2018-12

ISRAEL'S ASCENDANCE TO A TECHNOLOGICALLY ADVANCED REGIONAL ECONOMIC POWER

Olivine, Maxim

Monterey, CA; Naval Postgraduate School

NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

ISRAEL'S ASCENDANCE TO A TECHNOLOGICALLY ADVANCED REGIONAL ECONOMIC POWER

by

Maxim Olivine

December 2018

Thesis Advisor: Robert E. Looney
Second Reader: James A. Russell

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			*Form Approved OMB No. 0704-0188*
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.			
1. AGENCY USE ONLY ***(Leave blank)***	**2. REPORT DATE** December 2018	**3. REPORT TYPE AND DATES COVERED** Master's thesis	
4. TITLE AND SUBTITLE ISRAEL'S ASCENDANCE TO A TECHNOLOGICALLY ADVANCED REGIONAL ECONOMIC POWER			**5. FUNDING NUMBERS**
6. AUTHOR(S) Maxim Olivine			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			**8. PERFORMING ORGANIZATION REPORT NUMBER**
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			**10. SPONSORING / MONITORING AGENCY REPORT NUMBER**
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.			
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.			**12b. DISTRIBUTION CODE** A

13. ABSTRACT (maximum 200 words)

This thesis examines Israel's economic ascendance to one of the most technologically advanced states in the Middle East. The analysis reviews the immigration of Jews into Palestine and later Israel, the Israeli defense sector, relationships between Israel and key world powers, and Israeli economic development, political evolution, and policy choices. The results show that a unique cocktail of high-quality immigrants, effective government reforms and subsidies, and technological innovation created the foundation for Israel's high-technology economy. All efforts were necessities due to lack of significant natural resource reserves. Consequently, the Israeli path to economic success could be replicated by relatively small and resource-lacking states.

14. SUBJECT TERMS Israel, Israeli economy, Israeli-European relations, Israeli-United States relations, Israeli-French relations, Israeli-German relations, Israeli-British relations, British Mandate in Palestine, Israeli immigration			**15. NUMBER OF PAGES** 93
			16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	**18. SECURITY CLASSIFICATION OF THIS PAGE** Unclassified	**19. SECURITY CLASSIFICATION OF ABSTRACT** Unclassified	**20. LIMITATION OF ABSTRACT** UU

NSN 7540-01-280-5500 Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release. Distribution is unlimited.

ISRAEL'S ASCENDANCE TO A TECHNOLOGICALLY ADVANCED REGIONAL ECONOMIC POWER

Maxim Olivine
Major, United States Air Force

BS, University of California - Davis, 2008
MBA, Wright State University, 2013
PhD, Colorado State University, in progress

Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(EUROPE AND EURASIA)**

from the

**NAVAL POSTGRADUATE SCHOOL
December 2018**

Approved by: Robert E. Looney
Advisor

James A. Russell
Second Reader

Afshon P. Ostovar
Associate Chair for Research, Department of National Security Affairs

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

This thesis examines Israel's economic ascendance to one of the most technologically advanced states in the Middle East. The analysis reviews the immigration of Jews into Palestine and later Israel, the Israeli defense sector, relationships between Israel and key world powers, and Israeli economic development, political evolution, and policy choices. The results show that a unique cocktail of high-quality immigrants, effective government reforms and subsidies, and technological innovation created the foundation for Israel's high-technology economy. All efforts were necessities due to lack of significant natural resource reserves. Consequently, the Israeli path to economic success could be replicated by relatively small and resource-lacking states.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF FIGURES

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

I would like to thank my wife, Ashley, and daughters, Katelyn and Madelyn, for their patience and sacrifice as I labored endlessly in my second home: the Dudley Knox Library. Their support and unconditional love for me fueled my efforts. My girls were an inspiration and proved to be a constant reminder of what is truly important in life—the elusive notion of "why we fight."

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION

Since its formation in 1948, Israel has overcome war, political adversity, religious discrimination, and economic hardship to become one of the most politically, economically, and militarily advanced states in the Middle East.[1] The Jewish state has undergone multiple significant stages of development in a relatively short period of time. Under British Imperial rule from 1917 to 1948, and for the first decade after Israeli independence, the Jewish population of the region was largely uneducated, impoverished, and reliant on their agricultural economy for subsistence.[2] Since then, the population has grown by more than an order of magnitude, the economy has undergone dramatic diversification, and the state has reached 26th in the world in nominal gross domestic product (GDP) per capita.[3] Furthermore, the Israeli economy has incorporated many new technologically advanced markets, resembling European or North American economies.

While Israeli economic success and its various phases have been studied in depth, little research has been undertaken into how the combination of these events or circumstances led to Israeli economic dominance in the region. Furthermore, it is unclear if any other state has followed a similar path to economic success or if the Israeli model can be replicated as a prescriptive solution. My research focuses on the economic aspect of Israeli success seeking to explain how this tiny state, with about the same population and territory as New Jersey, achieved such economic prosperity. The research examines this dramatic development from a rural agricultural society to a modern and technologically advanced economic regional power to answer how Israel has become the most economically advanced state in the Middle East.

---

[1] Klaus Schwab, ed., *The Global Competitiveness Report 2017–2018* (Geneva, Switzerland: World Economic Forum, 2017), 154, https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018/.

[2] Paul Rivlin, *The Israeli Economy from the Foundation of the State through the 21st Century* (Cambridge; New York: Cambridge University Press, 2010), 1.

[3] Schwab, *The Global Competitiveness Report 2017–2018*, 2017, 154.

The significance of the Israeli economic ascendance is threefold that helped create a high-technology diversified economy that put Israel in a favorable geopolitical position and allowed its military to keep an edge over its adversaries. Firstly, thanks to its economic capabilities, Israel is in a favorable geopolitical and military situation in the Middle East with significant bargaining power. In 1948, Ben Gurion founded Israel amid strife and war. Since then, the state has been continuously at the center of tensions in the Middle East, mostly through heated disagreements with nearly all of its neighbors. Being constantly under threat, the Israeli government was in dire need of material strength to ensure its survival. Over time, Israel's superior regional economic development allowed it to surpass its neighbors in technological evolution.

Secondly, Israel's economic might allowed it to be powerful and independent enough to provide the world's Jewish population with a safe haven in case of anti-Semitic escalations. Unfortunately, anti-Semitism has been a problem for as long as religious and ethnic discrimination has existed. But especially since the holocaust in the middle of the 20th century, it became clear that Jews would not be safe in diasporas around the world. With a powerful enough state to fend off invasion and harassment of Jews abroad, Israel also serves as a safe zone for Jews from all over the world that feel threatened elsewhere.

Finally, Israeli economic success, despite the state's unfavorable beginnings, could provide a prescriptive solution for small states seeking to follow the "Israeli miracle" model. Israel's lack of domestic resources and the capitalization on favorable immigration circumstances and good governmental decisions led to unlikely economic success. Even without the timely immigration of capable workers, Israeli monetary policies and fiscal subsidies created a lucrative environment for development and growth. Moreover, it's lack of natural resources forced Israel to capitalize on imagined manpower to create a technologically-advanced economy. The Israeli economic miracle model is a prescriptive solution for other small, resource-starved states.

In summary, Israel's economic rise puts the state in a better geopolitical position, provides a haven for the world's Jewish population, and blueprints a path of success against overwhelming odds that many states in similar situations could replicate.

To answer how Israel became such a technologically advanced economy it is imperative to understand Israel's century-long immigration process, its government subsidies, its economic reforms, and its defense-related technological innovation and their contribution to Israeli economic success. All of these categories have been thoroughly studied, and there is little ambiguity or disagreement in the academic community. Combining the scholarship allows for a more comprehensive explanation to the question of how Israel became the most economically advanced state in the Middle East today and serve as a great opportunity to fill a gap in Israeli economic academia.

Today, Israel is on par technologically with the most advanced Western societies, and it holds the record on highest per capita patents in the world.[4] Justman shows that this fact is rooted in the development of the high-technology sector in Tel-Aviv.[5] Rivlin suggests that encouragement of the domestic defense industry, especially during the wars of 1967 and 1973, greatly contributed to the high-technology revolution that came in the 1990s.[6] These effects on the civilian sector were made possible partially by governmental emphasis on technical education,[7] but mostly through technology and labor transfer from the defense to the civilian sector.[8] Additional factors that aided in the emergence of Israel's high-tech sector are the immigration of highly skilled engineers from the former Soviet Union and the macroeconomic stabilization of the Israeli economy--both ideas are discussed below.[9]

The literature shows that the development of the technology region in Tel-Aviv (the "Silicon Wadi") and its effects on the economy are among the most vital contributors to

---

4 "Bloomberg Innovation Index 2018," *Bloomberg*, January 22, 2018, https://assets.bwbx.io/images/users/iqjWHBFdfxIU/iZZqjHcIo1Sg/v3/1480x-1.png.

5 Moshe Justman, "Structural Change and the Emergence of Israel's High-Tech Sector," in *The Israeli Economy, 1985--1998: From Government Intervention to Market Economics*, by Avi Ben-Bassat (Cambridge, MA: The MIT Press, 2002), 479.

6 Rivlin, *The Israeli Economy*, 4.

7 Paul Rivlin, "Stabilization and Liberalization in the Israeli Economy," in *Handbook of Research on Comparative Economic Development Perspectives on Europe and the MENA Region*, by M. Mustafa Erdodu, ed. Bryan Christiansen, 1 edition (Hershey: IGI Global, 2016), 535.

8 Justman, "Structural Change and the Emergence of Israel's High-Tech Sector," 479.

9 Justman, 479.

overall Israeli economic success. As a result of technological innovation and development, Israel's high-technology sector accounts for 13 percent of it GDP and 31 percent of its exports.[10] Additionally, between 1995 and 2012, Israel's production increased by 75 percent mostly thanks to the high-technology sector.[11] Rivlin, Justman, and many other economists agree that the rise of the Israeli high-technology sector may be the single greatest Israeli economic success story.[12]

While the defense expenditures for the Six-Day and Yom Kippur wars of 1967 and 1973, respectively, paid off in famous victories, they also caused the Israeli economy to stagnate.[13] Ben-Porath echoes the beliefs of the economic community by emphasizing that "many of Israel's economic problems are related to its heavy defense burden,"[14] which reached upwards of 30 percent of gross national product in the mid-1970s.[15] As a result, between 1973 and 1985, after 25 years of near record-setting growth, the Israeli economy almost stopped growing completely.[16] Moreover, rampant unemployment coupled with uncontrollable external factors such as the energy crisis of the 1970s, made Israel "synonymous with running inflation and balance-of-payments crises."[17]

To avert a catastrophic collapse of the economy, the Israeli government implemented a series of economic and fiscal reforms that proved very successful.[18] Most important among them were currency devaluation, removing relationship between wages

---

[10] Assaf Razin, *Israel and the World Economy: The Power of Globalization*, 1 edition (Cambridge, MA: The MIT Press, 2018), 108.

[11] Rivlin, "Stabilization and Liberalization in the Israeli Economy," 536.

[12] Rivlin, 535.

[13] Yoram Ben-Porath, ed., *The Israeli Economy: Maturing Through Crises* (Cambridge, Massachusetts: Harvard University Press, 1986), 6.

[14] Ben-Porath, 22.

[15] Yair Aharoni, *The Israeli Economy: Dreams and Realities*, 1 edition, Routledge Revivals (Routledge, 2015), 273.

[16] Ben-Porath, *The Israeli Economy*, 1.

[17] Ben-Porath, 22.

[18] Paul Rivlin, "The Israeli Economy," in *Handbook of Emerging Economies*, ed. Robert E. Looney, 1 edition (New York: Routledge, 2014), 190.

and prices,[19] implementation limited free-trade agreements with the United States and the European Union (1985 and 1975, respectively),[20] adjustment of the monetary policy, domestic capital market reform,[21] and overall reduction of federal involvement in the economy.[22] These pioneering economic decisions thrust Israel into recovery and further growth, which contributed immensely to Israel's overall economic success today.

Despite the great transfer of employees from the defense to the civilian sector, to capitalize on the new technology and the favorable economic conditions, the Israeli economy needed far more labor. This manpower started immigrating in the late 1980s with the impending collapse of the Soviet Union. Throughout the 1990s,[23] the total wave of Soviet Jews would number over one million people,[24] constituting about 20 percent of the pre-immigration population of Israel.[25] Additionally, Razin notes that the immigrants were highly skilled and highly motivated, which raised overall labor efficiency.[26] Moreover, the newly arrived labor was very experienced, requiring minimal upstart time to become productive.[27]

Absorbing a large number of Soviet Jewish immigrants stimulated the Israeli economy and the new high-technology sector by capturing the founding principles of the state: "the Jewish State in the land of Israel will open wide the gates of the homeland to

---

19 Nadav Halevi, "A Brief Economic History of Modern Israel," Economic History Association, October 25, 2017, https://eh.net/encyclopedia/a-brief-economic-history-of-modern-israel/.

20 Rivlin, *The Israeli Economy from the Foundation of the State through the 21st Century*, 4.

21 Aharoni, *The Israeli Economy*, 4.

22 Assaf Razin and Efraim Sadka, *The Economy of Modern Israel: Malaise and Promise*, 1 edition (Chicago: University of Chicago Press, 1993), 26–34.

23 Zvi Eckstein and Yoram Weiss, "The Integration of Immigrants from the Former Soviet Union in the Israeli Labor Market," in *The Israeli Economy, 1985--1998: From Government Intervention to Market Economics*, by Avi Ben-Bassat (The MIT Press, 2002), 349.

24 Razin and Sadka, *The Economy of Modern Israel*, 107–9.

25 Razin, *Israel and the World Economy*, 23.

26 Razin, 45.

27 Eckstein and Weiss, "The Integration of Immigrants from the Former Soviet Union in the Israeli Labor Market," 349.

every Jew."[28] The result, much like in the 1950s and 1960s, was "a very high rate of population growth, a large capital import, and a rapid growth of total and per capita product."[29] Undoubtedly, this once-in-a-century exodus of priceless labor from a failing communist state and its capitalization by the Israeli government and industries had a significant effect on the success of today's Israeli economy.

Since its inception, the Israeli state has always provided subsidies to many domestic industries.[30] Two notable examples were subsidies on imports (tariffs) to aid domestic businesses and assistance to immigrants.[31] Despite the Economic Stabilization Program in 1985 and its 750-million-dollar subsidy cuts,[32] in the 1980s, almost 10 percent of government expenditures were in the form of economic subsidies.[33]

The two most significant of these subsidy efforts were the absorption program for new immigrants and the "Yozma" program to help stimulate the high-technology sector. The absorption program was created by the government for immigrants to fluidly integrate into the society by offering subsidized language training, housing, vehicle purchases, etc.[34] Similarly, the Yozma program was a 100-million-dollar fund to help high-technology startups both attract additional funding from abroad and to jumpstart their operations.[35] Both programs have proved incredibly effective at helping to absorb one of the largest

---

[28] Israel Shaffir, "The Effects of the Immigration of Soviet Jews to Israel on Israel's Economy and Human Resources" (Naval Postgraduate School, 1993), 1.

[29] Nadav Halevi and Ruth Klinov-Malul, *The Economic Development of Israel* (New York, NY: Frederick A. Praeger, 1968), 3.

[30] Yakir Plessner, *The Political Economy of Israel: From Ideology to Stagnation* (Albany: State University of New York Press, 1993), 128–31.

[31] Michael Michaely, *Foreign Trade Regimes and Economic Development: Israel* (New York: Columbia University Press, 1975), 82–84.

[32] Helen C. Metz, ed., *Israel, a Country Study*, 3 edition (United States Government Printing, 1990), 173.

[33] Plessner, *The Political Economy of Israel*, 178.

[34] Sarah Kantor, "Aliyah Benefits for Olim Chadashim," Nefesh B'Nefesh, June 11, 2017, http://www.nbn.org.il/aliyahpedia/government-services/aliyah-benefits-olim-chadashim/.

[35] Gil Avnimelech and Morris Teubal, "Evolutionary Venture Capital Policies: Insights from a Product Life Cycle Analysis of Israel's Venture Capital Industry," SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, October 1, 2003), 10–16, https://papers.ssrn.com/abstract=2758173.

immigrations in Israeli history and founding the Israeli high-technology industry, respectively.

These studies of Israeli economic ascendance yield an excellent overview of technological innovation, economic reform, immigration, and economic subsidies. Each one of the categories described above had consequences to the overall health and success of the Israeli economy. However, the true nature of Israeli economic success is the symbiotic relationship of all four categories. By combining the decisions, events, and circumstances surrounding immigration, economic prosperity, and technological innovation, one can provide a prescriptive path for the "Israeli miracle."

While it is true that any one of these categories shares the responsibility for Israel's economic success, the combination of all four led to the Israeli economic miracle. Technological innovation helped the Israeli economy modernize and diversify in a way that allowed it to grow its overall economic pie. But without the proper economic conditions or the required labor, technological superiority is not likely to bring the desired economic effects. Similarly, economic reform has saved Israel from economic collapse due to rampant inflation and unemployment. However, good economic policies alone are not always enough to revitalize an economy beyond stabilization of a difficult economic situation. Moreover, much like technology and reforms, immigration has contributed immensely to the Israeli economy by providing skilled, experienced, and highly educated labor, but a capable labor force is not fully utilized without industries that can capitalize on the manpower. Likewise, economic subsidies have provided immigrants and the high-technology sector with vital stimulation, that being said, financial stimulation of domestic industries does not always succeed and often requires input of other resources.

Furthermore, the combination of favorable circumstances and decisions of all four categories appears to be a prescriptive solution, as is demonstrated in Chapter II. The technological achievement of the state could be utilized by the new skilled immigrating manpower. This workforce, and their new employers, can capitalize on the government subsidies that help both get a head-start. But neither the industries nor the individuals would get far, even with government stimulation, without the proper economic environment to thrive—exactly what the Israeli economic reforms achieved. It is possible that some of the

categories had more significant effect on the Israeli economy than others, but it is certain that none of them was insignificant and likely that a symbiotic relationship between all four categories explained Israel's economic advancement.

II. BRIEF HISTORY AND BACKGROUND OF ISRAEL

Since its formation in 1948, Israel has overcome war, political adversity, religious discrimination, and economic hardship to become one of the most politically, economically, and militarily advanced states in the Middle East.[36] How has a tiny state with a population and territory no bigger than New Jersey attained such a marvelous feat? Israel's success lies in the country's roots and its relationship to European states and institutions. The immigration of Ashkenazi (European) Jews to Palestine, notably during the British Empire's colonial occupation of this territory in the 20th century, laid the foundation for Israel's population. Additionally, British influence on the culture, politics, and institutions in Palestine created a strong foundation from which Israel could prosper.

Beyond colonial times, Israel has been blessed with continued European immigration primarily because of wars and antisemitism. Additionally, the relationships between Israel and European states in the second half of the 20th century empowered the unique economic and political connections with the European community. Furthermore, the Israeli links to institutions such as the North Atlantic Treaty Organization (NATO) helped cultivate the Jewish state's military might. Consequently, the unique combination of political, cultural, economic, and military relationships mostly with European states and institutions made Israel one of the most disproportionately powerful states in the Middle East. To best analyze this ascendance to power, one must understand the history of the British Mandate in Palestine, the history of NATO from an Israeli perspective, and the relationships Israel has had with key NATO powers.

A. HISTORY OF THE BRITISH MANDATE IN PALESTINE

The British Empire's colonial rule of Palestine lasted for a little over thirty years (1917–1948) and set the foundation for Israeli economic and political evolution.[37] In that

---

[36] Nadav Halevi, "A Brief Economic History of Modern Israel," Economic History Association, October 25, 2017, https://eh.net/encyclopedia/a-brief-economic-history-of-modern-israel/.

[37] Avishai Margalit, "Palestine: How Bad, & Good, Was British Rule?," *The New York Review of Books*, February 7, 2013, http://www.nybooks.com/articles/2013/02/07/palestine-how-bad-and-good-was-british-rule/.

critical period before Israeli independence, the Jewish population of Israel grew by over 650,000 (a ten-fold increase).[38] The British impact on the Israeli political and economic system during this early mass immigration period fostered a European cultural foundation for the future state of Israel. Furthermore, the United Kingdom created and influenced many institutions in the Palestinian region that Israel retained as it evolved on the world stage. As a result, the British cultural influence and development of Israeli institutions empowered the Jewish state to develop well both politically and economically.

In the mid-19th century, the population of Israel numbered somewhere around 25,000—a negligible percent of the total population of Palestine.[39] The population tripled during the late 19th and early 20th centuries throughout the rule of the Ottoman Empire but remained less than 10 percent of the total population.[40] It was not until after World War I (WWI) and the Balfour Declaration, when Palestine came under the control of the British Mandate, that the Jewish population started growing significantly. The increasing anti-Semitism in Europe during the early 20th century forced Jews to abandon their European homelands, many choosing the Zionist movement and settling in the ancient land of the Jews (in vogue at the time). This wave of constant immigration hit a serious road bump in the years leading up to, during, and immediately after World War II (WWII), when the British governorship of Palestine introduced strict quotas. Nevertheless, these regulations did not stop the Jewish population of Israel from growing at a consistent rate.

The growth of the Jewish population in Israel began long before the British Empire set foot on Palestinian shores. Yet, when the British Foreign Secretary, Arthur James Balfour, wrote the Balfour Declaration to Lionel Walter Rothschild (leader of the British Jewry) accepting Palestine as the home of the Jewish nation, the population rose at a more

---

38 "Jewish Immigration to Palestine (1919-1941)," Jewish Virtual Library, November 18, 2017, http://www.jewishvirtuallibrary.org/jewish-immigrantion-to-palestine-1919-1941.

39 Thomas Woodley, "Jewish Immigration to Historical Palestine," CJPME - English, accessed February 21, 2018, http://www.cjpme.org/fs_181.

40 "Total Immigration to Israel, by Continent per Year," Jewish Virtual Library, accessed February 21, 2018, http://www.jewishvirtuallibrary.org/total-immigration-to-israel-by-continent-per-year.

significant rate.[41] The declaration marked the beginning of the cultural and societal influence of the British Empire on the Jewish nation and its homeland. Additionally, the declaration successfully rallied European Jews to immigrate to Palestine, fostering the growth of the core population of the future state of Israel. Consequently, the fast-growing Jewish population of Palestine thrived under British rule as they escaped the impending doom that awaited the Jews in Europe.

The brewing anti-Semitic catastrophe took decades to develop in Europe, but once it did, it caused a large exodus of Jews. In the years around WWI, anti-Semitic sentiment was not unusually high in Europe as the modern world was largely focused on total inter-state war. But the destruction of WWI plunged much of Europe into economic and political hardship. Consequently, many Europeans infamously used the Jewish people as scapegoats as the public resented their relative economic wellbeing throughout most of Europe.[42] This brought the rise of anti-semitism throughout much of Central and Eastern Europe. By the time fascism came to power in Germany (home to a major Jewish diaspora) in 1933, about 120,000 European Jews had already settled in Palestine.[43] But with open German state-sponsored rhetoric and aggressive actions against Jews by 1933, the exodus truly began. The Jewish population of Palestine started to swell, doubling the number of immigrants in just three years after the British began their rule in Palestine. Unfortunately, anti-semitism was not absent in Palestine, and the large influx of foreigners (as Jews were seen at the time) only exacerbated the situation.

As the Jewish population of Palestine rapidly grew, concerns mounted among the local Arab Palestinian population. The number of Jews was growing so fast that the demographics of Palestine were changing faster than the territory's economy and internal politics could sustain. The European Jewish contingent arriving in Palestine was largely an educated and capable workforce that easily thrusted itself into the Palestinian economic

41 Encyclopedia Britannica, "Balfour Declaration | History & Impact," accessed February 21, 2018, https://www.britannica.com/event/Balfour-Declaration.

42 "Antisemitism in History: World War I," United States Holocaust Memorial Museum, accessed February 21, 2018, https://www.ushmm.org/wlc/en/article.php?ModuleId=10007166.

43 "Jewish Immigration to Palestine (1919-1941)," November 18, 2017.

market and soon came to dominate it.[44] The economic impact, coupled with growing religious tensions between Jews and Arabs, caused increased animosity and put the British in the middle of aggressive demonstrations and minor hostilities. As a result, Britain found itself in the middle of a vicious political battle, forcing it to appease the majority Arab population by limiting Jewish immigration in 1938 to 75,000 people over five years until 1944.[45] Unfortunately for the Jewish population of Europe, this guidance severely limited the possibility of escape to Palestine from Nazi atrocities prior to and during much of the war. Nevertheless, about 120,000 Jews managed to enter Palestine illegally between 1939 and 1948.[46] In all, between 1917 and 1948 roughly 650,000 Jews would settle in Palestine. Right before the formation of Israel in 1948, the Jewish population of the territory constituted about a third of the total population of Palestine, creating both a problem for the local Arab population and simultaneously constituting the founding people of Israel.[47]

Much as the British Mandate shepherded the growth of the Jewish population of Palestine, so did the British instill their influence in the modern Israeli legal, political, and economic system. The British accomplished this by supporting the creation of administrative and bureaucratic institutions that the Israelis could capitalize on after 1948. For example, the British brought their laws and system of governance to Palestine. Additionally, they promoted and strengthened institutions that would uphold this legal structure for the Jews. Moreover, the British introduced a system of governance over the territory. As a result, they made Jerusalem the capital of the British Mandate and founded critical bureaucracies necessary for political stability. Finally, the British encouraged and aided the growth of capitalist free markets. Furthermore, they enabled the modernization of the Jewish economy in Palestine through economic institutions.[48] Consequently, at the

---

[44] Halevi, "A Brief Economic History of Modern Israel," October 25, 2017.

[45] Woodley, "Jewish Immigration to Historical Palestine."

[46] Woodley.

[47] "Jewish & Non-Jewish Population of Israel/Palestine (1517-Present)," accessed February 21, 2018, http://www.jewishvirtuallibrary.org/jewish-and-non-jewish-population-of-israel-palestine-1517-present.

[48] Jacob Metzer, *The Divided Economy of Mandatory Palestine* (Cambridge University Press, 2002), 1–4.

formation of the state of Israel, the Israeli government had a functioning and relatively modern country handed to it on a silver platter.

As mentioned above, a functioning political system was one of the benefits reaped from this transition. To create it, the British leadership in Palestine encouraged the establishment of an assembly to represent the Jewish people. Consequently, the Jews formed the World Zionist Organization and the Jewish Assembly that served as a quasi-government for the Jews in Palestine and provided executive, legislative, and administrative functions.[49] The two most notable institutions created during this time were the Elected Assembly and the National Council. The Elected Assembly was the legislative branch while the National Council was the executive arm of the Jewish community. Most of the religious, welfare, and educational institutions that these organizations created are still thriving today. Famous examples of these institutions include the chief rabbinate, the Hebrew school system, Technion University and the Hebrew University, the major labor union (Histadrut), a small Jewish defense force (Haganah), and the Jewish National Fund to purchase further land in Palestine for the formation of the Jewish state.[50] All of these institutions, along with the National Council and Elected Assembly, capitalized on the British liberalism and cemented the political foundation for the state of Israel.

Even before the formation of the Jewish state, as the Jewish community was taking shape, the legislative branch of the government (the Elected Assembly) was beginning to look (and still looks) like the British Parliament. Multiple political parties arose to represent the interests of their constituencies. Chief among them was the Labor Zionist party under David Ben-Gurion (later to become the first prime minister of Israel) and the Revisionist Zionist party under Ze'ev Jabotinski.[51] The Labor party is a left-leaning organization somewhat like the Liberal Democrats in the United Kingdom (UK) while the Revisionist party is more right-leaning, resembling the UK Conservative party. Given the rhetoric of

---

49 "The Jewish Community Under the Palestine Mandate," Jewish Virtual Library, accessed February 22, 2018, http://www.jewishvirtuallibrary.org/the-jewish-community-under-the-palestine-mandate.

50 "Jewish National Fund (JNF)," Jewish Virtual Library, accessed February 22, 2018, http://www.jewishvirtuallibrary.org/jewish-national-fund-jnf.

51 Jewish Virtual Library, "The Jewish Community Under the Palestine Mandate."

both sides, Labor was even more liberal, promoting Bolshevik Communist ideas, while the Revisionist party was far more conservative, being heavily anti-Arab, colonialist, and in favor of creating an Israeli state at all costs.[52] Regardless of the internal politics, the Israeli political system found its roots during the British Mandate and continues to resemble the British political system today by maintaining a derivative liberal parliamentary democratic system of government.

Before the establishment of the Israeli parliamentary democracy, Palestinian Jews formed much of the basic political and economic structure of the future country. In the early years of the British Mandate, the Labor party dominated Jewish politics in Palestine due in large part to the manual work-heavy agricultural economic society of the region. Assembled into many small villages (*yishuv*), the Jewish population of Palestine organized itself into socialist communes (like today's kibbutz) focused on agricultural production. Over time, and especially during the 1930s, waves of European immigration, the Jewish economy became more industrialized, and Jews started moving into the major cities. As a result, cities like Haifa and Jerusalem grew dramatically, and Jews founded Tel Aviv to consolidate the workforce and industry.[53] The British welcomed these developments as they operated under the League of Nations' mandate that urged them to create a permanent home for the Jews in Palestine. With British support, the rough gross domestic product of the region grew by about 50 percent during the British Mandate.[54]

In conclusion, the 30-year rule of the British Empire over Palestine greatly influenced the modern state of Israel. For most of their rule, the British encouraged the immigration of Jews to Palestine to further their agenda of making Palestine the home of the Jewish nation. Additionally, they influenced the design of the Jewish legislative and executive structures that still exist today. Moreover, the British aided in the creation of Jewish legal and political institutions that formed the foundation of Israeli religious,

---

[52] Jewish Virtual Library, "Revisionist Zionism," accessed February 22, 2018, http://www.jewishvirtuallibrary.org/revisionist-zionism.

[53] Jewish Virtual Library, "Israel Studies an Anthology: The Yishuv," accessed February 22, 2018, http://www.jewishvirtuallibrary.org/israel-studies-an-anthology-the-yishuv.

[54] Sevket Pamuk, "Estimating Economic Growth in the Middle East since 1820," *The Journal of Economic History* 66, no. 3 (September 2006): 815.

educational, defense, and other institutions. Finally, the British Mandate encouraged the industrialization of the Jewish economy in Palestine to further the Balfour Declaration. Overall, the British supervised the transformation of a rural agricultural land into a modern Jewish state by the time of their departure in 1948.

B. HISTORY OF NATO: AN ISRAELI PERSPECTIVE

Regardless of the time period or NATO's situation, the organization has had a positive relationship with the state of Israel. Soon after the British departure from Israel and the end of WWII, the North Atlantic Treaty Organization (NATO) was founded on April 4th, 1949, as a political-military coalition to face the rising might of the Union of Soviet Socialist Republics (USSR). The roots of the alliance were entrenched in WWII cooperation between Allied powers to combat Nazi Germany and end the Holocaust. Many articles constitute the relations among the member states of the organization, but the most integral is the concept that an attack on one Ally is an attack on all—or more simply: Article 5.[55] After the fall of the Soviet Union, NATO had to reinvent itself to deal with a new world order. This relationship creates an indirect support mechanism for the Jewish state, allowing it to thrive militarily and continuously win wars.

Subscribing to realist ideas of international relations (popular during WWII), one can surmise that the Allied Coalition was created to counter the rising might of fascism in Europe. As history has shown, that coalition proved vital for stopping unimaginable atrocities and overthrowing Nazi tyranny. In fact, the coalition was so successful against the Axis powers that key partners of the coalition began talking about a permanent alliance of like-minded states during the war.[56] Consequently, these nations signed the North Atlantic Treaty on April 4th, 1949, marking the dawn of NATO. Of the twelve states that signed what was also called the Washington Treaty, by far the three most important were the United States, France, and Britain.

---

[55] David Yost, *NATO and International Organizations* (Rome, Italy: NATO Defense College, 2007), 19.

[56] David Ingel, "Prospects for Closer Israeli-NATO Cooperation" (Naval Postgraduate School, 2015), 11.

The United States and most European states had significant interests in the creation of the state of Israel and its wellbeing. In the United States, the Jewish community possessed considerable swaying power that was partially responsible for the United States siding with the Jews on the creation of Israel.[57] Moreover, the Americans and most Europeans were shell-shocked post-WWII from the Holocaust atrocities committed by Nazi Germany. This fact made it taboo for governments to side against anything Jewish-related—particularly something as sensitive as the creation of the Jewish homeland. Therefore, U.S. President Truman chose to publicly recognize the creation of Israel despite concerns from many that the country's War of Independence in 1948 was of a colonial nature.[58] Since Israel's population consisted largely of white European Judeo-Christians, it is not surprising that most of Judeo-Christian Europe and North America (mostly NATO members) sided with the like-minded Israelis rather than a relatively foreign Arab Muslim population.

Feeling isolated by NATO members' alignment with Israel, the majority of the Arab and Persian Muslim world sided with the USSR during the Cold War. While it was not strictly because of support from NATO nations for the state of Israel, that fact surely did not detract from the anti-West coalition. Ever since Israel's inception, most of its Arab Muslim neighbors have been set on her destruction. This phenomenon is evident in the plethora of wars waged over the small piece of land between the Jordan River and the Mediterranean Sea. In all those conflicts, the USSR (with its partners) and NATO found themselves on opposite sides. While it was no secret that the two giants were undermining each other's interests, Soviet and American troops never met on the field of battle. That critical detail both prevented the Cold War from turning into a hot one and saved American allies in NATO from having to uphold the "all for one, and one for all" agreement. Nevertheless, the Israeli struggle for survival as it pertained to the USSR-NATO rivalry was another proxy conflict in the competition between the first and second worlds.

---

[57] Jeremy Hammond, "The Myth of the U.N. Creation of Israel," *Foreign Policy Journal*, October 26, 2010, https://www.foreignpolicyjournal.com/2010/10/26/the-myth-of-the-u-n-creation-of-israel/.

[58] Office of the Historian, "Creation of Israel, 1948," Bureau of Public Affairs, United States Department of State, accessed February 23, 2018, https://history.state.gov/milestones/1945-1952/creation-israel.

To avoid activating Article 5, Israel had not been invited to join NATO. While many doomsday scenarios existed during the Cold War, chief among them with relation to Israel was the fear of having to confront the USSR on the field of battle if Soviet troops supported an Arab invasion of Israel. Even if the Soviets did not get involved militarily, NATO might have found itself in a war with most of the Middle East. While most NATO members openly supported Israel's right to exist and promoted its independence, the results of alienating the entire Middle East and most of Muslim North Africa would have been catastrophic for their state interests. Total war aside, barring the outright acceptance of Israel into NATO, individual European countries and the United States helped Israel by means other than military intervention. The three NATO members that provided the most assistance to Israel during the Cold War were France, the United States, and Germany, as discussed in the following sections.

When the Cold War ended with the fall of the Soviet Union in 1991, NATO found itself jobless. What succeeded was the reinvention of NATO's duties as an organization. All of a sudden, rather than counterbalancing a hegemon that threatened communist world domination, NATO began involving itself in humanitarian efforts, skirmishes, and proxy wars.[59] None of NATO's interventions since the fall of the USSR were on behalf of Israel. While NATO would have likely come to Israel's aid if it were in dire straits, that military support was simply not necessary. The economic and logistic aid that NATO members provided Israel proved sufficient for its wars in Lebanon and Gaza. This assistance coupled with indigenous defense industry developments made Israel's technological superiority and military capabilities far outmatch its regional enemies. The Israeli government has not strayed from this defense posturing path over the nearly three decades since the fall of the Soviet Union. Today, the Israeli Defense Forces are internationally recognized in the top twenty most formidable fighting forces while being one of the smallest countries in the world (especially when omitting the West Bank and Gaza).[60]

---

[59] Yost, *NATO and International Organizations*, 19–20.

[60] Globalfirepower.com, "2017 Military Strength Ranking," accessed March 8, 2018, https://www.globalfirepower.com/countries-listing.asp.

To summarize, since NATO's formation in 1949 (with its roots in WWII), the organization has undergone a cold war, reinvention, and minor conflicts. Throughout its existence, NATO members have consistently supported Israel both politically and in material aid. Israel was never officially inducted into the organization for fear of an imminent large-scale conflict with the Middle East or the USSR. Nevertheless, the like-minded bond between NATO members and the core population of Israel enabled members of the organization to support the haven of Judeo-Christian liberalism in a sea of autocratic Islam. By the fall of the Soviet Union and with the fear of an overheating Cold War gone, Israel no longer required NATO's military umbrella. Nonetheless, support from NATO countries continued on a dyadic level as they do today. Without the support of NATO members especially over the second half of the 20th century, Israel would not have been able to achieve its military, political, and economic success. Furthermore, if Israel was left with no other support from North American or European powers, it is not guaranteed that the state would still be around today.

C. ISRAEL'S RELATIONSHIP WITH EUROPEAN POWERS

After the British withdrawal from Palestine, Israel developed influential relationships with many European powers.[61] Among them, Israel's most rewarding and critical relationships, besides the continued relations with Great Britain, were with Germany and France. Both relationships greatly influenced Israeli economic and political ascendance. Favorable trade agreements with both countries paved the way for the climb of the Israeli economy. Similarly, relations with both states affected the political structure of the thriving Jewish state. Furthermore, both states transferred their cultural and societal norms to Israel over the years. Consequently, France and Germany greatly affected Israeli economics, politics, and culture.

[61] Caroline du Plessix, "The European Union and Israel. A Lasting and Ambiguous 'Special' Relationship," *Bulletin Du Centre de Recherche Français à Jérusalem*, no. 22 (December 31, 2011): 3, http://journals.openedition.org/bcrfj/6675.

France was among the first countries to establish diplomatic relations with the new state of Israel in 1949.[62] Since then, until the break in their relationship leading up to the Six-Day War in 1967, France has been a major contributor to the Israeli defense sector. Additionally, the political relationship between France and Israel grew significantly until 1967 and has resurged especially with the leadership of French President Francois Mitterrand in the early 1990s.[63] Furthermore, the cultural relationships between Israel and France have always been relatively strong with France being the home of the largest Jewish community in Europe today and Israel being home to some 150,000 French nationals.[64] Finally, the economic relationship between the two states has generally been strong, with minimal tariffs and interruptions. Overall, France has been one of Israel's closest European allies apart from when the French reversed their foreign policy leading up to the Israeli-Arab conflict in 1967 to favor the much larger and more influential Arab world.

While Israel does not belong to the European Economic Area, the first official trade agreement was signed between Israel and the European Union in 1975.[65] Since then, the EU has become Israel's biggest trading partner along with the United States. However, long before 1975, Israel maintained a deep economic relationship with France. For example, French tourism to Israel has always been significant. Today, French citizens constitute the third largest contingency of tourists in Israel on a yearly basis after the United States and the Russian Federation.[66] Additionally, as already discussed, until 1967 Israel was a major purchaser of French weaponry. Furthermore, up to 1967 Israel's major exports to France were food and diamonds while Israel's main imports from France were refined

---

[62] France Diplomatie, "France and Israel," Ministry for Europe and Foreign Affairs, accessed February 24, 2018, https://www.diplomatie.gouv.fr/en/country-files/israel-palestinian-territories/israel/france-and-israel/.

[63] Clyde Haberman, "Mitterrand's Sojourn in Israel Goes Well, But . . .," *The New York Times*, November 27, 1992, http://www.nytimes.com/1992/11/27/world/mitterrand-s-sojourn-in-israel-goes-well-but.html.

[64] France Diplomatie, "France and Israel."

[65] Plessix, "The European Union and Israel. A Lasting and Ambiguous 'Special' Relationship," 5.

[66] Israel Central Bureau of Statistics, "Israel Visitor Arrivals, by Country of Citizenship" (October 9, 2015), http://www.cbs.gov.il/shnaton66/st23_05.pdf.

metals, machinery, timber, as well as complete products like ships and cars.[67] Overall, the trade and economic relationship between France and Israel was very healthy from Israel's founding until the Six Day War in 1967.

Before the political ties abruptly worsened in 1967, Franco-Israeli relations were lucrative for both sides. For example, their cooperation in the Algerian rebellion and the Suez Canal Crisis furthered the interests of both states.[68] In 1954, a group of Algerian rebels, supported by Egyptian President Gamal Abdel Nasser, rebelled against the French colonial rule of Algeria. In that conflict, France and Israel found themselves sharing the political objectives of opposing the sworn Israeli enemy, President Nasser, and simultaneously fighting Muslim extremism and terrorism in Africa.[69] Even though the conflict ended with the French withdrawal from French Algeria and Algerian independence in 1962, the process had a positive outcome on Franco-Israeli political relations. Similarly, President Nasser's effort to nationalize the Suez Canal in 1956 led French, British, and Israeli forces to invade Egypt and restore Western control of the canal.[70] Despite the coalition's decisive military victory, international intervention from the United States and the Soviet Union forced the withdrawal of Western forces and the seizure of the Suez Canal and the Sinai Peninsula back to Egyptian authorities. Nonetheless, as with the Algerian rebellion, the cooperation was a positive episode for Franco-Israeli political ties. The discord in relations between Israel and France came after Algerian independence in the mid-1960s when French President Charles de Gaulle adopted a policy of appeasement with the Arab world, abandoning Israel altogether in the 1967 Six Day War to fend for itself.[71]

---

67 Alexander Simoes, "Israel Exports, Imports, and Trade Partners," Observatory of Economic Complexity, 2016, https://atlas.media.mit.edu/en/profile/country/isr/.

68 Gary J. Bass, "When Israel and France Broke Up," *The New York Times*, March 31, 2010, sec. Opinion, https://www.nytimes.com/2010/04/01/opinion/01bass.html.

69 Gadi Heimann, "A Case of Diplomatic Symbiosis: France, Israel and the Former French Colonies in Africa, 1958–62," *Journal of Contemporary History* 51, no. 1 (January 1, 2016): 147, https://doi.org/10.1177/0022009415596059.

70 Heimann, 147.

71 Bass, "When Israel and France Broke Up."

Despite the breakup of Franco-Israeli political relations, their cultural and societal ties and influences have been consistently present since Israeli independence in 1948. After WWII, France became a haven for European Jews fleeing Nazi rule. The Jewish population of France tripled in 25 years to 180,000, culminating with over 600,000 Jews living in France today.[72] Similarly, the French population in Israel today numbers over 200,000 people. In Israel's nearly 70-year existence, French nationals have been the third most common tourists to visit the Holy Land after the United States and Russia.[73] While mass tourism was limited during Israel's infancy due to financial constraints, today France ranks among the top five tourist destinations for Israelis.[74] The cultural assimilation through these unique interactions has guided Israeli societal development over the last 70 years by capitalizing on its multi-million-person immigration from all over Europe.

Unlike the bumpy but rewarding relationship between Israel and France, Germany and Israel have shared a positive special relationship since 1952 with a minor diplomatic setback in 1964. Following the Holocaust during WWII, Israel boycotted West Germany until the two states reached an agreement for Germany to provide reparations to Jewish families and Israel based on the German admittance of guilt.[75] Since then, Germany and Israel have shared a fruitful economic relationship that has helped Israel prosper. Additionally, Germany and Israel have maintained relatively close and favorable political ties. Finally, the close relationship between the two states coupled with the immigration of German Jews to Israel made a dramatic cultural impact on the Jewish state. Despite the catastrophic relations between Nazi Germany and the Jewish people in the 1930s and 1940s, the post-WWII German influence on the state of Israel impacted Israeli culture and development.

---

[72] Jewish Virtual Library, "France Virtual Jewish History Tour," accessed February 24, 2018, http://www.jewishvirtuallibrary.org/france-virtual-jewish-history-tour.

[73] Israel Central Bureau of Statistics, "Israel Visitor Arrivals, by Country of Citizenship."

[74] France Diplomatie, "France and Israel."

[75] Daphne Rousseau, "German-Israel Relationship: No Longer so Special?," *The Times of Israel*, February 28, 2018, http://www.timesofisrael.com/german-israel-relationship-no-longer-so-special/.

Once a connection between West Germany and Israel began normalizing after 1952, the two countries started capitalizing on their shared economic values. Throughout much of the 1960s, 1970s, and 1980s, Israel would export agricultural products, raw materials, and diamonds to Germany while importing cars, electronics, machinery, and other finished goods.[76] As Israel's markets modernized in the 1990s, Israel began exporting machinery, electronics, and other finished goods to Germany while agriculture declined; German exports to Israel have maintained a similar ratio since the relationship began.[77] Today, the trade between the two countries is over six billion dollars a year and growing. This deep economic relationship proves the favorable regard that Israelis have for German goods and vice-versa, leading one to infer a favorable view of the other's material culture. Furthermore, Germany has contributed immensely to the development of the young state of Israel by supplying many vital industrial and consumer products. It is likely that Israel would not have achieved its economic heights to-date without its economic ties with Germany.

Much like the German-Israel economic relationship, the political affairs between the two states have been strong post-WWII. In a way, the atrocities of WWII brought Israel and Germany closer after the maniacal Nazi regime was deposed. The new German leadership was relatively quick in admitting guilt and agreeing to provide reparations and political support to the new state of the Jews: Israel. Since that political relationship began in 1952, Germany has been careful to support Israel whenever possible and abstain when their interests did not line up well. But few (if any) examples exist post-WWII when Germany openly advocated against Israel or its foreign policy. The close political relationship between the two states helped Israel assert its place on the international political arena—without which Israel would not have been able to further its interests.[78]

---

[76] Alexander Simoes, "Products That Germany Imports from Israel (1985)," The Observatory of Economic Complexity, 2016, http://atlas.media.mit.edu/en/visualize/tree_map/sitc/import/deu/isr/show/1985/.

[77] Alexander Simoes, "Products That Germany Exports to Israel (2016)," The Observatory of Economic Complexity, 2016, http://atlas.media.mit.edu/en/visualize/tree_map/sitc/export/deu/isr/show/2016/.

[78] Amy Schwartz, "Inside the Germany/Israel Relationship," *Moment Magazine*, June 10, 2014, http://www.momentmag.com/inside-germanyisrael-relationship/.

While German-Israeli economic and political ties undoubtedly influenced the development of the Israeli state, the greatest cultural and societal impact was due to German Jewish immigration to Israel. The rise of anti-semitism in Germany in the late 1920s and early 1930s started one of the largest immigrations to the British Palestinian territory. Known today as the Fifth Aliyah (immigration), almost a quarter of a million Jewish German citizens fled Nazism for Israel from 1929 until WWII.[79] Today, it is estimated that 75 percent of the world's roughly 15 million Jews are descendants of German Jews.[80] It is nearly impossible to estimate the number of Israelis of German heritage today. But given that in the 1940s, German Jews constituted over a third of the Palestinian Jewish population, it is fair to say that the percentage today is likely no less significant. Such a substantial slice of the Israeli population has affected the state's evolution immensely as it postures itself as one of the founding Jewish cultures of the state of Israel. Consequently, much like the shared Judeo-Christian heritage of many NATO members, Israel and Germany share a cultural and ethnic background that better aligns their interests.

Undoubtedly, the British Empire, France, and Germany all had significant impacts on the fundamental communities, culture, infrastructure, laws of the Palestinian territories and their Jewish inhabitants, and overall Israeli success. The lucrative financial ties between Israel and the two European giants have allowed Israel to thrive economically. Additionally, the political support provided by both states to Israel has been invaluable to Israel's political rise. Finally, the cultural impacts that French and German Jewry have had on Israel and its population are evident in the state's norms, values, and achievements today. Overall, Israel's success as a Jewish nation and a powerful liberal capitalistic state owes its accomplishments partially to two of the European great powers: France and Germany.

---

79 ReformJudaism.org, "History of Jewish Immigration to Israel (Aliyah)," December 14, 2012, https://reformjudaism.org/history-jewish-immigration-israel-aliyah.

80 Berkley Center for Religion, Peace & World Affairs, "Demographics of Judaism," Georgetown University, accessed February 28, 2018, https://berkleycenter.georgetown.edu/essays/demographics-of-judaism.

D. ISRAELI MILITARY'S RELATIONSHIP WITH NATO POWERS

The Israeli relationships with European states inevitably translated into similar connections with European institutions. While relationships exist with partially European financial institutions such as the World Bank and the International Monetary Fund, the relationship between Israel and NATO limits the significance of the two financial institutions. Weapons transfers, training, and cooperation agreements with powerful NATO members help to explain Israel's continued military superiority over its neighbors despite being significantly smaller in population, territory, and consequently, gross economic potential. The bilateral connections with NATO members were partially responsible for thrusting Israel into a regionally-unrivaled military position.

Since the formation of NATO in 1949, the alliance has been concerned mostly with the USSR, its sphere of influence (particularly the Warsaw Pact), and the rise of autocratic communism around the world. Consequently, the massive looming Soviet threat dwarfed any thoughts of direct cooperation with Israel. Multiple adhoc relationships were created with NATO members as early as 1948 but generally in a nation-to-nation capacity rather than a direct NATO-Israeli relationship. The most notable examples of military cooperation between Israel and NATO members are those with France, Germany, and the United States. In the 1990s, after the collapse of the Soviet Union, NATO found the bandwidth to deal with smaller regional situations. One example of regional intervention is NATO's Individual Cooperation Program and ultimately led to the Mediterranean Dialogue in 2010.[81] Today, NATO-Israeli relationships are improving and are showing promise of closer cooperation in the future.

While NATO members' assistance has been critical to Israel throughout its existence, the young state was far from helpless, having developed its own indigenous defense industry. This development started during the infancy of the state, when Israel had a difficult time acquiring defense equipment from multiple sources. The complexity of the Arab-dominated Middle East and the strain of post-WWII geopolitical competitions created many political and economic barriers for Israeli weapons acquisitions. As a result,

[81] Ingel, "Prospects for Closer Israeli-NATO Cooperation," 31.

Israel invested in domestic weapons programs that eventually produced the Uzi sub-machinegun, the Merkava main battle tank, and the Nesher fighter aircraft. All three weapons systems proved essential during their respective timeframe to ensure Israel's military viability.

Out of the three aforementioned weapon systems, none are more recognizable than the famed Uzi automatic sub-machinegun and the Merkava main battle tank. The Uzi has undergone countless modifications by Israeli and foreign firms alike to create multiple variants that serve different tactical purposes. Its compactness, reliability, flexibility, and lethality have made the Uzi sub-machinegun among the top ten most proliferated rifles of all time.[82] Similarly, the legendary Merkava main battle tank has undergone three major upgrades and was the pioneering tank for technologies like active protection systems.[83] But unlike the Uzi, the Merkava is a purely indigenous development that has never been exported to limit reverse engineering by enemies and maximize its battlefield efficacy.[84] Consequently, the Merkava is considered one of the safest and most lethal main battle tanks ever produced, while the Uzi remains an excellent go-to compact weapon for close-quarters combat.[85]

Unlike the Uzi submachine gun and the Merkava main battle tank, the Nesher fighter aircraft did not benefit from great proliferation or fame. Nevertheless, Israel's decision to develop indigenous fighter aircraft was critical in the aftermath of French-Israeli relations breaking down in the lead up to the Six Day War in 1967. The Nesher was developed from the French Dassault Mirage 5 and Mirage III blueprints acquired mostly through espionage.[86] While a risky undertaking, the covert action proved vital for the air campaign during the 1973 Yom Kippur War, in which the Nesher scored over a hundred

---

[82] Hugh McManners, *Ultimate Special Forces* (New York, NY: DK Publishing, 2003), 172.

[83] Yaakov Katz and Amir Bohbot, *The Weapon Wizards: How Israel Became a High-Tech Military Superpower* (New York: St. Martin's Press, 2017), 107.

[84] Katz and Bohbot, 96.

[85] John Pike, "Merkava Mk3/Mk4 Tank," Global Security, November 1, 2016, https://www.globalsecurity.org/military/world/israel/merkava.htm.

[86] Los Angeles Times, "Alfred Frauenknecht; Convicted of Selling Jet Secrets to Israel," January 19, 1991, http://articles.latimes.com/1991-01-19/news/mn-255_1_alfred-frauenknecht.

air-to-air kills.[87] Soon after the war, the Nesher was developed into its more proliferated and better-known brother, the Kfir fighter aircraft.[88] Weapons like these, coupled with foreign military assistance, heralded in the development of the Israeli defense industry that ensured Israel's survival.

In the late 1940s, a couple of decades before Israel was forced to develop its own modern weaponry, France supported Israel's independence, its membership in the United Nations, and its right to self-defense. In the years between Israeli independence and the mid-1960s, France was Israel's largest supplier of military equipment. The most important and significant purchase was the Dassault Mirage III, which was Israel's first serious fighter aircraft.[89] Beyond the major acquisitions for the air force, Israel also purchased mechanized vehicles, tanks, and small arms from France. Perhaps the most controversial French assistance to the Israeli defense sector was the involvement of the French Atomic Energy Commission in helping Israel construct and operate its nuclear reactor at Dimona.[90] The Israeli defense sector used the technology and schematics provided as part of this effort to create the country's atomic weapons at the Negev Nuclear Research Center (though the Israelis do not officially acknowledge this fact).[91] France's support of Israeli defense capabilities directly contributed to their success in the 1967 Six Day War and greatly influenced their success in the 1973 Yom Kippur War. French military support also laid the foundation for the Israel Defense Forces, which has proved itself as the most powerful military force in the Middle East time and time again. Additionally, French technology fueled the rise of the indigenous Israeli defense sector.

---

87 Donald J. McCarthy, *The Sword of David: The Israeli Air Force at War* (Skyhorse Publishing, Inc., 2014), 21.

88 Dan Senor and Saul Singer, *Start-up Nation: The Story of Israel's Economic Miracle*, Reprint edition (Twelve, 2011), 181.

89 Tom Cooper, "French Mirage Fighters Turned Israel Into a Major Air Power," May 19, 2017, https://warisboring.com/french-mirage-fighters-turned-israel-into-a-major-air-power/.

90 Avner Cohen, *Israel and the Bomb* (Columbia University Press, 1998), 65.

91 Avner Cohen and William Burr, "Israel Crosses the Threshold," *Bulletin of the Atomic Scientists* 62, no. 3 (May 1, 2006): 22–30, https://doi.org/10.2968/062003008.

In 1967, when the relationship between France and Israel was abruptly cut,[92] Israel began acquiring its military equipment from the US.[93] The military acquisition relationship with the U.S. has been rocky at times, but it was the true reason for the consistent military technological upper hand of Israel over its Arab neighbors. The U.S. foreign policy for most of the 1960s and 1970s was to prevent an arms race in the Middle East with the USSR.[94] Consequently, the U.S. undertook both public and secretive weapon sales and transfers to the Israelis (as well as other Middle Eastern countries) to ward off Soviet influence and strengthen the democratic island in the region. The most famous weapons the U.S. sold to Israel during the Cold War were the M-16 rifle, the M48 and M60 tanks, the F-4 fighter, the F-16 fighter, the F-15 fighter aircraft, the Patriot air defense system, and many more. Additionally, the U.S. undertook financial assistance to Israel primarily in the form of military and economic aid. During the Cold War, this assistance totaled over 30 billion dollars.[95] Without a doubt, the U.S. has been the largest contributor to Israeli defense superiority and remains one of Israel's closest allies.

While France and the U.S. take the spotlight for being the major weapons suppliers to Israel, one cannot overlook German military assistance to Israel. As early as the mid-1950s, West Germany began providing Israel with naval patrol boats in secret. By the early 1960s, West Germany became Israel's second most important weapons supplier after France. The Germans provided Israel with missile boats, submarines, howitzers, helicopters, and much more. However, in 1964, when news of the secret arms deal between Israel and Germany came to light, the Germans were forced to stop weapons shipments to Israel for fear of aggravating the Arab world. Luckily, the United States agreed to fill the void left by the Germans, overtaking the Europeans as the largest supplier of weapons to Israel. By the late 1970s, military cooperation between Israel and Germany resumed. Since

---

92 Katz and Bohbot, *The Weapon Wizards*, 51–52.

93 Helen Chapin Metz, *Israel: A Country Study* (Washington, DC: Library of Congress, 1990), 314–15, https://www.loc.gov/item/90006119/.

94 Alan Dowty, "Foreword," in *Lyndon B. Johnson and the Politics of Arms Sales to Israel: In the Shadow of the Hawk*, by Abraham Ben-Zvi, 1 edition (London: Routledge, 2004).

95 Clyde R. Mark, *Israel: U.S. Foreign Assistance* (Congressional Research Service, Library of Congress, 2001), 1.

then, they have secretly cooperated on weapons developments together (like the famed Cerberus jamming pod). Additionally, Germany continues to provide Israel with naval weapons to this day. For example, all six of Israel's submarines and a substantial part of its surface Navy are German-made. Accordingly, German cooperation with Israel remains strong to this day, much like with the United States and (sadly) unlike with France.[96]

All three of these NATO powers contributed militarily to Israel's success in its pivotal wars in 1967 and 1973 as well as in less drastic conflicts thereafter. But as an alliance, NATO did not officially begin the process of closer cooperation with Middle Eastern countries until December 1999 when the Mediterranean Dialogue was proposed.[97] This plan focused on one-on-one cooperation between NATO and Middle Eastern states mostly for security reasons. The slow-rolling process began taking shape in 2006 when Israel became the first state to sign an Individual Cooperation Program.[98] While this agreement was imperfect for a variety of reasons outside the scope of this paper, it laid the groundwork for security cooperation between the Alliance and Israel. Following in Israel's footsteps, Algeria, Egypt, Jordan, Mauritania, Morocco, and Tunisia eventually joined the Mediterranean Dialogue. Israel, however, is the outlier from the pack given its modern Western society and technologically-advanced military. The cooperation prospects between Israel and NATO are substantially greater than those of the other members of the Mediterranean Dialogue, showing promise of improved future collaboration.

Highlighting the relationship's bright future, Israel has a permanent office at the NATO headquarters in Brussels, Belgium, participates in multiple NATO working groups and contributes to various NATO conferences and official events.[99] While the cooperation between Israel and NATO is clearly desired by both parties, and is getting stronger with time, Turkey has been consistently vetoing further Israel-NATO relations. Hopefully, the

---

96 Marcel Serr, "Bilateral Arms Cooperation: The Roots of German–Israeli Relations," *Israel Journal of Foreign Affairs* 9, no. 2 (May 4, 2015): 213–25, https://doi.org/10.1080/23739770.2015.1043612.

97 Tommy Steiner, "NATO-Israel Relations: The Level of Ambition" (Italian Atlantic Committee, 2014), http://www.comitatoatlantico.it/?studi=nato-israel-relations-the-level-of-ambition.

98 Steiner, "NATO-Israel Relations: The Level of Ambition".

99 Hanni Caspi, "The Israel – NATO Connection," *Israel Defense*, August 9, 2016, http://www.israeldefense.co.il/en/content/israel-%E2%80%93-nato-connection.

relationship between Turkey and Israel improves over time, barring the West from starting to distance itself from Turkey in favor of fostering a stronger bond with Israel. In the meanwhile, it is likely that Israel will continue its close bilateral relationship with certain NATO members rather than with the alliance to maintain its high level of military readiness and ensure its survival.

In summary, without the military assistance of the U.S., France, and Germany, it is not clear whether Israel would still exist today. The formal relationships between Israel and the NATO alliance did not begin until the mid-1990s. Despite that fact, ever since the early 1950s Israel has had deep military cooperation ties with key NATO members. The French were the trailblazers in military assistance to Israel and remained its largest provider of arms until the political turmoil over the 1967 Arab-Israeli conflict abruptly ended that relationship. Luckily, the U.S. decided to pick up France's slack and support Israel both militarily and economically from then until today. Throughout most of the cooperation with France and the U.S., Israel also maintained close and relatively secretive military cooperation with West Germany (and later united Germany) that proved very significant. Considering that the US, France, and Germany constitute major members of NATO, it is easy to say that indirect and unofficial relations existed between NATO and Israel since the 1950s. Capitalizing on that tradition, the future NATO-Israeli relations look bright and rewarding for both the alliance and the Jewish state.

E. CONCLUSION

Israel has become one of the most successful political, economic, and military powers in the Middle East for several reasons. The effects of the British occupation of Palestine coupled with immigration during that same period played a vital role in this development and help explain the influence colonial rule has had in the Middle East. Moreover, connections with significant European powers point Israel towards favorable political, military, cultural, and economic interstate bonds that set it up for success. Finally, the connection between Israel and key NATO powers explains how states can improve their military superiority despite unfavorable circumstances. The product of lucrative trade, favorable political and cultural ties, and military procurement between Israel and European

powers, European institutions and the U.S. have made Israel the great modern state it is today.

Israel's progression as a state has great significance for the world because it shows triumph in the face of adversity, economic success in the face of an unfavorable geopolitical position, and liberal persistence in the face of crushing autocracy. Firstly, the powerful Jewish state is a haven for a people that has overcome catastrophic atrocities all over the world for over two millennia. Secondly, Israel's geographic location coupled with its political and economic orientation make it a fantastic example for developing Middle Eastern states. European states and institutions, much like the U.S., can utilize this liberal democratic and capitalistic gem as a projection of influence on a troubled autocratic, totalitarian, and monarchical Middle East. Finally, Israel serves as a shining example for a world still rife with discrimination that a people that comprise about 0.02 percent of the world population today can survive against all odds and even become a formidable regional power to be reckoned with. Consequently, the perseverance of the Jews in Palestine (and later Israel) has proven vital in ensuring the survival of the Jewish people and democracy.

III. ISRAELI HIGH-TECH ECONOMIC PROSPERITY EXAMINED

While Israel has been growing consistently since its creation, the major contribution to its modern success is its transition into technologically-sophisticated technical economy, and more specifically, the development of its high-technology market coined the "Silicon Wadi." On 14 May 1948, the day Israel achieved its independence, the new fledgling country was plagued with economic problems. The country had a population of less than a million people, most of whom were impoverished and poorly educated. The state controlled minimal public goods and a practically non-existent economic infrastructure. Domestic financial capital was scarce, and no foreigners were going to invest in a country overcome by war; the promised return on investment was relatively low, and the risk was exceptionally high. After nearly 70 years of existence, with not a single military conflict-free decade, Israel has graduated to a member of the "rich country club," the Organization for Economic Co-operation and Development (OECD).[100] They have a per capita gross domestic product (GDP) of over $37,000, and are the 16th most economically competitive state in the world.[101] Furthermore, Israel has the 14th most powerful military,[102] is 33rd

[100] David Rosenberg, *Israel's Technology Economy: Origins and Impact*, 1st ed. 2018 edition (New York, NY: Palgrave Macmillan, 2018), 3.

[101] Klaus Schwab, ed., *The Global Competitiveness Report 2017–2018* (Geneva, Switzerland: World Economic Forum, 2017), 154, https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018/.

[102] Jeremy Bender, "RANKED: The World's 20 Strongest Militaries," Business Insider, accessed November 27, 2017, http://www.businessinsider.com/these-are-the-worlds-20-strongest-militaries-ranked-2015-9.

in nominal GDP,[103] is 17th in innovation,[104] and is 9th in healthcare,[105] all for a tiny country with 8.5 million people, partially demonstrated in Figure 1.[106]

The morphing of the Israeli economy into a high-tech industry in the 1990s can best be explained by discussing the following four main phenomena from approximately 1985 to 2001: technological innovation, economic reform, immigration, and subsidized assistance. In this research paper, I will show how the Israeli defense sector's sophistication and size provided an outstanding research and development base for a high-tech economy. Moreover, I will illustrate how the vital economic reforms undertaken in Israel throughout the 1980s and 1990s postured the Israeli economy for success in the high-tech sector.[107] Additionally, I will highlight how the influx of skilled and highly-trained immigrants, mostly from the former Soviet Union and Eastern Bloc,[108] compounded the technical restructuring process. Furthermore, I will analyze how, to capitalize on the newly-arrived labor, the Israeli government began subsidizing high-tech economic ventures.[109] Finally, I will compare the Israeli economy with some of its neighbors and a few notable examples from around the world. To conclude, I will provide some useful takeaways from the Israeli efforts and accomplishments.

---

[103] World Bank, "GDP Ranking" (April 17, 2017), https://data.worldbank.org/data-catalog/GDP-ranking-table.

[104] Soumitra Dutta, Bruno Lanvin, and Sacha Wunsch-Vincent, eds., *Global Innovation Index 2017*, 10th Edition (Ithaca, Fontainebleau, and Geneva: Cornell University, INSEAD, and WIPO, 2017), 238, /pressroom/en/articles/2017/article_0006.html.

[105] Will Martin, "The 16 Countries with the World's Best Healthcare Systems," Business Insider, January 13, 2017, http://nordic.businessinsider.com/the-16-countries-with-the-worlds-best-healthcare-systems-2017-1/.

[106] Schwab, *The Global Competitiveness Report 2017–2018*, 2017, 154.

[107] Rivlin, "Stabilization and Liberalization in the Israeli Economy," 536.

[108] Paul Rivlin, "The Israeli Economy," in *Handbook of Emerging Economies*, ed. Robert E. Looney, 1 edition (New York: Routledge, 2014), 190.

[109] Nadav Halevi, "A Brief Economic History of Modern Israel," accessed October 25, 2017, https://eh.net/encyclopedia/a-brief-economic-history-of-modern-israel/.

Israel

16th / 137

The Global Competitiveness Index 2017-2018 edition

WORLD ECONOMIC FORUM

Key indicators, 2016

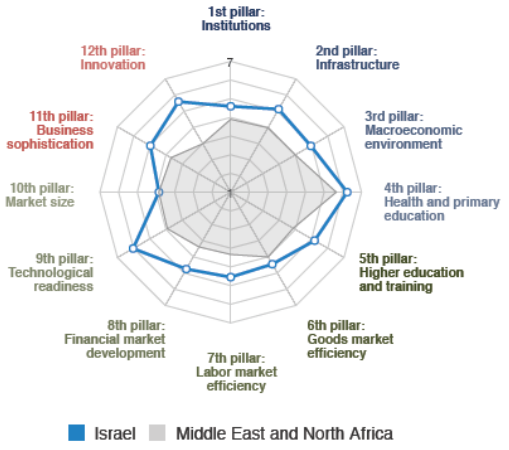
Source: International Monetary Fund; World Economic Outlook Database (April 2017)

Population millions	8.5	**GDP per capita** US$	37,262.4
GDP US$ billions	318.4	**GDP (PPP)** % world GDP	0.25

Performance overview

Index Component	Rank/137	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	16	5.3		
Subindex A: Basic requirements	28	5.5		
1st pillar: Institutions	29	4.9		
2nd pillar: Infrastructure	25	5.4		
3rd pillar: Macroeconomic environment	39	5.2		
4th pillar: Health and primary education	27	6.3		
Subindex B: Efficiency enhancers	19	5.1		
5th pillar: Higher education and training	21	5.4		
6th pillar: Goods market efficiency	30	4.8		
7th pillar: Labor market efficiency	18	4.9		
8th pillar: Financial market development	11	5.1		
9th pillar: Technological readiness	7	6.2		
10th pillar: Market size	56	4.3		
Subindex C: Innovation and sophistication factors	7	5.5		
11th pillar: Business sophistication	15	5.3		
12th pillar: Innovation	3	5.8		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Rank	26 / 144	27 / 148	27 / 144	27 / 140	24 / 138	16 / 137
Score	5.0	4.9	4.9	5.0	5.2	5.3



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2017

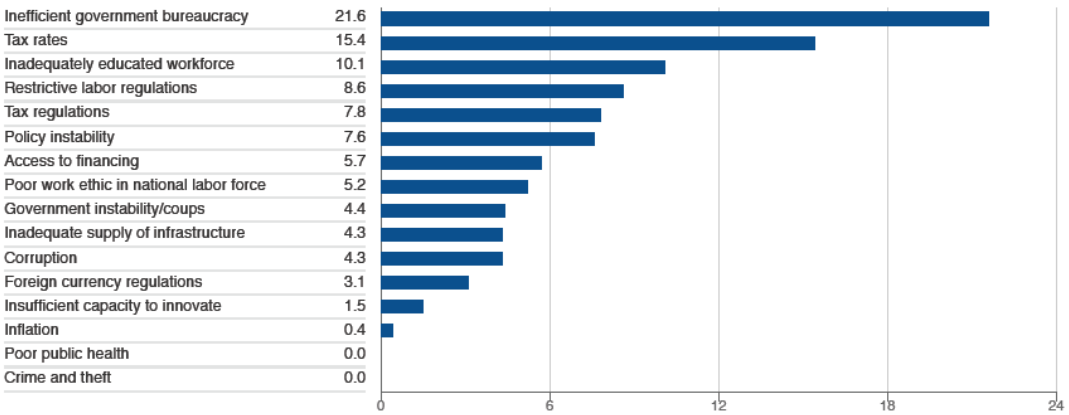


Figure 1. The Global Competitiveness Index 2018: Israel.[110]

110 Source: Schwab, *The Global Competitiveness Report 2017–2018*, 2017, 154.

A. TECHNOLOGICAL INNOVATION

Despite their narrow victory during the 1973 Yom Kippur war, the Israeli Defense Forces and the Israeli defense sector began receiving upwards of 30 percent of Israeli gross national product, which was over 13 billion dollars (see Figure 2), to ensure the nation's sovereignty.[111] The Israeli defense sector grew to a formidable player on the world defense market largely propelled by elegant technological advances. Over time, the defense budget slowly decreased (see Figure 3), but not before many of these technologies transitioned into the civilian sector encouraging the development of a technical economic base.[112]

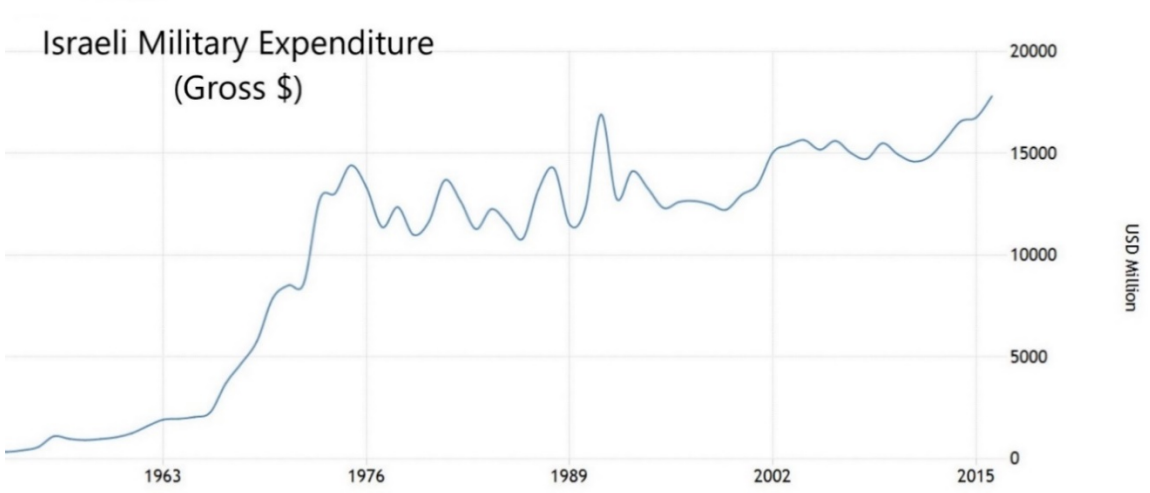


Figure 2. Israeli Military Expenditure (Gross $).[113]

Additionally, the transition of employees from defense contractors to private sector companies provided this new technical economy with much needed human capital to create

[111] Halevi, "A Brief Economic History of Modern Israel."

[112] World Bank, "Israeli Military Expenditure (percent of GDP)," accessed November 16, 2017, https://data.worldbank.org/indicator/MS.MIL.XPND.GD.ZS?end=2016&locations=IL&start=1960&view=chart.

[113] Adapted from Tradingeconomics.com, "Israel Military Expenditure | 1952–2017," accessed November 16, 2017, tradingeconomics.com/israel/military-expenditure.

a high-tech foundation.[114] The marriage of a sophisticated workforce with the technological backing thrusted Israel into an era of high-tech economic evolution.

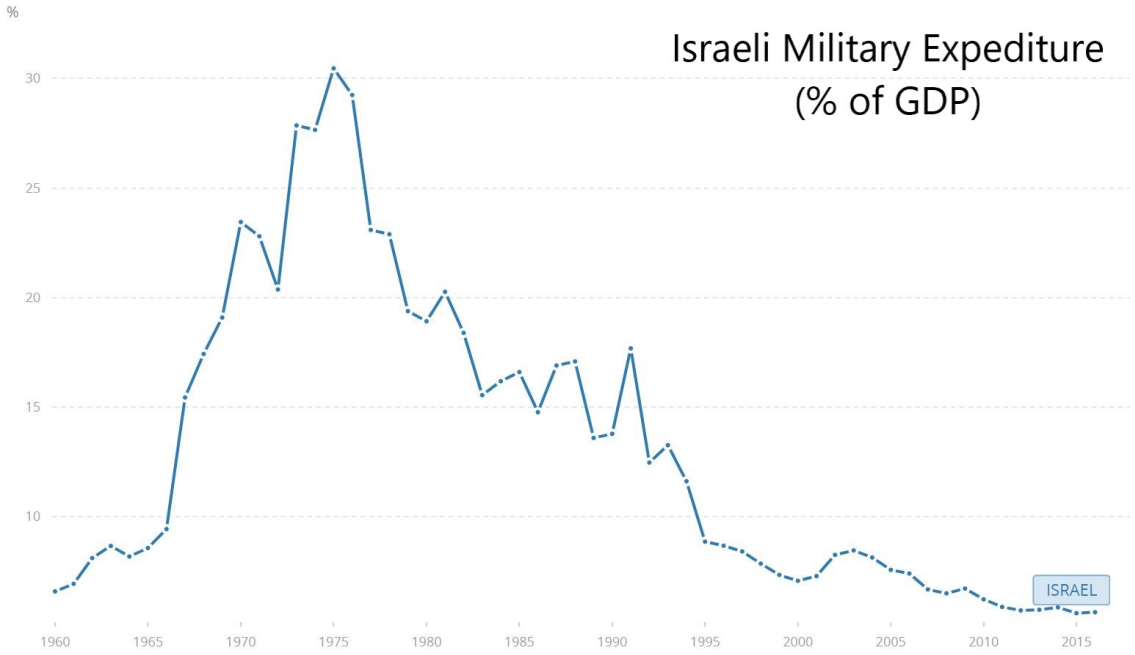


Figure 3. Israeli Military Expenditure (percent of GDP).[115]

On October 6, 1973, which was the holy Day of Atonement (or Yom Kippur) in the Jewish faith that year, a coalition of Arab armies led by Syria and Egypt, launched an offensive on the state of Israel. The two-front assault caught the Israeli Defense Forces by surprise. Egyptian and Syria armies overwhelmed the small border patrol forces and began advancing across the Sinai Peninsula and the Golan Heights, respectively.[116] The attack was so fierce and persistent that the Israeli Defense Forces exhausted most of their munitions just trying to halt the enemy's advance. It took the help of American airlift resupply missions and three days of organizing to stop the advance and begin pushing the Egyptians and Syrians back. The conflict ended on October 25, 1973, after both the United

[114] Justman, "Structural Change and the Emergence of Israel's High-Tech Sector," 479.

[115] Adapted from World Bank, "Israeli Military Expenditure (percent of GDP)."

[116] History Channel, "Yom Kippur War," 2009, http://www.history.com/topics/yom-kippur-war.

States and the Soviet Union intervened and forced all belligerents to cease hostilities.[117] By that time, the Israeli Defense Forces gained considerable ground in the Golan Heights from Syria and pushed the Egyptians back across the Suez Canal. Despite an Israeli victory, they came within days of losing the Yom Kippur War.

To prevent such narrow margins for victory (or loss) like in the Yom Kippur War, the Israeli parliament authorized sustained defense spending. The Israeli defense budget had already skyrocketed leading up to, and after the Six Day War in 1967.[118] But that was largely a temporary reaction to the Egyptian economic blockade of the Strait of Tiran. After 1973, the sustained defense spending remained indefinitely in absolute values. The prolonged defense budget allowed the Israeli Defense Forces to invest in research and development rather than simply purchasing military equipment from Israeli allies. The defense expense, while taxing on the Israeli economy and its population in the short run, was integral in creating a formidable Israeli defense industry.

Today, three world top 100 defense corporations call Israel home: Elbit Systems, Israel Aerospace Industries, and Rafael Advanced Defense Systems.[119] Elbit is the largest of the three and held as a private company, while the latter two are government-owned. All three were founded before the Yom Kippur War and existed under different names and structures. The companies' success across the world can be seen in weapon systems like the Iron Dome, various fighter aircraft avionics, and a compliment of unmanned aerial vehicles.[120] Naturally, all three (and many smaller defense contractors) grew substantially from the federal defense spending. None of them would be benefiting from such success today without Israeli defense expenditure reaction to the Yom Kippur War.

While the Israeli defense budget remained stable in gross numbers, it slowly began to decrease as a percent of the state's GDP, especially when accounting for inflation over

---

117 History Channel, "The Yom Kippur War Brings United States and USSR to Brink of Conflict - Oct 06, 1973," 2009, http://www.history.com/this-day-in-history/the-yom-kippur-war-brings-united-states-and-ussr-to-brink-of-conflict.

118 World Bank, "Israeli Military Expenditure (percent of GDP)."

119 Aude Fleurant et al., "The SIPRI Top 100 Arms-Producing and Military Services Companies, 2015," *SIPRI*, December 2016, 3–4.

120 Katz and Bohbot, *The Weapon Wizards*, 53–173.

time.[121] In 1975, Israeli defense spending reached over 30 percent of GDP,[122] second only to Oman at over 33 percent who was in the middle of a civil war.[123] The crushing outflow of funds on defense was crippling the Israeli economy and limiting its overall growth. The drawdown of military expenditure was largely caused by political pressure to alleviate some of the government spending. The political pressure was a byproduct of a frustrated population that wanted government funds to be spent on improving infrastructure, education, and various other public goods. The rising inflation in the years following the Yom Kippur War made economic prosperity harder by the day, even with a low unemployment rate.[124]

By the time the drawdown was in full effect, the Israeli defense sector managed to development an excellent technological base. This technical foundation was a product of technically-educated human capital and an industrial military sector.[125] The human capital was a compound of a successful public education system and ample job opportunities in the defense market.[126] The strong military industry was due to the nature of classified military equipment being researched and developed in-house rather than imported from other states.

After the golden era of Israeli defense, the drawdown of the late 1970s and 1980s forced highly trained employees out of defense jobs into the civilian sector. Furthermore, the same high-quality education system kept producing very capable personnel in the hard sciences and engineering fields. The civilian sector received the much-needed slack of employees no longer going into the defense sector. As a result, the civilian sector was blessed with highly experienced technical employees that were being augmented by new

---

[121] Word Bank, "Israeli Military Expenditure (percent of GDP)."

[122] Aharoni, *The Israeli Economy*, 4.

[123] Multpl, "Oman Military Spending," December 2016, http://www.multpl.com/oman-military-spending.

[124] Norman Smith, *World Military Expenditures and Arms Transfers 1966 - 1975* (Washington, DC: U.S. Arms Control and Disarmament Agency, 1976), 10.

[125] Justman, "Structural Change and the Emergence of Israel's High-Tech Sector," 479.

[126] Rosenberg, *Israel's Technology Economy*, 12–13.

well-trained technical graduates.[127] This assembly line of exceptional human capital created part of the foundation the Israeli economy needed to thrust itself into the high-technology industry.

The other major component required for the Israeli high-tech foundation was the technology itself. Again, the Israeli defense sector came through as the champion providing the means in the form of technology transfers.[128] All three major Israeli defense contractors (Elbit, IAI, and Rafael), and most of their smaller counterparts, had various methods of transferring military technology to the civilian sector once classification levels were favorable. The best and most pertinent example to the development of the high-tech industry in the 1990s was the Rafael Development Corporation (RDC). A subsidiary of Rafael, RDC specializes in blending military technology with civilian applications. This blend translates research and development meant for war into peaceful systems on which private firms can capitalize and thrive.[129]

The growth and creation of today's Israeli high-tech economy can be partially attributed to the world-class Israeli defense sector. Built on the ashes of the Six Day and Yom Kippur Wars, the Israeli defense industry gave rise to a sustained, highly-technical human capital and outstanding research and development foundation. Through various technology transfer means, the government managed to transfer military technology into civilian-applicable practices. The human capital and research and development, made possible by staggering government military expenditures, created the technical base necessary for a thrust into a high-tech economy.

---

[127] Justman, "Structural Change and the Emergence of Israel's High-Tech Sector," 479.

[128] Rosenberg, *Israel's Technology Economy*, 26.

[129] Bloomberg, "Rafael Development Corporation Ltd., Company Overview" accessed November 17, 2017, https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=536891.

B. ECONOMIC REFORM

Because of the unusually high military expenditures following the Yom Kippur War, the country quickly fell into debt forcing skyrocketing inflation.[130] To stabilize the economy, the Israeli government initiated a series of economic reforms throughout the 1980s and 1990s.[131] Among them were massive currency devaluation, removing the relationship between wages and prices, implementation of various free-trade agreements with the United States and the European Union,[132] adjustment of the monetary policy, domestic capital market reform, and overall reduction of federal involvement in the economy.[133] Also, the Israeli government downsized the major national labor union (the "Histadrut") by reducing its involvement in the economy.[134] From the ashes of the massive economic reforms arose an economic system that was ripe for growth, consequently, enticing technological firms to thrive.

The Arab incursion into Israel in 1973 was a rude awakening for the Israeli government to improve its military capabilities. This improvement came at a financial cost to the Israeli economy racking up debt at roughly 23 percent growth yearly during the 1970s when the GDP was barely growing.[135] The Israeli government debt started growing substantially after the 1967 Six Day War and decreased for the first time in 2011. The debt reached its highest growth as a percent of GDP after the Yom Kippur War between 1973 and 1976.[136] The runaway debt effect put substantial political pressure of the Israeli government to get its economy under control.

To compound the financial problem, inflation started growing substantially in the 1970s for a variety of reasons (see Figure 4), forcing Israel to react. Among these were

---

130 Razin and Sadka, *The Economy of Modern Israel*, 15.

131 Razin and Sadka, 101.

132 Rivlin, *The Israeli Economy from the Foundation of the State through the 21st Century*, 4.

133 Halevi, "A Brief Economic History of Modern Israel."

134 Halevi.

135 Bank of Israel, *Bank of Israel Annual Report 1978* (Tel Aviv, Israel, 1979), 125.

136 Michael N. Barnett, *Confronting the Costs of War* (Princeton, NJ: Princeton University Press, 1993), 195.

printing money to repay debt and the world financial crisis from the oil embargo resulting from the Yom Kippur War, causing the Israel's "lost decade" of growth; both topics, while relevant and interesting, are outside the scope of this paper.[137] By 1979 Israel was practically synonymous with balance-of-payments problems and run-away inflation of the Israeli Shekel.[138] Despite reaching upwards of 111 percent, due to full government employment programs after the Yom Kippur War, the catastrophic hyperinflation did not hit until the 1980s. Inflation peaked at 445 percent in 1984: a value that was threatening the collapse of the Israeli economy all-together.[139] In 1985 the government was forced to adopt the Economic Stabilization Policy. Under this program, all price on virtually all goods and services in the entire country were frozen in time. The policy was a legendary success that caused inflation to drop to just 19 percent by 1986.[140]

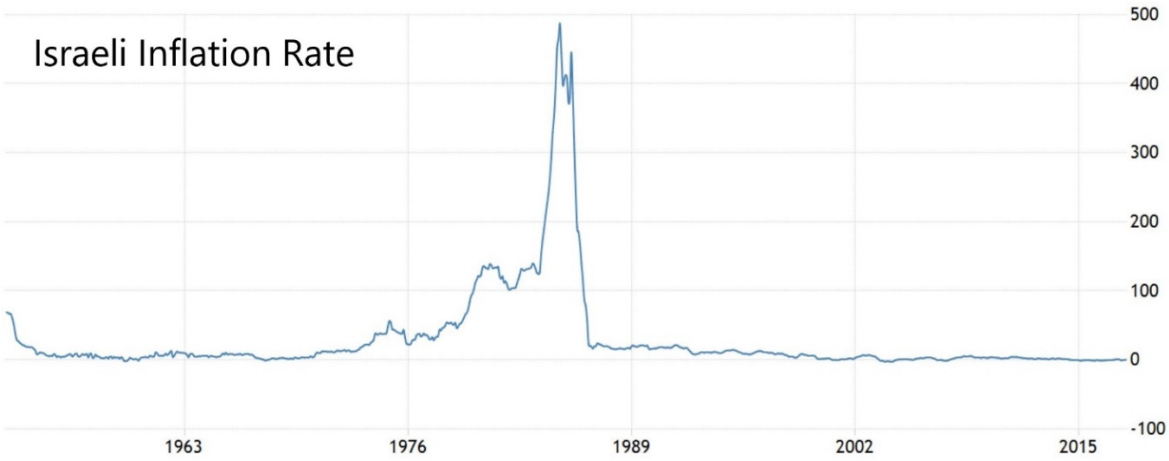


Figure 4. Israeli Inflation Rate.[141]

137 Senor and Singer, *Start-up Nation*, 116.

138 Ben-Porath, *The Israeli Economy*, 22.

139 Jewish Virtual Library, "The Rise & Fall of Israeli Inflation," accessed November 17, 2017, http://www.jewishvirtuallibrary.org/the-rise-and-fall-of-israeli-inflation.

140 Jewish Virtual Library, "The Rise & Fall of Israeli Inflation."

141 Adapted from Tradingeconomics.com, "Israel Inflation Rate | 1952–2017," accessed November 17, 2017, tradingeconomics.com/israel/inflation-cpi.

The successful financial and monetary reform practices of the 1980s were continued by the Bank of Israel well into the 1990s. Paying down the budget deficit became a priority to stabilize the currency and prevent future drastic measures that might cause double digit unemployment. Additionally, many trade tariffs were removed, and import restriction regulation were loosened to help regulate out-of-control prices. Furthermore, monopolies were broken up to encourage more price competition. The most notable example of an anti-monopoly effort was in the mobile sector against Bezeq, a government-owned telecommunication company.[142]

To solve the devaluated currency problem, the Bank of Israel introduced a new currency in 1985: The New Israeli Shekel. This maneuver allowed to reset the public trust in the currency and prevent the shift to a commodity trading system. Furthermore, at the issuance of the new currency, the Bank of Israel could artificially price the New Israeli Shekel to values appropriate to current prices and wages.[143] The decision was a massive currency devaluation strategy of roughly 1000 to 1 for two reasons: to shrink the government debt and encourage exports. New trade deals could capitalize on the already existing free-trade agreements that were signed with Europe and the United States (the former being limited to industrial goods only).[144] By combining trade liberalization and devaluing the New Israeli Shekel, the Bank of Israel succeeded in nurturing the economy back to a healthy track.

To further encourage the economy to heal, the Israeli government initiated capital market reforms that made the Israeli economy more capitalistic rather than centrally controlled.[145] With minimal government involvement in domestic capital markets and economic activity, the economy could operate on concepts of traditional supply and demand. Furthermore, the major labor union encompassing most of the country, the Histadrut, was "divested of many of its non-union activities" throughout the 1990s.[146]

---

142 Jewish Virtual Library, "The Rise & Fall of Israeli Inflation."

143 Jewish Virtual Library, "The Rise & Fall of Israeli Inflation."

144 Halevi, "A Brief Economic History of Modern Israel."

145 Aharoni, *The Israeli Economy*, 4.

146 Halevi, "A Brief Economic History of Modern Israel."

While that stripped workers of much of their say in the economy, it did have a substantial freeing effect on economic development.

The Israeli economy was successfully stabilized by a set of economic reforms throughout the 1980s and 1990s. The Israeli government, with the Bank of Israel at the helm, implemented fundamental economic reforms that included: price and wage freezes, currency devaluation, broad adjustments to monetary policy, domestic capital market reform, capitalizing on free-trade agreements, and limiting the government's hold on the economy. By doing so, the Israeli government managed to clean up the mess caused by a period of near-annihilating war posturing the economy for an influx of labor.

C. IMMIGRATION

A fuse of technical innovation and favorable economic conditions required an increase in labor to stimulate development. Coincidently, Israel inherited a large population of well-educated and highly skilled personnel in the early 1990s.[147] Beginning in 1989, with the impending fall of the Soviet Union and the break-up of the Eastern Bloc, European Jewish refugees poured into Israel.[148] This immigration (or "Aliyah") of roughly a million people in the early 1990s constituted about a third of all immigrants into Israel since the country's inception in 1948.[149] Unlike prior immigrations, the '90s wave had about a 40 percent college education rate as compared with the national average of 30 percent.[150] This once-in-a-century increase in human capital of the Jewish nation supplied the vital labor for a demanding economy. Throughout the '90s and beyond, the Israeli high-tech economy was built using this new workforce as the foundation.

Israel, much like the United States, is a state built entirely by immigrants. Since Israeli independence on May 14, 1948, over 3 million immigrants arrived.[151] That

147 Razin and Sadka, *The Economy of Modern Israel*, 107–9.

148 Paul Rivlin, "The Israeli Economy," in *Handbook of Emerging Economies*, ed. Robert E. Looney, 1 edition (New York: Routledge, 2014), 190.

149 Rivlin, 187.

150 Razin, *Israel and the World Economy*, 25.

151 Israel Central Bureau of Statistics, "Immigrant Population from the Former USSR, 1990–2001" (November 2006), 49, http://www.cbs.gov.il/www/publications/migration_ussr01/migration_ussr_e.htm.

constitutes roughly 35 percent of today's population of the country. Prior to 1948, another roughly 400 thousand immigrants have been recorded since 1919, when the population of the Palestinian territories was around 700 thousand.[152] Out of the 3 million immigrants that arrived post-1948, the largest wave of immigration started with the impending fall of the USSR in 1989 and did not ease until 2001 after over 900 thousand had arrived (not counting Eastern bloc countries),[153] and constituted about a fifth of the population of Israel.[154]

The immigrants arriving on Israeli shores throughout the 1990s from Europe were well above average educated.[155] The reward for Israel was astronomical with virtually no investment. The immigrants taxed another country's recourses (mostly the USSR) for their education and upbringing resulting in a ready-to-go labor force. The Israeli economy capitalized on this rare opportunity by gradually incorporating new employees into the local market. Embracing the new highly-skilled labor force, the Israeli economy improved its economies of scale and ventured into new and more complex industries.[156] The most notable and largest new frontier was the development of a Silicon Valley-like high-tech sector.

The Israeli high-tech center, or "Silicon Wadi," was built on the shoulders of the million-strong European immigration of the 1990s. The fall of European communism opened the flow valve of Jewish immigrants into Israel. This wave of immigrants was blessed with an unusually high level of education with roughly 60 percent college graduates. The miracle Aliyah of the 1990s was an unheard-of increase of human capital at a much-needed time in Israel.[157] This perfect infusion of labor at just the right time enabled the Israeli economy to transition into the high-tech market throughout the 1990s.

---

[152] Jewish Virtual Library, "Jewish Immigration to Palestine (1919-1941)," accessed November 18, 2017, http://www.jewishvirtuallibrary.org/jewish-immigrantion-to-palestine-1919-1941.

[153] Jewish Virtual Library, "Jewish Immigration to Palestine (1919-1941)."

[154] Senor and Singer, *Start-up Nation*, 126–27.

[155] Eckstein and Weiss, "The Integration of Immigrants from the Former Soviet Union in the Israeli Labor Market," 349.

[156] Rivlin, "The Israeli Economy," 2014, 190.

[157] Senor and Singer, *Start-up Nation*, 127.

D. SUBSIDIES

After the "Aliyah," the Israeli government operated like both a venture capitalist firm and subsidizing agency for economic growth. These subsidizing efforts manifested themselves in the form of stimuli to the housing and labor markets and proved excellent for the absorption of immigrants.[158] One example worth examining is the "Absorption Basket" program that eased the transition of new immigrants into society. The most notable investment effort was the "Yozma" program: "…a $100 million state-owned venture capital fund that opened for business in 1993."[159] Not only did the "Yozma" fund start-up businesses directly, the program also solicited investments from abroad.[160] It attracted foreign investors by lowering the cost of doing business inside the country and increasing the return on investment potential by matching funds. As a result, today Israel is considered one of the premier destinations for technical entrepreneurship in the world.[161]

After adopting the Economic Stabilization Program in 1985 to prevent the economy from collapsing,[162] the Israeli government was forced to stimulate the economy back to health. The conservative monetary policy of the Bank of Israel, while ensured fiscal safety, made economic growth more difficult and even compounded the problem. The decision was made to pour government funds into various local markets in the form of stimulus packages. The idea was to jump-start key economic industries in hopes that they would entice the rest of the economy to prosper—it worked. The stimulus packages began taking shape in the late 80s just as immigrants from the Soviet Union and the Eastern bloc began pouring in by the hundreds of thousands per year. The Israeli government chose to

158 Michael Shalev, "The Contradictions of Economic Reform in Israel," *Middle East Report*, no. 207 (1998): 32, https://doi.org/10.2307/3013166.

159 Jordan Weissmann, "It's Not (Just) the Culture, Stupid: 4 Reasons Why Israel's Economy Is So Strong," *The Atlantic*, August 2, 2012, https://www.theatlantic.com/business/archive/2012/08/its-not-just-the-culture-stupid-4-reasons-why-israels-economy-is-so-strong/260610/.

160 Razin, *Israel and the World Economy*, 107.

161 Ilan Evyatar, "Israel's Economy: Reasons to Be Cheerful – and Some for Concern," Jerusalem Post, April 27, 2016, http://www.jpost.com/Opinion/Israels-economy-Reasons-to-be-cheerful-and-some-for-concern-452550.

162 Razin and Sadka, *The Economy of Modern Israel*, 23–24.

capitalize on this opportunity by investing taxpayer funds into the new and educated labor force.[163]

In comes the "Absorption Program": an initiative that provided all *olim chadashim* (new immigrants) with a myriad of mostly financial assistances. These included a subsistence allowance, temporary health insurance, tuition benefits, low mortgage interest rates, tax breaks, etc. While discussing the entire absorption subsidy program and its evolution is outside the scope of this paper, a few notable assistance efforts are worth mentioning. To simultaneously boost the housing market and provide immigrates with quarters, a one-year rental allowance was introduced.[164] The effects were astounding. Due to increased demand, new apartment building construction created both new jobs as well as new places to live. Consequently, both local Israelis and new immigrants profited from newfound employment. The new housing was often a more direct benefit for Israelis already residing within the country as it was often out of financial reach for immigrants. But the win-win scenario was that said immigrants could now occupy the quarters vacated by Israelis moving up in the world.

Once immigrants had roofs over their heads, they could take advantage of a six-month *ulpan* (language studio) scholarship to learn Hebrew: the basic skill required for employment in Israel. The intensive language study program was designed as a crash course in a completely unique and ancient language. The intent was to quickly and efficiently provide immigrants with linguistic skills in the native tongue easing their integration into the economy.[165] After the completion of the initial ulpan course, one could opt to take various follow-on specialty courses. These included Hebrew classes for health professionals, engineering and high-tech professionals, teachers, children, pensioners,

---

163 Senor and Singer, *Start-up Nation*, 165.

164 Sarah Kantor, "Rental Assistance for Aliyah," *Nefesh B'Nefesh* (blog), September 8, 2014, http://www.nbn.org.il/aliyahpedia/government-services/government-benefits-new-immigrants-oleh-chadash/rental-assistance/.

165 Nefesh B'Nefesh, "Learning Hebrew & Ulpan in Israel," accessed November 24, 2017, http://www.nbn.org.il/aliyahpedia-home/learning-hebrew-ulpan/.

etc.[166] Nearly all the secondary language courses proved very effective in developing the immigrating labor force. The most relevant course to the development of the Israeli high-tech economy in 1990s was the so-called "Ulpan Alef for Engineering and Computer/Hi-Tech Professionals."[167] This course focused on jargon and technical language to immerse the student into the growing technological world of Israel.

The last example of a successful subsidy was the initiative to dramatically reduce the cost of the first vehicle purchased by an immigrant. The government accomplished this task by nearly eliminating all taxes on new vehicle purchases. By far the largest savings was the removal of the import tax (tariff) on vehicles produced overseas. The vehicle import cost has varied in Israel over the years but has been upwards of a jaw-dropping 75 percent of vehicle cost: a combination of about 50 percent import tax with about 25 percent value-added tax.[168] An especially punishing tax considering the domestic consumer auto industry was virtually non-existent. The high vehicle prices coupled with imperfect inter-city public transportation would have proved prohibitive to geographically expanding job opportunities for immigrants. The program proved successful both for vehicle-centric employment (like taxi driver) and for commuting to the growing Silicon Wadi.

The Israeli tech sector would not be what it is today without the venture capitalism undertaken by the Israeli government. In the late 80s, many Israeli defense contractors were laying off hundreds of engineers due to a shrinking defense sector.[169] Along with the ongoing immigration of educated engineers, the number of people seeking technical employment was growing daily. Around that time, private venture capital was limited and

166 Laura Woolf, ed., *Guide to Ulpan Study*, 9th Edition (Jerusalem, Israel: Ministry of Aliyah and Immigrant Absorption, 2015), 15.

167 Laura Woolf, *Computer and Hi-Tech Professionals*, 6th Edition (Jerusalem, Israel: Ministry of Aliyah and Immigrant Absorption, 2015).

168 Talia Barta, "Importing a Vehicle," Nefesh B'Nefesh, July 10, 2017, http://www.nbn.org.il/aliyahpedia/government-services/drivers-license-cars/importing-a-vehicle/.

169 Gil Avnimelech and Morris Teubal, "Evolutionary Venture Capital Policies: Insights from a Product Life Cycle Analysis of Israel's Venture Capital Industry" (The Hebrew University of Jerusalem), 11, accessed November 24, 2017, https://pdfs.semanticscholar.org/69c5/7605d1e35cfd004fb6a0f9d9b6f1d61876a9.pdf.

ineffective.[170] The Israeli capital investment system was not well developed, while Europe and the United States have not discovered Israel yet as a good investment. As a result, many Israeli start-up companies were unable to secure the necessary funds to sustain themselves and were forced to fold.[171] The product of these shortcomings was a struggling Israeli economy that lacked much needed stimulation.

To combat its stagnating economy, the Israeli government created the "Yozma" program. Carefully modeled after the success of the American Silicon Valley venture capitalist model, Yozma was built "to create a solid base for a competitive [venture capitalist] industry with critical mass; to learn from foreign limited partners; and to acquire a network of international contacts."[172] Its $100M-government fund promised to serve as that base. This fund invested in both private venture capitalist companies as well as direct investment in start-ups. Moreover, the fund would match one-for-one up to $8M dollars any amount raised privately, be it abroad or domestically.[173] This encouraged external players both foreign and local to leverage Israeli government funds with their investments. The idea was that return on investment, regardless of the percentage, would be higher on a larger invested sum, considering the Israeli government was not in the venture capitalist business for profit. The program proved highly successful and brought about the dawn of the start-up nation.

The combination of the Yozma program and the countless other government subsidies created a perfect environment for start-up companies. The influx of funds from abroad leveraged by the Israeli government allowed new companies to hire educated immigrants who spoke some Hebrew and were settling into Israeli society. With the investment capital, start-ups were able to put their new labor force to work on research and development of new technical ideas.[174] The consequence is that today, Israel has the most

---

[170] Avnimelech and Teubal, 6.

[171] Avnimelech and Teubal, 10.

[172] Avnimelech and Teubal, 12.

[173] Avnimelech and Teubal, 11.

[174] Ilan Moss, "Start-Up Nation: An Innovation Story," *OECD Observer* Q2, no. 285 (2011), http://oecdobserver.org/news/fullstory.php/aid/3546/Start-up_nation:_An_innovation_story.html.

per capita patents awarded and the third most companies on the NASDAQ after only the United States and China. As the 1990s progressed, Israel quickly became the "in-vogue" destination for venture capitalism and start-ups. By the end of the decade, the fund (already privatized) controlled upwards of $10 billion, which was almost 8 percent of the Israeli GDP. That staggering sum of investment capital coupled with some *chutzpah* (boldness, arrogance, or audacity) in risk-taking thrusted Israel into the high-technology age second only to the California-based Silicon Valley.

E. THE LACK-OF-RESOURCES BLESSING

Capitalizing on resources being unavailable, Israel turned lacking into a blessing. Considering that Israel is far from the only country in the region (and especially in the world) with a qualified workforce, available capital, a healthy economy, and a technical know-how, why are they the shining high-tech example? Two theories jump out as viable explanations: Israel's neighbors are swimming in natural resources and war has ravaged much of the region. The only country besides Israel (until recently) in her vicinity that has almost no oil or gas is Lebanon. All other countries in the general Middle Eastern region are rich with natural resources, which contributes to their "resource curse."[175] Lebanon is a country that has been plagued with civil war, a Christian-Muslim divide, and lack of a true central government. The most notable exception to either theory is the United Arab Emirates having successfully diversified its economy.

Having no natural resources, Israel has been forced to look elsewhere for revenue. Over the years, Israel has focused on agriculture, financial services, high-tech, industrial manufacturing, and tourism.[176] These industries, unlike energy, are human capital-intensive. Therefore, Israel has been forced to develop a capable workforce. To accomplish this task, investments have been made into an education system, infrastructure, human

[175] Stewart M. Patrick, "Why Natural Resources Are a Curse on Developing Countries and How to Fix It," *The Atlantic*, April 30, 2012, https://www.theatlantic.com/international/archive/2012/04/why-natural-resources-are-a-curse-on-developing-countries-and-how-to-fix-it/256508/.

[176] Alexander Simoes, "Israel Exports, Imports, and Trade Partners," Observatory of Economic Complexity, 2016, https://atlas.media.mit.edu/en/profile/country/isr/.

rights institutions, etc.[177] The result has been a liberalized society with a highly capable workforce and adequate infrastructure for a plethora of industries.

Not a single other country in the Middle East has been able to accomplish the same task as well as Israel; although the United Arab Emirates (UAE) has come close—more on that later. The reason for this, in most cases, is the abundance of natural resources, commonly known as the "resource curse." This curse can best be explained by a government's lack of accountability when low human capital revenue sources are available.[178] Energy, by far the most common and abundant type of natural resource in the Middle East, is a low-labor industry. Especially as technology and processes improve, a smaller number of employees are required to extract larger volumes of oil and gas.[179] Consequently, a government-owned or private energy firm requires the help of a relatively small percent of the population to profit from oil and gas. Given the relatively high prices on fossil fuels, great wealth can be amassed by a few people with a disproportionately low amount of effort. Therefore, the wealthy government (whether through direct ownership or tax revenue from energy) does not feel itself responsible for most of its population. Similarly, the population does not have any financial leverage to hold the country accountable.

Critical liberal institutions are created during the early years of a state's formation. Therefore, this issue is compounded when the natural resources are discovered early on in a country's development. Many said institutions are empowering to the people to hold their government accountable.[180] Unfortunately, in the Middle East, nearly all states discovered their vast fossil fuel reserves long before vital liberal institutions could take form. The interesting single exception to that fact is Israel, who discovered both natural gas and oil

---

177 Rivlin, "Stabilization and Liberalization in the Israeli Economy," 535.

178 Patrick, "Why Natural Resources Are a Curse on Developing Countries and How to Fix It."

179 Baker Institute, "The Cycle, Not Automation, Is Keeping Oil & Gas Hiring Down," Forbes, accessed November 25, 2017, https://www.forbes.com/sites/thebakersinstitute/2017/05/10/the-cycle-not-automation-is-keeping-oil-gas-hiring-down/.

180 Fareed Zakaria, "A Brief History of Human Liberty," in *The Future of Freedom* (New York, NY: W. W. Norton, 2003).

deposits only in the last decade.[181] This occurrence caused many of the states in the Middle East not only to not liberalize into democracies, but in most cases become autocratic initially making it easier to oppress the powerless populace.[182]

Lebanon, a country with no significant reserves of natural resources (much like Israel), is a unique case. Most easily explained by near-constant internal and external conflict, Lebanon has been unable to evolve into a great modern economy. Since the beginning of the 20th century, Lebanon has gone from one military occupation to the next as well as continuous conflict between Christians and Muslims.[183] Ironically, Israel has attacked Lebanon multiple times for political and religious reasons (entirely unrelated to economics)—an act that hardly helped either country's prosperity. Consequently, Lebanon has not developed economically to a level where they can compete with Israel. Nonetheless, along with Israel, Lebanon is one of the few democracies in the region: a benefit of not being cursed with natural resources.

UAE is far from a democracy, though it has come far closer to Israel's success compared to Lebanon, or any Middle Eastern state for that matter. Ever since the state's inception in 1971, the government has had a clear policy of diversifying their economy. They largely succeeded in limiting their reliance on oil. Today, about a third of the Emirati economy is centered on oil. The remaining two thirds is spread across real estate, retail, tourism, logistics, and various smaller industries.[184] The result is a thriving economy with a GDP roughly twice that of Israel. However, the UAE has no high-tech sector to speak of, and they desperately lack the human capital to get there, were it necessary.[185] Although,

---

181 Jewish Virtual Library, "Oil & Natural Gas in Israel," accessed November 25, 2017, http://www.jewishvirtuallibrary.org/oil-and-natural-gas-in-israel.

182 Fareed Zakaria, "The Rise of Illiberal Democracy," *Foreign Affairs*, November 1, 1997, https://www.foreignaffairs.com/articles/1997-11-01/rise-illiberal-democracy.

183 Telegraph, "Lebanon: A Brief History," February 24, 2003, http://www.telegraph.co.uk/news/1400004/Lebanon-A-brief-history.html.

184 Radwa Said, "UAE Economic Diversification Record | TRENDS," TRENDS Research and Advisory, June 14, 2016, http://trendsinstitution.org/uae-economic-diversification-record/.

185 Schwab, *The Global Competitiveness Report 2017–2018*, 2017, 298.

the UAE would not need any capital investment support from overseas because they could syphon funds from their already large industries to jump start new ones.

Israel is not the only country in the Middle East with economic capability. Though they are the only nation in the region with a world-class high-tech economy, which puts it in a favorable geopolitical position. Many Middle Eastern states lack the human capital, economic infrastructure, and technical ability to morph their economy into a high-tech hub. In most cases, there is no lack of revenue source thanks to the overwhelming reserves of natural resources throughout the region. And where fossil fuels are not flowing like rivers, war and conflict plagues the land, like in Lebanon. The UAE is the single glimmer of hope in the Middle East of a prosperous state that is not entirely dependent on natural resources. Perhaps in time, they might evolve into a high-tech competitor for the Jewish state.

F. AN INTERNATIONAL OFFSPRING

If we consider the United States as the father of the Israeli high-tech industry, another one of its children would undoubtedly be Chile.[186] A country that has roughly twice the population of Israel, but less than half of the per-capita GDP, Chile is struck with a similar resource dilemma as Israel. The only substantial natural resource reserves in Chile are copper and nitrate.[187] Between the two, Chile generates more resource exports than Israel, but not nearly enough to bring in the kind of income as the Middle Eastern energy giants. Besides copper and nitrate exports, the Chilean economy benefits from fishing, timber, fruit, and viniculture industries.[188] While Chile is considered one of the more prosperous states in South America, its per-capita income is only about $13,000: a little more than a third of Israel's.[189] Consequently, the Chilean government would have been thrilled to implement a program to mirror Israeli success.

---

186 Rosenberg, *Israel's Technology Economy*, 13.

187 Scholastic, "Chile," 2017, http://www.scholastic.com/teachers/articles/teaching-content/chile/.

188 Alexander Simoes, "Chile Exports, Imports, and Trade Partners," Observatory of Economic Complexity, 2016, https://atlas.media.mit.edu/en/profile/country/chl/.

189 Schwab, *The Global Competitiveness Report 2017–2018*, 2017, 88.

Unlike the Israeli government assisted model, the "Chilecon Valley" was jump started by an individual, Nicolas Shea: "a Chilean businessman who had a brief stint in government."[190] Using mostly private funding sources, Shea created the "Start-Up Chile" effort that hopes entice immigrants from all over the world to come to Chile rather than Israel or the United States to start-up their business. Much like the Israeli Yozma program did 25 years ago, Start-Up Chile strives to leverage funding from various sources to kick-start start-ups. The operating amount is much smaller at around $40 million, but Start-Up Chile offers subsidized salaries and visas as additional compensation. The result is that Santiago, Chile is now home to about 500 start-ups and over 900 entrepreneurs from across 37 countries trying to hone their skills.[191]

While hardly the success story of either Israel or the United States, Chile is trying to take lessons learned from both schools to create their own flavor of a start-up nation. There is no doubt that Chilecon Valley is here to stay, but they may need to adjust fire over the years to solidify their place in the start-up market. Firstly, relying almost entirely on immigrants is economically dangerous as they can move away along with their intellectual property. Israel avoided that situation by providing citizenship to its immigrants rather than work visas. Secondly, the Chilean government needs to get fully on board by sucking people in with a highly sophisticated economic infrastructure that is lacking today.[192]

G. CONCLUSION

Israel, more so than many other less successful countries, had the deck heavily stacked against it starting in the 1940s. Despite that unfortunate fact, Israel has become an OECD member as a significant world economic player by the 2010s. They attained this fantastic achievement through various economic growth throughout its history. Most notable among these growth efforts was the transition of the country into a technological hub for start-ups in the 1990s. The development of the high-tech sector in Israel was a

---

[190] Economist, "The Lure of Chilecon Valley," October 13, 2012, http://www.economist.com/node/21564589.

[191] Economist, "The Lure of Chilecon Valley."

[192] Schwab, *The Global Competitiveness Report 2017–2018*, 2017, 88.

product of technological innovation, economic reform, immigration, and government subsidies. The technological innovation spike, thanks to the massive defense sector, created a fantastic technological foundation. Enabled by the technical base, economic productivity was raised with proper use of the highly-educated "ready-to-use" workforce. Coupled with the monumental economic revamps and the multi-million-dollar government-led incentive programs, the Israeli economy prospered to the point of being included into the "rich country club," the OECD in 2010.[193] This monumental achievement is a direct result of Israel's transition to a high-skill, high-tech, innovative economic model.

Three economic principles required if one were interested in replicating the success of the Israeli high-tech model: human capital, healthy capitalist economy, and access to modern technology. The human capital required for a high-tech economy is, naturally, a technically-inclined workforce of engineers, computer scientists, and the like. To achieve this level of expertise, a cocktail of education and practical technical experience is necessary. Furthermore, proper liberal government institutions are required to ensure these employees are encouraged to attain these educational and professional goals.[194] Chief among these institutions, is the foundation of a free market capitalist economy which naturally provides a return on investment. In this case, a return on the investment of time to educate and specialize in a technical field. Additionally, a free market de-centralized economy would naturally follow supply and demand rules likely encouraging high-tech market growth to satisfy international demand for technical products. But a free market will not technically modernize a society overnight.

Government assistance in technical innovation would encourage the development of a high-tech sector. This could be accomplished through investment in a domestic defense sector and a transfer of technology to civilian firms. Alternatively, a government could leverage technology from abroad by purchasing technical manuscripts or sending key personnel for education in renowned technical universities overseas. Finally, the investment in a technical economic infrastructure to capitalize on said new technology

193 Rosenberg, *Israel's Technology Economy*, 3.

194 Rosenberg, 12.

would create the necessary foundation for the industry to begin growing. Many Israeli neighbors are eager to replicate the Israeli high-tech economic success model. Some key interested states might be Qatar, UAE, and Saudi Arabia: all of whom have attempted to diversify their economy (UAE succeeded more than the other two so far). Perhaps, by emulating the Israeli path suggested in this paper, these three countries, as well as the rest of the Middle East, could evolve into the modern high-technology world.

IV. CASE STUDY

This chapter will serve as a case study, applying the four aspects of Israeli economic success discussed in Chapter III—technological innovation, economic reform, immigration, and economic subsidies—to better understand their effects on technology-centric firms. The analysis will consist of comparing data to better understand the general implications and consequence of each theme on select firms. A cornerstone of Israeli technological innovation is found in the defense sector with Rafael Advanced Defense Systems serving as the best example. On the other hand, the impact of economic reforms is better depicted in private firms like Teva, Israel's largest pharmaceutical corporation. Similarly, the effects of economic subsidies are optimally demonstrated by examining private start-up firms like Jemtex Ink Jet Printing, Objet Geometries, and RealTimeImage. Finally, the effect of immigration is widespread throughout the Israeli economy, with perhaps the best example being the benefits conferred on Intel Israel by immigration. Consequently, this chapter will demonstrate the significance of the four key themes of this thesis via their effects on these Israeli firms.

A. TECHNOLOGICAL INNOVATION

One of the pinnacles of Israeli technological innovation has been Rafael Development Corporation (RDC). A subsidiary of Rafael Advanced Defense Systems, a government-owned defense contractor, RDC was founded in 1993 and specializes in adapting technologies normally used for war for commercial use. Before corporations like Rafael, Israel was largely an agricultural economy with little domestically produced technology. Since the advent of indigenous defense contractors, the adaptation of military technology began, stemming from clever reengineering of ideas and technology transfers with civilian applications in mind. Given that most military technology is classified and does not allow for adequate research and analysis in the public sphere, RDC's commercial

derivatives of said military technology show Israeli technological innovation from one of the most technologically advanced militaries in the world: the Israeli Defense Forces.[195]

One of RDC's success stories of military technology transfer to the civilian sector is an offshoot company called 3DV Systems. Their brand of cameras, coined ZCam, allows for three-dimensional imaging using Light Detection and Ranging technology by calculating the time-of-flight of light between the lens and the object being imaged. The result is that ZCam allows for accurate, real-time, three-dimensional motion detection used as input for modern webcams and video games.[196] While 3DV Systems was established in 1997, this ranging technology has existed for military applications for decades. The success story here is not only the commercialization of the technology but its miniaturization to a practical size and its financial feasibility. 3DV Systems' success with their ZCam led them to be acquired by Microsoft in 2009 for $35 million, forever changing the baseline specifications for optical computer peripherals.[197]

Further building on their military-inspired innovation, in the private medical sector, RDC pioneered wireless gastrointestinal cameras and personal tubeless insulin pumps through two separate companies, Given Imaging and Medingo, respectively. Given Imaging was created in 1998 and was the first company to create a pill-sized consumable camera (PillCam) that records video as it travels through the gastrointestinal tract, borrowing its capabilities from Rafael's real-time imaging technology and miniaturized military-inspired cameras. Given Imaging's success led them to be acquired by Covidien in 2017 for $1 billion.[198] Mendingo, established in 2005, created a cellphone-sized interactive insulin pump able to keep track of insulin administration data, doses, and delivery with the help of Rafael's miniaturized mechanical technology. Roche diagnostics,

---

[195] Bloomberg, "Rafael Development Corporation Ltd.: Private Company Information," September 1, 2018, https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=536891.

[196] Rafael Development Corporation, "Applying Defense Tech to the Business of Advancement," September 1, 2018, http://rdc.co.il/.

[197] Guy Grimland, "Microsoft in Talks to Acquire Local Startup 3DV Systems," Haaretz, February 17, 2009, https://www.haaretz.com/1.5076799.

[198] Joseph Walker, "PillCam Maker Given Imaging to Be Bought by Covidien," Wall Street Journal, December 9, 2013, sec. Business, https://www.wsj.com/articles/pillcam-maker-given-imaging-to-be-bought-by-covidien-1386548190.

a leader in insulin pump distribution, acquired Mendingo in 2010.[199] Both corporations left a lasting impression on the civilian sector, altering the information technology and medical industries on a global scale and cementing Israel's technological effect on the world.[200]

B. ECONOMIC REFORM

Much like Israeli technological innovation, the Israeli government's economic reforms in the mid-1980s had a dramatic effect on the entire economy, including on such corporate giants as Teva Pharmaceuticals. From its origins as a small drug store in Jerusalem at the turn of the 20th century about a half century before the creation of the state of Israel, Teva became the largest drug manufacturer in Israel by the mid-1970s. By the early 1980s, being one of the largest corporations in Israel with relatively little overseas investment, Teva took a significant financial hit caused by hyperinflation of the shekel (Israeli currency). Speaking strictly in number of shekels, its revenue did not change dramatically, but given the currency inflation of over 1000 percent in just a few years, Teva's relative revenue compared to the international currency, the U.S. dollar, dropped tenfold. Consequently, Teva's purchasing power and general ability to expand outside the Israeli drug market it had already monopolized. This dilemma greatly hampered Teva's "Billion Dollar Company" theory of expanding to U.S. and European markets.[201] In all, the time between about 1980 and about 1985 tested Teva's expansion model and its success as a leading Israeli corporation.

The dramatic financial and economic reforms of the mid-1980s discussed in Chapter III, most notably the end of hyperinflation and the introduction of the New Shekel, stabilized the Israeli economy, which revitalized Teva's financial strength and overseas aspirations by restoring their overseas purchasing power. With the passing of the Waxman-

---

[199] David Edelman, "Roche Acquires Insulin Pump Company Medingo," Diabetes Daily, April 13, 2010, https://www.diabetesdaily.com/forum/diabetes-news-and-studies/41612-roche-acquires-insulin-pump-company-medingo/.

[200] Rafael Development Corporation, "Applying Defense Tech to the Business of Advancement."

[201] Tarun Khanna, Krishna G. Palepu, and Claudine Madras, "Teva Pharmaceutical Industries, Ltd.," Harvard Business School, September 19, 2007, 6–8, https://hbsp.harvard.edu/product/707441-PDF-ENG?R=707441-PDF-ENG&conversationId=36071&E=46281.

Hatch Act by the U.S. Congress in 1984, allowing and encouraging the creation and use of generic drugs after their proprietary counterparts' patents had expired, Teva seized the opportunity by expanding into the U.S. drug market. Through various acquisitions and corporate agreements, Teva penetrated the U.S. and captured most of the U.S. generic drug market in a decade. Driven by its success from the U.S. market penetration, between 1992 and 1996, Teva infiltrated the European generic drug market through acquisitions across Hungary, France, and Britain. The trend of acquisitions and growth continues to this day throughout the U.S., Europe, and Japan, making Teva the largest generic drug manufacturer in the world and among the largest pharmaceutical companies, made possible by the Israeli economic reforms of the mid-1980s.[202]

C. SUBSIDIES

To build on the success of its economic reforms, the Israeli government introduced financial subsidies to propel the country's economy to new heights, promoting start-ups like Jemtex Ink Jet Printing, Objet Geometries, and RealTimeImage. While the Israeli government undertook many subsidies, the most famous and fruitful among them is "Yozma," a government fund-matching effort to leverage and attract foreign investment, especially from the U.S.[203] Throughout the nearly decade-long tenure of "Yozma" in the 1990s, the program was responsible for facilitating hundreds of start-ups, with dozens of success stories. The three examples discussed below all benefitted from "Yozma" and were all eventually partially acquired by Scitex—the original Israeli start-up company of the 1960s and once the flagship of the Israeli technology industry—embodying the unique start-up ecosystem of the "Start-Up Nation" and the success of Israeli government subsidies.

---

[202] Thomas Gale, "Teva Pharmaceutical Industries, Ltd.," International Directory of Company Histories, 2006, https://www.encyclopedia.com/social-sciences-and-law/economics-business-and-labor/businesses-and-occupations/teva-pharmaceutical-industries-ltd.

[203] Gunseli Baygan, "Venture Capital Policy Review: Israel," (working paper, Organization for Economic Cooperation and Development, 2003), 5, https://www.oecd-ilibrary.org/docserver/585780028400.pdf?expires=1539638352&id=id&accname=guest&checksum=79A969538C498470C8A1FADE5ACA7E12.

Made possible by Israeli federal seed funding, Jemtex Ink Jet Printing was founded in 1995, primarily offering large digital printing solutions to the textile and tile industries. Jemtex penetrated the textile market first with its unique new technology: the use of ceramic print heads and electrically charged ink droplets, all controlled by sophisticated software, allowing upwards of 100,000 drops per second of printing on harsh surfaces.[204] In 2000, Scitex acquired a 30 percent stake in Jemtex for five million dollars, eventually divesting some of its investment for a substantial profiting in 2006 when Jemtex management decide to buy out a large share of the firm.[205] The success of Jemtex is a typical Cinderella start-up story, originating in one of the founder's basement and becoming a noticeable footprint on the world's 200-billion-dollar textile industry within about five years thanks to Israeli government subsides.

Another start-up that benefitted from these same subsidies, Objet Geometries was founded in 1998 as a maker of then-cutting-edge three-dimensional printers. The company created the patented PolyJet technology, which fuses different materials on the fly to create a unique "digital" material for object printing.[206] The company's line of three-dimensional printers was used by medical, consumer, electronics, and automotive industries, to name a few. By 2000, through leveraging Israeli government investment, Objet acquired investment from major U.S. and European funds, as well as Scitex's initial purchase of 18.7 percent of the company, which was later increased to almost 23 percent.[207] Much like with Jemtex, Scitex eventually divested its stake in Objet by 2005 for 3 million dollars in profit, again pointing to the effective economic stimulation of Israeli government subsidies.

---

[204] Ami Ginsburg, "Jemtex Soars on Space-Age Print Technology," *Haaretz*, March 6, 2002, https://www.haaretz.com/1.5236181.

[205] TheMarker.com, "Scitex Invests $5 Million in Textile Inkjet Printing Developer Jemtex," The Street, January 16, 2001, https://www.thestreet.com/story/1256969/1/scitex-invests-5-million-in-textile-inkjet-printing-developer-jemtex.html.

[206] Javelin Tech, "PolyJet Technology Used for 3D Printing on a Stratasys Objet Machine," accessed September 24, 2018, http://www.javelin-tech.com/3d-printer/materials/polyjet-photopolymer/stratasys-polyjet-technology/.

[207] Business Wire, "Scitex Announces Investments in Objet Geometries and InfoBit," June 28, 2000, https://www.thefreelibrary.com/Scitex+Announces+Investments+in+Objet+Geometries+and+InfoBit.-a063026795.

A third beneficiary of Israeli government funding was RealTimeImage, which was founded in 1996 and provided large and complex images to specialty customers over the internet. RealTimeImage caters to the artistic and medical community by instantly streaming high-resolution graphical images and medical scans through their patented system called iPACS, as well as providing commercial electronic transaction capabilities for printing companies through RealTimeProof Classic.[208] Thanks to early Israeli government subsidizing and Scitex's near 15 percent acquisition in 1999, the company propelled its pioneering technology to the world stage. RealTimeImage's success led it to be acquired by IDX Systems Corporation, a major healthcare software corporation, in 2005, which was acquired itself by General Electric in 2006, a world top-100 company.[209] As with Jemtex and Objet, RealTimeImage's success exemplifies the great effect Israeli government subsidies, largely through the "Yozma" program, had on Israeli start-ups.

D. IMMIGRATION

Finally, the million-strong immigration wave from the Former Soviet Union (FSU) provided a once-in-a-century influx of manpower that boosted the Israeli economy by providing manpower to many corporations, including Intel Israel. With the dissolution of the Eastern Bloc in 1989 and the eventual collapse of the Soviet Union in 1991, the Soviet Iron Curtain fell, setting millions to flight. The two by far most popular destinations for Soviet Jews were the U.S. and Israel. Due to immigration restrictions into the U.S. at the time, Israel received most of the Jewish immigrants (and even large amounts of non-Jews) from the Former Soviet Union (FSU), numbering over a million people in about a decade, which was about 20 percent of the state's population. The immigrating population had an astounding level of education especially in such complex and undermanned fields as mathematics, physics, and engineering, making them exceptionally positioned, with the help of individual Israeli government subsidies discussed in Chapter III, for employment in high-technology companies like Intel Israel.

---

[208] Bloomberg, "RealTimeImage, Inc.," 2018, https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=97422.

[209] Statista, "Most Valuable Companies in the World 2018," accessed September 24, 2018, https://www.statista.com/statistics/263264/top-companies-in-the-world-by-market-value/.

Intel Israel, founded in 1974 in Haifa, changed the fate of both Israel and the corporation for the better, partially thanks to immigrants from the FSU. Since 1974, Intel has expanded to five other cities, invested over 10 billion dollars in various facilities, and accounted for nearly half of all high-tech jobs in Israel (with some variation depending on year). Israeli Intel employees have developed such legendary technologies as the Electronically Programable Read-Only Memory (the father of flash memory) and the 8088 microprocessor (the predecessor to every desktop and laptop Intel microprocessor used today).[210] While these two success stories happened before the massive immigration from the FSU, the continued success of Intel Israel as one of the major microchip exporters for Intel Corporation, exemplified by the Core 2 Duo and Centrino technologies, was fueled by ex-Soviet manpower, as in the Fab 28 plant in Qiryat Gat—a city with a large Russian population that lives almost entirely on income from the Intel fabrication plant.[211] Overall, Intel Israel's success story is intricately tied to the success of many immigrants from the FSU, making the once-in-a-century influx of priceless manpower a great impact on many Israeli corporations.

E. CONCLUSION

This case study has shown that technological innovation, economic reform, economic subsidies, and immigration had a tremendous effect on technology-centric companies in Israel. Firstly, RDC served as the ideal example of Israeli technological development and transfer. Secondly, the effect of Israeli government economic reforms on Teva Pharmaceuticals illustrated that the fiscal restructurings were integral to economic success of Israeli companies. Thirdly, the success of start-ups like Jemtex, Objet, and RealTimeImage demonstrates that Israeli government subsidies to leverage international investment proved highly effective in stimulating the Israeli economy. Finally, the influx of talented and educated manpower from the FSU gave Israeli technological companies like Intel Israel the human capital needed for further innovation and success. The four

[210] David Shamah, "How Intel Came to Be Israel's Best Tech Friend," The Times of Israel, April 23, 2005, http://www.timesofisrael.com/how-intel-came-to-be-israels-best-tech-friend/.

[211] Jewish Virtual Library, "Intel & Israel," 2018, https://www.jewishvirtuallibrary.org/intel-and-israel.

aspects of Israeli economic ascendance discussed in this thesis were thus instrumental in creating Israel's technologically-advanced Organization for Economic Cooperation and Development economy.

V. CONCLUSION

Today, Israel has the most technologically-advanced economy in the Middle East, thanks to great economic subsidies, far-reaching economic reforms, massive immigration, and sophisticated technological developments mostly between 1990 and 2001. From the start of British Imperial rule of Palestine in 1917 until about 1960, the economic growth of the region was exceptional. The story of modern Israeli economic success continues with its relationship with other NATO powers, notably the U.S., France, and Germany. After the formation of the state in 1948, despite the limited relationship with NATO itself, Israel maintained relationships with various key allies: U.S., France, and Germany. Furthermore, a lot of cultural and social influence on Israel stemmed from those very same states.

Due to Israel's lack of resources, the state implemented four categories that contributed to Israel's high-technology economy—technological innovation, economic reform, immigration, and economic subsidies—that serve as a prescriptive solution for economic success. Israeli civilian technological innovation was a consequence of technology transfers from the defense sector. Additionally, excellent economic reforms implemented during dire times created an economy ready for exploitation. Moreover, over a million immigrants arrived from the former Soviet Union to build on existing technology in favorable economic conditions. Finally, during this wave of immigration, the government introduced rewarding subsidies for immigrants to ease their transition into the workforce, allowing for the economy to flourish quicker.

The British Empire's occupation of Palestine from 1917 to 1948, while it may be considered oppressive, created the foundations necessary for Israeli economic success. The British significantly influenced the Israeli legal, political, and economic systems. Moreover, the growth of the Jewish economy in Palestine until 1948, and that of Israel for approximately the first decade after founding, was record-setting. One of the fuel sources for this growth was the staggering immigration of mostly European Jews to Palestine. Additionally, the British allowed for a partially autonomous Jewish self-rule that provided the experience and structure necessary to form a thriving state.

After the founding of Israel, an immediate and favorable relationship began with NATO. While the alliance had relatively little to do directly with Israel throughout its existence, it did not prevent many European states and the U.S. from adopting pro-Israel policies. This worsened the relationship between NATO members and the Arab world, fueling some of the Cold War tensions. Nevertheless, NATO consistently supported Israel politically, while many of its members provided both political and material aid, greatly influencing Israel's geopolitical position both regionally and internationally.

By far the most influential NATO members for Israel were the U.S., France, and Germany. Among the three, France was the earliest supporter of the Jewish state and its closest economic, military, and political ally until the 1967 Six Day War. Similarly, in 1952, Israel developed a favorable diplomatic relationship with Germany that proved fruitful militarily, politically, and economically, with minor hiccups in 1964. The German relationship was partially created due to the Holocaust reparations and the large German Jewish ancestry in Israel. Where Germany and France fell short, the U.S. filled the gap with political, economic, and military aid starting in 1967. Despite drawbacks, Israel benefitted greatly from these relationships that undoubtedly helped it become the technically-advanced regional economic power it is today.

While the military support from the three aforementioned states was significant, Israel also developed an indigenous defense market, producing notable weapon systems like the Uzi submachine gun, the Merkava main battle tank, as well as the Nesher and Kfir fighter aircraft. The development of these weapons systems, as well as the general investment in the defense industry, helped Israel developed the human capital and talent necessary for the foundation of a high-technology economy. Despite Israel's significant solo undertakings, without the support of the U.S., France, and Germany, Israel would not be where it is today.

The most significant contributor to Israel's modern economic success was the state's transition to a technologically-advanced economy. The creation of the "Silicon Wadi," Israel's high-technology sector in Tel Aviv, took place through a combination of events and circumstances between 1985 and 2001. These can be broken down into four

categories: technological innovation, economic reform, immigration, and subsidized assistance.

Israel's technological innovation came mostly from technology-transfer efforts from the Israel Defense Forces. Thanks to an increase in sustained defense expenditures following the 1967 and 1973 wars, the Israeli military and defense sector grew substantially. This allowed for the development of a sophisticated, technically-capable workforce and a technologically advanced defense industry, both ripe for capitalizing by the civilian sector following federal budget cuts in the 1980s. The combination of a capable ex-military workforce, private defense industrial sector, and technology transfers created the foundation for the high-technology market in Israel.

The Israeli government and the Bank of Israel implemented wide-ranging economic reforms that allowed for the growth of the high-technology sector. The most notable reforms were price and wage freezes, currency devaluation, broad adjustments to monetary policy, domestic capital market reform, capitalization on free-trade agreements, and limiting the government's hold on the economy. The result was a more liberalized, revitalized economy that served as a foundation on which labor could build the high-technology sector.

The call for labor was answered by over a million highly-educated, experienced, and hard-working immigrants from the former Soviet Union during the 1990s, swelling the ranks of the newly formed high-technology startups. Israel's status as a Jewish safe haven dictated the destination for Russian Jews fleeing oppression. Up to this point, Israel was already a state largely built by immigrants. But this wave of immigrations increased Israeli population by over 20 percent and completely changed the socioeconomic structure and demographics of the country to create the economic success witnessed today.

Among the many subsidies the Israeli government provided, most notable for economic development during the 1990s were financial subsidies for immigrants and venture capital funding of startup high-technology companies. The most critical immigrant subsidies were rental allowances and government infrastructure investment to provide jobs, housing development, vehicle purchase discounts, and free language school. Furthermore,

the government created a venture capitalist fund called "Yozma" to stimulate startup high-technology companies, through direct investment and incentives to attract additional investment from abroad. Both efforts proved to be incredibly successful during a very favorable time for Israel's development as a technologically-advanced "start-up nation."

Israel's lack of natural resources, while typically may be considered as a misfortune, forced Israel to act on the categories mentioned above to become the most technologically advanced economy in the Middle East. During a time when almost all of its neighbors fell victim to the "resource curse," Israel created liberal institutions and invested in human capital to develop other means of revenue. Not only was this approach beneficial throughout Israel's existence, it proved invaluable throughout the 1990s during the creation of the high-technology sector.

The Israeli miracle is largely a capitalization on favorable circumstances through a series of good governmental decisions that can be replicated as a prescriptive solution for resource-starved states. The best example of this to date is Chile, which developed its own flavor of a high-technology economy nicknamed the "Chilecon Valley." Chile's path to success is a little different, with its roots in the private sector rather than public. Nonetheless, the Chilean government is involved in private-public partnerships to attract immigrants and capital to Chile. Moreover, the Chilean government is trying to make Santiago a favorable destination for both companies and immigrants through intelligent economic decisions and subsidized assistance. While not an exact replication of the "Israeli miracle," Chile is on the right path to develop a similar successful high-technology economy.

In conclusion, the Israeli economic miracle of today is a consequence of technological innovation, economic reform, immigration, and economic subsidies at the right time and under the right conditions. Despite their many faults, Israel owes much to Britain, the U.S., France, and Germany for their contributions and support over the last century; for, without them, Israel would not be in the same favorable economic or geopolitical situation today. While Israel's success has much to do with timing, now that the process has been designed and tested, it can be presented as a prescriptive solution for economic success to states that lack natural resources, as is eloquently demonstrated by

Chile today. This prescriptive solution has great significance with far-reaching consequences, for lifting states out of poverty that lack a natural source of wealth.

For states to undertake the Israeli economic success path, further research and feasibility studies are required. Before applying the prescription, one must understand how to artificially create the circumstances that fell in Israel's lap. While economic reforms and subsidies are a product of sound economic decisions, the same cannot be said for immigration. How does a state generate the kind of labor inflow that comes with a once-in-a-generation collapse of a superpower? And if that is not possible, how does a state accelerate the generation of indigenous human capital and liberal institutions? Finally, developing or acquiring the technology required for a cutting-edge technologically-sophisticated economy might be easier said than done. In all, while this paper presents a prescriptive cocktail for a "startup nation," it does not capture all of the details within its limited scope. Nonetheless, it serves as a foundation for further research to revolutionize the way small, resource-starved states achieve wealth.

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF REFERENCES

Aharoni, Yair. *The Israeli Economy: Dreams and Realities*. 1 edition. New York: Routledge, 2015.

Avnimelech, Gil, and Morris Teubal. "Evolutionary Venture Capital Policies: Insights from a Product Life Cycle Analysis of Israel's Venture Capital Industry." Scholarly paper, Social Science Research Network, October 1, 2003. https://papers.ssrn.com/abstract=2758173.

Bank of Israel, *Bank of Israel Annual Report 1978*, Tel Aviv, Israel, 1979.

Barnett, Michael N. *Confronting the Costs of War*. Princeton, NJ: Princeton University Press, 1993.

Barta, Talia. "Importing a Vehicle." Nefesh B'Nefesh, July 10, 2017. http://www.nbn.org.il/aliyahpedia/government-services/drivers-license-cars/importing-a-vehicle/.

Bass, Gary J. "When Israel and France Broke Up." *New York Times*, March 31, 2010, sec. Opinion. https://www.nytimes.com/2010/04/01/opinion/01bass.html.

Baygan, Gunseli. "Venture Capital Policy Review: Israel." Working paper, Organization for Economic Cooperation and Development, 2003. https://www.oecd-ilibrary.org/docserver/585780028400.pdf?expires=1539638352&id=id&accname=guest&checksum=79A969538C498470C8A1FADE5ACA7E12.

Bender, Jeremy. "RANKED: The World's 20 Strongest Militaries." Business Insider. Accessed November 27, 2017. http://www.businessinsider.com/these-are-the-worlds-20-strongest-militaries-ranked-2015-9.

Ben-Porath, Yoram, ed. *The Israeli Economy: Maturing Through Crises*. Cambridge, MA: Harvard University Press, 1986.

Berkley Center for Religion, Peace & World Affairs. "Demographics of Judaism." Georgetown University. Accessed February 28, 2018. https://berkleycenter.georgetown.edu/essays/demographics-of-judaism.

Bloomberg. "Bloomberg Innovation Index 2018." January 22, 2018. https://assets.bwbx.io/images/users/iqjWHBFdfxIU/iZZqjHcIo1Sg/v3/1480x-1.png.

———. "Rafael Development Corporation Ltd., Company Overview" Accessed November 17, 2017. https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=536891.

Business Wire. “Scitex Announces Investments in Objet Geometries and InfoBit.” June 28, 2000. https://www.thefreelibrary.com/Scitex+Announces+Investments+in+Objet+Geometries+and+InfoBit.-a063026795.

Caspi, Hanni. “The Israel – NATO Connection.” *Israel Defense*, August 9, 2016. http://www.israeldefense.co.il/en/content/israel-%E2%80%93-nato-connection.

Chapin Metz, Helen. *Israel: A Country Study*. Washington, DC: Library of Congress, 1990. https://www.loc.gov/item/90006119/.

Cohen, Avner. *Israel and the Bomb*. New York: Columbia University Press, 1998.

Cohen, Avner, and William Burr. “Israel Crosses the Threshold.” *Bulletin of the Atomic Scientists* 62, no. 3 (May 1, 2006): 22–30. https://doi.org/10.2968/062003008.

Cooper, Tom. “French Mirage Fighters Turned Israel Into a Major Air Power,” May 19, 2017. https://warisboring.com/french-mirage-fighters-turned-israel-into-a-major-air-power/.

Dowty, Alan. “Foreword.” In *Lyndon B. Johnson and the Politics of Arms Sales to Israel: In the Shadow of the Hawk*, by Abraham Ben-Zvi, 1 edition. London: Routledge, 2004.

Dutta, Soumitra, Bruno Lanvin, and Sacha Wunsch-Vincent, eds. *Global Innovation Index 2017*. 10th Edition. Ithaca, Fontainebleau, and Geneva: Cornell University, INSEAD, and WIPO, 2017. /pressroom/en/articles/2017/article_0006.html.

Eckstein, Zvi, and Yoram Weiss. “The Integration of Immigrants from the Former Soviet Union in the Israeli Labor Market.” In *The Israeli Economy, 1985--1998: From Government Intervention to Market Economics*, by Avi Ben-Bassat. The MIT Press, 2002.

Economist. “The Lure of Chilecon Valley.” October 13, 2012. http://www.economist.com/node/21564589.

Edelman, David. “Roche Acquires Insulin Pump Company Medingo.” Diabetes Daily, April 13, 2010. https://www.diabetesdaily.com/forum/diabetes-news-and-studies/41612-roche-acquires-insulin-pump-company-medingo/.

Evyatar, Ilan. “Israel’s Economy: Reasons to Be Cheerful – and Some for Concern.” *Jerusalem Post*, April 27, 2016. http://www.jpost.com/Opinion/Israels-economy-Reasons-to-be-cheerful-and-some-for-concern-452550.

Fleurant, Aude, Sam Perlo-Freeman, Pieter Wezeman, Siemon Wezeman, and Noel Kelly. “The SIPRI Top 100 Arms-Producing and Military Services Companies, 2015.” *SIPRI*, December 2016, 8.

France Diplomatie. “France and Israel.” Ministry for Europe and Foreign Affairs. Accessed February 24, 2018. https://www.diplomatie.gouv.fr/en/country-files/israel-palestinian-territories/israel/france-and-israel/.

Gale, Thomas. “Teva Pharmaceutical Industries, Ltd.” International Directory of Company Histories, 2006. https://www.encyclopedia.com/social-sciences-and-law/economics-business-and-labor/businesses-and-occupations/teva-pharmaceutical-industries-ltd.

Ginsburg, Ami. “Jemtex Soars on Space-Age Print Technology.” *Haaretz*. March 6, 2002. https://www.haaretz.com/1.5236181.

Global Fire Power. “2017 Military Strength Ranking.” Accessed March 8, 2018. https://www.globalfirepower.com/countries-listing.asp.

Grimland, Guy. “Microsoft in Talks to Acquire Local Startup 3DV Systems.” *Haaretz*, February 17, 2009. https://www.haaretz.com/1.5076799.

Haberman, Clyde. “Mitterrand’s Sojourn in Israel Goes Well, But . . .” *New York Times*, November 27, 1992. http://www.nytimes.com/1992/11/27/world/mitterrand-s-sojourn-in-israel-goes-well-but.html.

Halevi, Nadav. “A Brief Economic History of Modern Israel.” Economic History Association, October 25, 2017. https://eh.net/encyclopedia/a-brief-economic-history-of-modern-israel/.

Halevi, Nadav, and Ruth Klinov-Malul. *The Economic Development of Israel*. New York, NY: Frederick A. Praeger, 1968.

Hammond, Jeremy. “The Myth of the U.N. Creation of Israel.” *Foreign Policy Journal*, October 26, 2010. https://www.foreignpolicyjournal.com/2010/10/26/the-myth-of-the-u-n-creation-of-israel/.

Heimann, Gadi. “A Case of Diplomatic Symbiosis: France, Israel and the Former French Colonies in Africa, 1958–62.” *Journal of Contemporary History* 51, no. 1 (January 1, 2016): 145–64. https://doi.org/10.1177/0022009415596059.

History Channel. “Yom Kippur War.” 2009. http://www.history.com/topics/yom-kippur-war.

———. “The Yom Kippur War Brings United States and USSR to Brink of Conflict - Oct 06, 1973.” 2009. http://www.history.com/this-day-in-history/the-yom-kippur-war-brings-united-states-and-ussr-to-brink-of-conflict.

Ingel, David. “Prospects for Closer Israeli-NATO Cooperation.” Naval Postgraduate School, 2015.

Institute, Baker. “The Cycle, Not Automation, Is Keeping Oil & Gas Hiring Down.” Forbes. Accessed November 25, 2017. https://www.forbes.com/sites/thebakersinstitute/2017/05/10/the-cycle-not-automation-is-keeping-oil-gas-hiring-down/.

Israel Central Bureau of Statistics. “Immigrant Population from the Former USSR, 1990–2001.” November 2006. http://www.cbs.gov.il/www/publications/migration_ussr01/migration_ussr_e.htm.

———. “Israel Visitor Arrivals, by Country of Citizenship.” October 9, 2015. http://www.cbs.gov.il/shnaton66/st23_05.pdf.

Javelin Tech. “PolyJet Technology Used for 3D Printing on a Stratasys Objet Machine.” Accessed September 24, 2018. http://www.javelin-tech.com/3d-printer/materials/polyjet-photopolymer/stratasys-polyjet-technology/.

Jewish Virtual Library. Jewish Virtual Library. “France Virtual Jewish History Tour.” Accessed February 24, 2018. http://www.jewishvirtuallibrary.org/france-virtual-jewish-history-tour.

———. “Intel & Israel.” 2018. https://www.jewishvirtuallibrary.org/intel-and-israel.

———. “Israel Studies an Anthology: The Yishuv.” Accessed February 22, 2018. http://www.jewishvirtuallibrary.org/israel-studies-an-anthology-the-yishuv.

———. “The Jewish Community Under the Palestine Mandate.” Accessed February 22, 2018. http://www.jewishvirtuallibrary.org/the-jewish-community-under-the-palestine-mandate.

———. “Jewish Immigration to Palestine (1919-1941).” Accessed November 18, 2017. http://www.jewishvirtuallibrary.org/jewish-immigrantion-to-palestine-1919-1941.

———. “Jewish National Fund (JNF).” Accessed February 22, 2018. http://www.jewishvirtuallibrary.org/jewish-national-fund-jnf.

———. “Jewish & Non-Jewish Population of Israel/Palestine (1517-Present).” Accessed February 21, 2018. http://www.jewishvirtuallibrary.org/jewish-and-non-jewish-population-of-israel-palestine-1517-present.

———. “Oil & Natural Gas in Israel.” Accessed November 25, 2017. http://www.jewishvirtuallibrary.org/oil-and-natural-gas-in-israel.

———. “Revisionist Zionism.” Accessed February 22, 2018. http://www.jewishvirtuallibrary.org/revisionist-zionism.

———. “The Rise & Fall of Israeli Inflation.” Accessed November 17, 2017. http://www.jewishvirtuallibrary.org/the-rise-and-fall-of-israeli-inflation.

———. “Total Immigration to Israel, by Continent per Year.” Accessed February 21, 2018. http://www.jewishvirtuallibrary.org/total-immigration-to-israel-by-continent-per-year.

Justman, Moshe. “Structural Change and the Emergence of Israel’s High-Tech Sector.” In *The Israeli Economy, 1985--1998: From Government Intervention to Market Economics*, by Avi Ben-Bassat. The MIT Press, 2002.

Kantor, Sarah. “Aliyah Benefits for Olim Chadashim.” Nefesh B’Nefesh, June 11, 2017. http://www.nbn.org.il/aliyahpedia/government-services/aliyah-benefits-olim-chadashim/.

———. “Rental Assistance for Aliyah.” *Nefesh B’Nefesh*, September 8, 2014. http://www.nbn.org.il/aliyahpedia/government-services/government-benefits-new-immigrants-oleh-chadash/rental-assistance/.

Katz, Yaakov, and Amir Bohbot. *The Weapon Wizards: How Israel Became a High-Tech Military Superpower*. New York: St. Martin’s Press, 2017.

Khanna, Tarun, Krishna G. Palepu, and Claudine Madras. “Teva Pharmaceutical Industries, Ltd.” *Harvard Business School*, September 19, 2007. https://hbsp.harvard.edu/product/707441-PDF-ENG?R=707441-PDF-ENG&conversationId=36071&E=46281.

Los Angeles Times. “Alfred Frauenknecht; Convicted of Selling Jet Secrets to Israel.” January 19, 1991. http://articles.latimes.com/1991-01-19/news/mn-255_1_alfred-frauenknecht.

Margalit, Avishai. “Palestine: How Bad, & Good, Was British Rule?” *The New York Review of Books*, February 7, 2013. http://www.nybooks.com/articles/2013/02/07/palestine-how-bad-and-good-was-british-rule/.

Mark, Clyde R. *Israel: U.S. Foreign Assistance*. Congressional Research Service, Library of Congress, 2001.

Martin, Will. “The 16 Countries with the World’s Best Healthcare Systems.” Business Insider, January 13, 2017. http://nordic.businessinsider.com/the-16-countries-with-the-worlds-best-healthcare-systems-2017-1/.

McCarthy, Donald J. *The Sword of David: The Israeli Air Force at War*. Skyhorse Publishing, Inc., 2014.

McManners, Hugh. *Ultimate Special Forces*. New York, NY: DK Publishing, 2003.

Metz, Helen C., ed. *Israel, a Country Study*. 3 edition. United States Government Printing, 1990.

Metzer, Jacob. *The Divided Economy of Mandatory Palestine*. Cambridge University Press, 2002.

Michaely, Michael. *Foreign Trade Regimes and Economic Development: Israel*. New York: Columbia University Press, 1975.

Moss, Ilan. "Start-Up Nation: An Innovation Story." *OECD Observer* Q2, no. 285 (2011). http://oecdobserver.org/news/fullstory.php/aid/3546/Start-up_nation:_An_innovation_story.html.

Multpl. "Oman Military Spending." December 2016. http://www.multpl.com/oman-military-spending.

Nefesh B'Nefesh. "Learning Hebrew & Ulpan in Israel." Accessed November 24, 2017. http://www.nbn.org.il/aliyahpedia-home/learning-hebrew-ulpan/.

Pamuk, Sevket. "Estimating Economic Growth in the Middle East since 1820." *The Journal of Economic History* 66, no. 3 (September 2006): 809–28.

Patrick, Stewart M. "Why Natural Resources Are a Curse on Developing Countries and How to Fix It." *The Atlantic*, April 30, 2012. https://www.theatlantic.com/international/archive/2012/04/why-natural-resources-are-a-curse-on-developing-countries-and-how-to-fix-it/256508/.

Pike, John. "Merkava Mk3/Mk4 Tank." Global Security, November 1, 2016. https://www.globalsecurity.org/military/world/israel/merkava.htm.

Plessix, Caroline du. "The European Union and Israel. A Lasting and Ambiguous 'Special' Relationship." *Bulletin Du Centre de Recherche Français à Jérusalem*, no. 22 (December 31, 2011). http://journals.openedition.org/bcrfj/6675.

Plessner, Yakir. *The Political Economy of Israel: From Ideology to Stagnation*. Albany: State University of New York Press, 1993.

Rafael Development Corporation. "Applying Defense Tech to the Business of Advancement." September 1, 2018. http://rdc.co.il/.

Razin, Assaf. *Israel and the World Economy: The Power of Globalization*. 1 edition. Cambridge, MA: The MIT Press, 2018.

Razin, Assaf, and Efraim Sadka. *The Economy of Modern Israel: Malaise and Promise*. 1 edition. Chicago: University of Chicago Press, 1993.

"RealTimeImage, Inc." Bloomberg, 2018. https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=97422.

ReformJudaism.org. “History of Jewish Immigration to Israel (Aliyah).” December 14, 2012. https://reformjudaism.org/history-jewish-immigration-israel-aliyah.

Rivlin, Paul. “The Israeli Economy.” In *Handbook of Emerging Economies*, edited by Robert E. Looney, 1 edition., 187–202. New York: Routledge, 2014.

———. *The Israeli Economy from the Foundation of the State through the 21st Century*. Cambridge; New York: Cambridge University Press, 2010.

———. “Stabilization and Liberalization in the Israeli Economy.” In *Handbook of Research on Comparative Economic Development Perspectives on Europe and the MENA Region*, by M. Mustafa Erdodu, 524–40. edited by Bryan Christiansen, 1 edition. Hershey: IGI Global, 2016.

Rosenberg, David. *Israel’s Technology Economy: Origins and Impact*. 1st ed. 2018 edition. New York, NY: Palgrave Macmillan, 2018.

Rousseau, Daphne. “German-Israel Relationship: No Longer so Special?” *The Times of Israel*. February 28, 2018. http://www.timesofisrael.com/german-israel-relationship-no-longer-so-special/.

Said, Radwa. “UAE Economic Diversification Record | TRENDS.” TRENDS Research and Advisory, June 14, 2016. http://trendsinstitution.org/uae-economic-diversification-record/.

Scholastic. “Chile.” Accessed October 15, 2018. http://www.scholastic.com/teachers/articles/teaching-content/chile/.

Schwab, Klaus, ed. *The Global Competitiveness Report 2017–2018*. Geneva, Switzerland: World Economic Forum, 2017. https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018/.

Schwartz, Amy. “Inside the Germany/Israel Relationship.” *Moment Magazine*, June 10, 2014. http://www.momentmag.com/inside-germanyisrael-relationship/.

Senor, Dan, and Saul Singer. *Start-up Nation: The Story of Israel’s Economic Miracle*. Reprint edition. Twelve, 2011.

Serr, Marcel. “Bilateral Arms Cooperation: The Roots of German–Israeli Relations.” *Israel Journal of Foreign Affairs* 9, no. 2 (May 4, 2015): 213–25. https://doi.org/10.1080/23739770.2015.1043612.

Shaffir, Israel. “The Effects of the Immigration of Soviet Jews to Israel on Israel’s Economy and Human Resources.” Naval Postgraduate School, 1993.

Shalev, Michael. “The Contradictions of Economic Reform in Israel.” *Middle East Report*, no. 207 (1998): 30–41. https://doi.org/10.2307/3013166.

Shamah, David. “How Intel Came to Be Israel’s Best Tech Friend.” The Times of Israel, April 23, 2005. http://www.timesofisrael.com/how-intel-came-to-be-israels-best-tech-friend/.

Simoes, Alexander. “Chile Exports, Imports, and Trade Partners.” Observatory of Economic Complexity, 2016. https://atlas.media.mit.edu/en/profile/country/chl/.

———. “Israel Exports, Imports, and Trade Partners.” Observatory of Economic Complexity, 2016. https://atlas.media.mit.edu/en/profile/country/isr/.

———. “Products That Germany Exports to Israel (2016).” The Observatory of Economic Complexity, 2016. http://atlas.media.mit.edu/en/visualize/tree_map/sitc/export/deu/isr/show/2016/.

———. “Products That Germany Imports from Israel (1985).” The Observatory of Economic Complexity, 2016. http://atlas.media.mit.edu/en/visualize/tree_map/sitc/import/deu/isr/show/1985/.

Smith, Norman. *World Military Expenditures and Arms Transfers 1966 - 1975*. Washington, DC: U.S. Arms Control and Disarmament Agency, 1976.

Statista. “Most Valuable Companies in the World 2018.” Accessed September 24, 2018. https://www.statista.com/statistics/263264/top-companies-in-the-world-by-market-value/.

Steiner, Tommy. “NATO-Israel Relations: The Level of Ambition.” Italian Atlantic Committee, 2014. http://www.comitatoatlantico.it/?studi=nato-israel-relations-the-level-of-ambition.

Telegraph. “Lebanon: A Brief History,” February 24, 2003. http://www.telegraph.co.uk/news/1400004/Lebanon-A-brief-history.html.

TheMarker.com. “Scitex Invests $5 Million in Textile Inkjet Printing Developer Jemtex.” The Street, January 16, 2001. https://www.thestreet.com/story/1256969/1/scitex-invests-5-million-in-textile-inkjet-printing-developer-jemtex.html.

Tradingeconomics.com. “Israel Inflation Rate | 1952–2017.” Accessed November 17, 2017. tradingeconomics.com/israel/inflation-cpi.

———. “Israel Military Expenditure | 1952–2017.” Accessed November 16, 2017. tradingeconomics.com/israel/military-expenditure.

United States Department of State. “Creation of Israel, 1948.” Accessed February 23, 2018. https://history.state.gov/milestones/1945-1952/creation-israel.

United States Holocaust Memorial Museum. “Antisemitism in History: World War I.” Accessed February 21, 2018. https://www.ushmm.org/wlc/en/article.php?ModuleId=10007166.

Walker, Joseph. “PillCam Maker Given Imaging to Be Bought by Covidien.” *Wall Street Journal*, December 9, 2013, sec. Business. https://www.wsj.com/articles/pillcam-maker-given-imaging-to-be-bought-by-covidien-1386548190.

Weissmann, Jordan. “It’s Not (Just) the Culture, Stupid: 4 Reasons Why Israel’s Economy Is So Strong.” *The Atlantic*, August 2, 2012. https://www.theatlantic.com/business/archive/2012/08/its-not-just-the-culture-stupid-4-reasons-why-israels-economy-is-so-strong/260610/.

Woodley, Thomas. “Jewish Immigration to Historical Palestine.” CJPME - English. Accessed February 21, 2018. http://www.cjpme.org/fs_181.

Woolf, Laura. *Computer and Hi-Tech Professionals*. 6th Edition. Jerusalem, Israel: Ministry of Aliyah and Immigrant Absorption, 2015.

———, ed. *Guide to Ulpan Study*. 9th Edition. Jerusalem, Israel: Ministry of Aliyah and Immigrant Absorption, 2015.

World Bank. “GDP Ranking.” April 17, 2017. https://data.worldbank.org/data-catalog/GDP-ranking-table.

———. “Israeli Military Expenditure (percent of GDP).” Accessed November 16, 2017. https://data.worldbank.org/indicator/MS.MIL.XPND.GD.ZS?end=2016&locations=IL&start=1960&view=chart.

Yost, David. *NATO and International Organizations*. Rome, Italy: NATO Defense College, 2007.

Zakaria, Fareed. “A Brief History of Human Liberty.” In *The Future of Freedom*. New York, NY: W. W. Norton, 2003.

———. “The Rise of Illiberal Democracy.” *Foreign Affairs*, November 1, 1997. https://www.foreignaffairs.com/articles/1997-11-01/rise-illiberal-democracy.

THIS PAGE INTENTIONALLY LEFT BLANK

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
   Ft. Belvoir, Virginia

2. Dudley Knox Library
   Naval Postgraduate School
   Monterey, California