

Chapter 8

Welfare Issues

- Inequality between households in Israel is high in international terms when calculated on the basis of disposable income (after direct taxes and transfer payments), but it is not exceptional when calculated on the basis of economic income (before direct taxes and transfer payments).
- The contribution of the tax and transfers policy in Israel to the reduction of inequality is low in an international comparison, mainly as a result of low transfer payments.
- Inequality in economic income has been consistently declining since the beginning of the previous decade due to a persistent increase in the employment rate, the result of an increase in the participation rate against the background of an increase in the level of education, a reduction of the direct tax rate, and a cut in allowances.
- Inequality and the incidence of poverty on the basis of disposable income have been declining moderately since 2006, but they are still at a slightly higher level than they were at the beginning of the previous decade. Nonetheless, poor households today are less dependent on transfer payments than at the beginning of the past decade, when payments accounted for more than 60 percent of the disposable income of poor households, whereas they have accounted for slightly over 40 percent in recent years.
- There is a very high incidence of poverty—more than 50 percent—among ultra-Orthodox and Arab households. Although the employment rate in these groups has risen substantially, both are still characterized by marked under-representation in the labor market according to all the parameters: the employment rate, number of employee posts, and hourly wage.
- The characteristics of poverty among the ultra-Orthodox are evidence that taking the size of their families into consideration, poverty can be reduced by increasing their earning capacity through the study of professions relevant to the labor market.
- The high incidence of poverty among Arab households is mainly due to the fact that there is only one wage-earner or that the secondary wage-earner (usually a woman) works part time. Low wages are also a factor, and differences in the number of years of schooling only explain a third of the disparity in salaries between Arabs and non-ultra-Orthodox Jews.
- The relative economic state of Arab households and households in the periphery has been deteriorating since 2003.
- The wages of primary and secondary wage-earners increased at a similar rate between 2003 and 2014. The hourly wage of primary wage-earners increased at a faster rate and they reduced the extent of their employment whereas the secondary wage-earners increased it. The educational level of both primary and secondary wage-earners rose by a similar degree.
- The subsidizing of daycare centers and family-based pre-nursery facilities is contributing to the participation rate of mothers of young children and an increase in their earnings in the first few years after giving birth. However, many families eligible for a subsidy are not receiving it due to a shortage of slots in the framework in which they can receive the subsidized price. Implementation of government decisions on expanding the supply of the frameworks will ease the shortage.

1. AN INTERNATIONAL COMPARISON OF DEVELOPMENTS IN INDICES OF POVERTY AND INEQUALITY, AND THE GOVERNMENT’S WELFARE AND LABOR MARKET POLICY

a. An international comparison developments in indices of poverty and inequality

Over recent years, the decline in inequality based on economic income has continued to decline.

In recent years, economic-income inequality in Israel has continued to decline,¹ as reflected by a drop in the Gini Index of 10 percent compared with its value at the beginning of the previous decade (Figure 8.1). The decline is mainly a reflection of a sustained increase in the employment rate among low economic income populations, a process due among other things to an increase in the education level and policies aimed at encouraging the taking up of employment—reduced direct tax rates on income from work and a reduction in transfer payments. In contrast to Israel, other OECD countries² are exhibiting a rising trend of economic inequality: the average Gini Index in them increased by 3 percent between 2004 and 2012, with most of the increase coming in the wake of the global financial crisis and the resultant increase in the unemployment rate.

The decline in economic inequality in Israel is due to a decline in inequality between households in the number of hours worked.

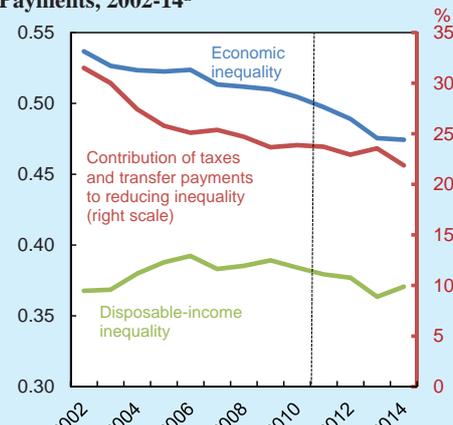
The decline in economic inequality in Israel is due to a decline in inequality between households in the number of hours worked: the Gini Index for the number of hours worked by households declined by 16 percent since 2003 (from 0.187 to 0.157). This process derives mainly from new populations joining the labor market and the employment rate increasing. In contrast, inequality in the hourly wage remained unchanged. Although economic inequality between households in Israel is not high in Israel in international comparison, wage inequality is among the highest

Disposable-income inequality declined at a slow rate relative to the decline in economic inequality.

in the OECD, which is consistent with the finding that the gender wage gap in Israel is high and the gap in the labor input between households is low.

Disposable-income³ inequality declined further—continuing a process that began in 2006—but at a slow rate relative to the decline in economic inequality, and in 2014

Figure 8.1
Gini Index of Inequality Between Households in Israel, Before and After Taxes and Transfer Payments, 2002-14^a



^a The dotted line represents 2011. Until that year, poverty and inequality were measured by the Household Income survey. Beginning in 2012, they are measured via the Expenditure Survey.
SOURCE: National Insurance Institute.

¹ Income before government intervention, i.e., transfer payments and direct taxes.

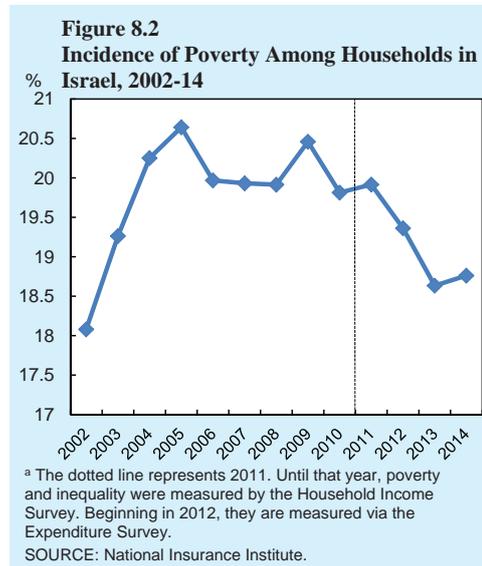
² Balanced panel of 21 OECD countries over the years.

³ The disposable income of a household after government intervention.

it is still slightly higher than it was at the beginning of the previous decade (Figure 8.1).⁴ The gap between the development of inequality based on economic income and based on disposable income derives from the government having reduced its direct intervention⁵ in income distribution by means of transfer payments and direct taxes: at the beginning of the previous decade, the direct effect of the government on the reduction of inequality was 30 percent, whereas in 2014 it was 22 percent. This rate is considerably lower than the average in OECD countries—36 percent in 2012.

The incidence of poverty, a variable measured according to disposable income, increased sharply in 2003 and 2004—after the government markedly reduced transfer payments—and from then until 2011 it remained relatively stable (Figure 8.2). The poverty rate has fallen since 2011 but as stated in footnote 4, this was a period in which there was a change in the survey measuring poverty and therefore it is difficult to interpret the data, particularly in comparison with the past.

An international comparison shows that Israel is similar to other advanced economies in inequality and poverty attributable to the labor market, but is characterized by a high level of inequality and poverty according to disposable income—see Figures 8.3 and 8.4. The figures also indicate that while government intervention in Israel has reduced the incidence of poverty by 30 percent (from 26.5 percent to 18.8 percent), intervention in the OECD countries reduces it by an average of 60 percent (from



Israel is similar to other advanced economies in inequality and poverty attributable to the labor market, but is characterized by a high level of inequality and poverty according to disposable income.

⁴ According to the Household Expenditures survey published by the Central Bureau of Statistics in 2013, the employment rate in that year increased by 10 percent in comparison with 2012, an exceptional and one-time increase that did not appear in labor force surveys or in tax authority data. According to a 2014 survey of expenditure, the employment rate in that year was similar to the rate in 2013, and this datum is still considerably higher than the datum calculated on the basis of the labor force surveys. It is therefore difficult to compare the 2013 and 2014 data with the data for previous years. We will see that there was a “break” of sorts in the sequence between 2012 and 2013: until 2011, poverty and inequality had been measured by means of a survey of household income, and commencing 2012 they were measured by means of a survey of expenditure, with each of the surveys framing differently the question concerning the work of the person being questioned. Since this created something of a problem, those conducting the 2015 survey of expenditure will also be using the original question regarding employment.

⁵ Direct intervention in the distribution of income is achieved through changes in direct taxation or transfer payments; indirect intervention is achieved through the effect of incentives on households or transfers in kind.

28.5 percent to 11 percent). In contrast with the incidence of poverty, the intensity of poverty in Israel is not exceptional in comparison with other OECD countries.⁶

The contribution of direct taxes and transfer payments to reducing inequality in Israel is low by international comparison, mainly due to low transfer payments.

Figure 8.5 shows a ranking of OECD member countries by the extent of the government's direct contribution to the reduction of inequality, with a distinction made between the contribution of transfer payments and the contribution of direct taxes. The figure indicates that the main difference between Israel and the other OECD countries derives from transfer payments: Their contribution to the reduction of inequality in OECD countries is double their contribution in Israel. In contrast, the direct taxation system makes a contribution to the reduction of inequality similar to the average in the OECD countries, although in Israel direct taxes have less weight in wages.⁷ This shows direct taxation in Israel to be highly progressive: a relatively low rate in the third and fourth income quintiles and relatively high rate in the highest income quintile, and especially the highest decile.⁸

Given the size of the investment, Israel is not ineffective in reducing poverty and inequality.

An international comparison shows that in Israel, civilian public expenditure has an especially low share of GDP⁹, and in particular it invests little in direct financial transfers with the aim of reducing the poverty rate and the inequality created by the economy. The direct effect of governments on income distribution is directly proportional to the share of civilian public expenditure in GDP.¹⁰ A comparison shows that for a given budget, the effectiveness of government expenditure in Israel in reducing the incidence of poverty is not different from the average effectiveness in the OECD countries. Since Israel is not ineffective in reducing poverty, it can—if it wants to—further reduce it to the extent in which it invests additional resources and on condition that it maintains the same level of efficiency.

b. The government's welfare and labor market policy

Government policy in recent years concentrated on the long-term reduction of poverty, even at the price of a short-term increase in the poverty rate.

The trends reviewed above are to a great extent consistent with the structure of the steps taken by the government of Israel in the area of welfare and the labor market in 2002, which concentrated on increasing employees' disposable income alongside reducing support for the incomes of families that do not work and of families with children.¹¹ Government policy therefore concentrated on the long-term reduction of poverty by increasing households' motivation to expand the scope of their employment, even

⁶ The intensity of poverty is generally measured by the difference between the average income of poor households and the poverty line. The latest available data for comparison relates to 2012. The OECD provides extremely fragmentary statistics on the differences between the countries in the intensity of poverty over time.

⁷ According to Taxing Wages 2015, the average tax burden on wages in the OECD countries is roughly twice as high as the average tax burden on wages in Israel. There is more on this at: <https://stats.oecd.org/Index.aspx?DataSetCode=AWCOMP>

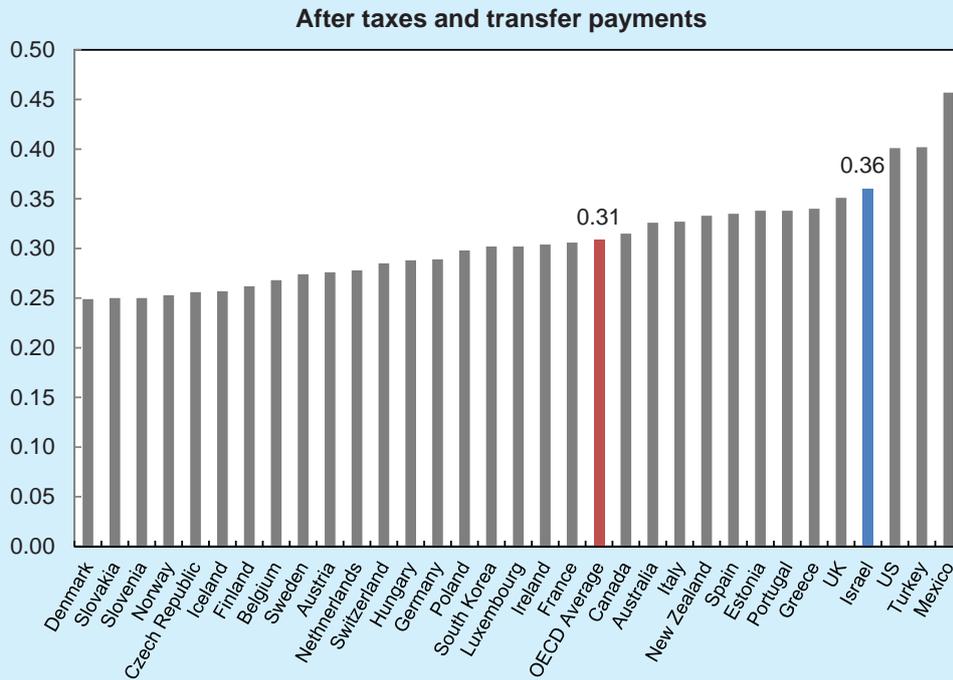
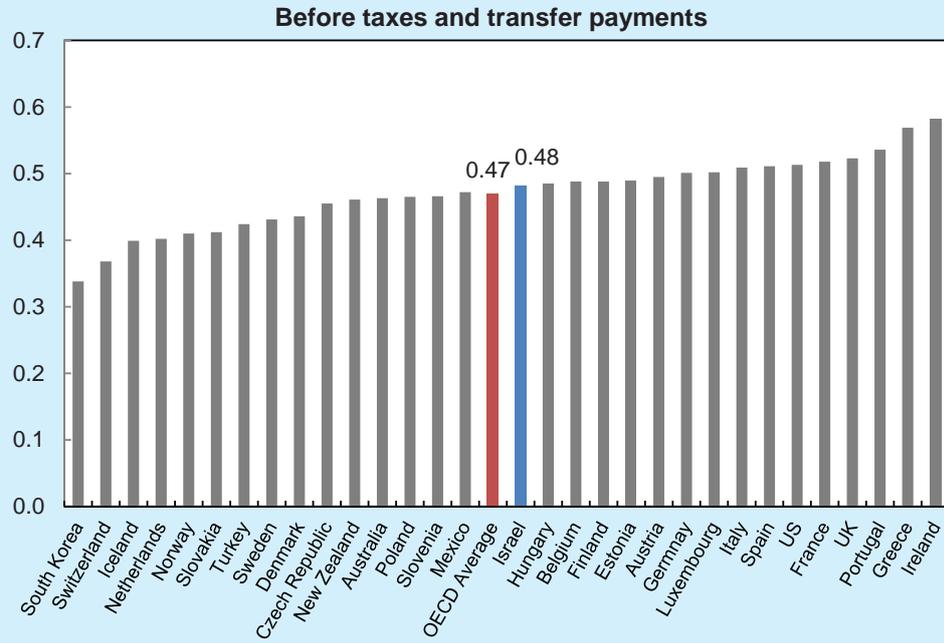
⁸ See Bank of Israel (2015), *2014 Annual Report*, Figure 8.6.

⁹ See Chapter 6.

¹⁰ Bank of Israel (2014), *2013 Annual Report*, Figure 8.3.

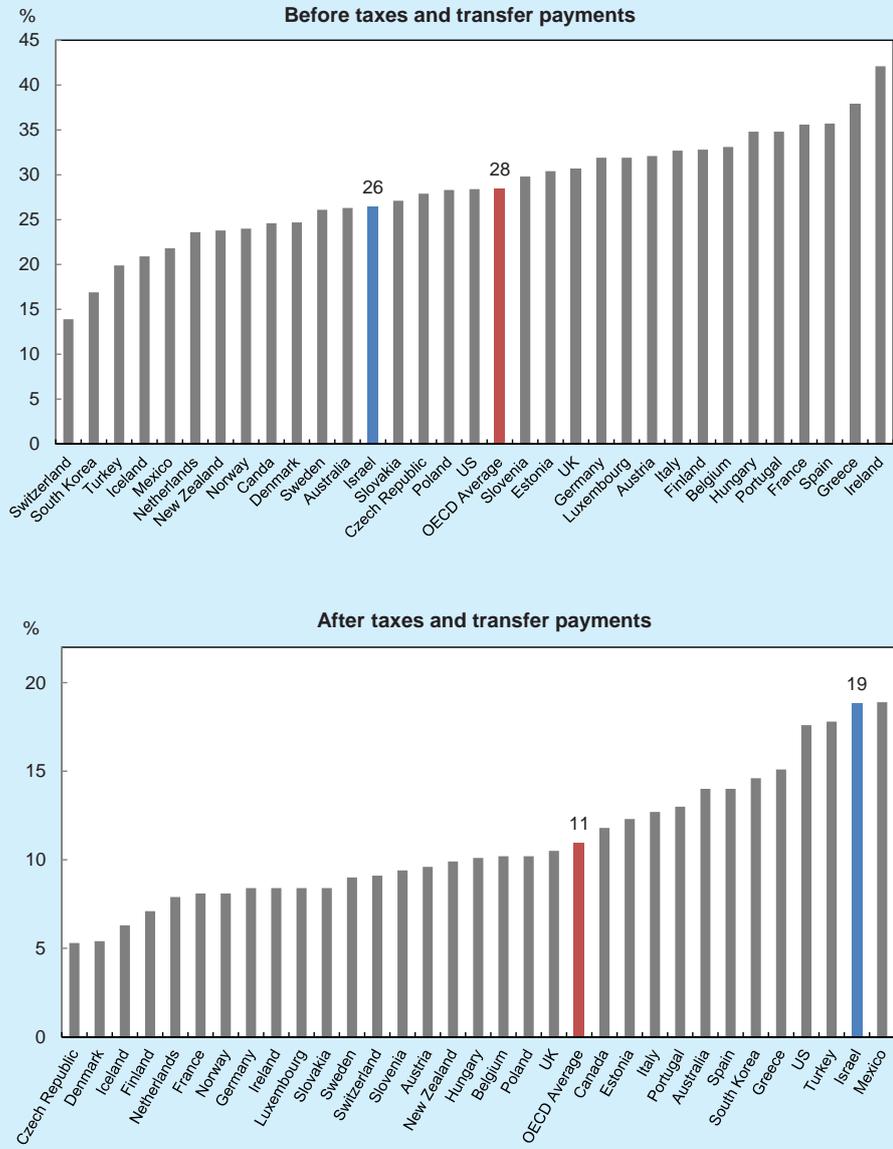
¹¹ Benefits to families with children in Israel in comparison with corresponding benefits globally were discussed by Brender, A. and M. Strawczynski (2015), "Government Support for Young Families in Israel", *Israel Economic Review* 12(2), pp. 1-49.

Figure 8.3
International Comparison: Gini Index of Inequality in Equivalized Income
in OECD, 2011–12 and 2013^a



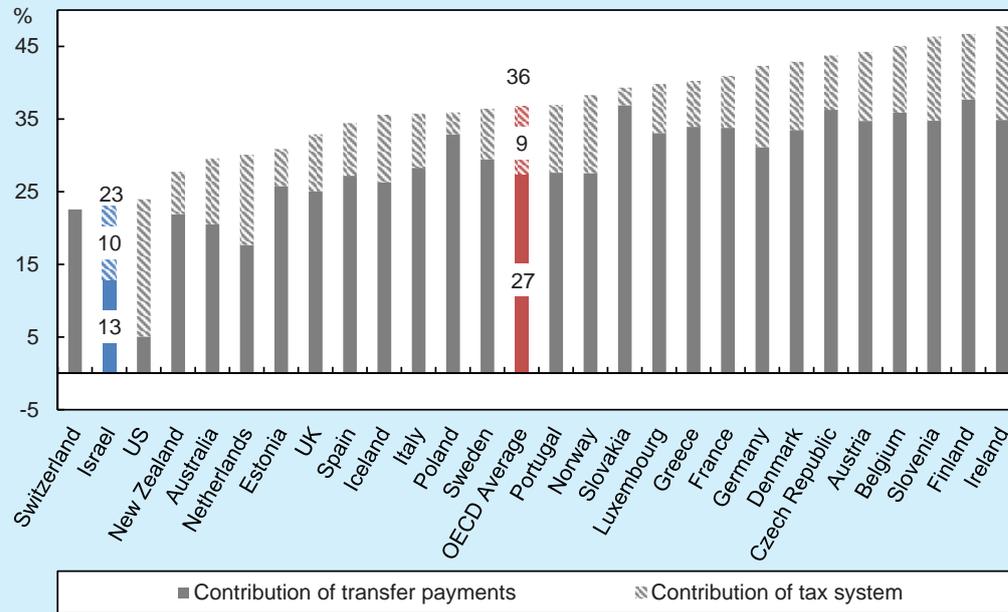
^a Data for Israel—2013. Data for other OECD countries—2011. OECD average—2012.
 SOURCE: Based on OECD data.

Figure 8.4
International Comparison: Poverty Rate among Households in OECD, 2011–12 and 2013^a



^a Data for Israel—2013. Data for other OECD countries—2011. OECD average—2012.
 SOURCE: Based on OECD data.

Figure 8.5
Direct Contribution of OECD Countries' Governments to Reducing Inequality, and
Decomposition into Tax and Transfer Payment Components, 2012



SOURCE: Based on OECD data.

at the price of a short-term increase in the poverty rate. In addition to an expansion of employment being expected to reduce poverty over time, it also contributes to an increase in the level of income in the economy and a reduction of the tax burden on the working population.

Below are reviewed the most prominent processes adopted by the government since 2002 to encourage going out to work.

Steps that reduced labor costs and increased supply:

- A sharp reduction in the rates of direct taxes on wages, a process that continued until 2009: Direct taxation of wages accounted for 12 percent of GDP at the beginning of the previous decade, and for 9 percent in 2014. Since 2003, the marginal tax rate for primary wage-earners has declined from an average of 31 percent to 26 percent, and for secondary wage-earners from an average of 17.5 percent to 14.5 percent.
- Application of the Earned Income Tax Credit: In 2008, the government began to pay the tax credit in some areas of Israel, and in 2012 it began to pay it on a national scale while continuously extending its scope. However, it is still on a

relatively small scale compared with other countries which have instituted an earned income tax credit.

- Partial funding for afternoon daycare centers and for home-based nurseries and the application of the Mandatory Free Education From Age Three Law. This step reduces the cost of childcare for parents who go out to work but also the cost of childcare for those who do not work (see Box 8.2).
- Extending the accessibility of higher education: This process began already in the nineties and improved the ability of additional population groups to integrate into the labor market.
- The “Employment Circles” program which operates an employment service and previous versions of it: these are intended to direct income-assurance recipients toward a return to the labor market by acquiring the basic tools to do so.¹²

Steps that negatively impacted non-labor income:

- A reduction in transfer payments and particularly in child allowances: At the beginning of the previous decade, transfer payments accounted for 10.5 percent of GDP, and from 2007 until the present they have accounted for 9 percent.
- A reduction in unemployment benefits and a shortening of the period they can be received: While this step impacts the working population, it encourages individuals to return to work after severance. Unemployment benefits in Israel are extremely low in international comparison, and this applies even more so to the period of time during which they can be received.

Against the background of these steps, three macroeconomic processes occurred in Israel:

- Integration into the labor market: The participation rate of males declined from 1995 through 2003, and since then it has been on an upward trend. The participation rate for women has increased steadily since the 1970s. Consequently, the share of households with at least two wage-earners has increased steadily (see Figure 8.7).
- The acquisition of education, particularly higher education among the working age population: The increase in the number of colleges and the aging of the population lacking education has led to a marked increase in the percentage of those with higher education in Israel, especially among the young population. It is not impossible that the economic policy—the steps taken to provide an incentive for people to integrate into the labor market—also motivated more people to seek an education. (See Bank of Israel (2013), *2012 Annual Report*, Box 5.1.)

¹²See Brown, L. (2015), “Active Labor Market Policy: Estimating the “Employment Circles” Program’s Effect on Social Security Beneficiaries.”, Bank of Israel, Discussion Papers Series. The Program is currently in its preliminary stages.

- A decline in the fertility rate of large families: This process occurred mainly in the Moslem population and had begun previously.¹³

It has been seen that reducing poverty to levels of advanced economies appears to depend on a marked increase in transfer payments combined with a concomitant increase in the tax burden. However, if government policies to support low income families that are not working are expanded, they are liable to change the incentives to take up employment and become part of the positive trend in the labor market. The dilemma deepens since around half of the poor in Israel belong to the ultra-Orthodox sector, a population segment that accords great value to dedicating time to religious studies, and to the traditional Moslem sector, a population segment for part of which there are cultural restrictions on the employment of women.¹⁴ Particularly in connection with these populations, there is concern among policy makers that an increase in transfer payments will ease economic distress in the short term but will perpetuate it in the long term. Subsidies given to sectorial educational systems which do not develop students' ability to participate in the labor market in the future have a similar effect, by increasing families' disposable income in the present but diminishing the parents' incentive to work in the present (the income effect) and their children's chances of working in the future.

In order to achieve the dimensions of poverty seen in advanced economies, it is possible to increase transfer payments, reduce economic inequality, or to combine the two. Since Israel is not interested in expanding transfer payments, action must be taken to reduce economic inequality to a lower level than is prevalent in most OECD countries. For example, if the aim is to reduce inequality in disposable income to the OECD average, economic inequality needs to be reduced by 5 percentage points, to the level currently prevalent in the Scandinavian countries.¹⁵

Therefore, to reduce inequality without increasing universal transfer payments, a considerable increase is recommended in active government support of the labor market, since this will work to increase the earning capacity of low wage workers. This support is especially meager in international comparison: according to OECD data, in 2011, government expenditure on active labor market policy was 0.17 percent of GDP, compared with an OECD average of 0.56 percent of GDP, 1.35 percent in Sweden and 1.82 percent in Denmark.¹⁶ A substantial increase in these payments

¹³The size of child benefits would appear to have a short-term and relatively minor effect on the fertility of ultra-Orthodox women and Moslems. The rate of the decline in the fertility of Moslem women certainly speeded up after the cut in child benefits, but the downward trend had begun before the cut. See Gotlieb, D., E. Toledano, N. Zussman, and R. Frish (2010), "The Effect of the Size of Child Benefits on Fertility", *The Economics Quarterly* No. 57.

¹⁴Yashiv and Kasir found that the problem mainly affects traditional Moslem women whose participation rate in the employment market is particularly low. See Yashiv, E. and N. Kasir (2013), "Israeli Arabs' Labor Market, Characteristics and Policy Alternatives", Working Paper, Tel Aviv University.

¹⁵It should be noted that the present government has set a similar objective.

¹⁶The data on the other countries relates to 2013 or the last year for which there is data. This rate appears to have increased slightly in Israel since 2011, mainly due to an expansion of the earned income tax credit.

If the government expands support for low income families that are not working, it is liable to change the incentives to take up employment.

For disposable-income inequality to reach levels similar to the OECD average, economic inequality needs to be reduced to a lower level than is prevalent in most OECD countries.

could include expanding the Earned Income Tax Credit and professional training for workers, if the government finds a way of implementing them in a more effective way than previously.

The following section will examine in depth the sources of poverty created by the economy in Israel, particularly their connection with the labor market.

2. A MICROECONOMIC VIEW OF SOURCES OF POVERTY AND INEQUALITY IN ISRAEL AND THEIR DEVELOPMENT OVER THE YEARS

a. Sources of poverty and inequality in Israel in 2014

The poverty rate among households headed by someone more than 64 years old is greater than the rate in the overall population.

The poverty rate among households the head of which is more than 64 years old is greater than the poverty rate in households headed by a person of working age (25–64; Table 8.1).¹⁷ But it should be noted that Israel is not exceptional in this respect—the rate is 15 percent higher than the average poverty rate in the overall population, and is 13 percent higher, on average in the OECD.¹⁸ Average equivalized per capita disposable income among older adults is similar to the corresponding figure for the working age population, but poverty among older adults is greater due to a higher percentage of low wage-earners.

In the case of households headed by a person of working age, they can be divided by the number of wage-earners and then by the extent of their employment.¹⁹ Table 8.1 presents several economic and demographic variables including disposable and economic incomes, the number of family members, and the percentage of Arab and ultra-Orthodox households.

The comparison group includes the entire population belonging to households headed by a person of working age. It is interesting to see that the education of the secondary wage-earner is higher, on average, than the education of the primary wage-earner. This phenomenon is due to the fact that the level of women’s education, particularly of working women, is higher than men’s, whereas in most households in Israel men earn more than their partners.

Households with no wage earners are characterized by lower income and educational levels.

A feature of households with no wage-earners is their lower income and educational levels. The poverty rate among them is 64 percent, per capita disposable income is 45 percent of the average in the general group, and equivalized per capita expenditure is equal to 77 percent. The percentage of Arabs and ultra-Orthodox in the group is almost double that of their percentage in the population. These households account for less than 10 percent of households headed by a person of working age, and their proportion in the overall group is shrinking (see Figure 8.7).

¹⁷The phrase “head of the household” relates to the primary wage-earner—the person with the highest net salary.

¹⁸OECD data. Similar results were obtained for 2013.

¹⁹For families with no wage-earners, we identified the primary and secondary wage-earners according to the subjective answers given to the survey regarding the how close a family member is to these tasks. This is also what was followed for the secondary wage-earner in households with a single wage-earner.

Table 8.1
Characteristics of households headed by a person of working age, by number of earners and scope of employment, 2014^a

	Economic income (NIS thousand)	Disposable income (NIS thousand)	Number of people	Equivalent disposable income (NIS thousand)	Equivalent expenditure per capita (NIS thousand)	Number of years of schooling of primary wage-earner	Number of years of schooling of secondary wage-earner	Number of primary work hours	Number of secondary work hours	Share of primary wage-earners out of primary wage-earners	Share of secondary wage-earners out of primary wage-earners	Poverty rate	Ultra-Orthodox Arab
Total households headed by a person of working age (values are averages)	17.0	16.3	3.6	6.0	5.9	14.2	14.5	44.9	38.0	66%	17.1%	4.0%	14.6%
Households with no wage-earners													
Share of total:													
9 percent	-	5.6	2.9	2.7	4.6	12.7	12.6	-	-	-	64.3%	8.0%	26%
Households with one wage-earner													
Share of total:													
40.3 percent	9.5	10.9	3.0	5.2	5.8	13.9	14.5	41.5	-	59%	26.4%	5.3%	20.2%
Households with two wage-earners													
Share of total:													
50.7 percent	22.3	19.6	3.9	6.7	6.2	14.8	14.9	46.5	37.6	72%	5.8%	3.0%	8.8%
Households with two wage-earners: Both full time													
Share of total:													
28 percent	26.2	21.8	3.8	7.5	6.5	15.0	15.0	48.2	43.4	74%	1.4%	1.3%	4.9%
Households with two wage-earners: First works full time, second works part time													
Share of total:													
62 percent	19.1	17.7	4.0	6.0	5.9	14.5	14.6	48.2	23.8	75%	8.1%	3.3%	13.1%
Households headed by a person older than 64^a													
	2.9	10.4	1.7	5.9	6.3	12.0	12.7	34.6	26.6	46%	28.1%	14.9%	1.2%

^a The last line presents data for households headed by someone who is not working age.
 SOURCE: Based on Central Bureau of Statistics Household Expenditure Survey for 2014.

Households with a single wage-earner are also characterized by low incomes and by a relatively high percentage of Arabs and ultra-Orthodox. The poverty rate among them is high at 26.4 percent. This group comprises three main subgroups: two adults one of which is not working (68 percent), single-parent families (16 percent), and households of individuals (16 percent). The first of these is in the worst situation with a poverty rate of 42 percent, whereas it is 12.4 percent in single-parent households and 14 percent among households of individuals.

When both wage earners in a household are employed full time, the poverty rate is very low.

As government policy has been focused on expanding employment in recent years, the following discussion will concentrate on households with two wage-earners—a group that makes up more than half of all households headed by a person of working age. This is the strongest group from all economic aspects and the poverty rate in it is 5.8 percent. We have divided it into four subgroups according to the job share of both wage-earners: (1) Both wage-earners have full time jobs; (2) The primary wage-earner has a full-time job and the secondary wage-earner has a part-time job; (3) Both wage-earners have part-time jobs; and (4) The primary wage-earner has a part-time job and the secondary wage-earner has a full-time job. Since groups (3) and (4) are a small part of the overall group (jointly 10 percent), we will not review them in the remainder of the analysis (they also do not appear in Table 8.1).

The households in the first group are more affluent than those in the second group and the poverty rate in these groups is slightly more than 1 percent and 8 percent, respectively. Equivalized income in the second group is 20 percent lower than in the first group and expenditure 10 percent lower. The percentage of Arabs and ultra-Orthodox in the first group is much lower than their percentage of the population whereas in the second group it is similar to their percentage of the population. Since the percentage of the second group in the population is relatively high and their economic situation far less good than the situation of the first group, it is especially important to concentrate on it and to try to understand how it differs from the first group and if it faces obstacles in the labor market.

There are two wage earners working full time in less than 10 percent of ultra-Orthodox and Arab households compared with 30 percent among non-ultra-Orthodox Jews.

Table 8.2 shows how some of the economic features of the households are distributed by population groups—non-ultra-Orthodox Jews, ultra-Orthodox Jews, and Arabs. Especially noticeable is the difference between the populations in the number of wage-earners: among non-ultra-Orthodox Jews there are two wage-earners in more than half the households, and in about one third of the households among the Arabs and ultra-Orthodox. Overall, there are two wage-earners working full time in less than 10 percent of ultra-Orthodox and Arab households compared with 30 percent among non-ultra-Orthodox Jews.

The table focuses on households with two wage-earners. Among **non-ultra-Orthodox Jews** these households are reasonably equally divided according to the extent to which the secondary wage-earner is employed: in 44 percent of them the secondary wage-earner has a part-time job and in 56 percent the secondary wage-earner has a full-time job. Both groups are also similar in the percentage of men who are primary wage-earners—about 70 percent. In households in which there are two wage-earners with full-time jobs, the poverty rate is negligible and average disposable

income is NIS 22,600, which is 40 percent greater than the average disposable income in all the households headed by a person of working age.

In most of the ultra-Orthodox and Arab households, the secondary wage-earner works part time: in three out of four ultra-Orthodox households, the secondary wage-earner has a part-time job and works fewer than 15 hours a week on average. Among Arabs that proportion is around two thirds.

In **Arab** households in which the secondary wage-earner works part time, the poverty rate is 25 percent—more than five times the rate in the corresponding non-ultra-Orthodox Jewish population. In households in which the secondary wage-earner works full time, the poverty rate is 6.8 percent and equivalized disposable income is 18 percent higher than the income in households in which the secondary wage-earner has a part-time job. In these households, both wage-earners are far better educated

Table 8.2
Distribution of households, by population group and number of wage-earners and scope of their employment, 2014

		Non-ultra-Orthodox Jews	Ultra-Orthodox	Arabs
No wage-earners		8%	17%	16%
One wage-earner		36%	49%	54%
Two wage-earners		55%	34%	29%
<i>of which:</i>	Secondary earner works part time	44%	73%	68%
	Poverty rate	4.4%	34.0%	25.0%
	Economic income (NIS thousand)	20.0	13.9	15.2
	Disposable income (NIS thousand)	18.5	15.7	13.8
	Equivalized disposable income (NIS thousand)	6.5	4.6	3.9
	Number of people	3.7	5.7	5.2
	Equivalized per-capita expenditure (NIS thousand)	6.2	3.8	4.7
	Education of primary earner (years of schooling)	14.6	17.9	12.9
	Share of men among primary earners	69%	66%	86%
	Education of secondary earner (years of schooling)	14.9	17.0	12.6
<i>of which:</i>	Secondary earner works full time	56%	27%	32%
	Poverty rate	0.7%	22.0%	6.8%
	Economic income (NIS thousand)	27.0	16.2	17.7
	Disposable income (NIS thousand)	22.6	15.0	15.6
	Equivalized disposable income (NIS thousand)	7.8	4.3	4.6
	Number of people	3.7	5.5	4.4
	Equivalized per-capita expenditure (NIS thousand)	6.7	4.3	5.4
	Education of primary earner (years of schooling)	15.0	14.8	14.3
	Share of men among primary earners	71%	54%	66%
	Education of secondary earner (years of schooling)	15.0	17.2	14.0
Share of households with two full-time wage-earners		32%	9%	9%

SOURCE: Based on Central Bureau of Statistics Household Expenditure Survey for 2014.

than their peers in the first group and the percentage of men who are primary wage-earners is also much greater.

The difference for the worse in Arab households, both in incomes and in poverty, is also evident in an econometric analysis of more detailed salary equations. The difference in the number of years of education between Arabs and non-ultra-Orthodox Jews explains about a third of the difference between them in monthly salary and only about 15 percent of the difference in hourly wage. It therefore seems that in addition to increasing investment in human capital among Arabs (already in primary educational institutions), it is important to clarify whether they are being discriminated against in the employment market, and to the extent necessary to enforce its reduction and even to adopt affirmative action. These two will increase the percentage of Arab employment and their economic income.²⁰

There is a marked difference in the poverty rate between households in which the secondary earner works part time and those in which the secondary earner works full time.

Among the **ultra-Orthodox**, there is a marked difference in the poverty rate between households in which the secondary wage-earner has a part-time job and those in which the secondary wage-earner has a full-time job—34 percent compared with 22 percent, respectively—but the poverty rate is high among the latter as well. Despite this, equalized disposable income is similar in both groups. The difference between them in the number of years of education derives in this case from the primary wage-earners although in both groups they are working full time. The number of years of education among the ultra-Orthodox is particularly high, but most of their education—studies in a religious institutions (kollel or yeshiva)—is not relevant to the labor market, as despite the education, their income is at the bottom of the scale. The difference is especially marked in the economic income. The percentage of men among the primary wage-earners is also at the bottom of the scale but even among the ultra-Orthodox it is greater than 50 percent. Due to the special characteristics of ultra-Orthodox households, the following box examines their incomes on a detailed basis.

²⁰As stated above, Yashiv and Kasir identified a significant group among Arabs whose rate of participation in the labor market was especially low—traditional Moslem women. See Yashiv E. and N. Kasir (2013), “Israeli Arabs’ Labor Market, Characteristics and Policy Alternatives”, Working Paper, Tel Aviv University.

Box 8.1**The effect of economic and demographic variables on the incomes of ultra-Orthodox households**

Per capita income in ultra-Orthodox households is much lower than in other households and the poverty rate among them is very high. This box examines the contribution of economic and demographic variables in explaining the differences among adults with tenure in the labor market most of whose children have not yet left home. The analysis focuses on ultra-Orthodox households headed by a person between the ages of 30 and 50.

Table 1 presents some basic data on these households and compares them to data on the corresponding households in other population groups. Ultra-Orthodox households are distinguished from households in the rest of the population in several aspects. The disposable income of an ultra-Orthodox household is 30 percent less than the average income for other households in the population. An ultra-Orthodox household has on average five children under the age of 18, 3.2 children more than a household in the rest of the population. Its equivalized disposable income is 42 percent of the average income of a household in the rest of the population, and the poverty rate among the ultra-Orthodox is three and a half times higher.

We examined the contribution of the characteristics of ultra-Orthodox households to explaining the differences using a simulation that calculates separately the effect of each characteristic on the income gap

Table 1
Qualities of households^a headed by a person aged 30–50: Ultra-Orthodox compared with others, 2014

	Average for Ultra-Orthodox	Average for remainder of population	Ultra-Orthodox compared with rest of population (ratio)
Number of people	7.40	3.94	1.88
Number of children below age 18	5.04	1.79	2.81
National Insurance allowances (NIS)	1,667	1,123	1.48
Child allowances (NIS)	751	249	3.00
Disposable income (NIS)	14,020	19,514	0.71
Equivalized per capita income (NIS)	2,346	5,586	0.42
Economic income (NIS)	11,756	20,137	0.58
Net income of primary earner (NIS) ^b	6,608	10,071	0.66
Net income of secondary earner (NIS) ^b	4,051	6,871	0.59
Number of wage-earners	1.31	1.66	0.79
Incidence of poverty	62.0%	18%	3.49

^a Only households with two adults—excluding singles and single-parent households.

^b Only a wage-earner earning a salary of more than zero.

SOURCE: Based on Central Bureau of Statistics Household Expenditure Survey for 2014.

Table 2**The contribution of ultra-Orthodox households' characteristics to the gap in incidence of poverty and in disposable income per capita, 2014^a**

	Ultra-Orthodox	Remainder of population	Gap
Equivalized per capita income (NIS)	2,346	5,586	3,241
Incidence of poverty	62.1%	17.8%	44.3%
Contribution of demographics (household size)			
	To: Gap in income	To: Gap in incidence of poverty	
	34%	70%	
	(1%)	(4%)	
Contribution of difference in net wages of primary earner			
	To: Gap in income	To: Gap in incidence of poverty	
	19%	36%	
	(1%)	(4%)	
Contribution of difference in net wages of secondary earner			
	To: Gap in income	To: Gap in incidence of poverty	
	9%	19%	
	(1%)	(6%)	

^a Standard deviation in parentheses.

SOURCE: Based on Central Bureau of Statistics Household Expenditure Survey for 2014.

(Table 2).¹ The simulation shows that if there was an identical number of people in each group, the difference between them in the incidence of poverty would be 70 percent less (31 percentage points out of the 44 percentage points appearing in Table 1).² The remaining difference in the incidence of poverty (about 30 percent) is explained by the difference in disposable income. The gap in equivalized income would be reduced by 34 percent.

If there was an identical distribution of the primary wage-earner's net salary across the sectors, the incidence of poverty for ultra-Orthodox households would be reduced by 46 percent; in terms of contribution, the primary wage-earner's wage explains around a third of the difference in the incidence of poverty. In this scenario, the equivalized income in an ultra-Orthodox household increased by 27 percent; the salary component of the primary wage-earner explains 19 percent of the difference in the equivalized average income.

¹ To do this we took the values characterizing the ultra-orthodox households and replaced them with randomly sampled values from the distribution in the rest of the population. We made three independent adjustments for each of the variables and derived its standard deviation from them.

² We assume that income does not vary.

The difference in the incomes of the secondary wage-earners makes a relatively small contribution. If identical incomes in both sectors are assumed, we find that the low wage of the secondary wage-earner in the ultra-Orthodox sector contributes less than 10 percent to the explanation of the difference in the equivalized average income and 19 percent to the explanation of the difference in the incidence of poverty.

Since there is a correlation between the size of the household and its income from wages (interaction), the breakdown into contributions that were presented above explains only 62 percent of the difference in the equivalized average income. In contrast, the breakdown into contributions explains the entire difference in the incidence of poverty and most of the difference may be attributed to the size of the ultra-Orthodox household.

Equivalized disposable income among the ultra-Orthodox is not highly elastic in relation to child allowances (does not appear in the table) since the level of allowances is low in comparison with the median disposable income and because they have relatively large families. To demonstrate this, the poverty level among the ultra-Orthodox will remain extremely high even if the allowances are doubled in comparison with 2014.³ The poverty rate will fall by only about three percentage points and the equivalized average income will increase by 3 percent.

There is no strong or even uniform correlation between the disposable income of ultra-Orthodox households and the number of persons in the household (Table 3). From eight persons, the average income of an ultra-Orthodox household dips below the poverty line. We calculated the level of income necessary for a family of any given size to rise above the poverty line. The calculation shows that when there are 10 or more persons in the household, it needs an income similar to that of households in the 6th or 7th decile of the economy.

Table 3
Disposable income among ultra-Orthodox households headed by a person aged 30–50, by number of people in household, 2013 and 2014

Number of people in household	Share of such households among ultra-Orthodox	Average disposable income (NIS)	Poverty line by household size (NIS)	Disposable income relative to poverty line	Decile in which household needs to be in order to rise above poverty line
5	10%	14,083	9,365	1.50	Between 3 and 4
6	14%	14,548	10,614	1.37	Between 4 and 5
7	17%	15,101	11,862	1.27	Between 4 and 5
8	15%	13,603	12,986	1.05	Between 5 and 6
9	13%	13,326	13,985	0.95	Between 5 and 6
10	8%	13,291	14,984	0.89	Between 6 and 7
11	7%	15,758	15,983	0.99	Between 6 and 7
12	3%	14,194	16,982	0.84	Between 7 and 8

SOURCE: Based on Central Bureau of Statistics Household Expenditure Survey for 2014.

³ As stated above, the simulation used data from a 2014 expenditure survey and the child allowances therefore reflected the reduction made in them in 2013. In the 2015–16 budget, in which the allowances, including the special transfer to long-term saving for each child, more or less returned to their level of before the reduction, the increase is in the region of 80 percent.

b. The development of income over the years, by households' characteristics

The previous section showed that disposable income increases as the household increases its labor input. It was also seen that some of the differences in income are associated with belonging to different groups in the population—Arabs and ultra-Orthodox. In this section, a multivariate regression is used to examine how additional characteristics contribute to an explanation of the wage differences between households.

The explanatory variables include: the age, and age squared, of the head of the household, the distance in kilometers between Tel Aviv and the district where the household resides²¹, the number of years of education of the head of the household (four education groups) and/or the number of years of education of the secondary wage-earner, the number of children under the age of 18 in the household, the number of wage-earners in the household, the number of hours worked by each wage-earner, ultra-Orthodox household and Arab household.

The link between households' characteristics and their income will be examined through focusing on four areas: 1. Their demographic characteristics (household size, nationality, ultra-Orthodox or not); 2. Education; 3. Distance from Tel Aviv; and 4. Variables related to the labor market.

Demographic characteristics, education, and the distance from Tel Aviv

The number of children in a household correlates with equivalized income: the larger the household the smaller the equivalized income. The addition of a fourth child to the household²² therefore is very negatively correlated with equivalized income, and this connection is very clearly and notably different than the link between income and the addition of the other children. On the assumption that the other variables are constant, equivalized disposable income in a household with four children is 15 percent lower than disposable income in a family with three children.

Equivalized per capita income in Arab households, on the assumption that other variables remain constant, is 30 percent lower than the corresponding data in a non-ultra-Orthodox Jewish household, and per capita expenditure²³ is less than 10 percent of the corresponding figure. The distance of the household from Tel Aviv explains (on average over the years) around 15 percent of the difference in income between Arab households and non-ultra-Orthodox Jewish households (15 percent out of 30 percent – 4.5 percentage points). Over the years, and especially since 2012, there has been an increase (in absolute value) in the coefficient of belonging to the Arab sector, i.e., a deterioration in the relative situation of Arabs (Figure 8.6).

The addition of a fourth child to the household is very negatively correlated with equivalized income.

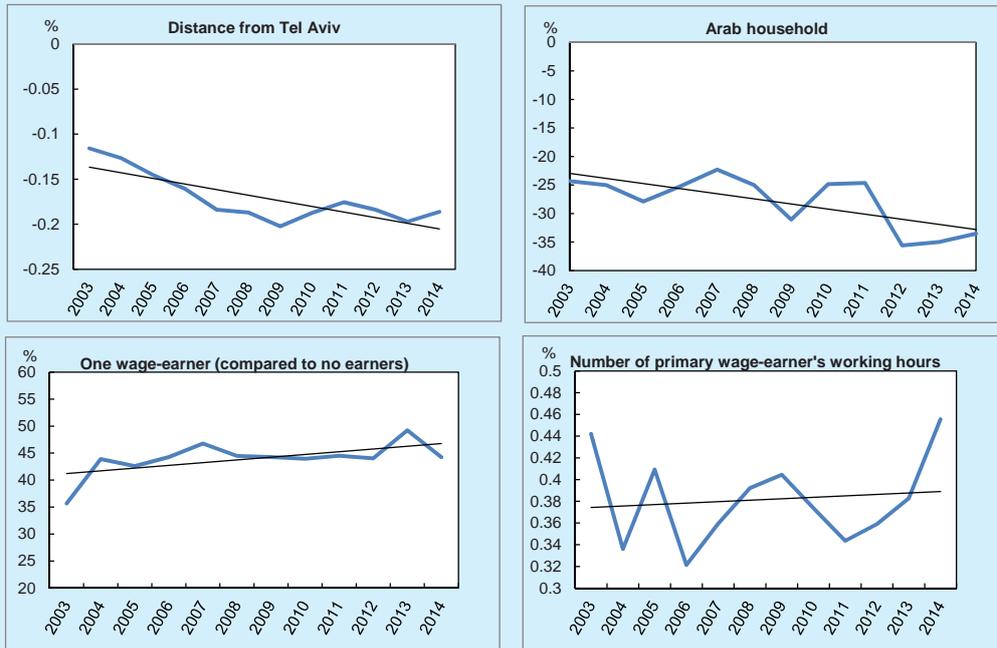
Over the years, there has been a deterioration in the situation of Arab households relative to non-ultra-Orthodox Jewish households.

²¹ According to Google Maps.

²² In other words in a family of six persons.

²³ Using the same regression we also examined the effect on standard per capita expenditure, and some of the expenditures are mentioned in this section.

Figure 8.6
Contribution of Selected Variables to Equivalized Income Per Capita, 2003–14



SOURCE: Based on Central Bureau of Statistics Household Expenditure Survey .

The equivalized per capita income in ultra-Orthodox households, on the assumption of the other variables remaining constant, is 35 percent lower than the income in non-ultra-Orthodox Jewish households, but contrary to the situation in Arab households, in this case per capita expenditure is less by a similar percentage. Over the years there has been no prominent trend has been seen in the existing correlation between belonging to the ultra-Orthodox sector and household income or expenditure.

Households' incomes decline the further the distance from Tel Aviv. According to the coefficient in the regression, every 100 kilometers reduces expenditure or equivalized per capita income by 15 percent.²⁴ The negative correlation between the distance from Tel Aviv and income increased until 2009 and since then has remained stable, i.e., the economic gaps between households according to geographic areas increased over time²⁵ (Figure 8.6). The wage differences between households living in Tel Aviv and those living at a distance from it increase as the level of education increases. This may

The equivalized per capita income in ultra-Orthodox households, on the assumption of the other variables remaining constant, is 35 percent lower than the income in non-ultra-Orthodox Jewish households,

Over the years the economic gaps have widened between households in various geographic regions.

²⁴The effect of the difference from Tel Aviv on the income variable closely resembles the expenditure variable, but it is impossible to deduce the standard of living directly from it, among other reasons because the expenditures (for example on kindergartens and housing expenses) are not corrected for the cost of living according to geographical location. An overall comparison of the effect of the distance from Tel Aviv on the level of prices is outside the scope of the present discussion.

²⁵There is a macroeconomic analysis of the development of the differences between regions in Israel in Bank of Israel (2014), *2013 Annual Report*, Chapter 8.

be due to the fact that there is relatively low supply of jobs requiring workers with a high level of human capital.²⁶

There has been a perceptible moderate upward trend in return to schooling over the years (in other words, in the positive correlation between a household's education and income) among households headed by someone with fewer than 15 years education. Since most secondary education of the ultra-Orthodox is acquired in a religious-study institution (kollel or yeshiva) which has a low economic return, an increase in the number of years they study increases their income by less than the increase due to the number of years of study for the non-ultra-Orthodox. This phenomenon is also perceptible, albeit to a lesser degree, among Arabs but it would appear to be attributable to other causes, among them perhaps also discrimination, since they learn for the most part in the same institutions of higher learning as non-ultra-Orthodox Jews (the examination was conducted using interaction variables).

Characteristics associated with labor market participation

Households participating in the labor market have a greater equivalized disposable income than non-participating households: the income of households with a single wage-earner, on the assumption that the other variables are constant, is 50 percent higher than that of households without a wage-earner. This percentage has increased from 36 percent in 2003 (Figure 8.6). For the additional (secondary) wage-earner there is less of a correlation with income and there is no clearly perceptible trend in it over time.

For ultra-Orthodox households, the participation of an additional wage-earner contributes less to income than it contributes for a non-ultra-Orthodox household (by 16 percent). In contrast, for Arab households, the participation of an additional wage-earner and the participation of two additional wage-earners contribute more to income than they contribute for Jewish households (by 18 percent and 26 percent, respectively).

The macroeconomic process of participation in the labor market corresponded with an increase in the economic yield of going out to work. However, since the poverty line is calculated in relative terms, the increase in the number of workers raised the poverty line along with the increase in per capita GDP²⁷, and therefore eroded the correlation between the number of hours worked and/or the number of wage-earners and the probability of a household being below the poverty line. From the macroeconomic aspect, the relationship between the hourly wage and the poverty line has diminished over the years (by 15 percent from 2003 through 2014), and this is due to the increase in the employment rate.

²⁶There is a discussion of the spatial structure of employment in Israel in Bank of Israel (2014), *2013 Annual Report*, Chapter 5.

²⁷See Bank of Israel (2015), *2014 Annual Report*, Chapter 5.

3. THE DEVELOPMENT OF PRIMARY AND SECONDARY WAGE-EARNERS' SALARIES AGAINST THE BACKGROUND OF THE INCREASE IN LABOR SUPPLY

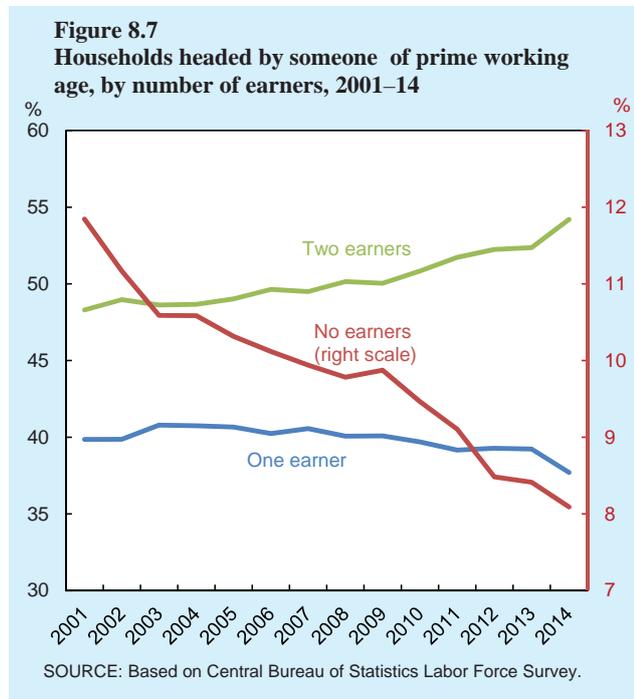
a. Background

The labor supply in Israel increased greatly in the previous decade, reflected in a significant increase in the employment rate, and contributed to an increase in the income of households in the low deciles. This is a very important process and unique to the Israeli economy. The participation rate increase was mainly due to an increase in the number of wage-earners in households: the percentage of households with two wage-earners increased to 54 percent, from less than 50 percent (Figure 8.7).^{28,29} The labor input of households is measured by the number of hours worked per week and has increased since 2003 by 26 percent (from 44.5 hours for a household in 2003 to 56 in 2014). A household's real income (gross) from wages consequently increased by a similar percentage.

There was a 25 percent increase in the number of hours worked per household for non-ultra-Orthodox Jews, 18 percent for Arabs, and almost 60 percent for the ultra-Orthodox—a development that led to an increase in the share of the ultra-Orthodox of overall labor input at the expense of the share of the other two groups. However, the labor input of an ultra-Orthodox household remains 68 percent (85 percent) of the labor input of a non-ultra-Orthodox Jewish (Arab) household.

The increase in the number of work hours of households was mainly the result of the participation of the second wage-earner in the labor market, since the average number

The increase in the number of work hours per household reflects the marked increase in the share of households with two wage earners.



In the past decade, the share of non-ultra-Orthodox households in total labor input increased, at the expense of the share of the rest of the population.

²⁸In this section we have not related to households with three or more wage-earners since they are not a large percentage of the population and the subject requires a separate discussion.

²⁹The analysis in this section is based on cross-section data and not on panel surveys, i.e., there is no monitoring of a household one member of which began to work in any specific year.

of working hours for a household with a single wage-earner or with two wage-earners remained almost unchanged. The increase in the significance of households with two wage-earners—and in the number of secondary wage-earners—raises several questions: Do secondary wage-earners have different characteristics from those of primary wage-earners, and is this expressed in their hourly wage? Is the participation of secondary wage-earners accompanied by changes in the extent of the primary wage-earners' employment?³⁰

b. The development of wage-earners' wages in households

Since there was a differential change in wage-earners' characteristics over the course of the period examined, the primary and secondary wage-earners' wages are examined with control of their features. The analysis is based on annual expenditure surveys of the Central Bureau of Statistics from the period covering 2003 until 2014.³¹ This section focuses only on households with at least two wage-earners and in which the secondary wage-earner declared that they worked a positive number of work hours.

The wage-earners in these households were divided into primary and secondary according to their net wage. Their characteristics and the development of those characteristics were examined over time. Finally, the development of the wage over the years was measured. This was also examined by dividing the population into three subgroups: non-ultra-Orthodox Jews, ultra-Orthodox, and Arabs. In order to take into account the fact that in the previous decade there was a marked and differential change in the tax rates on wages, the analysis is presented in terms of both net and gross wage³², and this is because, among other things, the changes in the tax rates affect the incentives presented to a household when it is choosing to expand the employment of the primary wage-earner or for that matter of the secondary wage-earner.

The extent of primary wage-earners' employment in households with two wage-earners declined in the period examined by an average of 1.2 hours a week (2.9 percent)³³, while the extent of employment of secondary wage-earners increased by 1.0 hours (2.9 percent).

³⁰ A report on the state of the country published by the Taub Center for 2015 dealt with a similar topic, but the survey described the development of wages according to wage-earners and did not examine the features of the wage-earners and their effect on wages over time. See http://taubcenter.org.il/wp-content/files_mf/householdsincomes2015heb19.pdf.

³¹ We chose to begin in 2003 since for the purposes of the analysis in this section we are making use of the expenditure surveys of the Central Bureau of Statistics so as to maintain continuity in the later years (it will be recalled that there was a "break" in the income surveys in 2011), and since the data we are examining with these surveys are unstable prior to 2013.

³² Between 1999 and 2014, the average direct tax rate reduced by seven percentage points. There is a discussion on a multi-annual distribution of the effect of the changes in the tax laws on receipts and on wages in Brender A. and E. Politzer (2014), "The Effect of Legislated Tax Changes on Tax Revenues in Israel", Discussion Paper, Bank of Israel.

³³ Segmentation of the population into groups—non-ultra-Orthodox Jews, ultra-Orthodox, and Arabs—indicates that only the primary wage-earners in the non-ultra-Orthodox Jewish households cut the number of hours they worked.

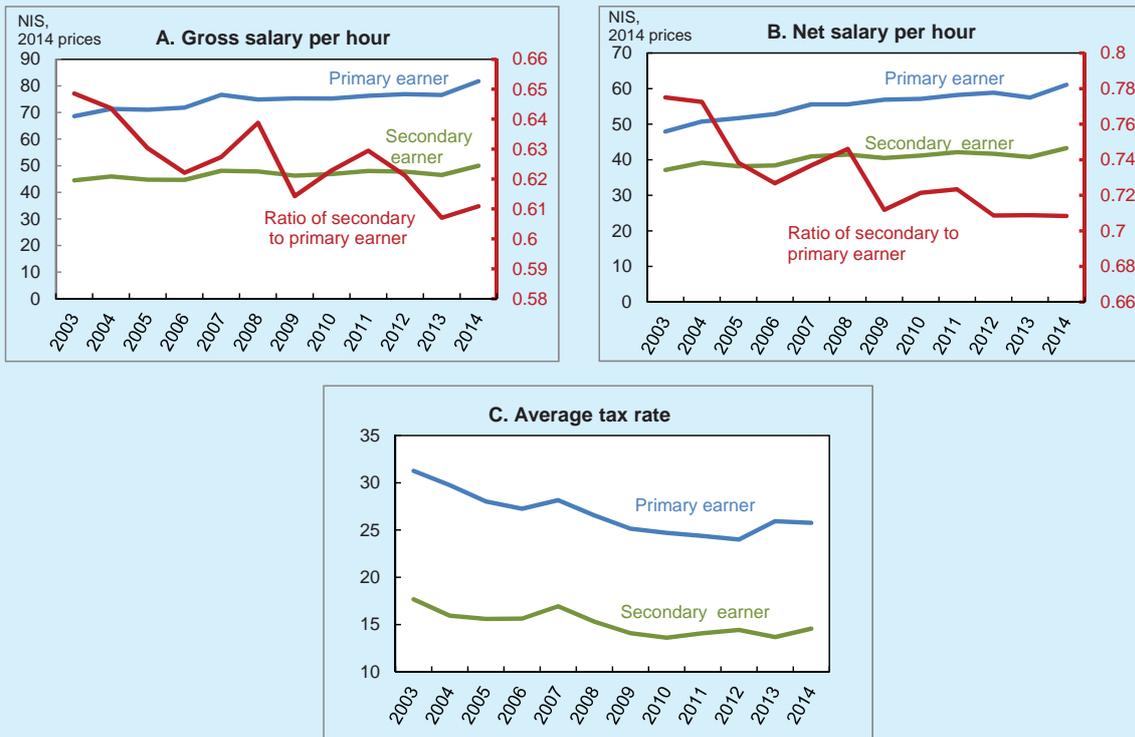
The average age of wage-earners increased. Among primary wage-earners, the incidence of 45–54 year-olds increased at the expense of 35–44 year-olds, contrary to the demographic trend, and this is evidence of a change in behavior; among secondary wage-earners the incidence of 35–44 year-olds increased at the expense of young workers in line with the demographic trend.

The gross wage of primary wage-earners is twice as high as the wages of secondary wage-earners. This difference partially reflects the difference in the average number of hours worked (46.9 for the primary wage-earner and 38.6 for the secondary wage-earner), but it is especially a reflection of substantial differences in hourly wage – the wage of a primary wage-earner is 70 percent higher (Figure 8.8a). These differences increased between 2003 and 2014: the gross hourly wage of a primary wage-earner increased by an average of 19 percent, while the wage of a secondary wage-earner increased by 16 percent. The net wage per work hour—which also expresses the effect of the tax rates—increased among primary wage-earners by 28 percent and among secondary wage-earners by 17 percent (Figures 8.8b and 8.8c).³⁴

The gross wage of primary wage earners is twice as high as the wages of secondary wage earners.

Between 2003 and 2014, the gross hourly wage of a primary wage earner increased by an average of 19 percent, while the wage of a secondary wage earner increased by 16 percent.

Figure 8.8
Salary Range of Households' Wage Earners, 2003–14



SOURCE: Based on Central Bureau of Statistics Expenditure Survey.

³⁴Separating non-ultra-Orthodox Jews from the rest of the population indicates that the increase in gross wage per hour is particularly prominent in non-ultra-Orthodox Jewish households.

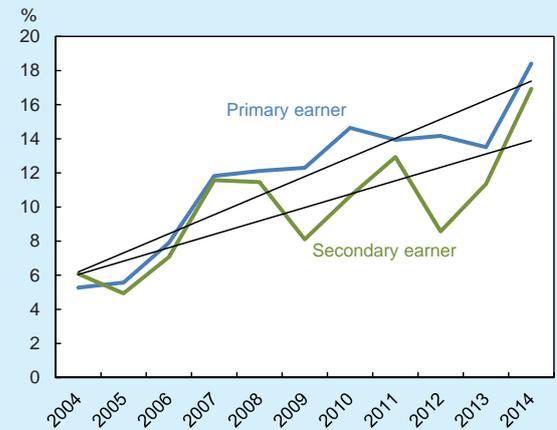
When taking into account the change in characteristics of primary and secondary wage earners, it is found that their wages developed similarly between 2003 and 2014.

Due to the reduction in the tax rates, the path of net wages increased over the years slightly more among primary wage earners.

To examine whether the findings on the development of wages are attributable to changes in the characteristics of wage-earners, a multiyear regression must be employed. The analysis shows that among secondary wage-earners, the increase in wages is consistent with the increase in the features characterizing high wage-earners: the age and percentage of men increased relative to the corresponding data among primary wage-earners. Overall the change in the characteristics of wage-earners was expected, according to the regression coefficient, to increase the wage of the secondary wage-earner by 7.2 percent (of which 1.3 percent is the result of the increase in the number of hours worked) and the wage of the primary wage-earner by 4.8 percent (of which a 1.6 percent reduction is due to a reduction in the number of hours worked). The findings show that there was no change in the relative wage of primary and secondary wage-earners and that the wages of both groups are determined in one labor market.

The reduction in the tax rates in recent years increased the return to labor. On comparing primary wage-earners with secondary wage-earners, it is found that over the years the range of net wages has increased slightly more among primary wage-earners (Figure 8.9). Despite this, it was actually the secondary wage-earners who increased the number of hours whereas the primary wage-earners reduced it. This suggests that the effect of turnover was stronger than the effect of income among low wage-earners and the effect of income was stronger than the effect of turnover among high wage-earners.³⁵

Figure 8.9
Cumulative Increase in Net Wage, by Earner, from 2003



SOURCE: Based on Central Bureau of Statistics Expenditure Survey.

³⁵There is a discussion of the effect of changes in wages on the number of hours worked in Brender A. and L. Gallo (2008), "The Effect of Changes in Wages, GDP, and Workers' Demographic Characteristics on Working Hours", *The Economic Quarterly*, 55(2), pages 175-212.

Table 8.3
Expected real wage and actual wage of primary and secondary earners, 2003-14

Quality	Change in quality		Contribution of quality (change multiplied by regression coefficient)	
	Primary earner	Secondary earner	Primary earner	Secondary earner
Age (years)	1.56	2.67	1.9%	2.9%
Education (years of schooling)	0.53	0.58	4.1%	3.5%
Share of women	-3.6%	3.6%	0.5%	-0.3%
Number of work hours	-1.19	0.94	-1.6%	1.3%
Share of Arabs	-0.3%	-0.3%	0.1%	0.0%
Share of ultra-Orthodox	0.5%	0.5%	-0.2%	-0.2%
Total increase in wage, gross	16.7%	19.3%	4.8%	7.2%
Total increase in wage per work hour, gross	19.6%	16.4%		
Increase in wage minus expected increase in wage			11.9%	12.0%

SOURCE: Based on Central Bureau of Statistics.

Box 8.2

The Effect of Subsidized Child Care on Maternal Employment

Subsidizing daycare and family-based pre-nursery facilities is an effective policy tool for increasing the employment of mothers with young children. A new analysis of data for Israel indicates that the subsidy also contributes to increased earnings of mothers in the first years after giving birth.

Many families that are eligible for a subsidy do not receive it, due to a shortage of slots in the framework in which they can receive the subsidized price. The implementation of government decisions on expanding the supply of the frameworks will assist in making the subsidy more accessible to families that are eligible for it, and thus increase women's labor force participation rate, reduce gender wage gaps, increase labor productivity and reduce poverty in families with young children.

In recent years, the government decided to increase the number of daycare facilities for children in Israel, and therefore the bureaucratic processes related to setting up daycare facilities were simplified. Nonetheless, the supply of such daycare facilities remains lower than demand. The government offers a subsidized price for supervised daycare and home-based pre-nursery facilities, but due to the supply limitation of the facilities and the slow execution of government decisions on building additional daycare facilities, only one-quarter of those eligible for education through these frameworks actually utilize the benefit. This review describes the subsidy policy in Israel, focusing on the effect of subsidizing childcare frameworks on the employment of the mothers, and its contribution to more rapid growth in their earnings.

Subsidized childcare and its effect on mothers' labor force participation rate

The cost of childcare facilities for those younger than age 3 is about 40 percent of the median wage for women. These expenditures reduce the effective wage of the mother and makes employment less worthwhile. Research conducted worldwide indicates that childcare cost has a negative effect on the mother's incentive to work. In Israel, the effect that was found is relatively limited compared to other countries, but it is negative and statistically significant.¹

In order to reduce the negative effect of the facilities' cost on women's employment, many countries tend to directly subsidize the frameworks for children. The subsidy is justified mainly due to the liquidity problem with which parents of young children deal with during the period of raising them.² Much research indicates that enhancing the subsidy and increasing the availability of the subsidized frameworks contributed to growth in women's employment in various countries. For example, in Quebec, Canada, a childcare subsidy for children 1–4 years old contributed to an increase in mothers' employment rate from 55 percent to 63 percent.³ In Spain, subsidizing childcare facilities for 3-year old children contributed to an increase of 8 percent in mothers' employment and to an increase of 9 percent in work hours.⁴ In Germany, an increase of 10 percent in the number of subsidized frameworks for children aged 3–4 increased mothers' employment by 3.7 percent⁵, and in the US, subsidizing childcare for single mothers expanded their employment by at least 8.4 percent.⁶ Research conducted on data in Israel found a strong effect of a full subsidy for public preschool on the employment of Arab mothers.⁷ A simulation carried out with regard to all mothers of young children found that a universal subsidy of 50 percent of the family expenditure on childcare facilities for children up to age 4 would increase the employment rate among mothers of children this age by about 4 percentage points. In such a case, the overall cost of increasing the subsidy would total about NIS 3 billion per year and contribute to about 22,000 women joining the labor force⁸, in parallel with increasing the disposable income of about 350,000 additional families.

In Israel, care for children in the pre-primary education ages is subsidized in two main types of frameworks: daycare facilities and home-based prenursery facilities, intended for children up to age 3, and public preschool caring for children aged 3–4. In 2011, the Trajtenberg Committee recommended fully subsidizing public preschools nationwide, and today public preschool education facilities are subsidized 100 percent by the government. In contrast, the monthly cost for daycare facilities and home-based prenursery facilities is

¹ Shachar, E. (2012), "The Effect of Childcare Cost on the Labor Supply of Mothers with Young Children", Bank of Israel Discussion Paper Series, 2012.12

² Brender A., M. Strawczynski (2015), "Government Support for Young Families in Israel", *Israel Economic Review* Vol. 12, No. 2, 1–49.

³ Lefebvre P., P. Merrigan (2008), "Child-Care Policy and the Labor Supply of Mothers with Young Child: A Natural Experiment from Canada", *Journal of Labor Economics*, 26:3, 519–548.

⁴ Nollenberg N., N. Rodrigues-Planas (2011), "Child Care, Maternal Employment and Persistence: A Natural Experiment from Spain", IZA, DP No. 5888.

⁵ Bauernschuster S., M. Schlotter (2015), "Public Child Care and Mothers' Labor Supply – Evidence from two Quasi-Experiments", *Journal of Public Economics*, 123, 1–16.

⁶ Berger M., D. Black (1992), "Child Care Subsidies, Quality of Care, and the Labor Supply of Low-Income, Single Mothers", *The Review of Economics and Statistics*, Vol. 74, No. 4, pp. 635–642.

⁷ Schlosser A. (2007), "Public preschool and labor supply of Arab Mothers: Evidence from a National Experiment", University of Jerusalem, mimeo.

⁸ For the source, see the Bank of Israel Annual Report for 2011, Box 5.3 (Bank of Israel, 2012).

relatively high, at about 40 percent of the median wage for women.⁹ However, low-income families who meet employment tests can receive a partial subsidy of the expenditure. In order to register a child for subsidized daycare facilities and home-based prenursery facilities, both parents are to be employed. The eligibility also applies when a parent is unemployed and receiving unemployment benefits, in order to make it easier for the parent to look for work and to return to employment. The subsidy is also provided to students (studying at least 24 hours weekly), as studies develop parents' human capital, thus increasing their earning capacity. With that, the subsidy is also provided when the parent is studying subjects that are not relevant to the labor market (such as studies at religious studies institutions) and the subsidy is not limited in time.

The amount of the subsidy is determined by family per capita labor income. Table 1 presents the size of the subsidy in accordance with various income levels.

For a family with income of up to 35 percent of the average per capita income in a wage-earning family, the government subsidizes 66 percent of the monthly cost of daycare facilities. The amount of the subsidy declines as income rises, and reaches zero at income levels close to the average per capita income in the economy. Among families that received the benefit, the average subsidy was about 45 percent of the full monthly payment, but in actuality only some of those eligible receive the benefit because of lack of slots in the daycare facilities. The calculation of the ratio between the number of people potentially eligible to register in supervised facilities in which it is possible to receive the subsidy and the number of slots in such facilities indicates that those facilities only have slots for about one-quarter of those eligible to register, and that the excess demand for supervised facilities is a phenomenon that has existed for many years.¹⁰

Table 1
Subsidized cost of supervised daycare facilities in accordance with family income, 2015 (percent)

Labor income per capita as a percent of average labor income per capita in a wage-earning family	Share of subsidy
Up to 35	66
36–43	56
44–50	46
51–58	43
59–66	35
67–73	27
74–81	22
82–88	18
89+	0

SOURCE: Based on Israel Tax Authority data.

The effect of subsidized childcare facilities on maternal earnings

To date, research on the subsidies focused on examining the effect of the subsidy on the probability of the mother to work. However, the subsidy has another effect on mothers' employment, given that they return to work. Some mothers who combine work and childcare adjust their terms of employment in order to reduce childcare expenses. There are two methods of this adjustment: reducing work hours and/or choosing a "mother-friendly job". A "mother-friendly job" allows occupational flexibility, which is characterized by work hours and work days that parallel the hours of activity in the childcare facility, flexible work hours, proximity to a childcare facility, no work-related travel or meetings late in the day, the possibility for

⁹ In the 2015/16 school year, the monthly cost of daycare for children up to age 2 was NIS 2,365, and for a child older than that, NIS 1,799.

¹⁰ For the source, see footnote 1.

frequent absences, etc. The employment terms in mother-friendly jobs do contribute to reduced payments for childcare, but generally such positions pay a lower wage, and are less able to allow the mother to reach her professional potential (a negative impact on matching). Whether the mother chooses, due to expected childcare expenses, to reduce her hours of work or to switch to a “mother-friendly job”, her wage is expected to be adversely impacted for several years until the child is older. Given the high fertility rate in Israel, the period of adverse impact on mothers’ wages can last for several years. Even if this phenomenon is transitory, and passes as the child grows up, the reduction of hours of work or the choice of a job in which the mother does not reach her full professional potential can lead to a loss of labor productivity and a negative impact on earnings, which is reflected as well in an increase in gender wage-gaps, which in Israel are among the highest in OECD countries, and in the incidence of poverty.

A new analysis conducted on Israeli data examines the effect of the subsidy on the development of earnings of women who returned to work after giving birth and were eligible to receive the subsidy for supervised childcare facilities. The analysis is based on earnings data of a panel reflecting a random sample of 10 percent of total wage-earners in the economy, and their spouses, in 2003–13. The sample was built on the basis of employer reports (Form 126). The form contains information such as wage, months of work, deductions, allowances, etc. It was combined with demographic characteristics of the sample population such as age, place of residence, number and age of children, family status, year of immigration and data on receipt of a subsidized price in supervised daycare facilities (based on data from the Ministry of Economy, which budgets the facilities.)

The study population consists of employed women who gave birth in 2006 and were eligible for a subsidy at the subsidized facilities. The research method was Difference-in-Differences, in which the mothers were divided into two groups: those who received a slot in the subsidized system and received the subsidy (treatment group) and those who were eligible for the subsidy but did not take up their eligibility (control group), assuming that the main reason for not receiving the subsidy is a shortage of slots in the subsidized system. The probability of receiving a slot in the subsidized system depends on the observed characteristics of the mothers, as the Ministry of Economy defined rules for prioritizing acceptance into the childcare facilities, based on characteristics such as scope of employment and family status (single mothers are given priority). When all else is equal, priority is given in actuality to families with the larger number of children. The analysis focuses on women above age 23 at the beginning of the study period (2003) and follows the development of the earnings in the two groups for 11 years. At that age, women are in career-building stages, and the period is characterized by a rapid increase in their earnings. Adjusting their employment after giving birth is expected to slow the increase in earnings, and the subsidy is expected to moderate the negative impact of the changes in employment (decline in work hours or a switch to a “mother-friendly” job) on the mothers’ earnings. The analysis indicates that before giving birth, the two groups were similar (the coefficient of the dummy variable of receiving treatment is not statistically significant), and in the three years before giving birth there was a common trend in the development of their earnings. This finding bolsters the claim that the changes in development of earnings between the two groups after intervention should represent only the effect of the subsidy.

Several methodological questions were examined in the research in order to ensure that the results are not biased. First, the possible correlation between geographic dispersion of the childcare facilities and the women’s characteristics were examined. Although the geographic dispersion of the childcare facilities

mainly reflects urban development and is not correlated with demand¹¹, in order to verify that the results are not affected by differences between localities in terms of availability of the subsidized facilities, we control for the observed characteristics of the localities (such as population size, average wage, unemployment rate) as well as for unobserved characteristics (by including a fixed effect for each locality in the estimation). The study period is long—that is, 11 years (2003–13)—and in order for the estimation results not to be biased due to change in the composition of the groups over those years, the estimation includes women who persisted in the labor market—those who worked in at least 8 years during the study period.

The findings indicate that the earnings of the women who received the subsidy increased more, by a statistically significant extent, than those who did not take up their eligibility for the subsidy, while controlling for the women's characteristics. Compared with their earnings prior to giving birth, the earnings of women who received the subsidy increased more than the earnings of mothers who were eligible for the subsidy but whose children were not in a subsidized facility, by a statistically significant extent—6 percent in the first year, 8 percent in the second year, and 4 percent in the third year. This finding indicates that women for whom the cost of the facility was lower due to the subsidy were required to make fewer changes in their employment after birth (i.e., reducing hours of work or choosing a “mother-friendly” job). These women's earnings increased more throughout nearly the entire period of the child's education in the subsidized framework. The total addition to earnings, on average, of all the women comes to about 40 percent of the total cost of the subsidy, but it is important to note that this is an additional effect of the subsidy, above its effect on the mothers' participation in the labor market, and to increasing the disposable income of low-income working families with young children.

The study follows the women's earnings until the child reaches age 8, in order to examine whether the adjustments in employment negatively impacted the mother's accumulation of human capital—which would affect women's earnings in the long term as well. The study did not find evidence of the effect of the subsidy beyond the period in which the child is in the subsidized framework. With that, given that in Israel a working mother has, on average, 3 children, the effect on earnings is spread out over a very long time, when there are facilities available for all those interested, beginning with the first child.

Subsidy of daycare and home-based prenursery facilities is one of several policy tools that exist in Israel and that support families with young children. The scope of these tools is relatively low compared with OECD countries.¹² Support that is not contingent on an income test—universal support, such as child allowances—improves the economic situation of families with children but can encourage lack of employment. Financial support that is extended only to working parents—such as the Earned Income Tax Credit and income tax credit points in respect of children—improves parents' economic welfare without negatively impacting the incentive to work, but have not been found to increase mothers' employment to a statistically significant extent. The advantages of subsidizing daycare facilities are its relatively low cost, as it is only provided to working families with relatively low income (in contrast to child allowances and credit points), and its efficiency in increasing employment of women. The government recognized the importance of subsidizing

¹¹ In most cases, subsidized daycare facilities are built with a marked lag relative to demand: most of the construction takes place when new neighborhoods are built, according to a standard based on the number of housing units in the neighborhood. Constructing the daycare facilities in existing neighborhoods involves a complex bureaucratic process, which includes problems of financing and of allocating land, and is therefore spread out over many years, so that there is a significant lag relative to demand.

¹² Brender A., M. Strawczynski (2015) “Government Support for Young Families in Israel”, *Israel Economic Review* Vol. 12, No. 2, 1–49.

the facilities for children up to age 3, and therefore decided in 2012 to build 400 new daycare facilities within 5 years (2013–17), which would be an increase of about 20 percent. However, construction of the facilities remains slow due to the existing bureaucracy in the process of budgeting and due to problems in allocating land. In 2014, the process was simplified, but as of today only about 10 percent of the planned daycare facilities have been built, and in many regions the shortage remains, particularly in the Arab sector.¹³ Understanding the obstacles to implementing the government's decisions in this issue, and more dedicated handling to removing those obstacles, will contribute to expanding the subsidized facilities for children up to age 3, and thus to increasing the employment rate of women, to reducing gender wage gaps, to increasing labor productivity and to reducing poverty among families with children.

¹³ After simplifying the budgeting and land-allocation processes in August 2014, the amounts transferred by the government to building daycare facilities increased markedly, but this process has not yet been reflected in the opening of new daycare facilities.