

Offsets in Defense Trade

Twentieth 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**

MARCH 2016

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Executive Summary

This is the twentieth 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 2014, U.S. defense contractors reported entering into 50 new offset agreements with 17 countries valued at \$7.8 billion. The value of these agreements equaled 59.5 percent of the \$13.1 billion in reported contracts for sales to foreign entities of defense articles and services with associated offset agreements. In 2014, U.S. firms also reported 673 offset transactions conducted to fulfill prior offset agreement obligations with 29 countries at an actual value of \$3.9 billion, and an offset credit value of \$4.2 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.

Items offered as part of an offset transaction may require an export license from the relevant U.S. Government agency. For items that require an export license, such as items controlled for Missile Technology reasons, exporters are advised to consult with the Departments of Commerce, Defense, and State to obtain export control policy guidance prior to offering such items as part of an offset transaction.

¹ Codified at 50 U.S.C. § 4568 (2015).

² Pursuant to 15 CFR Part 701 (2015).

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.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.

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. 12919, 59 Fed. Reg. 29,525 (June 3, 1994) and Part VII of Exec. Order 13603, Fed. Reg. 16,651 (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 twentieth report to Congress on offsets in defense trade that BIS has prepared. This report reviews offset data for the 22-year period from 1993-2014.⁹ BIS structured this report similarly to reports published in 2008 through 2015; 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.

On May 21, 2015, BIS published a notice in the *Federal Register* to remind the public that U.S. firms are required to report annually on contracts for the sale to foreign governments or foreign firms of defense articles or defense services 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.¹⁰ Twenty firms reported offset agreement and transaction data to BIS for calendar year 2014. 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 *Federal Register* notice.

BIS prepared this report in consultation with the Departments of Defense, State and Labor, and the Office of the United States Trade Representative.

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 80 *Fed. Reg.* 29,299 (May 21, 2015).

2 Defense Export Sales with Offset Agreements

In 2014, 14 U.S. firms reported entering into 50 contracts that had related offset agreements for the sale of defense items and services. These contracts, signed with 17 countries, were valued at \$13.1 billion. The offset agreements were valued at \$7.8 billion which equaled 59.53 percent of the value of the signed defense export sales contracts. During 2014, reported offset agreements ranged from a low of 0.5 percent of the defense export sales contract value to a high of 124 percent.

In 2014, nearly 86 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, added fees based on unfilled offset commitments, or the requirement for prime contractors to post performance bonds.

Year	Contract Value (\$ millions)	Offset Agreement Value (\$ millions)	Percent of Offset Agreement to Contract Value	U.S. Firms (Number)	Agreements (Number)	Countries (Number)/Multi-Country Arrangements
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
2013	\$9,428	\$4,986	52.89%	17	67	18
2014	\$13,058	\$7,773	59.53%	14	50	17
Total or Average	\$171,484	\$107,524	62.70%	55	1,005	47

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.

During 1993-2014, 55 U.S. firms reported entering into 1,005 offset-related defense export sales contracts worth \$171.5 billion with 47 countries and two multi-country arrangements. The associated offset agreements were valued at \$107.5 billion.

3 Offset Transactions

In 2014, 17 U.S. firms reported concluding 673 offset transactions with 29 countries to fulfill offset agreement obligations. The offset transactions reported by U.S. firms had an actual value of \$3.9 billion in 2014 and a credit value of \$4.2 billion. In 2014, U.S. industry reported that 71 offset transactions (10.55 percent of all transactions completed during the 12 month period) had a multiplier greater than one applied and 17 transactions (2.53 percent of all transactions completed during the 12 month period) had a multiplier of less than one applied.¹¹

Table 3-1: Summary of Offset Transactions¹²

Year	Actual Offset Transaction Value (\$ millions)	Credit Offset Transaction Value (\$ millions)	U.S. Firms (Number)	Transactions (Number)	Countries (Number)/Multi-Country Arrangements
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	\$2,190	\$2,749	16	625	24
2001	\$2,543	\$3,201	16	616	25
2002	\$2,620	\$3,148	18	734	26
2003	\$3,563	\$4,008	17	689	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	\$4,129	23	702	28
2010	\$3,608	\$4,477	25	707	28
2011	\$3,880	\$5,062	21	740	31
2012	\$3,438	\$3,843	22	690	30
2013	\$3,138	\$3,511	21	541	32
2014	\$3,902	\$4,238	17	673	29
Total	\$70,528	\$83,401	63	14,043	49

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.

¹¹ 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.

¹² 2000-2003 data revised.

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 2014, direct offsets (transactions directly related to the defense export sale with an associated offset agreement) accounted for 26.0 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 73.8 percent of the actual value of reported offset transactions. During 1993-2014, direct offsets accounted for 39.4 percent of the actual value of the reported offset transactions, with indirect offsets accounting for 59.03 percent.¹⁴

The top three offset transaction categories reported by industry for 2014 were purchases, subcontracting, and technology transfer. These three categories represented 83.5 percent of all offset transactions reported for 2014 based on quantity, 80.5 percent of the transactions based on actual value, and 78.2 percent of the transactions based on credit value. Based on the total number of transactions reported in 2014 that included a multiplier greater than one, subcontracting accounted for 32.9 percent, purchases accounted for 24.3 percent, and investment accounted for 11.4 percent.

The top three offset transaction categories reported by industry for the 22-year reporting period (1993-2014) were: purchases, subcontracting, and technology transfer on the basis of quantity, actual value, and credit value. From 1993-2014, based on quantity, the top three offset transaction categories that included multipliers greater than one were purchases, technology transfer, and subcontracting, respectively.

Annex C presents a summary of reported offset transactions by type, category, value, and with multipliers on an annual basis during the 22-year reporting period (1993-2014).

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 may lessen some of the potential economic and industrial base benefits accrued through defense exports if the offset activity associated with defense exports 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, may limit future business opportunities for U.S. subcontractors and suppliers, and may have 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 may help 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 \$1.62 trillion in 2014. Based on end-use export data published by Census, defense-related merchandise exports totaled \$20.6 billion in 2014, or 1.27 percent of total U.S. merchandise exports.¹⁶ In 2014, U.S. industry reported entering into offset-related defense export sales contracts worth \$13.1 billion. However, 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

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.

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 2003–2014.

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	\$724,771	\$11,509	1.59%	\$7,293	\$9,110	\$3,563
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	\$1,482,508	\$14,911	1.01%	\$10,879	\$5,586	\$3,880
2012	\$1,545,821	\$17,231	1.11%	\$25,025	\$10,108	\$3,438
2013	\$1,578,439	\$17,619	1.12%	\$9,428	\$4,986	\$3,138
2014	\$1,620,532	\$20,559	1.27%	\$13,058	\$7,773	\$3,902

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. *2012 and 2013 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 2012-2014, 89.9 percent of the reported defense export sales contracts with offset agreements were manufacturing-related based on the total value of reported contracts. That percentage drops to 88.8 percent when based on the total number of reported export sales contracts. The top six manufacturing-based sectors reported by industry during 2012-2014 were aircraft manufacturing (NAICS 336411); other aircraft parts and auxiliary equipment manufacturing (NAICS 336413); other guided missile and space vehicle parts and auxiliary equipment manufacturing (NAICS 336419); aircraft engine and engine parts manufacturing (NAICS 336412); small arms, ordnance, and ordnance accessories manufacturing (NAICS 332994); and radio and television broadcasting and wireless communications equipment manufacturing (NAICS 334220). These six categories represented 55.0 percent of all defense export sales contracts reported during 2012-2014 based on quantity and 82.1 percent of the defense export sales contracts based on value. See Table 4-2.

Table 4-2: Reported Defense Export Sales by Industry Sector, 2012-2014				
Industry Sector	Value of Reported Defense Export Sales Contracts	Percent of Total Value of Defense Export Sales Contracts	Number of Defense Export Sales Contracts	Percent of the Total Number of Defense Export Sales Contracts
Manufacturing/Services				
Aircraft Manufacturing	\$30,015,024,882	63.17%	36	22.50%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$3,504,690,900	7.38%	8	5.00%
Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	\$1,737,363,000	3.66%	14	8.75%
Aircraft Engine and Engine Parts Manufacturing	\$1,392,125,694	2.93%	9	5.63%
Small Arms, Ordnance, and Ordnance Accessories Manufacturing	\$1,174,596,014	2.47%	5	3.13%
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	\$1,167,185,911	2.46%	16	10.00%
All Others	\$3,709,410,095	7.81%	54	33.75%
Total Manufacturing	\$42,700,396,496	89.87%	142	88.75%
Total Services and Other Non-Manufacturing	\$4,810,734,744	10.13%	18	11.25%
Total	\$47,511,131,240	100.00%	160	100.00%

Source: BIS Offset Database

Reported Offset Transactions by Industry Sector

During 2012-2014, 79.1 percent of reported offset transactions were manufacturing-related based on the total value of reported offset transactions and 76.2 percent based on the total number of reported offset transactions. The top six sectors reported by industry during 2012-2014 were aircraft manufacturing (NAICS 336411); other aircraft parts and auxiliary equipment manufacturing (NAICS 336413); aircraft engine and engine parts manufacturing (NAICS 336412); search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing (NAICS 334511); guided missile and space vehicle manufacturing (NAICS 336414); and radio and television broadcasting and wireless communications equipment manufacturing (NAICS 334220). These six categories represented 60.3 percent of all offset transactions reported for 2012-2014 based on quantity and 67.5 percent of offset transactions based on value. See Table 4-3.

Industry Sector	Total Value	Percent of the Total Value	Number of Transactions	Percent of the Total Number of Transactions
Manufacturing				
Aircraft Manufacturing	\$3,504,178,548	32.29%	298	15.69%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$2,022,764,152	18.64%	394	20.75%
Aircraft Engine and Engine Parts Manufacturing	\$680,793,842	6.27%	82	4.32%
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	\$428,458,605	3.95%	102	5.37%
Guided Missile and Space Vehicle Manufacturing	\$346,561,777	3.19%	43	2.26%
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	\$345,900,001	3.19%	226	11.90%
Other Manufacturing	\$1,249,987,698	11.52%	301	15.85%
Total Manufacturing	\$8,578,644,622	79.06%	1,446	76.15%
Services and Other Non-Manufacturing				
Engineering Services	\$579,122,576	5.34%	102	5.37%
Other Support Activities for Air Transportation	\$528,842,246	4.87%	50	2.63%
Flight Training	\$185,917,996	1.71%	12	0.63%
All Others	\$978,022,573	9.01%	289	15.22%
Total Services and Other Non-Manufacturing	\$2,271,905,391	20.94%	453	23.85%
Total	\$10,850,550,013	100.00%	1,899	100.00%
Source: BIS Offset Database Due to rounding, totals may not add up exactly				

BIS compared defense export sales contracts and offset transactions reported for 2012-2014 with data published by the Census on total 2011-2013 U.S. shipments of selected manufacturing industry sectors to provide context for the volume of offset activity relative to the U.S. economy.¹⁷ Industry reported defense export sales contracts with 33 NAICS codes and offset transactions with 142 NAICS codes. The comparison of 2012-2014 offset-related data with 2011-2013 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.

¹⁷ 2014 shipment data from the U.S. Bureau of the Census was not published in time for inclusion in this report. Therefore, Census data for the 2011-2013 period was used for comparison.

**Table 4-4: 2012-2014 Reported Defense Export Sales and Reported Offset Transactions
and 2011-2013 U.S. Shipments by Industry Sector**

Reported Defense Export Sales Contracts			
Industry Sector	Value of Reported 2012-2014 Defense Export Sales Contracts	Total Value of 2011-2013 U.S. Shipments	Percent of Defense Export Sales Contracts to Total U.S. Shipments
Manufacturing			
Aircraft Manufacturing	\$30,015,024,882	\$326,614,594,000	9.1897%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$3,504,690,900	\$104,235,472,000	3.3623%
Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	\$1,737,363,000	\$3,801,147,000	45.7063%
Aircraft Engine and Engine Parts Manufacturing	\$1,392,125,694	\$108,727,021,000	1.2804%
Small Arms, Ordnance, and Ordnance Accessories Manufacturing	\$1,174,596,014	\$11,222,483,000	10.4665%
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	\$1,167,185,911	\$90,436,134,000	1.2906%
All Others	\$3,709,410,095	\$16,342,805,455,000	0.0227%
Total Manufacturing	\$42,700,396,496	\$16,987,842,306,000	0.2514%
Reported Offset Transactions			
Industry Sector	Value of Reported 2012-2014 Offset Transactions	Total Value of 2011-2013 U.S. Shipments	Percent of Transactions to Total U.S. Shipments
Manufacturing			
Aircraft Manufacturing	\$3,504,178,548	\$326,614,594,000	1.0729%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$2,022,764,152	\$104,235,472,000	1.9406%
Aircraft Engine and Engine Parts Manufacturing	\$680,793,842	\$108,727,021,000	0.6261%
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	\$428,458,605	\$144,470,859	0.2966%
Guided Missile and Space Vehicle Manufacturing	\$346,561,777	\$60,984,145,000	0.5683%
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	\$345,900,001	\$90,436,134,000	0.3825%
All Others	\$1,249,987,698	\$16,152,374,081,000	0.0077%
Total Manufacturing	\$8,578,644,622	\$16,987,842,306,000	0.0505%

Source: BIS Offset Database and U.S. Census *2014 Annual Survey of Manufactures* (includes data through 2013)
Note: 2014 shipment data from the U.S. Bureau of the Census was not published in time for inclusion in this report.

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),¹⁸ and Census' *Annual Survey of Manufactures* data,¹⁹ BIS has developed a method to approximate the value added shipment and employment impact of offset activities across the United States' economic sectors.

During 2012-2014, industry reported defense export sales contracts valued at \$42.7 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 \$42.7 billion in defense export sales contracts was \$47.1 billion as shown in Table 4-5.²⁰ BIS estimates, using Census' *Annual Survey of Manufactures* data, this \$47.1 billion in inputs would create or sustain 166,504 employment opportunities.²¹ 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. This analysis assumes that all the work associated with the defense export sales contracts is conducted in the United States.

However, offset transactions generally have a negative impact on U.S. inputs because they are primarily conducted outside the United States and represent activity that is not provided by 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. BIS estimates, using Census' *Annual Survey of Manufactures* data and reported offset transaction data supplied by U.S. prime defense contractors, the \$8.6 billion in reported offset transactions during 2012-2014 for which Census publishes annual employment and value-added data by NAICS code (valued at \$10.4 billion with the I/O multiplier applied), could have created or sustained 44,870 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

¹⁸ 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.

¹⁹ With the availability of 2014 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.

²⁰ 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.

²¹ BIS analysis utilizes the *Manufacturing: Industry Series: Product or Service Statistics for the United States: 2010 through 2012*, United States Census Bureau.

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 14 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 \$36.7 billion in added “input” opportunities for the U.S. industrial base, and a net gain of 121,634 in employment opportunities created or sustained during the 2012-2014 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, 2012-2014			
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	\$31,810,010,413	\$337,196	94,337
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$4,708,958,067	\$189,928	24,793
Aircraft Engine and Engine Parts Manufacturing	\$2,636,032,322	\$254,426	10,361
Small Arms Manufacturing	\$1,347,371,453	\$204,765	6,580
Radio and Television Broadcasting and Wireless Communications Equipment manufacturing	\$2,196,951,205	\$209,593	10,482
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	\$1,357,541,743	\$244,884	5,544
Guided Missile and Space Vehicle Manufacturing	\$1,453,024,866	\$225,916	6,432
Military Armored Vehicle, Tank, and Tank Component Manufacturing	\$903,755,978	\$224,200	4,031
Optical Instrument and Lens Manufacturing	\$165,562,677	\$167,743	987
Motor Vehicle Transmission and Power Train Parts Manufacturing	\$234,075,414	\$198,426	1,180
Ammunition (except Small Arms) Manufacturing	\$115,780,232	\$195,104	593
Ship Building and Repairing	\$49,186,752	\$160,529	306
Other Commercial and Service Industry Machinery Manufacturing	\$36,499,107	\$160,521	227
Other Electronic Component Manufacturing	\$85,926,042	\$131,981	651
Total	\$47,100,676,273		166,504

Table 4-5: Employment Opportunities Created or Sustained in Manufacturing Industry Sectors, 2012-2014 (Continued)			
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	\$3,713,738,587	\$337,196	11,014
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$2,727,061,951	\$189,928	14,358
Aircraft Engine and Engine Parts Manufacturing	\$1,289,103,836	\$254,426	5,067
Small Arms Manufacturing	\$60,370,651	\$204,765	295
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	\$651,074,878	\$209,593	3,106
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	\$501,167,944	\$244,884	2,047
Guided Missile and Space Vehicle Manufacturing	\$514,388,442	\$225,916	2,277
Military Armored Vehicle, Tank, and Tank Component Manufacturing	\$46,120,218	\$224,200	206
Optical Instrument and Lens Manufacturing	\$96,970,545	\$167,743	578
Motor Vehicle Transmission and Power Train Parts Manufacturing	\$41,095,235	\$198,426	207
Ammunition (except Small Arms) Manufacturing	\$2,771,378	\$195,104	14
Ship Building and Repairing	\$55,833,509	\$160,529	348
Other Commercial and Service Industry Machinery Manufacturing	\$127,628,176	\$160,521	795
Other Electronic Component Manufacturing	\$601,699,227	\$131,981	4,559
Total	\$10,429,024,576		44,870

Table 4-5: Employment Opportunities Created or Sustained in Manufacturing Industry Sectors, 2012-2014 (Continued)			
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	\$28,096,271,826	\$337,196	83,323
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$1,981,896,117	\$189,928	10,435
Aircraft Engine and Engine Parts Manufacturing	\$1,346,928,486	\$254,426	5,294
Small Arms Manufacturing	\$1,287,000,802	\$204,765	6,285
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	\$1,545,876,328	\$209,593	7,376
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	\$856,373,799	\$244,884	3,497
Guided Missile and Space Vehicle Manufacturing	\$938,636,425	\$225,916	4,155
Military Armored Vehicle, Tank, and Tank Component Manufacturing	\$857,635,760	\$224,200	3,825
Optical Instrument and Lens Manufacturing	\$68,592,132	\$167,743	409
Motor Vehicle Transmission and Power Train Parts Manufacturing	\$192,980,179	\$198,426	973
Ammunition (except Small Arms) Manufacturing	\$113,008,854	\$195,104	579
Ship Building and Repairing	-\$6,646,757	\$160,529	(41)
Other Commercial and Service Industry Machinery Manufacturing	-\$91,129,069	\$160,521	(568)
Other Electronic Component Manufacturing	-\$515,773,184	\$131,981	(3,908)
Total	\$36,671,651,697		121,634
BIS Offset Database and BEA's <i>Benchmark Input-Output Accounts of the United States</i> Note: Due to rounding, totals may not add up exactly.			

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, 2013 data is utilized to illustrate the relationship between the offset-related technology transfer and total U.S. research and development expenditures.²² As shown in Table 4-6, in 2013, the value of reported offset

²² 2013 R&D data is the latest available from the National Science Foundation.

transactions that involved technology transfers was \$871 million, equivalent to 0.19 percent of total R&D spending in the United States.²³

Year	Reported Technology Transfer Offset Transactions	Total Private and Federal R&D Expenditures	Technology Transfer Transactions as a Percentage of R&D Spending
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	\$406,952,000,000	0.24%
2009	\$986,715,904	\$405,136,000,000	0.24%
2010	\$874,836,815	\$408,197,000,000	0.22%
2011	\$672,618,738	\$427,833,000,000	0.16%
2012	\$483,290,474	\$435,347,000,000	0.11%
2013	\$871,458,021	\$456,095,000,000	0.19%
2014	\$374,540,811	N/A	N/A

Sources: BIS Offset Database and the National Science Foundation, *National Center for Science and Engineering Statistics: 2014. National Patterns of R&D Resources: 2011–13* Data Update, September 2015.

Note: 2014 R&D expenditure data was not released prior to publication of this report. 2009-2013 Private and Federal R&D data has been revised and 2013 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 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-

²³ This figure does not mean that U.S. industry lost 0.19 percent of its R&D spending in 2013. Rather, the number indicates that the actual value of offset transactions involving technology transfer was equivalent to 0.19 percent of domestic R&D spending.

effective, and sufficient industrial capabilities to develop, produce, and support the defense material necessary to support national defense.²⁴

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 data on its purchases from foreign entities, its procurement actions during Fiscal Year 2014 totaled approximately \$285 billion, of which \$13.4 billion or 4.7 percent was expended on purchases from foreign entities. Defense equipment constituted approximately 12 percent of the purchases from foreign entities. Fuel, services, construction, and subsistence accounted for 77 percent, with the remaining 11 percent covering a variety of other categories.²⁵

See Annex D for an overview of DOD's Fiscal Year 2014 purchases from foreign entities by claimant programs.

²⁴ 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.

²⁵ See Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics), *Report to Congress – Department of Defense Fiscal Year 2014 Purchases from Foreign Entities*, May 2015.

5 Utilization of Annual Report

The data contained in this report is considered and utilized by BIS and other representatives of the United States during bilateral and multilateral discussions with foreign governments to limit the adverse effects of offsets. For instance, BIS discussed offsets with representatives from the European Defense Agency (EDA) and the European Commission (EC) during the year. In 2014, U.S. firms reported entering into nine new offset agreements with members of the EDA valued at \$1.68 billion. EDA members accounted for 18 percent of the new offset agreements reported by U.S. firms in 2014 based on quantity and 12.9 percent based on value. In 2014, U.S. firms reported 233 offset transactions with EDA members with an actual value of \$1.22 billion, and an offset credit value of \$1.39 billion. The EDA members accounted for 34.62 percent of all offset transactions reported by U.S. firms in 2014 based on quantity and for 34.13 percent of the overall offset transaction value.

Annex A (Not For Public Release)

Annex B (Not For Public Release)

Annex C – Overview of Offset Transactions by Category, 1993-2014

Table C-1: Offset Transactions by Type							
Year	Total	Direct	Indirect	Unspecified	Direct	Indirect	Unspecified
	Actual Value (\$ millions)				% Distribution		
1993	\$1,898	\$637	\$1,197	\$64	33.56%	63.07%	3.37%
1994	\$1,935	\$628	\$1,202	\$104	32.45%	62.12%	5.37%
1995	\$2,890	\$1,109	\$1,757	\$25	38.37%	60.80%	0.87%
1996	\$2,876	\$1,249	\$1,626	\$1	43.43%	56.54%	0.03%
1997	\$2,721	\$1,042	\$1,658	\$21	38.29%	60.93%	0.77%
1998	\$2,312	\$1,470	\$842	\$0	63.58%	36.42%	0.00%
1999	\$2,060	\$700	\$1,349	\$11	33.98%	65.49%	0.53%
2000	\$2,190	\$767	\$1,412	\$11	35.02%	64.47%	0.50%
2001	\$2,543	\$928	\$1,615	\$0	36.49%	63.51%	0.00%
2002	\$2,619	\$958	\$1,660	\$1	36.58%	63.38%	0.04%
2003	\$3,563	\$1,110	\$2,447	\$6	31.15%	68.68%	0.17%
2004	\$4,935	\$2,536	\$2,398	\$1	51.39%	48.59%	0.02%
2005	\$4,722	\$1,798	\$2,924	\$0	38.08%	61.92%	0.00%
2006	\$4,706	\$1,689	\$2,999	\$18	35.89%	63.73%	0.38%
2007	\$3,805	\$1,890	\$1,906	\$9	49.67%	50.09%	0.24%
2008	\$3,291	\$1,571	\$1,719	\$1	47.74%	52.23%	0.03%
2009	\$3,495	\$1,299	\$2,191	\$5	37.17%	62.69%	0.14%
2010	\$3,608	\$1,194	\$2,277	\$137	33.09%	63.11%	3.80%
2011	\$3,880	\$1,907	\$1,899	\$74	49.15%	48.94%	1.91%
2012	\$3,438	\$1,188	\$1,635	\$615	34.55%	47.56%	17.89%
2013	\$3,138	\$1,096	\$2,042	\$0	34.93%	65.07%	0.00%
2014	\$3,902	\$1,015	\$2,880	\$7	26.01%	73.81%	0.18%
Total	\$70,527	\$27,781	\$41,635	\$1,111	39.39%	59.03%	1.58%
	Credit Value (\$ millions)				% Distribution		
1993	\$2,214	\$737	\$1,408	\$69	33.29%	63.60%	3.12%
1994	\$2,206	\$802	\$1,295	\$109	36.36%	58.70%	4.94%
1995	\$3,593	\$1,303	\$2,251	\$39	36.26%	62.65%	1.09%
1996	\$3,098	\$1,182	\$1,880	\$36	38.15%	60.68%	1.16%
1997	\$3,272	\$1,183	\$2,039	\$50	36.16%	62.32%	1.53%
1998	\$2,623	\$1,629	\$991	\$3	62.10%	37.78%	0.11%
1999	\$2,808	\$1,134	\$1,604	\$70	40.38%	57.12%	2.49%
2000	\$2,749	\$1,049	\$1,689	\$11	38.16%	61.44%	0.40%
2001	\$3,201	\$1,219	\$1,982	\$0	38.08%	61.92%	0.00%
2002	\$3,148	\$1,128	\$2,019	\$1	35.83%	64.14%	0.03%
2003	\$4,008	\$1,213	\$2,783	\$12	30.26%	69.44%	0.30%
2004	\$5,366	\$2,665	\$2,700	\$1	49.66%	50.32%	0.02%
2005	\$5,439	\$1,871	\$3,568	\$0	34.40%	65.60%	0.00%
2006	\$4,906	\$1,635	\$3,258	\$14	33.33%	66.41%	0.29%
2007	\$4,742	\$2,499	\$2,226	\$17	52.70%	46.94%	0.36%
2008	\$4,768	\$2,756	\$2,009	\$3	57.80%	42.14%	0.06%
2009	\$4,129	\$1,645	\$2,478	\$5	39.84%	60.01%	0.12%
2010	\$4,477	\$1,799	\$2,639	\$39	40.18%	58.95%	0.87%
2011	\$5,062	\$2,789	\$2,198	\$74	55.10%	43.42%	1.46%
2012	\$3,843	\$1,301	\$1,674	\$868	33.85%	43.56%	22.59%
2013	\$3,511	\$1,336	\$2,175	\$0	38.05%	61.95%	0.00%
2014	\$4,238	\$1,105	\$3,120	\$13	26.07%	73.62%	0.31%
Total	\$83,401	\$33,980	\$47,986	\$1,434	40.74%	57.54%	1.72%

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.

Table C-2: Number of Offset Transactions by Type and with Multipliers

Year	Number of Transactions				Transactions with Multipliers Greater than 1	
	Total	Direct	Indirect	Unspecified	Number of Transactions	Percent of Total Transactions
1993	444	160	280	4	63	14.19%
1994	566	178	383	5	80	14.13%
1995	711	204	505	2	110	15.47%
1996	634	228	404	2	64	10.09%
1997	578	202	372	4	61	10.55%
1998	582	241	340	1	87	14.95%
1999	513	212	296	5	87	16.96%
2000	626	215	409	2	81	12.94%
2001	616	223	393	0	114	18.51%
2002	734	200	533	1	83	11.31%
2003	689	179	506	4	64	9.29%
2004	710	375	334	1	74	10.42%
2005	624	210	414	0	52	8.33%
2006	661	288	371	2	33	4.99%
2007	633	294	337	2	88	13.90%
2008	671	226	443	2	74	11.03%
2009	702	261	440	1	112	15.95%
2010	707	210	496	1	114	16.12%
2011	740	256	467	17	77	10.41%
2012	690	213	402	75	74	10.72%
2013	541	191	350	0	41	7.58%
2014	673	180	489	4	71	10.55%
Total	14,045	4,946	8,964	135	1,704	12.13%

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

Transaction Category	Number of Transactions, 1993-2014				Number of Transactions with Multipliers Greater than 1
	Total	Direct	Indirect	Unspecified	
Purchasing	6,545	92	6,447	6	482
Subcontracting	3,236	2,902	332	2	276
Technology Transfer	1,607	761	824	22	350
Co-production	578	565	9	4	40
Training	412	184	219	9	156
Investment	320	42	272	6	118
Licensed Production	278	182	94	2	31
Credit Assistance	170	14	156	0	27
Other	899	204	611	82	224
Total	14,045	4,946	8,964	135	1,704

Source: BIS Offset Database

Table C-4: Offset Transactions by Category, Type, and Value, 1993-2014								
Transaction Category	Actual Values (\$ millions)				Percent by Column Total			
	Total	Dir.	Ind.	Unsp.	Total	Dir.	Ind.	Unsp.
Co-production	\$3,786.61	\$3,776.15	\$10.46	-	5.37%	13.43%	0.02%	-
Credit Assistance	\$2,081.39	\$220.86	\$1,860.53	-	2.95%	0.79%	4.44%	-
Investment	\$2,172.30	\$466.58	\$1,628.26	\$77.46	3.08%	1.66%	3.88%	17.73%
Licensed Production	\$2,287.37	\$1,383.59	\$879.75	\$24.03	3.25%	4.92%	2.10%	5.50%
Other	\$4,344.50	\$1,023.90	\$3,295.95	\$24.65	6.16%	3.64%	7.86%	5.64%
Purchase	\$26,505.27	\$278.46	\$26,219.24	\$7.57	37.61%	0.99%	62.53%	1.73%
Subcontracting	\$14,544.15	\$13,692.84	\$838.59	\$12.72	20.64%	48.72%	2.00%	2.91%
Technology Transfer	\$13,125.93	\$6,563.27	\$6,274.17	\$288.49	18.62%	23.35%	14.96%	66.02%
Training	\$1,627.72	\$701.46	\$924.21	\$2.05	2.31%	2.50%	2.20%	0.47%
Total	\$70,475.24	\$28,107.11	\$41,931.16	\$436.97	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	\$4,262.57	\$4,252.11	\$10.46	-	5.11%	12.42%	0.02%	-
Credit Assistance	\$3,072.27	\$290.11	\$2,782.16	-	3.68%	0.85%	5.71%	-
Investment	\$3,435.73	855.41	\$2,452.16	\$128.16	4.12%	2.50%	5.04%	25.30%
Licensed Production	\$2,859.67	\$1,761.72	\$1,066.72	\$31.23	3.43%	5.15%	2.19%	6.17%
Other	\$6,593.95	\$2,208.84	\$4,297.83	\$87.28	7.90%	6.45%	8.83%	17.23%
Purchase	\$28,334.90	\$303.81	\$28,016.87	\$14.22	33.96%	0.89%	57.54%	2.81%
Subcontracting	\$16,381.72	\$15,481.86	\$888.35	\$11.51	19.64%	45.23%	1.82%	2.27%
Technology Transfer	\$15,623.19	\$7,584.07	\$7,820.26	\$218.86	18.73%	22.16%	16.06%	43.21%
Training	\$2,864.84	\$1,493.42	\$1,356.13	\$15.29	3.43%	4.36%	2.79%	3.02%
Total	\$83,428.84	\$34,231.35	\$48,690.94	\$506.55	100.00%	100.00%	100.00%	100.00%
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			All Others		
	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	\$50,967	17
1994	\$111,895	\$112,185	10	\$3,494	\$21,639	3	\$93,265	\$98,474	17	\$45,424	\$67,629	15	\$148,742	\$148,742	36
1995	\$86,898	\$86,898	11	\$374,248	\$468,930	20	\$117,152	\$363,556	9	\$5,110	\$4,965	2	\$197,760	\$197,760	51
1996	\$16,952	\$22,052	3	\$244,270	\$258,970	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	\$271,538	6	\$0	\$0	0	\$454,159	\$454,159	64
1998	\$94,332	\$98,283	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	\$219,079	9	\$460	\$23,000	2	\$303,704	\$303,704	65
2000	\$27,691	\$27,691	15	\$9,952	\$9,952	2	\$52,343	\$69,621	7	\$9,816	\$9,816	1	\$302,950	\$302,950	50
2001	\$16,575	\$80,300	2	\$4,726	\$8,027	3	\$59,933	\$72,945	7	\$25,000	\$25,000	1	\$48,656	\$48,656	14
2002	\$0	\$0	0	\$29,453	\$29,453	1	\$24,484	\$85,234	12	\$0	\$0	0	\$135,848	\$135,848	28
2003	\$260,250	\$266,465	18	\$51,610	\$51,610	6	\$172,683	\$226,215	13	\$1,500	\$0	1	\$145,262	\$145,262	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	\$211,266	33
2005	\$309,409	\$322,204	74	\$61,028	\$76,828	10	\$185,819	\$192,387	19	\$123,836	\$268,326	5	\$95,146	\$95,146	34
2006	\$383,587	\$432,089	93	\$442,028	\$453,521	28	\$118,733	\$124,593	17	\$62,000	\$64,000	3	\$174,010	\$174,010	29
2007	\$398,250	\$496,255	83	\$76,997	\$84,164	8	\$106,953	\$158,986	21	\$2,972	\$2,972	1	\$662,926	\$662,926	64
2008	\$243,888	\$519,084	51	\$41,641	\$54,171	5	\$116,063	\$168,033	22	\$10,393	\$10,393	2	\$226,486	\$226,486	44
2009	\$107,080	\$107,080	13	\$6,377	\$6,377	3	\$111,923	\$160,883	17	\$207,742	\$214,696	43	\$118,210	\$118,210	31
2010	\$148,300	\$237,583	2	\$8,745	\$19,700	2	\$185,338	\$306,236	25	\$380,277	\$398,213	45	\$116,107	\$116,107	38
2011	\$13,943	\$13,943	3	\$0	\$0	0	\$112,643	\$272,628	35	\$307,095	\$535,101	56	\$120,943	\$120,943	18
2012	\$58,304	\$58,304	12	\$15,872	\$30,872	3	\$43,226	\$43,226	7	\$308,339	\$308,339	34	\$259,816	\$259,816	26
2013	\$1,365	\$1,365	4	\$0	\$0	0	\$77,457	\$83,457	13	\$258,448	\$338,423	29	\$138,371	\$165,111	29
2014	\$432	\$432	1	\$0	\$0	0	\$209,254	\$299,642	30	\$259,362	\$259,362	26	\$180,795	\$236,431	42

Source: BIS Offset Database

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

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	\$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	\$583,874	\$774,278	149	\$293,377	\$430,962	76	\$68,887	\$123,299	27
2001	\$1,132,958	\$1,250,367	331	\$707,069	\$863,615	154	\$529,343	\$788,885	89	\$18,427	\$28,710	15
2002	\$1,289,790	\$1,537,001	452	\$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	\$680,119	\$863,793	121	\$958,314	\$1,462,126	86	\$73,283	\$108,226	13
2009	\$1,469,915	\$1,501,925	333	\$472,836	\$698,370	140	\$986,716	\$1,120,309	109	\$14,571	\$76,325	13
2010	\$1,236,751	\$1,307,767	380	\$605,563	\$825,264	124	\$874,837	\$1,076,516	76	\$52,207	\$83,329	15
2011	\$1,539,704	\$1,512,310	382	\$979,598	\$1,198,649	136	\$672,619	\$866,470	80	\$88,878	\$483,351	21
2012	\$978,762	\$956,765	228	\$466,270	\$563,589	231	\$612,402	\$665,508	68	\$200,111	\$201,488	27
2013	\$938,520	\$929,233	214	\$699,165	\$741,208	145	\$871,458	\$1,042,410	86	\$153,011	\$209,803	21
2014	\$2,362,465	\$2,426,634	327	\$404,553	\$424,864	184	\$374,541	\$462,972	50	\$110,628	\$127,708	12

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 2014

DOD Claimant Program	Foreign Purchases (Dollars)
Air Frames & Spares	\$468,251,736
Aircraft Engine & Spares	\$69,154,148
Other Aircraft Equipment	\$248,298,594
Missile & Space Systems	\$22,844,331
Ships	\$248,448,878
Combat Vehicles	\$205,062,840
Non-Combat Vehicles	\$43,617,668
Weapons	\$78,923,657
Ammunition	\$107,725,498
Electronics & Communications Equipment	\$139,788,622
Petroleum	\$3,941,583,050
Other Fuels and Lubricants	\$6,404,571
Separately Procured Containers and Handling Equipment	\$77,112
Textiles, Clothing, and Equipage	\$24,297,873
Building Supplies	\$4,460,585
Subsistence	\$1,534,346,283
Transportation Equipment (Railway)	\$277,109
Production Equipment	\$3,546,429
Construction	\$2,174,402,206
Construction Equipment	\$6,518,643
Medical & Dental Supplies and Equipment	\$36,941,579
Photographic Equipment and Supplies	\$247,214
Materials and Handling Equipment	\$12,052,859
All Other Supplies/Equipment	\$1,324,965,115
Services	\$2,674,424,205
Total	\$13,376,424,205
Source: Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics), <i>Report to Congress – Department of Defense Fiscal Year 2014 Purchases from Foreign Entities</i> , May 2015.	

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.

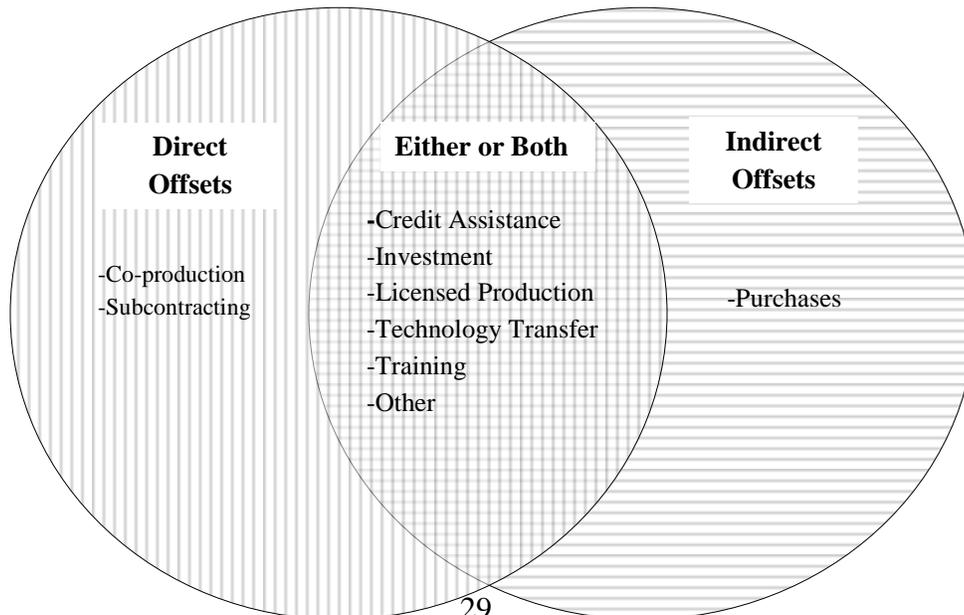
Co-production: Transactions that are based upon government-to-government agreements authorizing the transfer of technology to permit foreign companies to manufacture all or part of U.S.-origin defense articles. Such transactions are based upon an agreement specifically referenced in Foreign Military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