Chapter 5
Labor Market Issues

PART 1:
FACTORS IN THE RECOVERY OF EMPLOYMENT FROM THE COVID-19 CRISIS

- The labor market recovered strongly in 2021, after having been hit hard at the start of the COVID-19 crisis. The employment rate rose, broad unemployment fell, wages increased, and, in the second half of the year, the job vacancy rate was high.
- The rapid recovery alleviated most concerns that there would be residual "scarring" in the labor market in the form of employment rates that represent underutilization of the labor force and, in particular, of weaker population groups, and about a structural change in the economy that would create a mismatch between the characteristics of jobseekers and the supply of vacant jobs, and thus impede the recovery.
- The increase in employment mainly reflected a weakening of the pandemic's impact on economic activity and access to workplaces after the vaccination campaign, and the change in government policy, including the avoidance of general lockdowns. The return to employment was also abetted by the maintenance of employer–employee relations during the crisis by means of the furlough mechanism.
- The mismatch between the qualifications of some of the jobless to the requirements of the jobs offered had only a negligible slowing effect on the recovery. This is because the main impact to employment at the peak of the crisis was not due to business failures but to the epidemiological situation. Therefore, when the restrictions were lifted, most jobs that had been temporarily shut down were re-staffed by suitably qualified unemployed persons—mainly returning employees.
- At year's end, the extent of the mismatch between the qualifications of the jobless and the requirements of job vacancies converged toward its precrisis level. By implication, the ability to meet the growing demand for labor in relevant occupations depends on the ability to draw new population groups into the labor market and to train new and veteran workers for occupations in demand.
- The termination of the special extension of unemployment benefits for jobless people under age 45 in mid-year, as activity rebounded swiftly and demand for labor turned brisk, contributed significantly to the earlier return of jobless persons in this age group to employment.

1. INTRODUCTION

Despite early fears, the labor market recovered swiftly this year.

During the COVID-19 crisis, it was feared that the shocks to the labor market would result in the disruption of employer-employee relations and changes in the composition of demand for labor, inducing large-scale structural unemployment due to a mismatch between the characteristics and skills of jobseekers and the requirements of the jobs offered. At the end of 2021, it appears that these concerns did not come to pass. After the end of the third wave of the pandemic and following the vaccination campaign in the first quarter of the year, the labor market showed brisk demand for workers, reflected in a marked increase in employment and a high number of job vacancies. Although strong demand ensued during the year and continued through year's end, the return to work of those who had been laid off when the pandemic began[1] was gradual and continued throughout the year. The pace of the process manifested in the aggregate job-finding rate—the share of jobseekers who found work out of all jobseekers at a given time. In ordinary times, the characteristics and composition of jobseekers and jobs offered are relatively constant and the finding rate is the result of the relation between the number of vacant jobs and the number of jobseekers (a ratio that is mainly contingent upon the economy's place in the business cycle). During major crises, specifically during the COVID-19 pandemic, the composition of jobseekers and of jobs offered changes considerably and may affect the finding rate and the recovery of the labor market.

With the experience gained in previous crises abroad, and in view of the extent of unemployment at the beginning of the COVID-19 crisis and its modest decline over the course of 2020, there were reasons to fear that the crisis would manifest in a protracted increase in the unemployment rate as many jobless persons remained outside the labor market for an extended time and their connection with the labor market weakened. The intensity of the shock might have prompted firms to streamline and to adopt labor-alternative technologies, creating a temporary decline in demand for workers in certain positions—such as barmen and waiters. As of now, it appears that these concerns did not come to pass. During 2021, the labor market converged toward nearly full employment amid vigorous demand for labor and increases in wages.

This chapter reviews the course of the recovery in 2021. The most important forces affecting the labor market during the crisis were developments related to

[1] The number of jobless persons and the unemployment rate throughout this chapter are based on the broad unemployment rate from age 15 up, in accordance with the definition in the COVID-19 Law. This group includes jobless persons who were absent from work for reasons associated with COVID-19 (mainly those placed on furlough). It is worth emphasizing that in the course of the COVID-19 crisis, policymakers habitually looked at an even broader definition that included those not participating for reasons associated with the pandemic. (See press release, "Bank of Israel Research Department Analysis: The Unemployment Rate and its Definition During the COVID-19 Period", April 27, 2020.

health. Below, we expand[2] the traditional search and matching model[3] to explain the factors affecting the recovery of the labor market apart from the effect of the waves of COVID-19 morbidity, focusing on the job-finding rate. The expansions of the search model allow us to examine the channels through which the heterogeneity of the characteristics of the unemployed and their fit with vacant jobs affected friction in the labor market and the aggregate finding rate. In particular, we will examine how changes in the characteristics of the jobless, the composition of occupations that fit their qualifications, the alignment of this composition with job vacancies, and the dispersion of the economic impact affected the aggregate finding rate. We will also examine how the termination of the extension of unemployment compensation for jobless persons under age 45 from July onward affected the finding rate of this group.

2. THE MACRO PICTURE

The rapid recovery began after the vaccination campaign at the beginning of the year.

The blow to the labor market in the first year of the COVID-19 crisis was focused on the three large waves of morbidity. As the crisis evolved, the intensity of the impact to employment at the peak of the morbidity waves declined but the recovery once the waves passed was less than complete. At the end of the morbidity waves, the unemployment rate stood at around 10 percent. When the vaccinations began to have an effect in early 2021, economic activity without lockdowns and with less intense restrictions became possible and a gradual recovery of employment ensued. From then on, the pace of the rebound was contingent more upon the economic characteristics of the crisis than upon its health-related aspects. The recovery was relatively swift in the second quarter of the year, halted in the third quarter (which included the autumn Jewish holidays and the fourth wave of COVID), and continued slowly until it was nearly completed during the last quarter of the year. At year's end, the employment rate[4] was 60.1 percent, 1 percentage point (around 65,000 employed persons) below the 2019 average.[5]

An examination of the flows into and out of employment (Figure 5.1) emphasizes that after the end of the third wave of COVID-19 and the beginning of the effect of the vaccination campaign, the pace of recovery was determined largely by an increase in the number of job finders. The number of those leaving employment was lower than

[2] Regis Barnichon and Andrew Figura (2015). "Labor Market Heterogeneity and the Aggregate Matching Function," *American Economic Journal: Macroeconomics* 7(4): 222–249.

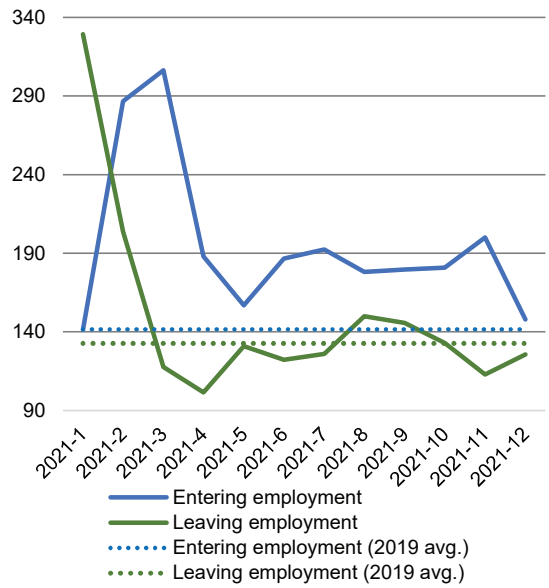
[3] The traditional model was first presented by Dale T. Mortensen and Christopher A. Pissarides (1994), "Job Creation and Job Destruction in the Theory of Unemployment," *The Review of Economic Studies* 61(3): 397–415. Since then, it has been the most important tool for the analysis of friction in the labor market.

[4] The employment rate out of the population aged 15+, adjusted to the COVID-19 era. Employees absent for reasons associated with COVID-19 are subtracted from total number of employees in order to reflect the actual decline in employment over the course of the crisis.

[5] For a comprehensive discussion of macro developments in the labor market, see Chapter 2 in this Report.

in 2019 for most of the year. The small size of the latter group may be explained by previous take-up of eligibility for unemployment benefits by some employed persons. This refutes the argument about a change in the tastes of employed persons in Israel that brought about a large-scale voluntary departure from the labor market (of the sort recently seen in several advanced economies). After the rapid return to employment at the end of the third wave, the number of job-finders stabilized at a level much higher than the 2019 average, with a decrease in December that apparently reflected the beginning of the impact of the Omicron wave on unemployment, along with convergence toward an approximation the precrisis employment rate.

Figure 5.1
Flows Into and Out of Employment, 2021
(thousand)



SOURCE: Based on Central Bureau of Statistics.

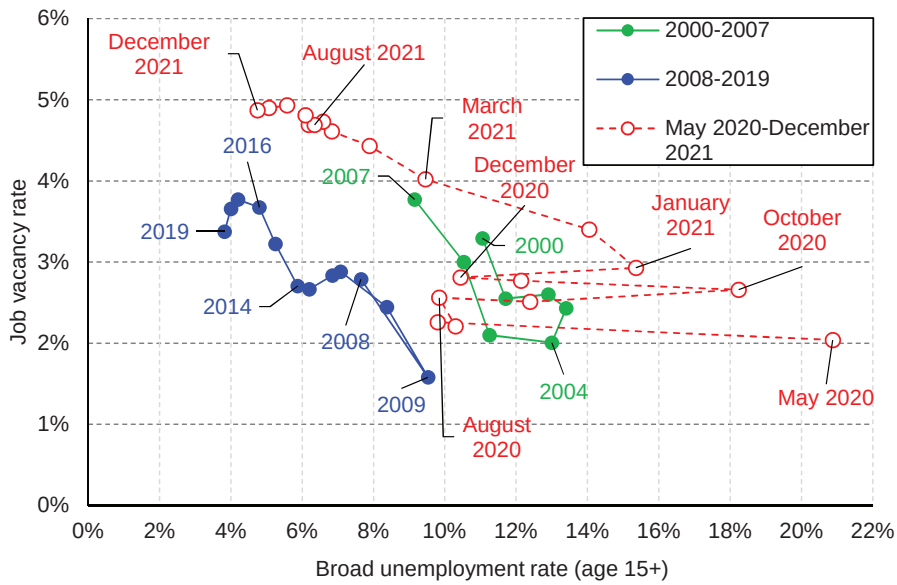
As the year proceeded, the strong finding rate was accompanied by an increase in the job vacancy rate, to 4.9 percent of all jobs in the business sector (around 139,000 vacancies) at year's end. The vacancy rate exceeded the 2019 average by 1.5 percentage points and was also high by historical comparison. Despite the high vacancy rate, the unemployment rate was 4.7 percent at the end of 2021, 0.9 percentage points (around 38,000 jobless persons) higher than before the crisis. This combination of growth in vacancies and in jobless persons raises the question of whether the crisis created structural changes that led to an increase in frictional unemployment—a mismatch between the qualifications needed for the new jobs and qualifications and experience offered by the jobless persons.

The rapid recovery began after the vaccination campaign at the beginning of the year.

The duration of convergence to a low jobless rate is contingent upon the extent of frictionality in the labor market (the efficiency of matching job seekers to vacancies). Long-term frictionality is commonly shown by means of the Beveridge curve, which describes the relation between the job vacancy and unemployment rates in the economy. During expansionary periods, the number of unemployed declines as the rate of vacancies increases. When the economy slows, the opposite happens. An outward movement of the curve indicates increased frictionality (a decline in matching efficiency) in the labor market. The COVID-19 crisis in Israel dealt the labor market a shock that was reflected in an immediate steep increase in the unemployment rate

and a decline in job vacancies as a share of total business sector jobs (Figure 5.2). The rapid reversion to an unemployment rate resembling that of ordinary times indicates that the shift of the curve was probably temporary and that the pandemic crisis did not induce a protracted increase in friction in the Israeli labor market. The job vacancy rate, which surged during the year and plateaued at a high level, attests to the ability to continue converging toward full employment, but may also point to a slight structural change and difficulty among employers in filling potential jobs in some industries and occupations.

Figure 5.2
Development of the Beveridge Curve over Time



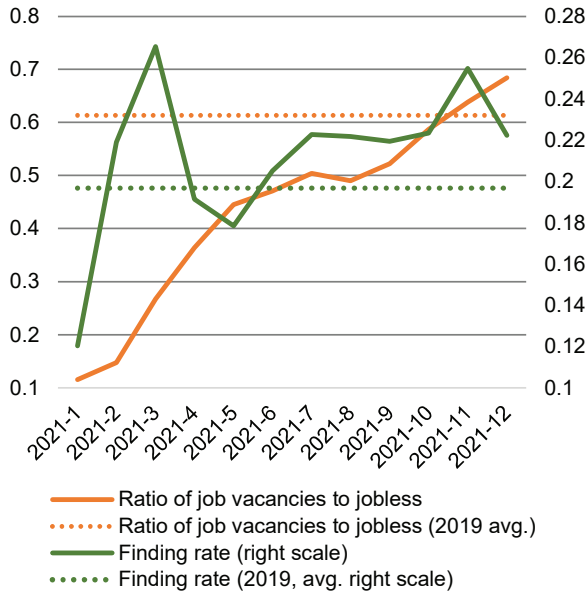
SOURCE: Based on Central Bureau of Statistics and Ministry of Economy and Industry.

The main framework for analyzing the determinants of the finding rate is based on the search and matching theory. Underlining this theory is the assumption that the process of matching employers to workers comes at a cost that rises as the search lengthens. The longer the expected=7search time is, the less worthwhile it is for employers to create new jobs and the weaker the incentive is for the unemployed to seek work. Within this framework, the aggregate finding rate in the economy rises as does the ratio of job vacancies to jobseekers because jobseekers have more opportunities for successful matching. The finding rate is also affected by the efficiency of the economy's "matching technology." This efficiency is partly determined by the efficiency of the process of placement by firms, the efficiency of searching by the unemployed, and the strength of the fit between the jobless and the vacancies offered. It stands to reason that over the course of the COVID-19 crisis, this efficiency was temporarily

impaired for epidemiological reasons. The crisis, however, expedited the assimilation of technological developments that would improve efficiency in the future, such as online alternatives for job interviews and other screening processes. In the traditional model, it is assumed that job-matching efficiency remains constant.[6]

The ratio of job vacancies to jobseekers rose considerably during 2021 (Figure 5.3) coming close to its precrisis level toward the end of the year.[7] The aggregate finding rate exceeded its precrisis level for most of the year, even though the aforementioned ratio was lower than it had been on the eve of the crisis and despite adverse exogenous shocks to the labor market due to the waves of morbidity.

Figure 5.3
Aggregate Finding Rate, and Ratio between Number of Job Vacancies and Number of Jobless, 2021 (percent)



SOURCE: Based on Central Bureau of Statistics.

3. HETEROGENEITY IN THE LABOR MARKET

The expansion of the search and matching model developed by Barnichon and Figura (2015) helps to explain the additional factors affecting the aggregate finding rate while relating to jobseekers' heterogeneity[8] and the extent of their suitability for vacant jobs. Within this construct, the labor market is seen as composed of various employment

[6] In this specific model, the aggregate finding rate in month t, f_t, is determined by the ratio of job vacancies, V_t, to the number of job seekers, U_t, that month, and by the efficiency of the "matching technology," : , where σ is a parameter that can be calibrated by means of past data. In the traditional model, the efficiency of the "matching technology" in the economy remains constant.

[7] The ratio of labor demand to labor supply on the eve of the crisis was relatively high, which supported the tight labor market and the low unemployment rate that prevailed at that time.

[8] Throughout the analysis in this part of the chapter, the examined group is composed of unemployed persons for whom there is information about occupation in at least one of the times they were sampled in the survey. This information is needed in order to investigate the distribution of the jobseekers across employment segments. The total number of jobseekers each month was inflated or contracted in order to fit the macro data.

segments. Each worker (or jobseeker) is suited to a given segment, and each segment therefore comprises a separate labor market. In this chapter, the segments are defined by grouping similar occupations (as detailed below). In addition, each jobseeker has singular qualities that affect the duration of his or her jobseeking, such as demographic characteristics, geographic characteristics, and level of education. This heterogeneity affects the efficiency of the aggregate fit—which, in this version of the model, varies among periods—and thereby affects the aggregate finding rate. Below we focus on three channels of transmission of heterogeneity to matching efficiency:

1. **The effect of the composition of the unemployed:** The duration of jobseeking by an unemployed person depends partly on characteristics such as age, place of residence, level of education, and marital status. For example, a person living in an area with poor access to employment centers probably needs more time to find a job. The distribution of characteristics of the unemployed is relatively constant in ordinary times but tends to change considerably during a crisis.[9]
2. **The effect of the composition of adversely affected employment segments:** The efficiency of placing new employees with firms differs from segment to segment. Therefore, the concentration of job vacancies or impairment in specific markets and not in others affects the efficiency of aggregate matching, and, through it, the aggregate finding rate. For example, a concentration of vacancies in segments typified by workers who have undifferentiated human capital, such as accommodation and food services, clerical, and housekeeping assistance, in which the placement process is brief, is likely to bring on an increase in the aggregate job-finding rate, whereas the concentration of vacant jobs or impairment in segments typified by workers who have specific human capital, such as management or specialized areas of manufacturing, is likely to degrade the aggregate finding rate.
3. **The effect of variance among employment segments:** The more intersegmental variance there is in the ratio of job vacancies to jobseekers, the lower the aggregate finding rate will be relative to a given aggregate ratio of job vacancies to jobseekers, due to mismatch between types of jobs offered and jobseekers' qualifications.

a. The various employment segments in the Israeli economy

The ratio of job vacancies to jobseekers increased, particularly in low-wage occupations. It was high in high-tech occupations as well.

The segmentation is based on jobseekers' occupations and those in demand in offered jobs at a two-digit level of detail.[10] To define the segments, the occupations were clustered on the basis of the distribution of occupations into which workers from each

[9] See discussion in Bank of Israel (2021), "Transformations in the Labor Market Following the COVID-19 Crisis," *Monetary Policy Report: First Half of 2021*, 55, pp. 38–48.

[10] The analysis in this chapter is based on occupations and not on industries because occupation better reflects the areas of the labor market that different jobseekers can access. Accordingly, the intensity of the impact in the hardest-hit industries, such as tourism, is not discussed explicitly.

occupation moved and the distribution of occupations from which workers reached each occupation.[11] The segments are presented in Table 5.1.

An increase in the ratio of job vacancies to jobseekers relative to the precrisis situation is observed mainly in regard to workers in occupations that require undifferentiated human capital and, accordingly, pay low wages, such as general workforce, sales, and clerks. The ratio of job vacancies to jobseekers in high-tech is much higher than in the rest of the economy, but there was no major increase observed in this ratio between the periods. The lengthy training that these occupations require, together with the increase in global demand for the output of high-tech firms and a series of large-scale capital issuances, led to a steady increase the ratio and, in turn, significant wage increases, during the crisis.[12]

Table 5.1: The development of various employment segments in the labor market

	Rate of employees	Monthly wage for a full-time position	Job search duration	Job vacancies for jobless people whose last position was in the segment	
	Percent, 2019	NIS thousand, 2019	Percent, 2019	2019	2021:Q4
General - low-skilled	27.3	8.8	5.1	0.54	0.60
business and administration professions	15.1	16.1	6.7	0.51	0.44
High-tech professions	14.9	19.8	4.7	1.59	1.61
General - high-skilled	9.4	16.2	5.5	0.35	0.35
Teaching professions	7.9	13.1	4.5	0.09	0.12
Manufacturing workers	7.9	10.5	4.9	0.76	0.74
Clerks	7.1	9.8	5.3	0.50	0.55
Sales people	6.9	8.7	4.5	0.67	0.76
Healthcare professions	3.5	17.1	6.8	1.00	0.70
Total	100.0	13.1	5.3	0.61	0.65

SOURCE: Based on Central Bureau of Statistics and Israel Tax Authority.

b. Characteristics of the unemployed

At the end of 2021, unemployment was more pronounced among older workers, married workers, and parents of young children than before the crisis.

The characteristics of unemployed people at a time of crisis, and specifically during the COVID-19 crisis, are different from those of unemployed people in ordinary times. During the COVID-19 crisis, the difference in characteristics was strong enough to affect the pace at which people who became jobless were reemployed during the surveyed year. Table 5.2 shows that at the end of 2021, there were more married people and parents of young children among the jobless than there had been before the crisis. The gap narrowed slightly during the year. Those unemployed during the crisis were older, and this trend gathered strength as the year progressed. At the beginning of 2021, the most significant changes in the age distribution were a decrease in the share of unemployed people in the 15–24 age group and an increase in the share of

[11] The clustering procedure is described in the Appendix.
[12] For elaboration on developments in the high-tech industry, see Chapter 1 in this Report.

those in the 25–44 age group. During the year, some of the weight shifted from the 25–44 group to older cohorts, partly due to the government's decision in June not to extend the payment of unemployment compensation to unemployed people under age 45. (See separate discussion below in this chapter.)

The "search efficiency" of unemployed persons was high throughout the crisis. The difference between it and the precrisis average narrowed as the recovery continued.

To sum up the effect of the characteristics of the unemployed, we estimated a statistical model in which the characteristics of all unemployed persons are used to predict the odds of finding work (search efficiency).[13] The model, calibrated on the basis of the precrisis period, estimates the probability that in a labor market similar to the precrisis market, a jobseeker with similar characteristics will find employment. A decrease in average search efficiency means that the jobseekers would have difficulty finding work even under ordinary circumstances. Expected search efficiency based only on the characteristics of the jobless was higher at the beginning of 2021 than in the precrisis period but declined during the year as employees with characteristics that were more in demand found work with their previous employers or in other posts. At year's end, expected search efficiency returned to a semblance of its precrisis level.

Table 5.2: Characteristics of the unemployed over the year

	2019 average	2021:Q1	2021:Q2	2021:Q3	2021:Q4
Percentage that are non-*Haredi* Jews	73.4%	75.4%	74.6%	74.8%	76.1%
Percentage that are *Haredi* Jews	7.8%	8.4%	8.3%	7.8%	7.2%
Percentage that are Arabs	18.8%	16.2%	17.1%	17.5%	16.7%
Percentage that are women	52.9%	52.7%	51.2%	51.4%	53.2%
Percentage that are married	43.4%	51.5%	51.8%	50.5%	49.1%
Percentage that have children under age 10	20.2%	26.3%	25.2%	23.7%	24.1%
Average number of people in the household	4.0	3.9	3.8	3.8	3.7
Average age	38.0	40.2	41.2	41.4	41.7
Percentage of those aged 15–24	36.7%	25.0%	24.5%	25.9%	26.3%
Percentage of those aged 25–44	28.2%	36.7%	34.1%	33.0%	31.7%
Percentage of those aged 45–64	20.4%	25.5%	27.0%	24.3%	24.2%
Percentage of those aged 65+	14.7%	12.7%	14.4%	16.8%	17.8%
Average years of schooling	13.2	13.4	13.4	13.3	13.5
Average time to find work (months)	5.0	4.9	5.2	4.5	4.3
Forecast time to find work based solely on search efficiency (months)	4.3	3.4	3.6	3.8	4.0

Note: The characteristics are calculated for all unemployed persons for whom there is information regarding the last profession in which they worked, and who can therefore ben included in the calculation of the models that appear below.
SOURCE: Based on Central Bureau of Statistics.

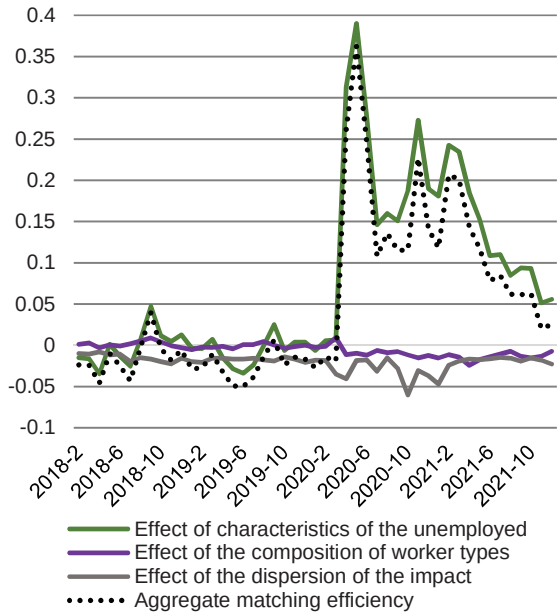
[13] The Stochastic Gradient Boosted Trees model, as applied in the XGBoost package in Software R. The model is trained for the following characteristics: age, gender, level of education, extent of religiosity, nationality, family status, household size, number of children bt age group, and number of wage earners (lagged) in the household. Duration of joblessness is recognized in the literature as a major determinant in this context but is not included in this estimation because its effect was probably different in the COVID-19 period, in which protracted joblessness did not necessarily provide a signal to potential employers regarding the employee's quality, and because information about the duration of unemployment in the Labor Force Survey is incomplete.

c. Quantifying the channels of impact

The "search efficiency" of unemployed persons expedited the recovery considerably, but this channel largely exhausted itself by the end of the year.

Figure 5.4 shows the fluctuations in the aggregate matching efficiency parameter together with the various channels affecting it in accordance with Barnichon and Figura's (2015) model.[14] The effect is expressed in percentage terms (log points) on matching efficiency in comparison with a situation of zero heterogeneity in the labor market. The dominant factor in terms of its impact on aggregate matching efficiency is the difference in the composition of the unemployed persons' characteristics. During the first wave of COVID-19, many employees who had superior search efficiency were laid off, increasing the average search efficiency of the unemployed. When the first wave ended and most of the unemployed returned to work (usually with the same employer, as part of the furlough arrangement), the estimated intensity of this channel declined by about 60 percent. A similar if less intensive dynamic was observed around the second and third waves of morbidity. When the third wave receded and the vaccination campaign began to kick in, the positive impact of search efficiency waned quickly. At year's end, improvement in the characteristics of the pool of unemployed persons contributed only 5.5 percent to aggregate matching efficiency.

Figure 5.4
The Effect of Labor Market Heterogeneity on Aggregate Matching Efficiency, 2018–2021
(log points)



SOURCE: Based on Central Bureau of Statistics.

The average search efficiency of the unemployed decreased during the year for two reasons: the lengthy term of unemployment (which is not included in the estimation but affects the outcome in the same direction) and the fact that unemployed people with relatively high search efficiency are the first to return to work. Thus, at year's end, a large pool of unemployed people was created, whose characteristics initially contributed to relatively low search efficiency, and who had also experienced a lengthy term of joblessness that weakened their connection with the labor market. As stated,

[14] The model is calibrated to the precrisis period in order to avoid erroneously over-fitting developments during the crisis. The model also weights the effect of the increase in the ratio of job vacancies to unemployed persons in a similar way to the traditional search model.

however, the number of jobless had already converged to an approximation of its precrisis level, so that the findings do not indicate a protracted impact to employment.

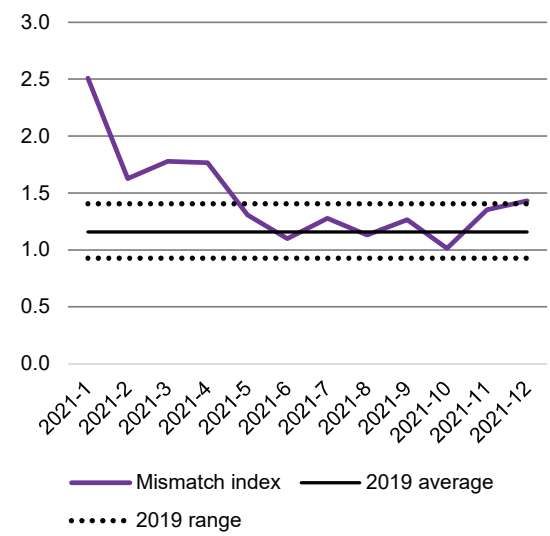
The concentration of the impact to the labor market mainly in employment segments where job-searching tends to be lengthy had a relatively minor and constant downward effect (about 1.2 percent) on aggregate matching efficiency during the crisis. Finally, labor market variance between the segments, a concept strongly related to a mismatch of supply and demand in this market, reduced aggregate matching efficiency by an average of 2.5 percent. This effect increased during lockdowns, when there were major differences in the advisability and the ability to hire various types of workers.

d. Effect of the mismatch between jobseekers and job vacancies

The mismatch between unemployed persons' qualifications and those required for the vacant jobs did not have an important slowing effect on the recovery.

Another way heterogeneity affects the job-finding rate is through a mismatch between the distribution of jobseekers' qualifications and the distribution of the requirements necessary to fill vacant jobs. The mismatch is closely associated with variance in the economy's labor markets, examined in the previous section. Here we test the effect of the mismatch through an additional expansion of the traditional search-and-matching model, as developed by Sahin et al. (2014). By means of this expansion, we can estimate an index of the mismatch between employment segments to which jobseekers belong and those that offer vacant jobs. The index expresses the rate of unfulfilled hiring as a share of total potential hiring in comparison with the rate that would be obtained if there were a central planner who could costlessly manipulate the segments for which jobseekers are qualified so as to match them with the kinds of jobs offered.[15]

Figure 5.5
Development of the Index of the Mismatch between Types of Jobseekers and Offered Positions, 2021 (percent)



Note: The index expresses the rate of unfulfilled hiring due to mismatch as a share of total potential hiring.
SOURCE: Based on Central Bureau of Statistics.

[15] The absolute estimated level of the index is strongly affected by various possible definitions of the employment segments in the overall labor market. As a rule, defining numerous small segments is likely to bring about an increase in the estimated level of the index. This makes it hard to compare the level of the index between countries that use different classifications, but facilitates the examination of long-term changes in the index.

Figure 5.5 presents the development of the index over the course of 2021, compared with the precrisis period. From the end of the third wave of morbidity and the start of the vaccination campaign in the first quarter of the year to year's end, the index resembled its precrisis level. At the end of 2021, the index increased rather steeply, possibly signaling the onset of the Omicron wave.[16] Much like studying the matter by gauging intersegmental variance, it appears that the mismatch between jobseekers and types of jobs offered had no major impact on the aggregate finding rate during the review year. A similar recent analysis by the International Monetary Fund, pertaining to the United States and Great Britain, yielded similar findings.[17]

4. THE EFFECT OF TERMINATING EXTENDED UNEMPLOYMENT COMPENSATION FOR THOSE AGED 45 AND LOWER ON THE JOB-FINDING RATE

The termination of the special extension of unemployment compensation significantly accelerated the return to employment of jobless persons under age 45.

Extending the term of unemployment compensation provided a necessary safety net for workers who had been laid off when the COVID-19 crisis began and during the period of the lockdowns and restrictions on economic activity, when demand for labor was weak.[18] Continuing the benefit during the rapid recovery of the labor market after the vaccination campaign, conversely, might have prolonged the duration of unemployment. In this part of the chapter, we ask how the decision to extend unemployment compensation for those aged 45 and over but not for younger people from July onward affected the job-finding rate among members of these age groups.

Initial reports about the differential termination of unemployment compensation first reached the headlines in early June and the decision on the matter was made during that month. (The last payment to unemployed people under age 45 whose ordinary term of eligibility ended on July 1.) For the large majority of unemployed people over age 45, special eligibility for unemployment compensation was gradually phased out during October. Here we examine the effect of the termination of compensation using a difference-in-differences analysis. The estimation revolves around those who were unemployed from March 2020 to August 2021, and the treatment period was defined as June–August 2021. The development of job-finding rates was tested in two groups: unemployed people approaching age 45 but not there yet (the control group) and those close to that age but over the threshold. The estimated effect is the difference between the differences in the finding rates between the pre-June period and the following period in each group. The groups are expected to be similar in their characteristics and, indeed, they exhibit similar finding rate dynamics across the pretreatment

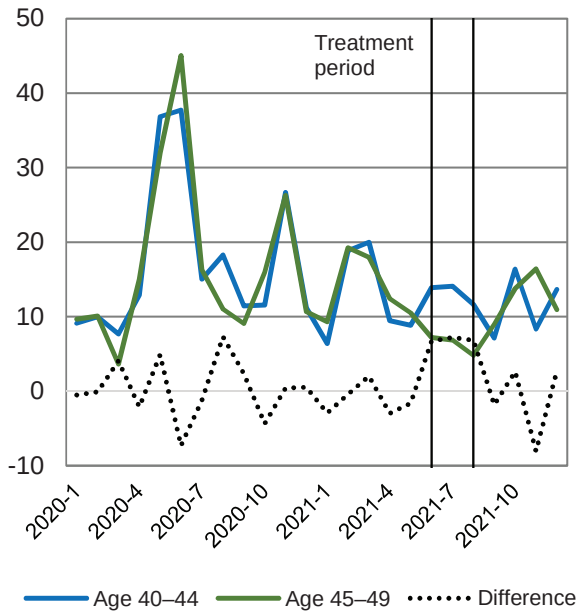
[16] In December, the change in the mix of job vacancies resembled what it was at the beginning of the previous waves of morbidity: a decline in the share of demand for unskilled workers and an increase in the share of workers in high-tech occupations. The change in the mix of unemployed people was smaller.

[17] C. Pizzinelli and I. Shibata (2002). "Has COVID-19 Induced Labor Market Mismatch? Evidence from the US and the UK." IMF Working Paper 2022/005, International Monetary Fund.

[18] For an extensive discussion of policy measures pertaining to the labor market that were adopted during the COVID-19 period and their effect, see Chapter 5 of the Bank of Israel *Annual Report* for 2020.

period—lending support to the choice of the control group (Figure 5.6).

Figure 5.6
The Probability of a Jobless Person Finding Work, by Age Group, 2020–2021
(percentage points)



SOURCE: Based on Central Bureau of Statistics.

Figure 5.6 shows the development of the two groups' finding rates during the crisis. During the three-month treatment period, a sizable difference of around 7 percentage points appears in the finding rates in favor of unemployed people under age 45. The observed difference in the finding rates during the treatment period may also be due to differences in the characteristics of the unemployed between the period preceding the termination of unemployment compensation and the subsequent period in each group (in addition to the effect of treatment). To more rigorously test the effect of the termination of unemployment compensation on the finding rate while partialling outthe jobless persons' characteristics, a model that takes their characteristics into account is estimated:

$$F_{jt} = \alpha + \beta_1 * treat_j + \beta_2 * post_t + \tau * \left[treat_j * post_t\right] + \beta X + \epsilon_{jt}$$

where F_{jt} is a binary variable that obtains the value of 1 if unemployed person j finds employment in period t, the variable *treat* is a binary variable that obtains the value of 1 if the individual's age is under 45, and the *post* variable is a binary variable that obtains the value of 1 in June–August 2021. X is a vector of the characteristics of the jobless persons[19], and ε_{jt} is the residual. Coefficient τ is the estimated effect, in

[19] The vector includes binary variables for gender, nationality, religion, level of religiosity, education, and family status of the unemployed person. It also includes a value for the peripherality index in the individual's residential locality; the number of children in each of the age groups 0–1, 2–4, 5–9, 10–14, and 15–17; total household size; and number of wage earners (lagged) in the household—similar to the set included in the estimation of search efficiency.

percentage points, of the termination of unemployment compensation on the odds of an unemployed person finding work.

In Table 5.3, Coefficient τ is reported from three separate estimations that vary by the maximum distance between the age of unemployed persons included in the estimation and the age-45 threshold. The size of the coefficient corresponds to the gross effect observed in Figure 5.3: 6–8 percentage points. The estimated effect, both in gross terms and in the statistical model, is economically significant. The unemployment rate among people of this age was 6.8 percent at the beginning of the treatment period. The implication of the estimated effect is a 1.3 percentage-point decrease in the unemployment rate in the age group for which unemployment compensation was terminated, beyond its decrease in the control group. The momentary reversal of the sign of the difference at the end of the special-eligibility term for unemployed people over age 45 during October shows that the termination of unemployment compensation had a similar effect on the finding rate in this group as well. The termination of compensation for unemployed people under age 45 suggests a major stimulus for their earlier return to work but is unlikely to create a meaningful difference in the age distribution of the unemployed farther on.

Table 5.3: The effect of stopping unemployment benefit payments on the likelihood of finding work

Maximum distance from age 45 (years)	3	5	7
Treatment effect (percentage points)	5.95*	8.05***	6.56***
	(3.19)	(2.46)	(2.06)
R^2	0.076	0.071	0.072
Number of observations	4,467	7,489	10,390

Note: Standard errors are reported in parntheses.

SOURCE: Based on Central Bureau of Statistics.

The results of the estimations underscore the effects on the pace of the recovery of terminating the extension of unemployment compensation during the emergence from the crisis. This does not imply that had the compensation been ended earlier—in particular, before the vaccination campaign created the confidence in health that was needed for economic recovery—the effect would have been similar. In similar estimations that tested the effect of terminating unemployment compensation on the odds of an individual finding employment and on the odds of an employed person's separation from employment, no such effects were found.[20]

[20] The lack of effect on the unemployment rate was reported in a similar analysis conducted by the Chief Economist Department at the Ministry of Finance: Kfir Batz and Assaf Geva, "A Snapshot of the Labor Market as of October 2021," Chief Economist Department, Ministry of Finance (November 2021) [in Hebrew].

5. CONCLUSION

During 2021, and particularly when the third wave of morbidity waned and the effect of the vaccination campaign took hold, the Israeli labor market recovered quickly. The jobless found work at a higher rate than before the crisis, refuting concerns that arose during the crisis as the labor market was buffeted by multiple adverse exogenous shocks. The increase in the finding rate was mainly due to an increase in demand for labor due to the rapid reopening of the economy and the avoidance of return to stringent restrictions on activity, and was supported by the characteristics of the unemployed, the maintenance of relations between many of them and their employers at the beginning of the crisis through the furlough mechanism, and the termination of the special extension of unemployment compensation during the second half of the year. The furlough mechanism also supported employers' ability to resume activity quickly by allowing them to avoid the cost of even partial employment of workers whom they did not need during the crisis and expenses related to terminating their employment.

The rapid recovery in the labor market was supported by the confidence in health that the vaccinations provided, the furlough model, the termination of extended unemployment compensation, and the characteristics of the unemployed.

As the increase in employment gained strength, the favorable impact of the characteristics of the unemployed lost strength. The distribution of the impact to employment across segments, the composition of the types of jobs that matched the qualifications of the jobless, and the extent of the mismatch between this composition and that of jobs offered slowed job-finding among the unemployed, but their effect across the entire year was negligible.

The mismatch between the qualifications of the unemployed and those required for the jobs offered, the dispersion of the impact across the various industries, and the composition of job vacancies slowed the recovery, but only negligibly so.

Given the characteristics of the unemployed and the distribution of job vacancies, there was no serious mismatch issue between the qualifications of the jobless and the requirements of the vacant jobs at the end of the year. A spot problem existed: hiring difficulties in high-tech occupations (similar to the situation prior to the crisis). Accordingly, the wages offered to workers in these occupations increased. Therefore, much like the precrisis situation, the ability to meet the growing demand for labor is contingent on the ability to attract new population groups to the labor market and to train additional workers in occupations where attractive vacant jobs are available.

The response to the strong demand for labor, particularly in high-tech, depends on the ability to draw new population groups into the labor market and train existing employees.

Appendix: The clustering of occupations to labor market segments

The clustering of workers by type is based on the distribution of switches between different occupations using the two-digit specification of those jobs, as documented in all of the Central Bureau of Statistics individual-level surveys and in the employer-employee files of those surveyed in 2012–2019. The clustering processis as follows:

1. Identification of all job-switches where the occupation in the previous and current posts is documented. Some 270,000 switches were documented during the period. Around 70 percent of them were between jobs in the same occupation.
2. Aggregation of the number of cases in which there was a switch from each occupation to each occupation.

3. Construction of Matrix A, in which each cell represents the share of workers who switched from Occupation j to Occupation i out of all workers who switched to Occupation i.
4. Construction of Matrix B, in which each cell represents the share of workers who switched from Occupation i to Occupation j out of all workers who left Occupation i.
5. Using both matrix columns as variables, and implementing the Partitioning around Medoids (PAM) algorithm[21] to obtain the various clusters.
6. Discretionary reclustering—specifically, division of a large group of occupations that lack significant shared characteristics, as obtained by the model, into occupations that require high-level skill and those that entail low-level skill according to the International Standard Classification of Occupations (ISCO), and the union of several small groups, namely agricultural workers, security guards, and sales and other service personnel, into the general low-level skill cluster.

[21] An algorithm for the grouping of similar observations using the k-medoids method. The advantage of this method over the k-means method, which resembles it and is more familiar, is its greater resilience to databases that include outliers. The high rate of job-switching within one occupation is an outlier in each occupation in the database. The number of separate markets (k) was chosen by means of the silhouette method.

PART 2: RAISING THE MINIMUM WAGE

- According to an agreement between the government, the Histadrut (General Federation of Labor), and representatives of the business sector, the minimum wage will be raised gradually from its current level (NIS 5,300 per month) to NIS 6,000 by the end of 2025.
- According to a Bank of Israel analysis, the increase in the minimum wage under this agreement is unlikely to impair employment, particularly because the accord is likely to erode the minimum wage slightly relative to the national average wage during its term.
- The ratio of the minimum to average and median wages of full-time employees in Israel is similar its level a decade ago and sits in the middle of the distribution of OECD member states. In the past, the minimum wage in Israel was higher by international comparison, but the minimum wage in most advanced economies has gone up in the past decade more quickly than the average wage.
- Some of the increase in the average wage during the COVID-19 era reflects a change in the composition of employees because the employment of low-wage earners was more badly hit.However, there is a discernable erosion of the minimum wage relative to the average wage during this time, even after adjusting for the effect of the change in composition of employment.

In early November 2021, the government, the Histadrut, and representatives of the business sector signed a "package deal" covering the entire economy. Among other things, the agreement stipulated that the minimum wage would be gradually raised to NIS 6,000 from April 2022 to December 2025—after about four and a half years (since December 2017) in which it remained at NIS 5,300 per month. In 2019, approximately 650,000 employees earned the minimum wage.[22]

Most advanced economies and many emerging ones apply a mandatory minimum wage in some manner. They do this in order to enable employees at the bottom of the wage scale to make a decent living and to mitigate poverty and inequality while focusing on households that have breadwinners. Setting a minimum wage is also an economic mechanism that strengthens employers' incentive to enhance efficiency by improving their employees' productivity. When the minimum wage rises and exceeds the productivity of certain workers in a given vocation, employers aspire to increase workers' productivity (by adjusting the nature of the job, providing vocational training, or investing supplemental factor inputs). When employers cannot do this, workers are dismissed and, insofar as the labor market is tight enough to permit, they will switch to another job in which they will be more productive.[23] Even though this mechanism

[22] This estimate, like the other data in this section, is based on data from the Central Bureau of Statistics Household Expenditure Survey for 2019, currently the most recent published iteration of the survey. We identify employees earning minimum or subminimum wage on the basis of their hourly wage.

[23] See, for example, Péter Harasztosi and Attila Lindner (2019), "Who Pays for the Minimum Wage?", *American Economic Review* 109(8): 2693–2727.

is discussed extensively in the economic literature, there is currently no consensus about the extent of its effect on various economic indicators or, at times, even on its direction. The liveliest controversy surrounds its impact on employment among population groups with low earning capacity (those with lower expected wage and probability of finding work). Other important questions pertain to its implications for wage, labor productivity, employee and employer incentives to invest in human and physical capital, economic and social mobility, and more general indicators including inequality and poverty.[24]

1. THE "PACKAGE DEAL" TO GRADUALLY INCREASE THE MINIMUM WAGE

The minimum wage will be raised gradually to NIS 6,000 by the end of 2025.

In November 2021, the government, the employers, and the Histadrut signed a "package deal"[25], which includes a provision that the monthly minimum wage will be raised in five increments between 2022 and 2026—from NIS 5,300 to NIS 5,400 in April 2022, NIS 5,500 in 2023, NIS 5,700 in 2024, NIS 5,800 in 2025, and NIS 6,000 in December 2025, or to 47.5 percent of the national average wage, whichever is higher. Altogether, the minimum wage will be raised by 13 percent in the next five years. The package deal includes additional clauses that may reduce employers' labor cost (such as revision and greater flexibility of the mechanism of calculating overtime hours) and also gives employees one more vacation day than the number previously set.[26] The rate of increase of the minimum wage is lower than the increase in wages since it was last raised, in late 2017, and even fails to attain the expected increase in the average wage in the next few years.[27] Thus, the agreement is likely to reflect an erosion of the minimum wage relative to the average wage.

[24] The discussion of the minimum wage and its implications is vast. The International Labour Organization (ILO) website provides a detailed and thorough discussion of various aspects of minimum-wage policy that members of the organization have introduced and offers recommendations as to the desired way to introduce policy in this matter. See https://www.ilo.org/global/topics/wages/minimum-wages/lang--en/index.htm

[25] For ,more details, see Ministry of Finance, Wage and Labor Accords Division, "A Package Deal for the Economy", https://www.gov.il/he/Departments/publications/reports/economy-package-deal [in Hebrew].

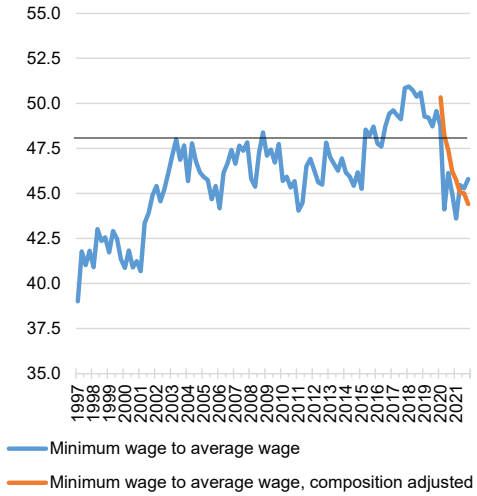
[26] In the public sector, the agreement will be applied with certain adjustments. Since public sector employees are given pay increases that are not included in the basic wage, some employees who receive a supplement up to the minimum wage effectively receive a wage that exceeds the minimum by far. Therefore, basic sums below the minimum wage were set out in the accord, and the base wage of public sector workers before the increases will be equalized to them. For further details and data about public sector workers who receive a supplement to the minimum wage, see Ministry of Finance, Wage and Labor Accords Division, Report 19: Report on Wage Expenditure in the Civil Service and Defense Agencies for 2019, February 2021; Report 27: Report on Wage Expenditure in Public Entities for 2019, May 2021 [Hebrew].

[27] According to the Bank of Israel Research Department staff forecast, the average hourly wage is expected to rise by 2 percent in 2022 and 3 percent in 2023.

2. THE MINIMUM WAGE OVER TIME

The Minimum Wage Law went into effect in April 1987 and replaced the setting of the minimum wage by collective bargaining as had been practiced in Israel since 1972. In April 1997, the law was amended in several ways, mainly in reference to the adjustment mechanism[28] and an increase in the ratio of the minimum wage to the average wage to 47.5 percent.[29] However, due to a series of adjustments (e.g., freezing the average wage, suspending the indexation of the minimum wage to the average wage, and adjusting the minimum wage by means of temporary orders[30]), the automatic update mechanism has hardly been used since 2002.

Figure 5.7
Minimum Wage as a Percentage of the Average Monthly Wage per Employee Post, 1997–2021 (percent)



SOURCE: Based on wage per employee post figures. The data are shown as the quarterly average of the montly ratio.

At the time the Minimum Wage Law went into effect, the nominal wage was rising at a particularly rapid pace. As a result, and because the minimum wage was adjusted only once per year, it eroded during those years relative to the average wage and did not attain the 47.5 percent share enshrined in law (Figure 5.7). As the inflation rate and the pace of increase of the average wage slowed with the economy's convergence toward price stability at the beginning of the previous decade, the erosion of the minimum wage relative to the average wage also decelerated. From 2003 to 2017, the ratio resembled that set out in the law, and from 2018 to early 2020 (prior to the COVID-19 crisis), it exceeded that level.

In 2020, due to the COVID-19 crisis and its dramatic effects on the labor market and the composition of employment, a larger share of low-wage earners than of

During the COVID-19 crisis, the minimum wage eroded relative to the average wage.

[28] It was determined that the minimum wage would be adjusted each April according to the average wage. Until then, it had been adjusted alternately: once every two years in accordance with the average wage and once every two years by the Consumer Price Index.

[29] The average wage for the purpose of calculating the minimum wage is the average wage per employee post as calculated by the Central Bureau of Statistics based on data from the National Insurance Institute. The calculation does not take into account the extent of an employee post. Since some jobs are part-time and some people hold more than one job, the minimum wage per full-time post is effectively set relative to the average wage for an employee post that, on average, is less than full-time in terms of hours worked.

[30] Agreements signed between the Histadrut and employers' representatives, subsequently broadened by expansion orders to cover the entire economy and enshrined as legislative amendments.

others was forced out of the labor force. The calculated average wage[31] therefore increased markedly, and the ratio of the minimum wage to the average wage dropped considerably. This phenomenon was typical of most countries, particularly the advanced economies.[32] However, even after adjusting for the effect of the composition of employment on the average wage[33] (the orange line in Figure 5.7), it is evident that the minimum wage failed to keep up with the average wage during the crisis.

Setting the minimum wage and determining its adjustment mechanism are complex issues. The idea of setting a relatively high minimum wage and adjusting it to keep up with increases in the average wage is meant to make sure that the wages of workers with low earning capacity will increase commensurate with the rise in the standard of living and labor forceproductivity, even if the market forces do not warrant such an increase. The main arguments in favor of a high minimum wage reflect normative considerations—the wish to mitigate inequality and poverty among working people—but there may also be an economic advantage. Indexing the minimum wage to average productivity in the economy (reflected in the average wage) may encourage employers to streamline and to enhance their workers' productivity (by investing in human and physical capital) instead of continuing to rely on cheap labor. Furthermore, when correctly combined with an earned income tax credit (EITC), the minimum wage may prevent exploitation of the EITC by employers by means of wage cuts, and support the placement of most EITC payments in the hands of low-wage workers and not in those of employers. Indexation to the average wage, however, exposes the wages of minimum-wage earners to shocks at times of rapid wage growth, even in industries or occupations other than those in which they are employed. Since the productivity of low-wage workers does not rise in tandem with the increase in their wage in such situations, the risk to their employment grows.[34] Another risk of the minimum wage is that at times of crisis it creates inelasticity in setting the wages of low-wage workers and prevents wage cuts that might allow some of these workers to keep their jobs.

Given the risks inherent in the minimum wage, it is preferable in many cases to support low-income workers by instituting an earned income tax credit. This payment is more focused than the minimum wage on helping working members of households in the low income deciles, because quite a few minimum wage earners belong to households in the higher income deciles.[35] In addition, an EITC does not impair the incentives of employers to employ low-skilled workers. Indeed, in recent

[31] The increase in the calculated average wage in 2020 reflected a change in the composition of workers because employment was more seriously impaired among low wage earners than among high earners and the average wage is calculated only for those who kept working. For estimates of the "actual" increase in the wage, see Chapter 2, Box 2.2 in this Report.

[32] International Labour Organization (2022): World Employment and Social Outlook: Trends 2022.

[33] For more details on this calculation, see Chapter 2 in this Report.

[34] As stated, the current raising of the minimum wage includes a nominal increase of the wage but neither sets out, nor is expected to set out, an increase in its percentage of the average wage (until the end of its implementation). This is another reason why the risk to employment of low-wage earners is not acute.

[35] See Chapter 8 in the Bank of Israel *Annual Report* for 2019.

years and within the framework of the "Net Family" program introduced in 2017, the scope of the EITC expanded considerably as the grant for fathers was raised by 50 percent, equalizing it to the grant for mothers, which had been increased in 2013.[36] Furthermore, the Bank of Israel has proposed alternatives for expanding the EITC that may mitigate the incidence of poverty considerably.[37] One may therefore consider the minimum wage a supplemental policy tool to the subsidization of wages by means of the EITC, and not an alternative one.

The development of Israel's average wage during the COVID-19 period is an example of the intrinsic complexity of indexing the minimum wage to the average wage. The average wage escalated steeply that year, mainly due to the change in the composition of employment, the increase in unemployment among low-earning workers, and a large increase in demand for workers in high-tech occupations. If the minimum wage had been indexed to the average wage[38], it would have risen considerably just as the employment of minimum-wage earners was particularly vulnerable. However, given the falling unemployment rate and the high job vacancy rate at the end of 2021, a mild increase in the minimum wage is expected to have little if any effect on unemployment.

The ratio of the minimum wage to the average wage in Israel is similar to that of other OECD member states.

Historically, the ratio of the minimum wage to the average wage and the median wage in Israel was high relative to most OECD countries (Figure 5.8).[39] In the past decade, however, the minimum wage in most countries increased more rapidly than the average wage, and the ratio between them therefore increased. Even if we disregard the exceptional developments during the COVID-19 crisis, we find that the level of Israel's minimum wage is not anomalous.

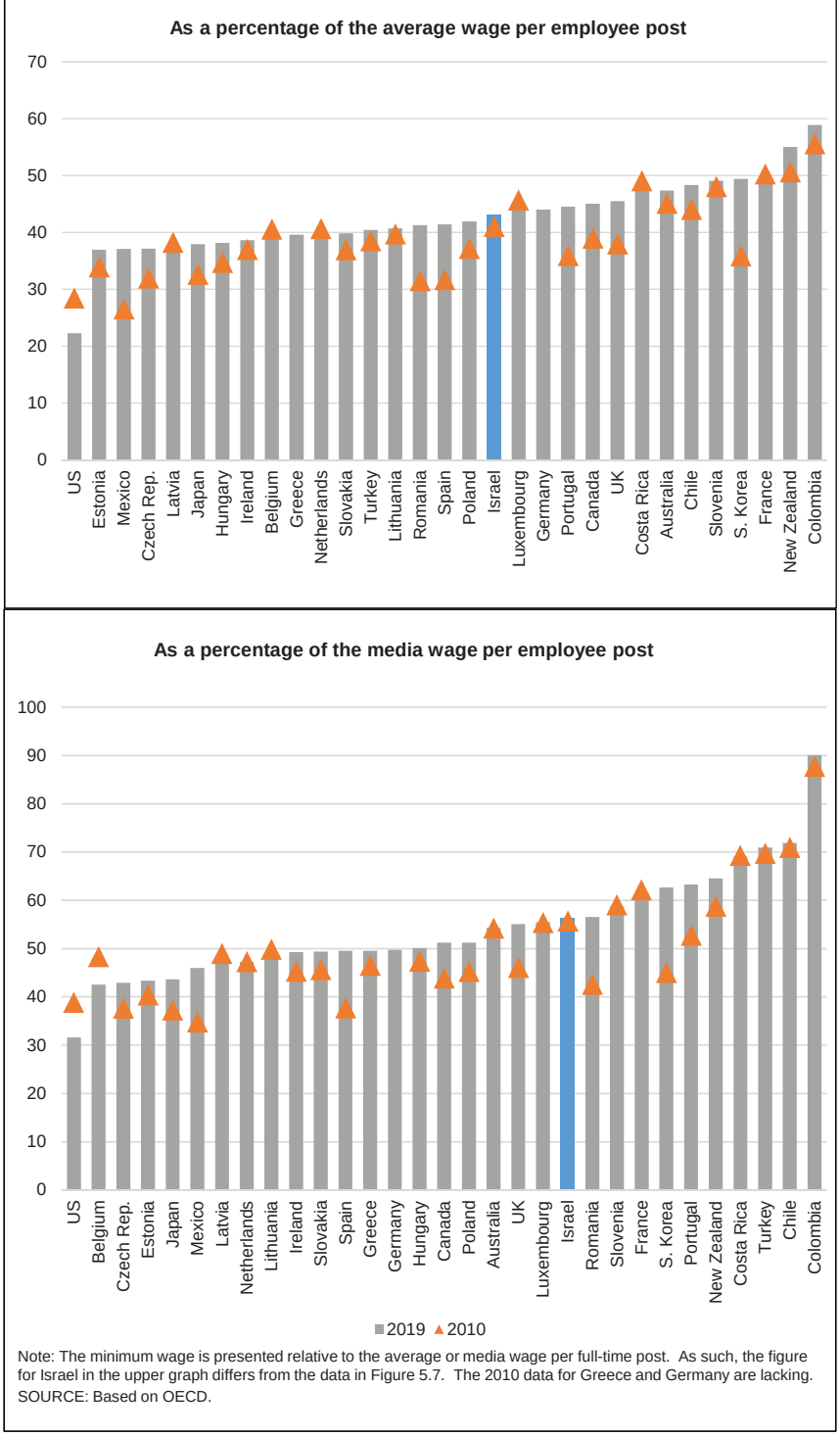
[36] It should be noted that since the change was made by means of a temporary order, it was not in effect in 2021.

[37] *Recent Economic Developments* 136, April–September 2013.

[38] In 2020, the average wage that was used to calculate the minimum wage was frozen in place. Thus, while the indexation of the minimum wage to the average wage was not abolished, it was in effect voided of its content.

[39] The comparison is to the average or median wage income of full-time workers. Therefore, the data in the figure are not identical to those in Figure 5.7.

Figure 5.8
Minimum Wage for a Full-Time Post as a Share of Wages per Full-Time Post, (percent)



Note: The minimum wage is presented relative to the average or media wage per full-time post. As such, the figure for Israel in the upper graph differs from the data in Figure 5.7. The 2010 data for Greece and Germany are lacking.
SOURCE: Based on OECD.

3. EMPLOYMENT CHARACTERISTICS OF MINIMUM WAGE EARNERS

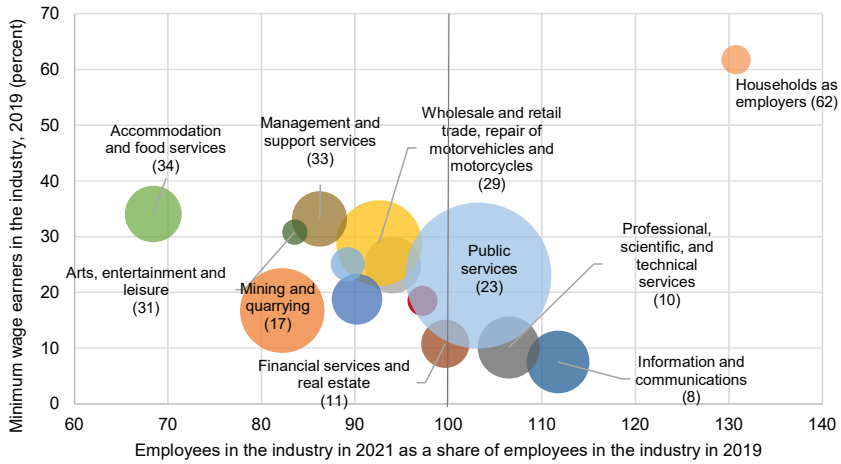
About one-fifth of all wage earners in Israel earn minimum wage, but their share is especially high in certain occupations and industries: unskilled workers; sales and services; accommodation and food services; support services; healthcare, social, and welfare services; and arts, entertainment and leisure. Employment in some of these industries was severely hit during the pandemic, and some have not yet recovered (Figure 5.9). A big increase in the minimum wage may subject these employees to further hardship. It seems, however, that the agreed-upon increase in the minimum wage is smaller than the expected increase in the average wage. Even in industries that have a large share of minimum-wage earners, the average wage went up by around 2.5 percent per year in the pre-COVID years (Table 5.4). Since these industries are nontradable, one would expect an increase in wage costs to be reflected more in an increase in prices to consumers (and, perhaps, in reduced profitability[40]) than in a decline in employment.[41] Furthermore, some employers report difficulty in hiring, meaning that the decrease in employmentat least partly reflects friction in the labor market or a decline in the supply of labor available to these businesses (particularly in accommodation and food services), and not only a decline in activity. (See the discussion in the first part of this chapter.) Consequently, we can estimate that the impairment of employment of low-wage workers (those whom the Minimum-Wage Law is designed to protect) will be inconsequential.

The minimum wage's expected impact on unemployment in the next few years will be affected by the business cycle because the risks to employment coming from the minimum wage seem to be greater at times of slowing activity, in which employers have to cut costs. One of the industries in which the effect will probably be limited is accommodation and food services, even though employment in that industry was particularly hard-hit during the COVID-19 period. Once the restrictions on activity in this industry are lifted, the development of employment will probably be determined by the demand side, which is expected to surge due to the return of inbound tourism. In view of this change, and given the relatively mild increase in the minimum wage, we can estimate that the increase in the minimum wage will not impair the development of employment in this industry.

[40] Drucker et al. found that low-income business owners are the ones who bore most of the burden of the increase in the minimum wage in Israel between 2006 and 2008, through the transmission of a decline in their businesses' profitability. This mitigated the positive contribution of the minimum-wage increase to narrowing inequality. See Lev Drucker, Katya Mazirov, and David Neumark (2021), "Who Pays for and Who Benefits from Minimum Wage Increases? Evidence from Israeli Tax Data on Business Owners and Workers," *Journal of Pubic Economics* 199: 104423.

[41] See, for example, Péter Harasztosi and Attila Lindner (2019), "Who Pays for the Minimum Wage?" *American Economic Review* 109(8). Similar findings in regard to the nontradable sector have been found in the past in Israel, too: Karnit Flug, Nitza (Kaliner) Kasir, and Yona Rubinstein (2000), "The Effect of Minimum Wage on Employment in Unskilled Labor-Intensive Industries in the Israeli Economy," Bank of Israel [Hebrew].

Figure 5.9
Minimum Wage Earners and the Change in Extent of Employment



Note: Wage-earners aged 18+. Minimum wage eareners are defined by their hourly wage. The size of the circle reflects the industry's share of employment. The rate of minimum wage earners in the industry appears in parentheses. The full data are presented in Table 5.4

SOURCE: Based on Central Bureau of Statistics Household Expenditures Surveys (2019) and Labor Force Surveys (2019, 2021).

Table 5.4: Minimum wage earners by industry

	Salaried employees	Minimum wage earners (percent)	Full-time employees (percent)	Average wage	Annual rate of change in the average wage, 2005–2019 (percent)	Mediam wage for full-time employees	Work hours for salaried employees	Work hours for minimum wage earners	Impact to employment – Those employed in 2021 as a share of those employed in 2019 (percent)
Other industries[a]	43,141	18.5	65.3	13,796	2.5	15,404	44	37	97.2
Mining and quarrying	340,915	16.7	74.9	12,715	2.5	11,093	46	43	82.2
Construction	153,701	24.9	57.9	9,249	3.0	9,142	44	42	94.0
Trade and vehicle repairs[b]	349,448	28.8	44.4	8,695	3.2	9,491	40	39	92.6
Transport, storage, postal and courier services	122,534	18.8	60.1	10,989	2.4	11,030	45	44	90.2
Accommodation and food services	152,775	34.1	36.9	6,022	2.1	8,044	37	36	68.4
Information and communications	186,866	7.5	72.8	18,647	2.9	19,110	44	42	111.7
Financial, insurance and real estate services	110,074	10.8	53.4	15,574	4.0	14,122	42	42	99.7
Professional, scientific, and technical services	184,131	10.1	59.7	14,892	2.4	13,659	42	37	106.5
Administrative and support services	145,872	33.2	44.8	7,158	3.1	7,800	39	38	86.2
Public services[c]	1,012,515	23.0	43.9	10,095	4.1	11,141	37	34	103.2
Arts, entertainment and recreation	30,355	30.8	24.4	5,927	2.5	7,598	31	30	83.6
Other services	54,584	25.1	35.2	7,865	2.6	10,118	35	29	89.2
Households[d]	40,705	61.7	76.0	5,264	2.3	5,499	42	46	130.8
Extraterritorial organizations and bodies	4,098	0.0	59.8	13,170		17,487	40		100.0
All salaried-employees	2,931,714	22.3	52.3	10,827		10,773	40	37	97.9

[a] Agriculture, forestry, and fishing; electricity, gas, steam, and air conditioning supply; water supply, sewerage, waste management and remediation activities.

[b] Wholesale and retail trade; repair of motor vehicles and motorcycles

[c] Local administration, public administration and defense; compulsory social security; education; human health and social work activities. Of the 90,000 minimum wage earners working full-time in these industries, about 15,000 are non-*Haredi* Jews aged 18–24, some of whom are soldiers in compulsory service. The data in our possession do not allow for identification and adjustment for these individuals.

[d] Households as employers; undifferentiated goods - and services-producing activities off households for own use

SOURCE: Based on the Central Bureau of Statistics 2019 Household Expenditure Survey and Labor Force Surveys for 2019–2021.

Table 5.5: Minimum wage earners by profession

	Salaried employees	Minimum wage earners (percent)	Full-time employees (percent)	Average wage	Mediam wage for full-time employees	Work hours for salaried employees	Work hours for minimum wage earners	Impact to employment – Those employed in 2021 as a share of those employed in 2019 (percent)
Managers	228,737	5.8	82.1	20,502	18,163	49	51	100.5
Professionals	857,624	9.4	53.1	14,823	16,270	39	34	107.4
Practical engineers, technicians, agents, and associate profess	418,696	13.6	53.6	10,407	10,954	40	36	96.4
Clerical support workers	242,156	26.5	42.6	7,703	8,348	38	36	89.5
Service and sales workers	617,325	41.9	38.3	6,016	7,134	36	36	94.0
Skilled agricultural, forestry and fishery workers	12,485	23.0	56.1	7,797	8,142	41	39	100.3
Tradesmen in manufacturing and construction and other trade	211,876	22.4	65.6	8,992	8,998	46	44	93.1
Plant and machine operators, assemblers of products and mac	171,877	28.9	67.8	8,763	8,793	47	46	97.1
Elementary occupations	170,938	46.2	37.1	5,226	6,460	37	38	84.7
All salaried employees	2,931,714	22.3	52.3	10,827	10,773	40	37	97.9

SOURCE: Based on the Central Bureau of Statistics 2019 Household Expenditure Survey and Labor Force Surveys for 2019–2021.