Chapter 2 Welfare, Poverty and Social Gaps

1. Introduction

Measurement of poverty in Israel, as in most Western countries and international organizations, is based on the relative approach, whereby poverty is a condition of relative distress that must be evaluated in relation to the typical standard of living in a given society. A family is defined as poor if its standard of living as expressed by its disposable income per standard individual is less than half the median disposable income in the population. The findings presented in this chapter, which have been processed by the NII's Research & Planning Administration, are based on the annual surveys of income and expenditure done regularly by the Central Bureau of Statistics[1]. However, like last year, there will be a summary of findings on the dimensions of poverty and the poverty line obtained according to three alternative poverty indices calculated regularly by the Administration and addressing the perspectives of both expenditure and income of families.

The chapter opens with Israel's status in terms of public welfare expenditure in 2014 and then presents findings and selected analyses pertaining to the dimensions of poverty and inequality[2] in Israel as compared to OECD countries (Section 2 below). That is followed by principal findings on dimensions of poverty and standard of living in the general population, according to the measurement methods used in Israel[3] (Section 3), and finally there is a short survey of three alternative poverty indices developed by the NII Research & Planning Administration over the years, and the findings they yield for 2012 and 2013 (Section 4).

The chapter contains three boxes: (1) **Nutritional Security of the Elderly**, which presents data on the level of food security in elderly families from a study in preparation based on two surveys of nutritional security conducted by the NII (in 2011 and 2012); (2) **Findings of an International Comparison of Levels of Pay and Productivity in Israel**; (3) **Mapping Poverty in Jerusalem** – selected findings from a poverty mapping project by statistical area and population group in Jerusalem, carried out in collaboration with the Jerusalem Municipality Community Services Administration.

This chapter has two appendices (in the last section of the Report): **Measuring Poverty and Sources of Data**, with a detailed description of the poverty measuring method and sources of data, and **Tables of Poverty and Inequality**, which provide further information.

2. An International Comparison of the Israeli Social Situation

A. Public welfare expenditure in Israel

In 2014, public welfare expenditure constituted 16.5 percentage points of GDP. This rate, which peaked in 2001-2003 (at about 20% of GDP), fell consistently until 2006

1 Further details and explanations of the method of measurement and the sources of data are presented in the appendix to this publication, Poverty Measurement and Sources of Data.
2 Growing Unequal Income Distribution and Poverty in OECD Countries, OECD (2008)
3 The findings presented in Section 3 are in fact a brief summary of the publication, Dimensions of Poverty and Social Gaps Annual Report, 2013, which can be found on the NII website.

and leveled at 16%-17% of GDP. For the last six years, since 2009, the rate has remained steady at around 16.3%-16.5% of GDP (Table 1, Diagram 1).

In 2014, more than half the expenditure – 8.7% of GDP – was earmarked for monetary support, and most of the remainder (7.6%) for support in-kind, namely financing services for citizens, mainly health services. Over the years, the proportion of monetary support out of total welfare expenditure in terms of GDP has been eroded to some extent compared to the proportion of services in-kind, which has risen slightly. In the years 2011-2014 expenditure in-kind as a proportion of total welfare expenditure rose by about 3 tenths of a percent in GDP terms.

Financial support for working-age people has gradually and continually declined from 5.6% of GDP at its peak in 2001 to 3.9% in 2014. This decline largely reflects the cut in child allowances that began in August 2013 and continued through 2014. At the same time, the share of monetary support for the elderly increased from 4.6% in 2013 to 4.9% of GDP in 2014. As for support in-kind, its share of expenditure on health has been very stable – 5.6% of GDP – for the last six consecutive years.

Table 1
Public Expenditure on Welfare by its Components, 2005-2014

Component of public welfare expenditure	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	**16.6**	**16.3**	**15.8**	**15.9**	**16.5**	**16.4**	**16.3**	**16.3**	**16.4**	**16.5**
Monetary support – total	**8.9**	**8.8**	**8.5**	**8.5**	**8.9**	**8.8**	**8.8**	**8.8**	**8.7**	**8.7**
Support for working-age population	4.3	4.2	4.0	4.1	4.3	4.2	4.2	4.2	4.1	3.9
National Insurance	3.3	3.2	3.1	3.1	3.3	3.2	3.2	3.2	3.1	2.8
War and hostilities	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.8
Other monetary benefits*	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3
Support for the elderly**	4.6	4.6	4.5	4.4	4.6	4.6	4.6	4.6	4.6	4.9
National Insurance	2.6	2.5	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5
Pensions for state employees	2.0	2.1	2.1	1.9	2.1	2.0	2.0	2.1	2.1	2.3
Assistance with rent	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Support in-kind – total	**7.5**	**7.3**	**7.1**	**7.3**	**7.4**	**7.4**	**7.3**	**7.4**	**7.5**	**7.6**
Support for the elderly	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Health and nursing	5.7	5.5	5.4	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Other***	1.7	1.6	1.5	1.6	1.7	1.7	1.6	1.7	1.8	1.9
Other**	**0.2**	**0.2**	**0.2**	**0.1**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**

Source: Data from the CBS processed by the Research Administration, based on OECD classification rules in the SOCX questionnaire.

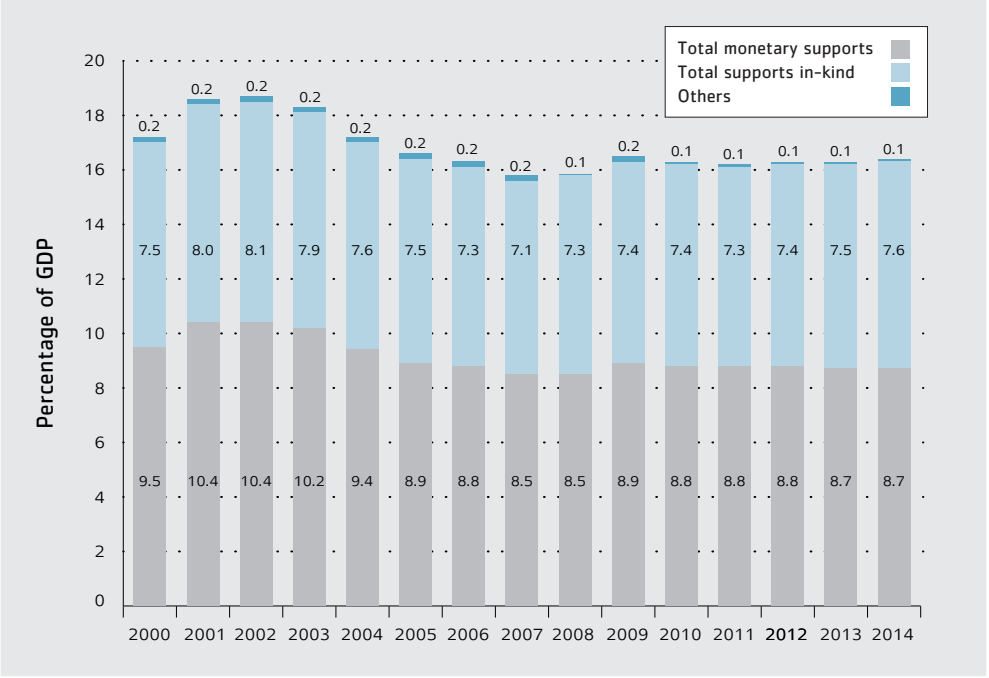
* Assistance with rent for working-age families is included in Other monetary benefits under support for working-age population. This item also includes income support, income grant (negative income tax) and other.

** Survivors' pensions were transferred to "Support for the elderly" although a small number are paid to people of working-age.

*** Pensions in-kind linked to monetary benefits in the areas of survivors, unfitness for work, family etc.

**** Mainly active intervention in the labor market.

Diagram 1
Public Welfare Expenditure as a Percentage of GDP – Israel, 2000-2014



* Source of the data on Israel: Central Bureau of Statistics

B. International comparison of employment and poverty in Israel

Since work provides households' main income, its impact on poverty in Israel is significant. This year we have focused on a comparison between countries in terms of the number of household breadwinners and the effect of this number on the poverty rate. The figures for all countries have been updated to around 2010 (generally 2010, 2011 or 2012) according to availability[4], and the figures for Israel refer to 2012. Comparisons were made according to a definition of poverty in line with the definition used by the OECD[5].

Contrary to the opinion held by some researchers in this field, the rate of non-working families in Israel is low by international comparison, and is in fact among the lowest of some 40 countries compared (Diagram 2). A relatively high rate is noticeable in Egypt, South America, Serbia and Ireland. At the same time, the proportion of families with one or two breadwinners is higher in Israel. A fairly high rate of families with

4 The data for the countries shown in the international comparisons were processed from the latest LIS (Luxembourg Income Study) files available for each country.

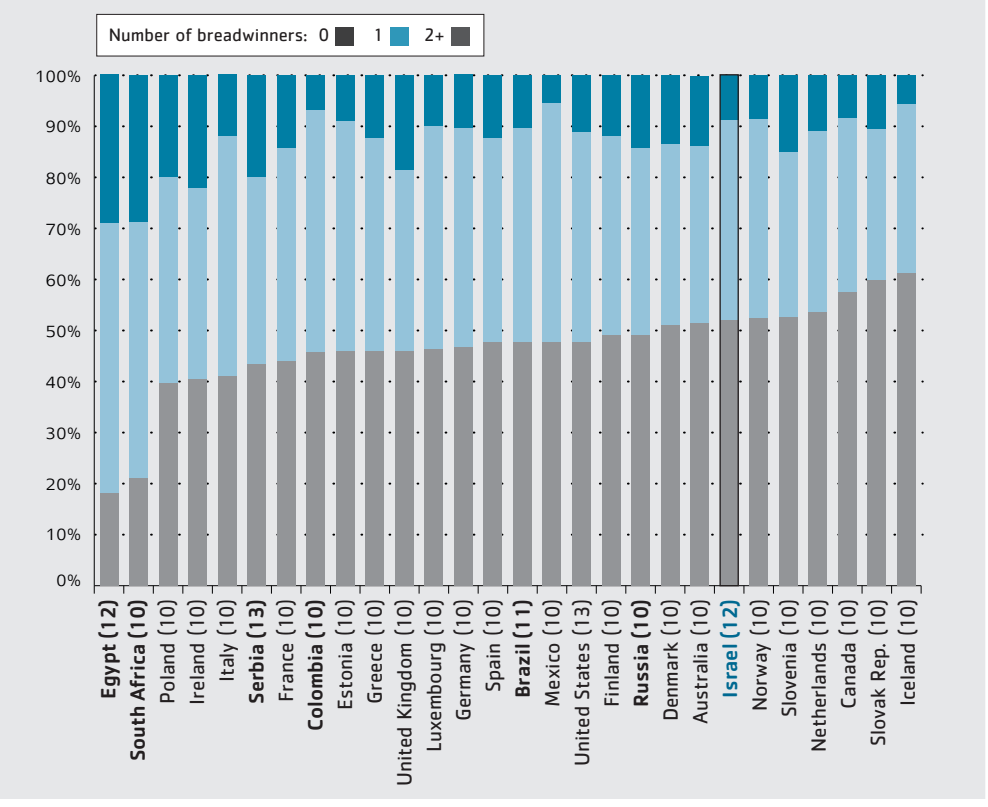
5 As in Israel, measurement of poverty in OECD countries is based on the poverty line calculated as half the median disposable income per standard person. However, there are small differences, mainly affecting the weighting scale (the mechanism used to compare the standard of living between families of different sizes).

two breadwinners is found, apart from Israel, in North European countries (Denmark, Norway and Holland), Canada and Australia, as well as Slovakia, Slovenia and Iceland.

An international comparison of poverty among working-age families by number of breadwinners shows that 64.1% of families without a breadwinner, 20.2% of families with one breadwinner, and 2.7% of families with two or more breadwinners are poor (Diagrams 3a-c). Israel's high position (fifth place) in the existence of poverty among non-working families (Diagram 3a) derives from work's relatively central role in reducing poverty in Israel, which is the mirror image of the limited part played by other measures, such as benefits and transfer payments, compared to other developed countries.[6]

Israel continues to head the list for high poverty rates among families with one breadwinner. In Israel the chances that a single breadwinner will rescue a household

Diagram 2
Rate of Working-age Families* by Number of Breadwinners – International Comparison, Selected Years**

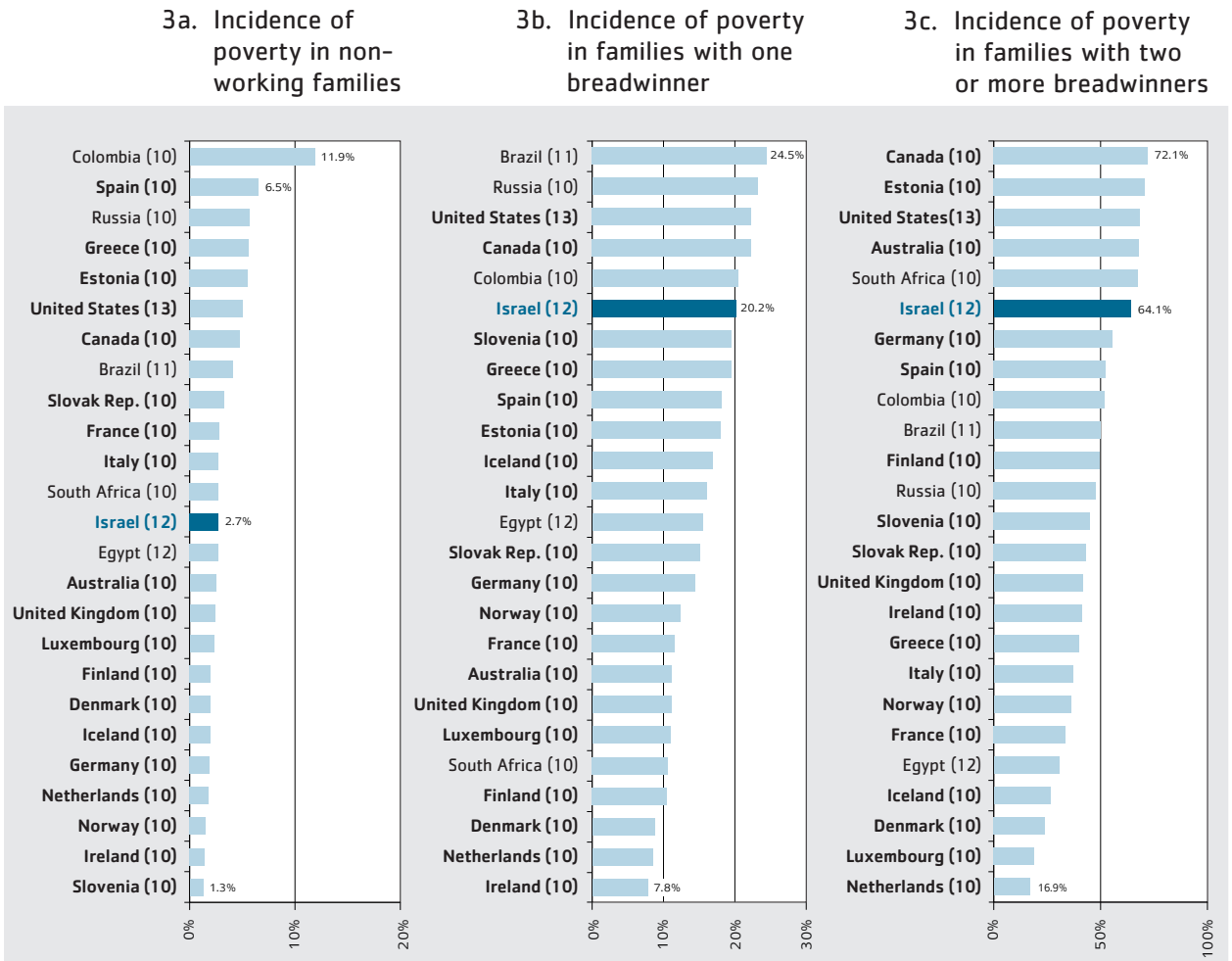


* Head of household aged 25-64.
** Numbers in brackets indicate the survey year on which the figures were calculated; countries in color are OECD members.
Source of data: Israel – CBS Survey of Household Expenses for 2012; other countries – processing of LIS data.

6 See this section in the Annual Report – 2013.

from poverty is low in comparison to most OECD countries (Diagram 3b). Israel is sixth from the top, but when it is compared to OECD countries, it turns out that only the USA and Canada have higher rates of poverty among families with one breadwinner. It is only in the poverty rates of families with two breadwinners (Diagram 3c) that Israel moves to the middle of the scale; in other words, families in Israel with two breadwinners have poverty rates closer to those in most of the countries compared. This analysis shows that generally, Israeli households need more than one breadwinner to ensure a standard of living above the poverty line, to a greater extent than in OECD countries.

Diagram 3
Incidence of Poverty among Families of Working-age* – International Comparison for Selected Years**

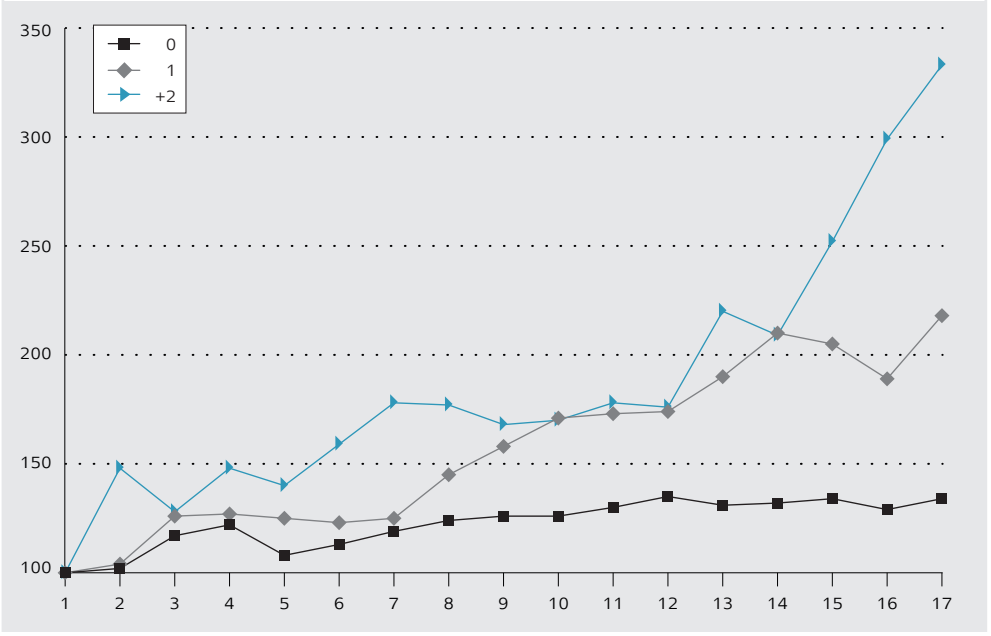


* Head of household aged 25-64.

** Numbers in brackets indicate the survey year on which the figures were calculated; countries in color are OECD members.

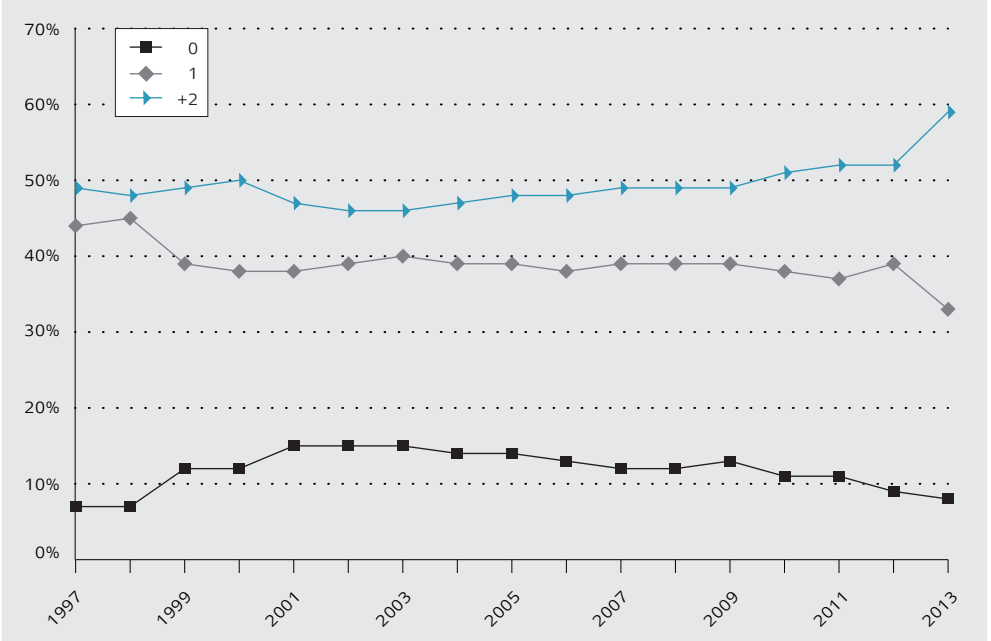
Source of data: Israel – CBS Survey of Household Expenses for 2012; other countries – processing of LIS data.

Diagram 4
Changes in the Incidence of Poverty among Working-age Families* by Number of Breadwinners (1997=100) – Israel, 1997-2013



* Head of household aged 25-64.

Diagram 5
Working-age Families* by Number of Breadwinners – Israel 1997-2013



* Head of household aged 25-64.

An analysis of changes in poverty incidence in Israel over the years shows that from 1997-2013, poverty in families without a breadwinner increased by about 35%, in families with one breadwinner it more than doubled, and in families with two or more breadwinners it more than tripled (Diagram 4). Diagram 4 completes the picture shown in Diagram 2, and illustrates that although work is central to relieving poverty in families in Israel, there has been an erosion over time in the success of work in doing so.

The trend of the eroding ability of work to reduce poverty is accompanied by a rising trend in employment. As already stated, the proportion of households in Israel with two or more breadwinners is relatively higher than in OECD countries and it has been increasing since the early 2000s, corresponding to a decline in the number of families with one breadwinner or no breadwinner: from 46% in the early 2000s to over 50% in 2012 and almost 60% in 2013 (Diagram 5).

3. Main findings on poverty and inequality in 2013

In 2013, the last year referred to in the survey of expenditure which is the basis for calculating poverty in Israel, domestic product increased by 3.2% and prices rose by 1.5% (Table 2). The figures show that the average wage rose by about 1% while the rate of unemployment continued to fall, from 6.9% in 2012 to 6.2% in 2013. Real minimum wage rose slightly to 46.7% of the average wage, thus returning to the 2008 level. Macro-economic figures show that the rate of employment rose from 74% in 2012 to 74.5% in 2013, part of a long term trend of increasing employment.

Table 2
Economic Indicators that Influence
the Dimensions of Poverty (percentages), 2006-2014

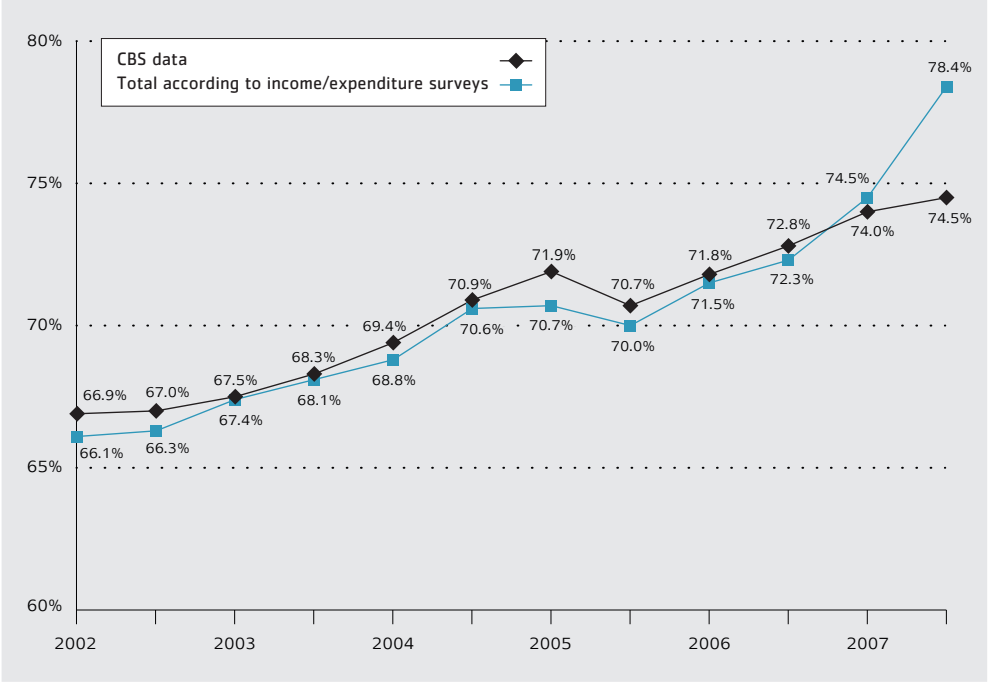
Influencing factor	2006	2007	2008	2009	2010	2011	2012	2013	2014
Growth rate (increase in GDP)	5.8	5.9	4.1	1.9	5.8	4.2	3.0	3.2	2.8
Rate of change in average price levels	2.1	0.5	4.6	3.3	2.7	3.4	1.7	1.5	0.5
Real rate of change in average pay	1.3	1.8	-0.4	-2.5	0.8	0.7	0.7	1.1	1.5
Rate of employment (age 25-64)	69.4	70.9	71.9	70.7	71.8	72.8	74.0	74.5	75.6
Rate of unemployment	10.5	9.1	7.6	9.4	8.3	7.0	6.9	6.2	5.9
Percentage of recipients of unemployment benefit among the unemployed	17.4	17.3	19.6	23.2	20.7	23.5	25.0	30.4	32.4
Minimum wage as a percentage of the average wage	46.2	47.5	46.8	47.3	45.8	45.5	46.2	46.7	45.8

Since 2012, when the combined income survey conducted by the Central Bureau of Statistics was cancelled, calculations of poverty and inequality were converted to the CBS household expenditure survey which includes, in addition to expenditure data, detailed data on family income. Not only that: the expenditure survey itself has undergone changes in the way the data are calculated. These changes have created a break in the series and consequently a problem with direct comparison to 2011.[7]

In 2013 the survey made use of methods similar to those of 2012, but it emerged that the data on rates of employment presented in it were positive to an extent that did not match data from other sources: according to the survey, the employment rate of the main age-group in the labor market (25-64) shot up by 4 percentage points and the number of employed people increased by 10% compared to far lower rates in similar years (Table 2, Diagram 6).

Because of these changes, which do indeed match the rise in the growth of employment but not its intensity compared to alternative sources of information (see below) – the incidence of poverty in families fell from 19.4% in 2012 to 18.6% in 2013, and in individuals – from 23.5% to 21.8%. The percentage of children living in poor families fell sharply between those two years – from 33.7% to 30.8% in 2013. As stated, the decrease in the dimensions of poverty due to changes in employment offset the effect

Diagram 6
Rates of Employment for the 25-64 Age-group – Manpower Survey compared to Household Expenditure Survey (percentages), 1999-2013



of cuts to child allowances introduced in August 2013, which according to estimates would have increased the rate of child poverty.

In a comparison with administrative data up to 2013, it also emerges that the rate does not match the trends. According to the wage file of the Tax Authorities, which covers all salaried employees in the economy, the rate of employment rose by 2.7% from 2012 to 2013[8]. This rate is slightly higher, but still close to the figure published by the CBS based on employers' reports to the NII (from which the average wage published each quarter is also taken), which showed that the number of salaried jobs rose by about 2% in those 2 years, compared to the stated increase of 4% according to the expenditure survey.

Another reason for decreases in the dimensions of poverty concerns fairly sharp changes in the population composition between the two surveys[9]. For example, the share of the Arab population, which is characterized by high poverty rates, declined from 2012 to 2013. It is possible that this is a continuation of adjustments made in the survey following the structural changes in 2012.

The clarifications and reservations deriving from this situation, which creates difficulty for direct comparisons not only between 2011 and 2012, but also between 2012 and 2013, are specified at greater length in the 2013 Annual Report on Dimensions of Poverty and Income Gaps. Because of these differences in the sources of data, which have still not been overcome, this year we will provide fewer explanations and analyses of the findings that relate to the dimensions of poverty according to the system used by the NII, and in most cases simply present the tables.

Data from the 2013 survey show that during that year standard of living, measured by median disposable income per standard individual, rose by 4.4%, following a significant increase of 12% which was recorded in 2012 (Table 3). However, the increase was also

Table 3
The Poverty Line and Average and Median Income per Standard Individual after Transfer Payments and Direct Taxes (NIS), 2011-2013

Income per standard individual	2011	2012	2013	Real rates of growth (%)	
				From 2011 to 2012	From 2012 to 2013
Average	4,805	5,458	5,691	11.7	2.7
Median	4,001	4,513	4,783	10.9	4.4
Poverty line	2,000	2,256	2,392	10.9	4.4

8 There may be further supplements, but experience indicates that at this stage the administrative wages file is almost complete.

9 Such changes in population composition should have been expressed fully in the 2012 survey, which contained structural changes compared to previous surveys, since demographic changes tend to be long term and should not be expressed in surveys from two consecutive years. For details of the structural changes since the 2012 survey, see Dimensions of Poverty and Social Gaps – Annual Report, 2011.

due to the structural changes in the survey used to calculate poverty and inequality, and therefore it is difficult to assess the nature of the changes in standard of living as measured each year as the real change between median or average disposable income.

An examination of poverty data as a percentage of average wages in 2013 shows that the poverty line rose as a percentage of the average wage, compared to the 2012 data, but the trends remained similar: the poverty line for a family of four for example, was about 83% of the average wage in 2013, and for families of six or more, having one breadwinner on the average wage will not rescue them from poverty, and they must increase their income by 10% (six people) to about 45% (nine people) (Table 4)[10].

Table 4
Number of Standard Individuals and the Poverty Line for Families*, by Number of People in the Family, 2012–2013

Number of people in family	Number of standard individuals in family	Poverty line for the family			
		2012		2013	
		NIS per month	Percent of average wage	NIS per month	Percent of average wage
1	1.25	2,820	31.5	2,989	32.5
2	2	4,512	50.4	4,783	51.9
3	2.65	5,978	66.7	6,338	68.8
4	3.2	7,219	80.6	7,653	83.1
5	3.75	8,460	94.5	8,968	97.4
6	4.25	9,588	107.0	10,164	110.3
7	4.75	10,716	119.6	11,360	123.3
8	5.2	11,731	131.0	12,436	135.0
9**	5.6	12,634	141.0	13,393	145.4

* The average wage calculated for 2012 and 2013 is the weighted average of the average wage for a full-time position (Israeli workers) in the relevant period for each survey.

** The weight of each additional person is 0.40. For example, a family of 10 is deemed to consist of 6 standard individuals.

The poverty rate measured by disposable income is the result of transfer payments and direct taxes, which 'correct' economic income, defined as income from work and capital before taxes. Transfer payments, principally NII allowances, increase family income, while direct taxes reduce it. The less the amount of direct tax paid by a poor family, the greater its disposable income and chances to leave poverty. Table 5 presents the decrease achieved in each of the years shown, when taking into account only transfer payments and when adding direct taxes to the government's policy measures. In some indices great improvement was achieved by policy measures (FGT index, SEN index and the Gini index of division of incomes of the poor fall by half or more) and in indices of incidence of poverty, mainly in the child poverty rate, the improvement achieved is more moderate.

10 This calculation does not take into account allowances and direct taxation; the former work to increase disposable income, while the latter reduce it.

It can be seen that the improvement obtained when excluding direct taxes is higher than the improvement when they are taken into account, since while taxes work to reduce inequality between income levels, they are not effective at reducing poverty, since they reduce the disposable income of the poor. It should be noted that most of the poor do not reach the income tax threshold and therefore do not pay that tax, so the effect of taxation on their disposable income is discernible only in their payments of the health tax and NII contributions.

During the 2013 survey period, transfer payments and direct taxes rescued 33.7% of poor families from poverty, compared to 36% in 2012 (Table 6). This change was mainly due to the rise in income from work, due to the sharp increase in employment

Table 5
Dimensions of Poverty in the General Population by Selected Poverty Indices, 2011-2013

Poverty indices	Before transfer payments and direct taxes	After transfer payments only	After transfer payments and direct taxes
2011			
Families	32.8	17.3	19.9
Individuals	33.7	22.2	24.8
Children	41.9	32.9	35.6
Income gap ratio of the poor (%)*	58.3	34.2	34.7
FGT index*	0.1538	0.0381	0.0438
SEN index*	0.262	0.105	0.119
Gini index of inequality in the distribution of income*	0.4640	0.1978	0.2030
2012			
Families	30.3	17.4	19.4
Individuals	31.4	21.0	23.5
Children	39.0	30.8	33.7
Income gap ratio of the poor (%)*	56.3	33.7	34.4
FGT index*	0.1342	0.0351	0.0405
SEN index*	0.236	0.098	0.111
Gini index of inequality in the distribution of income*	0.4348	0.1957	0.1995
2013			
Families	28.1	16.6	18.6
Individuals	28.3	19.1	21.8
Children	35.3	27.6	30.8
Income gap ratio of the poor (%)*	55.5	32.8	32.8
FGT index*	0.1192	0.0298	0.0345
SEN index*	0.212	0.086	0.099
Gini index of inequality in the distribution of income*	0.4315	0.1842	0.1892

* The weight given to each family in calculating the index is equal to the number of individuals included in it.

and the effect of the August 2013 cuts in child allowances (which continued to affect 2014 data). For comparison purposes, looking at the whole decade, in 2002 about half of poor families were rescued from poverty following government intervention. The contribution of direct taxation and transfer payments to removing people from poverty remained almost identical in the last two years – 25%. Among poor children, about 13% were removed from poverty by government intervention in 2013, compared to 25% in 2002.

Table 6
Effect of Transfer Payments and Direct Taxes on Poverty Rates in Total Population by Selected Poverty Indices, 2011-2013

	Percentage decrease					
	From transfer payments only			From transfer payments and direct taxes		
Poverty indices	2011	2012	2013	2011	2012	2013
Incidence of poverty (%)						
Families	47.2	42.4	41.1	39.3	36.0	33.7
Individuals	34.1	33.1	32.6	26.4	25.2	23.1
Children	21.5	21.1	21.9	15.1	13.6	12.7
Income gap ratio of poor (%)*	41.4	40.1	40.9	40.5	39.0	40.9
FGT index*	75.2	73.8	75.0	71.5	69.8	71.1

* The weight given to each family when calculating the index equals the number of people in it.

Box 1
Mapping Poverty in Jerusalem

For many years, the dimensions of poverty in Jerusalem have been among the highest in Israel: the poverty rate among Jerusalem families rose from about 23% in 2000 to 35% in 2013, and child poverty soared from 37% to 60% in that period. In addition, Jerusalem is placed 4th out of 10 socio-economic clusters (Tel Aviv – 8, Haifa – 7, Rishon Lezion – 10). However, the welfare authorities in the city have trouble providing suitable assistance for the poor, mainly because they are unable to segment this population by the special characteristics of each and thus tailor the assistance accordingly.

Consequently, Jerusalem Municipality contacted the Research & Planning Administration of the NII with a request for an in-depth and multi-dimensional study of the subject of poverty in Jerusalem, in order to find the obstacles stopping the needy from leaving poverty, and to help the Municipality decide where to focus its resources to handle the problem, by defining the city according to sub-areas.

The Research & Planning Administration created a comprehensive database[1], using several sources: administrative data held by the NII on demographic characteristics, pay and benefits received by families in Jerusalem, records of discounts on local taxes given by the Municipality, water debts and data from the Welfare Bureau, plus data from the Ministry of Building & Housing on public housing and assistance with rent. The database is regularly updated and provides information about the city's socio-economic situation by statistical area (the smallest statistical unit), so that the Municipality and others can map poverty in the city and adjust their programs for dealing with it according to the different characteristics of families.

Jerusalem has 238 different statistical areas. Diagrams 2-4 below present a mapping of poverty in Jerusalem by population groups and the following features: family composition, percentage of families receiving NII benefits (particularly subsistence benefits), percentage of families receiving discounts on local taxes, recipients of rent assistance, and the incidence of poverty.

It can be seen that the secular and religious population groups are characterized by a large proportion of families with four or more children who receive NII benefits and discounts on local taxes, while the incidence of poverty among them is low compared to the other groups (about 20%).

The highest rates of poverty are among the Arabs (46.5%) and the Haredi (40%). The Haredi have the highest rate of families with four or more children, recipients of NII benefits and discounts on local taxes. The Arabs have a high rate of families

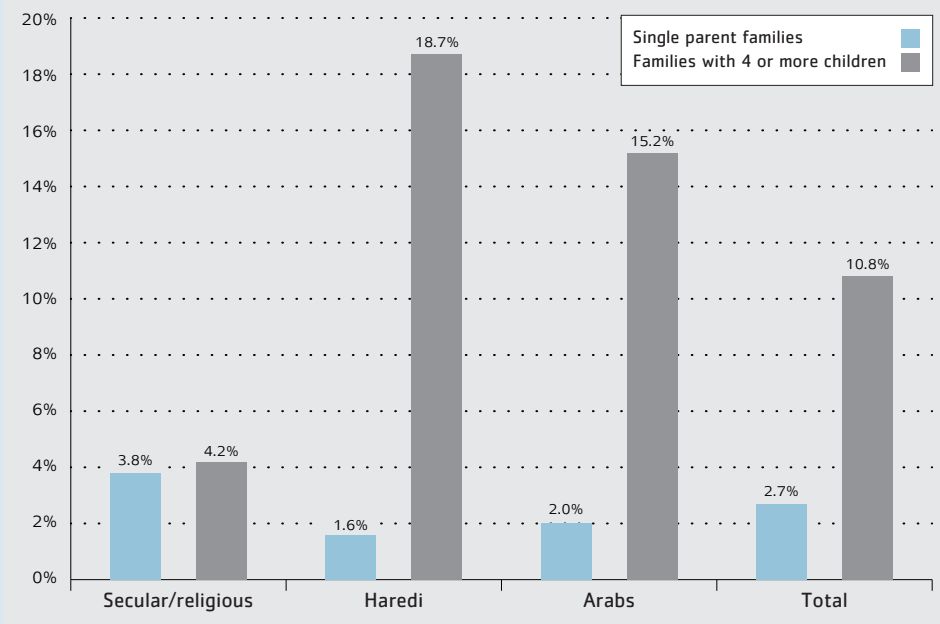
Table 1
Jerusalem families by population group and various characteristics*

Group	Total families	Average per capita income (NIS)	Rate of poor families	Poverty cluster (total population)	Recipients of discount on local taxes	Average local tax discount (%)	Recipients of NII benefits	Average benefit amount (NIS)
Not assigned	24,862	3,503	41.2%	4	17.5%	32.8	27.0%	868
Secular/ religious	130,851	5,857	20.8%	3	29.1%	30.3	37.9%	1,195
Haredi	63,815	3,273	41.2%	4	33.7%	42.6	36.9%	1,234
Arab	72,395	1,993	46.5%	4	20.4%	33.2	25.8%	778
Total	291,923	4,133	33.3%	4	27.0%	34.0	33.7%	1,081

* The figures are correct for 2011

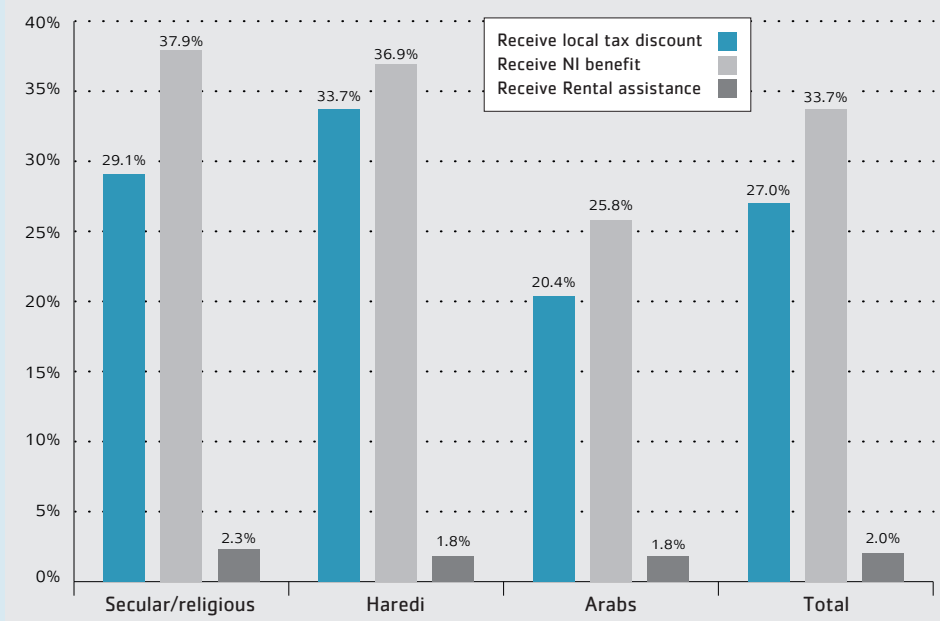
1 Since the administrative data used to calculate incomes and dimensions of poverty include only income from work and benefits, and not other elements such as income from capital and some pension income – the poverty calculations are not the same as the national calculations based on surveys of income and expenditure. The income used to determine half the median which was set as the poverty line was the per capita (gross) income from work and from benefits.

Diagram 1
Population Groups in Jerusalem by Selected Family Composition*



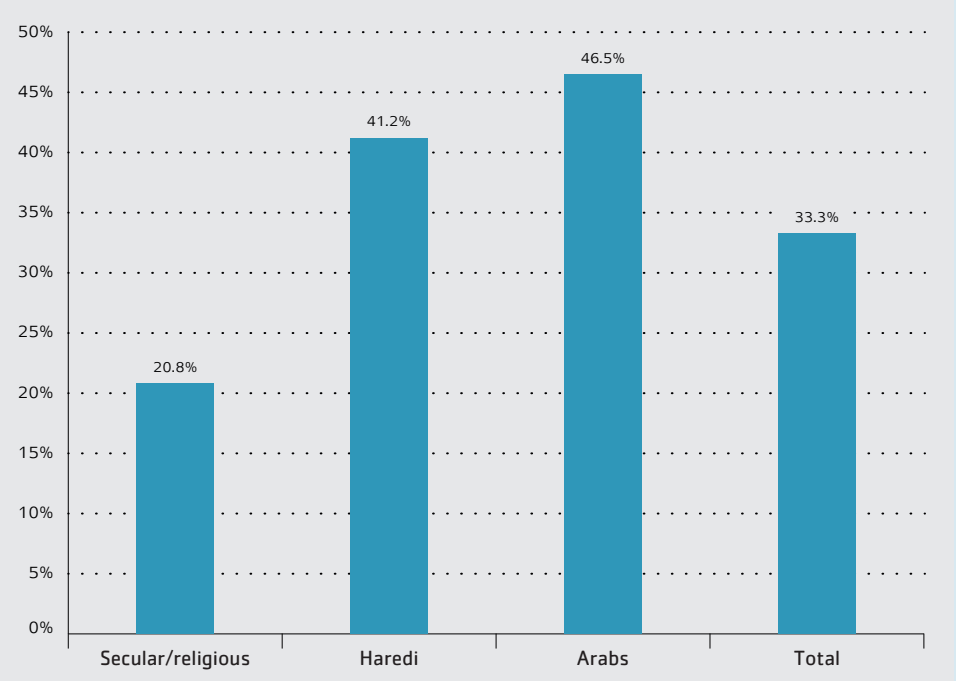
* The figures are correct for 2011.

Diagram 2
Jerusalem recipients of benefits by population group and benefit



* The figures are correct for 2011.

Diagram 3
Incidence of poverty in Jerusalem by population group*



* The figures are correct as of 2011.

with four or more children, but the rate of NII benefits recipients and those receiving discounts on local taxes is low compared to the other groups.

To sum up, the project of mapping poverty in Jerusalem is providing Jerusalem Municipality with data according to population groups, and thus enables it to join sustainable programs[2] to reduce poverty, or to adapt programs for each group separately. The next stage of this project will be to define family profiles according to demographic and socio-economic variables so that programs for dealing with and eliminating poverty can be individually adapted.

2 For example, to raise utilization rates of the work grant program, to examine eligibility for assistance from the Ministry of Housing, and to ensure enforcement of labor laws.

Various population groups differ in terms of trends and changes in the extent of poverty in 2012-2013 (Tables 7-10). Table 7 presents the incidence of poverty by economic income and disposable income in the various groups, and Tables 8 and 9 present the proportion of each group in the total population and in the poor population in 2012 and 2013 respectively. Table 10 shows the values of the income gap ratio by population groups.

As a rule for nearly all population groups, the indices obtained from the 2013 expenditure survey are considerably lower than those calculated from the combined income surveys in recent years, and even than the 2012 expenditure survey, because of employment trends unique to this survey. While the transition from previous years to 2012 mainly reflects changes in sample size, methods of counting, sample composition etc., the transition from 2012 to 2013 largely reflects the aforesaid employment data[11].

Table 7
Extent of Poverty in Specific Population Groups, 2012+2013

Population Group (families)	2012			2013		
	Economic income	Disposable income	Concentration index*	Economic income	Disposable income	Concentration index*
Total population	**30.3**	**19.4**	**1.00**	**28.6**	**18.6**	**1.00**
Jews	25.9	14.1	0.73	24.4	13.6	0.73
Arabs	59.2	54.3	2.80	52.4	47.4	2.54
Old people	50.5	22.7	1.17	48.0	22.1	1.19
Immigrants	34.8	17.3	0.90	34.5	18.5	0.99
Haredi (per Gottlieb-Kushnir)	77.0	58.8	3.03	82.1	70.7	3.80
Haredi (by the classic approach)	62.6	46.7	2.41	64.5	52.1	2.79
All families with children	**30.5**	**24.8**	**1.28**	**27.4**	**23.0**	**1.23**
1-3 children	24.5	18.5	0.95	21.5	17.4	0.93
4 or more children	60.7	56.6	2.92	58.0	52.3	2.80
5 or more children	71.1	67.1	3.46	66.6	60.0	3.22
Single-parent families	45.1	29.0	1.50	41.8	27.5	1.48
Employment of household head						
Working	19.9	13.8	0.71	17.9	12.5	0.67
Employed	20.2	13.7	0.71	17.8	12.3	0.66
Self-employed	16.5	13.4	0.69	17.0	13.2	0.71
Working-age unemployed	89.3	66.1	3.41	91.2	72.9	3.91
One breadwinner	36.6	24.9	1.29	35.7	24.1	1.29
Two or more breadwinners	7.5	5.5	0.29	7.4	5.7	0.31
Age of household head						
Up to 30	32.2	22.4	1.16	29.9	21.7	1.17
31-45	26.1	20.1	1.04	24.4	19.4	1.04
46 to pension age	20.2	14.1	0.73	17.7	12.6	0.67
Of legal pension age	54.0	24.1	1.24	51.4	23.5	1.26
Education of household head						
Up to 8 years of school	69.1	45.2	2.33	68.7	46.1	2.47
9-12 years of school	33.2	22.3	1.15	30.8	21.0	1.13
13 or more years of school	21.4	12.8	0.66	21.0	12.8	0.69

* The concentration index is the ratio between the poverty rate in a group and in the population as a whole (by disposable income) and reflects the 'closeness' of a particular group to the general population in terms of the incidence of poverty.

** Tables showing data for Jews: the Jewish population includes non-Jews who are not Arabs.

11 The tables are given for users who track the figures each year. A more comprehensive analysis of expenditure by population group can be found in the report on Poverty and Social Gaps 2013 on the NII website.

Table 8
Proportion of Selected Groups in the Total Population and the Poor Population (Percent), 2012

Population Group (families)	Total population		Poor population			
			Before transfer payments and direct taxes		After transfer payments and direct taxes	
	Families	Individuals	Families	Individuals	Families	Individuals
Jews	87.0	81.2	74.5	63.2	63.4	53.7
Arabs	13.0	18.8	25.5	36.8	36.6	46.3
Old people	20.4	10.7	34.0	16.7	23.8	10.6
Immigrants	20.3	17.5	23.3	17.0	18.1	12.9
Families with children - total	**45.0**	**65.7**	**45.3**	**71.9**	**57.6**	**81.3**
1-3 children	37.5	49.2	30.4	39.0	35.8	40.2
4 or more children	7.4	16.5	14.9	32.8	21.7	41.1
5 or more children	3.5	9.0	8.3	20.5	12.3	25.9
Single parent families	6.0	6.9	9.0	10.1	9.0	9.1
Employment of household head						
Working	79.4	86.8	51.7	67.3	56.0	69.5
Employed	69.3	75.6	46.1	59.4	49.0	60.0
Self-employed	10.1	11.1	5.5	7.8	7.0	9.3
Working-age unemployed	6.3	6.3	18.6	18.6	21.6	20.7
One breadwinner	35.0	31.9	41.7	51.3	44.5	53.0
Two or more breadwinners	44.4	54.9	10.0	15.9	11.5	16.5
Age of household head						
Up to 30	17.4	17.3	18.5	19.6	20.1	18.6
31-45	34.5	43.0	29.8	43.9	35.9	49.7
46 to pension age	30.5	30.8	20.3	21.5	22.2	22.3
Of legal pension age	17.6	8.9	31.4	15.0	21.8	9.4
Education of household head						
Up to 8 years of school	9.2	7.5	20.9	16.7	21.4	17.1
9-12 years of school	38.0	41.0	41.7	46.7	43.7	48.6
13 or more years of school	52.9	51.5	37.4	36.6	35.0	34.3

* The weight given to each family in the calculation equals the number of individuals it contains.

Table 9
Proportion of Population Groups in the Total Population and the Poor Population (Percent), 2013

Population group (families)	Total population		Poor population			
			Before transfer payments and direct taxes		After transfer payments and direct taxes	
	Families	Individuals	Families	Individuals	Families	Individuals
Jews	85.0	79.9	72.1	60.0	61.9	51.6
Arabs	15.0	20.1	27.9	40.0	38.1	48.4
Old people	21.5	11.3	35.8	17.1	25.5	10.9
Immigrants	19.8	16.6	23.6	16.5	19.7	12.7
Families with children - total	**44.7**	**65.3**	**43.2**	**71.2**	**55.1**	**80.0**
1-3 children	37.4	49.5	28.5	38.0	34.9	40.9
4 or more children	7.2	15.8	14.7	33.2	20.2	39.1
5 or more children	3.2	8.2	7.6	19.6	10.5	23.0
Single parent families	5.7	6.1	8.3	9.4	8.4	8.5
Employment of household head						
Working	79.5	87.8	49.6	67.8	53.5	70.3
Employed	68.3	75.4	42.5	58.3	45.0	59.5
Self-employed	10.9	12.2	6.5	8.9	7.7	10.2
Working-age unemployed	5.6	5.2	18.2	17.1	22.0	19.4
One breadwinner	29.5	25.3	36.9	45.2	38.0	46.2
Two or more breadwinners	50.0	62.5	12.7	22.5	15.4	24.0
Age of household head						
Up to 30	17.9	18.4	19.0	21.5	20.8	21.2
31-45	34.5	43.1	29.5	44.5	35.9	49.8
46 to pension age	28.7	28.8	17.7	18.0	19.3	18.9
Of legal pension age	19.0	9.6	33.7	16.0	23.9	10.1
Education of household head						
Up to 8 years of school	8.2	6.7	19.7	15.5	20.2	16.0
9-12 years of school	38.0	40.6	40.9	44.9	42.9	46.4
13 or more years of school	53.9	52.8	39.3	39.6	37.0	37.6

* The weight given to each family in the calculation equals the number of individuals it contains.

Table 10
Income Ratio of the Poor* – Selected Population Groups, 2012 and 2013

Population Group (families)	2012			2013		
	Economic income	Disposable income	Concentration index*	Economic income	Disposable income	Concentration index*
Total population	**56.3**	**34.4**	**1.00**	**55.5**	**32.8**	**1.00**
Jews	56.2	29.8	0.87	57.8	30.1	0.92
Arabs	56.5	39.6	1.15	52.0	35.6	1.09
Old people	78.0	28.1	0.82	79.8	25.2	0.77
Immigrants	61.1	25.1	0.73	64.7	27.1	0.83
Families with children – total	**52.0**	**35.4**	**1.03**	**49.8**	**33.7**	**1.03**
1-3 children	47.3	31.4	0.91	47.3	30.8	0.94
4 or more children	57.6	39.4	1.15	52.6	36.7	1.12
5 or more children	59.1	40.6	1.18	53.4	36.7	1.12
Single parent families	61.4	36.0	1.05	65.3	37.8	1.15
Employment of household head						
Working	40.1	29.2	0.85	39.2	28.8	0.88
Employed	40.0	28.7	0.83	38.9	28.6	0.87
Self-employed	40.7	33.1	0.96	38.2	29.9	0.91
Working-age unemployed	94.2	54.2	1.58	94.9	51.3	1.57
One breadwinner	43.5	31.4	0.91	44.8	32.6	1.00
Two or more breadwinners	29.1	22.3	0.65	28.0	21.4	0.65
Age of household head						
Up to 30	50.6	33.0	0.96	49.6	33.4	1.02
31-45	51.4	35.1	1.02	49.5	34.4	1.05
46 to pension age	55.9	36.9	1.07	55.7	32.5	0.99
Of legal pension age	78.4	27.2	0.79	79.8	24.2	0.74
Education of household head						
Up to 8 years of school	72.1	37.0	1.08	68.7	34.3	1.05
9-12 years of school	51.0	34.2	1.00	51.9	33.4	1.02
13 or more years of school	55.9	33.2	0.97	54.3	31.4	0.96

* The weight given to each family in the calculation equals the number of individuals it contains.
** The concentration index is the ratio between the incidence of poverty in a group and in the population as a whole (by disposable income) and reflects the "closeness" of a particular group to the general population in terms of the incidence of poverty.

Box 2
Nutritional Security in the Elderly – Results of Surveys in 2011 and 2012[1]

The NII initiated and carried out two nutritional security surveys in 2011 and 2012, involving some 5,600 and 6,400 families respectively, representing the whole country. Interviewees responded by telephone to questions based on a questionnaire developed by the U.S. Department of Agriculture. The questionnaire is largely family-based, and focuses on behaviors and subjective feelings as a basis for an index of nutritional insecurity at different levels of severity (slight and considerable). Questions dealing with demographic and socio-economic data relevant to the Israeli economy and society were added.

In this box we will focus on some 1,600 families of elderly persons interviewed in both surveys and constituting 16% of the total families interviewed. A family was defined as elderly if its head had reached the formal age of retirement – 62 for a woman and 67 for a man. The head of the family was defined as its highest earner.

The survey found that 9% of elderly families suffered from nutritional uncertainty, compared to 21% of other families (Table 1). About 6% of elderly families were at level of considerable nutritional uncertainty, compared to 10% of other families. Nutritional uncertainty was more characteristic of the 'younger' elderly (aged up to 74) than older ones (Diagram 1).

Table 1
Nutritional Security among the Elderly and Non-Elderly – Families and Individuals (percentages), 2011-2012

	Total families	Percentage of population	Total individuals (000s)	Percentage of population
		Elderly		
Nutritional security	339	90.8	534	90.9
Slight/moderate nutritional insecurity	10	2.7	16	2.8
Considerable nutritional insecurity	24	6.4	37	6.3
		Non Elderly		
Nutritional security	1,929	79.5	90.8	339
Slight/moderate nutritional insecurity	258	10.6	495	11.0
Considerable nutritional insecurity	239	9.9	462	10.2

1 Findings of a study prepared by Miri Endewald and Natanella Barkley on the subject of nutritional security among the elderly.

Diagram 1
Nutritional Insecurity among the Elderly by Age, 2011-2012

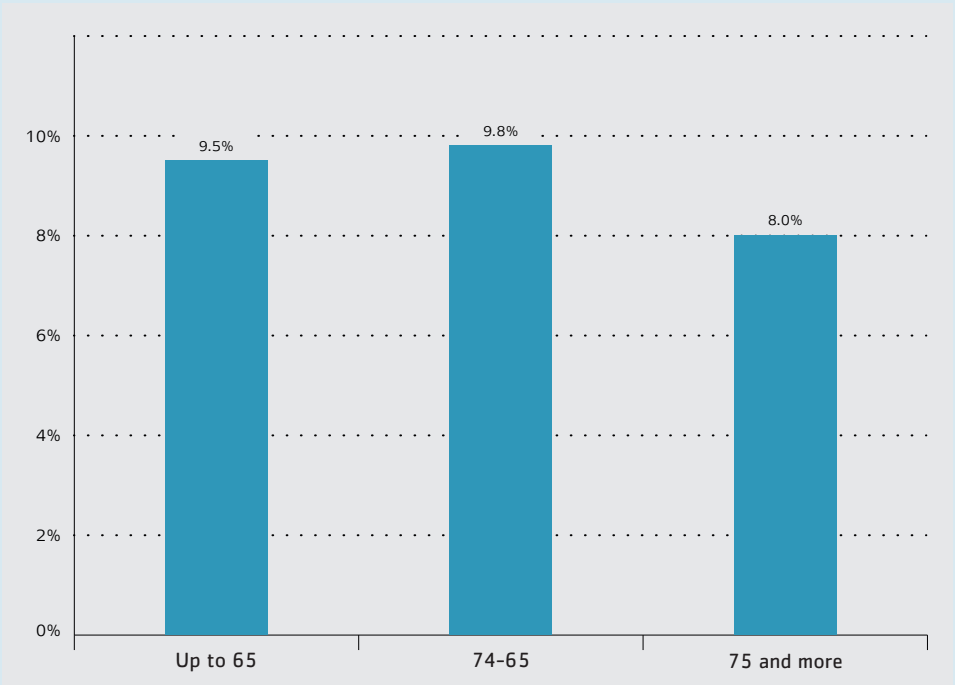


Table 2
Odds Ratio for the Elderly being in a Situation of Nutritional Uncertainty – Logical Regression Results (%), 2011-2012

Regression variables	Odds ratio	Level of significance	Significance
Jews	0.239	<.0001	*
Haredi	0.701	0.6375	
Immigrants since 1990	0.639	0.2005	
Female head of household	1.212	0.3506	
Living alone	1.435	0.0978	***
Working	1.093	0.6662	
Household head aged 64-75	0.914	0.708	
Household head aged 75-84	0.733	0.2585	
Household head aged 85+	0.69	0.3938	
Jerusalem	1.276	0.4791	
North	0.917	0.7844	
Haifa	1.034	0.9042	
Center	1.029	0.9101	
South	1.354	0.3179	
Per capita income up to NIS 1500	5.794	<.0001	*

Significance level: *p<0.01 **p<0.05 ***p<0.1

The results of a logical regression looking at the effect of demographic variables on the likelihood of old people suffering nutritional uncertainty, found that the chances of Jews were 70% lower than the chances of Arabs (Table 2). Women's chances were 20% higher than those of men, and elderly people living alone were 40% more likely to suffer from nutritional uncertainty than those who lived with a spouse or other family members.

The older the individual, the lower their chances of being in a situation of nutritional uncertainty. Those with an income of up to NIS 1,500 were five times more likely to be in this situation.

4. Measuring poverty

Since the early 1970s poverty has been defined using the relative approach, which is accepted by most researchers and social policy makers in the western world. In this approach, poverty is a condition of relative distress and a family is defined as poor if its standard of living is considerably worse than the typical standard of living in that society, and not when it is unable to purchase a basic basket of products necessary for survival.

In the 1990s, a semi-relative approach to measuring poverty was developed in the United States, whereby a threshold expenditure on a **basic basket of products** was defined (and in this sense this approach is absolutist), but the value of this basket is calculated as a percentage of the median expenditure on basic consumer products. This method was recommended as an alternative to the official poverty index in the United States. It was developed by a committee of academic experts in America and Britain (NRC – National Research Council), following an initiative of the Economic Committee of Congress designed to review in depth official U.S. poverty measurement and suggest an alternative method. The principles were finalized after years of thorough and comprehensive theoretical and empirical research. The Committee recommended basing the basket of products on actual consumption habits, as reflected in surveys of household expenditure.

This section presents a brief overview of three alternative indices to the existing poverty index, that were developed in the Research & Planning Administration and are calculated like the above approach, based on household expenditure and not on household income.

The three alternative indices are calculated using three methods: **NRC** (National Research Council), **MBM** (Market Basket Measure), and **FES** (Food Energy Intake and Share). These methods take into account the various components of family consumption compared absolutely to a fixed basket of goods and compared relatively to the baskets of consumption of other households.

A. Measuring poverty using the NRC method

A study published by the NII in 2004[12] attempted to measure poverty in Israel using the NRC approach, based largely on calculating the threshold expenditure of a representative family (two adults and two children), from the data on consumption of the population itself, as expressed in expenditure surveys carried out by the Central Bureau of Statistics. The basket used to calculate the threshold expenditure includes products and services in the areas of food, clothing, footwear and housing, plus other essential products. **The threshold expenditure is adjusted for different family** compositions using a weighting scale that takes into account the number of adults and children in the family. The income compared to **threshold expenditure** is the family's disposable income (gross income from all sources less direct taxes). An added component is the **income in kind** if the family receives public housing and pays reduced rent compared to market prices[13]. A poor family is one whose disposable income cannot pay for this basket.

The study presented two options for calculating threshold expenditure and income compared to it for each type of family, where the difference between the two options lies in the definition of expenditure on housing: in the first option, expenditure on housing is obtained from total regular payments for occupying an apartment (loans and mortgages, rent etc.), and in the second option, this expenditure is calculated according to rent for those renting accommodation, and according to the rent attributed to the apartment for those who own their homes. In the second option a family that lives in its own home is compensated on the income side. The added income element is the difference between the attributed rent and the total current expenditure on the apartment[14].

B. Measuring poverty using the MBM method

In another study published by the NII in 2011[15], a poverty index was calculated combining the Canadian and American approaches. The MBM (Market Basket Measure) index, as calculated for the Israeli economy, is located on the continuum between two points – an absolute index and a relative index, and it belongs to the family of poverty indices in which the poverty line is derived from consumption of a basket of products representing a reasonable estimate of the minimum required to live. This link to the minimum for living means that this poverty line can be used to assess the suitability of subsistence

12 Sabag-Endewald, M. & Achdut, L. (2004), Developing an experimental poverty index from the expenditure side in Israel. The Research & Planning Administration, National Insurance Institute.

13 In addition to direct taxes, on the recommendation of the American committee, expenditure on transport for work purposes and on various childcare arrangements for working families are also deducted from income.

14 In both options, calculation of the income compared to threshold expenditure also takes into account the benefit embodied in public housing services: a family living in public housing (belonging to the housing companies Amidar, Amigur, etc.) is compensated on the income side by the difference between rent on the free market and the rent that they actually pay.

15 Gottlieb D & Froman, A. (2011). **Measuring poverty according to a suitable basket of consumption in Israel, 1997-2009**. National Insurance Institute, Research & Planning Administration.

benefits, that is – income support and income supplement, which are the last safety net for those who cannot support themselves and their families. An important difference between the NRC index and the MBM index lies in their reference to the food element: in the NRC index expenditure on food is measured according to actual data as with other expenditure on the suitable basket (which also includes clothing, housing and various supplements), by means of an expenditure multiplier; in the MBM, food expenditure is determined on a normative rather than an actual basis – according to principles of nutrition and the composition of the family by sex and age.

C. Measuring poverty using the FES method

In the third method, the FES (Food Energy Intake and Share), a special poverty line is defined for each family based on its own characteristics. A **basket of basic food** is adjusted for each family, and defines the minimum essential monetary expenditure on food, according to the Nitzan-Klusky definitions (2003). This method takes into account that a family has other essential costs apart from food, and the minimum essential expenditure takes account of both food and other items. For that purpose, this model assumes that the family's expenditure on food grows as its income rises, and that the marginal expenditure on food falls as income rises. Thus, as income rises so too does expenditure on food, so that as a proportion of total expenditure it shrinks and the proportion of expenditure on other products increases.

In this method, for each family, we indicate two minimum levels of income, and their arithmetical average is defined as the poverty level: (1) the income level for which the division of expenditure is such that expenditure on food is the same as the minimum expenditure on food defined for that family; (2) the income level identical to the monetary cost of minimum food consumption defined for that family, plus the monetary cost of non-food products that the family would consume if its income was identical to the monetary cost of the minimum food basket defined for it.

The various calculations in this method are done twice: once using the family's monetary income, and the second time including income in-kind, and with the data currently available to us, the main income in-kind is the result of owning the family home.

D. Rate of Poverty

According to all the methods, the dimensions of poverty indicate a consistent drop over the years in both versions: when referring to monetary income and when referring to income including credit for home ownership (Table 11). As a rule, the dimensions of poverty based on income including the link to home ownership are generally lower than when based on monetary income, thus home ownership reduces gaps between families.

The levels of poverty obtained from the NRC and MBM methods are fairly similar. By contrast, the FES method shows lower poverty indices for families but generally

higher inforfor children. According to this method, the drop between 2010 and 2013 was the steepest: the family poverty index fell by about 5 percentage points and that of children by about 7 percentage points. In 2013, the drop in poverty indices matches the downward trend in poverty as measured by the relative approach on the income side, but this result could be different. It should be remembered that with all the methods, and particularly the FES and the MBM, which are based on a basket of food determined by external experts, there is an absolute element to the measurement of poverty. Therefore, as the standard of living, measured by income, rises (while the absolute element does not actually change), so the chances of a drop in the rate of poverty grow.

Table 11
Rate of Poverty in Families, Individuals and Children, according to Various Approaches, 2010-2013

	NRC			FES			MBM		
	Families	Individuals	Children	Families	Individuals	Children	Families	Individuals	Children
	According to monetary income								
2010	21.0	25.0	34.4	19.0	27.8	41.1			
2011	20.7	24.8	34.3	17.9	27.5	40.6			
2012	20.1	24.2	33.3	16.5	24.7	36.8			
2013	18.4	22.2	30.6	14.7	22.0	33.7			
	According to overall income								
2010	18.8	23.5	33.3	17.9	27.1	40.9	20.7	27.2	39.3
2011	18.0	23.1	33.0	18.3	28.4	42.6	20.3	27.5	39.5
2012	17.6	22.7	32.3	16.0	24.6	37.0	18.8	24.1	35.2
2013	16.4	21.1	30.4	14.6	22.4	34.4	16.8	21.1	31.4

In 2012-2013, analysis of the findings on the rate of poverty and threshold expenditure (the minimum expenditure required not to be considered poor) according to each of the methods, shows the following: for different family compositions, incidence of poverty according to the NRC method, which takes account of credited housing rental (calculated on total income), is lower than the incidence of poverty when current payments are taken into account (calculated on monetary income) in families without children (Table 12). On the other hand, families with children show similar rates of poverty in both calculations – by monetary income and by economic income. For example, the incidence of poverty among individuals without children based on monetary income is 20.5%, while according to economic income it is 13.6%. The FES method reveals results for two measurement methods, including and excluding income in-kind, with similar incidence of poverty among nearly all kinds of families.

According to all three methods for measuring poverty from the expenditure side, there is a match between the number of children and the incidence of poverty. For example, among couples with five children, the poverty rate using both NRC and FES

Table 12
Incidence of Poverty and Threshold Expenditure for Various Family Compositions, using the NRC, FES and MBM approaches, 2012-2013

Family composition	NRC				FES				MBM			
	2012		2013		2012		2013		2012		2013	
	Threshold expenditure (NIS)	Poverty incidence (%)	Threshold expenditure (NIS)	Poverty incidence (%)	Threshold expenditure (NIS)	Poverty incidence (%)	Threshold expenditure (NIS)	Poverty incidence (%)	Threshold expenditure (NIS)	Poverty incidence (%)	Threshold expenditure (NIS)	Poverty incidence (%)
By monetary income												
Single adult	2,859	22.0	2,872	20.5	1,861	9.3	1,947	6.6				
Two adults	4,645	13.8	4,665	12.7	3,711	6.2	3,886	7.1				
2 adults + 1 child	5,730	16.9	5,756	14.5	5,062	9.2	5,269	9.4				
2 adults + 2 children	6,734	14.7	6,764	14.2	6,810	11.9	7,216	11.2				
2 adults + 3 children	7,677	21.9	7,711	19.9	8,758	22.3	9,198	20.2				
2 adults + 4 children	8,572	41.5	8,611	38.8	10,379	43.8	10,958	45.8				
2 adults + 5 children	9,429	60.2	9,472	57.2	12,221	67.9	12,952	59.3				
1 adult + 2 children	5,277	34.1	5,301	31.0	5,480	35.3	5,513	27.4				
By total income												
Single adult	3,512	14.3	3,513	13.6	2,394	6.8	2,434	6.4	3,368	16.3	3,324	14.9
Two adults	5,706	10.9	5,707	9.8	4,773	5.2	4,857	5.7	5,717	10.1	5,659	10.0
2 adults + 1 child	7,040	15.7	7,042	15.0	6,511	9.5	6,585	9.4	7,226	16.1	7,154	17.6
2 adults + 2 children	8,273	15.1	8,275	14.8	8,760	11.7	9,018	10.8	8,804	17.0	8,772	18.2
2 adults + 3 children	9,431	21.2	9,433	19.9	11,265	22.7	11,494	20.8	10,397	25.3	10,348	21.8
2 adults + 4 children	10,531	39.6	10,534	38.6	13,349	45.1	13,694	46.5	11,821	48.9	11,800	42.6
2 adults + 5 children	11,584	58.7	11,587	56.8	15,720	66.4	16,186	58.4	13,278	63.4	13,284	52.4
1 adult + 2 children	6,483	35.3	6,484	32.8	7,049	35.4	6,890	26.3	6,961	38.1	6,854	34.3

methods, is about 60%, while the MBM method yields 52%, but among adults with one child the results are 15%, 9% and 18% respectively.

Values of threshold expenditure for small families according to the NRC and MBM methods are higher than the threshold expenditure according to FES, and in larger families the ratio is reversed. Accordingly, there is also the same proportion of poverty. This difference is due to the weighting scale used by NRC and MBM, which relates differently to children and adults, unlike the FES calculation.

A comparison of poverty rates in 2012 and 2013 measured by these three methods shows, as with the data on the income side, a decrease in poverty measured on the expenditure side, at different levels for different family compositions and different measurement methods.

Box 3
Work Productivity and Average Pay in relation to Work Productivity – International Comparison

According to classical economic theory, in perfect competition wages are determined by marginal worker productivity, and therefore high productivity correlates with high pay and vice versa. Work productivity as measured by average worker output shows the efficiency of workers on average, and therefore in addition to its effect on pay, it provides an indication of the competitiveness of an economy.

Notwithstanding the link between productivity and pay, various countries, particularly developed ones, differentiate in the ratio of pay to productivity, namely that part of productivity from which the workers ultimately benefit.

Below we present a comparison of productivity in Israel over the years, with that of developed countries[1], using two different methods of calculation: product per worker, and product per work-hour. We also compare the average size of pay in the various countries to these dimensions of productivity. Both comparisons show that low pay derives - as is known - from low work productivity, while at the same time pay in Israel is also low in terms of the link to productivity.

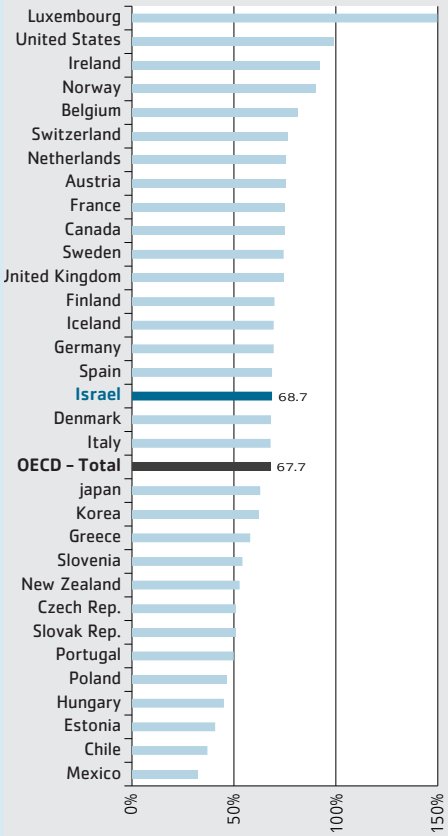
Work Productivity

A comparison of productivity per work hour is slightly different from the comparison of productivity per worker. The latter is affected by differences in job size (full- or part-time), which do not affect productivity per hour. Productivity per hour is measured by

1 Some of the findings in this box are taken from Endewald, M. & Heller, A (2014). The compensation for work and its contribution to reducing poverty – Israel from an international perspective. Publication 119 in the series of National Insurance studies. Other findings are further development of this study.

Diagram 1
Work Productivity in OECD countries, 2013

1a. Product per work hour, fixed prices, 2005 PPP



1b. Product per worker, fixed prices, 2005 PPP

total product, which is divided by the total number of hours worked in the economy (Diagram 1a), while to obtain productivity per worker, total product is divided by the number of people employed (Diagram 1b). Diagrams 1a and 1b, which present productivity in OECD countries in 2013, show that the productivity of the Israeli worker is slightly higher than the OECD average, but productivity per hour is lower than the average. Possible reasons for that are the (on average) long hours of work in Israel compared to other developed countries[2].

In 2013, average productivity per hour worked in Israel was 33.2 dollars (PPP in 2005 prices), about 18% lower than productivity in developed countries (excluding

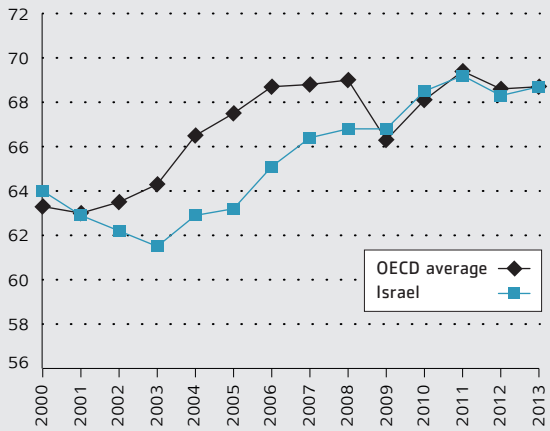
2 See the study referenced in Footnote 1.

Israel). This puts Israel in the bottom third of countries for this measure, between Western and Eastern European countries. The placing of the countries is also similar for the breakdown of average productivity per worker, excluding Israel, which is a few places higher with 68.7 thousand dollars (PPP in 2005 prices) per worker per year – about 1.5% higher than the average in the developed countries.

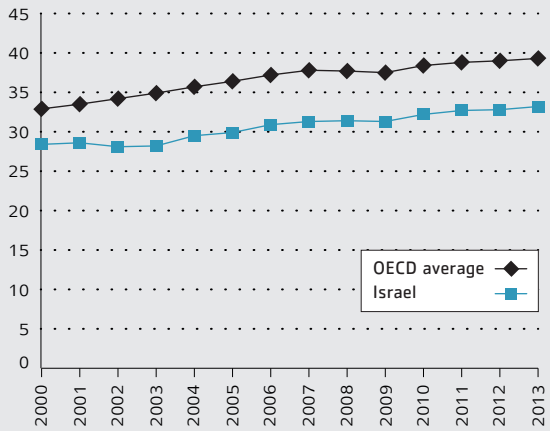
In the years 2000-2013, productivity per hour of work in Israel was consistently 15%-19% lower than in other developed countries. On the other hand, an examination of productivity per worker shows that in the years 2001-2008, on average it was lower in Israel than in other developed countries, but since 2009 it has been similar to those countries.

Diagram 2
Work productivity in Israel and on average in OECD countries, 2000-2013

2a: Product per hour of work, fixed prices – dollars, 2005 PPP



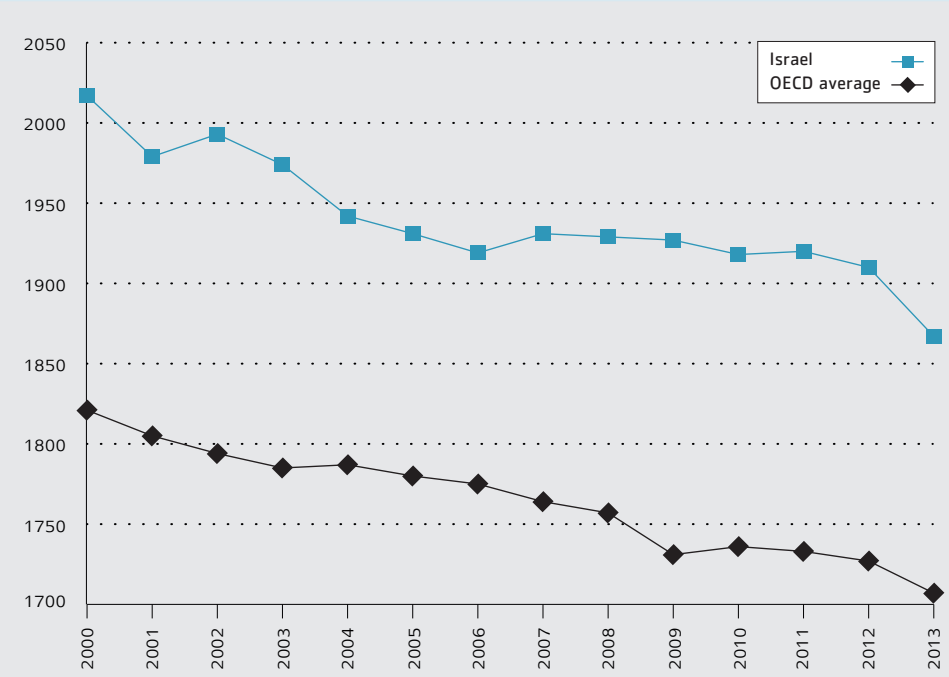
2b: Product per worker, fixed prices – thousands of dollars, 2005 PPP



The global economic crisis in 2009 led to a reduction of employment in developed countries, and thus also to a reduction in hours worked. Israel was less affected by the crisis, and there was no significant change in the average number of hours worked per annum among the employed that year (Diagram 3). In developed countries the average hours worked did not return to their level before the crisis, and continued to fall in subsequent years, while in Israel hours worked remained high. Therefore, Israel's productivity per worker in those years was similar to that of the other developed countries, in spite of its relatively low productivity per hour.

As with wages per hour of work compared to monthly salary, these two measures of work productivity are useful and highlight various aspects of the labor market:

Diagram 3
Average hours worked per annum per worker
in Israel and the OECD average, 2000-2013

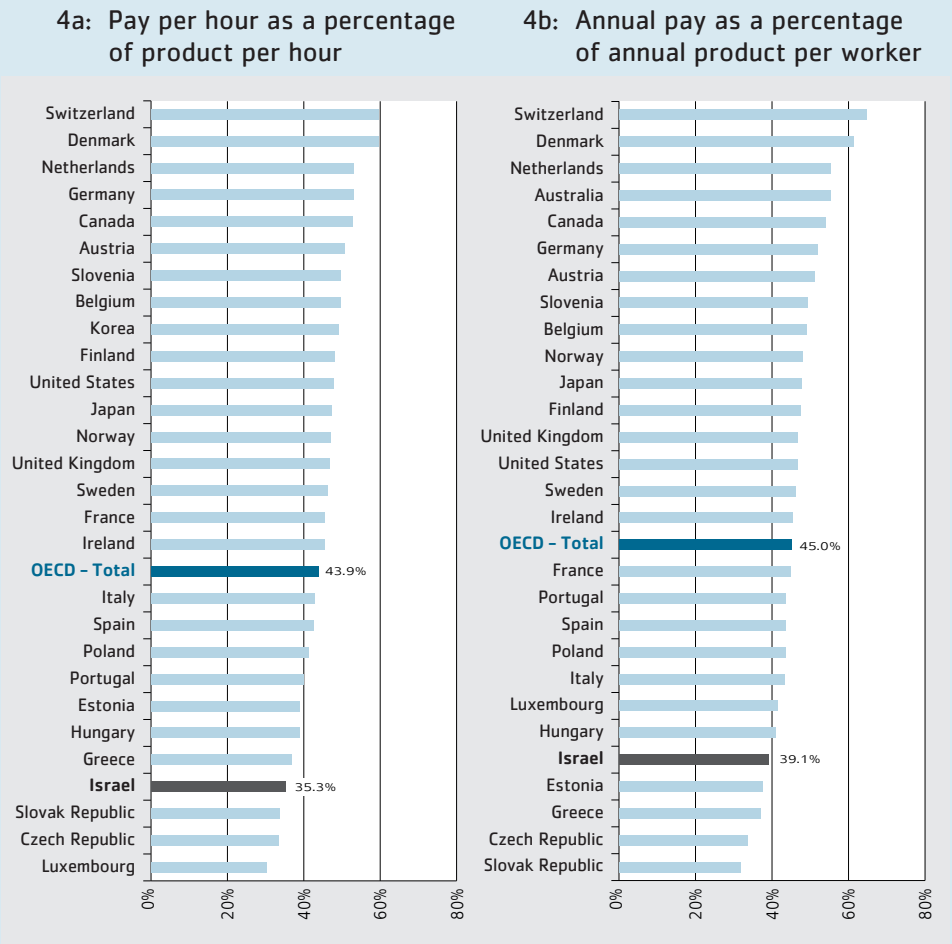


productivity per hour of work is a 'net' measure ,that estimates the quantity of product by means of a normal job size. The productivity per worker measure is 'gross', but it is actually an indication of the household standard of living.

The role of pay in work productivity

Countries differ not only in productivity but also in compensation to workers as a function of the value of their work (Diagram 4). A breakdown of developed countries by wages as a percentage of productivity shows that Israel is near the bottom: pay per hour is equal to 39.1% of the product per hour, and annual pay is equal to 35.3% of the annual product per hour. These values are about 20% and 13% respectively lower than the average in the developed countries, very far from the rates in western Europe, the USA and Japan, and close to those in eastern Europe. (The exception here is Luxembourg, whose workers according to the diagram are underpaid according to their productivity, but exceptionally high productivity ensures that the average salary is high by international comparison). The significance is that in international terms, workers in Israel are poorly paid, even when taking their fairly low productivity into account.

Diagram 4
Average pay as a percentage of work productivity, OECD countries (percentages), 2013

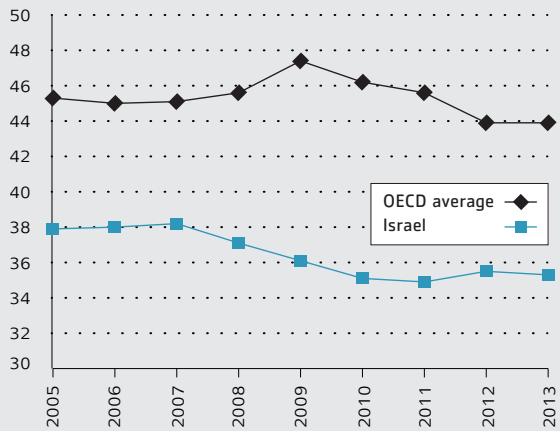


In recent years, pay in Israel has eroded compared to work productivity – both per worker and per work hour – unlike pay as a percentage of average productivity in the developed countries, where the trend in recent years is less clear and is consistently higher than the rate in Israel (Diagram 5).[3]

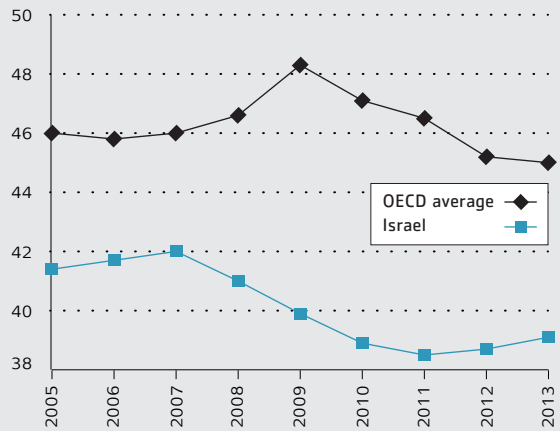
3 Israel's low position among the developed countries for pay as a percentage of productivity could also be because of differences in investment in various countries, a subject that deserves a separate discussion and is not dealt with here. The comparison shown here is valid assuming that the difference in capital investments between countries does not by itself explain the difference in pay as a percentage of productivity. On the other hand, the erosion of pay against product shown in Diagrams 5 and 6 in Endewald, M. and Heller, A. (2014) (See footnote 1), is not due to a change in the scope of capital investment in Israel, if only because of the freeze in real pay during the years when product grew.

Diagram 5
Average pay as a percentage of work productivity
in Israel and in OECD countries (percentages), 2005-2013

5a: Pay per hour as a percentage of product per hour



5b: Annual pay as a percentage of annual product per worker



Conclusion

Both methods presented here for calculating work productivity show that productivity per hour worked in Israel is low compared to developed countries and that the relatively long hours of work in Israel mean that productivity per worker is slightly higher than the average of developed countries.

In the last 15 years the scope of employment in Israel has changed, unlike in other developed countries, and therefore the ratio of productivity per worker has also changed: until 2008 productivity was relatively low in Israel, but since 2009 it has been similar to the average of developed countries. Examination of the recompense paid to workers shows that irrespective of how productivity is calculated, pay is relatively low in Israel compared to other developed countries, and has even declined in recent years.

These comparisons indicate two causes of low pay in Israel: the proportion of productivity paid as wages is low, and in any case productivity itself is low. In order to deal with low pay, these two elements must be addressed: increasing productivity by means of actions to improve human capital (such as study of core subjects or vocational education), and reduction in the number of hours worked and a change in policy to increase pay – in the area of the minimum wage, social benefits, increased pay for overtime (above a full-time job), and regulating patterns of employment (direct/indirect, monthly/daily, etc.). All these could contribute to providing workers with a bigger slice of the product cake.