ZU-LAT
Equality and Human Rights

HOW MUCH DOES THE CONFLICT COST US?

Prof. Joseph Zeira

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Translation: Shoshana Michkin

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The media often deal with the size of the defense budget, the pension benefits of career army personnel, and the like, but a long-term examination shows that direct defense spending is at a historically low level, at about 6% of GDP (gross domestic product). It is true that this expenditure is higher than that of other developed countries and that the average in OECD countries is less than 2% of GDP. Israel, however, has been engaged in a decades-long national conflict and cannot be compared with countries such as the Netherlands, Sweden, France, or Germany. At the same time, the Arab-Israeli conflict, which today consists primarily of the Israeli-Palestinian conflict, entails additional expenses alongside the official outlay for defense. These significantly increase the cost of the conflict and add up to 40% of GDP. The lack of mention of these extra costs in the public discourse in Israel means that the decision-making process on political-security issues is defective, which is regrettable.

Figure 1, based on data published by the Central Bureau of Statistics, shows Israel's direct defense spending and the dramatic changes it has undergone over the years. The sums reflect the expenditures in retrospect rather than the actual defense budget and are measured as a percentage of GDP (which is the correct way to measure any public expenditure, as it allows for a meaningful comparison over time).

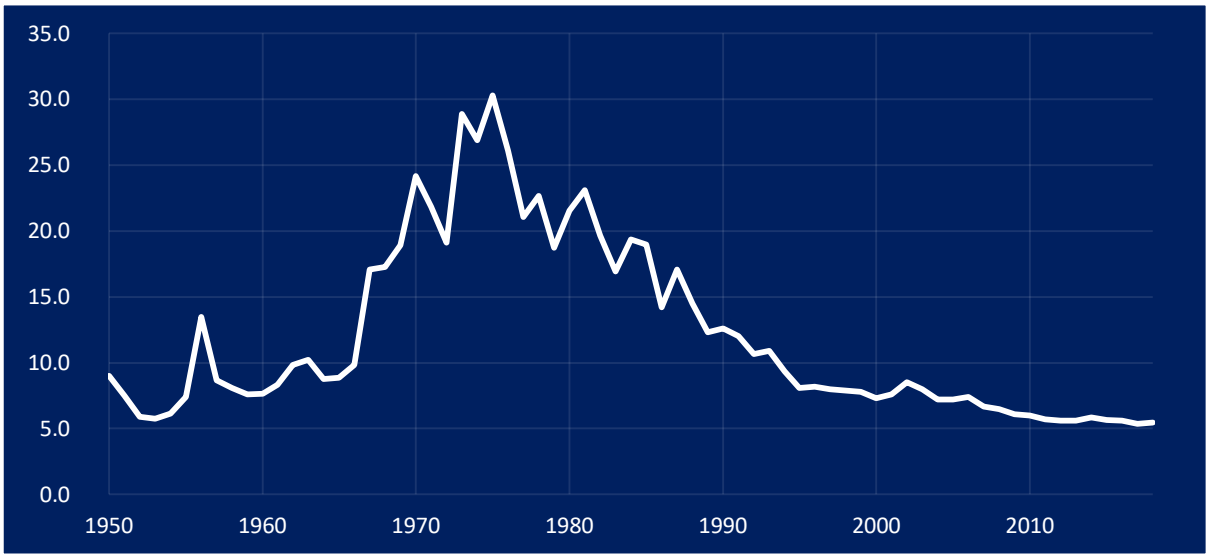

Figure 1: Israel's Defense Expenditure, 1950–2018 (in percentage of GDP)

Figure 1 shows that defense spending before 1967 was relatively low, at less than 10% of GDP. A one-off increase occurred in 1956, during the Sinai Campaign, but spending reverted to its previous level immediately afterward because Israel pulled its troops out of the Sinai Peninsula at the end of the fighting. This was not the case after 1967, however. Israel decided to remain in the territories it occupied during the

Six-Day War, thereby exacerbating the conflict with neighboring Arab countries, especially Egypt, Syria, and Jordan. This escalation was evident in the ensuing War of Attrition and even more so in the Yom Kippur War. During this period, defense spending rose to more than 20% of GDP and even reached 30% of GDP in the years after 1973. This huge cost imposed a heavy burden on Israel's citizens and created a large government deficit that triggered a debt crisis and high inflation.

These were resolved by the peace treaty with Egypt, which was signed in 1979 and implemented through 1982. Figure 1 shows that defense spending dropped dramatically in the aftermath of the treaty, from more than 23% of GDP in 1981 to less than 10% of GDP in the early 1990s. This drop was brought about by the fact that the peace treaty ended the era of broad conflict between Israel and the Arab states because they could not form a military coalition against Israel without Egypt. The conflict was thus reduced to one between Israelis and Palestinians alone – that is, between militias rather than between conventional armies – and therefore became low-cost. Defense spending consequently dropped to approximately 6% of GDP.

Having said that, the conflict entails many other costs. Back in 1986, Israeli economist Eitan Berglas published a study that examined the additional costs of the Arab-Israeli conflict and their impact on the drop in GDP and concluded that they were significant. I have been updating Berglas's calculations since 2009, partly with my former student Tal Wolfson, and I have found these costs to be very high. After reviewing the data for 2011, I concluded that the inclusion of these additional outlays more than doubles the cost of the conflict, from 6.7% to 14.1% of GDP. I will not elaborate here on these additional outlays (including such factors as military casualties, the value of land used by the army free of charge, the cost of building bomb shelters and paying grants to soldiers upon their discharge from the army, the cost of deploying security guards in public venues) or the exclusion of the outlays of running the nuclear reactor, for which no data can be found, and will instead focus on the largest expense of all: the loss of human capital due to compulsory army service.

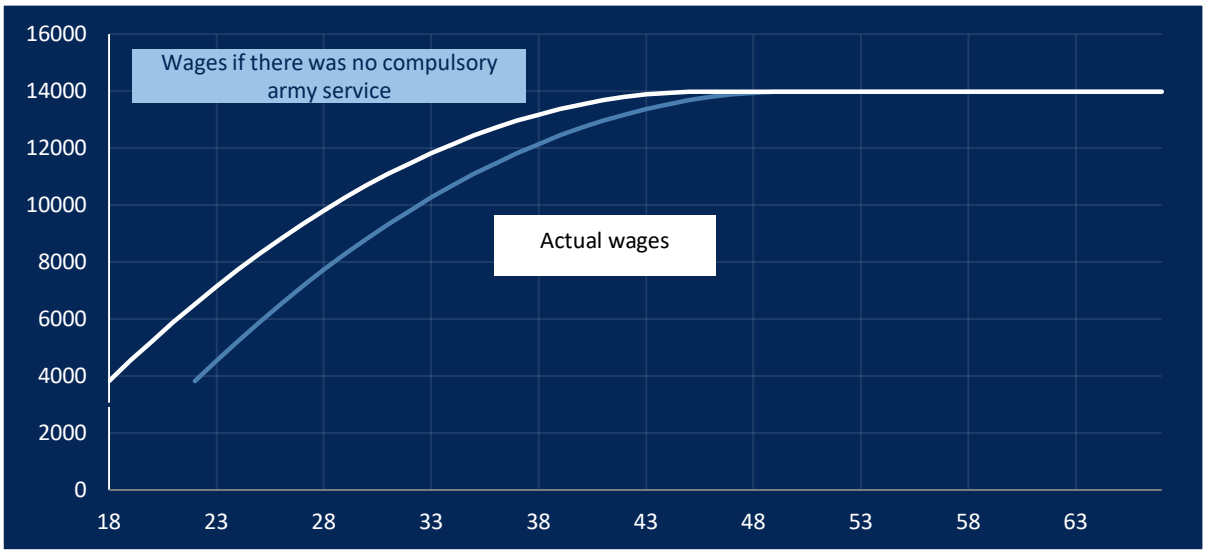

Figure 2: Wages (in NIS) of Jewish men in Israel from age 18 to age 65

The blue curve in Figure 2 shows the average wages of drafted Jewish Israeli men over the years. Wages increase from NIS 4,000 at the age of 22, after discharge from the army and the customary trip abroad, to about NIS 14,000 upon retirement. The increase stems from the rise in human capital as a result of both academic studies that significantly boost wages and the fact that over the years workers gain experience, change jobs to improve their situation, etc. (these findings are similarly applicable to Jewish women). Economists claim that wages are proportional to a worker's "human capital." The white curve in Figure 2 shows what the average wages of the same Jewish Israeli men would be if there were no compulsory service and youths could start their academic studies immediately after graduating from high school, as is the case in the United States and many other countries. Both curves tell us that the human capital today, compared with a situation in which there was no compulsory service, is lower not only during army service but for many years afterwards, up until the age of 50.

It should be noted that the parallel shift leftward of the human capital curve is based on the premise that military service *per se* does not directly affect the human capital of those who enlist, except for the delay in its accumulation. Arguing against this assumption, many contend that army service does contribute to those who enlist by teaching them discipline and teamwork. Unfortunately, for a variety of reasons (confidentiality as well as the army's bias in the selection of conscripts), in Israel it is impossible to conduct a study that examines this claim. Fortunately, such a study on the impact of army service on human potential was conducted in the United States by Josh Angrist, who only recently received the Nobel Prize in Economics, using data about the Vietnam War draft lotteries. This study fully supports the premise in Figure 2 to the effect that army service simply delays the increase in human capital by two years (the length of military service in the United States at the time) but has no other effect. Yet another argument is that some groups are more affected by the compulsory draft, such as undergraduates wishing to pursue advanced degrees who, by the time they go into research, have acquired a family they need to provide for and therefore take longer to complete their studies than in other countries. In other words, the delay in accumulating human capital for this important group is longer than described in Figure 2.

Figure 2, which is based on a survey of income in 2011, allows us to calculate the losses in human capital and GDP in a typical uneventful year. It depicts the loss of human capital in each age group, which I multiplied by the number of members of the group who were employed and had served in the military, and then added up the loss for all age groups (a similar calculation was made for women as well). The calculation indicates a 5.7% loss of GDP in 2011 as a result of the delay in joining the labor market. In other words, had there been no compulsory army service, GDP and income would be 5.7% higher than their level at present. Of course, it could be argued that army service in Israel would still be compulsory, albeit shorter, even if the conflict were to end with a political agreement. A similar calculation based on one-year army service for men and women shows the loss of human capital at 1.4% of GDP. In other words, the cost of the loss of human capital due to the lack of a political agreement is 4.3% of GDP, a very high cost indeed.

That, however, is not the end of the story. There is yet another cost that is very likely related to the Arab-Israeli conflict: Israel's low labor productivity. Figure 3 compares the output per hour worked in the business sectors in Israel and in the United States, where output is calculated very accurately. The chart shows that despite the fact that by 1973, Israel had narrowed the gap with the developed countries, it had not closed it

completely, and the output per hour worked was still 44% lower than that of the United States (and of other developed countries, but to a lesser extent).

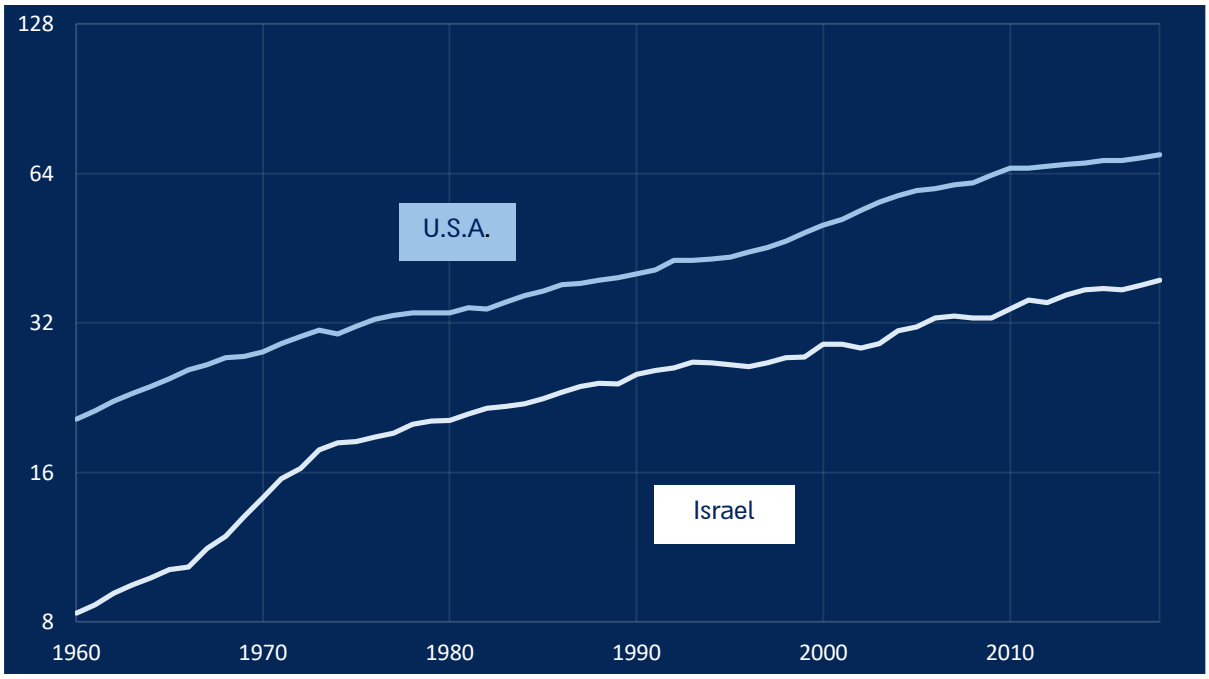

Figure 3: Labor productivity in the business sectors in Israel and the United States, 1960–2018

What is the reason for the lower productivity in Israel? There are several explanations, but the following one accounts for half of the gap between Israel and the United States. The amount of physical capital in the business sector in Israel, which consists of structures and equipment, is significantly lower than in the United States. The right way to check this is by comparing the ratio of capital to output in the business sectors in both countries, herein shown in Figure 4. We see that this ratio is around 1 in Israel and about 1.6 in the United States. When one country uses less capital than the other, the output is lower. An uncomplicated calculation using the Cobb-Douglas production function model shows that Israel's 21% lower output per hour worked is the result of the lower capital-to-output ratio. If we ask the opposite question – how much would Israel's GDP grow if the capital-to-output ratio were the same as in the United States? – the answer is that GDP would grow by 26% (due to the fact that Israel's output is smaller).

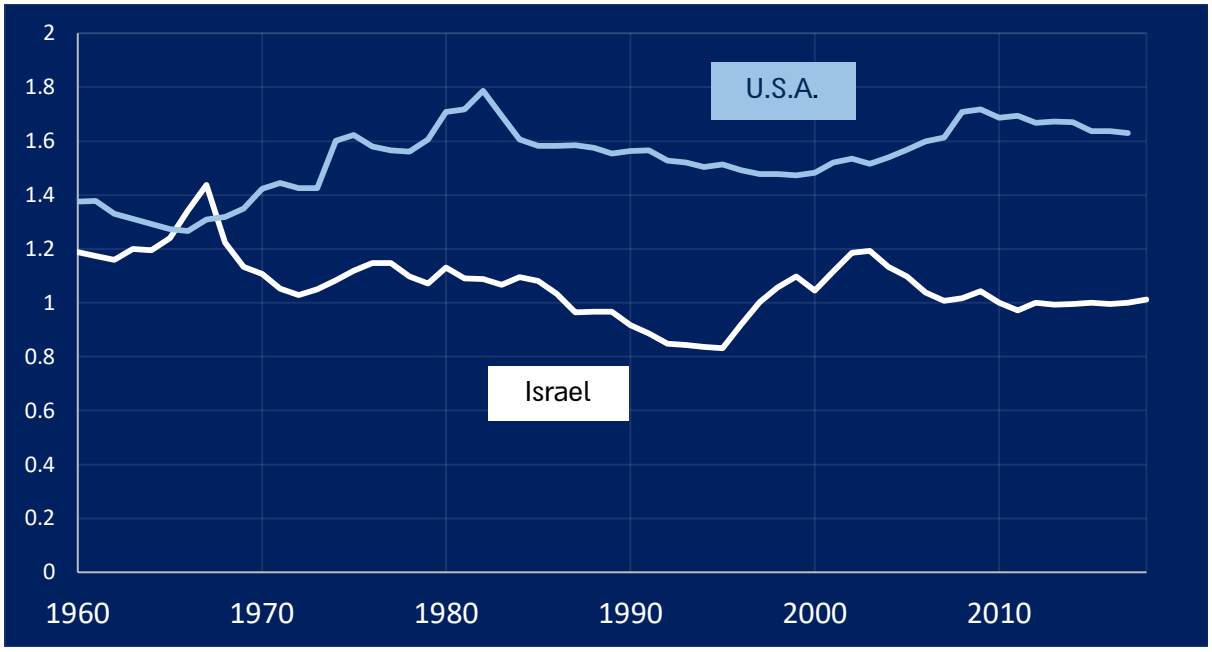

Figure 4: Capital-to-output ratio in the business sector in Israel and the United States, 1960–2018

Why is Israel's capital lower than in the United States and other countries? An economic analysis shows that the main reason is the high cost of capital for investors. The cost of capital is the sum of three factors: the interest rate, the rate of physical depreciation, and the risk premium. The interest rate in Israel is quite low and similar to the rate in the United States, partly because Israel benefits from unilateral transfers from both the US Government and Jewish donations and, therefore, need not borrow abroad significantly. The rate of physical depreciation of capital in Israel is similar to that of the United States and other developed countries (8% to 10%). Hence, the main difference between Israel and the United States lies with the risk premium. A rough calculation based on the aforementioned data shows that this premium is 8% in the United States and 21% in Israel, a very large difference indeed.

Why do investors expect a higher risk in Israel than in other countries? Why do they invest less and try to recover their investment within fewer years? Anyone living in Israel and familiar with its history realizes that the reason is the Arab-Israeli conflict. Additional evidence of this can be seen in Figure 4. First of all, the capital-to-output ratio before 1967 was higher at 1.2 but dropped to 1 after 1967 with the escalation of the conflict, as shown by Figure 1 (the sharp rise in the capital-to-output ratio in 1966-1967 is related to the economic recession during that period and not to the conflict). Moreover, in the United States the fluctuations in the capital-to-output ratio are also linked to the risk of war: While the ratio was relatively low at 1.3 in the 1960s, it rose to 1.6 in the 1970s, undoubtedly due to the fact that the Vietnam War ended then.

Therefore, we see here an additional cost of the Arab-Israeli conflict, given that the risk it creates leads to a 26% loss in GDP and income. If we add this figure to the aforementioned 14%, we reach a loss of 40% of GDP. Of course, not all of these costs would disappear if and when an agreement is reached, but clearly the high cost of capital would end. If we add the 4% loss of GDP to the loss of human capital in the absence

of an agreement, we arrive at the conclusion that an agreement would increase GDP and income by at least 30%. In my book about the Israeli economy, I show that the economic benefits of the Arab-Israeli conflict are few, minuscule, and amount to a rise in GDP of some miserly percentage points. It should be noted that a 30% rise in GDP would not only significantly increase the income of every Israeli but would also enable a major improvement in public services and reduce socioeconomic disparities.

Therefore, the real cost of the Arab-Israeli conflict is much higher than the direct security cost. It is at least 30% higher in terms of GDP, a cost borne by us, the citizens of Israel, every year. Of course, this cost is invisible, given that there is no tangible damage here but rather a potential increase in GDP and income if the conflict were to be resolved. That is why this cost has been absent from the public discourse, a regrettable fact in light of the impression imparted by the government that managing the conflict is simple and does not entail excessively high outlays. This impression derives from a lack of knowledge and understanding or, even worse, from deliberate deception. In any case, it is important to make the public aware of the cost of the conflict, since every additional day that the conflict is managed and remains unresolved costs us a great deal, and most of us know nothing of it.

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Joseph Zeira is Professor Emeritus of Economics at the Hebrew University of Jerusalem. The discussion above is based on his book *The Economy of Israel* (Aliyat Gag Books and Yedioth Books, 2018) as well as on its English version, *The Israeli Economy: A Story of Success and Costs* (Princeton University Press).

ZULAT
Equality and Human Rights

The role of Zulat and of advocates of democracy and human rights is to present a vision based on partnership and on equality for all residents of the country and among them, Jews and Arabs. Based on these principles, we propose to act toward the finalization of a humane and progressive constitution that will fortify the protection of human rights.

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