industry reported defense export sales contracts with 27 NAICS codes and offset

<sup>17</sup> 2012 shipment data was not available for this report because reduced funding associated the sequestration enacted by Congress resulted in a delay of three months in the release of 2012 shipment data by the U.S. Bureau of the Census.

transactions with 152 NAICS codes. The comparison of 2010-2012 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: 2010-2012 Reported Defense Export Sales and Reported Offset Transactions and 2009-2011 U.S. Shipments by Industry Sector**

Reported Defense Export Sales Contracts			
Industry Sector	Value of Reported 2010-2012 Defense Export Sales Contracts	Total Value of 2009-2011 U.S. Shipments	Percent of Defense Export Sales Contracts to Total U.S. Shipments
Manufacturing			
Aircraft Manufacturing	\$25,439,765,045	\$279,376,017,000	9.106%
Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	\$4,009,713,000	\$3,544,836,000	113.114%
Military Armored Vehicle, Tank, and Tank Component Manufacturing	\$1,289,600,000	\$33,579,002,000	3.840%
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	\$1,082,484,864	\$91,130,291,000	1.188%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$1,058,365,652	\$93,633,651,000	1.130%
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	\$901,419,874	\$153,952,607,000	0.586%
All Others	\$1,516,820,128	\$14,185,024,924,000	0.011%
<b>Total Manufacturing</b>	<b>\$35,298,168,563</b>	<b>\$14,840,241,328,000</b>	<b>0.238%</b>
Reported Offset Transactions			
Industry Sector	Value of Reported 2010-2012 Offset Transactions	Total Value of 2009-2011 U.S. Shipments	Percent of Transactions to Total U.S. Shipments
Manufacturing			
Aircraft Manufacturing	\$2,477,163,356	\$279,376,017,000	0.887%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$1,252,195,122	\$93,633,651,000	1.337%
Aircraft Engine and Engine Parts Manufacturing	\$1,000,974,078	\$90,763,849,000	1.103%
Guided Missile and Space Vehicle Manufacturing	\$516,100,172	\$56,661,419,000	0.911%
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	\$460,354,958	\$153,952,607,000	0.299%
All Others	\$1,989,886,596	\$14,185,024,924,000	0.014%
<b>Total Manufacturing</b>	<b>\$8,415,977,048</b>	<b>\$14,840,241,328,000</b>	<b>0.057%</b>
Source: BIS Offset Database and U.S. Census 2012 Annual Survey of Manufactures			
Note: 2012 shipment data was not available for this report because reduced funding associated with the sequestration enacted by Congress resulted in a delay of three months in the release of 2012 shipment data by the U.S. Bureau of the Census.			



## *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. However, utilizing the Bureau of Economic Analysis' (BEA) *Benchmark Input-Output Accounts of the United States* (I/O accounts)<sup>18</sup>, and Census' *Annual Survey of Manufactures* data,<sup>19</sup> BIS has developed a method to approximate the value added shipment and employment impact of offset activities across the United States' economic sectors.

During 2010-2012, industry reported defense export sales contracts valued at \$35.0 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 \$35.0 billion in defense export sales contracts was \$78.82 billion as shown in Table 4-5.<sup>20</sup> 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 \$78.82 billion in inputs would create or sustain 303,581 employment opportunities.<sup>21</sup> 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 place. This is not necessarily an accurate assumption. According to Census' *Annual Survey of*

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<sup>18</sup> 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.

<sup>19</sup> With the availability of 2012 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.

<sup>20</sup> 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.

<sup>21</sup> BIS analysis utilizes the 2012 *Annual Survey of Manufactures*, U.S. Census Bureau, November 2012.

*Manufactures* data, the \$6.55 billion in reported offset transactions during 2010-2012 for which Census publishes annual employment and value-added data by NAICS code (valued at \$14.8 billion with the I/O multiplier applied) could have created or sustained 63,580 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 transactions been performed in the United States.

Table 4-5 also shows the net impact in 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 12 manufacturing industry sectors shown in Table 4-5, 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 \$64 billion in added “input” opportunities for the U.S. industrial base, and a net gain of 240,000 in employment opportunities created or sustained during the 2010-2012 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, 2010-2012**

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	\$59,726,427,168	319,290	187,060
Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	\$7,182,190,870	118,925	60,393
Military Armored Vehicle, Tank, and Tank Component Manufacturing	\$2,875,187,187	238,719	12,044
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	\$2,579,386,068	199,700	12,916
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$2,236,707,211	170,691	13,104
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	\$1,893,312,827	238,421	7,941
Other Engine Equipment Manufacturing	\$910,109,027	236,947	3,841
Aircraft Engine and Engine Parts Manufacturing	\$603,888,253	248,767	2,428
Guided Missile and Space Vehicle Manufacturing	\$589,883,400	237,073	2,488
Optical Instrument and Lens Manufacturing	\$175,597,581	171,240	1,025
Other Commercial and Service Industry Machinery Manufacturing	\$38,427,912	148,150	259
Other Electronic Component Manufacturing	\$10,231,099	126,562	81
<b>Total</b>	<b>\$78,821,348,600</b>		<b>303,580</b>



**Table 4-5: Employment Opportunities Created or Sustained in Manufacturing Industry Sectors, 2010-2012  
(Continued)**

**Negative Economic Activities as Defined by Offset Transactions**

<b>Offset Transactions Related to Manufacturing Industry Sectors</b>	<b>Total Inputs</b>	<b>Value-added Output / Employee</b>	<b>Employment Opportunities Created or Sustained</b>
Aircraft Manufacturing	\$5,815,781,573	319,290	18,215
Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	\$10,523,909	118,925	88
Military Armored Vehicle, Tank, and Tank Component Manufacturing	\$85,630,294	238,719	359
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	\$923,664,197	199,700	4,625
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$2,646,338,582	170,691	15,504
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	\$966,914,500	238,421	4,055
Other Engine Equipment Manufacturing	\$25,178,214	236,947	106
Aircraft Engine and Engine Parts Manufacturing	\$2,255,155,860	248,767	9,065
Guided Missile and Space Vehicle Manufacturing	\$1,102,517,083	237,073	4,651
Optical Instrument and Lens Manufacturing	\$336,980,967	171,240	1,968
Other Commercial and Service Industry Machinery Manufacturing	\$261,463,066	148,150	1,765
Other Electronic Component Manufacturing	\$402,364,148	126,562	3,179
<b>Total</b>	<b>\$14,832,512,392</b>		<b>63,580</b>

**Net Impact of Economic Impact from Export Sales Contracts and Offset Transactions**

<b>Net Employment Opportunities Created or Sustained</b>	<b>Total Inputs</b>	<b>Value-added Output / Employee</b>	<b>Net Employment Opportunities Created or Sustained</b>
Aircraft Manufacturing	\$53,910,645,595		168,845
Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	\$7,171,666,960		60,304
Military Armored Vehicle, Tank, and Tank Component Manufacturing	\$2,789,556,893		11,686
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	\$1,655,721,871		8,291
Other Aircraft Parts and Auxiliary Equipment Manufacturing	-\$409,631,371		(2,400)
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	\$926,398,327		3,886
Other Engine Equipment Manufacturing	\$884,930,813		3,735
Aircraft Engine and Engine Parts Manufacturing	-\$1,651,267,607		(6,638)
Guided Missile and Space Vehicle Manufacturing	-\$512,633,683		(2,162)
Optical Instrument and Lens Manufacturing	-\$161,383,386		(942)
Other Commercial and Service Industry Machinery Manufacturing	-\$223,035,154		(1,506)
Other Electronic Component Manufacturing	-\$392,133,049		(3,098)
<b>Total</b>	<b>\$63,988,836,207</b>		<b>240,000</b>

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. In Table 4-6, 2011 data is utilized to illustrate the relationship between the offset-related technology transfer and total U.S. research and development expenditures.<sup>22</sup> As shown in Table 4-6, in 2011, the value of reported offset transactions that involved technology transfers was \$672.6 million, equivalent to 0.16 percent of total R&D spending in the United States.<sup>23</sup>

<b>Table 4-6: Trends in U.S. R&amp;D Spending and Reported Offset Transactions Involving Technology Transfer, 2003-2012</b>			
<b>Year</b>	<b>Reported Technology Transfer Offset Transactions</b>	<b>Total Private and Federal R&amp;D Expenditures</b>	<b>Technology Transfer Transactions as a Percentage of R&amp;D Spending</b>
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	\$352,567,000,000	0.20%
2007	\$709,925,212	\$379,454,000,000	0.19%
2008	\$958,313,688	\$405,630,000,000	0.24%
2009	\$986,715,904	\$403,803,000,000	0.24%
2010	\$874,836,815	\$406,708,000,000	0.22%
2011	\$672,618,738	\$414,035,000,000	0.16%
2012	\$483,290,474	N/A	N/A
Sources: BIS Offset Database and the National Science Foundation, <i>National Center for Science and Engineering Statistics</i> : 2013. <i>National Patterns of R&amp;D Resources</i> : 2010–11 Data Update, April 2013.			
Note: 2012 R&D expenditure data was not released prior to publication of this report. 2006–2009 Private and Federal R&D data has been revised and 2011 Federal R&D data is preliminary. The values shown have not been adjusted for inflation.			

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

<sup>22</sup> 2011 R&D data is the latest available from the National Science Foundation.

<sup>23</sup> This figure does not mean that U.S. industry lost 0.16 percent of its R&D spending in 2011. Rather, the number indicates that the actual value of offset transactions involving technology transfer was equivalent to 0.16 percent of domestic R&D spending.

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.<sup>24</sup>

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. 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. According to DOD, its procurement actions during FY 2012 totaled approximately \$360 billion, of which \$22 billion or 6.1 percent was expended on purchases from foreign entities. Defense equipment constituted approximately 10 percent of the purchases from foreign entities. Fuel, services, construction, and subsistence accounted for 77 percent, with the remaining 13 percent covering a variety of other categories.<sup>25</sup>

See Annex D for an overview of DOD's Fiscal Year 2012 purchases from foreign entities by claimant programs.

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<sup>24</sup> 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*, October 2013.

<sup>25</sup> See Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics), *Report to Congress – Department of Defense Fiscal Year 2012 Purchases from Foreign Entities*, July 2013.



## **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, 1993-2012

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	\$1,756.83	\$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	33.97%	65.47%	0.55%
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	\$0.00	36.89%	63.11%	0.00%
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	\$0.00	38.07%	61.93%	0.00%
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	\$3,290.73	\$1,570.88	\$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	\$3,608.13	\$1,194.19	\$2,276.94	\$137.00	33.10%	63.11%	3.80%
2011	\$3,880.22	\$1,930.93	\$1,941.95	\$7.33	49.76%	50.05%	0.19%
2012	\$3,437.51	\$1,491.71	\$1,938.35	\$7.45	43.40%	56.39%	0.22%
<b>Total</b>	<b>\$63,535.66</b>	<b>\$26,033.75</b>	<b>\$37,071.66</b>	<b>\$430.25</b>	<b>40.98%</b>	<b>58.35%</b>	<b>0.68%</b>
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	62.11%	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	\$0.00	39.53%	60.47%	0.00%
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	\$0.00	34.40%	65.60%	0.00%
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	\$4,768.23	\$2,755.59	\$2,009.31	\$3.34	57.79%	42.14%	0.07%
2009	\$4,128.63	\$1,645.05	\$2,478.30	\$5.28	39.84%	60.03%	0.13%
2010	\$4,476.90	\$1,799.02	\$2,638.89	\$39.00	40.18%	58.94%	0.87%
2011	\$5,061.50	\$2,813.53	\$2,240.64	\$7.33	55.59%	44.27%	0.14%
2012	\$3,843.25	\$1,767.99	\$2,067.30	\$7.96	46.00%	53.79%	0.21%
<b>Total</b>	<b>\$72,118.66</b>	<b>\$30,397.65</b>	<b>\$41,235.80</b>	<b>\$485.22</b>	<b>42.16%</b>	<b>57.17%</b>	<b>0.67%</b>

Source: BIS Offset Database

Note: Due to rounding, totals may not add up exactly. Figures for certain previous years have been revised. The values shown have not been adjusted for inflation.

<b>Table C-2: Number of Offset Transactions by Type and with Multipliers</b>						
<b>Year</b>	<b>Number of Transactions</b>				<b>Transactions with Multipliers Greater than 1</b>	
	<b>Total</b>	<b>Direct</b>	<b>Indirect</b>	<b>Unspecified</b>	<b>Number of Transactions</b>	<b>Percent of Total Transactions</b>
1993	444	160	280	4	63	14.2%
1994	566	178	383	5	80	14.1%
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	14.9%
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	671	226	443	2	74	11.0%
2009	702	261	440	1	87	12.4%
2010	707	210	496	1	114	16.1%
2011	740	260	478	2	76	10.3%
2012	690	243	440	7	74	10.7%
<b>Total</b>	<b>12,836</b>	<b>4,613</b>	<b>8,175</b>	<b>48</b>	<b>1,570</b>	<b>12.2%</b>

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

<b>Table C-3: Number of Offset Transactions by Category and Type and with Multipliers</b>					
<b>Transaction Category</b>	<b>Number of Transactions, 1993-2012</b>				<b>Number of Transactions with Multipliers Greater than 1</b>
	<b>Total</b>	<b>Direct</b>	<b>Indirect</b>	<b>Unspecified</b>	
Purchasing	6,024	43	5,980	1	478
Subcontracting	2,918	2,770	141	7	260
Technology Transfer	1,481	689	773	19	346
Co-production	572	566	6	-	27
Training	382	169	207	5	135
Investment	283	35	243	5	96
Licensed Production	236	149	85	2	28
Credit Assistance	168	14	154	-	27
Other	772	178	586	8	200
<b>Total</b>	<b>12,836</b>	<b>4,613</b>	<b>8,175</b>	<b>39</b>	<b>1,597</b>

Source: BIS Offset Database



**Table C-4: Offset Transactions by Category, Type, and Value, 1993-2012**

Transaction Category	Actual Values (\$ millions)				Percent by Column Total			
	Total	Dir.	Ind.	Unsp.	Total	Dir.	Ind.	Unsp.
Co-production	\$3,784.81	\$3,775.70	\$9.11	-	5.96%	14.50%	0.02%	-
Credit Assistance	\$2,081.38	\$220.86	\$1,860.53	-	3.28%	0.85%	5.02%	-
Investment	\$1,893.97	\$339.70	\$1,476.81	\$77.46	2.98%	1.30%	3.98%	18.00%
Licensed Production	\$1,766.18	\$955.22	\$786.92	\$24.03	2.78%	3.67%	2.12%	5.59%
Other	\$4,030.77	\$889.38	\$3,117.77	\$23.63	6.34%	3.42%	8.41%	5.49%
Purchase	\$23,216.62	\$162.73	\$23,052.02	\$1.87	36.54%	0.63%	62.18%	0.43%
Subcontracting	\$13,467.88	\$13,233.74	\$221.42	\$12.72	21.20%	50.83%	0.60%	2.96%
Technology Transfer	\$11,879.94	\$5,841.70	\$5,749.75	\$288.49	18.70%	22.44%	15.51%	67.05%
Training	\$1,414.10	\$614.72	\$797.32	\$2.05	2.23%	2.36%	2.15%	0.48%
<b>Total</b>	<b>\$63,535.66</b>	<b>\$26,033.75</b>	<b>\$37,071.66</b>	<b>\$430.25</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
Transaction Category	Credit Values (\$ millions)				Percent by Column Total			
	Total	Dir.	Ind.	Unsp.	Total	Dir.	Ind.	Unsp.
Co-production	\$4,260.77	\$4,251.66	\$9.11	-	5.61%	13.20%	0.02%	-
Credit Assistance	\$2,340.68	\$290.11	\$2,050.57	-	3.08%	0.90%	4.74%	-
Investment	\$3,449.02	\$708.73	\$2,612.13	\$128.16	4.54%	2.20%	6.04%	25.99%
Licensed Production	\$2,338.47	\$1,333.35	\$973.89	\$31.23	3.08%	4.14%	2.25%	6.33%
Other	\$6,224.59	\$2,042.24	\$4,096.09	\$86.26	8.19%	6.34%	9.46%	17.49%
Purchase	\$25,122.68	\$188.08	\$24,932.73	\$1.87	33.06%	0.58%	57.61%	0.38%
Subcontracting	\$15,372.30	\$15,125.34	\$235.45	\$11.51	20.23%	46.96%	0.54%	2.33%
Technology Transfer	\$14,288.77	\$6,862.50	\$7,207.40	\$218.86	18.81%	21.31%	16.65%	44.38%
Training	\$2,584.12	\$1,405.18	\$1,163.65	\$15.29	3.40%	4.36%	2.69%	3.10%
<b>Total</b>	<b>\$75,981.40</b>	<b>\$32,207.19</b>	<b>\$43,281.03</b>	<b>\$493.18</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

Source: BIS Offset Database

Note: Due to rounding, totals may not add up precisely. The values shown have not been adjusted for inflation.

**Table C-5: Offset Transactions by Category (\$ thousands)**

Year	Co-Production			Credit Assistance			Investment			Licensed Production			Other		
	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	\$340,492	12	\$41,499	\$41,499	13	\$37,851	\$37,851	8	\$50,967	\$50,967	17
1994	\$111,895	\$111,895	10	\$3,494	\$3,494	3	\$93,265	\$93,265	17	\$45,424	\$45,424	15	\$148,742	\$148,742	36
1995	\$86,898	\$86,898	11	\$374,248	\$374,248	20	\$117,152	\$117,152	9	\$5,110	\$5,110	2	\$197,760	\$197,760	51
1996	\$16,952	\$16,952	3	\$244,270	\$244,270	15	\$10,656	\$10,656	2	\$26,425	\$26,425	1	\$113,266	\$113,266	42
1997	\$28,339	\$28,339	22	\$168,410	\$168,410	20	\$85,126	\$85,126	6	\$0	\$0	0	\$454,159	\$454,159	64
1998	\$94,332	\$94,332	30	\$43,920	\$43,920	4	\$0	\$0	0	\$0	\$0	0	\$144,550	\$144,550	54
1999	\$47,803	\$47,803	19	\$16,888	\$16,888	3	\$28,475	\$28,475	9	\$460	\$460	2	\$303,704	\$303,704	65
2000	\$27,691	\$27,691	15	\$9,952	\$9,952	2	\$56,233	\$56,233	8	\$9,816	\$9,816	1	\$302,950	\$302,950	50
2001	\$16,575	\$16,575	2	\$4,726	\$4,726	3	\$61,825	\$61,825	8	\$25,000	\$25,000	1	\$48,656	\$48,656	14
2002	\$0	\$0	0	\$29,453	\$29,453	1	\$24,484	\$24,484	12	\$0	\$0	0	\$135,848	\$135,848	28
2003	\$260,250	\$260,250	18	\$51,610	\$51,610	6	\$175,281	\$175,281	14	\$1,500	\$1,500	1	\$145,262	\$145,262	34
2004	\$1,395,766	\$1,395,766	105	\$141,234	\$141,234	20	\$162,077	\$162,077	15	\$13,679	\$13,679	3	\$211,266	\$211,266	33
2005	\$309,409	\$309,409	74	\$61,028	\$61,028	10	\$185,819	\$185,819	19	\$123,836	\$123,836	5	\$95,146	\$95,146	34
2006	\$383,587	\$383,587	93	\$442,028	\$442,028	28	\$118,733	\$118,733	17	\$62,000	\$62,000	3	\$174,010	\$174,010	29
2007	\$398,250	\$398,250	83	\$76,997	\$76,997	8	\$106,953	\$106,953	21	\$2,972	\$2,972	1	\$662,926	\$662,926	64
2008	\$243,888	\$243,888	51	\$41,641	\$41,641	5	\$116,063	\$116,063	22	\$10,393	\$10,393	2	\$226,486	\$226,486	44
2009	\$107,080	\$107,080	13	\$6,377	\$6,377	3	\$111,923	\$111,923	17	\$207,742	\$207,742	43	\$118,210	\$118,210	31
2010	\$148,300	\$148,300	2	\$8,745	\$8,745	2	\$185,338	\$185,338	25	\$380,277	\$380,277	45	\$116,107	\$116,107	38
2011	\$13,943	\$13,943	3	\$0	\$0	0	\$112,643	\$112,643	35	\$330,913	\$330,913	59	\$120,943	\$120,943	18
2012	\$58,304	\$58,304	12	\$15,872	\$15,872	3	\$100,426	\$100,426	14	\$482,778	\$482,778	44	\$259,816	\$259,816	26

**Table C-5: Offset Transactions by Category (\$ thousands) (continued)**

Year	Purchase			Subcontracting			Technology Transfer			Training		
	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	\$703,850	226	\$336,368	\$336,368	109	\$300,307	\$300,307	32	\$50,994	\$50,994	21
1994	\$694,506	\$694,506	288	\$267,518	\$267,518	95	\$462,569	\$462,569	68	\$107,448	\$107,448	34
1995	\$863,425	\$863,425	367	\$830,419	\$830,419	147	\$334,328	\$334,328	71	\$81,146	\$81,146	33
1996	\$1,090,104	\$1,090,104	298	\$721,298	\$721,298	175	\$476,657	\$476,657	60	\$176,196	\$176,196	38
1997	\$837,071	\$837,071	245	\$848,489	\$848,489	141	\$289,527	\$289,527	67	\$9,460	\$9,460	13
1998	\$582,198	\$582,198	253	\$1,215,476	\$1,215,476	164	\$196,765	\$196,765	63	\$34,929	\$34,929	14
1999	\$869,591	\$869,591	203	\$452,464	\$452,464	140	\$336,018	\$336,018	69	\$4,330	\$4,330	3
2000	\$840,845	\$840,845	299	\$598,427	\$598,427	149	\$293,377	\$293,377	76	\$68,887	\$68,887	27
2001	\$1,132,958	\$1,132,958	331	\$721,569	\$721,569	155	\$529,343	\$529,343	89	\$18,427	\$18,427	15
2002	\$1,302,590	\$1,302,590	453	\$826,348	\$826,348	163	\$287,465	\$287,465	66	\$26,344	\$26,344	12
2003	\$1,790,932	\$1,790,932	422	\$506,058	\$506,058	101	\$547,446	\$547,446	75	\$87,170	\$87,170	19
2004	\$1,351,878	\$1,351,878	213	\$848,650	\$848,650	207	\$669,458	\$669,458	85	\$140,524	\$140,524	29
2005	\$1,975,390	\$1,975,390	286	\$485,233	\$485,233	91	\$1,479,648	\$1,479,648	100	\$6,473	\$6,473	5
2006	\$2,029,212	\$2,029,212	252	\$690,033	\$690,033	150	\$717,680	\$717,680	75	\$88,558	\$88,558	14
2007	\$916,823	\$916,823	219	\$879,561	\$879,561	169	\$709,925	\$709,925	56	\$50,120	\$50,120	12
2008	\$940,543	\$940,543	327	\$680,119	\$680,119	121	\$958,314	\$958,314	86	\$73,283	\$73,283	13
2009	\$1,469,915	\$1,469,915	333	\$472,836	\$472,836	140	\$986,716	\$986,716	109	\$14,571	\$14,571	13
2010	\$1,236,751	\$1,236,751	380	\$605,563	\$605,563	124	\$874,837	\$874,837	76	\$52,207	\$52,207	15
2011	\$1,560,333	\$1,560,333	387	\$979,945	\$979,945	137	\$672,619	\$672,619	80	\$88,878	\$88,878	21
2012	\$1,027,708	\$1,027,708	242	\$501,509	\$501,509	240	\$756,943	\$756,943	78	\$234,153	\$234,153	31

Source: BIS Offset Database

Note: Figures for certain previous years have been revised. The values shown have not been adjusted for inflation.

## Annex D – Department of Defense’s Purchases from Foreign Entities, Fiscal Year 2012

DOD Claimant Program	Foreign Purchases
Air Frames & Spares	\$507,846,706
Aircraft Engine & Spares	\$53,030,659
Other Aircraft Equipment	\$234,950,109
Missile & Space Systems	\$26,732,867
Ships	\$181,760,006
Combat Vehicles	\$392,734,468
Non-Combat Vehicles	\$68,266,294
Weapons	\$245,202,001
Ammunition	\$197,113,813
Electronics & Communications Equipment	\$174,281,687
Petroleum	\$7,240,284,623
Other Fuels and Lubricants	\$11,468,416
Containers and Handling Equipment	\$222,686
Textiles, Clothing, and Equipage	\$2,649,288
Building Supplies	\$5,267,222
Subsistence	\$3,348,078,984
Transportation Equipment (Railway)	(\$11,521)
Production Equipment	\$9,475,467
Construction	\$3,077,347,337
Construction Equipment	\$4,009,913
Medical & Dental Supplies and Equipment	\$49,320,469
Photographic Equipment and Supplies	\$879,601
Materials and Handling Equipment	\$32,728,953
All Other Supplies/Equipment	\$2,818,407,397
Services	\$3,055,756,535
Not Coded	(\$612)
<b>Total</b>	<b>\$21,737,803,376</b>
Source: Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics), <i>Report to Congress – Department of Defense Fiscal Year 2012 Purchases from Foreign Entities</i> , July 2013.	

## 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.

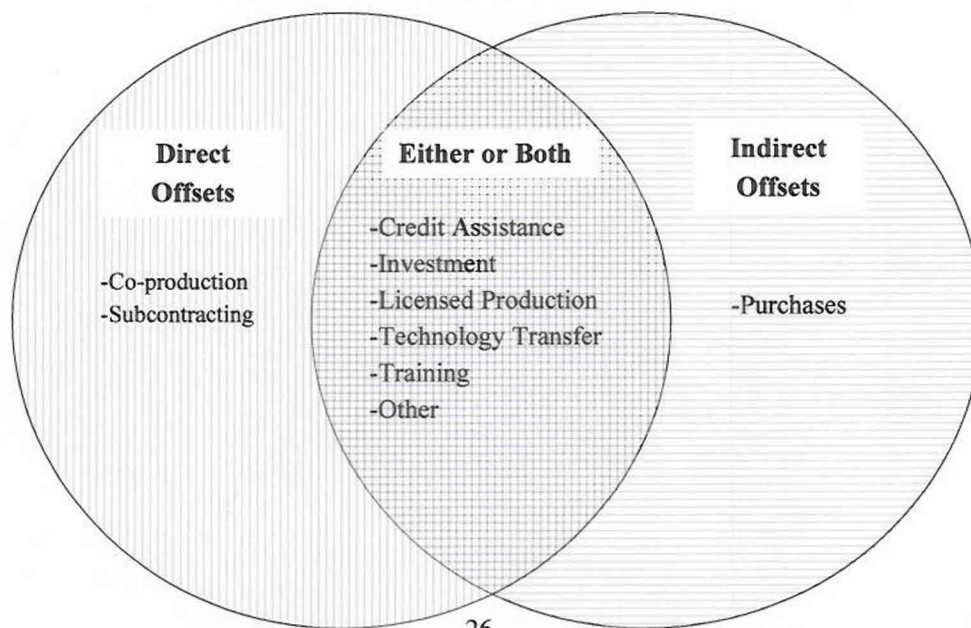
*Co-production:* Transactions that are based upon government-to-government agreements authorizing the transfer of technology to permit foreign companies to manufacture all or part of U.S.-origin defense articles. Such transactions are based upon an agreement specifically referenced in Foreign Military 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.