WHAT CAN BE LEARNED FROM THE ECONOMIC POLICIES OF OTHER COUNTRIES IN RESPONSE TO THE CORONAVIRUS EPIDEMIC? LESSONS FROM THE FIRST WAVE

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Abstract

The coronavirus epidemic has instigated an economic crisis emanating from public health policies involving economic lockdown as well as behavioral reactions of workers and employers. The developed world has not seen such an extent of economic damage since at least the Second World War. We compare Israel's battle against the first wave of the pandemic with that of other countries and show that while the infection rate in Israel was similar to that in other countries, the mortality rate was lower. Compared to Austria, by the end of May about 80 percent of the mortality gap can be ascribed to Israel's younger population, while the remainder is due to advantages in the health-care system and some particularly Israeli behavioral modes. We find that under a conservative assumption concerning the infection rate, the cost of a life-year saved in Israel exceeds that inferred from the Israeli health-basket committee's decisions on the inclusion of new medical technologies. Contrary to other countries, the Israeli government's support of workers and businesses was raising uncertainty, as it was defined over shorter time spans, which were then extended from time-to-time. It seems that this served to deepen the crisis relative to that in benchmark countries that are similar to Israel in population size and human capital but characterized by higher per-capita GDP and lower poverty rates.

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1. INTRODUCTION¹

From an economist's perspective, apart from the human suffering and loss of human life, major epidemics involve "market failures" that interfere with the ability of economic markets to achieve an efficient allocation of resources. The most common factors behind these market failures in a major epidemic are externalities, imperfect information and private information. Relative to the normal functioning of an economy, epidemics with no vaccine or effective drug treatment are subjected to all of those phenomena.

The externalities are the result of the very nature of an epidemic as an infectious disease. Essentially, a single infected individual can infect those he comes in contact with, who in turn can infect others. Thus, even if the individual modifies his behavior in response to the threat of infection and attempts to reduce the chance of infection, at the societal level these efforts are insufficient since he does not take into account the damage his being infected is likely to cause to others. Moreover, the individual does not take into account the constraint arising from the finite capacity of the healthcare system and his effect on the extent to which that constraint becomes binding. The problem is further complicated at times by partial information—in view of the fact that in the case of the coronavirus, the individual is unaware that he has been infected for the first few days and therefore is able to assess neither his likelihood of getting infected (which become irrelevant the moment he is infected) nor the risk that he represents to those in his surroundings. Finally, there is the problem of private information. To the extent that the individual eventually realizes that he has been infected but keeps the information private, apart for caring for his immediate circle he has no incentive to reveal his situation. On the contrary, his fear of being infected disappears and with it the motivation to avoid entering the public domain and workspaces. In this way "moral hazard" comes into play.²

Given these market failures, economic research has focused on the need for public policy that minimizes the economic effects of epidemics.³ This policy should deal with all of the aforementioned market failures. As in the existing economic literature, we distinguish between two types of policy for dealing with these market failures, and in particular the problem of infection (an externality): i) a lockdown that prevents contact between people and halts economic activity and ii) a less severe policy based on testing, tracing and tracking (TTT), controlling the spread of an epidemic while allowing for the continuation of economic activity. As in the case of any public health policy, the cost of these steps in terms of GDP or

¹ Unless specified explicitly, this paper covers measures taken until mid-June 2020.

 $^{^{2}}$ Test results in Israel are not private. Still, people avoid getting tested if identified as having been in the vicinity of an infected person or shirk quarantines.

³ See, for example, Eichenbaum, Rebelo and Trabandt (2020a, 2020b) and Jones, Philippon and Venkateswaran (2020) who integrate economic behavior within a standard SIR model in order describe the progress of the epidemic.

the income of various individuals should be evaluated, as well as the benefit associated with saving life-years.

This short paper compares Israel's treatment of the first wave to that of other countries from a health perspective and an economic perspective. Section 2 looks at the data on infection and mortality rates and at Israel's success measured by these parameters, in particular relative to Austria, whose population is similar in size. Section 3 examines the economic effects and calculates the price paid by Israeli society in order to save a life-year. It also evaluates the policy measures adopted by Israel aimed at supporting workers and the business sector in comparison to those of other countries. Section 4 includes a short conclusion and a list of economic policy measures that may help minimize the negative impact.

2. INFECTION: ISRAEL, AUSTRIA AND THE WORLD

Figure 1 presents first-wave data on the rates of confirmed infection and mortality for Israel, a number of European countries, Korea, and Taiwan. As can be seen, the number of confirmed infections (individuals found to be positive by a PCR test), normalized per million inhabitants, is about 1,890 in Israel, which is almost identical to the number in Austria, whose population is similar to Israel's. This number is also close to the average for European countries (about 2,100). In contrast, the mortality rate among those found to be positive in Israel is significantly lower than in Austria and the other countries (1.7 percent as opposed to 4 percent and 6.6 percent, respectively). It is worth mentioning Cyprus, South Korea and Taiwan, whose infection rates are significantly lower than Israel's, even though their mortality rates are similar. In contrast to Israel, Cyprus, South Korea, and Taiwan exploited the fact that they are islands in order to prevent the entry of infected individuals from outside the country. South Korea and Taiwan are examples of countries that prepared for the epidemic early on, primarily as a result of the MERS outbreak in 2012 which motivated them to develop their TTT systems. This enabled them to limit the spread of infection quickly and efficiently (see below).





Since Austria was chosen as the reference country, we will focus on the reason for its high mortality rates. Table 1 provides the data needed to understand the gap. As shown by the table, the proportion of the 65+ age group in the total population in Israel is 11.7 percent as opposed to 19.2 percent in Austria. The confirmed rate of infection in the oldest age group is 50 percent higher than in Israel. The mortality rate among confirmed infected individuals is higher by 5 percentage points in Austria than in Israel (in the two younger groups, the difference is 3 percentage points). If we could "export" the Israeli infection and mortality rates to Austria the number of deaths there would be 545 or about 81 percent of the actual number of 669. In other words, if Austria had Israel's infection and mortality rates, its age distribution alone would be consistent with about 80 percent of the actual coronavirus mortality. The rest can be attributed to Israel's social and healthcare systems that enable the elderly to remain in their homes and provide them with a high level of primary care, as well as making it possible for them to maintain a healthier lifestyle.⁴

⁴ See: <u>https://www.oecd.org/israel/israelexcellentprimaryhealthcarebuthospitalsmustimprove.htm</u>

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Source: https://www.worldometers.info/coronavirus/.

	Israel			Austria		
Age group	Percentage of population (%)	Rate of infection (%)	Mortality rate among confirmed cases (%)	Percentage of population (%)	Rate of infection (%)	Mortality rate among confirmed cases (%)
5-14	18.0	0.11	0	9.6	0.04	0
15-24	15.0	0.23	0	10.7	0.15	0
25-34	13.6	0.24	0	13.5	0.18	0
35–44	12.7	0.18	0	13.2	0.19	0
45–54	10.2	0.22	0	14.6	0.25	0
55–64	8.6	0.22	1	14.3	0.20	1
65–74	6.9	0.19	4	9.7	0.16	7
75-84	3.4	0.24	14	7.0	0.21	17
85+	1.4	0.26	23	2.5	0.39	28
Total persons	9.2 million	17,342	290	9.0 million	16,759	669

 Table 1

 Demographic data, infection rates and mortality rates in Austria and Israel

Source: https://www.worldometers.info/coronavirus/ accessed on June 3, 2020 and the authors' calculations.

As mentioned, the containment policy in South Korea and Taiwan differed significantly from that in Israel and Austria, which adopted a lockdown policy. The former did not impose a lockdown but rather used precise tracking measures and localized quarantines of individuals or regions of infection. In both of them, mask wearing and a high level of hygiene are the rule and large fines are imposed on violations, including violations of quarantine. The two countries tested all individuals upon arrival from abroad, put them into quarantine and required them to install tracking measures in their mobile phones. In South Korea, those who tested negative were tested again three days later. South Korea boosted its testing capability to a level of 20,000 per day in a short period of time and individuals could be tested in their cars or in special booths that isolate the tester from the individual being tested. The test results arrived on the same day and no later than within 24 hours. The epidemiological tracing in these two countries includes the use of digital tracking measures, street cameras, mobile phone location and credit card purchases. In Korea, the places where infected individuals had visited were announced to the public so that others could avoid those areas.

Relative to these two Asian countries, but also relative to the European countries, the testing, tracking and epidemiological system in Israel is still not operating properly. There is a lack of clarity with respect to testing policy (whether only symptomatic individuals are to be tested or also asymptomatic individuals who were in contact with individuals who had tested positive); test results sometimes arrive after a lag of several days; and there is an acute shortage of staff conducting rapid and consistent epidemiological investigations. This

situation does not make it possible to efficiently deal with repeated outbreaks of the epidemic, as is evidenced by the events in June and July.

3. ECONOMIC ASPECTS: ISRAEL RELATIVE TO OTHER COUNTRIES

a. Macroeconomic data

Table 2 shows the rates of growth in GDP per capita, unemployment rates, and deficit levels in Israel and other countries in 2020 and 2021 according to the estimates of the IMF.

Table 2 GDP growth per capita, the unemployment rate and the size of the deficit: Israel vs. selected countries

Year	Country	Growth rate of GDP	Unemployment	Government deficit
		per capita (%)	(%)	(% of GDP)
2020	Israel	-8.1	12.0	10.2
	Austria	-7.6	5.5	7.1
	Benchmark countries*	-7.5	8.2	6.3
	South Korea	-1.3	4.5	1.8
	Taiwan	-4.1	4.4	1.3
2021	Israel	3.0	7.6	5.9
	Austria	3.9	5.0	1.6
	Benchmark countries*	4.0	6.9	1.7
	South Korea	3.3	4.5	1.6
	Taiwan	3.5	4.0	1.2

*Benchmark countries are: Austria, Denmark, Finland, Ireland, the Netherlands and Sweden. **Source**: <u>https://www.imf.org/external/pubs/ft/weo/2020/01/weodata/weoselgr.aspx</u>

As shown in Table 2, GDP per capita in Israel is expected to decline in 2020 by a significant amount, although only somewhat more than in Austria or the benchmark countries but significantly more than in South Korea and even Taiwan, whose economy has been particularly affected as a result of its dependence on China. The government budget deficit in these two countries is expected to be significantly lower than in the European countries and particularly in Israel, where the deficit prior to the coronavirus crisis was already close to 4 percent. This starting position does not bode well for Israel's expected deficit in 2021 relative to the other countries, and moreover, Israel's GDP growth forecast is low relative to theirs. The higher rate of unemployment in Israel reflects the unpaid leave of absence policy adopted in Israel, which is in contrast to the labor market policies adopted in other countries (see below).

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Table 2 illustrates the negative macroeconomic effects of imposing a lockdown relative to the TTT policy adopted in South Korea and Taiwan in order to prevent the spread of the epidemic. The difference between the loss of GDP or workhours in South Korea and the loss as a result of a lockdown was also found in other studies. For example, Argente, Hsieh and Lee (2020) estimate that the publication of information on confirmed infections in Seoul reduced the loss of workhours by 50 percent and Aum, Lee and Shin (2020a) estimate that the adoption of the South Korean policy in the UK would have saved 2/3 of the loss in GDP and lowered the number of infections by 70 percent. In a different study, Aum, Lee and Shin (2020b) estimate that imposing a lockdown in South Korea would have doubled the workhours loss.

b. Cost of saving a life-year

The estimates of economic losses from the imposition of a lockdown relative to a TTT policy make it possible to carry out a preliminary estimate of the economic price paid by Israeli society in order to save a life-year. Relative to the growth forecast in the absence of the coronavirus crisis (3.5 percent in each of 2020 and 2021), the data in Table 2 (with the addition of 2 percentage points per year for population growth) indicate that GDP at the end of 2020 will be 8.6 percent lower that the level expected prior to the crisis. If half of this loss would have been prevented under a TTT policy, and given that GDP in 2019 stood at NIS 1,409 billion, the imposition of the lockdown caused a loss of about NIS 60 billion.

The estimated number of life-years that were saved is based on several assumptions. The first and most problematic of them relates to the number of confirmed infections that would have occurred without intervention. For this calculation, we relied on data for the city of Bergamo in the Lombardy region of Italy, in which a lockdown was imposed only at a late stage and only after the extent of the epidemic and its consequences were already clear to all. At the beginning of April, there were more than 9,600 confirmed infections in Bergamo, a city of about 120,000 residents.⁵ Accordingly, we assumed that without a lockdown, about 10 percent of Israel's citizens would have become confirmed carriers. In comparison, the staff of experts that advised the National Security Council assumed a rate of confirmed infections of 37 percent in its "optimistic forecast".⁶ The second assumption attributes to each individual the age-dependent life expectancy, discounted at 3 percent per year, but independent of any underlying medical condition, as presented in Table 3. The third assumption relates to the mortality rates of confirmed infections (see Table 1), independent of the total number of sick individuals or the character of the containment policy.⁷

⁵ See <u>https://www.latimes.com/world-nation/story/2020-04-05/coronavirus-italy-field-hospital-alps.</u>

⁶ Under this assumption and their mortality assumptions, the number of dead aged 60+ would be more than 27,000. See

https://www.weizmann.ac.il/physics/waxman/sites/physics.waxman/files/uploads/Corona/%D7%93% D7%95%D7%97%20%D7%9E%D7%A1%D7%9B%D7%9D.pdf.

⁷ Specifically, it is reasonable to assume that mortality rates rise considerably when the medical system becomes saturated.

Age group	Size of	Average life	Average life	Total life-years
	population	expectancy	expectancy	(millions)
	(in millions)		(discounted)	
0–9	1.75	77.7	30.9	54
10–19	1.46	67.7	29.7	43
20–29	1.25	57.9	28.1	35
30–39	1.17	48.2	26.1	30
40–49	1.05	38.4	23.3	24
50-59	0.81	29.2	19.8	16
60–69	0.72	20.4	15.5	11
70–79	0.43	12.2	10.4	4
80+	0.26	7.3	6.7	2
Total	8.88	50.5	24.8	221

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Source: Central Bureau of Statistics and Annual Statistical Abstract for Israel 2018, Tables 2.3, 3.7.

According to these assumptions, the loss in Israel would have been about 105,000 discounted life-years if the rate of confirmed cases had been 10 percent of the population or about 390,000 discounted life-years for a rate of 37 percent for confirmed cases. In reality, about 2,600 discounted life-years were lost due the mortality reported in Table 1. Dividing the loss in GDP by discounted life-years that were saved yields NIS 560,000 or NIS 155,000 per discounted life-year, according to whether one uses the lower or higher rate of confirmed cases. As a standard of comparison, one can use the estimates of Engelchin-Nissan and Shmueli (2008) regarding the value of a statistical life-year, which was inferred from the introduction of new drugs into the "drug basket", amounting to about NIS 340,000 in current value. Accordingly, as a result of the imposition of the lockdown, Israeli society "paid" a price for saving a discounted life-year that is about 65 percent higher than the value implicit in the decisions of the Basket of Services Committee according to the low infection scenario or 55 percent lower according to the extreme infection scenario.

c. Economic policy

The healthcare and economic crisis caused by the epidemic constitutes an aggregate shock against which only the government can provide insurance. This insurance involves the adoption of a policy that facilitates the creation of a "bridge" on which the economy can endure the crisis and recover once the restrictions on economic activity are lifted. The policy requires the mobilization of resources by means of loans that will be repaid in the future and the distribution of those funds in the form of grants and loans to businesses and households in the present.

Table 4 provides a picture on the "soundness" of the bridge in Israel and other countries. The table shows the low level of the out-of-budget intervention in Israel and the minimal allocation of resources to assistance programs with a long-term horizon. The table does not

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Table 3

show an additional difference between Israel and other countries; while other countries adopted clear assistance policies, Israel's were characterized by a lack of clarity regarding the conditions of the assistance, its duration and its scale. This fact adds another dimension to the already high level of uncertainty created by the coronavirus crisis and has undermined the credibility of the bridge.

	8 8		
Country	Total government assistance (percentage of GDP in 2019)	Immediate assistance (percentage of GDP in 2019)	Long-term assistance (percentage of GDP in 2019)
Israel	6.7%	3.3%	3.4%
Germany	23.9%	4.0%	19.9%
UK	17.9%	1.4%	16.5%
Denmark	12.2%	2.1%	10.1%
US	12.2%	5.5%	6.7%
Netherlands	5.2%	1.6%	3.6%

Table 4 Out-of-budget government assistance in terms of GDP

Source: Ministry of Finance, IMF, the Ministry of Finance sites of selected countries and calculations by the authors.

(1) The bridge for businesses: Israel vs. other countries

In Israel, as in other countries, the deferral of taxes (income tax advance payments, VAT and municipal taxes) was used as a policy measure to support the cash flow of the business sector. However, the period of the deferral (1-2 months) is significantly shorter than in other developed countries.

Country	Period for deferral of tax payments
Israel	1–2 months
Austria	6 months
Denmark	6 months
Netherlands	3 months
Sweden	12 months
Germany	9 months, until the end of 2020
UK	3 months
US	24 months
Australia	9 months, until the end of 2020

Table 5 The deferral period for payment of taxes – Israel vs. selected developed countries⁸

Source: Ministry of Finance, IMF, the Ministry of Finance sites of selected countries.

⁸ For further details, see: Eckstein, Carmi and Sumkin, "Government Assistance for Fixed Expenses of Businesses in Crisis," Aaron Institute for Economic Policy.

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There was no deferral of income tax payments in Israel. A relatively short deferral of VAT payments (from March 15 to May 18, at which time the companies had to pay the total accumulated debt, without any possibility of paying in installments) was granted to small companies (which submit reports on a bi-monthly basis). Similarly, a deferral of National Insurance payments was granted from April 15th to May 18th at which time the companies had to pay their accumulated debt, without any possibility of paying in installments. Table 4 shows that other countries provided the possibility of a longer deferral of tax payments. In Israel, the tax deferral policy provided very little cash flow relief to the business sector.

With respect to contracts that involve fixed payments, we differentiate between the pecuniary compensation by the government and its intervention in contracts. Concerning the former, the government implemented two plans aimed at providing compensation to firms for incurring fixed costs: i) "the fixed costs compensation plan" for firms that were seriously hit in their revenues, which provides aid to firms as a function of the extent of damage and the degree to which they kept workers in the firm (budget: NIS 14.9 billion; utilized until August 2020: NIS 3.6 billion); ii) A reduction in municipal taxes to firms (budget: NIS 3.9 billion; utilized until August 2020: NIS 2.7 billion). Concerning intervention in contracts and agreements with suppliers, such as rental contracts and agreements with suppliers, there has been no intervention in Israel. The modification of the contracts to changing market conditions remains in the hands of the parties or the courts. In other countries, rules were adopted that regulate the behavior of the parties. For example, countries such as Germany and Austria have adopted a policy for rental contracts that keeps the underlying obligations of the parties intact but allows for some delays in the payment of rent, thereby barring the eviction of a renter. Moreover, in these countries, programs were established to provide loans on preferred terms in order to cover fixed costs.

Overall, the loan programs for small and mid-sized businesses in Israel place greater restrictions on borrowers, obliging them to supply relatively high personal guarantees. The State does not intervene in relations between a borrower and a lending bank nor in the level of the guarantee in this context, and provides a loan guarantee that can reach up to 15 percent (budget: NIS 18 billion with completion by August 2020); in addition, the government implemented a plan for high-risk firms, in which the overall guarantee reaches up to 60 percent (budget: NIS 4 billion; utilized until August 2020: NIS 0.8 billion).

In other countries, state guarantees are generous (up to 100 percent, depending on the damage to the business due to the coronavirus epidemic) and interest payments are subsidized.

With respect to large companies, other countries (such as Germany) have set up mechanisms that facilitate state intervention in equity capital, whether in the form of loans or the partial acquisition of a company. In Israel, no such policies have been adopted.

As a result of the limited assistance and the lack of clarity in its distribution, it is expected that there will be significant deterioration in the situation of small and mid-sized businesses in Israel. Furthermore, a major increase in costly lawsuits is expected, especially given the Kaminitz Committee's recommendation, published after long deliberations, against recognizing the coronavirus epidemic as a "force majeure" that would justify violations of contracted stipulations.

These human failures significantly increase the uncertainty beyond that due to natural causes, thereby raising the cost of doing business in Israel and thus reducing the demand for workers, increasing unemployment and exacerbating inequality in the economy.

(2) The bridge for workers: Israel vs. other countries

Many countries, such as the Netherlands, Denmark, Sweden, the UK and the US, have adopted within a short period the principle of "short-time work" (Kurzarbeit) that has existed for many years in the legal systems of Germany and Austria. The basic principle underlying these programs is the preservation of the connection between the employer and the employee.

In Germany and Austria, the eligibility for the short-time work program is determined on the basis of a detailed request submitted by an employer to the Labor Bureau. The request must show that the business was in a normal operating condition prior to the shock, that the business was subject to some adversarial circumstances and that these circumstances are temporary and unpredictable. In addition, the employer needs to obtain the agreement of the workers in order to implement the program. Once the request is approved, the State covers about 75 percent of the difference between the wage of each worker whose hours have been cut and his wage in normal times. The payment is made to the worker through the employer but without the former's involvement. The partial compensation mitigates the moral hazard that exists for workers while the moral hazard of the employer is mitigated by the fact that he must bear a large portion of the supplementary employment costs. The settling of accounts with the State is carried out after the fact on the basis of a detailed report on the workhours of each worker.

As mentioned, this system preserves the connection between workers and their employers and the human capital that is specific to these labor relationships ("the value of the match" in the language of labor market search models) and thus saves the training costs of new workers once the business has recovered. The model is grounded in the country's laws and provides certainty to workers and employers regarding what is expected of them during a crisis. Nevertheless, the policy maker can modify the details of the program to fit the circumstances. For example, in the case of an aggregate crisis, the duration of the program's coverage and the level of the coverage can be increased. As shown by Herzog-Stein, Lindner and Sturn (2018), the program was highly successful during the financial crisis of 2008 and was referred to as the German "employment miracle" in view of the minimal harm to employment, despite the significant drop in output. Furthermore, the recovery was rapid in Germany. However, because the program is intended to preserve what exists, it may not be ideally suited to deal with the current crisis, in which structural changes that will involve the reallocation of part of the workforce are to be expected.

Israel has adopted a labor market policy that allowed employers to send their workers on unpaid leave—without conditioning that action on the extent of damage to the business—on

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the condition that the leave last more than a month. Workers on unpaid leave were not permitted to work part-time, whether for their original employers or a different ones. The workers were required to register at the Employment Bureau and were promised payment at the same level as the unemployment benefits for which they were entitled, initially for a period of two months (which has subsequently been extended, recently until the end of June 2021). Requests for support by the workers were directed to the government and in this way the employer-employee connection was disrupted.

As a result of this policy, about a million workers were placed on unpaid leave (about one-quarter of the workforce in the economy). These are, for the most part, low-productivity workers. Their average wage is NIS 6,342, about one-third less than the average wage in the economy.⁹ The share of young people, women and members of the ultra-Orthodox community among them was particularly high. The main sectors that sent their workers on unpaid leave were education, food and beverage, household services, retail, manufacturing and wholesale commerce.¹⁰

The program provided immediate cash flow relief to employers and preserved the basic standard of living of the employees. Nonetheless, the policy was declared to be "ad hoc" and will only continue for the duration of the crisis.

Since the unpaid leave program did not include any stipulation regarding a return to work, the government was forced to hastily plan and legislate a designated program for return to employment, at a cost of NIS 6 billion. The program pays an amount of NIS 7,500 to an employer who hires a worker provided the workforce is increased relative to that of May 2020, even if the worker is hired part-time. The grant is conditional on the signature of the worker and thus constitutes a kind of an employment voucher for the worker. The program is expected to bring about 150,000 workers back to work, which constitutes about 4 percent of the workforce. As a result, the expenditure on unemployment benefits will be reduced and GDP increased, thereby neutralizing the program's effect on the deficit-to-GDP and the debt-to-GDP ratios. Nonetheless, the delay in the legislation has led to a delay in the return of workers to work. Apart from this, since the program was legislated in order to improve only the current situation, it does not provide any certainty in the event of a recurrence of the crisis. To a certain extent, this has created "dynamic moral hazard". In the absence of a permanent regulation, employers will send as many workers as possible on unpaid leave in the next crisis in the expectation of receiving a grant for taking them back. In order to prevent this

https://www.gov.il/BlobFolder/dynamiccollectorresultitem/periodic-review-

07072020/he/weekly_economic_review_periodic-review-07072020.pdf [Hebrew]

⁹ See the Ministry of Finance, Chief Economist Branch, "Analysis of the characteristics of jobseekers during the Corona period," May 2020.

On June 1st, 2020, the Chief Economist Branch in the Ministry of Finance published an additional analysis of the characteristics of jobseekers during the Corona period. The main conclusions remained unchanged.

¹⁰ See <u>https://www.gov.il/BlobFolder/dynamiccollectorresultitem/periodic-review-01062020/he/weekly_economic_review-periodic-review-01062020.pdf [Hebrew]</u>

phenomenon, a mechanism needs to be legislated that will be implemented in a predictable manner in any crisis situation without any additional compensation for returning workers to their previous jobs.

4. CONCLUSION: WHAT HAVE WE LEARNED?

We have seen above that the preparedness and response to epidemics such as in South Korea and Taiwan make it possible to combat epidemics by means of testing, tracing and tracking while avoiding lockdowns and the shutdown of the economy. Overall, a heavy economic price is avoided and it would appear that the incidence of infection is also reduced.

On the economic front, it is important to build a credible and stable platform of assistance that provides certainty and that will constitute a "bridge" for businesses and households, enabling them to ride out the current crisis. The establishment of a mechanism of assistance that is anchored in legislation, as in other countries, institutionalizes the response to crises and facilitates the preparedness of employers and workers for future crises. With respect to employment, a model of "flexible unpaid leave" should be adopted to facilitate half-time employment, whereby the State provides a proportion of the remainder of the worker's salary through the National Insurance Institute.

In the immediate term and in the shadow of the coronavirus epidemic, the government should adopt employment targets for 2020 and 2021 relevant to the 25–64 age group. It is important to increase certainty in the economy by means of a budget law that will also cover 2021 (at least). In building the budget, the implications of the "zero lower bound" (ZLB) of the interest rate, namely that at a near-zero rate of interest expansionary fiscal policy is particularly effective, should be taken into account. In particular, at that level of the interest rate it becomes economically worthwhile to invest in growth-oriented high-yield public projects.

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REFERENCES

- Argente, David O., Chang-Tai Hsieh and Munseob Lee (2020). "The Cost of Privacy: Welfare Effect of the Disclosure of Covid-19 Cases", NBER Working Paper, 27220.
- Aum, Sangmin, Sang Yoon (Tim) Lee and Yongseok Shin (2020a). "Inequality of Fear and Self-Quarantine: Is There a Trade-off between GDP and Public Health?", NBER Working Paper, 27100.
- Aum, Sangmin, Sang Yoon (Tim) Lee and Yongseok Shin (2020b). "Covid-19 Doesn't Need Lockdowns to Destroy Jobs: The Effect of Local Outbreaks in Korea", NBER Working Paper, 27264.
- Eichenbaum, Martin S., Sergio Rebelo and Mathias Trabandt (2020a). "The Macroeconomics of Epidemics", NBER Working Paper, 26882.
- Eichenbaum, Martin S., Sergio Rebelo and Mathias Trabandt (2020b). "The Macroeconomics of Testing and Quarantining", NBER Working Paper, 27104.
- Engelchin-Nissan, Esti and Shmueli, A. (2008). "Initial Estimate of the Value of Human Life in Israel and its Implications for the Update of the National Health Insurance Basket of Services", *Economic Quarterly*, 55(4), 467-487. [Hebrew]
- Herzog-Stein, Alexander, Fabian Lindner and Simon Sturn (2018). "The German Employment Miracle in the Great Recession: The Significance and Institutional Foundations of Temporary Working-Time Reduction", *Oxford Economic Papers*, Volume 70(1), Pages 206–224.
- Jones, Callum J., Thomas Philippon and Venky Venkateswaran (2020). "Optimal Mitigation Policies in a Pandemic: Social Distancing and Working from Home", NBER Working Paper, 26984.