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U.S. Foreign Aid to Israel

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SUMMARY

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August 7, 2019

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U.S. Foreign Aid to Israel

This report provides an overview of U.S. foreign assistance to Israel. It includes a review of past aid programs, data on annual assistance, and analysis of current issues. For general information on Israel, see *Israel: Background and U.S. Relations in Brief*, by Jim Zanotti.

Israel is the largest cumulative recipient of U.S. foreign assistance since World War II. To date, the United States has provided Israel $142.3 billion (current, or noninflation-adjusted, dollars) in bilateral assistance and missile defense funding. Almost all U.S. bilateral aid to Israel is in the form of military assistance, although from 1971 to 2007 Israel also received significant economic assistance.

In 2016, the U.S. and Israeli governments signed a new 10-year Memorandum of Understanding (MOU) on military aid, covering FY2019 to FY2028. Under the terms of the MOU, the United States pledges to provide $38 billion in military aid ($33 billion in Foreign Military Financing grants plus $5 billion in missile defense appropriations) to Israel. This MOU replaced a previous $30 billion 10-year agreement, which ran through FY2018.

Israel is the first international operator of the F-35 Joint Strike Fighter, the Department of Defense's fifth-generation stealth aircraft, considered to be the most technologically advanced fighter jet ever made. To date, Israel has purchased 50 F-35s in three separate contracts.

P.L. 116-6, the Consolidated Appropriations Act, 2019, provides the following for Israel:

- $3.3 billion in Foreign Military Financing (FMF), of which $815.3 million is for off-shore procurement;
- $5 million in Migration and Refugee Assistance (MRA) for refugee resettlement
- $2 million in a homeland security grant;
- Reauthorization of U.S. loan guarantees to Israel through September 30, 2023; and
- Reauthorization of War Reserve Stock Allies-Israel (WRSA-I) through Sept 30, 2020.

P.L. 115-245, the Department of Defense and Labor, Health and Human Services, and Education Appropriations Act, 2019 and Continuing Appropriations Act, 2019, provides the following for Israel:

- $500 million in missile defense, of which $70 million is for Iron Dome, $187 million for David's Sling, $80 million for Arrow 3, and $163 million for Arrow 2.

For FY2020, the Trump Administration requested $3.3 billion in FMF for Israel and $500 million in missile defense aid to mark the second year of the MOU. The Administration also requested $5 million in MRA humanitarian funding for migrants to Israel.

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Background and Recent Trends

The United States and Israel have maintained strong bilateral relations based on a number of factors, including robust domestic U.S. support for Israel and its security; shared strategic goals in the Middle East; a mutual commitment to democratic values; and historical ties dating from U.S. support for the creation of Israel in 1948. U.S. foreign aid has been a major component in cementing and reinforcing these ties. U.S. officials and many lawmakers have long considered Israel to be a vital partner in the region, and U.S. aid packages for Israel have reflected this calculation. While some U.S. citizens have worked to cultivate U.S. support for Israel since its creation in 1948, in the years following the 1973 Yom Kippur War advocates for Israel have created an organized, broad-based domestic movement to foster bipartisan support in Congress for the bilateral relationship, including for U.S. aid to Israel.

In recent years, however, that strong domestic support for Israel has become more of a subject of debate. Demographic trends have been one element contributing to changing perceptions of U.S.-Israel relations.[1] In the United States, younger, religiously-unaffiliated, American Muslim, and liberal U.S. voters appear to hold more critical views of the Israeli government's treatment of Palestinians.[2] As a result, American public attitudes toward Israel's government are growing more polarized. In April 2019, the Pew Research Center released survey results indicating that "by nearly two-to-one (61% to 32%), Republicans have a favorable view of Israel's government. By contrast, two-thirds of Democrats view Israel's government unfavorably, while just 26% have a favorable opinion."[3]

Beyond these trends in public opinion, critics have long expressed a range of dissenting views toward U.S. foreign assistance to Israel. These views span a wide spectrum ranging from broad opposition to U.S. foreign aid globally to objections over Israeli settlement construction in the West Bank or Israel's treatment of the Palestinians. As debate over the U.S.-Israeli relationship has become more complex, it may be more difficult to distinguish between those who seek to withhold or condition assistance to Israel under some circumstances and those who object to U.S. aid for Israel more generally.[4]

In 2019, Israel is more secure and prosperous than in previous decades. And yet, despite its status as a high income country, military power, and top global weapons exporter, Israel remains largely dependent on the United States for the procurement of certain key high-cost U.S. weapon systems, such as combat aircraft. In order to demonstrate the continued utility of U.S. aid to Israel, proponents of foreign assistance have not only emphasized Israel's defensive, qualitative needs, but also that U.S. aid is mutually beneficial for the United States and Israel. They note that U.S. investments in Israeli defense and non-defense technologies have led to improvements in sectors such as missile defense, energy efficiency, and water supply.[5]

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[1] "Changing Demographics: Implications for Israel," *Jewish Policy Center*, February 28, 2013 and "Israel's Religiously Divided Society," *Pew Research Center*, March 8, 2016.

[2] "How Generational Trends could complicate the U.S.-Israeli Relationship," *Stratfor*, March 27, 2019.

[3] "U.S. Public Has Favorable View of Israel's People, but is Less Positive Toward Its Government," *Pew Research Center*, April 24, 2019.

[4] The issue of what constitutes legitimate criticism of U.S. policy toward Israel and what qualifies as the de-legitimization of Israel or even anti-Semitism has received extensive media coverage in recent years. For example, see "How the Battle over Israel and Anti-Semitism is Fracturing American Politics," *New York Times*, March 28, 2019.

[5] Testimony of Howard Kohr, CEO of The American Israel Public Affairs Committee (AIPAC), House Appropriations Committee — Subcommittee on State, Foreign Operations, and Related Programs, March 12, 2019.

Table 1. Total U.S. Foreign Aid Obligations to Israel: 1946-2019 and the 2020 Request

current, or non-inflation-adjusted, dollars in millions

Fiscal Year	Military	Economic	Missile Defense	Total
1946-2017	94,790.100	34,281.000	5,705.609	134,776.709
2018	3,100.000	-	705.800	3,805.800
2019	3,300.000	-	500.000	3,800.000
2020 Request	3,300.000	-	500.000	3,800.000
Total	**101,190.100**	**34,281.000**	**6,911.410**	**142,382.510**

Sources: U.S. Overseas Loans and Grants (Greenbook), the U.S. State Department, and the Missile Defense Agency.

Notes: The Greenbook figures do not include missile defense funding provided by the Department of Defense. According to USAID Data Services as of July 2019, in constant 2017 U.S. dollars (inflation-adjusted), total U.S. aid to Israel obligated from 1946-2017 is $228.7 billion.

Qualitative Military Edge (QME)

Overview

Almost all current U.S. aid to Israel is in the form of military assistance.[6] U.S. military aid has helped transform Israel's armed forces into one of the most technologically sophisticated militaries in the world. U.S. military aid for Israel has been designed to maintain Israel's "qualitative military edge" (QME) over neighboring militaries.[7] The rationale for QME is that Israel must rely on better equipment and training to compensate for being much smaller in land area and population than its potential adversaries. U.S. military aid also has helped Israel build its domestic defense industry, which ranks as one of the top global suppliers of arms.[8] Israel exports missile defense systems, unmanned aerial vehicles, cybersecurity products, radar, and electronic communications systems to, among others: India, Azerbaijan, Vietnam, Thailand, South Korea,

[6] For many years, U.S. economic aid helped subsidize a lackluster Israeli economy, but since the rapid expansion of Israel's high-tech sector and overall economy in the 1990s (sparked partially by U.S.-Israeli scientific cooperation), Israel has been considered a fully industrialized nation. Consequently, Israel and the United States agreed to gradually phase out economic grant aid to Israel. In FY2008, Israel stopped receiving bilateral Economic Support Fund (ESF) grants. It had been a large-scale recipient of grant ESF assistance since 1971.

[7] The concept of QME (independent of its application to Israel) dates back to the Cold War. In assessing the balance of power in Europe, U.S. war planners would often stress to lawmakers that because countries of the Warsaw Pact had a numerical advantage over U.S. and allied forces stationed in Europe, the United States must maintain a "qualitative edge" in defense systems. For example, see, Written Statement of General William O. Gribble, Jr., Hearings on Research, Development, Test, and Evaluation Program for Fiscal Year 1973, Before Subcommittee No. 1 of Committee on Armed Services, House of Representatives, Ninety-Second Congress, Second Session, February 2, 3, 7, 9, 22, 23, 24, March 6, 7, and 8, 1972. The concept was subsequently applied to Israel in relation to its Arab adversaries. In 1981, then-U.S. Secretary of State Alexander Haig testified before Congress, saying, "A central aspect of US policy since the October 1973 war has been to ensure that Israel maintains a qualitative military edge." Secretary of State Al Haig, Statement for the Record submitted in response to Question from Hon. Clarence Long, House Appropriations Subcommittee on Foreign Operations Appropriations, April 28, 1981.

[8] See, CRS Report R44716, *Conventional Arms Transfers to Developing Nations, 2008-2015*, by Catherine A. Theohary. Also, according to the Stockholm International Peace Research Institute (SIPRI), from 2012 to 2016, Israel was the 8th largest arms exporter worldwide, accounting for 3.1% of world deliveries. See, "Trends in International Arms Transfers, 2018," SIPRI Fact Sheet, March 2019.

Singapore, Philippines, Australia, France, Germany, Italy, Russia, Brazil, and the United States.[9] In addition to a planned U.S. purchase of Iron Dome (see below), the United States has purchased, among other items, the following Israeli defense articles: Trophy active protection systems for M1 Abrams tanks, helmets for F-35 fighter pilots, and an electronic fence along the U.S.-Mexico border.

Successive Administrations have routinely affirmed the U.S. commitment to strengthening Israel's QME. However, for years, no official or public U.S. definition of QME existed.[10] In order to clarify U.S. policy on preserving Israel's QME, Congress has passed several pieces of legislation addressing the issue. For example, in 2008, Congress passed legislation (P.L. 110-429, the Naval Vessel Transfer Act of 2008) that defined QME as

> the ability to counter and defeat any credible conventional military threat from any individual state or possible coalition of states or from non-state actors, while sustaining minimal damage and casualties, through the use of superior military means, possessed in sufficient quantity, including weapons, command, control, communication, intelligence, surveillance, and reconnaissance capabilities that in their technical characteristics are superior in capability to those of such other individual or possible coalition of states or non-state actors.[11]

Section 201 of P.L. 110-429 required the President to carry out an "empirical and qualitative assessment on an ongoing basis of the extent to which Israel possesses a qualitative military edge over military threats to Israel." The 2008 law also amended Section 36 of the Arms Export Control Act (AECA) to require certifications for proposed arms sales "to any country in the Middle East other than Israel" to include "a determination that the sale or export of the defense articles or defense services will not adversely affect Israel's qualitative military edge over military threats to Israel." What might constitute a legally defined adverse effect to QME is not clarified in U.S. legislation.

Congress has passed additional legislation addressing Israel's QME. In 2012, Congress passed the United States-Israel Enhanced Security Cooperation Act (P.L. 112-150), which, among other things, reiterated that it is the policy of the United States to "to help the Government of Israel preserve its qualitative military edge amid rapid and uncertain regional political transformation." In 2014, Congress passed The U.S.-Israel Strategic Partnership Act (P.L. 113-296). This act amended Section 36 of the AECA to require that the Administration explain, in cases of sales or exports of major U.S. defense equipment to other Middle Eastern states, what is "Israel's capacity to address the improved capabilities provided by such sale or export."[12] The act also requires the Administration to:

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[9] Israel Ministry of Defense, Defense Export and Defense Co-Operation Agency (SIBAT), and Jane's, Navigating the Emerging Markets, Israel, January 10, 2019. Per a 1987 Memorandum of Understanding between the United States and Israel as amended, (Reciprocal Defense Procurement and Acquisition Policy Memorandum of Understanding), Israeli and U.S. defense contractors are able to compete in both countries for contracts on an equal basis. For the text of the MOU, see: https://www.acq.osd.mil/dpap/Docs/mou-israel.pdf.

[10] William Wunderle and Andre Briere, *U.S. Foreign Policy and Israel's Qualitative Military Edge: The Need for a Common Vision*, Washington Institute for Near East Policy, Policy Focus #80, January 2008.

[11] In the 116th Congress, in Section 131 of both House and Senate versions (H.R. 336 and S. 1) of the Strengthening America's Security in the Middle East Act of 2019, the original definition of QME contained in P.L. 110-429 is repeated as a statement of policy, with one addition (denoted in italics): "It is the policy of the United States to ensure that Israel maintains its ability to counter and defeat any credible conventional military, *or emerging*, threat…"

[12] Upon signing P.L. 113-296 into law, President Obama issued a signing statement noting: "Sections 11(b) and 12(c)(2) of this bill purport to require me to provide to the Congress certain diplomatic communications and direct the Secretary of State to undertake certain diplomatic initiatives. Consistent with longstanding constitutional practice, my

- Evaluate "how such sale or export alters the strategic and tactical balance in the region, including relative capabilities; and Israel's capacity to respond to the improved regional capabilities provided by such sale or export."
- Include "an identification of any specific new capacity, capabilities, or training that Israel may require to address the regional or country-specific capabilities provided by such sale or export; and a description of any additional United States security assurances to Israel made, or requested to be made, in connection with, or as a result of, such sale or export."

Finally, P.L. 113-296 amended Section 201(c) of the Naval Vessel Transfer Act of 2008 (22 U.S.C. 2776) by requiring Administration reports on QME every two years rather than (as previously required) every four.[13]

QME and U.S. Arms Sales to the Gulf

Israeli officials periodically express concern over U.S. sales of sophisticated weaponry, particularly aircraft, airborne radar systems, and precision-guided munitions, to Arab Gulf countries. As the United States has been one of the principal suppliers of defense equipment and training to both Israel and the Arab Gulf states, U.S. policymakers and defense officials have sought to carefully navigate U.S. defense commitments, while following the legal requirement to maintain Israel's QME.

Although in recent times Israel and the Arab Gulf states have coalesced against a commonly perceived Iranian threat, U.S. arms sales to Arab Gulf states still periodically raise Israeli QME concerns. UAE interest in becoming the first Arab state operator of the F-35 Joint Strike Fighter may raise such Israeli QME concerns. The Trump Administration reportedly has agreed to enter into preliminary talks with the UAE on procurement of the F-35.[14] In addition to satisfying QME concerns before considering an F-35 sale to the UAE, the United States may also require the UAE to improve its protection of data security due to the sensitive technologies in the F-35's hardware and software.[15] To date, no specific decision has been announced to begin preliminary U.S.-UAE talks on the subject. Retired Israeli Defense Force Colonel Shimon Arad has been a vocal critic of selling the F-35 to the UAE, saying: "The release of F-35s to the Gulf states is a fundamental military game-changer that, in combination with the advanced fourth generation fighters and the tens of thousands of sophisticated munitions, will cancel out Israel's QME."[16]

administration will interpret and implement these sections in a manner that does not interfere with my constitutional authority to conduct diplomacy and to protect the confidentiality of diplomatic communications." See Barack Obama: "Statement on Signing the United States-Israel Strategic Partnership Act of 2014," December 19, 2014. Online by Gerhard Peters and John T. Woolley, The American Presidency Project.

[13] QME reports to Congress are reportedly classified.

[14] "Trump could let the UAE buy F-35 jets," *Defense News*, November 4, 2017.

[15] "To Seal F-35 Deal, UAE Must Agree To Protect Sensitive Information," *Aerospace Daily & Defense Report*, November 14, 2017.

[16] "Israeli F-35s: So Good They Spark an Arms Race?" *The National Interest*, May 8, 2019. A year earlier, the same author wrote: "Israel must retain its regional exclusivity of this platform [F-35] and work to delay the release of fifth-generation fighters to other countries in the region for as long as possible. It appears that it will not be possible to prevent the sale of fifth-generation fighter planes to Arab states forever, but it is certainly possible to delay this development by several years." See, Shimon Arad, "Delaying the Release of Fifth-Generation Fighter Planes to the Arab States," INSS Insight, No. 1029, March 5, 2018.

U.S. Bilateral Military Aid to Israel

Since 1999, overall U.S. assistance to Israel has been outlined in 10-year government-to-government Memoranda of Understanding (MOUs). MOUs are not legally binding agreements like treaties, and thus do not require Senate ratification. Also, Congress may accept or change year-to-year assistance levels for Israel, or provide supplemental appropriations. Nevertheless, past MOUs have significantly influenced the terms of U.S. aid to Israel; Congress has appropriated foreign aid to Israel largely according to the terms of the MOU in place at the time.

Brief History of MOUs on U.S. Aid to Israel

The first 10-year MOU (FY1999-FY2008), agreed to under the Clinton Administration, was known as the "Glide Path Agreement" and represented a political commitment to provide Israel with at least $26.7 billion in total economic and military aid over its duration (of which $21.3 billion was in military aid).[17] This MOU provided the template for the gradual phase-out of all economic assistance to Israel.

In 2007, the Bush Administration and the Israeli government agreed to a second MOU consisting of a $30 billion military aid package for the 10-year period from FY2009 to FY2018. Under the terms of that agreement, Israel was explicitly permitted to continue spending up to 26.3% of U.S. assistance on Israeli-manufactured equipment (known as Off-Shore Procurement or OSP - discussed below). The agreement stated that "Both sides acknowledge that these funding levels assume continuation of adequate levels for U.S. foreign assistance overall, and are subject to the appropriation and availability of funds for these purposes."[18]

The Current 10-Year Security Assistance Memorandum of Understanding (MOU)

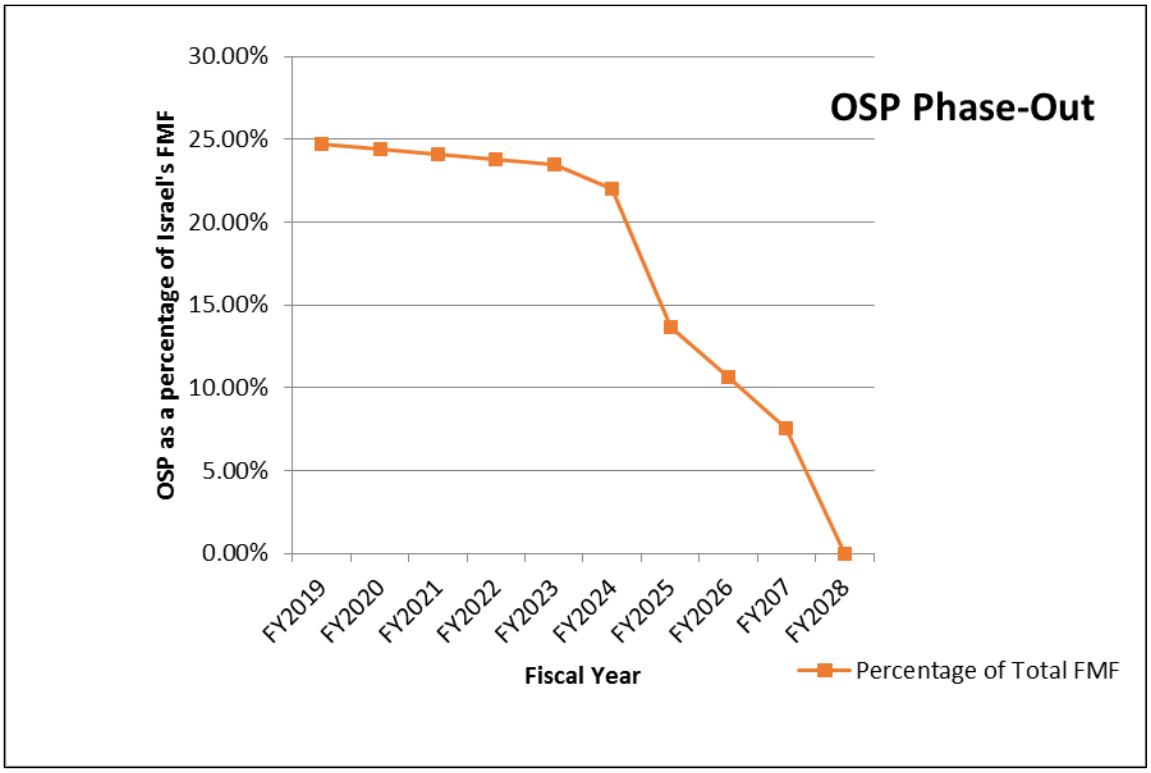
At a signing ceremony at the State Department on September 14, 2016, representatives of the U.S. and Israeli governments signed a new 10-year Memorandum of Understanding (MOU) on military aid covering FY2019 to FY2028. Under the terms of this third MOU, the United States pledges to provide $38 billion in military aid ($33 billion in Foreign Military Financing (FMF) grants, plus $5 billion in defense appropriations for missile defense programs) to Israel. According to the terms of the MOU, "Both the United States and Israel jointly commit to respect the FMF levels specified in this MOU, and not to seek changes to the FMF levels for the duration of this understanding."[19]

[17] See, Joint Statement by President Clinton and Prime Minister Ehud Barak, July 19, 1999. According to the statement, "The United States and Israel will sign a Memorandum of Understanding (MOU) which will express their joint intention to restructure U.S. bilateral assistance to Israel. The MOU will state the United States' intention to sustain its annual military assistance to Israel, and incrementally increase its level by one-third over the next decade to a level of $2.4 billion subject to Congressional consultations and approval. At the same time, the MOU will provide for a gradual phase-out of U.S. economic aid to Israel, over a comparable period, as the Israeli economy grows more robust, less dependent on foreign aid, and more integrated in world markets."

[18] United States-Israel Memorandum of Understanding, Signed by then U.S. Under Secretary of State R. Nicholas Burns and Israeli Ministry of Foreign Affairs Director General Aaron Abramovich, August 16, 2007.

[19] Memorandum of Understanding between the United States and Israel, September 14, 2016.

Figure 1. Phasing Out Off-Shore Procurement (OSP) Under the MOU



Source: CRS.

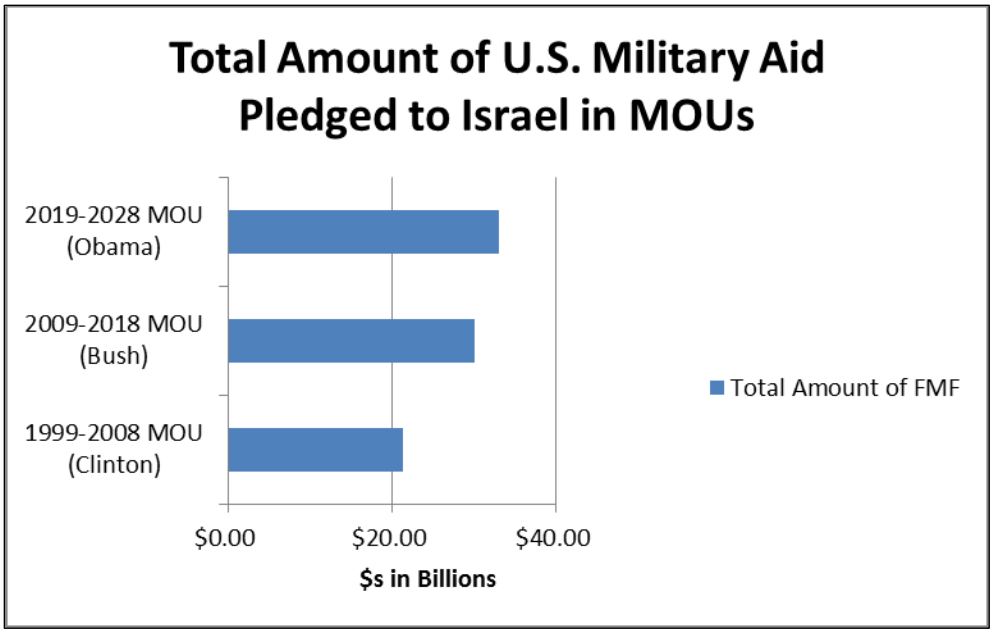
The terms of the 2019-2028 MOU differ from previous agreements on issues such as

- **Phasing out Off-Shore Procurement (OSP).** Under the terms of the third MOU, OSP will decrease slowly until FY2024, but will then be phased out more dramatically over the MOU's last five years, ending entirely in FY2028 (see **Figure 1**). The MOU calls on Israel to provide the United States with "detailed programmatic information related to the use of all U.S. funding, including funds used for OSP." In response to the planned phase-out of OSP, some Israeli defense contractors may be seeking to merge with U.S. companies or open U.S. subsidiaries in order to continue their eligibility for defense contracts financed through FMF.[20]
- **Missile Defense.** Under the terms of the third MOU, the Administration pledges to request $500 million in annual combined funding for missile defense programs with joint U.S.-Israeli elements—such as Iron Dome, Arrow II and Arrow III, and David's Sling. Previous MOUs did not include missile defense funding, which has traditionally been appropriated via separate interactions between successive Administrations and Congresses. While the MOU commits both the United States and Israel to a $500 million annual U.S. missile defense contribution, it also stipulates that under exceptional circumstances (major armed conflict involving Israel), both sides may agree on U.S. support above the $500 million annual cap.

[20] "Israeli UAV Firm agrees deal for Unnamed US Company," *Jane's Defence Weekly*, July 18, 2017.

- **No FMF for Fuel.** According to the third MOU, Israel will no longer be permitted to use a portion of its FMF to purchase fuel (or "other consumables") from the United States. Under the second MOU, Israel had budgeted an estimated $400 million a year in FMF to purchase jet fuel from the United States.[21]

Figure 2. U.S. Military Aid to Israel over Decades



Source: CRS Graphics.

Notes: Figures included Foreign Military Financing only. Missile defense funds are not included. Figures are not adjusted for inflation.

Some Israeli officials have argued that the gradual phase-out of OSP will shrink Israel's defense sector and lead to job losses.[22] Although as noted above (see **Figure 1**), Israeli defense planners have several years to adjust to the OSP planned reduction, some Israeli lawmakers have called on the Trump Administration to work with Congress to keep OSP as a provision of appropriations law indefinitely. According to Knesset member Mickey Levy from the centrist Yesh Atid party, "The U.S. administration today is different than the previous one and it is possible to do something on a policy level to change the decision in some way."[23] During consideration of the National Defense Authorization Act for Fiscal Year 2018 (P.L. 115-91), Senator Lindsay Graham proposed an amendment (SA 813), that would have, if it had been adopted, notwithstanding any other provision of law, set the off-shore procurement rate at "not less than" 26.3% from fiscal years 2019 through 2028.

[21] The White House, Office of the Press Secretary, Fact Sheet: Memorandum of Understanding Reached with Israel, September 14, 2016. In the Committee report accompanying H.R. 2839, the Department of State, Foreign Operations, and Related Programs Appropriations Act, 2020, appropriators wrote: "The Committee notes that Israel maintains the flexibility under the MOU to purchase jet fuel from the United States." See, H.Rept. 116-78 - State, Foreign Operations, and Related Programs Appropriations Bill, 2020.

[22] "Israel-US Aid Accord could Deal Massive Blow to Local Defense Industry, MKs told," *Times of Israel*, May 22, 2018.

[23] "Israel Lawmakers hope Trump could ease made-in-USA Rules for Military Aid," *Reuters*, May 21, 2018.

Foreign Military Financing (FMF) and Arms Sales

Israel is the largest recipient of U.S. Foreign Military Financing. For FY2020, the President's request for Israel would encompass approximately 57% of total requested FMF funding worldwide. Annual FMF grants to Israel represent approximately 18% of the overall Israeli defense budget.[24] Israel's defense expenditure as a percentage of its Gross Domestic Product (4.3% in 2018) is one of the highest in the world.[25]

Cash Flow Financing

Section 23 of the Arms Export Control Act (22 U.S.C. §276351) authorizes the President to finance the "procurement of defense articles, defense services, and design and construction services by friendly foreign countries and international organizations, on such terms and conditions as he may determine consistent with the requirements of this section." Successive Administrations have used this authority to permit Israel to finance multiyear purchases through installment payments, rather than having to pay the full amount of such purchases up front.[26] Known as "cash flow financing," this benefit enables Israel to negotiate major arms purchases with U.S. defense suppliers with payments scheduled over a longer time horizon.[27]

Early Transfer and Interest Bearing Account

Since FY1991 (P.L. 101-513), Congress has mandated that Israel receive its FMF aid in a lump sum during the first month of the fiscal year.[28] The FY2019 Consolidated Appropriations Act (P.L. 116-6) states, "That of the funds appropriated under this heading, not less than $3,300,000,000 shall be available for grants only for Israel which shall be disbursed within 30 days of enactment of this Act." Once disbursed, Israel's military aid is transferred to an interest

[24] The Israeli Ministry of Defense provides funding figures for its domestic defense budget but excludes some procurement spending and spending on civil defense. The estimate referenced above is based on figures published by *Jane's Defence Budgets*, "Israel," IHS Global Insight, January 30, 2019.

[25] Only seven other nations spend more on defense as a percentage of GDP: Saudi Arabia, Oman, Algeria, Kuwait, Lebanon, Armenia and Jordan. See Stockholm International Peace Research Institute (SIPRI), Military expenditure by country as percentage of gross domestic product, 2003-2018, SIPRI Military Expenditure Database, 2019.

[26] The United States initially began authorizing installment-style sales to Israel to help it rebuild its military capabilities after the 1973 war with Egypt and Syria. Congress appropriated $2.2 billion for Israel in P.L. 93-199, the Emergency Security Assistance Act of 1973. Section 3 of that act stated that "Foreign military sales credits [loans or grants] extended to Israel out of such funds shall be provided on such terms and conditions as the President may determine and without regard to the provisions of the Foreign Military Sales Act as amended." At the time, the Foreign Military Sales Act of 1968 (amended in 1971 and the precursor to the Arms Export Control Act of 1976), capped the annual amount of foreign military sales credit that could be extended to a recipient at no more than $250 million per year. Under the authorities contained in P.L. 93-199, President Nixon, in two separate determinations (April & July 1974), allocated the $2.2 billion to Israel as $1.5 billion in grant military aid, the largest U.S. grant aid package ever for Israel at the time. The remaining $700 million was designated as a military loan.

A year and a half later, the Ford Administration reached a new arms sales agreement with Israel providing that, according to the *New York Times*, "the cost of the new military equipment would be met through the large amount of aid approved by the just-completed session of Congress as well as the aid that will be approved by future Congresses." See, "U.S. Decides to Sell Some Arms to Israel that it had Blocked in the Past," *New York Times*, October 12, 1976.

[27] Cash flow financing is defined in Section 25(d) of the Arms Export Control Act and Section 503(a)(3) of the Foreign Assistance Act.

[28] When government operations are funded by a continuing appropriations resolution, Congress may at times include provisions in such resolutions that would prevent the early transfer of FMF to Israel (presumably until a final year appropriations bill is passed). For example, see Section 109 of P.L. 113-46, the Continuing Appropriations Act, 2014.

bearing account with the U.S. Federal Reserve Bank.[29] Israel has used interest collected on its military aid to pay down its bilateral debt (nonguaranteed) to U.S. government agencies, which, according to the U.S. Department of the Treasury, stood at $148.8 million as of December 2015.[30] Israel cannot use accrued interest for defense procurement inside Israel.

F-35 Joint Strike Fighter

Israel is the first international operator of the F-35 Joint Strike Fighter, the Department of Defense's fifth-generation stealth aircraft considered to be the most technologically advanced fighter jet ever made. In September 2008, the Defense Security Cooperation Agency (DSCA) notified Congress of a possible Foreign Military Sale of up to 75 F-35s to Israel in a deal with a possible total value of $15.2 billion.[31] Since then, Israel has purchased 50 F-35s in three separate contracts (see **Table 2** below) using FMF grants. Israel is installing Israeli-made C4 (command, control, communications, computers) systems in the F-35s it receives, and calls these customized F-35s "*Adirs*."[32]

As part of the F-35 deal, the United States agreed to make reciprocal purchases of equipment (known as "offsets") from Israeli defense companies. If Israel elects to purchase all 75 F-35s, it is estimated that its business offsets could be as high as $4 billion. As of 2017, Israeli firms had received more than 1 billion dollars' worth of business from Lockheed Martin to build components for the F-35.[33] Israeli defense contractor Elbit Systems has worked with U.S. counterparts to design and supply the Helmet Mounted Display System (HMDS) for F-35 pilots. The United States Army also has awarded a contract to an Elbit subsidiary in the United States to supply helmet mounted displays for U.S. helicopters, such as the Army's CH-47F Chinook and the UH-60L/M/V Black Hawk.[34]

As mentioned above, the United States has authorized the sale of up to 75 F-35s to Israel, which will have acquired 50 of the aircraft by 2024. Israel has yet to decide whether to use FMF funds to procure an additional 25 F-35s or use U.S. military aid to finance the purchase of an advanced F-15I model. Some Israelis have argued that the F-15I model is cheaper to operate, can carry a heavier weapons payload, and has a wider range than the F-35.[35] However, according to one report, U.S. officials may be opposed to Israel's purchase of the F-15 if it would defer Israel's

[29] According to the Defense Security Cooperation Agency (DSCA), "Some countries may establish an account with the federal reserve bank (FRB), New York, for their FMS [Foreign Military Sales] deposits. An agreement between the FMS purchaser's defense organization, the purchaser's central bank, FRB New York and DSCA identifies the terms, conditions, and mechanics of the account's operation. Countries receiving FMFP funds must maintain their interest bearing account in the FRB." See, Defense Institute of Security Assistance Management (DISAM), "The Management of Security Cooperation (Green Book)," 34th Edition, April 2015.

[30] Foreign Credit Reporting System (FCRS), Amounts Due the U.S. Government from Sovereign and Other Foreign Official Obligors as of 12/31/2015, United States Department of the Treasury, Office of International Debt Policy.

[31] Defense Security Cooperation Agency, Transmittal No. 08-83, Israel - F-35 Joint Strike Fighter Aircraft, September 29, 2008.

[32] "After F-35 makes Aliyah, it will get new Israeli Identity," *Israel Hayom*, May 2, 2016. "Adir" is a Hebrew word for "mighty" or "powerful."

[33] "Israeli F-35 Buy-Back Surpasses $1 Billion," *Defense News*, February 12, 2017.

[34] "Elbit to Supply Common Helmet Mounted Displays to the US Army," *Israel Defense*, May 3, 2019.

[35] "IAF opens Second F-35 unit. Air force Expected to have 50 'Adir' Fighter Jets by 2024," *Jerusalem Post*, April 28, 2019.

acquisition of the remaining 25 F-35s that it is authorized to purchase.[36] To date, Israel has reportedly used both F-35 and F-15 aircraft to conduct aerial strikes inside Syria.[37]

"Namer" Armored Personnel Carriers

In February 2019, the Defense Security Cooperation Agency (DSCA) notified Congress of a planned foreign military sale to Israel of 270 upgraded engines for the Namer Armored Personnel Carrier (APC) with a total value of $238 million.[38] The Namer, which was first produced by Israel in 2008, uses the same armor found on Israel's Merkava IV tanks. It also is equipped with the Trophy active defense system to protect against incoming projectiles. During Operation Protective Edge (July 2014) against Hamas, several Israeli soldiers were killed while riding in an older APC model that was struck by rocket propelled grenade fire. After 2014, Israel increased its production of the Namer.

Table 2. Selected Notified U.S. Foreign Military Sales to Israel[39]

Amount/Description	Cong. Notice	Contract	Delivery	Primary Contractor(s)	Estimated Cost
75 F-35A Joint Strike Fighter (Lightning II) Aircraft	2008	2010 (19) 2015 (14) 2016 (17)	16 estimated	Lockheed Martin	$15.2 billion
6 V-22B Block C Aircraft and associated equipment	2014	Israel evaluating plans		Bell and Boeing	$1.13 billion
600 AIM-9X-2 Sidewinder Block II Air-air missiles and associated equipment	2014			Raytheon	$544 million
14,500 Joint Direct Attack Munitions (JDAM) and associated equipment	2015	Various	5,800 estimated	Various	$1.879 billion
Equipment to support Excess Defense Articles sale of 8 SH-60F Sea Hawk Helicopters	2016			Science and Engineering Services and General Electric	$300 million
13 76mm naval guns and technical support	2017			DRS North America	$440 million
240 Namer armored personal carrier power packs and associated equipment	2019			MTU America	$238 million

Sources: Defense Security Cooperation Agency, Stockholm International Peace Research Institute Arms Transfer Database, IHS Jane's.

Notes: All figures and dates are approximate; blank entries indicate that data is unknown or not applicable.

[36] "IDF: No decision on Advanced F-15s as yet," *Jane's Defence Weekly*, November 22, 2018.

[37] "F-35 Stealth Fighter sees First Combat, in Israeli Operation," *BBC News*, May 22, 2018 and "Israel - Air Force," *Jane's World Air Forces*, July 5, 2019.

[38] Defense Security Cooperation Agency (DSCA), Transmittal No: 19-05, February 12, 2019.

[39] For open source information on the status of Israeli procurement plans regarding key aircraft platforms such as F-15IA, V-22 Osprey, and KC-46A, see "Israel - Air Force," *Jane's World Air Forces*, July 5, 2019.

Excess Defense Articles

The Excess Defense Articles (EDA) program provides a means by which the United States can advance foreign policy objectives—assisting friendly and allied nations through provision of equipment in excess of the requirements of its own defense forces. This program, managed by DSCA, enables the United States to reduce its inventory of outdated equipment by providing friendly countries with necessary supplies at either reduced rates or no charge.[40]

As a designated "major non-NATO ally,"[41] Israel is eligible to receive EDA under Section 516(a) of the Foreign Assistance Act and Section 23(a) of the Arms Export Control Act. According to DSCA, from 2008 to 2018, Israel received $663.6 million in EDA deliveries (current value only).[42]

Defense Budget Appropriations for U.S.-Israeli Missile Defense Programs

Congress and successive Administrations have demonstrated strong support for joint U.S.-Israeli missile defense projects designed to thwart a diverse range of threats. The range spans from short-range missiles and rockets fired by nonstate actors, such as Hamas and Hezbollah, to mid- and longer-range ballistic missiles in Syria's and Iran's arsenals.[43] Congress provides regular U.S. funding for Israeli and U.S.-Israeli missile defense programs in defense authorization and appropriations bills. Israel and the United States each contribute financially to several weapons systems and engage in co-development, co-production, and/or technology sharing in connection with them.

[40] To access DSCA's Excess Defense Articles database, see http://www.dsca.mil/programs/eda.

[41] On November 4, 1986, President Reagan signed into law P.L. 99-661, the National Defense Authorization Act for FY1987. In Section 1105 of that act, Congress called for greater defense cooperation between the United States and countries that the Secretary of Defense could designate as a "major non-NATO ally" (MNNA). Such cooperation could entail U.S. funding for joint research and development and production of U.S. defense equipment. In February 1987, the United States granted Israel MNNA status along with several other countries (Egypt, Japan, South Korea, and Australia). According to press reports at the time, in the absence of a U.S.-Israeli mutual defense agreement, supporters of Israel had been advocating for Israel to receive "equal treatment" with regard to certain special military benefits (such as the ability to bid on U.S. defense contracts) that NATO allies received from the United States. See, "Israel seeks to obtain the kind of Financial Aid that NATO Members get from U.S. Government," *Wall Street Journal*, February 3, 1987. Nearly a decade later, Congress passed additional legislation that further solidified Israel's MNNA status. In 1996, Section 147 of P.L. 104-164 amended the Foreign Assistance Act of 1961 by requiring the President to notify Congress 30 days before designating a country as a MNNA. According to the act, Israel, along with several other countries, "shall be deemed to have been so designated by the President as of the effective date of this section, and the President is not required to notify the Congress of such designation of those countries." See, 22 U.S.C. §2321j.

[42] Excess Defense Articles Database Tool, Defense Security Cooperation Agency.

[43] For background on mortar, rocket, and missile threats to Israel, see CRS Report R44017, *Iran's Foreign and Defense Policies*, by Kenneth Katzman, CRS Report R41514, *Hamas: Background and Issues for Congress*, by Jim Zanotti, and "Missiles and Rockets of Hezbollah," *Missile Threat*, Center for Strategic and International Studies, June 26, 2018.

Hawk and Patriot Missiles for Israel

Before Israel developed its active defense network of missile defense systems (Iron Dome, David's Sling, and Arrow), it relied upon the supply of U.S.-origin Hawk and Patriot missile batteries. In 1962, Israel purchased its first advanced weapons system from the United States (Hawk antiaircraft missiles). At the time, Israeli officials considered the acquisition a milestone in the U.S.-Israeli defense relationship.[44] Nearly thirty years later, Israel acquired Patriot missiles from the United States in the context of regional threats such as those from Iraqi Scud missiles. Beginning in 2011, Israel upgraded its Patriot missile to the PAC-3 configuration. In 2014, Israel's Patriot missile batteries shot down two unmanned aircraft launched from the Gaza Strip and also intercepted combat and unmanned aircraft launched from Syria. These 2014 intercepts marked the first time Patriot batteries in Israel had been used in 20 years. Since 2017, Israel has used Patriots to intercept Syrian jet fighters and drones that have penetrated Israeli airspace.

The following section provides background on Israel's four-layered active defense network: Iron Dome (short range), David's Sling (low to mid-range), Arrow II (upper-atmospheric), and Arrow III (exo-atmospheric).

Iron Dome

Iron Dome is a short-range antirocket system (intercept range of 2.5 to 43 miles) developed by Israel's Rafael Advanced Defense Systems and originally produced in Israel. Iron Dome's targeting system and radar are designed to fire its Tamir interceptors only at incoming projectiles that pose threats to the area being protected (generally, strategically important sites, including population centers); it is not configured to fire on rockets headed toward unpopulated areas. Israel can move Iron Dome batteries as threats change. Currently, Israel has ten Iron Dome batteries deployed throughout the country, and each battery is designed to defend a 60-square mile populated area.[45] Israel also developed a naval version of Iron Dome, which it is installing on its corvettes to protect off-shore natural gas facilities.[46]

Iron Dome's Performance

Iron Dome was declared operational in early 2011. Its first major test came in November 2012 during a weeklong conflict (termed "Operation Pillar of Cloud/Defense" by Israel) between Israel and various Palestinian militant groups, including Hamas. Israeli officials claim that Iron Dome intercepted 85% of the more than 400 rockets fired by Gaza-based militants.[47]

Between 2012 and 2014, Israel upgraded Iron Dome's various tracking and firing mechanisms. During Israel's 2014 conflict with Hamas and other Palestinian militants, media reports (generally based on Israeli claims) seemed to indicate that Iron Dome had a successful interception rate close to 90%.[48] Five Israeli civilians were killed by rocket fire between July and August 2014.

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[44] David Tal, "Symbol Not Substance? Israel's Campaign to Acquire Hawk Missiles, 1960-1962," *The International History Review*, Vol. 22, No. 2 (Jun., 2000), pp. 304-317.

[45] Each battery has three launchers loaded with up to 20 Tamir interceptors per launcher for a total of 60 interceptors per battery. See, https://www.raytheon.com/capabilities/products/irondome.

[46] "With high-tech warships, Navy readies to guard gas fields from Hezbollah, Hamas," *Times of Israel*, February 5, 2018.

[47] One assessment concludes that Iron Dome's initial performance in 2012 was less effective than Israel claims, but subsequent improvements made Iron Dome perform far better. See, "As Missiles Fly, a Look at Israel's Iron Dome Interceptor," *The Conversation*, April 15, 2018.

[48] "Israel says Iron Dome scores 90 Percent Rocket Interception Rate," *Reuters*, July 10, 2014.

According to the Israel Defense Forces (IDF) and *Jane's Defence Weekly*, during a two-day conflict in May 2019 with Palestinian militant groups in the Gaza Strip, Israel's Iron Dome achieved an 86% successful interception rate against rockets fired at urban areas.[49] In that time period, three Israelis were killed by rocket fire. A commander of the Qassam Brigades, the military wing of Hamas, claimed during the May 2019 conflict that Hamas had "overcome the so-called Iron Dome by adopting the tactic of firing dozens of rockets in a single burst…. The high intensity of fire and the great destructive ability of the missiles… caused great losses and destruction to the enemy."[50] According to an assessment by Uzi Rubin, one of Israel's top missile defense experts, Iron Dome "faced challenges it never did before, and it faced them quite well… There is no 100% defense, never - it's against the laws of physics…. Even if you manage to hit every incoming missile, there's Newton's Law - even the debris must come down."[51] In addition to Iron Dome, Israel also has extensive homeland security policies and alerts designed to protect civilians, such as mobile phone applications that warn of incoming missiles, bomb shelters in neighborhoods, and regulations requiring the construction of safe rooms in homes near the Gaza border.[52]

Figure 3. Iron Dome Launcher

Source: Raytheon.

[49] "IDF Reports Good Iron Dome Performance," *Jane's Defence Weekly*, May 9, 2019.

[50] Open Source Center, "Hamas Military Wing says it 'outsmarted' Israel's Iron Dome during Deadly Gaza Flare-Up," *London Al-Araby al-Jadeed* (in English), Document ID# IMW2019051085676724, May 7, 2019.

[51] "Assessing the Damage," *Jerusalem Post*, May 10, 2019.

[52] "700 rockets, 240 intercepts, 4 dead Israelis: Is the Iron Dome getting Worse?" *Jewish Telegraphic Agency* (JTA), May 7, 2019.

Co-production and U.S. Funding

To date, the United States has provided $1.559 billion to Israel for Iron Dome batteries, interceptors, co-production costs, and general maintenance. Because Iron Dome was developed by Israel alone, Israel initially retained proprietary technology rights to it. The United States and Israel have had a decades-long partnership in the development and co-production of other missile defense systems (such as the Arrow). As the United States began financially supporting Israel's development of Iron Dome in FY2011, U.S. interest in ultimately becoming a partner in its co-production grew. Congress then called for Iron Dome technology sharing and co-production with the United States.[53]

In March 2014, the United States and Israeli governments signed a co-production agreement to enable the manufacture of components of the Iron Dome system in the United States, while also providing the U.S. Missile Defense Agency (MDA) with full access to what had been proprietary Iron Dome technology.[56] U.S.-based Raytheon is Rafael's U.S. partner in the co-production of Iron Dome.[57]

After Israel's summer 2014 conflict with Hamas and other Palestinian militant groups, there was high Israeli demand for additional Tamir interceptors, Iron Dome batteries, and the external financing to procure these items.[58] On September 30, 2014, Raytheon received a $149 million contract from Rafael to provide parts for the Tamir interceptor. With U.S. co-production, around 60%-70% of the components of the Tamir interceptor are now manufactured in the United States before final

U.S. Army Procurement of Iron Dome

Ongoing U.S. efforts to acquire Iron Dome have come in the context of lawmakers' concern over a lack of capability to protect American soldiers deployed overseas from possible sophisticated Russian or Chinese cruise missile attacks. Consequently, Congress directed the Army to take interim steps to procure additional systems.[54] Section 112 of P.L. 115-232, The John S. McCain National Defense Authorization Act for Fiscal Year 2019, required the Secretary of Defense to certify whether there is a need for the U.S. Army to deploy an interim missile defense capability (fixed-site, cruise missile defense capability) and, if so, to deploy additional batteries. In response to this mandate, the U.S. Army evaluated several systems for its Expanded Mission Area Missile program (Iron Dome, Norwegian Advanced Surface to Air Missile System, and IFPC Increment 2) and, in January 2019, chose to procure Iron Dome from Rafael for a cost of $373 million. The Army justified the purchase by referencing Iron Dome's high interception rate as well as the Tamir interceptor's low cost relative to existing U.S. missile defense systems.[55]

[53] In conference report language accompanying P.L. 112-239, the National Defense Authorization Act for FY2013, conferees agreed: "The Department of Defense needs to obtain appropriate data rights to Iron Dome technology to ensure us the ability to use that data for U.S. defense purposes and to explore potential co-production opportunities. The conferees support this policy and expect the Department to keep the congressional defense committees informed of developments and progress on this issue."

[54] In 2018, some Members of Congress advocated for the selection of Iron Dome to protect U.S. troops deployed abroad against threats emanating from Russia and North Korea. See, "Bipartisan House Letter requests Iron Dome Use for US Army, Jewish Telegraphic Agency, April 24, 2018.

[55] "US Army Buys Israel's Iron Dome for Tactical Missile Defense," *Jewish Policy Center*, January 22, 2019.

[56] The co-production agreement is formally titled, "'Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of the State of Israel Concerning Iron Dome Defense System Procurement.''

[57] The FY2014 Emergency Supplemental Appropriations Resolution, P.L. 113-145, exempted $225 million in Iron Dome funding—requested by Israel on an expedited basis during the summer 2014 Israel-Gaza conflict—from the co-production requirements agreed upon in March 2014.

[58] See, "Inside The Iron Dome," *Moment Magazine*, July 17, 2018.

assembly in Israel.[59] Israel also maintains the ability to manufacture Tamir interceptors within Israel.

David's Sling

Overview

In August 2008, Israel and the United States officially signed a "project agreement" to codevelop the David's Sling system.[60] David's Sling (aka Magic Wand) is a short/medium-range system designed to counter long-range rockets and slower-flying cruise missiles fired at ranges from 25 miles to 186 miles, such as those possessed by Iran, Syria, and Hezbollah in Lebanon. David's Sling is designed to intercept missiles with ranges and trajectories for which Iron Dome and/or Arrow interceptors are not optimally configured. It has been developed jointly by Rafael Advanced Defense Systems and Raytheon. David's Sling uses Raytheon's Stunner missile for interception, and each launcher can hold up to 16 missiles. In April 2017, Israel declared David's Sling operational and, according to one analysis, "two David's Sling batteries are sufficient to cover the whole of Israel."[61]

Israel first used David's Sling in July 2018. At the time, Syrian regime forces were attempting to retake parts of southern Syria as part of the ongoing conflict there. During the fighting, Asad loyalists fired two SS-21 Tochka or 'Scarab' tactical ballistic missiles at rebel forces, but the missiles veered into Israeli territory. David's Sling fired two Stunner interceptors, but the final impact point of the Syrian missiles changed mid-flight, and Israel ordered one of the interceptors to self-destruct; the other most likely landed in Syrian territory.[62]

[59] "Inside Iron Dome's Secret Manufacturing Plant," *Globes* (Israel Business News), October 7, 2018.

[60] This joint agreement is a Research, Development, Test and Evaluation (RDT&E) Framework agreement between the United States and Israel. The joint program to implement the agreement is known as the Short Range Ballistic Missile Defense (SRBMD) David's Sling Weapon System (DSWS) Project. The Department of Defense/U.S.-Israeli Cooperative Program Office manages the SRBMD/DSWS program, which is equitably funded between the United States and Israel.

[61] "IDF officially declares David's Sling Operational," *Jane's Defence Weekly*, April 3, 2017.

[62] See, "Israel, US Complete Successful Advanced David's Sling Missile Tests," *Jerusalem Post*, March 20, 2019, and "David's Sling has Dubious Debut against Syrian Missiles, *Jane's Defence Weekly*, July 25, 2018.

Figure 4. David's Sling Launches Stunner Interceptor

Source: Israel Ministry of Defense.

Co-production and U.S. Funding

Since FY2006, the United States has contributed over $1.8 billion to the development of David's Sling (see **Table 4**). In June 2018, the United States and Israel signed a co-production agreement for the joint manufacture of the Stunner interceptor. Some interceptor components may be built in Tucson, Arizona, by Raytheon.

The Arrow and Arrow II

Since 1988, Israel and the United States have been jointly developing the Arrow Anti-Missile System.[63] The Arrow is designed to counter short-range ballistic missiles. The United States has funded just under half of the annual costs of the development of the Arrow Weapon System, with Israel supplying the remainder. The Arrow II program (officially referred to as the Arrow System Improvement Program or ASIP), a joint effort of Boeing and Israel Aerospace Industries (IAI), is designed to defeat longer-range ballistic missiles. One Arrow II battery is designed to protect large swaths of Israeli territory. In March 2017, media sources reported the first known use of the

[63] Shortly after the start of the Strategic Defense Initiative (SDI) in 1985, the Reagan Administration sought allied political support through various cooperative technology agreements on ballistic missile defense (BMD). A memorandum of understanding was signed with Israel on May 6, 1986, to jointly develop an indigenous Israeli capability to defend against ballistic missiles. Subsequently, a number of additional agreements were signed, including, for example, an April 1989 Memorandum of Agreement (MOA) to develop an Israeli computer facility as part of the Arrow BMD program, a June 1991 agreement to develop a second generation Arrow BMD capability, and a September 2008 agreement to develop a short-range BMD system to defend against very short-range missiles and rockets. Israeli interest in BMD was strengthened by the missile war between Iran and Iraq in the later 1980s, and the experience of being attacked by Scud missiles from Iraq during Operation Desert Storm in 1991.

Arrow II, when they said that it successfully intercepted a Syrian surface-to-air missile (SAM) that had been fired on an Israeli jet returning to Israel from an operation inside Syria.

Table 3. U.S. Contributions to the Arrow Program (Arrow, Arrow II, and Arrow III)

dollars in millions

Fiscal Year	Total	Fiscal Year	Total
1990	52.000	2004	144.803
1991	42.000	2005	155.290
1992	54.400	2006	122.866
1993	57.776	2007	117.494
1994	56.424	2008	118.572
1995	47.400	2009	104.342
1996	59.352	2010	122.342
1997	35.000	2011	125.393
1998	98.874	2012	125.175
1999	46.924	2013	115.500
2000	81.650	2014	119.070
2001	95.214	2015	130.908
2002	131.700	2016	146.069
2003	135.749	2017	272.224
		2018	392.300
		2019	243.000
		Total	**3,549.811**

Source: U.S. Missile Defense Agency.

Under the 1986 agreement allowing Israel to participate in the Strategic Defense Initiative (SDI), the United States and Israel have co-developed different versions of the Arrow anti-ballistic missile. The total U.S. financial contribution exceeds $3.5 billion. The system became operational in 2000 in Israel and has been tested successfully. Since 2001, Israel and the United States have conducted a joint biennial ballistic missile defense exercise, called Juniper Cobra, to work on integrating their weapons, radars, and other systems.[64]

High Altitude Missile Defense System (Arrow III)

Overview

Citing a potential nuclear threat from Iran, Israel has sought a missile interceptor that operates at a higher altitude and greater range than the original Arrow systems. In October 2007, the United States and Israel agreed to establish a committee to evaluate Israel's proposed "Arrow III," an upper-tier system designed to intercept medium-range ballistic missiles outside the atmosphere. The Arrow III is a more advanced version—in terms of speed, range and altitude—of the current Arrow II interceptor. In 2008, Israel decided to begin development of the Arrow III and the United States agreed to co-fund its development despite an initial proposal by Lockheed Martin

[64] The United States and Israel also jointly conduct a military exercise known as Juniper Falcon, which is designed to enhance interoperability between both nations' militaries. In March 2019, the U.S. European Command (EUCOM) deployed a Terminal High Altitude Area Defense (THAAD) system to Israel to practice "operational procedures for augmenting Israel's existing air and missile defense architecture." See, USEUCOM deploys Terminal High Altitude Area Defense (THAAD) system to Israel," United States European Command, March 4, 2019.

and the Department of Defense (DOD) urging Israel to purchase the Terminal High-Altitude Area Defense (THAAD) missile defense system instead.

The Arrow III, made (like the Arrow II) by Israel Aerospace Industries (IAI) and Boeing, has been operational since January 2017. In July 2010, the United States and Israel signed a bilateral agreement (The Upper-Tier Interceptor Project Agreement) to extend their cooperation in developing and producing the Arrow III, including an equitable U.S.-Israeli cost share. U.S.-Israeli co-production of Arrow III components is ongoing.[65] A U.S.-based subsidiary of IAI, Stark Aerospace Inc. based in Columbus, Mississippi, is producing canisters for the Arrow III system. Since co-development began in 2008, Congress has appropriated $1.1 billion for Arrow III (see **Table 4**). In January 2019, the United States and Israel conducted a successful test of Arrow III over the Mediterranean, and in July 2019, Arrow III successfully intercepted targets in a series of tests at the Pacific Spaceport Complex-Alaska (PSCA) in Kodiak, Alaska.

Table 4. Defense Budget Appropriations for U.S.-Israeli Missile Defense: FY2006-FY2019

current dollars in millions

Fiscal Year	Arrow II	Arrow III (High Altitude)	David's Sling (Short-Range)	Iron Dome	Total
FY2006	122.866	—	10.0	—	132.866
FY2007	117.494	—	20.4	—	137.894
FY2008	98.572	20.0	37.0	—	155.572
FY2009	74.342	30.0	72.895	—	177.237
FY2010	72.306	50.036	80.092	—	202.434
FY2011	66.427	58.966	84.722	205.000	415.115
FY2012	58.955	66.220	110.525	70.000[a]	305.700
FY2013 After Sequestration	40.800	74.700	137.500	194.000	447.000
FY2014	44.363	74.707	149.712	460.309 (includes supp)	729.091
FY2015	56.201	74.707	137.934	350.972	619.814
FY2016	56.519	89.550	286.526	55.000	487.595
FY2017	67.331	204.893	266.511	62.000	600.735
FY2018	82.300	310.000	221.500	92.000	705.800
FY2019	163.000	80.000	187.000	70.000	500.000
Total	**1,121.476**	**1,133.779**	**1,802.317**	**1,559.281**	**5,616.853**

a. These funds were not appropriated by Congress but reprogrammed by the Obama Administration from other Department of Defense accounts.

[65] The United States and Israel signed the Arrow 3 co-production agreement in June 2019.

Emergency U.S. Stockpile in Israel

In the early 1980s, Israeli leaders sought to expand what they called their "strategic collaboration" with the U.S. military by inviting the United States to stockpile arms and equipment at Israeli bases for use in wartime.[66] In 1989, the United States agreed to establish munitions stockpiles in Israel for use by the United States and, with U.S. permission, by Israel in emergency situations.[67]

Section 514 of the Foreign Assistance Act of 1961 (22 U.S.C. §2321h) allows U.S. defense articles stored in war reserve stocks to be transferred to a foreign government through Foreign Military Sales or through grant military assistance, such as FMF. Congress limits the value of assets transferred into War Reserves Stock Allies (WRSA) stockpiles located in foreign countries in any fiscal year through authorizing legislation (see below). The U.S. retains title to the WRSA stocks, and title must be subsequently transferred before the foreign country may use them.

[66] "U.S.- Israel Strategic Link: Both Sides Take Stock," *New York Times*, October 2, 1981.

[67] In October 1989, the United States and Israel agreed to pre-position $100 million worth of dual-use defense equipment in Israel.

The United States European Command (EUCOM) manages the War Reserves Stock Allies-Israel (WRSA-I) program. The United States stores missiles, armored vehicles, and artillery ammunition in Israel.[68] According to one Israeli officer, "Officially, all of this equipment belongs to the US military…. If however, there is a conflict, the IDF [Israel Defense Forces] can ask for permission to use some of the equipment."[69] According to one expert, "WRSA-I is a strategic boon to Israel. The process is streamlined: No 60-day congressional notification is required, and there's no waiting on delivery."[70] In February 2019, as part of the bilateral military exercise Juniper Falcon 2019, officers from the 405th Army Field Support Brigade simulated a transfer of munitions from the WRSA-I to Israeli Defense Forces control.

Figure 5. Army Officers Inspect WRSA-I

Source: 405th AFSB exercises War Reserve Stocks for Allies transfer, DVIDS, Defense Visual Information Distribution Service, February 28, 2019.

Since 1989, Israel has requested access to the stockpile on multiple occasions, including:

- During the summer 2006 war between Israel and Hezbollah, Israel requested that the United States expedite the delivery of precision-guided munitions to Israel. In order to accomplish this, the George W. Bush Administration did not use the emergency authority codified in the Arms Export Control Act (AECA), but rather allowed Israel to access the WRSA-I stockpile.
- In July 2014, during Israeli military operations against Hamas in the Gaza Strip, the Defense Department permitted Israel to draw from the stockpile, paid with FMF, to replenish 120 mm tank rounds and 40 mm illumination rounds fired from grenade launchers.[71]

Section 7049(b)(4) of P.L. 116-6, the FY2019 Consolidated Appropriations Act, extended the authorization of WRSA-I through FY2020.[72] Section 1273 of P.L. 115-232, the John S. McCain National Defense Authorization Act for Fiscal Year 2019, extended the authority for WRSA-I through FY2023.

At times, Congress has passed legislation that has authorized EUCOM to increase the value of materiel stored in Israel. According to DSCA, "It should be understood that no new procurements are involved in establishing and maintaining these stockpiles. Rather, the defense articles used to

[68] At present, the United States and Israel have a bilateral agreement that governs the storage, maintenance, in-country transit, and other WRSA-related costs. The government of Israel, using both its national funds and FMF, pays for the construction, maintenance and refurbishment costs of WRSA ammunition storage facilities. It also pays for the packaging, crating, handling and transportation of armaments to and from the stockpile. In any future expedited procedure, reserve stocks managed by EUCOM could be transferred to Israel; then, U.S. officials would create an-after-the-fact Foreign Military Sale to account for the transferred equipment.

[69] "US may give Israel Iraq Ammo," *Jerusalem Post*, February 11, 2010.

[70] "Best Friends Don't Have to Ask," *Politico Magazine*, August 14, 2014.

[71] "U.S. Defends Supplying Israel Ammunition during Gaza Conflict," *Reuters*, July 31, 2014.

[72] The authorization extension states that "Section 12001(d) of the Department of Defense Appropriations Act, 2005 (P.L. 109-108–287; 118 Stat. 1011) is amended by striking '2018' and inserting '2019.'"

establish a stockpile and the annual authorized additions represent defense articles that are already within the stocks of the U.S. armed forces. The stockpile authorizing legislation simply identifies a level of value for which a stockpile may be established or increased."[73]

Stockpiling Precision-Guided Munitions for Israel

Since 2014, Israel has requested that the United States military increase its own stockpile of precision-guided munitions (PGMs) stored in Israel for possible Israeli emergency use against Hezbollah, Hamas and other terrorist groups. Section 1273 of P.L. 115-232, the John S. McCain National Defense Authorization Act for Fiscal Year 2019, authorizes the President to conduct a joint assessment of the quantity and type of PGMs necessary for Israel in the event of a prolonged war. If such an assessment is completed, Section 1273 requires that the Administration share its assessment with Congress. In 2015, the Defense Security Cooperation Agency (DSCA) notified Congress of possible foreign military sales to Israel for Joint Direct Attack Munition Tail Kits, munitions, and associated equipment, parts and logistical support for an estimated cost of $1.879 billion (see **Table 2** above).

If EUCOM contributed the maximum amount legally permitted in each applicable fiscal year, then the non-inflation adjusted value of materiel stored in Israel would currently stand at **$3.4 billion**. The following legislation authorized increases in value to the stockpile:

- FY1990: P.L. 101-167, the Foreign Operations, Export Financing, and Related Programs Appropriations Act, 1990, provided $165 million for all stockpile programs and expanded their locations to include Korea, Thailand, NATO members, and countries which were then major non-NATO allies (Australia, Japan, Korea, Israel and Egypt). Although the Act did not specify funds for Israel, of the $165 million appropriated, $10 million was for Thailand, $55 million was for South Korea, and $100 million was intended as an initial authorization for Israel.[74]
- FY1991: P.L. 101-513, the Foreign Operations, Export Financing, and Related Programs Appropriations Act for FY1991, authorized additions to defense articles in Israel "not less than" $300 million in value for FY1991.
- FY1993: P.L. 102-391, the Foreign Operations, Export Financing, and Related Programs Appropriations Act for FY1993, authorized additions to defense articles in Israel "not less than" $200 million in value for FY1993.
- FY1994: P.L. 103-87, the Foreign Operations, Export Financing, and Related Programs Appropriations Act for FY1994, authorized additions to defense articles in Israel up to $200 million in value for FY1994.
- FY1995: P.L. 103-306, the Foreign Operations, Export Financing, and Related Programs Appropriations Act for FY1995, authorized a total addition to defense articles in Israel of $200 million for FYs 1994 and 1995.
- FY2007-FY2008: Section 13(a)(2)(A)(i) of the Department of State Authorities Act of 2006 (P.L. 109-472) amended Section 514 of the Foreign Assistance Act of 1961, as amended (P.L. 87-195; 22 U.S.C. §2321h) to authorize additions to defense articles in Israel of up to $200 million in value for each of FY2007 and FY2008.[75]

[73] Defense Institute of Security Assistance Management (DISAM), *DISAM's Online Greenbook*, Chapter 2, Security Legislation and Policy.

[74] Dr. Louis J. Samelson, "Military Assistance Legislation for Fiscal Year 1990, *The DISAM Journal*, Winter, 1989/1990.

[75] This increase for each fiscal year is based on legislative language contained in Section 12002 of P.L. 108-287, the Department of Defense Appropriations Act, 2005.

- FY2011-FY2012: P.L. 111-266, the Security Cooperation Act of 2010, authorized additions to defense articles in Israel up to $200 million in value for each of FY2011 and FY2012.
- FY2014-FY2015: P.L. 113-296, the United States-Israel Strategic Partnership Act of 2014, authorized additions to defense articles in Israel up to $200 million in value for each of FY2014 and FY2015.
- FY2016-FY2017: Section 7034(k)(11)(B) of P.L. 114-113, the FY2016 Consolidated Appropriations Act, authorized additions to defense articles in Israel up to $200 million in value for each of FY2016 and FY2017.
- FY2018-FY2019: Section 7034(l)(7) of P.L. 115-141, the FY2018 Consolidated Appropriations Act, authorized additions to defense articles in Israel up to $200 million in value for each of FY2018 and FY2019.
- FY2019-FY2020: Section 7048(b)(4)(B) of P.L. 116-6, the FY2019 Consolidated Appropriations Act, authorized additions to defense articles in Israel up to $200 million in value for each of FY2019 and FY2020.

Defense Budget Appropriations/Authorization for Anti-Tunnel Defense

In 2016, the Israeli and U.S. governments began collaborating on a new system to detect underground smuggling tunnels and to counter cross-border tunnels used (most prominently by Hamas in the summer 2014 conflict) to infiltrate Israel. Reportedly, this technology uses acoustic or seismic sensors and software to detect the sounds of digging by monitoring vibrations underground.[76] This technology may be based on discovery techniques used in the oil and natural gas sector.[77]

Section 1279 of P.L. 114-92, the FY2016 National Defense Authorization Act, authorized the establishment of a U.S.-Israeli anti-tunnel cooperation program. This authorization allowed funds from the research, development, test, and evaluation defense-wide account to be used (in combination with Israeli funds) to establish anti-tunnel capabilities that detect, map, and neutralize underground tunnels that threaten the United States or Israel. The authorization requires the Secretary of Defense to report to Congress on, among other things, the sharing of research and development costs between the United States and Israel. Section 1278 of P.L. 115-91, the FY2018 National Defense Authorization Act, extended the authority of the anti-tunnel cooperation program through December 31, 2020. It also required that not less than 50% of U.S. contributions to the program should be used for "research, development, test, and evaluation activities in the United States in connection with such support."

The FY2019 NDAA expanded the scope of the anti-tunnel cooperation program to address the threat posed by the proliferation of unmanned aerial vehicles in the hands of foreign terrorist organizations and other non-state actors. Section 1272 of P.L. 115-232, the John S. McCain National Defense Authorization Act for Fiscal Year 2019, amended the FY2016 NDAA to include cooperation in establishing "capabilities for countering unmanned aerial systems." It also required

[76] "Israel's Underground War—Technology and Specialist Troops deployed in face of Subterranean Threat," *Wall Street Journal*, March 2, 2016.

[77] "Israeli Official bets Advances in Anti-Tunnel Technology will secure Gaza Border," *Washington Post*, March 6, 2018.

a report on identifying specific capability gaps of the United States and Israel with respect to countering unmanned aerial systems before funding may be provided for the program.

Table 5. U.S.-Israeli Anti-Tunnel Cooperation

dollars in millions

Fiscal Year	Appropriation
FY2016	40.0
FY2017	42.5
FY2018	47.5
FY2019	47.5
Total	**177.500**

Source: Joint Explanatory Statement accompanying Consolidated Appropriations Acts for FY2016-2018.

Aid Restrictions and Possible Violations

U.S. aid and arms sales to Israel, like those to other foreign recipients, are subject to U.S. law. Some U.S. citizens and interest groups periodically call upon Congress to ensure that U.S. military assistance to Israel is conditioned on the Israeli government's compliance with applicable U.S. laws and policies and with international humanitarian law.

Arms Sales and Use of U.S.-Supplied Equipment[78]

The 1952 Mutual Defense Assistance Agreement and subsequent arms agreements between Israel and the United States limit Israel's use of U.S. military equipment to defensive purposes.[79] The Arms Export Control Act (AECA, 22 U.S.C. §2754) authorizes the sale of U.S. defense articles and services for specific purposes, including "legitimate self-defense." The AECA (22 U.S.C. §2753) states that recipients may not use such articles "for purposes other than those for which [they have been] furnished" without prior presidential consent.[80] The act stipulates that sale agreements entered into after November 29, 1999, must grant the U.S. government the right to verify "credible reports" that articles have been used for unauthorized purposes. The Foreign Assistance Act of 1961, as amended, also contains general provisions on the use of U.S.-supplied military equipment.[81]

In the late 1970s and early to mid-1980s, the Carter and Reagan Administrations questioned Israel's use of U.S.-supplied equipment during various military operations in the region. After

[78] See, CRS In Focus IF11197, *U.S. Arms Sales and Human Rights: Legislative Basis and Frequently Asked Questions*, by Paul K. Kerr and Liana W. Rosen.

[79] U.S. State Department, *Treaties in Force*, Agreement relating to mutual defense assistance, Entered into force July 23, 1952; TIAS 2675.

[80] Nevertheless, in 22 U.S.C. 2753, the AECA also states that the consent of the President shall not be required for the transfer by a foreign country or international organization of defense articles sold by the United States if the recipient is the government of a member country of the North Atlantic Treaty Organization, the Government of Australia, the Government of Japan, the Government of the Republic of Korea, the Government of Israel, or the Government of New Zealand.

[81] For example, see (among other sections), Section 502B, Human Rights (22 U.S.C. 2304), Section 505, Conditions of Eligibility (22 U.S.C. §2314), and Section 511, Considerations in Furnishing Military Assistance (22 U.S.C. §2321d).

Israel's 2006 war in Lebanon, the State Department issued a preliminary report to Congress concluding that Israel may have violated the terms of agreements with the United States that restrict Israel's use of U.S.-supplied cluster munitions to certain military targets in non-civilian areas.[82]

Human Rights Vetting (Leahy Law)[83]

Section 620M of the Foreign Assistance Act of 1961 (FAA), as amended, prohibits the furnishing of assistance authorized by the FAA and the AECA to any foreign security force unit where there is credible information that the unit has committed a gross violation of human rights. The State Department and U.S. embassies overseas implement Leahy vetting to determine which foreign security individuals and units are eligible to receive U.S. assistance or training.

[82] "U.S. Says Israel May Have Violated Agreement on Cluster Bomb Use," *Reuters*, January 29, 2007.

[83] For background on the Leahy Law, see CRS Report R43361, *"Leahy Law" Human Rights Provisions and Security Assistance: Issue Overview*, coordinated by Nina M. Serafino.

H.R. 2407 - Promoting Human Rights for Palestinian Children Living Under Israeli Military Occupation Act

In the 115th Congress, Representative Betty McCollum introduced a bill, H.R. 4391, Promoting Human Rights by Ending Israeli Military Detention of Palestinian Children Act, that would have, among other things, prohibited U.S. assistance to Israel (notwithstanding any other provision of law) from being used to support the military detention, interrogation, or ill-treatment of Palestinian children in violation of international humanitarian law. This bill was referred to the House Foreign Affairs Committee, and it did not see further committee or floor action.

In the 116th Congress, Representative McCollum introduced an amended version of the legislation (H.R. 2407), that, rather than specifically addressing U.S. military assistance to Israel, would alter Section 620M of the Foreign Assistance Act of 1961 (22 U.S.C. 2378d; commonly known as the "Leahy Law") by prohibiting foreign assistance to a foreign country that may be used to support the military detention, interrogation, abuse, or ill-treatment of children in violation of international humanitarian law. H.R. 2407 also would authorize $19 million each year for non-governmental organizations monitoring possible human rights abuses associated with reported Israeli military detention of Palestinian children. Gross violations of internationally recognized human rights are currently defined in Section 502B(d)(1) of the FAA (22 U.S.C. 2304(d)(1)) to include: "torture or cruel, inhuman, or degrading treatment or punishment, prolonged detention without charges and trial, causing the disappearance of persons by the abduction and clandestine detention of those persons, and other flagrant denial of the right to life, liberty, or the security of person." In addition, the U.S. State Department currently issues annual Country Reports on Human Rights Practices that regularly reference non-government sources.[84]

In February 2016, Senator Leahy and 10 other Members of Congress sent a letter to then-Secretary of State John Kerry asking the State Department to determine whether alleged extrajudicial killings or torture by Israeli military and police (and Egypt separately) should trigger Leahy law restrictions.[85] In its response to Congress, the State Department stated that no Israeli individual or unit potentially involved in the letter's alleged incidents had been submitted to receive U.S. assistance.[86]

Use of U.S. Funds within Israel's Pre-June 1967 Borders

In some instances, U.S. assistance to Israel may be used only in areas subject to the administration of Israel prior to June 1967 (see "Loan Guarantees"). For example, U.S. State Department-provided Migration and Refugee (MRA) assistance (see below), per agreement between the State Department and United Israel Appeal, may only be used for absorption centers, *ulpanim* (intensive Hebrew-language schools with particular focus on immigrants to Israel), or youth *aliyah* (relocation to Israel) institutions located within Israel's pre-June 1967 area of control.[87] In addition, according to agreements between the U.S. and Israeli governments, programs funded by certain U.S.-Israeli binational foundations, such as the U.S.-Israel Binational Science Foundation (see below), "may not be conducted in geographic areas which came under

[84] For the latest report on Israel, Golan Heights, West Bank, and Gaza, including information on Israeli military law and detention of Palestinian prisoners (adults and minors), see: https://www.state.gov/reports/2018-country-reports-on-human-rights-practices/israel-golan-heights-west-bank-and-gaza/.

[85] The letter's text is available at http://www.politico.com/f/?id=00000153-c56c-d662-a75b-cfecc6be0000.

[86] See the text of then Assistant Secretary of State for Legislative Affairs Julia Frifield's April 18, 2016, response letter to Representative Henry C. Johnson at http://www.politico.com/f/?id=00000154-7c2f-d905-a357-7c7f04750000.

[87] This stipulation is found in grant agreements between the U.S. State Department's Bureau of Population, Refugees, and Migration (PRM) and United Israel Appeal (clause 8. F. 2 – Use in Territories Subject to the Administration of the State of Israel Prior to June 1967). The FY2013 agreement (S-PRMCO-13-GR-1041 – March 13, 2013) is for $15 million. CRS Correspondence with U.S. State Department, March 2014.

the administration of the Government of Israel after June 5, 1967, and may not relate to subjects primarily pertinent to such areas."[88]

Israeli Arms Transfers to Third Parties

Per Section §3(a) of the Arms Export Control Act (AECA - 22 U.S. Code §2753) and Section 505(e) of the Foreign Assistance Act (22 U.S. Code §2314), the U.S. government must review and approve any transfer of U.S.-origin equipment from a recipient to a third party that was not previously authorized in the original acquisition.[89] Third Party Transfer (or TPT) is the retransfer of title, physical possession or control of defense articles from the authorized recipient to any person or organization not an employee, officer or agent of that recipient country.[90]

Although as previously mentioned, Israel is a major global manufacturer of armaments, it also possesses significant quantities of major U.S.-origin defense equipment stemming from its decades-old security partnership with the United States. At times, third parties have sought to procure U.S. equipment used by Israel, and U.S. approval of retransfer have at times caused friction in the U.S.-Israeli relationship. For example, in 2017, Croatia solicited bids for the procurement of fighter aircraft and, a year later, chose to purchase 12 used F-16 Barak fighters from Israel in a deal worth an estimated $500 million, conditioned upon U.S. TPT approval. In December 2018, the Trump Administration notified Congress that it had approved the sale, but only if all Israeli modifications were removed beforehand. Reportedly, Croatia did not want the F-16s returned to their original condition, and the deal was cancelled despite high level negotiations between Israeli and U.S. officials.[91]

Israel and China

Amidst ongoing global U.S.-Chinese competition in various fields, Israel's defense and technology trade with China has at times come under U.S. scrutiny.[92] Since the middle of the last decade, Israeli defense exports to China have nearly ceased. Two planned Israeli sales to China drew significant opposition both from successive administrations and from Congress (PHALCON airborne radar systems in 2000 and upgrade of Chinese Harpy Killer drone aircraft in 2004/2005).[93] As a result of U.S. pressure on Israel to cease its long-standing and sometimes clandestine defense relationship with China, Israel created its own arms export control agency, known as the Defense Export Control Agency (DECA). In addition, the United States and Israel signed a 2005 bilateral agreement, known as the "Declaration of Understanding on Technology Exports," whereby both countries pledged to ensure defense export transparency, with the United

[88] http://www.bsf.org.il/BSFPublic/DefaultPage1.aspx?PageId=221&innerTextID=221.

[89] See, U.S. State Department, Third Party Transfer Process and Documentation, Bureau of Political-Military Affairs, December 17, 2018.

[90] See, Defense Institute of Security Cooperation Studies, "The Management of Security Cooperation (Green Book)," Edition 39, January 2019.

[91] "Croatia cancels F-16 Deal with Israel due to U.S. Objections," *Axios*, January 10, 2019.

[92] See, "The Evolving Israel-China Relationship," *RAND Corporation*, 2019.

[93] In 2000, Representative Sonny Callahan of Alabama, then Chairman of the Foreign Operations Subcommittee of the House Appropriations Committee, told a hearing on April 6, 2000, that he would block $250 million in FY2001 military assistance to Israel unless Israel cancelled the PHALCON sale to China. Representative Callahan offered an amendment during a June 20 subcommittee markup to withhold $250 million from the $2.88 billion in total economic and military assistance proposed for Israel for FY2001, but the amendment failed by a vote of nine to six. See, "Israel-China Radar Deal Opposed," *Washington Post*, April 7, 2000 and "U.S. Congressman: We'll Block Israeli Aid Unless China Deal Cancelled," *Jerusalem Post*, April 7, 2000.

States pledging not to ban Israel's defense deals on commercial grounds to ensure Israeli competitiveness globally.[94]

Though Israeli-Chinese defense ties have ended, there is still some concern that Israeli technology transfer in the commercial sphere will be used by China to compete with the United States and potentially threaten its national security in various fields, such as cybersecurity, artificial intelligence, and robotics.[95] According to one analyst, "Since they cannot buy defense equipment from Israel, Chinese companies with links to the country's military have looked to civilian technologies instead, particularly those adaptable to military use."[96] Currently, Israel does not have an institution akin to the Committee on Foreign Investment in the United States (CFIUS), though some Israelis have considered creating a similar government body to oversee sensitive commercial deals involving foreign companies.

Chinese investment in Israel also has raised some concern within the Administration and Congress. Section 1289 of S.1790, the National Defense Authorization Act for FY2020, expresses a sense of the Senate that the United States government should "urge the Government of Israel to consider the security implications of foreign investment in Israel." According to one Israeli analysis, President Trump reportedly warned Prime Minister Netanyahu in March 2019 that U.S. security assistance for and cooperation with Israel could be limited if Chinese companies establish a 5G communications network in Israel, in line with similar warnings that the Administration has communicated to other U.S. allies and partners.[97] Additionally, a state-owned Chinese company (the Shanghai International Port Group) has secured the contract to operate a new terminal at Haifa's seaport for 25 years (beginning in 2021), and another state-owned Chinese company (a subsidiary of China Harbour Engineering Company) is developing Ashdod's new port. Both Haifa and Ashdod host Israeli naval bases. Due to the Chinese contract for Haifa, the U.S. Navy is reportedly reconsidering its practice of periodically docking at the base there.[98]

Other Ongoing Assistance and Cooperative Programs

Migration & Refugee Assistance

Since 1973, Israel has received grants from the State Department's Migration and Refugee Assistance account (MRA)[99] to assist in the resettlement of migrants to Israel. Funds are paid to the United Israel Appeal, a private philanthropic organization in the United States, which in turn transfers the funds to the Jewish Agency for Israel.[100] Between 1973 and 1991, the United States gave about $460 million for resettling Jewish refugees in Israel. Annual amounts have varied from a low of $12 million to a high of $80 million, based at least partly on the number of Jews leaving the former Soviet Union and other areas for Israel.

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[94] "Israel, U.S. Draft Agreement for Openness, Equality in Arms Deals," *Ha'aretz*, June 27, 2005.

[95] "China Tech Push in Israel Stirs Security Fears," *Wall Street Journal*, February 12, 2019.

[96] "Israel and China Take a Leap Forward—but to Where?" *Mosaic*, November 5, 2018.

[97] Hiddai Segev, Doron Ella, and Assaf Orion, "My Way or the Huawei? The United States-China Race for 5G Dominance," Institute for National Security Studies Insight No. 1193, July 15, 2019.

[98] "U.S. Navy may Stop Docking in Haifa after Chinese Take Over Port," *Jerusalem Post*, December 15, 2018.

[99] The MRA account is authorized as part of the State Department's institutional budget, with funds for the account appropriated through the foreign operations appropriations bill.

[100] The Jewish Agency for Israel's website is available at http://www.jafi.org.il/.

Table 6. Migration and Refugee Assistance Funding Levels for Israel

FY2000-FY2012	$519.3 million total
FY2013	$15 million
FY2014	$15 million
FY2015	$10 million
FY2016	$10 million
FY2017	$7.5 million
FY2018	$7.5 million
FY2019	$5.0 million
FY2020 Request	$5.0 million

Source: U.S. State Department.

Congress has changed the earmark language since the first refugee resettlement funds were appropriated in 1973. At first, the congressional language said the funds were for "resettlement in Israel of refugees from the Union of Soviet Socialist Republics and from Communist countries in Eastern Europe." But starting in 1985, the language was simplified to "refugees resettling in Israel" to ensure that Ethiopian Jews would be covered by the funding. Technically, the legislative language designates funds for refugee resettlement, but in Israel little differentiation is made between Jewish "refugees" and other Jewish immigrants, and the funds are used to support the absorption of all immigrants.

Loan Guarantees

Overview

Since 1972, the United States has extended loan guarantees to Israel to assist with housing shortages, Israel's absorption of new immigrants from the former Soviet Union and Ethiopia, and its economic recovery following the 2000-2003 recession, which was probably caused in part by the Israeli-Palestinian conflict known as the second intifada. Loan guarantees are a form of indirect U.S. assistance to Israel, since they enable Israel to borrow from commercial sources at lower rates. Congress directs that subsidies be set aside in a U.S. Treasury account in case of a possible Israeli default. These subsidies, which are a percentage of the total loan (based in part on the credit rating of the borrowing country), have come from the U.S. or the Israeli government. Israel has never defaulted on a U.S.-backed loan guarantee.

Loan Guarantees for Economic Recovery

In 2003, then-Prime Minister Ariel Sharon requested an additional $8 billion in loan guarantees to help Israel's ailing economy. The loan guarantee request accompanied a request for an additional $4 billion in military grants to help Israel prepare for possible attacks during an anticipated U.S. war with Iraq. P.L. 108-11, the FY2003 Emergency Wartime Supplemental Appropriations Act, authorized $9 billion in loan guarantees over three years for Israel's economic recovery and $1 billion in military grants. P.L. 108-11 stated that the proceeds from the loan guarantees could be used only within Israel's pre-June 5, 1967, area of control; that the annual loan guarantees could be reduced by an amount equal to the amount Israel spends on settlements outside of Israel's pre-June 1967 area of control; that Israel would pay all fees and subsidies; and that the President

would consider Israel's economic reforms when determining terms and conditions for the loan guarantees.[101]

On November 26, 2003, the Department of State announced that the $3 billion in loan guarantees for FY2003 were reduced by $289.5 million because Israel continued to build settlements in the occupied territories and continued construction of a security barrier separating key Israeli and Palestinian population centers.[102] In FY2005, the U.S. government reduced the amount available for Israel to borrow by an additional $795.8 million. Since then, Israel has not borrowed any funds.

According to the U.S. Department of the Treasury, Israel is legally obligated to use the proceeds of guaranteed loans for refinancing its government debt and also has agreed that proceeds shall not be used for military purposes or to support activities in areas outside its pre-June 5, 1967, areas of control (the West Bank—including East Jerusalem—, the Gaza Strip, and the Golan Heights). However, U.S. officials have noted that since Israel's national budget is fungible, proceeds from the issuance of U.S.-guaranteed debt that are used to refinance Israeli government debt free up domestic Israeli funds for other uses.[103]

As of 2019, Israel has issued $4.1 billion in U.S.-backed bonds.[104] After deducting the amounts mentioned above, Israel might still be authorized to issue up to $3.814 billion in U.S.-backed bonds. However, if the Israeli government sought to issue new U.S.-backed bonds, it is unclear whether the loan guarantees available to Israel might be subject to reduction based on Israel's estimated expenditures for settlements in the West Bank. Since the original loan guarantee program authorization for Israel in 2003, Congress has extended the program four times.[105] The program is currently authorized through the end of FY2023.

In general, Israel may view U.S. loan guarantees as a "last resort" option, which its treasury could use if unguaranteed local and international bond issuances become too expensive. According to one Israeli official in 2012, "We consider the loan guarantees as preparation for a rainy day.... This is a safety net for war, natural disaster and economic crisis, which allows Israel to maintain economic stability in unstable surroundings."[106] Israeli officials may believe that although they

[101] According to P.L. 108-11, "[Loan] guarantees may be issued under this section only to support activities in the geographic areas which were subject to the administration of the Government of Israel before June 5, 1967: Provided further, That the amount of guarantees that may be issued shall be reduced by an amount equal to the amount extended or estimated to have been extended by the Government of Israel during the period from March 1, 2003, to the date of issue of the guarantee, for activities which the President determines are inconsistent with the objectives and understandings reached between the United States and the Government of Israel regarding the implementation of the loan guarantee program: Provided further, That the President shall submit a report to Congress no later than September 30 of each fiscal year during the pendency of the program specifying the amount calculated under the preceding proviso and that will be deducted from the amount of guarantees authorized to be issued in the next fiscal year."

[102] U.S. State Department, "Boucher cites Concerns over Settlement Building and Security Fence Route," State Department Press Releases And Documents, November 26, 2003.

[103] CRS correspondence with the U.S. Department of the Treasury's Office of International Affairs, October 2009.

[104] This includes $1.6 billion in FY2003; $1.75 billion in FY2004; and $750 million in FY2005.

[105] P.L. 108-447, the FY2005 Consolidated Appropriations Act, first extended the authority of the loan guarantees from FY2005 to FY2007. P.L. 109-472, the 2006 Department of State Authorities Act, extended the authority to provide loan guarantees through FY2011. Under that legislation, the loan guarantee program had a stated end of September 30, 2011; however, there was also a "carryover" provision in the statute under which Israel could draw on unused U.S. guarantees until September 30, 2012. In the summer of 2012, Congress passed and the President signed into law P.L. 112-150, the United States-Israel Enhanced Security Cooperation Act of 2012. Section 5(b) of the law extended the loan guarantee authority until September 30, 2015. Section 7034(k)(10) of P.L. 114-113, the FY2016 Consolidated Appropriations Act, further extended the program until September 30, 2019, allowing unused amounts to be carried over into FY2020.

[106] "U.S. to Grant Three-year Extension of Loan Guarantees to Israel," *Ha'aretz*, January 24, 2012.

have not used the loan guarantees in the last 14 years, maintaining the program boosts the country's fiscal standing among international creditors in capital markets.

Table 7. U.S. Loan Guarantees to Israel: FY2003-FY2019

current dollars in millions

Fiscal Year	Deductions for Settlement Activity	Amount Borrowed by Israel	Amount Available for Israel to Borrow
FY2003	289.5	1,600.0	1,110.5
FY2004	—	1,750.0	1,250.0
FY2005	795.8	750.0	1,454.2
FY2006	—	—	3,814.7
FY2007	—	—	3,814.7
FY2008	—	—	3,814.7
FY2009	—	—	3,814.7
FY2010	—	—	3,814.7
FY2011	—	—	3,814.7
FY2012	—	—	3,814.7
FY2013	—	—	3,814.7
FY2014	—	—	3,814.7
FY2015	—	—	3,814.7
FY2016	—	—	3,814.7
FY2017	—	—	3,814.7
FY2018	—	—	3,814.7
FY2019	—	—	3,814.7

Source: U.S. Department of the Treasury and U.S. State Department.

Note: For FY2003-FY2005, the U.S. Department of the Treasury authorized Israel to borrow up to $3 billion per year of the total $9 billion authorized for the Loan Guarantee program.

American Schools and Hospitals Abroad Program (ASHA)[107]

Through foreign operations appropriations legislation, Congress has funded the ASHA program as part of the overall Development Assistance (DA) appropriation to the United States Agency for International Development (USAID). According to USAID, ASHA is designed to strengthen self-sustaining schools, libraries, and medical centers that best demonstrate American ideals and practices abroad. ASHA has been providing support to institutions in the Middle East since 1957, and a number of universities and hospitals in Israel have been recipients of ASHA grants. In FY2016 (the most recent year for which data are available), ASHA grant recipients in Israel/West Bank included Shaare Zedek Medical Center in Jerusalem, St. John Eye Hospital Group, Feinberg Graduate School of the Weizmann Institute of Science, and the Hadassah Medical Organization. According to USAID, institutions based in Israel have received the most program funding in the Middle East region.

[107] According to USAID, recipients of ASHA grants on behalf of overseas institutions must be private U.S. organizations, headquartered in the United States, and tax-exempt. The U.S. organization must also serve as the founder and/or sponsor of the overseas institution. Schools must be for secondary or higher education and hospital centers must conduct medical education and research outside the United States. Grants are made to U.S. sponsors for the exclusive benefit of institutions abroad. See http://www.usaid.gov/our_work/cross-cutting_programs/asha/.

Table 8. ASHA Program Grants from Israel Account, FY2000-FY2016

Fiscal Year	Amount
FY2000	$2.75 million
FY2001	$2.25 million
FY2002	$2.65 million
FY2003	$3.05 million
FY2004	$3.15 million
FY2005	$2.95 million
FY2006	$3.35 million
FY2007	$2.95 million
FY2008	$3.90 million
FY2009	$3.90 million
FY2010	$3.80 million
FY2011	$4.225 million
FY2012	$3.00 million
FY2013	$3.800 million
FY2014	$3.052 million
FY2015	$3.075 million
FY2016	$3.600 million
Total	**$55.452 million**

Source: USAID.

U.S.-Israeli Scientific & Business Cooperation

In the early 1970s, Israeli academics and businessmen began looking for ways to expand investment in Israel's nascent technology sector. The sector, which would later become the driving force in the country's economy, was in need of private capital for research and development at the time. The United States and Israel launched several programs to stimulate Israeli industrial and scientific research, and Congress has on several occasions authorized and appropriated[108] funds for this purpose to the following organizations:

- **The BIRD Foundation** (Israel-U.S. Binational Research & Development Foundation).[109] BIRD, which was established in 1977, provides matchmaking services between Israeli and American companies in research and development with the goal of expanding cooperation between U.S. and Israeli private high-tech industries. The mission of the Foundation is "to stimulate, promote and

[108] With the exception of recent funding for U.S.-Israeli energy cooperation (see "U.S.-Israeli Energy Cooperation" section below), Congress has not appropriated funding for binational foundations since the mid-1980s. At this point, the foundations are able to sustain grant making with interest earned from their respective endowments and fees collected from companies who successfully profited after receiving research support from the foundations.

[109] See http://www.birdf.com/default.asp. Congress helped establish BIRD's endowment with appropriations of $30 million and $15 million in 1977 and 1985, respectively. These grants were matched by the Israeli government for a total endowment of $90 million.

support joint (nondefense) industrial R&D of mutual benefit to…" the two countries.[110] Projects are supported in the areas of homeland security, communications, electronics, electro-optics, software, life sciences, and renewable and alternative energy, among others.[111] According to the Foundation, $350 million in grants have been awarded to almost a thousand projects. Awards typically range from $700,000 to $900,000. The award size varies based on total project budget and other considerations. The recipients must provide at least 50% of the total project budget. While support for military projects are not a part of the program, several of the completed ventures have yielded products that might be useful in a military setting, including the Aircraft Enhanced Vision System (EVS) camera, "which is designed to provide day/night improved orientation during taxiing or flying. It allows visual landing in reduced visibility conditions, such as fog, haze, dust, smog etc." The Foundation also funded the creation of a Through-Wall Location and Sensing System that is portable and "detects whether people are present behind walls, how many, and where they are situated."[112]

- **The BSF Foundation** (U.S.-Israel Binational Science Foundation).[113] BSF, which was started in 1972, promotes cooperation in scientific and technological research. Since 2012, BSF has partnered with the National Science Foundation (NSF) to jointly fund collaborative U.S.-Israeli scientific research. In August 2019, Israel's Council of Research announced that it would provide $56 million over a five-year period to expand the BSF-NSF program.
- **The BARD Foundation** (Binational Agriculture and Research and Development Fund). BARD was created in 1978 and supports U.S.-Israeli cooperation in agricultural research.[114] In the 115th Congress, P.L. 115-334, amended the original 1977 authorization of binational agricultural cooperation by adding that BARD should promote research in "drip irrigation, pesticides, aquaculture, livestock, poultry, disease control, and farm equipment"
- In 1995, the United States and Israel established **The U.S.-Israel Science and Technology Foundation (USISTF)** to fund and administer projects mandated by the U.S.-Israel Science and Technology Commission (USISTC),[115] a bilateral

[110] Eitan Ydilevich, "Building U.S.-Israel Economic Partnerships, The BIRD Model," Washington, DC. June 10, 2010, p. 2.

[111] BIRD Foundation, What is BIRD?, available at http://www.birdf.com/Index.asp?CategoryID=22&ArticleID=79.

[112] Information from the BIRD Foundation website, http://www.birdf.com.

[113] See http://www.bsf.org.il/Gateway4/. Congress helped establish BSF's endowment with appropriations of $30 million and $20 million in 1972 and 1984, respectively. These grants were matched by Israel for a total endowment of $100 million. According to the treaty establishing the Foundation, the Foundation shall use the interest, as well as any funds derived from its activities, for the operations of the Foundation.

[114] See http://www.bard-isus.com/. Congress helped establish BARD's endowment with appropriations of $40 million and $15 million in 1979 and 1985, respectively. These grants were matched by the State of Israel for a total endowment of $110 million. In recent years, Congress has provided funds for BARD in annual Agriculture Appropriations legislation at approximately $500,000 a year.

[115] The U.S.-Israel Science and Technology Commission (USISTC) was established in 1993 to facilitate cooperative ventures between high tech industries in the two countries. The goal of the program is to "to maximize the contribution of technology to economic growth." While the collaborative work may be somewhat similar to that supported by the BIRD Foundation, "the Science and Technology Commission assists in the commercialization of new technologies with longer lead times to market. These projects involve higher risk and require substantial capital commitments." The ventures are funded and administered by the U.S.-Israel Science and Technology Foundation. The U.S. and Israeli governments each committed $15 million to the effort over three years for a total of $30 million.

entity jointly established by the United States Department of Commerce and the Israel Ministry of Industry, Trade, and Labor in 1994 to foster scientific, technological, and economic cooperation between the two countries.

Since 2007, Congress has repeatedly authorized and appropriated funds for the creation of new U.S.-Israeli cooperative programs in various fields. Most of these new programs fall under the administrative purview of the BIRD Foundation. They include the following:

U.S.-Israeli Energy Cooperation (BIRD Energy)

BIRD Energy is a cooperative program between the U.S. Department of Energy and the Israeli Ministry of Energy designed to further research in renewable energy and energy efficiency. It is nominally part of the BIRD Foundation. Congress authorized the creation of the program in Section 917 of P.L. 110-140, the Renewable Fuels, Consumer Protection, and Energy Efficiency Act of 2007.[116] Although the law did not appropriate any funds for joint research and development, it did establish a grant program to support research, development, and commercialization of renewable energy or energy efficiency. The law also authorized the Secretary of Energy to provide funds for the grant program as needed. Congress authorized the program for seven years from the time of enactment, which was on December 19, 2007. Then, in December 2014, the President signed into law P.L. 113-296, the United States-Israel Strategic Partnership Act of 2014, which reauthorized the U.S.-Israeli Energy Cooperation program for an additional 10 years until September 30, 2024.

Congress and the Administration have provided a total of **$19.7 million** for BIRD Energy to date.[117] As of 2019, total combined U.S. and Israeli investment in BIRD Energy for 40 approved projects stands at $35 million.

U.S.-Israel Center of Excellence in Energy, Engineering and Water Technology (Energy Center)

In 2018, the U.S. Department of Energy and the Israeli Energy Ministry agreed to establish a new program known as the U.S.-Israel Center of Excellence in Energy, Engineering and Water Technology ("the Energy Center"). To date, Congress has appropriated[118] **$8 million** for the center, and the Israeli government and private sector partners have matched those funds for initial seed money of $16 million.[119] Potential research areas identified by the Energy Center include: energy cybersecurity in critical infrastructure, energy storage, and production and utilization of

[116] Congress first considered authorizing a program to expand U.S.-Israeli scientific cooperation in the field of renewable energy in legislation entitled, The United States-Israel Energy Cooperation Act (H.R. 1838 – 110th Congress).

[117] Congress specifies funds for BIRD Energy in conference report language accompanying energy and water appropriations legislation. For FY2019, see P.L. 115-244, the Energy and Water, Legislative Branch, and Military Construction and Veterans Affairs Appropriations Act, 2019 - "Within International Affairs, the agreement includes $2,000,000 for the Israel Binational Industrial Research and Development (BIRD)."

[118] P.L. 115-141, the FY2018 Consolidated Appropriations Act, provided $4 million for the establishment of a U.S.-Israel Center of Excellence in energy and water technologies. P.L. 115-244, the Energy and Water, Legislative Branch, and Military Construction and Veterans Affairs Appropriations Act, 2019, provided an additional $4 million in funding.

[119] The U.S.-Israel Strategic Partnership Act (P.L. 113-296) authorized the President to promote cooperative programs with Israel in the fields of energy, water, agriculture, and alternative fuel technologies. P.L. 114-322, the WIIN Act (Water Infrastructure Improvements for the Nation Act), called on the White House Office of Science and Technology Policy to develop a coordinated strategic plan that, among other things, strengthened "research and development cooperation with international partners, such as the State of Israel, in the area of desalination technology."

natural gas. According to the Center, the maximum award for a single consortium is $10 million for a period of five years.[120]

BIRD Homeland Security (BIRD HLS)

The BIRD Foundation also manages the BIRD Homeland Security Program, a cooperative undertaking between the U.S. Department of Homeland Security (DHS) and the Israel Ministry of Public Security (MOPS) to further joint research of advanced technologies for Homeland Security.[121] Currently, DHS's Science and Technology Directorate (S&T) is working together with Israeli counterparts to develop technologies for first responders.[122] To date, Congress has provided a total of **$7 million** in funding for BIRD HLS, of which $4 million was specified in conference report language accompanying FY2018 and FY2019 Homeland Security Appropriation legislation for a "binational cooperative pilot program." The remaining $3 million came in the form of three one-million-dollar Homeland Security Department grants (FY2016-FY2018) for a first responders program.[123]

Israel Assistance Legislation in the 116th Congress

The following is a select list of bills before Congress concerning U.S. aid to Israel:

S. 1 (H.R. 336) - *Strengthening America's Security in the Middle East Act of 2019*[124] (which passed the Senate in February 2019) would:

- authorize the annual provision of "not less than" $3.3 billion in Foreign Military Financing (FMF) to Israel through FY2028, per the 2016 U.S.-Israel Memorandum of Understanding on Assistance;
- reauthorize both the War Reserves Stock Allies-Israel (WRSA-I) program and Israel's access to $3.8 billion in U.S. loan guarantees through FY2023;
- authorize the President to transfer precision guided munitions from reserve stocks to Israel as necessary for legitimate self-defense; and
- require the President to report to Congress on steps the Administration is taking to include Israel in the list of countries eligible for the 15 C.F.R. 740.20—License Exception Strategic Trade Authorization (STA). Tier 1 of the STA license exception includes 37 countries, who are allowed to receive U.S. high technology and military items without individual export licenses. Israel is currently in Tier 2, which is subject to national security controls.

[120] U.S. Department of Energy, "DOE, Israel's Ministry of Energy, and Israel Innovation Authority Announce Call for Proposals for the U.S.-Israel Energy Center," April 30, 2019.

[121] The U.S.-Israel Strategic Partnership Act (P.L. 113-296) authorized the Secretary of Homeland Security, acting through the Director of the Homeland Security Advanced Research Projects Agency and with the concurrence of the Secretary of State, to enter into cooperative research pilot programs with Israel to enhance Israel's capabilities in border, maritime, and aviation security, explosives detection, and emergency services. In 2016, Congress passed P.L. 114-304, the United States-Israel Advanced Research Partnership Act of 2016, a law that permanently authorized the expansion of BIRD HLS to include cybersecurity technologies.

[122] U.S. Department of Homeland Security, "Snapshot: Israel & U.S.: A Unique Partnership in Science, Technology and Business," January 23, 2018.

[123] CRS correspondence with BIRD Foundation, July 2019.

[124] For additional background on S. 1, see CRS Insight IN11014, *Strengthening America's Security in the Middle East Act of 2019 (S.1): An Overview*, by Jeremy M. Sharp, Jim Zanotti, and Christopher M. Blanchard.

H.R. 1837 – *The United States-Israel Cooperation Enhancement and Regional Security Act* (which passed the House in July 2019) would:

- Authorize U.S. FMF for Israel for through FY2024 at the levels set forth for those years in the 2016 U.S.-Israel Memorandum of Understanding on Assistance;
- Extend authorization for WRSA-I and loan guarantees to Israel through FY2025;
- Authorize $55 million in funds for various cooperative programs in the fields of energy, agriculture, water, and homeland security;
- Amend Section 38 of the Arms Export Control Act to authorize the emergency transfer of military equipment to Israel upon a presidential determination that Israel is under an existing or imminent threat of military attack;
- Authorize the transfer from reserve stocks of precision guided munitions to Israel.

S. 1790 – *The National Defense Authorization Act for Fiscal Year 2020* (which passed the Senate in June 2019) would:

- Separately authorize a cooperative program until 2025 to counter unmanned aerial systems apart from the current U.S.-Israel Anti-Tunnel Cooperative Program, not to exceed $25 million annually;
- Authorize $500 million in missile defense funding for Israel.

H.R. 2500 – *The National Defense Authorization Act for Fiscal Year 2020* (which passed the House in July 2019) would:

- Authorize $500 million in missile defense funding for Israel.

H.R. 2740 – *Labor, Health and Human Services, Education, Defense, State, Foreign Operations, and Energy and Water Development Appropriations Act, 2020*[125] (which passed the House in June 2019) would:

- Appropriate $3.3 billion in FMF for Israel in FY2020;
- Appropriate $5 million in MRA grants for refugee resettlement;
- Appropriate $500 million in missile defense funding for Israel.

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[125] This bill includes H.R. 2839, the Department of State, Foreign Operations, and Related Programs Appropriations Act, 2020.

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