Offsets in Defense Trade

Twenty-Seventh 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

2023

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Executive Summary

This is the twenty-seventh 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 to assess the impact of offsets in defense trade.[2] In 2021, U.S. defense contractors reported entering into 27 new offset agreements with nine countries valued at $1.41 billion. The value of these agreements equaled 71.82 percent of the $1.97 billion in reported contracts for sales to foreign entities of defense articles and services with associated offset agreements. The value of defense export sale contracts and the value of offset agreements related to those export sale contracts for 2021 were the lowest values ever reported to BIS. Although U.S. firms did not note this in their reports, BIS believes that the ongoing impact of the COVID-19 pandemic on economic activity is most likely the reason for this significant decrease in these values in 2021.

In 2021, U.S. firms also reported 558 offset transactions to fulfill prior offset agreement obligations with 21 countries with an actual value of $7.37 billion, and an offset credit value of $8.73 billion. This is the highest number of offset transactions reported since 2015, and a 74.38 percent increase from the number of offset transactions reported in 2020.

This report notes that exports of defense articles and services can lower overhead costs for the U.S. Department of Defense (DOD); 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, the imposed inclusion of 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 U.S. Departments of Commerce, Defense, and State to obtain export control policy guidance prior to offering such items as part of an offset transaction.

[1] 50 U.S.C. § 4568.
[2] 15 CFR Part 701 (2018).

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 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 BIS. BIS published its offset reporting regulation in 1994.[6] BIS amended its offset reporting regulation in 2009 and in 2016.[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. U.S. defense contractors have informed U.S. Government agencies, including BIS, that offsets are usually necessary to make defense sales – sales which can help support the U.S. industrial base.

This is the twenty-seventh report to Congress on offsets in defense trade prepared by BIS. This report reviews offset data for the 29-year period from 1993–2021.[9] BIS structured this report similarly to reports published in 2008 through 2022; 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 DOD, the Bureau of the Census (Census), and the Bureau of Economic Analysis (BEA).

On March 28, 2022, BIS published a notice in the *Federal Register* to remind the public that U.S. firms are required to report to BIS annually on contracts for the sale to foreign governments

[3] Pub. L. 98-265, 98 Stat. 149 (1984).
[4] Pub. L. 102-558, 106 Stat. 4198 (1992); 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 (Mar. 22, 2012).
[5] Previously, the offset report was submitted pursuant to Sec. 309 of the Defense Production Act of 1950. However, the Defense Production Act Reauthorization of 2009, Pub. L. 111-67, rewrote Title III of the Act and introduced a new Sec. 723 on offsets, and as a result the report is now submitted pursuant to Sec. 723. Section 723 is largely the same in content as the prior Sec. 309.
[6] 59 Fed. Reg. 61,796 (Dec. 2, 1994) codified at 15 C.F.R. § 701.
[7] 74 Fed. Reg. 68,136 (Dec. 23, 2009) and 81 Fed. Reg. 10,472 (Mar. 1, 2016).
[8] Defense Production Act Amendments of 1992 (Pub. L. 102-558, Title I, Part C, § 123).
[9] The initial offsets report, issued in 1996, covered the period from 1993 to 1994; each subsequent offset report added an additional year to the reporting period, except for the eighth report, which added two years.

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] Seventeen firms reported offset agreement and transaction data to BIS for calendar year 2021. The data elements collected each year from industry are listed in section 701.4 of the BIS offset reporting regulation.[11]

BIS prepared this report in consultation with DOD, the U.S. Department of State (State), and the Office of the United States Trade Representative (USTR). These agencies provided no alternative findings or recommendations.

[10] See 87 Fed. Reg. 17269 (March 29, 2022).
[11] See 81 Fed. Reg. 10,472 (Mar. 1, 2016).

2 Defense Export Sales with Offset Agreements

In 2021, nine U.S. firms reported entering into 27 offset agreements related to defense export sale contracts. These contracts were signed with 12 countries. These contracts were valued at $1.97 billion, which was a decrease of 85.91 percent from the total defense export sale contracts value reported in 2020. The offset agreements were valued at $1.41 billion which equaled 71.82 percent of the value of the signed defense export sale contracts, which is above the historic average of approximately 58.25 percent.

The value of defense export sale contracts and the value of offset agreements related to those export sale contracts for 2021 were the lowest values ever reported to BIS. Although U.S. firms did not note this in their reports, BIS believes that the ongoing impact of the COVID-19 pandemic on economic activity is most likely the reason for this significant decrease in these values in 2021. During 2021, reported offset agreements ranged from a low of 10.72 percent of the defense export sale contract value to a high of 100 percent.

In 2021, approximately 92.59 percent of the signed offset agreements reported by U.S. firms included penalties for non-performance of the offset obligation. Those penalties included liquidated damages and bank credit guarantees.

During 1993–2021, 70 U.S. firms reported entering into 1,270 offset agreements related to defense export sale contracts worth $233.44 billion with 48 countries and seven multi-country arrangements. The associated offset agreements were valued at $135.99 billion.

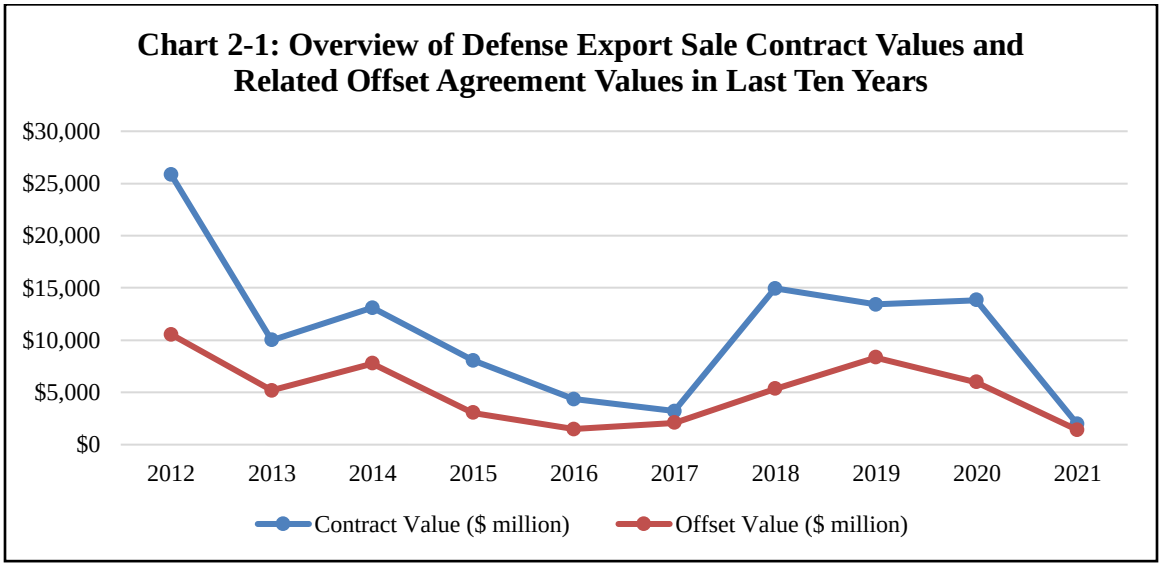
Table 2-1: Summary of Defense Export Sale Contract Values with Related Offset Agreements, 1993–2021

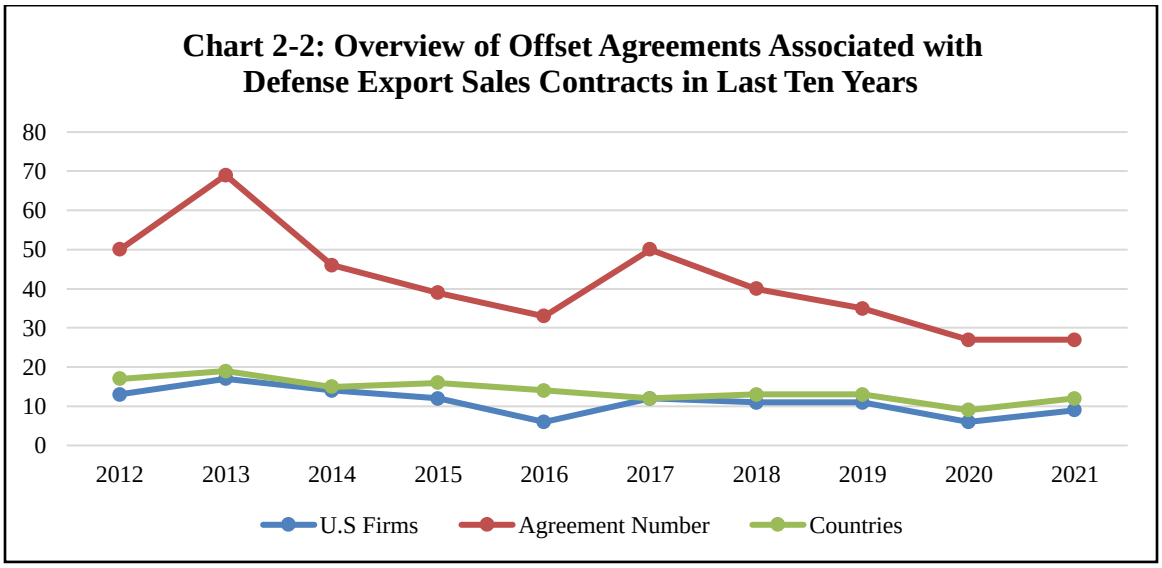
Year	Contract Value ($ millions)	Offset Agreement Value ($ millions)	Percent of Offset Agreement to Contract Value	U.S. Firms (Number)	Agreements (Number)	Countries (Number)/Multi-Country Arrangements
1993	$13,935	$4,784	34.33%	17	28	16
1994	$4,792	$2,049	42.75%	18	49	20
1995	$7,632	$6,204	81.30%	21	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	31	13
2004	$4,934	$4,331	87.78%	14	41	18
2005	$2,260	$1,464	64.79%	8	25	18
2006	$5,265	$3,655	69.42%	15	48	21
2007	$6,932	$5,469	78.89%	11	45	20
2008	$6,472	$3,835	59.25%	17	56	17
2009	$11,065	$6,847	61.89%	15	65	21
2010	$4,027	$2,451	60.86%	15	34	14
2011	$11,008	$5,684	51.64%	10	64	27
2012	$25,850	$10,559	40.84%	13	50	17
2013	$10,015	$5,182	51.75%	17	69	19
2014	$13,112	$7,760	59.18%	14	46	15
2015	$8,054	$3,057	37.95%	12	39	16
2016	$4,352	$1,491	34.26%	6	33	14
2017	$3,201	$2,091	65.32%	12	50	12

Table 2-1: Summary of Defense Export Sale Contract Values with Related Offset Agreements, 1993–2021						
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**
2018	$14,946	$5,341	35.73%	11	40	13
2019	$13,433	$8,345	62.12%	10	35	13
2020	$13,948	$5,968	42.79%	6	27	9
2021	$1,965	$1,411	71.82%	9	27	12
Total	**$233,444**	**$135,985**	**58.25%**	**70**	**1,270**	**55**

Source: BIS Offset Database.

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





3 Offset Transactions

In 2021, fourteen U.S. firms reported concluding 558 offset transactions with 21 countries to fulfill offset agreement obligations. This is the highest number of offset transactions reported since 2015, and a 74.38 percent increase from the number of offset transactions reported in 2020. The offset transactions reported by U.S. firms in 2021 had an actual value of $7.37 billion and a credit value of $8.73 billion. In 2021, U.S. firms reported that 42 offset transactions (7.53 percent of all transactions completed during the 12-month period) had a multiplier greater than one applied and nine transactions (1.67 percent of all transactions completed during the 12-month period) had a multiplier of less than one applied.[12]

Table 3-1: Summary of Offset Transactions, 1993–2021

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	25
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	626	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	$3,189	$3,563	21	546	32
2014	$3,864	$4,289	17	672	29
2015	$5,048	$5,321	19	647	26
2016	$2,628	$3,065	21	506	26
2017	$4,578	$5,352	22	546	29
2018	$4,223	$4,550	14	450	24
2019	$5,166	$5,559	17	414	25
2020	$2,928	$4,220	15	320	24
2021	$7,365	$8,727	14	558	21
Total	**$102,474**	**$120,298**	**73**	**17,490**	**48**

Source: BIS Offset Database

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

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

Chart 3-1: Summary of Transactions Values in Last Ten Years

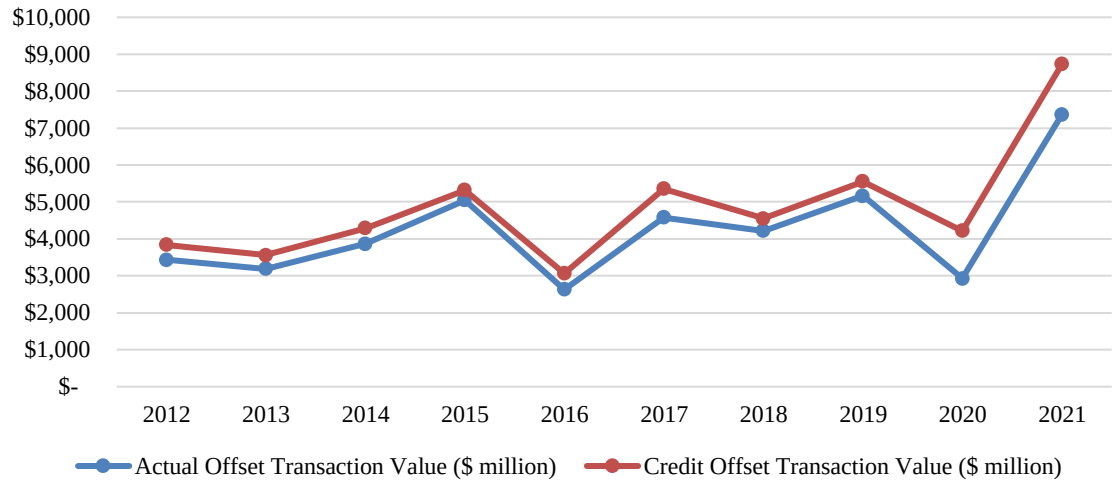


Chart 3-2: Number of Offset Transactions in Last Ten Years

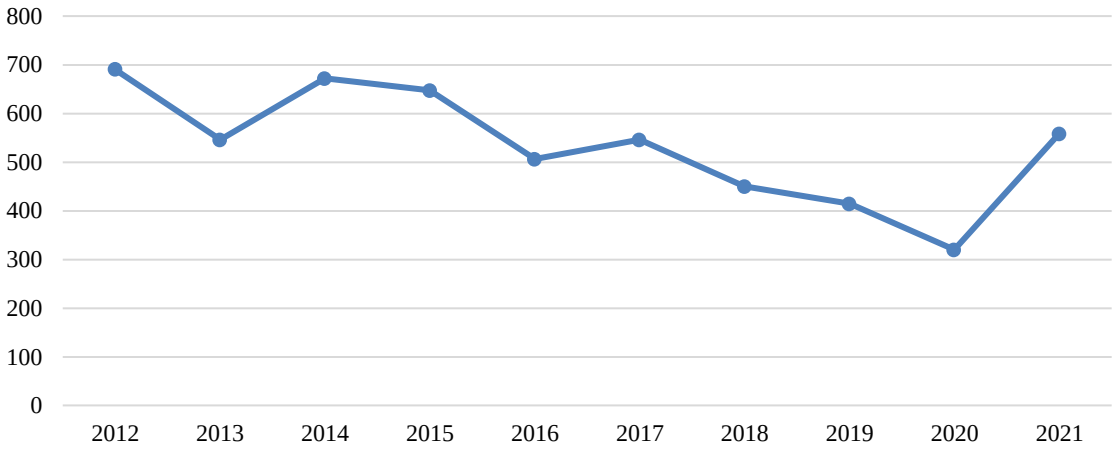
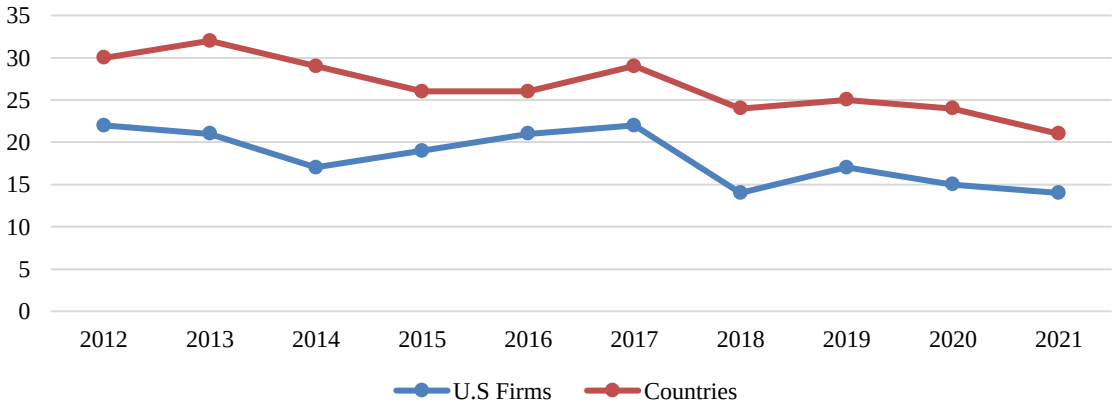


Chart 3-3: Number of Firms Reporting Offset Transactions and Number of Countries where Offset Transactions were Performed in Last Ten Years



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 H for definitions of each offset transaction category.

In 2021, direct offsets (transactions directly related to the defense export sale with an associated offset agreement) accounted for 32.93 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 66.64 percent of the actual value of reported offset transactions. During 1993–2021, direct offsets accounted for 37.51 percent of the actual value of the reported offset transactions, with indirect offsets accounting for 60.73 percent.[14]

By comparison, in 2021, direct offsets accounted for 37.81 percent of the number of reported offset transactions and indirect offsets accounted for 60.93 percent. From 1993–2021, direct offsets accounted for 34.87 percent of the number of reported offset transactions, and indirect offsets accounted for 64.25 percent of such transactions. The 2021 numbers are largely consistent with historic trends.

The top three offset transaction categories based on actual value reported by industry for 2021 were investment, purchasing, and subcontracting. These three categories represented 66.71 percent of all offset transactions reported for 2021 based on actual value, 59.80 percent of all offset transactions based on credit value, and 62.19 percent of all offset transactions based on quantity.

Table 3-2: Summary of Offset Transactions by Category for 2021

Transaction Category	Actual Value	Percent of Total	Credit Value	Percent of Total	Number of Transactions	Percent of Total
Investment	$2,022,427,679	27.46%	$2,099,916,633	24.06%	48	8.60%
Purchasing	$1,555,292,133	21.12%	$1,571,618,390	18.01%	150	26.88%
Subcontract	$1,335,367,574	18.13%	$1,547,639,952	17.73%	149	26.70%
Technology Transfer	$801,431,023	10.88%	$824,318,647	9.45%	78	13.98%
Licensed Production	$632,334,991	8.59%	$631,599,173	7.24%	30	5.38%
Other	$570,755,490	7.75%	$1,486,168,435	17.03%	36	6.45%
Training	$418,768,368	5.69%	$429,507,369	4.92%	61	10.93%
Co-Production	$18,064,564	0.25%	$125,940,787	1.44%	3	0.54%
Credit Assistance	$10,650,000	0.14%	$10,650,000	0.12%	3	0.54%
Total	**$7,365,091,822**	**100.00%**	**$8,727,359,386**	**100.00%**	**558**	**100.00%**

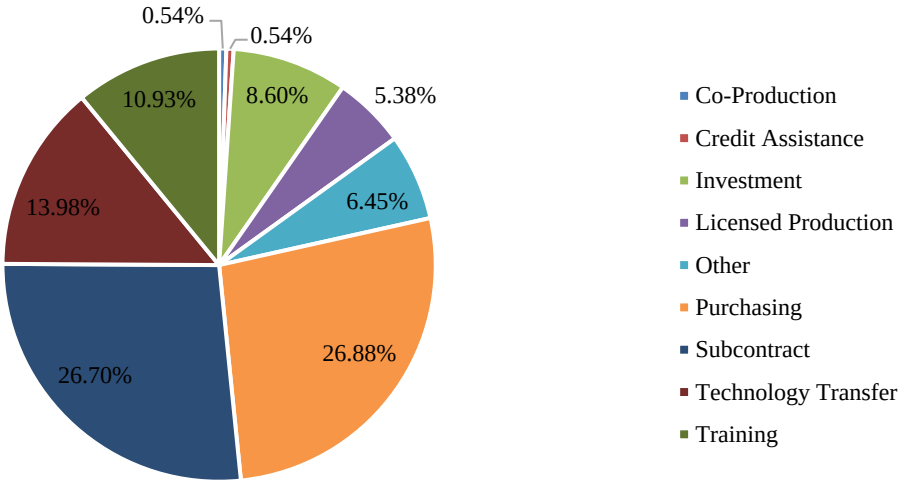
Source: BIS Offset Database

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

[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 U.S. firms were unable to specify some reported offset transactions as direct or indirect.

Chart 3-4: Percentage of Number of Offset Transactions by Category for 2021



Of the 42 transactions reported in 2021 that had a multiplier greater than one, the top offset transaction category based on quantity was other (21), accounting for 50 percent of these transactions. All other categories had five or less reported transactions: subcontracting (five); investment (four); purchasing (four); co-production (three); technology transfer (three); and training (two).

The top three offset transaction categories reported by industry for the 29-year reporting period (1993–2021) were: purchasing, subcontracting, and technology transfer based on quantity, actual value, and credit value. These three categories represented 79.49 percent of all transactions based on quantity, 71.06 percent of all transactions based on actual value, and 66.45 percent based on credit value. Purchasing alone accounted for 44.57 percent of all transactions based on quantity, 34.37 percent based on actual value, and 30.80 percent based on credit value.

From 1993–2021, based on quantity, the top three offset transaction categories that had multipliers greater than one were purchasing (25.90 percent of all transactions that had a multiplier greater than one), technology transfer (20.94 percent), and other (17.66 percent), respectively.

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 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 partners and allies and contribute positively to U.S. international trade account balances. However, the imposed inclusion of 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.[16] 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, and thereby may help to create or enhance current and future competitors to U.S. industry. Potential downsides of offsets, especially direct offsets (i.e., co-production), are that foreign suppliers could later be the target of acquisitions by other foreign entities that could present concerns for the U.S. Government and the ability to enforce DPA Title I priorities and allocations authorities because production could be occurring outside the United States.[17]

Export and Offset Activity Trends

According to end-use export data published by Census, the value of U.S. merchandise exports totaled approximately $1.75 trillion in 2021.[18] Defense-related merchandise exports totaled approximately $17.87 billion in 2021, or 1.02 percent of total U.S. merchandise exports.[19] In 2021, U.S. firms reported entering into offset-related defense export sales contracts worth $1.97 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

[15] See Government Accountability Organization (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] Ibid, p. 5.
[17] DPA Title I priorities and allocations are U.S. domestic authorities. The U.S. Government would only lose the ability to utilize its DPA Title I authorities if the entire production capacity for a particular item were to be outsourced to overseas sources. If the U.S. companies retained any production of the item in the United States, DPA Title I authorities would still be enforceable.
[18] Census, U.S. International Trade Data, U.S. Exports by 5-digit End-Use Code, Annual Totals, 2012-2021, https://www.census.gov/foreign-trade/statistics/historical/enduse.html
[19] 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 https://www.census.gov/foreign-trade/statistics/historical/enduse.html

shipments made during the calendar year and there is usually a lag of several years between the initiation 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 2003–2021.

Table 4-1: U.S. Merchandise Exports and Reported Offset Activity, 2003–2021

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	$11,565	1.60%	$7,293	$9,110	$3,563
2004	$814,875	$11,884	1.46%	$4,934	$4,331	$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%	$6,932	$5,469	$3,805
2008	$1,287,442	$16,594	1.29%	$6,442	$3,835	$3,291
2009	$1,056,043	$14,796	1.40%	$11,065	$6,847	$3,495
2010	$1,278,495	$15,304	1.20%	$4,019	$2,451	$3,608
2011	$1,482,508	$14,911	1.01%	$11,008	$5,684	$3,880
2012	$1,545,821	$17,231	1.11%	$25,850	$10,559	$3,438
2013	$1,578,517	$17,617	1.12%	$10,015	$5,182	$3,189
2014	$1,621,874	$20,555	1.27%	$13,112	$7,760	$3,864
2015	$1,503,328	$19,933	1.33%	$8,054	$3,057	$5,048
2016	$1,451,460	$21,259	1.46%	$4,352	$1,491	$2,628
2017	$1,547,195	$18,963	1.23%	$3,201	$2,091	$4,578
2018	$1,665,787	$18,339	1.10%	$14,946	$5,341	$4,223
2019	$1,645,940	$20,563	1.25%	$13,433	$8,345	$5,166
2020	$1,428,518	$16,963	1.19%	$13,948	$5,968	$2,928
2021	$1,754,300	$17,867	1.02%	$1,965	$1,411	$7,365

Sources: BIS Offset Database and Census' End-Use Export Data.

Note: Reported offset-related data for certain previous years have been revised. 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 to ensure accurate information. 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. Prior to 2009, BIS required industry to classify offset transactions and defense export sales by broad industry descriptions.

Reported Defense Export Sales by Industry Sector

Industry sectors, as defined in the NAICS, include both manufacturing and non-manufacturing (including services) sectors. During 2019–2021, reported defense export sale contracts with related offset agreements that were manufacturing-related based accounted for 94.70 percent of the total value of reported defense export sale contracts and 81.46 percent of the total number of reported defense export sale contracts.[20] The top six manufacturing-based sectors reported by industry during 2019–2021 based on the value of reported defense export sale contracts were aircraft manufacturing (NAICS 336411); search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing (NAICS 334511); guided missile and space vehicle manufacturing (NAICS 336414); aircraft engine and engine parts manufacturing (NAICS 336412); military armored vehicle, tank, and tank component manufacturing (NAICS 336992); and other aircraft parts and auxiliary equipment manufacturing (NAICS 336413). These six categories represented 55.63 percent of all defense export sales contracts reported during 2019–2021 based on quantity and 92.37 percent of the defense export sales contracts based on value. See Table 4-2.

Table 4-2: Reported Defense Export Sales by Industry Sector, 2019–2021

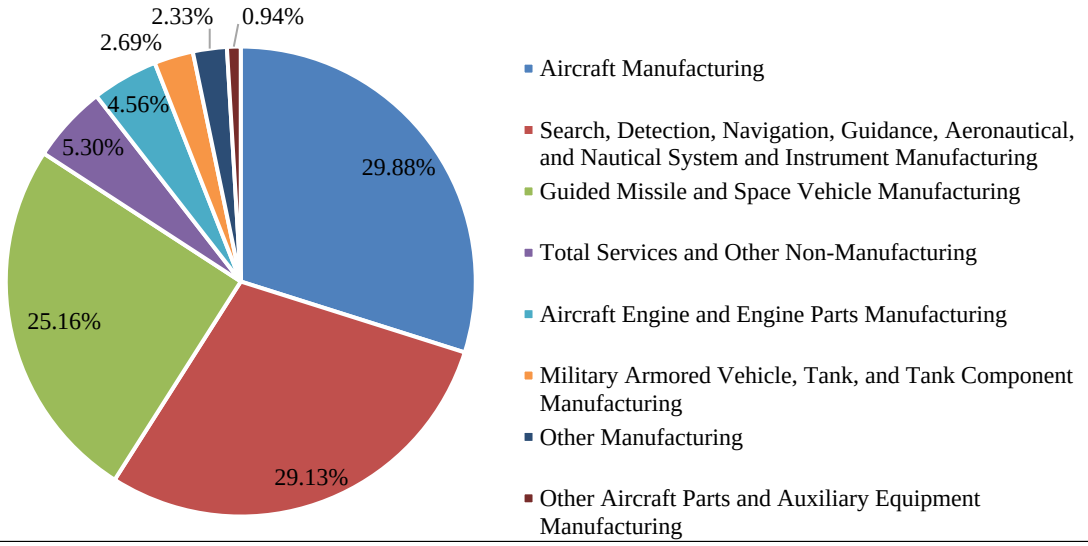
Industry Sector	Value of Reported Defense Export Sales Contracts	Percent of Total Value of Defense Export Sales Contracts	Number of Defense Export Sales Contracts	Percent of the Total Number of Defense Export Sales Contracts
Total Manufacturing	**$27,790,832,777**	**94.70%**	**123**	**81.46%**
Aircraft Manufacturing	$8,769,033,863	29.88%	19	12.58%
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	$8,549,964,025	29.13%	21	13.91%
Guided Missile and Space Vehicle Manufacturing	$7,384,107,478	25.16%	15	9.93%
Aircraft Engine and Engine Parts Manufacturing	$1,337,627,684	4.56%	7	4.64%
Military Armored Vehicle, Tank, and Tank Component Manufacturing	$788,405,317	2.69%	17	11.26%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	$276,591,711	0.94%	5	3.31%
Other Manufacturing	$685,102,699	2.33%	39	25.83%
Total Services and Other Non-Manufacturing	**$1,555,304,135**	**5.30%**	**28**	**18.54%**
Grand Total	**$29,346,136,912**	**100.00%**	**151**	**100.00%**

Source: BIS Offset Database

Due to rounding, totals may not add up exactly.

[20] BIS's analysis to measure offset-related impact is based on three years of data which compensates for annual fluctuations.

Chart 4-1: Percentage of Total Value of Defense Export Sale Contracts by Industry, 2019 - 2021



Reported Offset Transactions by Industry Sector

During 2019–2021, 68.43 percent of reported offset transactions were manufacturing-related based on the total actual value of reported offset transactions and 68.03 percent based on the total number of reported offset transactions. The top six sectors reported by industry during 2019–2021 based on the total actual value were aircraft manufacturing (NAICS 336411); other aircraft parts and auxiliary equipment manufacturing (NAICS 336413); search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing (NAICS 334511); all other miscellaneous general purpose machinery manufacturing (NAICS 333998 and 333999); aircraft engine and engine parts manufacturing (NAICS 336412); and ammunition (except small arms) manufacturing (NAICS 332993).[21] These six categories represented 46.44 percent of all offset transactions reported for 2019–2021 based on quantity and 55.12 percent of offset transactions based on actual value. See Table 4-3.

[21] Value of Reported Offset Transactions for all other miscellaneous general purpose machinery manufacturing sector includes NAICS codes 333998 and 333999. NAICS Code 333998 is a new NAICS code for 2022, replacing NAICS code 333999, which was discontinued.

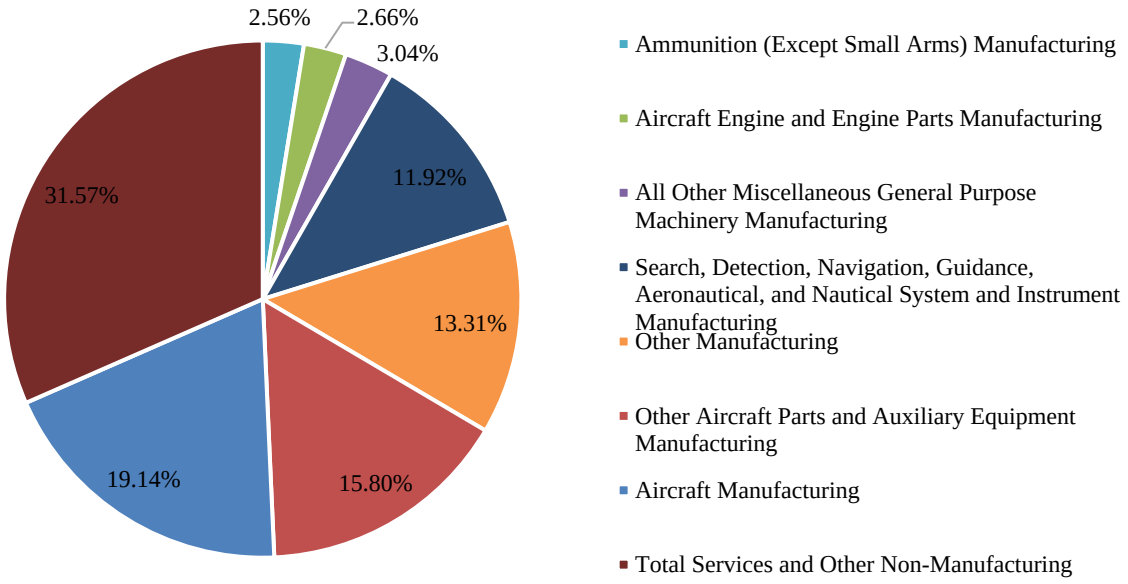
Table 4-3: Reported Offset Transactions by Industry Sector, 2019–2021				
Industry Sector	**Total Actual Value**	**Percent of the Total Actual Value**	**Number of Transactions**	**Percent of the Total Number of Transactions**
Total Manufacturing	**$10,578,247,277**	**68.43%**	**879**	**68.03%**
Aircraft Manufacturing	$2,959,330,951	19.14%	269	20.82%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	$2,442,466,046	15.80%	161	12.46%
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	$1,842,138,136	11.92%	79	6.11%
All Other Miscellaneous General Purpose Machinery Manufacturing*	$470,000,000	3.04%	38	2.94%
Aircraft Engine and Engine Parts Manufacturing	$411,630,098	2.66%	43	3.33%
Ammunition (Except Small Arms) Manufacturing	$395,065,382	2.56%	10	0.77%
Other Manufacturing	$2,057,616,663	13.31%	279	21.59%
Total Services and Other Non-Manufacturing	**$4,880,830,889**	**31.57%**	**413**	**31.97%**
Miscellaneous Financial Investment Activities	$1,042,918,000	6.75%	7	0.54%
Other Financial Vehicles	$866,798,864	5.61%	30	2.32%
Transportation Equipment and Supplies (Except Motor Vehicle) Merchant Wholesalers	$786,749,044	5.09%	60	4.64%
Engineering Services	$538,236,150	3.48%	126	9.75%
Custom Computer Programming Services	$230,061,842	1.49%	40	3.10%
Process, Physical Distribution, and Logistics Consulting Services	$221,525,479	1.43%	3	0.23%
All Others	$1,194,541,510	7.73%	147	11.38%
Grand Total	**$15,459,078,167**	**100.00%**	**1,292**	**100.00%**

Source: BIS Offset Database

Due to rounding, totals may not add up exactly.

*Actual Value of Reported Offset Transactions includes NAICS codes 333999 and 333998. NAICS Code 333998 is a new NAICS code for 2022, replacing NAICS code 333999, which was discontinued.

Chart 4-2: Percentage of Total Actual Value of Offset Transactions by Industry Sector, 2019 - 2021



BIS compared defense export sales contracts and offset transactions reported for 2019–2021 with Census' *Annual Survey of Manufactures (ASM) data* on total 2019–2021 U.S. shipments of selected manufacturing industry sectors to provide context for the volume of offset activity relative to the U.S. economy. Industry reported defense export sales contracts with 17 manufacturing NAICS codes and offset transactions with 58 manufacturing NAICS codes. The comparison of 2019–2021 offset-related data with 2019–2021 U.S. shipment data highlights that, while the reported defense export sales contracts accounted for a greater percentage of U.S. shipments in certain manufacturing industry sectors, reported offset transactions data did not account for a significant percentage of U.S. shipment data in any manufacturing industry sector. See Table 4-4.

Table 4-4: 2019–2021 Reported Manufacturing Defense Export Sales and Reported Manufacturing Offset Transactions and 2019–2021 Value of U.S. Shipments by Industry Sector

Reported Manufacturing Defense Export Sales Contracts

Industry Sector	Value of Reported 2019–-2021 Defense Export Sales Contracts	Total Value of 2019–2021 U.S. Shipments	Percent of Defense Export Sales Contracts to Total U.S. Product Shipments
Total Manufacturing	**$27,790,832,777**	**$1,226,057,509,000**	**2.27%**
Aircraft Manufacturing	$8,769,033,863	$279,174,180,000	3.14%
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	$8,549,964,025	$167,017,541,000	5.12%
Guided Missile and Space Vehicle Manufacturing	$7,384,107,478	$68,606,235,000	10.76%
Aircraft Engine and Engine Parts Manufacturing	$1,337,627,684	$109,563,200,000	1.22%
Military Armored Vehicle, Tank, and Tank Component Manufacturing	$788,405,317	$19,423,607,000	4.06%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	$276,591,711	$90,816,679,000	0.30%
Other Manufacturing**	$685,102,699	$491,456,067,000	0.14%

Reported Manufacturing Offset Transactions

Industry Sector	Value of Reported 2019–2021 Offset Transactions	Total Value of 2019–2021 U.S. Shipments	Percent of Transactions to Total U.S. Product Shipments
Total Manufacturing	**$10,578,247,277**	**$3,987,319,811,000**	**0.27%**
Aircraft Manufacturing	$2,959,330,951	$279,174,180,000	1.06%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	$2,442,466,046	$90,816,679,000	2.69%
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	$1,842,138,136	$167,017,541,000	1.10%
All Other Miscellaneous General Purpose Machinery Manufacturing*	$470,000,000	$55,599,000,000	0.81%
Aircraft Engine and Engine Parts Manufacturing	$411,630,098	$109,563,200,000	0.38%
Ammunition (Except Small Arms) Manufacturing	$395,065,382	$11,797,557,000	3.35%
Other Manufacturing**	$2,057,616,663	$3,273,351,654,000	0.06%

Source: BIS Offset Database and Census' Annual Survey of Manufacturers (ASM) for 2019, 2020, and 2021.

*Value of Reported Offset Transactions includes NAICS codes 333998 and 333999. NAICS Code 333998 is a new NAICS code for 2022, replacing NAICS code 333999, which was discontinued. As a result, the U.S. Shipment Value is based on the appropriate 2017 NAICS codes per Census guidance of the 2022 NAICS Definition for NAICS code 333998.

** The "Other Manufacturing" category in the Defense Export Sales Contracts table includes 11 NAICS codes reported by U.S. defense contractors and the "Other Manufacturing" category in the Offset Transactions table includes 51 NAICS codes reported by U.S. defense contractors. The U.S. shipment data corresponds to those reported NAICS codes. Of these NAICS codes, one had to be reported at the 3-digit level. As a result, the U.S. Shipment value for "Other Manufacturing" includes all six-digit level NAICS values that fall under the higher level NAICS codes reported. In addition, one NAICS code that was reported was a new NAICS code created in 2022. As a result, the U.S. Shipment Value is based on the appropriate 2017 NAICS code per Census' guidance of the 2022 NAICS Definition for this NAICS code.

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 precisely determine the impact of the defense export sales contracts, offset agreements, and offset transactions on industrial activity and employment. However, utilizing the BEA's *Benchmark Input-Output Accounts of the United States* (I/O accounts), and Census' *ASM* data, BIS has developed a method to approximate the value-added shipment and employment impact of offset activities across certain United States industry sectors.[22] Seventeen industry sectors were identified using corresponding manufacturing NAICS codes reported to BIS for both defense export sale contracts with related offset agreements and offset transactions.[23]

During 2019–2021, industry reported defense export sale contracts involving offsets valued at $27.79 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 $27.79 billion in defense export sale contracts was $52.47 billion as shown in Table 4-5.1.[24] BIS estimates, using Census' data, this $52.47 billion in inputs would create or sustain 203,827 employment opportunities.[25] As shown in Table 4-5.1, the I/O accounts also demonstrate how these defense export sale 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 sale contracts is conducted in the United States.

[22] The BIS method utilizes the I/O accounts to determine the positive economic impact of defense export sales and the negative economic impact of offset transactions. 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. BIS then takes that impact from the I/O accounts and uses Census' data to determine the potential employment impact of the defense export sales and offset transactions. 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. BIS's analysis to measure offset-related impact is based on three years of data which compensates for annual fluctuations.

[23] U.S. firms reported defense export sale contracts with 17 manufacturing NAICS codes and offset transactions with 58 manufacturing NAICS codes.

[24] 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.

[25] U.S. Shipment data are from Census' ASM 2019, 2020, and 2021.

Table 4-5.1: Employment Opportunities Created or Sustained in Manufacturing Industry Sectors, 2019–2021			
Positive Economic Activities as Defined by Export Sales Contracts Benefiting U. S. Prime Contractors			
Industry Sector	**Total Inputs**	**Value-added Output / Employee**[26]	**Employment Opportunities Created or Sustained**
Aircraft Manufacturing	$18,546,391,746	$268,253	69,138
Search, Detection, Navigation, Guidance, Aeronautical, And Nautical System and Instrument Manufacturing	$12,194,435,780	$283,692	42,985
Guided Missile and Space Vehicle Manufacturing	$14,836,374,698	$234,548	63,255
Aircraft Engine and Engine Parts Manufacturing	$2,837,730,582	$316,010	8,980
Military Armored Vehicle, Tank, and Tank Component Manufacturing	$2,039,023,500	$266,388	7,654
Other Aircraft Parts and Auxiliary Equipment Manufacturing	$597,729,762	$137,568	4,345
Ammunition (Except Small Arms) Manufacturing	$344,765,470	$218,355	1,579
Ship Building and Repairing	$256,404,298	$163,930	1,564
Optical Instrument and Lens Manufacturing	$227,415,639	$176,302	1,290
Small Arms, Ordnance, and Ordnance Accessories Manufacturing	$203,461,688	$235,595	864
Radio And Television Broadcasting and Wireless Communications Equipment Manufacturing	$130,372,423	$196,993	662
Motor and Generator Manufacturing	$95,417,318	$172,042	555
Electronic Computer Manufacturing	$56,393,233	$149,495	377
Other Commercial and Service Industry Machinery Manufacturing	$53,046,715	$204,455	259
Motor Vehicle Transmission and Power Train Parts Manufacturing	$36,981,670	$166,244	222
Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	$8,775,478	$177,264	50
Turbine and Turbine Generator Set Units Manufacturing	$8,695,693	$178,749	49
Total	**$52,473,415,693**		**203,827**

Sources: BIS Offset Database; BEA's I/O Accounts; and Census' ASM (2019, 2020, and 2021 data)

Note: Due to rounding, totals may not add up exactly.

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 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. BIS estimates, using Census' data and reported offset transaction data supplied by U.S. prime defense contractors, the $10.58 billion in reported offset transactions in manufacturing industry sectors during 2019–2021 for which Census publishes annual employment and value-added data by NAICS code (valued at $18.34 billion with the I/O multiplier applied), could have created or sustained 90,117 employment opportunities if the work associated with those

[26] Value-added data are from Census' ASM 2019, 2020, and 2021.

transactions were performed in the United States. As shown in Table 4-5.2, 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 4-5.2: Employment Opportunities Created or Sustained in Manufacturing Industry Sectors, 2019–2021

Negative Economic Activities as Defined by Export Sales Contracts Benefiting U. S. Prime Contractors

Industry Sector	Total Inputs	Value-added Output / Employee[27]	Employment Opportunities Created or Sustained**
Aircraft Manufacturing	$6,258,946,195	$268,253	23,332
Search, Detection, Navigation, Guidance, Aeronautical, And Nautical System and Instrument Manufacturing	$2,627,360,201	$283,692	9,261
Guided Missile and Space Vehicle Manufacturing	$280,712,070	$234,548	1,197
Aircraft Engine and Engine Parts Manufacturing	$873,258,929	$316,010	2,763
Military Armored Vehicle, Tank, and Tank Component Manufacturing	$385,230,523	$266,388	1,446
Other Aircraft Parts and Auxiliary Equipment Manufacturing	$5,278,302,240	$137,568	38,369
Ammunition (Except Small Arms) Manufacturing	$836,958,259	$218,355	3,833
Ship Building and Repairing	$515,757,767	$163,930	3,146
Optical Instrument and Lens Manufacturing	$99,786,823	$176,302	566
Small Arms, Ordnance, and Ordnance Accessories Manufacturing	$64,265,225	$235,595	273
Radio And Television Broadcasting and Wireless Communications Equipment Manufacturing	$281,833,312	$196,993	1,431
Motor and Generator Manufacturing	$10,228,971	$172,042	59
Electronic Computer Manufacturing	$22,562,403	$149,495	151
Other Commercial and Service Industry Machinery Manufacturing	$352,730,862	$204,455	1,725
Motor Vehicle Transmission and Power Train Parts Manufacturing	$3,698,168	$166,244	22
Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	$293,044,371	$177,264	1,653
Turbine and Turbine Generator Set Units Manufacturing	$158,816,286	$178,749	888
Total	**$18,343,492,604**		**90,117**

Sources: BIS Offset Database; BEA's I/O Accounts; and Census' ASM (2019, 2020, and 2021 data)
**Had offset transactions been performed in the United States.

Note: Due to rounding, totals may not add up exactly.

Table 4-5.3 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. The results indicate an overall net gain on U.S. manufacturing opportunities arising from

[27] Value-added data are from Census' ASM 2019, 2020, and 2021.

export sales contracts with associated offset agreements, resulting in a positive $34.13 billion in added "input" opportunities for the U.S. industrial base, and a net gain of 113,710 in employment opportunities created or sustained during the 2019–2021 period. The 113,710 employment opportunities created or sustained during 2019–2021 represents an annual average of 37,903 for the three-year period. Also shown in Table 4-5.3 is the actual annual average employment in each product category provided in Census data. As a caveat, and 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 4-5.3: Employment Opportunities Created or Sustained in Manufacturing Industry Sectors, 2019–2021

Net Impact of Economic Impact from Export Sales Contracts and Offset Transactions					
Industry Sector	**Total Inputs**	**Value-added Output / Employee[28]**	**Net Employment Opportunities Created or Sustained**	**Annual Average Number of Net Employment Opportunities Created or Sustained**	**Annual Average Number of Employees During 2019-2021[29]**
Aircraft Manufacturing	$12,287,445,551	$268,253	45,805	15,268	174,101
Search, Detection, Navigation, Guidance, Aeronautical, And Nautical System and Instrument Manufacturing	$9,567,075,579	$283,692	33,723	11,241	123,794
Guided Missile and Space Vehicle Manufacturing	$14,555,662,628	$234,548	62,058	20,686	38,366
Aircraft Engine and Engine Parts Manufacturing	$1,964,471,653	$316,010	6,216	2,072	70,190
Military Armored Vehicle, Tank, and Tank Component Manufacturing	$1,653,792,977	$266,388	6,208	2,069	11,708
Other Aircraft Parts and Auxiliary Equipment Manufacturing	-$4,680,572,478	$137,568	(34,024)	(11,341)	100,728
Ammunition (Except Small Arms) Manufacturing	-$492,192,788	$218,355	(2,254)	(751)	14,639
Ship Building and Repairing	-$259,353,469	$163,930	(1,582)	(527)	96,893
Optical Instrument and Lens Manufacturing	$127,628,816	$176,302	724	241	16,869
Small Arms, Ordnance, and Ordnance Accessories Manufacturing	$139,196,463	$235,595	591	197	19,711

[28] Value-added data are from Census' ASM 2019, 2020, and 2021.
[29] Number of Employees data are from Census' ASM 2019, 2020, and 2021.

Table 4-5.3: Employment Opportunities Created or Sustained in Manufacturing Industry Sectors, 2019–2021					
Net Impact of Economic Impact from Export Sales Contracts and Offset Transactions					
Industry Sector	**Total Inputs**	**Value-added Output / Employee[28]**	**Net Employment Opportunities Created or Sustained**	**Annual Average Number of Net Employment Opportunities Created or Sustained**	**Annual Average Number of Employees During 2019-2021[29]**
Radio And Television Broadcasting and Wireless Communications Equipment Manufacturing	-$151,460,890	$196,993	(769)	(256)	64,252
Motor and Generator Manufacturing	$85,188,347	$172,042	495	165	27,123
Electronic Computer Manufacturing	$33,830,831	$149,495	226	75	16,337
Other Commercial and Service Industry Machinery Manufacturing	-$299,684,147	$204,455	(1,466)	(489)	51,913
Motor Vehicle Transmission and Power Train Parts Manufacturing	$33,283,502	$166,244	200	67	77,406
Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	-$284,268,893	$177,264	(1,604)	(535)	4,457
Turbine and Turbine Generator Set Units Manufacturing	-$150,120,593	$178,749	(840)	(280)	29,371
Total	**$34,129,923,089**		**113,710**	**37,903**	**937,857**
Sources: BIS Offset Database; BEA's I/O Accounts; and Census' ASM (2019, 2020, and 2021 data) 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, the data is utilized to illustrate the relationship between the offset-related technology transfer and total U.S. research and development expenditures. As shown in Table 4-6, in 2020 (the most recent year for which total R&D expenditure data was available), the value of reported offset transactions that involved

technology transfers was $989.88 million, equivalent to 0.14 percent of total R&D spending in the United States.[30]

Table 4-6: Trends in U.S. R&D Spending and Reported Offset Transactions Involving Technology Transfer, 2005–2020

Year	Reported Technology Transfer Offset Transactions	Total Private and Federal R&D Expenditures	Technology Transfer Transactions as a Percentage of R&D Spending
2005	$1,479,648,075	$302,731,000,000	0.22%
2006	$717,679,906	$325,288,000,000	0.45%
2007	$709,925,212	$350,908,000,000	0.20%
2008	$958,313,688	$377,890,000,000	0.19%
2009	$986,715,904	$404,777,000,000	0.24%
2010	$874,836,815	$402,932,000,000	0.24%
2011	$672,618,738	$406,600,000,000	0.22%
2012	$612,402,005	$426,215,000,000	0.16%
2013	$873,225,615	$433,716,000,000	0.14%
2014	$374,540,811	$454,271,000,000	0.19%
2015	$553,653,292	$475,969,000,000	0.08%
2016	$156,077,013	$494,499,000,000	0.11%
2017	$499,179,620	$521,700,000,000	0.03%
2018	$473,287,656	$554,012,000,000	0.09%
2019	$561,623,997	$604,837,000,000	0.08%
2020	$989,876,225	$707,967,000,000	0.14%

Sources: BIS Offset Database and the National Science Foundation, *National Center for Science and Engineering Statistics: National Patterns of R&D Resources*: *Data Update, February 22,2022*

Note: The values shown are in current dollars. Total Private and Federal R&D Expenditures for 2021 was not published in time for inclusion in this report. Reported offset-related data and total private and federal R&D expenditures for certain previous years have been revised.

BIS does not collect data from industry on the exact technologies transferred under specific offset agreements and offset transactions. 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

Despite the benefits that may accrue to foreign firms resulting from offset agreements signed with U.S. firms, purchases from foreign firms do not represent a significant share of DOD's total

[30] This figure does not mean that U.S. firms lost 0.14 percent of its R&D spending in 2020. Rather, the number indicates that the actual value of offset transactions involving technology transfer was equivalent to 0.14 percent of domestic R&D spending.

purchases. According to DOD data on its purchases from foreign entities, its procurement actions during Fiscal Year 2021 totaled approximately $385.8 billion, of which $10.0 billion or 2.6 percent was expended on purchases from foreign entities. Defense equipment constituted approximately 15 percent of the purchases from foreign entities. Services, petroleum, construction, and subsistence accounted for 71 percent, with the remaining 14 percent covering a variety of other categories.[31]

See Annex G for an overview of DOD's Fiscal Year 2021 purchases from foreign entities by claimant programs.

[31] See Office of the Under Secretary of Defense for Acquisition and Sustainment, *Report to Congress – Department of Defense Fiscal Year 2021 Purchases from Foreign Entities*, June 2022.

5 Utilization of Annual Report

The data contained in this annual report is considered and utilized by BIS and other representatives of the United States during discussions with foreign governments on offsets in defense trade.

In 2021, U.S. firms reported entering into three new offset agreements with two members of the European Union (EU) valued at $473.49 million. These three agreements accounted for 11.11 percent of the new offset agreements reported by U.S. firms in 2021 based on quantity and 33.55 percent based on offset agreement value. In 2021, U.S. firms reported 122 offset transactions with 10 EU members with an actual value of $1.53 billion, and an offset credit value of $1.78 billion. The EU members accounted for 21.86 percent of all offset transactions reported by U.S. firms in 2021 based on quantity and for 20.71 percent of the actual value of offset transactions.

In April 2018, the Trump Administration issued National Security Presidential Memorandum 10 – *U.S. Conventional Arms Transfer (CAT) Policy*. In July 2018, a supporting CAT Policy Implementation Plan was developed that included a task to reestablish the Interagency Offset Working Group within the Executive Branch.

The Interagency Offset Working Group is co-chaired by the Departments of State and Commerce and includes representatives from DOD and the Office of the U.S. Trade Representative (USTR). The Interagency Offset Working Group is tasked with working with industry to develop recommendations on actions that could be taken to minimize the adverse effects of offsets in defense trade while not hindering the flexibility of U.S. industry as it competes in the global defense market.

In calendar year 2022, the Interagency Offset Working Group held two meetings with industry and had numerous other communications with industry. During these discussions, industry provided information to the Interagency Offset Working Group on the overall state of offsets around the world and highlighted concerns related to some countries' offset practices. As a result of those discussions and consistent with U.S. Government policy on offsets, the Interagency Offset Working Group took specific actions to address industry concerns where those concerns intersected with U.S. Government interests.

Annex A (Not for Public Release)

Annex B (Not for Public Release)

Annex C (Not for Public Release)

Annex D – Overview of Offset Transactions by Category and/or Type, 1993–2021

Table D-1: Offset Transactions by Type							
Year	**Total**	**Direct**	**Indirect**	**Unspecified**	**Direct**	**Indirect**	**Unspecified**
	Actual Value ($ millions)				**% Distribution**		
1993	$1,898	$637	$1,197	$64	33.55%	63.09%	3.36%
1994	$1,935	$628	$1,202	$104	32.47%	62.14%	5.39%
1995	$2,890	$1,109	$1,757	$25	38.36%	60.78%	0.86%
1996	$2,876	$1,249	$1,626	$1	43.42%	56.53%	0.05%
1997	$2,721	$1,042	$1,658	$21	38.29%	60.93%	0.79%
1998	$2,312	$1,470	$842	$0	63.56%	36.43%	0.01%
1999	$2,060	$700	$1,349	$11	33.97%	65.47%	0.55%
2000	$2,190	$767	$1,412	$11	35.04%	64.48%	0.49%
2001	$2,543	$928	$1,615	-	36.49%	63.51%	-
2002	$2,620	$958	$1,660	$1	36.58%	63.37%	0.05%
2003	$3,563	$1,110	$2,447	$6	31.17%	68.68%	0.16%
2004	$4,935	$2,536	$2,398	$1	51.39%	48.60%	0.01%
2005	$4,722	$1,798	$2,924	-	38.07%	61.93%	-
2006	$4,706	$1,689	$2,999	$18	35.89%	63.72%	0.39%
2007	$3,805	$1,890	$1,906	$9	49.68%	50.09%	0.23%
2008	$3,291	$1,571	$1,719	$1	47.74%	52.24%	0.02%
2009	$3,495	$1,299	$2,191	$5	37.17%	62.68%	0.15%
2010	$3,608	$1,194	$2,277	$137	33.10%	63.11%	3.80%
2011	$3,880	$1,907	$1,899	$74	49.14%	48.95%	1.91%
2012	$3,438	$1,188	$1,635	$615	34.56%	47.56%	17.88%
2013	$3,189	$1,088	$2,086	$15	34.13%	65.41%	0.46%
2014	$3,864	$990	$2,867	$7	25.63%	74.20%	0.17%
2015	$5,048	$2,111	$2,648	$289	41.82%	52.45%	5.73%
2016	$2,628	$897	$1,730	$1	34.13%	65.84%	0.03%
2017	$4,578	$1,109	$3,469	$0	24.22%	75.78%	0.00%
2018	$4,223	$1,960	$2,095	$168	46.41%	49.61%	3.98%
2019	$5,166	$1,348	$3,651	$166	26.10%	70.68%	3.22%
2020	$2,928	$842	$2,069	$17	28.77%	70.64%	0.59%
2021	$7,365	$2,425	$4,908	$32	32.93%	66.64%	0.43%
Total or Average	**$102,474**	**$38,439**	**$62,235**	**$1,799**	**37.51%**	**60.73%**	**11.76%**
	Credit Value ($ millions)				**% Distribution**		
1993	$2,214	$737	$1,408	$69	33.31%	63.59%	3.10%
1994	$2,206	$802	$1,295	$109	36.38%	58.69%	4.93%
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	36.17%	62.31%	1.52%
1998	$2,623	$1,629	$991	$3	62.11%	37.79%	0.10%
1999	$2,808	$1,134	$1,604	$70	40.38%	57.12%	2.50%
2000	$2,749	$1,049	$1,689	$11	38.16%	61.45%	0.39%
2001	$3,201	$1,219	$1,982	-	38.08%	61.92%	-
2002	$3,148	$1,128	$2,019	$1	35.83%	64.13%	0.04%
2003	$4,008	$1,213	$2,783	$12	30.26%	69.44%	0.30%
2004	$5,366	$2,665	$2,700	$1	49.66%	50.33%	0.01%
2005	$5,439	$1,871	$3,568	-	34.40%	65.60%	-
2006	$4,906	$1,635	$3,258	$14	33.32%	66.40%	0.28%
2007	$4,742	$2,499	$2,226	$17	52.70%	46.95%	0.35%
2008	$4,768	$2,756	$2,009	$3	57.79%	42.14%	0.07%
2009	$4,129	$1,645	$2,478	$5	39.84%	60.03%	0.13%
2010	$4,477	$1,799	$2,639	$39	40.18%	58.94%	0.87%

	Credit Value ($ millions)				% Distribution		
Year	**Total**	**Direct**	**Indirect**	**Unspecified**	**Direct**	**Indirect**	**Unspecified**
2011	$5,062	$2,789	$2,198	$74	55.11%	43.43%	1.46%
2012	$3,843	$1,301	$1,674	$868	33.85%	43.57%	22.58%
2013	$3,563	$1,329	$2,219	$15	37.29%	62.29%	0.42%
2014	$4,289	$1,143	$3,133	$13	26.65%	73.04%	0.31%
2015	$5,321	$2,220	$2,809	$293	41.71%	52.78%	5.51%
2016	$3,065	$1,110	$1,954	$1	36.23%	63.75%	0.02%
2017	$5,352	$1,243	$4,108	$1	23.23%	76.75%	0.03%
2018	$4,550	$2,091	$2,291	$168	45.95%	50.35%	3.69%
2019	$5,559	$1,380	$4,012	$166	24.82%	72.18%	3.00%
2020	$4,220	$936	$3,267	$17	22.18%	77.41%	0.41%
2021	$8,727	$2,766	$5,926	$36	31.69%	67.90%	0.41%
Total or Average	**$120,298**	**$45,756**	**$72,411**	**$2,131**	**38.04%**	**60.19%**	**1.77%**

Source: BIS Offset Database

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

Table D-2: Number of Offset Transactions by Type and with Multipliers, 1993–2021						
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	66	14.86%
1994	566	178	383	5	83	14.66%
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	82	13.10%
2001	616	223	393	0	113	18.34%
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	115	16.27%
2011	740	256	467	17	77	10.41%
2012	690	213	402	75	74	10.72%
2013	546	191	354	1	45	8.24%
2014	672	180	488	4	76	11.31%
2015	647	201	444	2	44	6.76%
2016	506	149	356	1	62	12.25%
2017	546	266	279	1	61	11.17%
2018	450	137	309	4	41	9.11%
2019	414	110	302	2	35	8.45%
2020	320	78	241	1	68	21.25%
2021	558	211	340	7	42	7.53%
Total or Average	**17,490**	**6,098**	**11,238**	**154**	**2,073**	**11.85%**

Source: BIS Offset Database
Note: Reported offset-related data for certain previous years have been revised.

Table D-3: Number of Offset Transactions by Category and Type and with Multipliers, 1993–2021					
Transaction Category	**Total**	**Direct**	**Indirect**	**Unspecified**	**Multipliers Greater than 1**
Purchasing	7,796	328	7,458	10	537
Subcontract	4,050	3,401	644	5	343
Technology Transfer	2,057	890	1,145	22	434
Other	1,318	341	883	94	366
Co-Production	608	589	14	5	37
Training	578	235	334	9	173
Investment	505	52	447	6	123
Licensed Production	394	244	147	3	29
Credit Assistance	184	18	166	-	31
Total	**17,490**	**6,098**	**11,238**	**154**	**2,073**
Source: BIS Offset Database Note: Reported offset-related data for certain previous years have been revised.					

Table D-4: Offset Transactions by Category, Type, and Value, 1993–2021								
Transaction Category	**Actual Values ($ millions)**				**Percent by Column Total**			
	Total	**Dir.**	**Ind.**	**Unsp.**	**Total**	**Dir.**	**Ind.**	**Unsp.**
Purchasing	$35,220	$1,855	$33,334	$32	34.37%	4.83%	53.56%	1.79%
Subcontract	$20,577	$18,318	$2,243	$15	20.08%	47.66%	3.60%	0.84%
Technology Transfer	$17,019	$8,040	$8,674	$306	16.61%	20.91%	13.94%	17.26%
Other	$8,691	$2,164	$5,247	$1,281	8.48%	5.63%	8.43%	72.31%
Investment	$7,034	$636	$6,307	$91	6.86%	1.65%	10.13%	5.12%
Co-Production	$4,033	$3,971	$19	$43	3.94%	10.33%	0.03%	2.41%
Training	$3,907	$934	$2,968	$5	3.81%	2.43%	4.77%	0.28%
Licensed Production	$3,539	$2,207	$1,304	$28	3.45%	5.74%	2.09%	1.59%
Credit Assistance	$2,453	$314	$2,139	-	2.39%	0.82%	3.44%	-
Total	**$102,474**	**$38,439**	**$62,235**	**$1,771**	**100.00%**	**100.00%**	**100.00%**	**100.00%**
Transaction Category	**Credit Values ($ millions)**				**Percent by Column Total**			
	Total	**Dir.**	**Ind.**	**Unsp.**	**Total**	**Dir.**	**Ind.**	**Unsp.**
Purchasing	$37,056	$1,897	$35,128	$32	30.80%	2.42%	48.51%	1.49%
Subcontract	$22,863	$20,423	$2,425	$15	19.01%	26.06%	3.35%	0.70%
Technology Transfer	$20,021	$9,311	$10,474	$236	16.64%	11.88%	14.46%	11.07%
Other	$14,413	$36,252	$9,176	$1,612	11.98%	46.25%	12.67%	75.63%
Investment	$9,077	$1,013	$7,922	$141	7.55%	1.29%	10.94%	6.63%
Co-Production	$4,793	$4,731	$19	$43	3.98%	6.04%	0.03%	2.00%
Training	$5,279	$1,845	$3,416	$18	4.39%	2.35%	4.72%	0.85%
Licensed Production	$4,052	$2,516	$1,502	$35	3.37%	3.21%	2.07%	1.62%
Credit Assistance	$2,744	$395	$2,349	-	2.28%	0.50%	3.24%	-
Total	**$120,298**	**$78,383**	**$72,411**	**$2,131**	**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 D-5: Offset Transactions by Category ($ thousands)

Year	Co-Production			Credit Assistance			Investment			Licensed Production			Purchasing		
	Actual Value	Credit Value	Total Number	Actual Value	Credit Value	Total Number	Actual Value	Credit Value	Total Number	Actual Value	Credit Value	Total Number	Actual Value	Credit Value	Total Number
1993	$35,550	$35,550	6	$340,492	$366,794	12	$41,499	$41,500	13	$37,851	$41,451	8	$703,850	$865,524	226
1994	$111,895	$112,185	10	$3,494	$21,639	3	$93,265	$98,474	17	$45,424	$67,629	15	$694,506	$735,909	288
1995	$86,898	$86,898	11	$374,248	$468,930	20	$117,152	$363,556	9	$5,110	$4,965	2	$863,425	$932,133	367
1996	$16,952	$22,052	3	$244,270	$258,970	15	$10,656	$10,656	2	$26,425	$26,425	1	$1,090,104	$1,116,434	298
1997	$28,339	$28,339	22	$168,410	$168,410	20	$85,126	$271,538	6	$0	$0	0	$837,071	$894,517	245
1998	$94,332	$98,283	30	$43,920	$43,920	4	$0	$0	0	$0	$0	0	$582,198	$595,910	253
1999	$47,803	$47,803	19	$16,888	$16,888	3	$28,475	$219,079	9	$460	$23,000	2	$869,591	$883,930	203
2000	$27,691	$27,691	15	$9,952	$9,952	2	$52,343	$69,621	7	$9,816	$9,816	1	$840,845	$915,622	299
2001	$16,575	$80,300	2	$4,726	$8,027	3	$59,933	$72,945	7	$25,000	$25,000	1	$1,132,958	$1,250,367	331
2002	$0	$0	0	$29,453	$29,453	1	$24,484	$85,234	12	$0	$0	0	$1,289,790	$1,537,001	452
2003	$260,250	$266,465	18	$51,610	$51,610	6	$172,683	$226,215	13	$1,500	$0	1	$1,790,932	$1,835,692	422
2004	$1,395,766	$1,268,666	105	$141,234	$170,453	20	$162,077	$393,819	15	$13,679	$13,679	3	$1,351,878	$1,463,620	213
2005	$309,409	$322,204	74	$61,028	$76,828	10	$185,819	$192,387	19	$123,836	$268,326	5	$1,975,390	$2,393,048	286
2006	$383,587	$432,089	93	$442,028	$453,521	28	$118,733	$124,593	17	$62,000	$64,000	3	$2,029,212	$2,280,352	252
2007	$398,250	$496,255	83	$76,997	$84,164	8	$106,953	$158,986	21	$2,972	$2,972	1	$916,823	$963,306	219
2008	$243,888	$519,084	51	$41,641	$54,171	5	$116,063	$168,033	22	$10,393	$10,393	2	$940,543	$956,295	327
2009	$107,080	$107,080	13	$6,377	$6,377	3	$111,923	$160,883	17	$207,742	$214,696	43	$1,469,915	$1,501,925	333
2010	$148,300	$237,583	2	$8,745	$19,700	2	$185,338	$306,236	25	$380,277	$398,213	45	$1,236,751	$1,307,767	380
2011	$13,943	$13,943	3	$0	$0	0	$112,643	$272,628	35	$307,095	$535,101	56	$1,539,704	$1,512,310	382
2012	$58,304	$58,304	12	$15,872	$30,872	3	$43,226	$43,226	7	$308,339	$308,339	34	$978,762	$956,765	228
2013	$1,999	$1,999	5	$0	$0	0	$77,457	$83,457	13	$261,835	$347,618	31	$945,762	$937,560	215
2014	$432	$432	1	$0	$0	0	$201,418	$307,478	30	$259,362	$259,362	26	$2,357,780	$2,415,299	329
2015	$0	$0	0	$0	$0	0	$134,147	$139,614	21	$159,817	$159,817	9	$2,873,731	$2,887,585	312
2016	$50,016	$198,365	2	$4,952	$115,623	4	$64,110	$113,918	14	$115,734	$115,734	8	$1,151,081	$1,133,922	224
2017	$6,722	$11,817	3	$3,986	$13,539	2	$2,003,775	$2,026,025	26	$114,434	$118,234	10	$576,747	$555,973	259
2018	$147,036	$156,173	18	$355,645	$356,050	9	$207,433	$219,973	26	$157,216	$157,216	21	$1,058,154	$1,081,004	128
2019	$23,634	$36,983	3	$0	$0	0	$173,937	$479,337	24	$236,564	$212,560	28	$1,057,644	$1,052,754	103
2020	$692	$692	1	$0	$0	0	$320,519	$327,419	30	$33,892	$35,908	8	$509,854	$522,192	72
2021	$18,065	$125,941	3	$10,650	$10,650	3	$2,022,478	$2,099,917	48	$632,335	$631,599	30	$1,555,292	$1,571,618	150

Source: BIS Offset Database

Note: The values shown have not been adjusted for inflation. Reported offset-related data for certain previous years have been revised.

Table D-5: Offset Transactions by Category ($ thousands) (continued)

Year	Subcontracting			Technology Transfer			Training			All Others		
	Actual Value	Credit Value	Total Number	Actual Value	Credit Value	Total Number	Actual Value	Credit Value	Total Number	Actual Value	Credit Value	Total Number
1993	$336,368	$405,101	109	$300,307	$320,504	32	$50,994	$69,027	21	$50,967	$68,168	17
1994	$267,518	$319,081	95	$462,569	$495,849	68	$107,448	$191,956	34	$148,742	$163,370	36
1995	$830,419	$887,985	147	$334,328	$395,024	71	$81,146	$157,453	33	$197,760	$295,647	51
1996	$721,298	$733,511	175	$476,657	$426,849	60	$176,196	$245,478	38	$113,266	$257,647	42
1997	$848,489	$868,412	141	$289,527	$492,451	67	$9,460	$61,636	13	$454,159	$487,010	64
1998	$1,215,476	$1,244,506	164	$196,765	$413,335	63	$34,929	$70,007	14	$144,550	$157,246	54
1999	$452,464	$476,331	140	$336,018	$396,856	69	$4,330	$31,370	3	$303,704	$713,077	65
2000	$583,874	$774,278	149	$293,377	$430,962	76	$68,887	$123,299	27	$302,950	$388,093	50
2001	$707,069	$863,615	154	$529,343	$788,885	89	$18,427	$28,710	15	$48,656	$82,960	14
2002	$826,348	$929,994	163	$287,465	$383,076	66	$26,344	$33,004	12	$135,848	$149,847	28
2003	$506,058	$602,288	101	$547,446	$563,306	75	$87,170	$165,247	19	$145,262	$297,232	34
2004	$848,650	$849,886	207	$669,458	$782,957	85	$140,524	$148,739	29	$211,266	$273,924	33
2005	$485,233	$508,445	91	$1,479,648	$1,504,264	100	$6,473	$21,167	5	$95,146	$152,360	34
2006	$690,033	$690,033	150	$717,680	$637,598	75	$88,558	$87,265	14	$174,010	$136,966	29
2007	$879,561	$921,161	169	$709,925	$905,483	56	$50,120	$162,998	12	$662,926	$1,046,377	64
2008	$680,119	$863,793	121	$958,314	$1,462,126	86	$73,283	$108,226	13	$226,486	$626,110	44
2009	$472,836	$698,370	140	$986,716	$1,120,309	109	$14,571	$76,325	13	$118,210	$242,668	31
2010	$605,563	$825,264	124	$874,837	$1,076,516	76	$52,207	$83,329	15	$116,107	$222,297	38
2011	$979,598	$1,198,649	136	$672,619	$866,470	80	$88,878	$483,351	21	$165,737	$179,052	27
2012	$466,270	$563,589	231	$612,402	$665,508	68	$200,111	$201,488	27	$754,223	$1,015,158	80
2013	$754,136	$797,242	154	$873,226	$1,050,305	88	$159,208	$218,132	23	$115,434	$126,582	17
2014	$378,101	$470,731	185	$374,541	$476,202	50	$110,628	$127,708	12	$181,597	$232,234	39
2015	$437,436	$487,894	158	$553,653	$650,066	45	$262,695	$267,317	19	$626,059	$729,059	83
2016	$615,896	$629,055	128	$156,752	$210,257	50	$37,660	$42,729	15	$432,029	$504,992	61
2017	$415,070	$422,241	84	$499,354	$536,177	43	$140,974	$168,877	22	$816,466	$1,499,292	97
2018	$1,200,133	$1,200,778	121	$473,288	$507,488	66	$135,512	$184,870	12	$488,610	$686,908	49
2019	$1,559,844	$1,601,180	114	$561,624	$576,427	70	$1,099,234	$1,125,772	30	$453,194	$473,720	42
2020	$477,490	$481,913	50	$989,876	$1,061,558	96	$162,463	$163,663	6	$433,526	$1,626,478	57
2021	$1,335,368	$1,547,640	149	$801,431	$824,319	78	$418,768	$429,507	61	$570,755	$1,486,168	36

Source: BIS Offset Database
Note: The values shown have not been adjusted for inflation. Reported offset-related data for certain previous years have been revised.

Annex E (Not for Public Release)

Annex F (Not for Public Release)

Annex G – Department of Defense's Foreign Purchases by Category and Total Obligation, Fiscal Year 2021

DOD Purchase Category	Foreign Purchases (Dollars)
Petroleum	$2,704,286,728.24
Services	$2,287,547,241.93
Construction	$2,047,760,442.24
All Others Not Identifiable to Any Other Procurement Program	$1,198,484,864.69
Electronics and Communication Equipment	$358,357,094.09
Ships	$295,749,059.83
Ammunition	$254,561,087.07
Other Aircraft Equipment	$168,411,290.48
Missile and Space Systems	$148,723,929.44
Airframes and Spares	$136,649,424.89
Aircraft Engines and Spares	$100,896,262.92
Weapons	$98,562,381.62
Combat Vehicles	$54,493,568.73
Medical and Dental Supplies and Equipment	$50,383,266.62
Non-Combat Vehicles	$42,664,152.03
Textiles, Clothing and Equipage	$20,584,083.47
Materials Handling Equipment	$12,915,923.59
Other Fuels and Lubricants	$12,485,775.72
Construction Equipment	$10,852,151.52
Subsistence	$10,307,504.10
Building Supplies	$4,908,420.13
Production Equipment	$4,302,097.48
Transportation Equipment (Railway)	$1,013,978.21
Photographic Equipment and Supplies	$251,568.18
Separately Procured Containers and Handling Equipment	$195,071.87
Miscellaneous	$35,881.68*
Total	**$10,025,311,487**

Source: Office of the Under Secretary of Defense for Acquisition and Sustainment, *Report to Congress – Department of Defense Fiscal Year 2021 Purchases from Foreign Entities*, June 2022.

*Note: Net contract de-obligations exceed obligations during fiscal year.

Annex H – Glossary and Offset Example

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

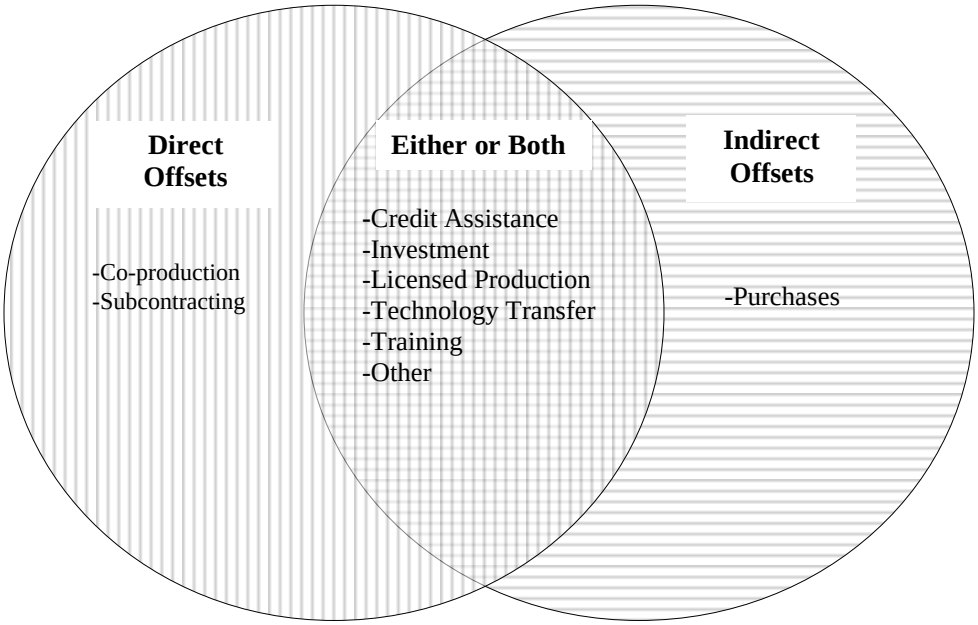
Co-production: Transactions that are based upon government-to-government agreements authorizing the transfer of technology to permit foreign companies to manufacture all or part of U.S.-origin defense articles. Such transactions are based upon an agreement specifically referenced in Foreign Military 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: (1) 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); or (2) Items controlled under an Export Control Classification Number (ECCN) that has the numeral ''6'' as its third character in the Commerce Control List found in Supplement No. 1 to part 774 of this chapter other than semisubmersible and submersible vessels specially designed for cargo transport and parts, components, accessories and attachments specially designed therefor controlled under ECCN 8A620.b; test, inspection and production equipment controlled in ECCN 8B620.b, software controlled in ECCN 8D620.b and technology controlled in ECCN 8E620.b.

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 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 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 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.