

Review Paper

The Military Economy of Israel: How much does a global security system cost?

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ABSTRACT

The purpose of the article is to study the development of the Israel's defence complex, determine the cost of its provision, analyse the ways to achieve high military efficiency and further prospects. The following scientific methods were used in the course of the study: historical method, rating method, analysis, synthesis, comparison method, graphical methods, method of establishing the cause-and-effect relationships. As a result of the study, it has been established the prerequisites, causes and course of the Arab-Israeli conflict, in which Israel has been developing over the past century. The place of Israel in the ranking of countries in terms of military strength was determined, and the detailed analysis of the country's military expenditures as a percentage of its GDP was carried out. It has been compared the data obtained on the results of the countries' region, which are actual or potential opponents of Israel, as well as individual countries of the world and the "Group of Twenty". It has been investigated the trends of Israel's military expenditures compared to its expenditures on the scientific-research and experimental-design works (SREDW).

HIGHLIGHTS

- The article aims to study the development and cost of Israel's defense complex, analyze its military efficiency, and explore future prospects, using various scientific methods, including historical analysis, comparison, and graphical methods, to examine the Arab-Israeli conflict, Israel's military strength, military expenditures, and trends in relation to scientific-research and experimental-design works (SREDW).

Keywords: Arab-Israeli Conflict, Defence Complex, Expenditures, High Efficiency, Palestine

The modern historical period is characterized by the aggravation of military conflicts around the world, in particular, the military invasion of Ukraine, the deterioration of situation between China and Taiwan, as well as the continuation of a long-term Arab-Israeli conflict. The Middle East as a whole is of great strategic importance for the world economy, in particular, due to the fact that about a third of

the world's oil is produced in the region, as well as due to other economic and political factors. For the last hundred years, Israel has been developing

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under the constant action of military threats from the Arab countries of the region. However, during this time, there was a significant increase in the military power of the country, as well as the rapid development and growth of the economy.

R.F. Pustoviyt (2016) summarizes the conditions for development of the Israel's military-industrial complex and compares the growth rate of the country's gross domestic product (GDP) with the growth rate of military expenditures. V. Kurylyak and O. Sokhatsky (2018) explore the priority areas, trends and forecasts of military expenditures in the context of hybrid wars. The scientists suggest an increase in Israel's military spending due to the aggravation of conflict in the Middle East. K. Khan *et al.* (2020) note Israel's large amount of defence expenditures, which has been made in parallel with one of the fastest rates of development of the country compared to other states in the world.

The development of the Israeli defence industry has been examined in detail in the article by D. Palavenis (2021), in which the researcher studies the transformation of defence complex for almost a century, explaining the success of this industry sector by the well-established relationships between the government agencies, scientific field and investors. Equipping the own armed forces and exporting weapons abroad was a good combination, since the domestic defence industry did not hinder the economic development of state, but even more contributed to the development in other sectors (Palavenis, 2020).

The purpose of the article is to study the development of Israel's defence complex, determine the cost of its provision, analyse the ways to achieve high military efficiency and future prospects.

MATERIALS AND METHODS

In the course of the study, the following general scientific methods were used: the historical method, rating method, analysis, synthesis and method of comparisons, method of establishing the cause-and-effect relationships. The proposed structure of the study determines its division into the three main stages. At the first stage, it is proposed to consider the prerequisites, causes and detailed study of the course of the Arab-Israeli conflict. The stage contains a study of social attitudes towards the

active development of military potential, as well as the impact of scientific-research and experimental-design works (SREDW) on its formation. It has been determined the place of Israel and the countries that are actual or potential opponents of the state in the world ranking of countries in terms of military strength.

The second phase of the study provides an overview of Israel's expenditures on defence and SREDW, as well as a comparison of certain trends with other countries in the region and the world. As a result of the analysis of economic indicators, it is made a comparison of the trends in Israel's military expenditures and the country's spending on SREDW. Conclusions are drawn regarding the comparative analysis carried out separately for the countries of the region and other countries of the world. At the last stage of the study, the conclusions made in the article are compared with the results of the studies of other scientists regarding the situation in the Middle East for today, as well as possible scenarios. In particular, it has been considered several points of view on the further development of the Arab-Israeli conflict and the opportunities and barriers for establishing a lasting peace in the region.

RESULTS

Historical prerequisites for the development of Israel's defence complex. Social support and the role of science in its formation

In the course of the historical development of the Israeli defense complex, a special role is played by the events that took place in the country and abroad over the past century. It was during this period that the history of the Arab-Israeli conflict began. This is one of the most protracted unresolved conflicts to date. The main reasons for the conflict include: historical and territorial reasons; political and ideological reasons; religious reasons; economic reasons for the blockade of trade routes (Trojan, 2020). The constant aggravation of the Arab-Israeli conflict has kept its events in the focus of attention of scientists, economists, political scientists and the world community as a whole for several decades (Israel launched a military..., 2022). In addition to the military threat, the interest in the region is due to its strategic importance, in particular, about a

third of the world oil is produced in the Middle East.

Achieving independence from foreign supplies from countries became a critical goal in the conditions Israel's existence along with hostile neighbours. The implementation of this goal under the existing conditions and resources of Israel turned out to be possible due to the active development of SREDW in the field of military technologies (Pustoviyt, 2016). Today, Israel ranks eighteenth in the ranking of countries in terms of total available military force (Table 1).

Table 1: Ranking of countries by total available military force

Place by rating	Country	Tendency PwrIndx	Value PwrIndx
1	United States	↑	0.0453
2	Russia	↑	0.0501
3	China	↑	0.0511
4	India	↑	0.0979
5	Japan	↑	0.1195
6	South Korea	↑	0.1261
7	France	↑	0.1283
8	United Kingdom	↑	0.1382
9	Pakistan	↑	0.1572
10	Brazil	↑	0.1695
11	Italy	↑	0.1801
12	Egypt	↑	0.1869
13	Turkey	↑	0.1961
14	Iran	↑	0.2104
15	Indonesia	↑	0.2251
16	Germany	↑	0.2322
17	Australia	↑	0.2377
18	Israel	↑	0.2621
19	Spain	↑	0.2901
20	Saudi Arabia	↑	0.2966

Source: *Global Firepower* (2022).

In addition to the development of SREDW, a positive impact on the formation of the country's military-industrial complex is provided by the broad support of this area by society and the favourable attitude of citizens towards military service (Pustoviyt, 2016; Feinstein, 2018).

Analysis of Israel's defence expenditures

Financial aspect is one of the main factors in

ensuring the effective development of the defence complex of any country, especially in the conditions of necessity to abandon foreign supplies of weapons and transition to the own production of weapons. Therefore, there is a task to determine the cost of development of Israeli defence system, in particular, to establish the amount of expenditures on military needs, as well as on research and development related to them (Fig. 1).

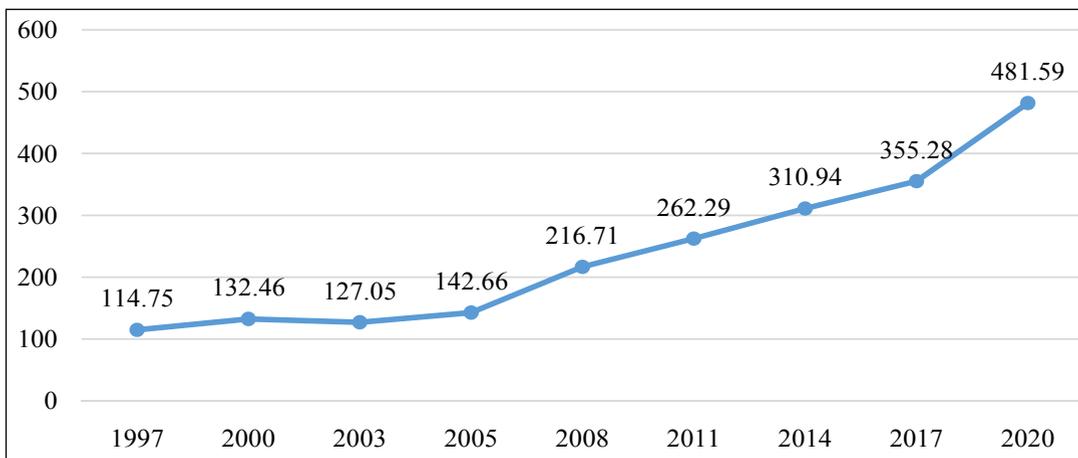
During 1997-2020, the country's GDP has increased more than fourfold. However, it is difficult to draw exhaustive conclusions on this indicator without comparison with countries that are potential opponents of Israel (Fig. 2).

As it can be seen from the Fig. 2, Israel's GDP averages about 20% of GDP of all the countries studied (nearly 25% in 2021). Superiority in this indicator belongs to Saudi Arabia, its GDP is about 40% of the sum of GDP of these countries. Fig. 3 shows Israel's actual military expenditures over the past sixty years as % of its GDP, as well as the military spending of countries that are its potential opponents.

This way of reflecting military spending, also known as the "military burden", was chosen due to the simplicity of calculation and clearness of the visibility of the results obtained, the possibility of their quick comparison between different countries (Tian *et al.* 2020). Based on the analysed statistical and historical information the following conclusions can be drawn:

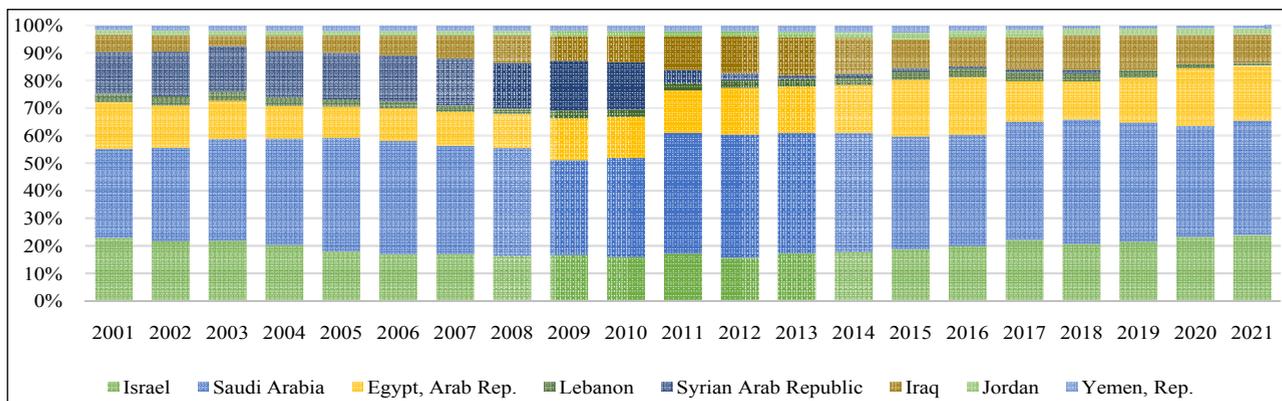
- ♦ on average, Israel's defence expenditures over the entire period are often higher than the spending of other countries under study.;
- ♦ the most significant increase in Israel's military spending as a percentage of GDP is observed in 1973-1976;
- ♦ Israel's military expenditures as a percentage of GDP has been relatively stable over the past two decades;
- ♦ a noticeable increase in Saudi Arabia's military spending in 2015 comes at the beginning of intervention of Saudi Arabia and its allies in Yemen.

For comparison with different countries of the world on the Fig. 4 shows the countries' military spending as a percentage of GDP.



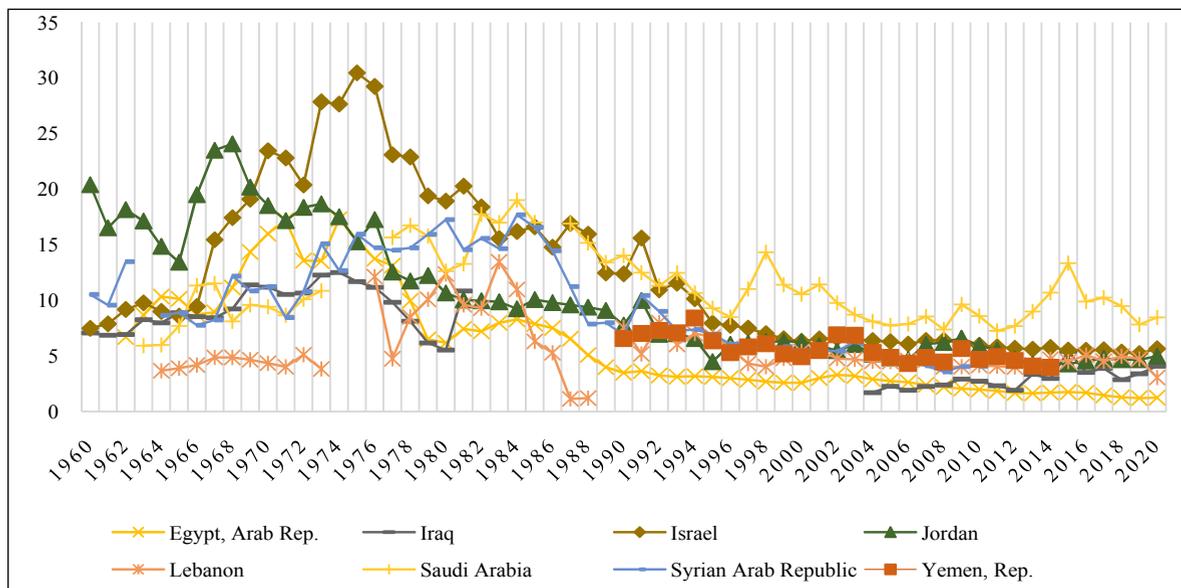
Source: The World Bank (2022).

Fig. 1: Israel's GDP, billion US dollars



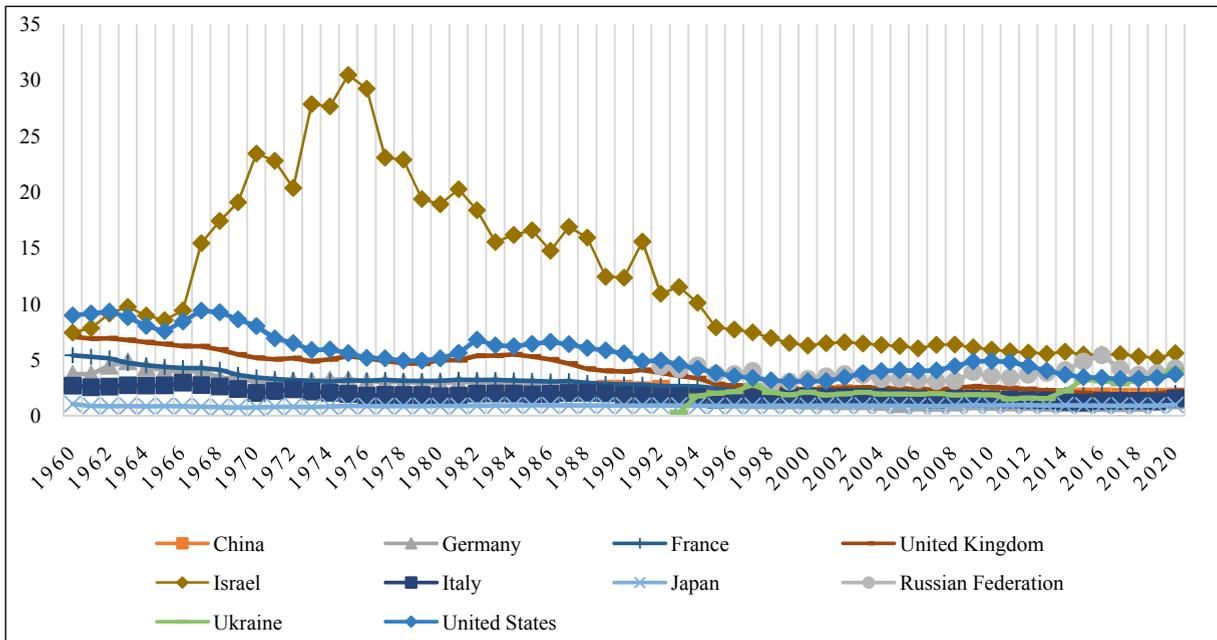
Source: The World Bank (2022).

Fig. 2: The ratio of Israel's GDP to the GDP of the Arab countries, which are potential opponents of the country



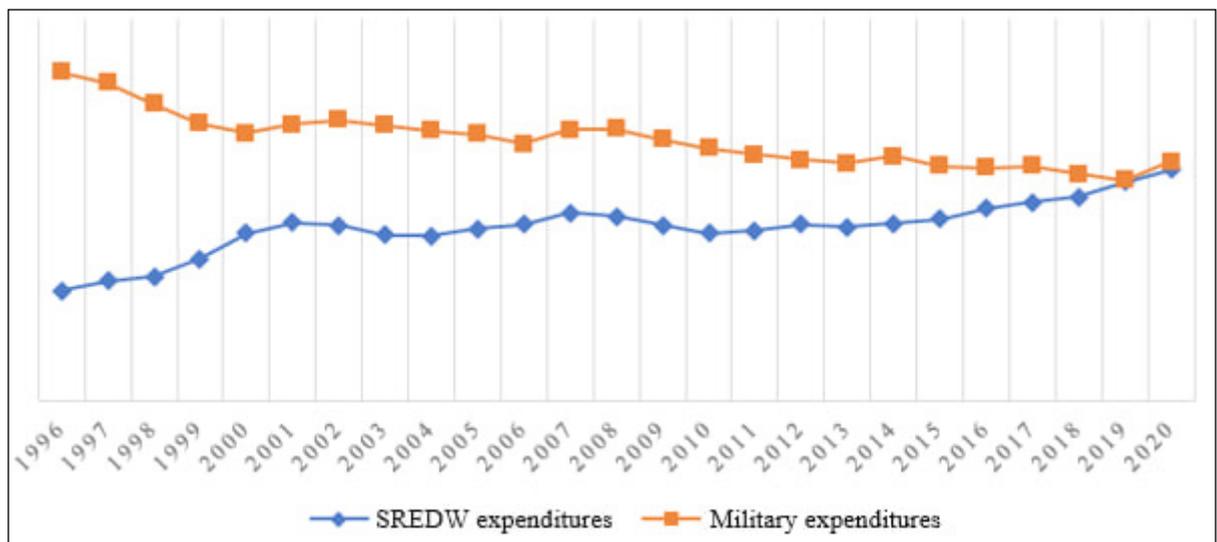
Source: The World Bank (2022).

Fig. 3: Israel's military spending (as % of GDP) compared to the Arab countries, which are potential opponents of the country



Source: The World Bank (2022)

Fig. 4: Israeli military spending (% of GDP) compared to the selected countries of "G20" and Ukraine



Source: The World Bank (2022)

Fig. 5: Israel's military and SREDW expenditures (% of GDP)

According to the analysis based on the Figs. 1-4, it is possible to make the following generalizing conclusions: the share of Israel's GDP in the total GDP of the country and its potential opponents is more than 20% and it is second only to Saudi Arabia, and it also exceeds the GDP of neighbouring countries; the share of Israel's GDP in the total GDP of the country and some countries of "G20", as well

as Ukraine, is the smallest (about 1%); the share of military expenditures in Israel's GDP is the highest for almost the entire period compared to most other countries studied (Saudi Arabia is an exception).

Many scientists have studied the relationship between the amount of military spending and economic growth of countries (Dudzeviciute *et al.* 2018). Some of them note that military expenditures

can both negatively affect the national economy, and vice versa help it, as proven by the example of Israel (Biswas *et al.* 2018). In addition, the international organization “Freedom House” that ranks countries by their political and civil rights (Freedom Rating) considers Israel as the only free country in the region (Sozen and Tufaner, 2020).

The active development of science in the country is one of the reasons for the growth of Israel’s economy in parallel with the implementation of significant military expenditures. Therefore, the study of tendency of Israel’s SREDW spending compared to the military expenditures as a percentage of GDP is the last step of the proposed analysis (Fig. 5).

Thus, it can be noted that the development of technologies in the military sphere had a positive impact on the innovative development in the civilian sector of Israel.

DISCUSSION

As for the future of Israel in the context of potential military conflicts, R.F. Pustoviyt (2016) notes that Israel cannot afford to take part in a long-term conflict and take heavy casualties, therefore it must defeat opponents as quickly as possible. S. Aziz (2018) notes that Israel maintains the idea of its high combat power due to the decisive victories and military decisions. A.C.A.R. Hasan (2020) also notes that a lasting peace in the Middle East at this stage of development is impossible, in particular in the case of Israel’s invasion of Lebanon. Some researchers considered it as an alternative to create one state for Israelis and Palestinians, but this decision (for objective reasons) does not meet the conditions for peaceful coexistence of peoples (Eriksson, 2018; Amal, 2020). As for Israel’s further steps regarding its defence complex and military spending trends, it can be noted that experts predict an increase in Israel’s military expenditures in the next period (Kurylyak and Sokhatskyi, 2018).

O. Sokhatskyi *et al.* (2020) note that international military assistance can reach significant amounts, thereby reducing a country’s defence spending. D. Palavenis (2021) also acknowledges that the success of Israel’s defence complex depends on the support of external participants, in particular the United States of America. US foreign assistance towards

Israel is studied by Y. Wang (2021). The scientists describe US motivation in terms of two opposing paradigms: the self-interest paradigm, and the paradigm of influence. The study of arms exports and imports to Israel is the subject of separate studies for scientists. For example, D. Machiarini Crosson (2020) devotes one of his works to the arms trade between Israel and the European Union. The scientist points out the lack of research on EU arms exports to Israel, although the arms supplies have a high impact on the peace process in the Middle East.

CONCLUSION

Territorially, Israel is surrounded by countries that are its potential or actual opponents, and military conflicts in the country happen very often (in particular, the Arab-Israeli conflict has been going on for about a century, and it is still unresolved). This fact, along with Israel’s small territory and the need for independence from external arms suppliers, has necessitated a strategy of constant increasing military strength, in particular by means of complying with the latest technological developments in the defence industry.

The following factors are important ones in success of Israel in the military affairs: the positive attitude of population towards military service, citizens’ support for the development of military industry and scientific research in the field of defence. These aspects have led to Israel’s status as one of the countries with high economic growth over the past few decades, as well as its recognition as the only independent country in the region in terms of political and civil rights in the state. Scientists predict that the growth rate of spending on high-tech weapons will continue to exceed the growth rate of Israel’s economy, as well as Israel’s inability to participate in long-term conflicts.

Thus, these are the directions for further research: a detailed analysis of Israel’s relationship with the United States, in particular, on the issues of military support and mutual political interests, determination of the impact of Israel’s international military support on its military expenditures in the Arab-Israeli conflict, as well as a detailed analysis of Israel’s imports and exports of weapons.

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