



# **The Impact of High-Tech on the Global Economy in General and the Israeli Economy in Particular: The perspective of Public Sector Employees**

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## **Abstract**

*The impact of high technology on the world economy in general and the Israeli economy, in particular, is discussed in this paper from the perspective of those working in the public sector. Israel is a powerful, safe, autonomous, and self-sufficient state today. It is a developed, modern nation well-positioned to participate in the new global economy (Freilich, 2018).*

*The study investigates the effects of high technology on the world economy in general and the Israeli economy in particular from the viewpoint of those working in the public sector. This study uses the perspective of public sector employees to examine the impact of high tech on the world economy in general and the Israeli economy in particular. It organizes and synthesizes this information, and via analysis, it creates a helpful model that details the effects of high technology on the Israeli economy (Qureshi, 2020). We designed a multi-stage study with several interviews to build a model, a pilot study to evaluate and improve it, and a final survey. According to the study, the difference widens as a nation's reliance on technology in its democratic and economic institutions increases (Charles, Xia, & Courts, 2022). Israel is the ideal illustration of this paradox because it is a high-tech country leading the way regarding world media changes. Technology is widely used, and Israelis are among the top new media users. Israeli society has extensive ties to international affairs, and global media regularly reports political developments. However, Israel's society is characterized by a lack of social cohesiveness and vast inequities, which penalize specific segments of the population and jeopardize the durability of these positive outcomes over the long run (Williams, 2018).*

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**Keywords:** High-Tech, Global Economy, Israeli Economy, Public Sector, Technology

## Introduction

Academics have defined high-tech in various ways. However, finding the ideal description that considers every facet of this complex subject is challenging. According to a general definition, high-tech is made up of two main parts: the physical part, which includes things like goods, tools, equipment, plans, techniques, and processes, and the informational part, which provides expertise in management, marketing, production, quality control, dependability, skilled labor, and functional areas (Schwab, 2018). Technology and human life cannot be separated, and society has a cyclical co-dependence on technology. However, most of today's technology coverage is centered on whether technological improvements are beneficial or bad for the world we live in today (Anderson & Rainie, 2019). In the 2016 Forum, where the central theme was the disruptive nature of high-tech, Klaus Schwab, the founder and executive chairman of the World Economic Forum in Davos, Switzerland, stated: "We must develop a comprehensive and universally shared view of the impact of high-tech on the economic sector in Israel, and particularly public sector employees. Never before has there been a time of greater danger or potential (Affairs, 2020).

The implications of high-tech progress are causing profound changes in how businesses and governments plan their production, conduct trade, invest in capital, and create new commodities and procedures (Nickie, Frimpong, & Sun, 2019). There is no denying that the information era revolutionized how we communicate and receive information when considering the effects of high technology on the Israeli economy and the public sector (Kartz, 2019). High technology largely influences globalization on a cultural, political, and economic level (Anderson & Rainie, 2019). It has evolved into a crucial tool for advancing each nation's economy, politics, armed forces, and educational systems.

According to Alsebai, Liu, & Nie (2022), technology innovation is a significant driver of economic expansion and higher labor productivity. The high-tech sector drives the Israeli economy, which also acts as a foundation for the entire country's economic transformation to the digital age. According to the Report on the Status of Innovation in

Israel for 20221, the high-tech sector contributes 43% of Israel's exports and 15% of its GDP.

The method that has considerably increased the Israeli economy includes innovation. In Israel, non-technology innovations have been subjected to rapid expansion as part of a strategic push, resulting in a radical shift from non-technology devices to technologically oriented innovations and gadgets (Springer, 2020). Since then, numerous innovation authorities in Israel have established technological businesses on a significant scale, all with the common objective of digitizing production processes through new technology (Smeets, 2021).

Compared to government support, private investment platforms have also accelerated technical innovation. In contrast to other nations, Israel's private market, which consists of investors drawn to the worldwide market for technology goods, provides money for technological innovation (UNCTAD, 2018). As a result, the high-tech industry has matured tremendously, increasing consumer demand for technology goods. On the other hand, Israel now finds itself in a precarious position where it must contend with tough competition from other rapidly developing technical nations like China and Ukraine (Barett, Hansen, Natal, & Noureldin, 2021).

The technology sector's explosive expansion has drawn creative individuals from all over the world to participate in the overall marketing process, including everything from manufacture to distribution. According to records, three hundred and six thousand employees earned money from high-tech industries in total in 2021 (Henry-Neckie, Frimpong, & Sun, 2019). This shows a sharper growth curve, particularly since the number almost hit 500,000 the following year. Nevertheless, the high-tech industry held close to 7.17% of this share when comparing cross-sectoral job availability in the same year. Comparatively, the other economies only succeeded in increasing employment by 4.61%. Similarly, statistics reveal that China's high-tech businesses are among the top employers, drawing people worldwide to participate in profitable and flourishing business (Clift & Court, 2020). Before 2030, it is predicted that China's high-tech sector will be worth several billion dollars, with its effects patentable everywhere in the world (FAO, 2021).

The high-tech sector has a well-preserved labor pool, which has increased production and growth. According to CBS data (2021), young people make up most of those who enroll in Israel's high-tech business (Shakir, 2021). The primary driver of overall growth in employment in this sector has been recruiting more young individuals. Enrolment has been essential in advancing non-tech enterprises and encouraging the adoption of a manufacturing and production process that is technologically focused. According to technological studies conducted in Israel, between 2012 and 2021, over 40,000 of the 166 employees enrolled in the technology industry were accommodated in non-tech fields.

This study uses the perspective of public sector employees to examine the impact of high tech on the world economy in general and the Israeli economy in particular. It organizes and synthesizes this information, and via analysis, it creates a helpful model that details the effects of high technology on the Israeli economy (Qureshi, 2020). We designed a multi-stage study with several interviews to build a model, a pilot study to evaluate and improve it, and a final survey. This study's design offers factual information regarding the effect of high technology on the world economy in Israel. The first section of the article examines the contribution of high-tech businesses to global and Israeli economic growth.

### **The role of high tech in economic growth**

A broad definition of a high-tech firm is one whose economic activities are mainly dependent upon innovation in science and technology. However, the purpose of high-technology sectors has been controversial (Kavanagh, 2019). According to Gurbuz (2018), high-tech businesses are dynamic, invest more heavily in R&D activities than the national average, employ a higher percentage of engineers and scientists among their staff, offer innovative and technologically advanced products, and have short product development cycles. Consequently, these viewpoints suggest that emerging high-technology enterprises will play a crucial role. According to (Nations, 2019), Israel's high-tech sector is distinguished by a high added value for the goods it produces and a high rate of output per employee, more than twice the average for other industrial sectors. According to Kartz

(2019), Israeli high-tech has a promising future. Kartz asserts that the future of this business will continue to shape the direction of Israel's economic growth in the years to come.

The high-tech sector has grown steadily over the past 20 years and now accounts for 15% of the Israeli economy's GDP, making it a significant sector. Exports of goods and services from the high-tech industry comprised 52% of all Israeli exports in 2020 and totaled nearly \$57 billion, an increase of 10% from the previous year. Israel prioritizes technology solutions over mass production for the consumer market; as a result, most of its \$37 billion exports are IT services (including system solutions, software, and mobile applications) (a doubling in value from 2014). In 2020, \$21 billion in high-tech exports comprised 45% of total industrial exports (Clift & Court, 2020).

However, a study of current technological trends shows that the Israeli economy will be protected amid processes expected to shake up established markets. First, Israel is becoming less important as a small island economy and more like any other global village subject to intense competition due to the quick digitalization and automation of goods and services. Any good or service converted to digital form, including books, newspapers, and even some financial services, is now available for purchase and use anywhere (Alice, 2018).

Second, the business models used to supply tangible consumer goods are radically changing and will continue to do so. Examples include streamlining logistical systems, distribution by drones or autonomous vehicles, and using 3D printing at home for manufacturing goods. The challenge provided by online, foreign companies selling cheap products and minimal delivery costs have caused long-established Israeli stores to succumb just in the past year (Bradley, Durufle, Hellmann, & Wilson, 2019).

Thirdly, the usage guidelines for cutting-edge technologies are evolving as they become more prevalent in highly regulated, "local" industries like finance and transportation. Innovative, quick-moving businesses are quickly emerging as global competitors for banks, credit card firms, and public transportation providers. Ultimately, stopping them from infiltrating local Israeli operations will be difficult and unpleasant (Minaev, 2022)

## Literature Review

Several scholars have discussed the tremendous changes that have recently occurred in the Israeli economy (OECD, 2020); Israeli Ministry of finance-International Division, 2019; Israeli Ministry of Finance - Economic and Research Department, 2018).

Israel is a shining illustration of how technology has taken over society. Israel is considered a developed country in terms of technology. However, it lags behind many other nations regarding important social and policy issues, which this research calls the “digital gap.” The country’s development results from the digital revolution and significant socio-cultural and economic changes.

Israel is an exciting example among industrialized nations because of a significant level of inequality on many fronts (Nations, 2019). Due to the country’s ethnic, national, religious, and political divisions, exceptional circumstances produce effects of elements like gender, class, region, age, and education that are highly contextualized. Israel has one of the highest rates of economic inequality in the Western world, along with a high percentage of poverty and income disparity between classes (OECD, 2020). In terms of inequality among wealthy countries, Israel is only second to the United States, according to an OECD analysis (OECD, 2020). According to a different OECD study that looked at income inequality and the difference between the wealthy and poorer portions of society in member states, Israel is placed first with the highest percentage of people living below the poverty line. Also third in terms of income inequality (OECD, 2020).

Based on Israeli experience, the central topic of this study is the impact of high tech on the global economy in general and the Israeli economy in particular: the perspective of public sector employees. To do this, the study examines how technological growth has impacted Israel’s transformation into a “Startup Country” (Alice, 2018), which has the second-highest number of startup businesses in the world behind the United States (Minaev, 2022). The nation is the global leader in high-tech (Wilkinson, 2018). It is a prominent hub for startups, business owners, investors, venture capitalists, angel investors,

developers, researchers, and recruiters. It also leads the world in terms of how much the economy is spent on R&D (Kavanagh, 2019). Israel has the most companies listed on the NASDAQ stock exchange after the US and China (Williams, 2018). Israel is the third-most creative economy in the World Economic Forum's ranking, and roughly 20% of all private investments in cyber security go to its startups (Bradley, Durufle, Hellmann, & Wilson, 2019).

A developed nation's stable economy is another important aspect, along with technological advancement and international competitiveness, and the Israeli economy has improved due to technological development. Israel's technological edge has boosted its economy, which has expanded more quickly than most other sophisticated economies. Israel is ahead of the global race because its high-tech advancement has been founded on innovative leadership (OECD, 2020). The country's technology industry is very advanced. It generates more new businesses than powerful, stable countries like Japan, China, India, Korea, Canada, and the UK. It has the most significant concentration of tech startups in the world, and they draw more venture money per capita than any other nation—2.5 times as much as in the United States, 30 times that in Europe, 80 times that in India, and 300 times that in China (Glasner, 2021). The research divisions of foreign multinational corporations invest a sizable amount of venture capital in the Israeli economy, making Israel's venture capital sector one of the most significant outside of the United States (Uno & Glanz, 2022).

The tremendous changes in how economies and nations are run due to innovation have led to new goods and more effective production techniques, demonstrating the connections between innovative concepts and the institutional framework required to implement them (UNCTAD, 2021). The Israeli government deliberately decided to advance technology by providing financial support for commercial R&D because innovation is crucial to productivity, economic growth, and development (Barett, Hansen, Natal, & Noureldin, 2021). Innovation is by far the most valuable resource for the State of Israel, acting as a national asset essential to economic development. Enhancing the innovation ecosystem would further promote and encourage technical innovation in Israel, according to the Israel Innovation Authority (2018). This demonstrates the influence of technology on the economy and society, which is evident in Israel, as nations have grown

more significant in a world of expanding global competition since national prosperity is created, not inherited (Gurbuz, 2018).

The technical leadership of Israel highlights the significance of technological development in the global economy and how technology may improve nations and economies. According to the Israel Innovation Authority, keeping Israel at the forefront of global innovation will boost the country's economy through technological advancement. This is because Israel has a thriving entrepreneurial culture, a solid technical foundation, and a highly skilled labor force, enabling it to expand through innovation. This outstanding success results from the high-tech industry's supremacy, which accounts for 46% of Israeli exports and is the nation's primary growth engine (UNCTAD, 2021).

Israel's high-tech boom was caused by a mix of structural reforms and significant expenditures in R & D (Rosenbaum, 2018), and its technological leadership is based on global competitiveness. According to the UN's Human Development Index, it is placed among the top 20 countries in the world, putting it in the "Very Well Developed" category. According to the OECD's 2018 Economic Surveys, the economy continues to exhibit outstanding macroeconomic and fiscal performance thanks to technology. Both growth and unemployment are high. The governmental debt-to-GDP ratio is comfortably below the OECD average and is still decreasing. The external surplus is also comfortable. According to Karnit Flug, a former governor of the Bank of Israel, the nation is a model for startups and a global leader in spending on research & development as a percentage of GDP. Its technological sector is very advanced, and among OECD nations, it has the highest proportion of early-stage and seed venture capital funding in GDP (Kartz, 2019).

The study investigates the impact of high tech on the global economy in general and the Israeli economy in particular: the perspective of public sector employees. The progression was slow yet steady. Israel has had an exceptional economic turnaround in the previous three decades regarding its nature and scale. The nation transitioned from an industrial to a high-tech civilization, and international businesses set up shops in Israel, expanding the economy and forging a powerful and influential nation (UNCTAD, 2021). Israel has undergone a substantial transformation in recent years from a long-established and monopolistic system to a more advanced, innovative, and international approach



(Kartz, 2019), going through an exceptional economic turnaround in both its nature and breadth (Minaev, 2022). The transition from a closed, centralized economy with a sizable state sector and onerous taxation to an open, competitive economy that draws foreign investment and participates in international financial markets marked the beginning of the change (Minaev, 2022).

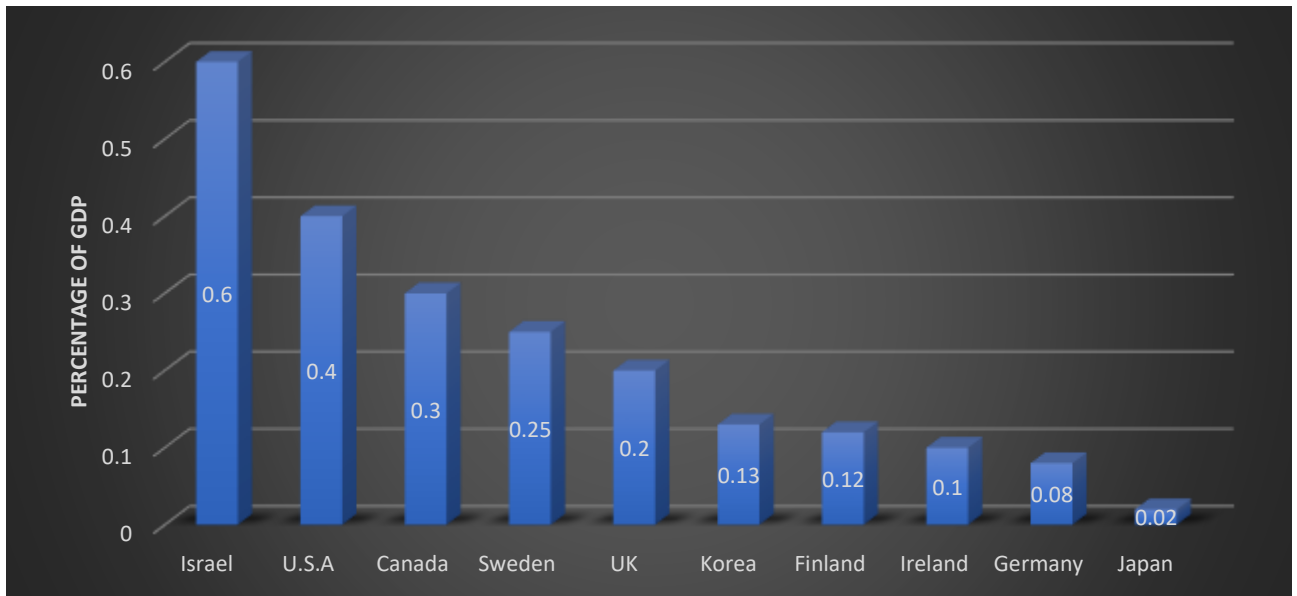
Economic Report of Israel (2018) claims that over the previous 15 years, the Israeli economy has risen more quickly and steadily than almost any other in the OECD. The Israeli economy is experiencing its 15th year of continuous expansion thanks to technological advancement, comparable to the high-tech boom (Ackerman, 2018). Israel can focus on growing internationally now because it works in a global market and is a worldwide leader in technology and scientific research (Barett, Hansen, Natal, & Noureldin, 2021). Israel has the 25th-strongest economy in the world, according to the World Economic Forum's 2018 report. The Bloomberg Innovation Index, an annual assessment of nations that evaluates performance in research and development, tech education, patents, and other indicators of technological prowess, placed it fifth among the most innovative countries in 2015, ahead of the US and the UK (Gurbuz, 2018). Israel was rated 10th in both 2017 and 2018. (Jamrisko & Lu, 2018). Israel is an industrialized nation, with the majority of its manufacturing—including several traditional fields—based on extensive and sophisticated research & development and high-tech, according to the Ministry of Foreign Affairs (2018). Technology is driving the economy, and hi-tech industries are experiencing the most substantial growth rates, averaging 8% yearly, with about 80% of hi-tech items being exported. Thanks to technology's dominance, Israel is leading globally; it receives 15% of worldwide venture capital investments in cyber security. According to the U.N., Israel's R&D is among the top 10 in the world for quality. Regarding the human development index (HDI), which the UN uses to gauge a nation's development, Israel scored 0.899 points in 2015, placing it in 19th place among the 188 countries listed.

Israel's prominent position in the world demonstrates the dominance of technology and how crucial it is to the economy's growth. Israel used economic planning to enhance economic development and competitiveness on a global scale and to retain it. According

to the OECD (2018), the country’s economy is robust, and income inequality has declined, but there are still financial inequalities and a lack of social cohesion. Israel’s economy is thriving and performing well regarding macroeconomic and fiscal outcomes. However, significant issues still impede the nation’s economic and social progress (Schwab, 2018).

The international comparison of venture capital investment is one of the most glaring signs of the significant impact of high-tech. Figure 1 shows that, at 0.6% of GDP, Israel has the highest rate of VC investments in the high-tech industry globally. Surprisingly, this is 50% greater than the US, three times greater than the UK, and significantly higher than Germany or Japan.

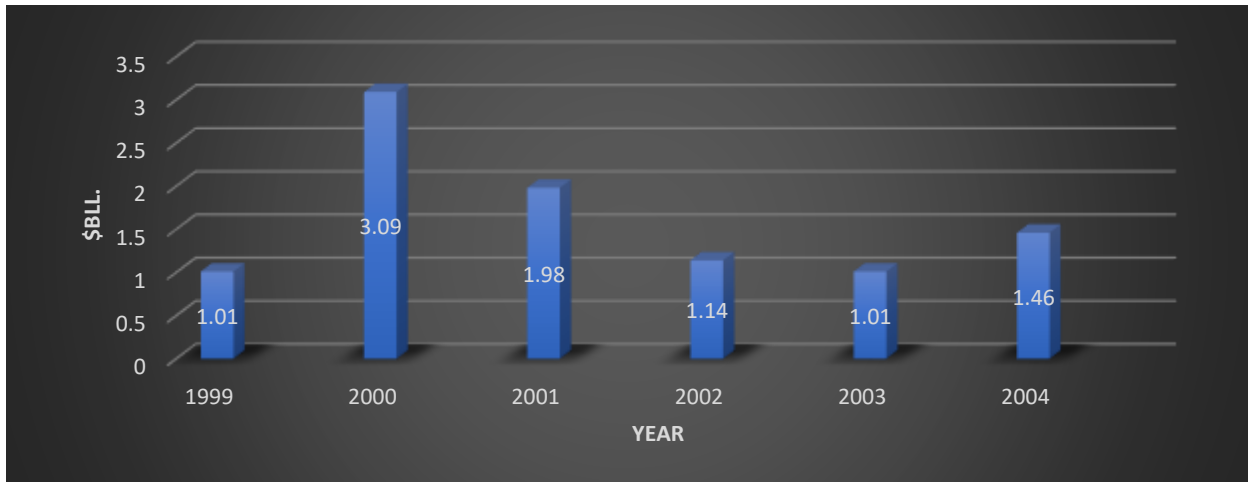
**Source: Using statistics from the Israeli Export Institute**



*Figure 1 shows the international venture capital investment in high-tech from 1999 to 2002 as a percentage of GDP.*

*Source: Based on data from the Israeli Venture Capital (IVC) Research Centre*

Figure 2 shows a possible resurgence of investor confidence and a volume of high-tech investment.



*Figure 2 Capital raised by Israeli high-tech companies, 2000-2004*

*The perspective of the employees.*

*Source: Based on data from the Israeli Venture Capital (IVC) Research Centre*

Technology will change how many occupations are done by public employees. Although most economists agree that new technology will ultimately create more jobs than it will eliminate, many of the jobs that people currently perform will be replaced by automation. The emphasis on tasks is crucial because most jobs involve manual and potentially automatable duties. Therefore, according to an OECD study, 14% of employment across the economy is in great danger of automation (i.e., they might disappear entirely). In comparison, 32% of jobs could have between 50% and 70% of their work mechanized and undergo a significant change (OECD, 2020). More specifically, non-routine tasks carried out with technology are expected to replace routine manual labor.

Governments will decide which jobs in the public sector to automate and which to transform since they are in charge and control the rate of change (Global, 2020). The market forces will not exert the same pressure to automate in the public sector as in the private sector, which is a significant distinction. There will undoubtedly be other pressures, such as citizen expectations, a desire to capitalize on the potential of new technology, and financial limitations. However, the public sector will profit from having time to consider

how and when to deploy automation. With careful planning and job redesign at the organizational level and reskilling and up skilling strategies at the individual level, the successful transformation will depend on these preparations. The objective is to ensure that people are employed in positions of the highest value, made possible by technology, rather than to replace people with robots. To do this, workforce planning and digital transformation must be coordinated, integrated, and inclusive, considering that different groups will be impacted by these changes in various ways (Charles, Xia, & Courts, 2022).

We are currently seeing a global digital revolution affecting every business sphere. The commercial, defense, and government sectors are undergoing digital system adaptation (industrial, financial services, education, health, and military). At the same time, industries like finance, medicine, agriculture, food, and others are through digital world convergence. The digital transformation process in the Israeli economy (both private and public) needs to catch up with the OECD countries. However, the Israeli high-tech sector is among the global leaders because of the accelerating digital revolution and its ever-growing presence in all aspects of our lives (Development, 2021). According to Toner (2021), the need for knowledgeable individuals who can adapt to the rapid changes in the labor market in general and the high-tech industry, in particular, will only increase in the long run.

The public sector's need to rely on high-tech grows more pressing as high-tech in Israel continues to become more sophisticated and linked, the pace of change accelerates, and new futures and opportunities become harder to forecast. The public sector needs to look to new ideas, approaches, and instruments that can aid the government in better responding to present and future challenges as trust in governments declines globally (Springer, 2020). Governments are already utilizing high technology to some extent, but frequently not to the time required to address current and upcoming difficulties (Glasner, 2021).

Israel has long been acknowledged as a high-tech country. The public sector has been crucial in fostering and growing the high-tech sector, and its commercial sector is regarded as one of the most inventive in the world. While innovation is still happening in the public sector today, it frequently needs more ambition and a systemic approach, depending instead on tailored operations that infrequently relate to Israel's intricate societal

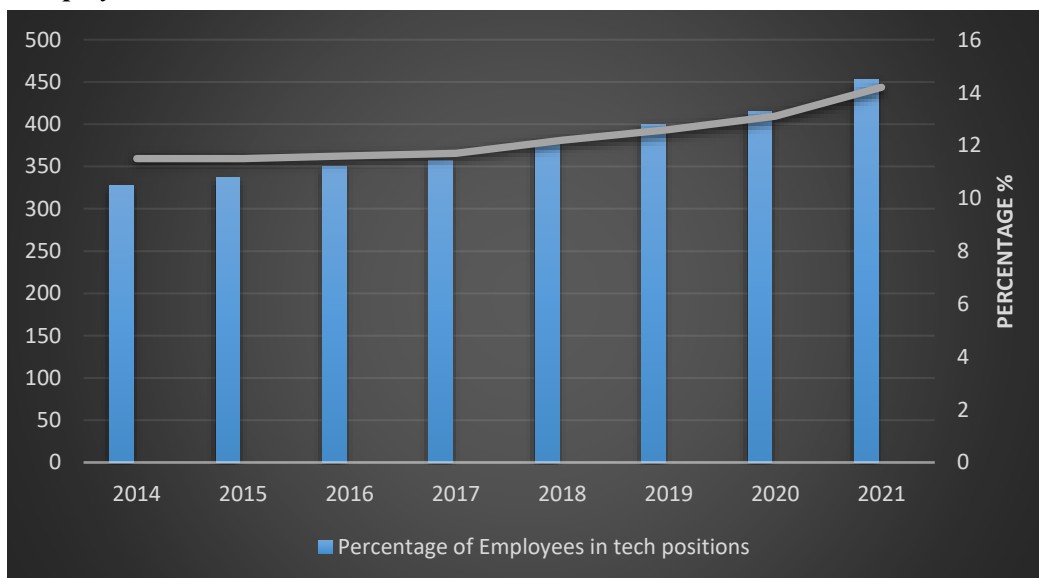
problems. Israel will see unexpected and significant repercussions on the system as it considers issues like inequality, population growth, and other difficulties (Barett, Hansen, Natal, & Noureldin, 2021).

Although the precise impacts of Israel's constantly shifting reality are unknown, the public sector must start considering how well it is positioned to meet the challenges. The public sector must examine the high-tech system to ensure it is prepared to tackle the unknowable and unpredictable. The public sector in Israel already has some benefits (Shakir, 2021). Its budgeting process and involvement with groups from civil society, including JDC Israel, offer intriguing opportunities to attempt new ideas. Israel needs to have the attitudes and systems the public sector needs to address horizontal issues and a systemic strategy to guarantee that employees across the public sector are aware of high tech, how to interact with it, and their place in the high-tech system (Alice, 2018).

### Tech jobs – Key trends

High tech has experienced faster growth rates than other industries as of 2017, resulting in an increase of almost 2% in the proportion of tech workers among all workers throughout this period. In 2021, this proportion will be 14.4% of all salaried workers in the economy (Charles, Xia, & Courts, 2022).

*Number of employees in tech jobs in Israel (in thousands) and their percentage out of total employees, 2014-2021*



## Material and Methods

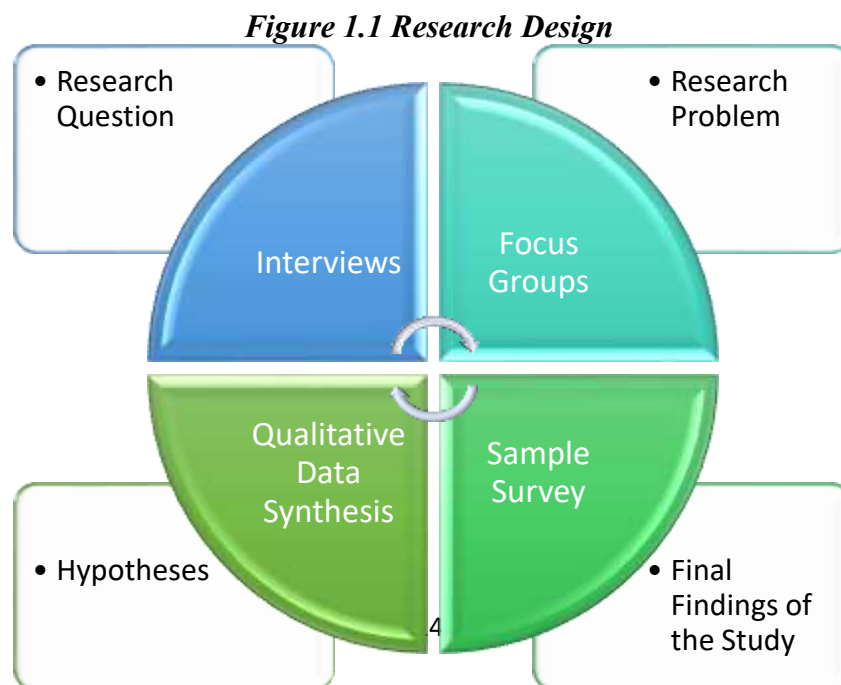
This study was conducted utilizing a mixed-methods approach to research. This qualitative and quantitative study aims to understand better the effects of high technology on the world economy in general, the Israeli economy in particular, and the viewpoint of those working in the public sector. The following are the primary justifications for selecting this particular research technique and design for this study:

First, many academics have suggested that mixed methods research more effectively captures the phenomenon being studied (Creswell & Creswell, 2018).

Second, this research design's structure (qualitative-quantitative) allows for a much deeper understanding of the study problem and circumvents the drawbacks of employing each approach independently (Creswell & Creswell, 2018).

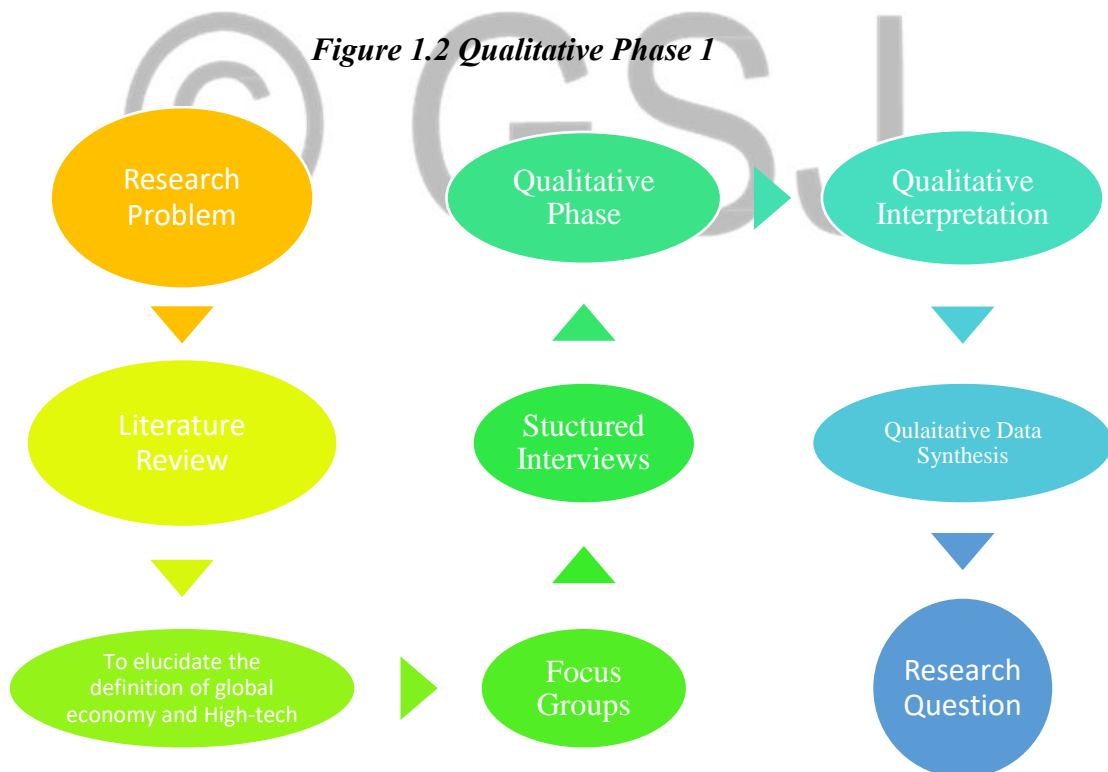
This research approach has numerous benefits, including creating and testing a grounded theory, which is useful when a researcher wishes to investigate a phenomenon or create constructs (Creswell & Creswell, 2018).

The data collection process for each phase of this study requires a substantial amount of time, which can be problematic in some study subjects. Also, the researcher is continually forced to make crucial choices, such as what to focus on during the quantitative phase. The study's research design is shown in the following simplified diagram.



The qualitative portion of the study helps develop theories and create hypotheses and suppositions (Tenny, Brannan, & Brannan, 2022). In this stage, theoretical connections between qualities or themes can be established by content analysis (Tenny, Brannan, & Brannan, 2022). As a result, QUAL1 and QUAL2 were created as the two portions of the Qualitative phase.

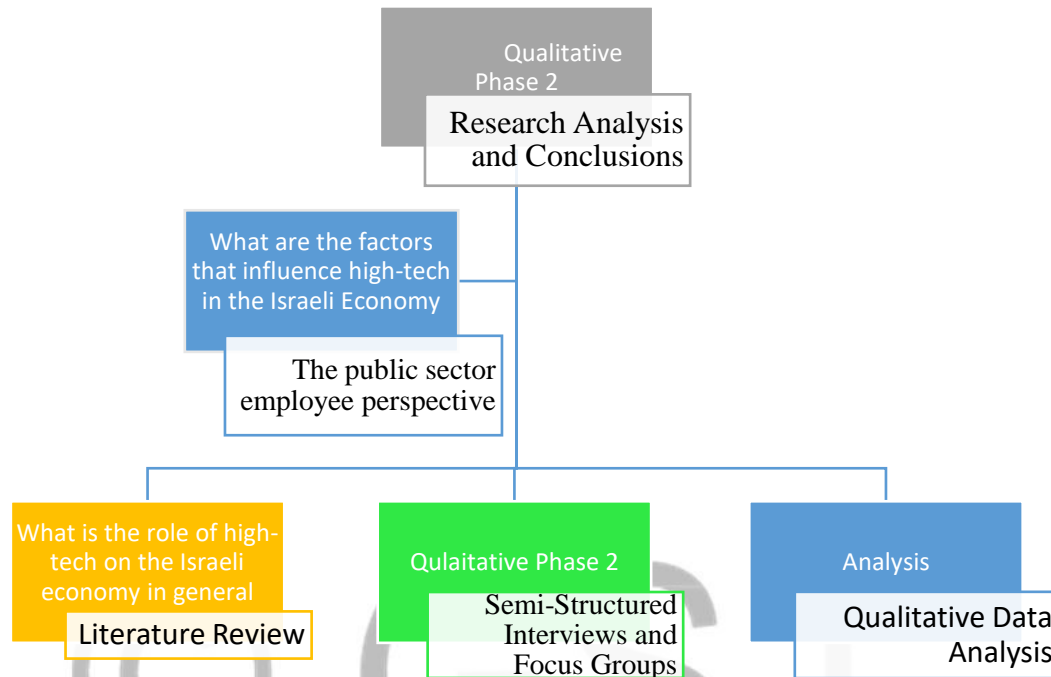
Two in-depth interviews and one focus group form the foundation of QUAL1. The individual was the level of analysis. The main goal of this Phase (QUAL1) was to create a compelling research question based on the knowledge gaps that the literature review and this Phase's findings had highlighted (Development, 2021). In order to cover broader content areas within the issue, four supplementary questions or objectives (QUAL1) were developed in addition to the overarching research question for this Phase. The method is illustrated in the following figure:



The primary goals of the second qualitative phase (QUAL2) were to elaborate on the themes that had emerged and been analyzed during QUAL1 and to improve the theory by addressing a conceptual model that suggests a connection between the constructs and

activates them in order to allow for quantitative testing of the theory. The primary phase stages are visually represented in the following figure:

**Figure 1.3 Qualitative phase 2**



This phase was more narrowly focused than QUAL1, which concentrates on a broader topic area of the phenomena. It was mainly concerned with the topics of opportunity, risk, knowledge, and learning within the chosen sample.

Using a larger sample size during the quantitative phase (QUAN) may generalize the findings from the qualitative phase and use statistical techniques to support the conclusions drawn from qualitative approaches (Creswell & Creswell, 2018). In this stage, the model is statistically tested, and a new look at the QUAL data helps to enhance and facilitate the interpretation of the QUAN findings. Also, the cross-sectional design with data collected simultaneously was used for the research study. This phase's data collection processes included developing a web-based survey and conducting it online.

According to Williams (2018), research on the effectiveness of particular venture success criteria shows mixed findings with few constant ones. Also, studies on the success of new ventures tend to concentrate on analyzing the effects of high-tech on the



international economy in general and the Israeli economy in particular from the perspective of public sector workers at a certain period. To determine the best methodology, we aimed to understand how high-tech and the global economy mix in Israel.

This supported Payne, Keulen, & Mischlewski's (2020) assertion that interviews are the best method when “how” or “why” inquiries are presented in the context of actual situations. The respondents were top startup executives in various industries and company life cycle phases. Also, we spoke with VC and angel investors with stakes in several startups. The goal was to consider the effects of high tech on the world economy in general and the Israeli economy in particular from the viewpoint of those working in the public sector. Data was also gathered by observing senior people actively involved in high-tech startup communities and public sector workers, following up on local media, and participating in high-tech-related professional courses and seminars. Using these numerous observations, our temporary functioning model was built (Barett, Hansen, Natal, & Noureldin, 2021).

After that, we turned the preliminary model into a survey tool. This was used as an initial questionnaire pilot survey during face-to-face interviews with twelve startup professionals and public sector employees. The pilot aimed to improve our instrument, eliminate ambiguity and unclearness, establish reliability, and identify unresolved concerns. The questionnaire was altered to produce the final version after being checked for consistency (Cronbach’s alpha) (Minaev, 2022).

***Focus Group and Interviews by age, industry, gender, and sampling methods***

	Focus Group	Interviews
<b>Number of participants</b>	<b>8</b>	<b>8</b>
<b>Age</b>	<b>30-56</b>	<b>30-45</b>
<b>Industry</b>	<b>High-tech</b>	<b>Public sector Employees</b>
<b>Gender</b>	<b>20 Males</b>	<b>10Males, 20 Females</b>
<b>Length of Interview/Discussion</b>	<b>2hr</b>	<b>1.5 hr. each</b>
<b>Sampling method</b>	<b>Mixed Method</b>	<b>Mixed Method</b>

## Results

The Israeli economy's growth engine is the high-tech industry. The high-tech industry contributes 15% of Israel's GDP and 43% of its exports, according to the Report on the Status of Innovation in Israel 2022. The importance of this industry to the Israeli economy is made even more striking when you consider that in 2021, only 10% of Israel's salaried workforce was employed in the high-tech sector, which nevertheless generated about a quarter of the country's income tax revenue (Anderson & Rainie, 2019). Additionally, the digital revolution has brought profound global changes affecting all economic sectors. Additionally, it is essential to note that the world today is marked by rapid technological changes. Thus some of the jobs existing today were unknown ten years ago, and it is reasonable to assume that a decade from now, new tech jobs will be created that are unknown today (Clift & Court, 2020).

The interviewees are founders or co-founders of various high-tech companies. They represent as broad a range as possible in terms of age, gender, stage of internationalization, speed of internationalization (i.e., the number of years since they started their venture and began engaging in international activity), and sub-category within the industry (for example, high-tech and Public sector employees).

In order to change perspectives and take into account the impact of digitalization, which is reflected in all economic sectors, it was decided that it would be appropriate to expand the current definition of "high-tech employment," which is calculated as the percentage of salaried employees aged 15 and over in the high-tech industry. A reference to those employed in technological jobs throughout the entire economy, in addition to the high-tech sector itself, must be included in the current definition that will serve as the basis for setting targets for imparting the necessary skills for integration into employment in order to increase productivity and innovation in all economic sectors (Shakir, 2021). A worker in a high-tech company that exports technology worldwide is just as crucial to the Israeli economy as a worker in a bank, postal service, government ministry, municipality, Food Company, or any other sector of the economy. The focus of the new definition, which

does not just apply to high-tech sector businesses, is on all technological professionals in the economy according to their qualifications (Affairs, 2020).

High-tech is perceived as having the most significant influence on the Israeli economy and the perception of those working in the public sector. However, the availability of finances was considered connected to the state of the world economy. Most general environment factors were given low priority rankings (Barett, Hansen, Natal, & Noureldin, 2021). However, several respondents pointed out that Israel's military service impacts the young generation's ability. Several skills developed while serving in the military, such as improvisational abilities, were seen to be beneficial in new regimes. Although having among the lowest ranks, Israel's political environment, security condition, political scenario, and parameters may be better than they are. Some respondents observed that new business leaders might need to be aware of or comprehend real-world behavior, mainly when selling to influential international organizations (Affairs, 2020).

Although the data showed some significant factors in Israel, they were rated poorly. For instance, teamwork is considered especially strong in Israel due to the effect of military duty and may offer Israeli startup businesses a unique advantage (Toner, 2021).

## Discussion

The high-tech sector has grown steadily over the past 20 years and now accounts for 15% of the Israeli economy's GDP, making it a significant sector. Exports of goods and services from the high-tech industry comprised 52% of all Israeli exports in 2020 and totaled nearly \$57 billion, an increase of 10% from the previous year. Israel prioritizes technology solutions over mass production for the consumer market; as a result, most of its \$37 billion exports are IT services (including system solutions, software, and mobile applications) (a doubling in value from 2014). In 2020, \$21 billion in high-tech exports comprised 45% of total industrial exports.

The COVID-19 epidemic and the resulting increased demand for digital goods and services also enhanced the high-tech industry's turnover, and for the first time, services exports overtook goods exports. A little over 50% more persons (334,600) were working

in the sector in 2020 than in 2012, and 70% of those jobs were technical (Qureshi, 2020). 25% of Israel's income taxes come from workers in high-tech fields. R&D facilities for roughly 400 corporations employ about 57,000 Israelis in total. Israeli high-tech corporations are also attempting to expand abroad by setting up offices in Asia (105 firms), North America (105 companies), and Europe (88 entities with more than 300 people) (65 firms). The overseas investments made by these companies have increased from \$1.7 billion to \$6.2 billion since 2014 (Rosenbaum, 2018).

Fintech, cybersecurity, and IT solutions for businesses (software, hardware, and data infrastructure) drew the most investment, accounting for roughly 65% of all investments in 2017 (up from 52% in 2020). Other future-oriented technologies are also seeing an increase in investment, including artificial intelligence (\$4 billion in investments in 2020), the internet of things (\$2.9 billion in investments in 2020), and transportation technologies (\$1.3 billion in investments in 2020, including autonomous systems and electromobility) (Nickie, Frimpong, & Sun, 2019).

The life sciences industry, which employed around 84,000 people in 2020 and focuses on biotechnology, medical equipment (such as solutions for aged care), pharmacy, and the digitalization of healthcare—a priority topic because of the COVID-19 pandemic—also plays a significant role (FAO, 2021). The closely connected field of food technology is also flourishing. The authorities invested \$280 million in research on new food sources, namely alternative proteins, from 2018–2020. (e.g., artificial meat).

Foreign investment is crucial even if Israelis still own the vast majority of high-tech businesses in the nation. The sector continues to be wholly reliant on the influx of foreign investments, most of which are devoted to research and development. External markets are the final consumers of its goods and services. The most potent employers in Israel are the most prominent enterprises and startups that foreign firms acquire frequently become their local R&D offices (Kartz, 2019). About 390 multinational corporations (MNCs) with 68,000 workers were working in Israel as of 2020, with a third of them providing IT and software solutions for businesses. Intel (14,000 people), Hewlett-Packard (3,000), IBM (2,000), Google, Cisco, Microsoft, Amazon, and Apple are MNCs having branches and R&D facilities in Israel. The most significant purchases on the Israeli market

were made by foreign corporations, such as Intel's \$15.3 billion purchase of Mobileye (autonomous driving systems) in 2017 and Nvidia's \$6.9 billion acquisition of Mellanox (a manufacturer of microchips) (UNCTAD, 2021).

Israel may continue to hold a dominant position as a software and computer hardware manufacturer by collaborating with MNCs. Since Israel views their presence as strategically important, the government supports its efforts through grants and co-financing of investments. Israel's significance as a center of chip manufacturing has grown due to the current worldwide chip supply problem (Toner, 2021). In addition to the Kiryat Gat plant, Intel announced an investment of roughly \$10 billion and an additional \$600 million in R&D to construct a second microprocessor factory in Israel. Some businesses, like Amazon, intend to expand chip production in Israel or build additional data centers for servers and processing (e.g., Google) (Anderson & Rainie, 2019).

## Conclusion

The study investigates the effects of high technology on the world economy in general and the Israeli economy in particular from the viewpoint of those working in the public sector. Israel is a particularly relevant case study for understanding the effects of technology on public sector workers because there are pronounced social divides there. Israel is exceptionally technologically advanced, with a market economy that exports cut diamonds, high-tech machinery, and medicines among its primary products (Alice, 2018). Indicators of the human development index, such as life expectancy, education, per capita income, and others, show that the nation is highly developed. However, it also boasts one of the Western world's most unequal economies, with wide disparities between the rich and the poor. Although inequality has decreased recently, especially among Israeli-Arabs and the Ultra-Orthodox, poverty is still pervasive, especially among these marginalized groups, contributing to the significant digital divide that distinguishes Israel (Ulgen & Inan, 2022).

The following crucial national issue is integrating high-tech into the Israeli economy, particularly with the public sector, government agencies, and other heavily regulated industries, to revitalize the economy following the Covid catastrophe (Kavanagh, 2019). While Israeli residents, who work for the same technology companies and are

responsible for the new advances, receive governmental services that could be more effective, more adequately digitalized, and up to the standards expected in the twenty-first century. The Covid problem has now created a chance to influence a shift in regulatory perception to make it easier to apply technology in the public sector and heavily regulated and regulation-focused sectors (Kartz, 2019).

The study investigates the effects of high technology on the world economy in general and the Israeli economy in particular from the viewpoint of those working in the public sector. This study's central question is how we categorize Israel as a developed country and a prominent emerging market that lags many other nations in critical social and policy areas. According to the study, the difference widens as a nation's reliance on technology in its democratic and economic institutions increases (Charles, Xia, & Courts, 2022). Israel is the ideal illustration of this paradox because it is a high-tech country leading the way regarding world media changes. Technology is widely used, and Israelis are among the top new media users. Israeli society has extensive ties to international affairs, and global media regularly reports political developments. However, Israel's society is characterized by a lack of social cohesiveness and vast inequities, which penalize specific segments of the population and jeopardize the durability of these positive outcomes over the long run (Williams, 2018).

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