Profile of Data for Estimation of Supply and Demand in the Israeli Labor Market

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Abstract

Management of monetary policy for the maintenance of price stability in accordance with the government's inflation target is the Bank of Israel's key objective. Concurrently, the Bank concerns itself with macroeconomic issues due to their effect on this target and in view of the Bank's obligation to support other goals of the government's economic policy, especially those related to growth and employment. The Bank analyzes and monitors of economic development on a regular basis, and one of the topics of these operations is the labor market, in which the Bank examines not only the equilibrium that the market maintains but also supply- and demand-side developments.

In this study, we present and profile the data that are used to estimate supply and demand in the Israeli labor market, assess main market developments, and describe possible additional benefits and uses of these data.

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1. Introduction

Management of monetary policy for the maintenance of price stability in accordance with the government's inflation target is the Bank of Israel's key objective. Concurrently, the Bank concerns itself with macroeconomic issues due to their effect on this target and in view of the Bank's obligation to support other goals of the government's economic policy, especially those related to growth and employment. In addition, the Governor of the Bank of Israel serves as an advisor to the government on economic matters, including the labor market.

The Bank carries out regular analysis and monitoring of economic developments in recent years in view of dramatic events such as the Covid-19 pandemic and the Swords of Iron War. One of the topics analyzed and monitored on a current basis is the labor market, in which in which the Bank examines not only the equilibrium that the market maintains but also supply- and demand-side developments.

In this study, we present and profile the data that are used to estimate supply and demand in the Israeli labor market, assess main market developments, and describe possible additional benefits and uses of these data. We also describe the sources of the data that we used to estimate supply and demand in the Israeli labor market, and the methods and frameworks that we used to collect the data and assess their main developments. In Sections 3 and 4, we describe and instancize supply and demand indices. Additional benefits and uses of the existing data are described in Part 5.

2. Sources of data

The main source of the data that we use to estimate supply and demand in the labor market and assess key developments in the market is the Central Bureau of Statistics (CBS). Below we describe the frameworks of the data and the methods used to collect them:

a. Labor Force Survey—a monthly survey conducted by the CBS among households, meant to provide a broad picture of the characteristics of the labor market. The survey solicits data on the structure of the labor force; the extent of employment and unemployment; labor mobility; and demographic characteristics of households such as gender, age groups, population groups, levels of education, marital status, and geographic region. The survey makes it possible to track developments in Israel's labor force, its size, and its traits; measure the extent of employment in various economic branches and occupations; estimate levels of unemployment; obtain data on persons employed, persons unemployed, and non-participants in the labor force; and collect diverse additional data about households in Israel.

b. Job-vacancies survey—a monthly survey conducted by the CBS that gathers data on job vacancies at companies and businesses in order to estimate the number of job vacancies in the private sector.

c. Business-trends survey—another monthly survey, in which the CBS asks corporate executives in Israel to assess their companies' business performance. The survey is meant to detect turning points in the business cycle and to predict trends. Importantly, this is a qualitative survey, in which the assessments are subjective and not based on quantitative data.

d. National Accounts data—a quarterly database produced by the CBS for the National Accounts statistics, including data on labor inputs and number of persons employed (Israeli and other) in the various economic branches.

e. Employee-posts data—a monthly database compiled by the National Insurance Institute that includes information about total employee posts countrywide and wages paid, sorted into Israeli, foreign, and Palestinian workers [1].

f. Labor-exchange data—a monthly database from the Employment Service that contains data on jobseekers. These data are based on administrative records from labor exchanges, including data on jobseekers who report to the exchanges.

3. Supply and demand indicators

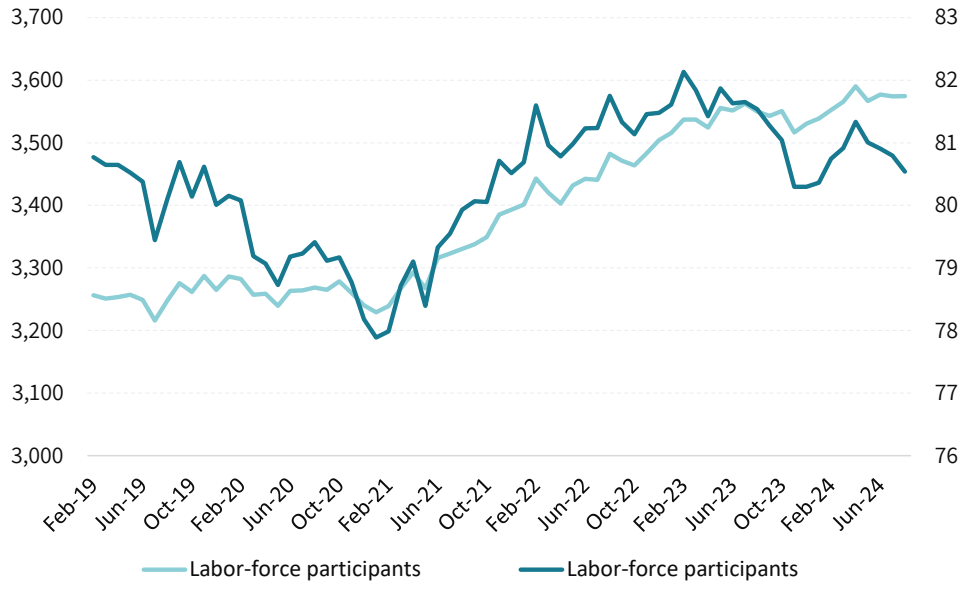
Labor supply relates to the labor force and denotes people who participate actively in the labor cycle—either as workers or as unemployed persons actively seeking work. The percent of the labor force in the total working-age population is defined as the labor-force participation rate.

The working-age population is the potential labor supply and is defined in many countries as the labor force. In the Israeli economy, however, it is customary to focus on the population aged 25–64 as the main working-age population because most of the 15–24 cohort is either in school or in the army, whereas most of those aged 65 and over are retired

3.1 Labor-force participation rate

The labor-force participation rate and the size of the labor force are the main indicators invoked for ongoing examination of the state of supply in the labor market. Figure 1, for example, describes the development of the labor-force participation rate of Israelis aged 25–64.

Figure 1: Labor supply of Israelis aged 25–64
Thousands, seasonally adjusted



SOURCE: Labor Force Surveys, Central Bureau of Statistics

[1] The past two years have seen progress in collecting labor-market data. Large employers—those employing more than 180 persons—are required to share individual-level data with the National Insurance Institute each month in regard to employee posts and wages, down to the individual post level. These granulated data give us significant ability to understand developments in employment and wage and produce deeper and more accurate analyses of the labor market. Notably, however, these data are not yet available to any entity in the economy, including the CBS; therefore, they have not yet been used for broad statistical analyses.

The figure shows a sizable decrease in the labor-force participation rate of Israelis during the Covid-19 pandemic and the Swords of Iron War and presents its level at this writing at around 80 percent. In other words, eight of ten Israelis in the main working-age bracket are working or are actively seeking work.

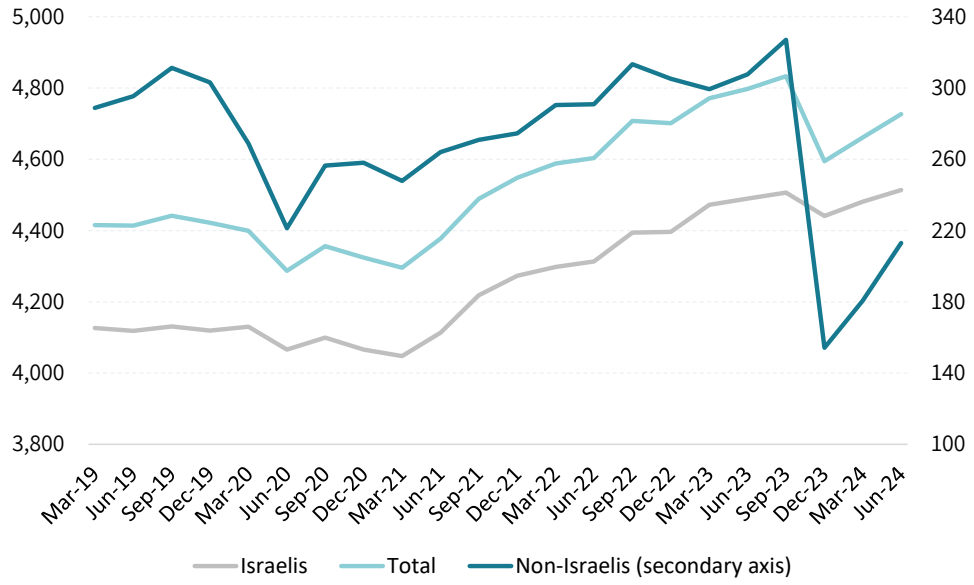
3.2 Analysis by demographic and other characteristics

The Labor Force Survey data give detailed information about the labor supply of Israelis sorted and allow us to examine it by demographic characteristics such as age, gender, and education level, along with other indicators. This analysis makes it possible to assess differences among different population groups.

3.3 Total national labor supply

To estimate the total labor supply in the Israeli economy, one must augment the data on Israelis by including non-Israeli workers. Estimates from the CBS provide data on the number of foreign and Palestinian persons employed. Figure 2 parses Israel's labor supply into Israeli, foreign, and Palestinian workers.

Figure 2: Labor supply in Israel, age 15+
Thousands



SOURCE: Labor Force Surveys, Central Bureau of Statistics, processed by the Information and Statistics Department

3.4 Non-Israeli labor supply at times of crisis

On the eve of the Swords of Iron War, non-Israelis accounted for an estimated 7 percent of the total national labor supply. In the last quarter of 2023, after the war began, their share fell to around 3 percent due to a ban on the entry of Palestinian workers and a decrease in the number of foreign workers.

In the course of 2024, the non-Israeli labor supply recovered somewhat, to 4.5 percent, contributing to the general rebound of the national labor supply.

3.5 The effect of the war on measuring labor supply

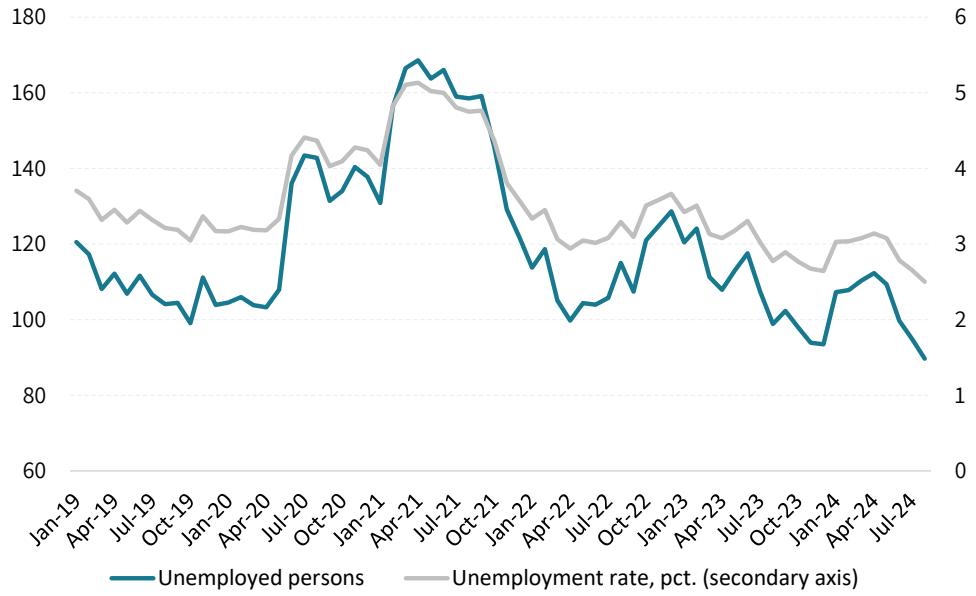
When crises such as war strike, unique issues associated with the method of measuring labor supply and demand arise. One of the key issues is the way of relating to workers who are out of work for unusual or non-economic reasons such as army reserve duty[2] or evacuation from their place of residence.

These workers are not actually working; thus it would seem that they should be subtracted from the labor supply. In terms of the economy at large and in accordance with the economic rules, however, they belong to both the supply side and the demand side of labor (insofar as they were employed before being called into the reserves), making the effect of their induction into the reserves neutral. In fact, in terms of the economy at large, one may consider them public-sector workers at such times because the government funds their wages during their service in the reserves.

3.6 Unemployment indicators

The labor supply or the labor force includes, as stated, employed persons and unemployed persons who are actively seeking work. The percentage of the unemployed in the total labor force is the unemployment rate. The trendlines in the number of jobless in Israel and the unemployment rate of Israelis in the main working-age bracket (25–64), presented in Figure 3, demonstrate the impact of the pandemic and the Swords of Iron War on the national unemployment rate.

Figure 3: Unemployed Israelis aged 25–64
Thousands, seasonally adjusted



SOURCE: Labor Force Surveys, Central Bureau of Statistics.

[2] The share of persons in the main working-age bracket (25–64) who were out of work due to reserve duty peaked at a record 15 percent of the labor force. This demonstrates the direct impact of the war on the availability of the economy's active labor force.

3.7 Development of the unemployment rate

Analysis of the Israeli unemployment data reveals different trends over the years, foremost at times of economic and security crises:

- The Covid-19 pandemic: the unemployment rate climbed to 5 percent during the pandemic, then receded to its pre-pandemic level, and continued to fall afterwards.

- A historical decline in the unemployment rate: from 2023, the rate continued to trend down and at this writing stands at 2.5 percent of the labor force—approx. 90,000 jobless

3.8 Broad unemployment at times of crisis

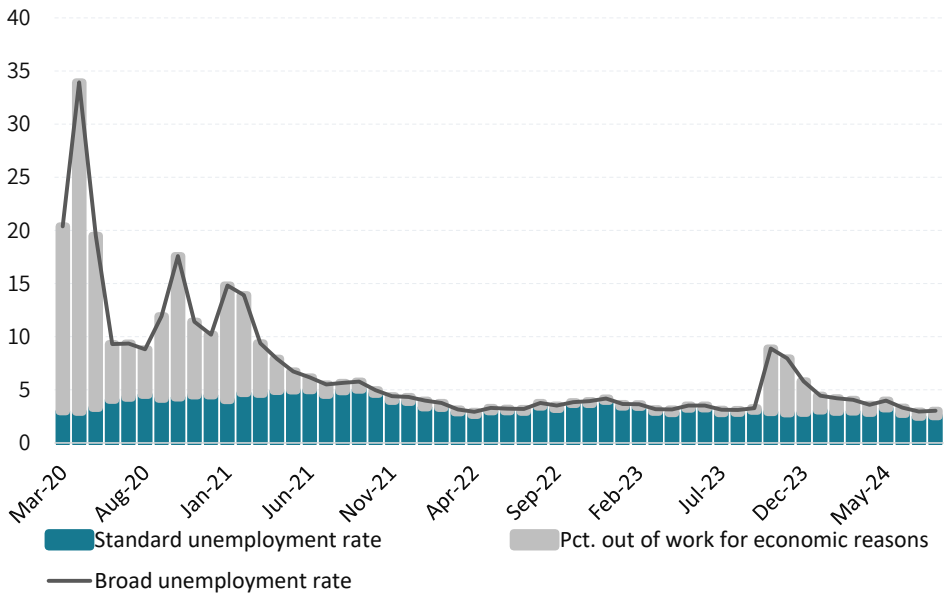
When crises such as the Covid-19 pandemic and the Swords of Iron War take place, it is important to examine the broad employment rate, which includes:

1. unemployed persons as conventionally defined;
2. persons out of work for economic reasons, such as:
   a. closure of place of work;
   b. contraction of macroeconomic activity;
   c. placement on unpaid leave.

The broad unemployment rate in the main working-age bracket (25–64), shown in Figure 4, emphasizes the occurrence of spurts at times of crisis as against periods of ordinary economic life.

Figure 4: Broad unemployment among Israelis aged 25–64

Pct.



SOURCE: Labor Force Surveys, Central Bureau of Statistics, processed by the Information and Statistics Department

In the course of the Covid-19 pandemic, the broad unemployment rate surged to 33 percent, due mainly to the mass placement of workers on unpaid furlough due to closure of workplaces or slowing of economic activity. After the Swords of Iron War erupted in October 2023, the broad unemployment rate climbed to 9 percent due to similar processes of slowed activity and other implications of the security situation.

3.9 Effect of reserve callups on unemployment

The mobilization of army reserves in wartime affects unemployment:

When members of the labor force are absent from work due to reserve duty, they are not considered unemployed because their mobilization prevents them from actively seeking and being available for work. When they finish their service, however, they may cause the unemployment rate to rise. The estimate is that the share of such people among those called into the reserves is minuscule and that those inducted were employed on the eve of their mobilization.

This analysis emphasizes the complexity of measuring unemployment at times of crisis and the need to consider the broad economic context when examining the data.

4. Indicators of labor demand

Demand for labor in the Israeli economy is composed of the number of filled posts (the number of persons employed) and the number of vacant posts, which together constitute the volume of labor. Demand for labor, parsed by its components, is presented in Figure 5:

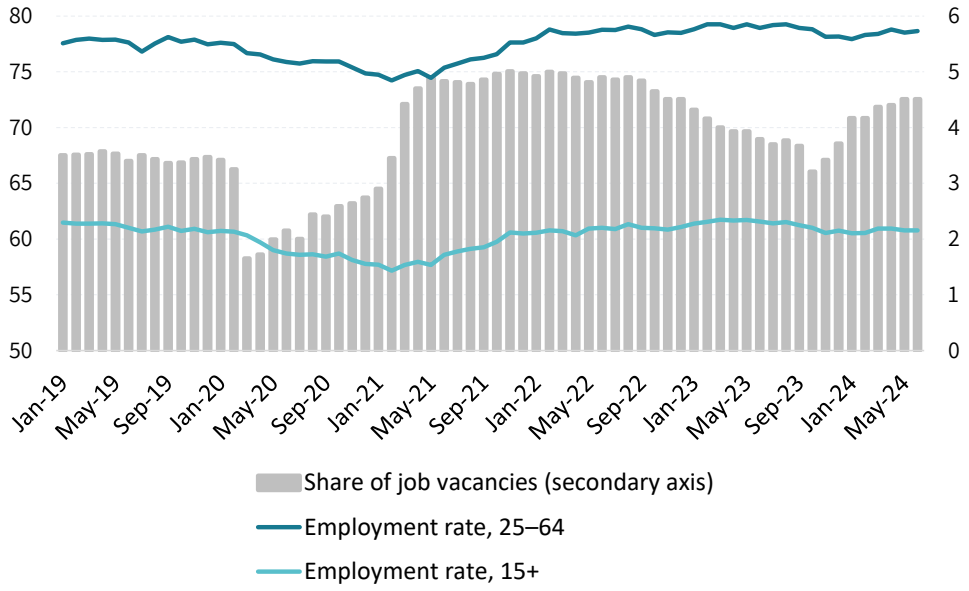
Figure 5: Demand for labor in Israel, thousands
Seasonally adjusted

SOURCE: Labor Force Surveys and Job Vacancies Surveys, Central Bureau of Statistics

The figure shows a decline in demand for labor after the pandemic set in, due to decreases in the number of Israelis employed and in the number of job vacancies. Another downturn took place after the Swords of Iron War began, largely due to a considerable decline in the number of non-Israelis employed, especially Palestinians who had been working in construction, and a downturn in job vacancies.

The share of job vacancies in the volume of labor, which includes persons employed as well as job vacancies, is an indicator of demand for labor countrywide. The data on job vacancies, however, relate to the business sector only; no information on job vacancies in general government is available. In Figure 6, the rates of employment and job vacancies afford a view of the decreases that occurred during the pandemic and after the Swords of Iron War began.

Figure 6: Employment and job vacancy rates
Seasonally adjusted

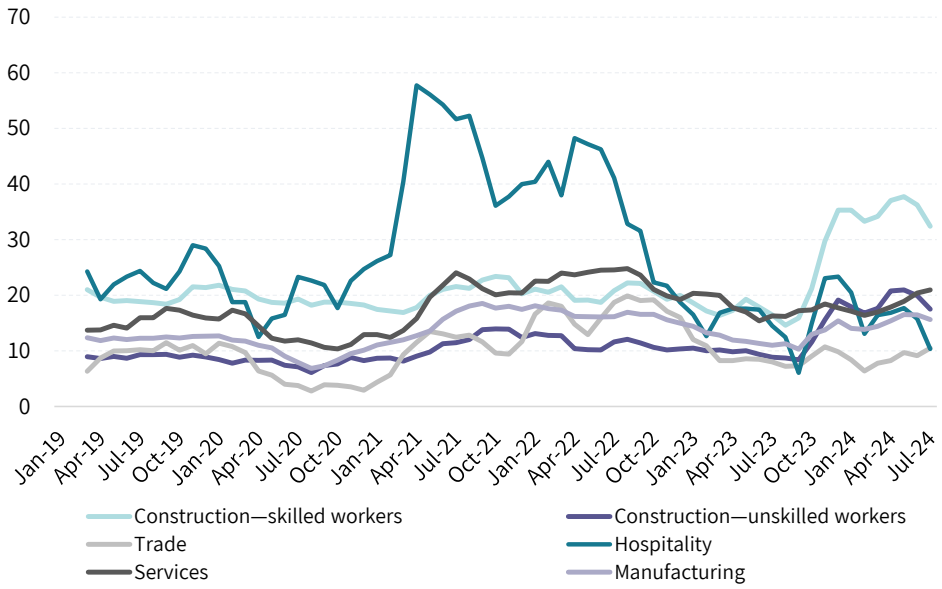


SOURCE: Labor Force Surveys and Job Vacancies Surveys, Central Bureau of Statistics

The decrease in the employment rate after the war began was even steeper than that described above when one subtracts workers absent from work for non-routine or non-economic reasons, such as mobilization for reserve duty. In October 23, for example, the effective employment rate in the main working-age bracket was only 74 percent, as against 78 percent in ordinary times.

Restrictions on business activity due to labor shortages stood out and worsened both during the pandemic and after the Swords of Iron War began. In Figure 7, it may be seen, as companies and businesses reported in the CBS Business Trends Survey, *inter alia,* that the hospitality industry suffered from a severe labor shortage in the course of the pandemic whereas the labor shortage during the Swords of Iron War was especially grave in construction.

Figure 7: Share of firms reporting severe restrictions due to labor shortage
Three-month running avg.



SOURCE: Business Trends Survey, Central Bureau of Statistics

The combination of labor supply and labor demand in the Israeli economy is presented in Figure 8.

Figure 8: Labor supply and demand in the Israeli economy
Seasonally adjusted, base period 2019Q1=100

SOURCE: Business Trends Survey, Central Bureau of Statistics

It may be seen in the figure that labor demand declined more steeply than did supply in the course of the pandemic, whereas the decrease in labor supply was steeper after the onset of the Swords of Iron War. This trend squares with the worsening of restriction of activity due to labor shortage, as shown in Figure 7.

5. Additional useful indicators from the data

From the data described above, one may generate additional insights for the analysis and monitoring of supply and demand in the labor market. Two key indicators that provide a deep look at the labor market are the extent of labor-market tightening and a matrix of transitions among different employment situations.

The indicator of labor-market tightening describes a situation in which labor demand is high and labor supply low. In this state of affairs, there are more job vacancies than there are available candidates to fill them. This is expressed in an index calculated as the ratio of job vacancies (labor demand) to unemployed persons (labor supply), reflecting the average number of job vacancies per jobseeker. The higher the value of this index, the tighter is the labor market, and vice versa.

Figure 9: Labor-market tightness
Seasonally adjusted

SOURCE: Labor Force and Job Vacancies Surveys, Central Bureau of Statistics, and processing by the Information and Statistics Department

In Figure 9, we see the increase in this index over time, the upturn in labor-market tightening in the course of the pandemic and after the onset of the Swords of Iron War.

The matrix of transitions between different employment statuses yields a dynamic picture of changes in individuals' employment status over time. It is based on cross-sectional data from the CBS Labor Force Survey that allows us to produce panel data. By means of the matrix, we may see how many individuals remained employed, how many became unemployed, and how many left the labor cycle altogether. Thus we see, for illustration purposes only, that 90 percent of individuals who were employed in the previous month remained employed in the current month, whereas 5 percent became unemployed and another 5 percent left the labor force. The matrix of transitions among the different employment statuses is presented in the following table:

Table 1: Matrix of transitions among employment statuses (for illustration purposes only)

Individual's status in previous month	Individual's status in current month			Total
	Employed	Unemployed	Out of labor force	
Employed	90%	5%	5%	100%
Unemployed	3%	85%	12%	100%
Out of labor force	4%	1%	95%	100%

The matrix facilitates in-depth analysis of patterns of transition among employment statuses over time and of trends in the labor market. In addition, it allows us to analyze the profiles of the individuals who make these transitions and to examine various characteristics such as age, gender, and economic branches. These metrics are important tools for understanding the dynamics of the labor market and monitoring economic and structural effects on labor supply and demand.

Conclusion

The economic data on Israel's labor market, most supplied by the Central Bureau of Statistics, are diverse and regularly updated. They yield important information about labor supply and demand and constitute an important tool for analyzing and understanding the state of the labor market and the economy. This study emphasizes the importance and meaning of the data alongside the various uses to which they may be put for thoroughgoing analysis of the state of the labor market and support of policymakers' decisions.

The data produce a tableau of Israel's labor market and business cycle, helping us to assess the health of the economy, detect structural problems, and adjust economic and social policies. They are important to the Bank of Israel, which manages monetary policy for the maintenance of price stability while supporting other goals of economic policy such as growth and employment. In addition, they are an important tool for the government and for economists in a raft of fields.

The Bank of Israel plays a key role in monitoring the labor market and advising the government in regard to it. The labor market, with its various aspects—supply, demand, and developments in various branches—is an important field for the Bank's monitoring and research.