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INCOME INEQUALITY IN ISRAEL

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# *Income Inequality in Israel*

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Ayal Kimhi\*

## *Abstract*

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*Israel is one of the least equal countries in the Western world. Part of the responsibility for this lies with the government's welfare policy, but most existing income inequalities stem from disparities in employment, work hours and wages. Wage gaps in Israel are higher than in any other developed country and are particularly evident where worker educational levels differ. Over the past decade the average Israeli worker's educational level has risen greatly while at the same time, demand for educated workers has grown even faster, leading to the continued widening of wage gaps. Policies aimed at narrowing socioeconomic disparities in Israel should, in the short term, promote employment and provide income support to low-wage earners. In order to succeed in the long term, though, policies should upgrade the skills of the future generations of workers, and minimize the skill gaps. For this to happen, it is not enough to increase the number of years of schooling, the percentage of those eligible for matriculation certificates, or the percentage of those with academic degrees. It is also necessary to upgrade the curricula and the level of training provided by educational institutions.*

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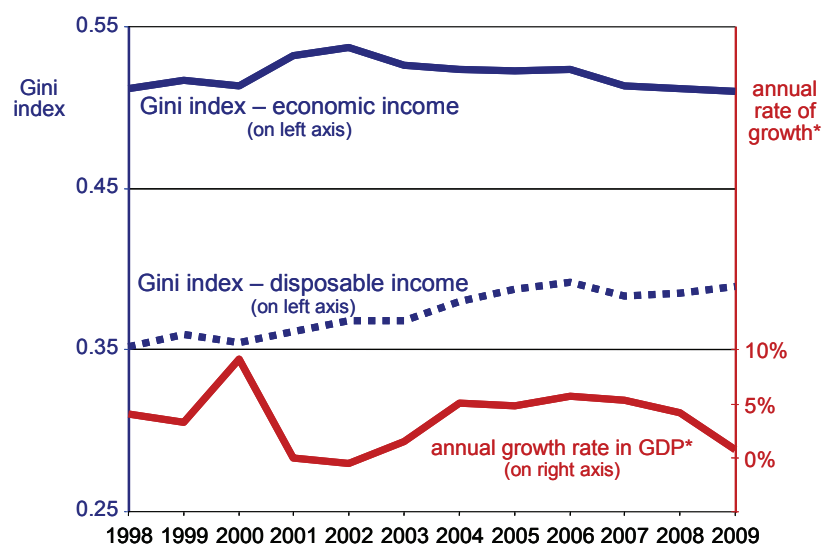
I wish to thank Kyrill Shraberman for organizing, processing and analyzing the data used in this chapter.

The Taub Center's last annual report looked at the evolution of poverty rates in Israel over the past three decades (Ben-David, 2010a), and pointed to a link between poverty and employment rates, and between employment and education (Ben-David, 2010b). The aim of the present chapter is to examine these topics in greater depth, focusing particularly on income disparities within both the general and the employed populations. The chapter concentrates on the post-1997 period, mainly because the Central Bureau of Statistics' income surveys, on which this study is largely based, were modified between 1997 and 1998 in terms of their population coverage. Moreover, focusing on a shorter period of time makes it possible to identify changes that might be missed when looking at the broader picture. Most of the findings were obtained through a relatively simple analysis of the data; some of them are based on more in-depth research. This chapter does not propose to cover all issues related to income inequality, but rather to present the main topics and to recommend directions for policy. These recommendations would, ideally, be supported later on by more focused and in-depth research.

### *1. Income Inequality*

Economic theory points to several possible links between economic growth and income inequality. Differing levels of income inequality due to economic growth generally have to do with the degree to which different population groups benefit from the growth process. Figure 1 presents Israel's annual per capita GDP growth rates for the period 1998-2009, and the Gini coefficient of per capita income inequality. The Gini coefficient is calculated in two ways: by economic income (before taxes and transfer payments) and by disposable income (after taxes and transfer payments).

Figure 1  
**Growth versus inequality**  
 1998-2009



\* real growth in GDP per capita.

**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics.

The lower curve describes growth rates. One sees that the economy was in recession during the years 2001-2003, recovered in subsequent years, and entered recession again in 2009 in the wake of the global economic crisis. It is worth noting that this last recession appears to have been brief in duration: 2010 data published by the Central Bureau of Statistics on March 10, 2011 indicate a 4.6 percent growth rate.<sup>1</sup> The upper curve describes inequality in economic income. A rise in income inequality is evident for the recession period; however, once the recession

<sup>1</sup> This chapter was written before the final impact on the world economy of the 2011 disaster in Japan could be determined.

ended there was a gradual return to pre-recession inequality levels. The conclusion is that the recession hurt low-income earners more than anyone else.

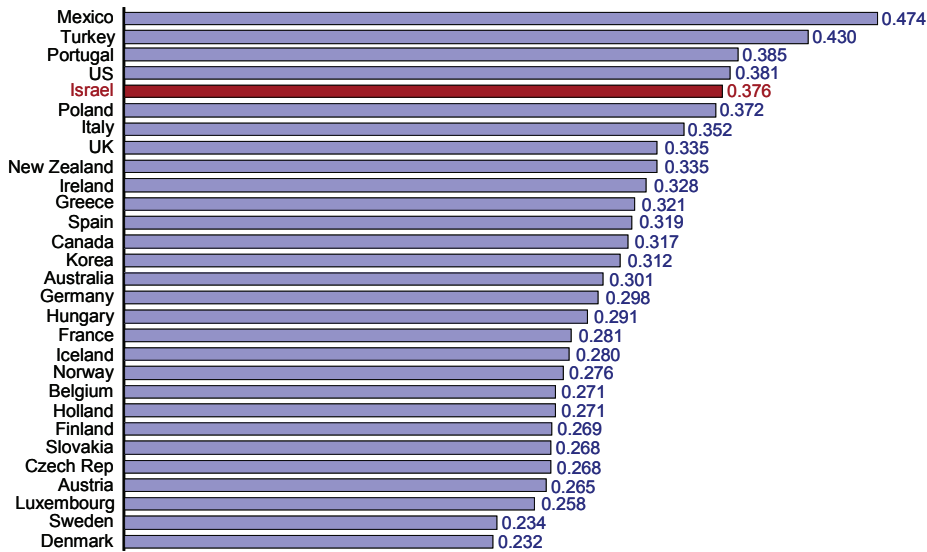
The middle curve describes inequality in disposable income, whose levels began to rise during the recession of 2001-2003. In contrast to economic income inequality, disposable income inequality continued to rise even after the recession ended, stabilizing somewhat only during the last four years. The continued rise in disposable income inequality post-recession was due, apparently, to cuts in National Insurance Institute (NII) allowances (Ben-David, 2010a).

In Figure 2 one can see that in 2005, the level of inequality in Israel as measured by the Gini coefficient of per capita disposable income was one of the highest in OECD countries, just slightly lower than that of the US and lower than that of Portugal, Turkey and Mexico – countries with a lower standard of living than that of Israel.

Figure 2

### Income inequality in Israel and the OECD

Gini index of disposable income per standardized person, 2005



**Source:** Taub Center for Social Policy Studies in Israel.

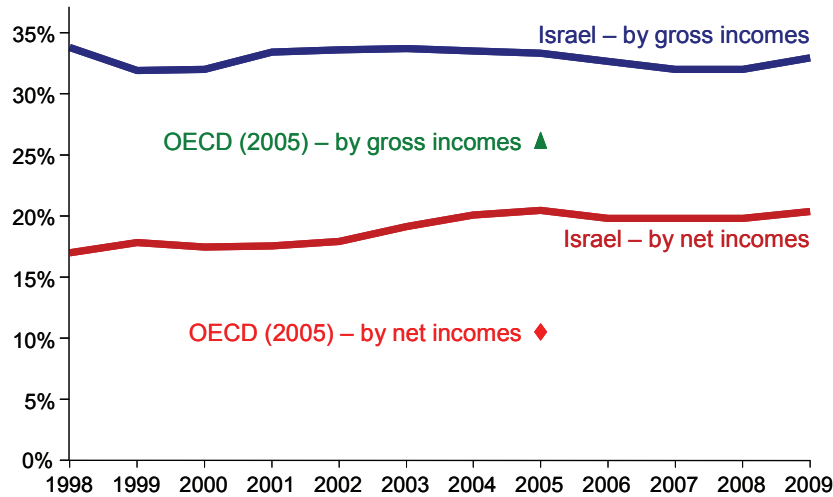
**Data:** National Insurance Institute and OECD.

## *2. Poverty Incidence*

In Israel poverty rates are commonly measured using a relative index derived from income distribution. This index does not necessarily reflect the percentage of people actually living in economic distress. This is an important point to remember throughout the following discussion. Poverty rates are measured as the percentage of families whose income per equivalent adult falls below a given level referred to as the “poverty line.” In Israel the poverty line is defined as half of the median income per equivalent adult. What this means is that the poverty line changes over time, and families whose real income remains unchanged may be classified as poor at one point, and as not-poor at another.

Figure 3 presents Israeli poverty rates for the period 1998-2009. The changes in poverty rates over the years are similar to the changes in inequality. The poverty rate calculated by economic income (the upper curve) ranged from 32 to 34 percent during this period and was significantly higher than the mean poverty rate of the OECD countries, which was 26.4 percent in 2005. The poverty rate calculated by economic income rose when the recession began early in the decade, stabilized when the recession ended, dropped slightly between 2005 and 2007, and rose again last year. By contrast, the poverty rate calculated in terms of disposable income (the lower curve) rose more moderately when the recession started but continued to rise until the middle of the decade. Since then it has stabilized at 20 percent – double the mean poverty rate of the OECD countries (10.6 percent in 2005). The increase in poverty rates in 2009, in terms of both economic and disposable income, appears to have resulted from the economic decline suffered by Israel due to the global recession. It supports the hypothesis that a slowdown in economic activity harms the poor, first and foremost.

Figure 3  
**Poverty rates in Israel and OECD\***  
 1998-2009



\* gross incomes are before taxes and welfare payments  
 while net income take these into account.

**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics and OECD.

As the poverty line used to calculate poverty rates is an arbitrary one, one must ask whether the changes in poverty rates (which are dwarfed in absolute terms when compared to Israel's high poverty rate relative to Western countries) are influenced by this arbitrariness. In order to answer this question, a statistical model may be employed that tests the hypothesis that the relative status of the poor remained unchanged between two periods of time (Duclos, 2009). The model is highly complex and will not be described in detail in this chapter. The method that it proposes is as follows: a specific poverty line is chosen and a statistical analysis is performed to determine whether the poverty rate for

this poverty line has remained unchanged between two time periods. The procedure is carried out at all possible poverty-line levels within the relevant income range. Only if one can reject the hypothesis that poverty rates remained unchanged at all possible poverty lines can it be concluded that a change occurred in the relative status of the poor independent of the poverty line. The results obtained when this method is applied to Israeli data indicate that, between 1998 and 2008, and particularly between 2002 and 2008, the relative status of the poor improved, when poverty is defined in terms of economic income. By contrast, when poverty is defined in terms of disposable income, one cannot point to a significant change in the relative status of the poor during this period.

These results are not entirely consistent with the poverty rate changes appearing in Figure 3. According to the figure, the rise in poverty rates by disposable income is more significant than the decline in poverty rates by economic income. The implication of this is that one must, in fact, be careful about drawing conclusions from poverty data calculated in reference to a specific poverty line. In any event, the differing results obtained when poverty is calculated by economic and by disposable income support the hypothesis that NII allowance cuts over the last decade have worsened the status of Israel's socioeconomically weaker groups.

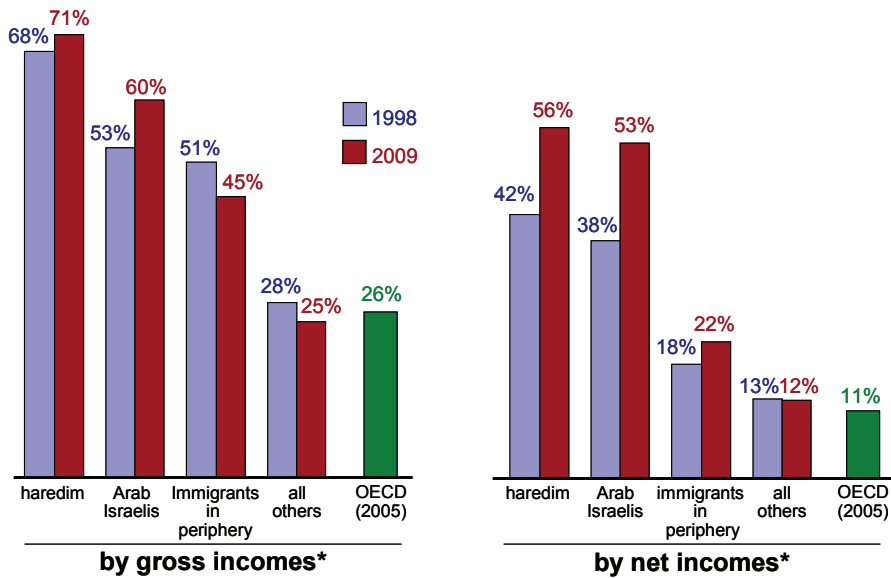
The National Insurance Institute (2010) and the Bank of Israel (2010) both point to high poverty rates among specific population groups, particularly the ultra-Orthodox and Arab Israelis. Changes in poverty rates experienced by these groups during 1998-2009, as well as by new immigrants living in the periphery (yet another population group whose standard of living is relatively low), are presented in Figure 4.

The left-hand section of the graph presents the poverty rates measured in terms of economic income. A comparison of the various population groups indicates that the highest poverty rates of all are among the ultra-Orthodox. Poverty rates among Arab Israelis are slightly lower than those of the ultra-Orthodox, although they are still very high in absolute terms. New immigrants living in the periphery of the country also have high



poverty rates, although these rates are slightly lower than those of Arab Israelis. The rest of Israel's population exhibits poverty rates similar on average to those of the OECD countries.

Figure 4  
Poverty rates by population groups  
1998 and 2009



\* gross incomes are before taxes and welfare payments  
while net incomes take these into account.

**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics.

During the period 1998-2009 there was a steep rise in the Arab Israeli poverty rate. Ultra-Orthodox poverty rates also rose, though to a lesser degree. By contrast, the poverty rates of immigrants in Israel's periphery declined, as did those of the remainder of the population. Interestingly, in

1998 the poverty rate of immigrants in the periphery (51 percent) was similar to that of Arab Israelis (53 percent), while by 2008 the status of the immigrants had improved and that of the Arabs had worsened (a poverty rate of 45 percent for immigrants in the periphery, compared with 60 percent for Arab Israelis). This improvement in status among immigrants in the periphery may be attributed to their continued integration into the labor force, while the worsening of Arab Israeli status may be ascribed to a decline in Arab males' labor force participation – due, apparently, to their relatively low education level and to competition with foreign workers for relevant jobs (Ben-David, 2010b; Yashiv and Kasir, 2010).

The right-hand portion of the graph presents poverty rates measured in terms of disposable income. The rise in the ultra-Orthodox and Arab Israeli poverty rates is significantly higher than the rise in poverty rates by economic income. A rise in poverty rates by disposable income was also found for immigrants in the periphery. For the rest of the population, a slight decline in poverty rates was obtained. The difference between the two parts of the graph calls attention once again to the welfare allowance cuts of the past decade, which led to a relative worsening of the status of Israel's weaker populations.

The explanation commonly given for ultra-Orthodox and Arab Israeli poverty is these sectors' low employment rates. Opinions differ as to whether the unemployment is by choice (among the ultra-Orthodox, for example) or whether it is due to discrimination in the labor market (as in the case of Arab Israelis). Another contention is that both of these population groups choose poverty as a way of life by having large families. In this case one can talk about direct and indirect effects of the fertility rate on the poverty rate – effects that work in the same direction. The direct effect is that as the number of children in the family rises, household income has to be divided up among a greater number of members, leading to a lower per capita income. The indirect effect is that as the number of children in the family rises, the parents have to devote more time to caring for them and to running the household as a whole. As

a result, the parents are less available to work outside the home and total household income declines.

Prior to testing these arguments empirically, one should determine the degree to which poverty correlates to family size and to the number of wage earners in the family.

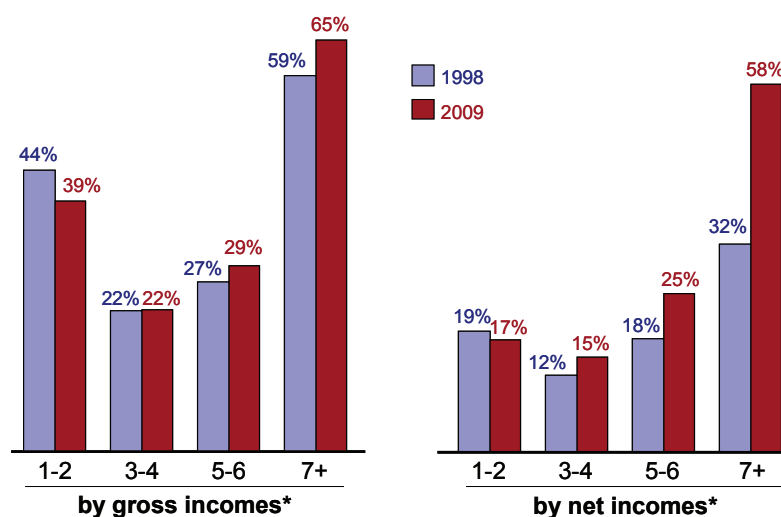
Figure 5 presents poverty rate changes between 1998 and 2009 for different sized families. When poverty rates are calculated in terms of economic income, it is found that 1998's highest poverty rate was for families of seven or more. This finding is not surprising, as large families have a relatively small number of wage earners and a relatively large number of dependents. Families no larger than two also have high poverty rates, for two apparent reasons: firstly, in 38 percent of these families the head of the household is aged 65 or over. Secondly, another prevalent group within this population is that of very young couples, whose labor force participation rates, and salaries, are low. Families with three to four members have particularly low poverty rates, while families with five to six members have slightly higher poverty rates.<sup>2</sup>

It is interesting to note that the mean number of wage earners in families of five to six members was higher than the mean number of wage earners in families with three to four members (1.8 versus 1.6). Thus, if it is assumed that there is no difference in wage-earning potential among these families' workers, the conclusion is that the poverty rate discrepancy between the two groups is due largely to the number of children. The years between 1998 and 2009 saw a decline in the poverty rate of families with two or fewer members; in contrast, the poverty rate of families with five or more members increased, particularly in the case of families with seven members or more. This indicates that changes in the labor and capital markets over the past decade have caused a relative deterioration in the status of larger families.

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<sup>2</sup> In order to control for the elderly/young couple problem, a similar analysis was performed for families with head of household of prime working age (35-54); the findings were not significantly different. Poverty rates were lower for all groups, except for families of seven or more.

Figure 5  
**Poverty rates by family size**  
 1998 and 2009



\* gross incomes are before taxes and welfare payments  
 while net incomes take these into account.

**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics.

When poverty rates are measured in terms of disposable income a slightly different picture emerges, although the overall conclusion remains the same. In 1998 families with seven or more members had the highest of all poverty rates. Poverty rates of families with five to six members and families with no more than two members were almost identical. However, while the poverty rate of families with no more than two members declined slightly between 1998-2009, that of larger families rose, with the rate of increase rising along with the number of family members. Thus, the poverty rate for families with seven or more

members nearly doubled. This leads to the conclusion that allowance cuts worsened the relative situation of larger families over and above the deterioration resulting from changes in the labor and capital markets.<sup>3</sup>

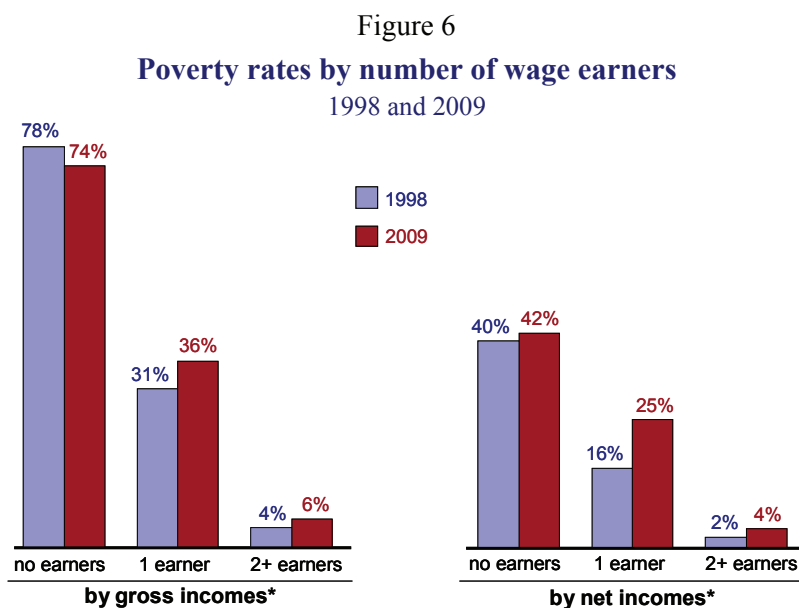
Figure 6 presents poverty rate changes during 1998-2009 among families with different numbers of wage earners. Here one can discern more significant differences than those noted between families of different sizes. When poverty rates by economic income are calculated, they are exceedingly high in 1998, over 70 percent, among families with no wage earners; poverty rates are average for families with one wage earner; and very low for families with two or more wage earners. Between 1998 and 2009, the discrepancy between families with and without wage earners narrowed slightly, indicating that the changes that took place in the labor and capital market during this period affected families with wage earners more negatively than families without wage earners.

The picture does not change qualitatively when the poverty rate is calculated in terms of disposable income, although the differences between family-size categories do, predictably, become smaller. Between 1998 and 2009, the narrowing of poverty rate disparities between families with and without wage earners is more significant when the poverty rates are calculated by disposable income, indicating that the taxation and transfer payment changes affected working families more negatively.<sup>4</sup>

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<sup>3</sup> It should, however, be noted that the number of families with seven or more members is relatively small, meaning that the poverty rate for this group can be measured with only a relatively low degree of accuracy.

<sup>4</sup> When we limit the population to households headed by people of prime working age (see Note 2), the differences between the groups are larger, but the changes over time are smaller.



\* gross incomes are before taxes and welfare payments while net incomes take these into account.

**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics.

Figures 5 and 6 suggest that employment has a greater effect on poverty than does family size. In order to verify this finding, three hypothetical scenarios were simulated and their impact on poverty rates quantitatively analyzed using data for 2008. The three scenarios vary the demographic and income structure of families with more than three children, a group accounting for eight percent of all Israeli families.

In the first scenario, the number of children per family (up to age 18) is reduced so as not to exceed three. At the same time, the child allowance for all children beyond the family's third is deducted from each family's income. In the second scenario, the income of each family

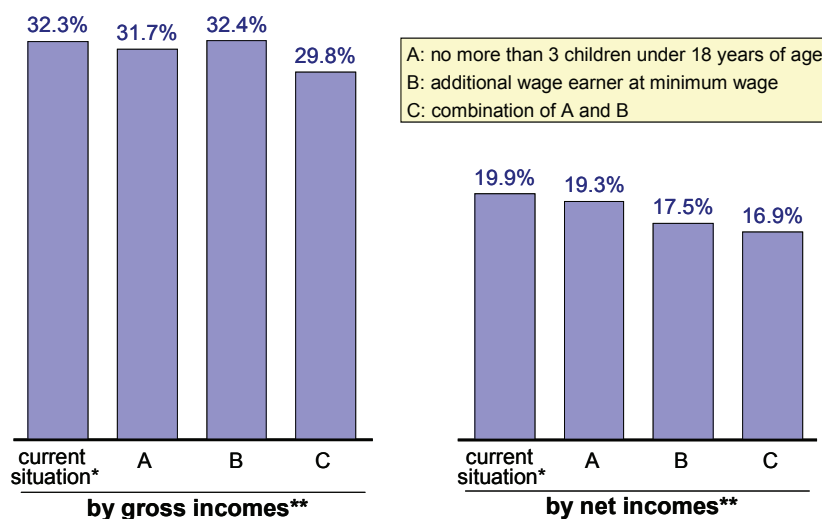
with more than three children, no more than one wage earner, and at least one non-working adult is increased by the amount of a minimum-wage salary. The assumption behind this modification is that one of the non-working adults in the family begins to work and earns a minimum-wage salary. The third scenario combines the two previous ones, that is, the number of children is reduced and a minimum-wage-earning worker is added. The poverty line was re-calculated for each scenario in terms of the simulated income distribution, and poverty rates were arrived at.

The findings are presented in Figure 7. One can see that the poverty rates calculated by economic income undergo virtually no change in the first two scenarios, that is, when the large families “enjoy” a reduction in the number of their children, or when the number of wage earners is greater. Only in the third scenario, when the number of children is reduced and the number of wage earners is simultaneously increased, does the poverty rate decline by 2.5 percentage points. By contrast, when the poverty rates by disposable income are calculated, they decline by 2.4 percentage points in the second scenario as well (that in which the number of wage earners alone is increased). The transition to the third scenario, in which the number of children is reduced while the number of wage earners is increased, leads to an even greater, three percentage point decline, in the poverty rate. The conclusion to be drawn from these simulations is that Israel’s high poverty rates cannot be linked to its high fertility rate. In any event, a decline in the fertility rate would reduce poverty only if it enabled both parents to go to work. The bottom line is that these poverty rate changes are not sufficiently large to explain the poverty rate gap between Israel and the OECD countries.

Figure 7

### Impact of changes in number of children and employment on poverty rates

simulations of poverty rates after changes in number of children and employment



\* current situation=2008.

\*\* gross incomes are before taxes and welfare payments while net income take these into account.

**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics.

Figures 4-6 present three different poverty rate segmentations: by population group, by family size, and by number of wage earners. In essence, there is a relatively strong correlation between the three segmentations, as may be seen in Figure 8, which describes the distribution of family size (on the right-hand side) and of number of wage earners (on the left-hand side) for each population group. The percentage of large families is particularly high among the ultra-Orthodox and Arab Israelis, and especially low among new immigrants in the periphery, most

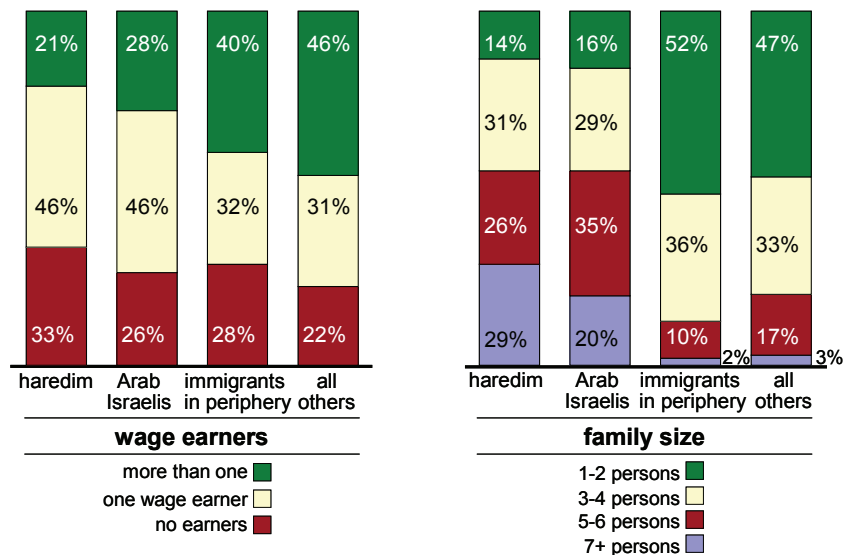


of whom appear to be elderly. The percentage of families with two or more wage earners is particularly low among the ultra-Orthodox and Arab Israelis, and relatively low among new immigrants in the periphery as well. Half of all ultra-Orthodox and Arab Israeli families have just one wage earner, though one should not conclude that the two sectors have similar employment patterns based on this. The single wage earner in the Arab Israeli family is, 87 percent of the time, the husband, while the single wage earner in the ultra-Orthodox family is, in 76 percent of the cases, the wife. To compare: among non-ultra-Orthodox Jews the man is the single wage earner 55 percent of the time. This percentage is higher in the periphery (59 percent) but lower for new immigrants (44 percent).

Figure 8

**Poverty rates by number of wage earners**

2009



**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics.

### *3. Causes of Poverty: Employment, Extent of Work, and Wage Disparities*

Based on a comparison of poverty data by economic income and disposable income, the conclusion is that one factor behind the rise in Israeli poverty rates is the cutbacks in transfer payments. However, poverty rates as measured by economic income are relatively high compared to other developed countries. The poverty rate is derived from income distribution, and where poverty by economic income is concerned, the roots of poverty should be investigated among income from work and income from capital.

The following analysis focuses on income from work, as it is nearly 4.5 times greater than capital-based income per average household. Income from work, at the individual level, presupposes, first and foremost, that the individual works. When the individual is employed, it also depends on the number of hours worked and on the wage earned.

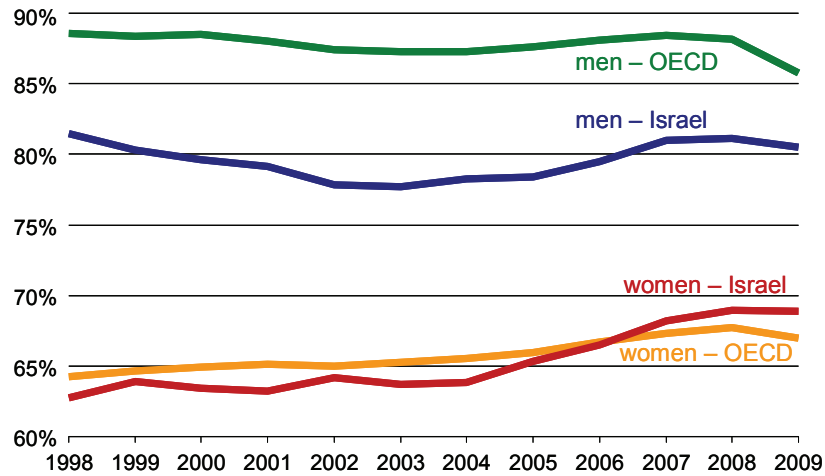
#### *3.A. Employment*

The strong link between poverty rates and employment is shown in Figure 6, and leads to the conclusion that employment promoting policies can reduce the incidence of poverty. Figure 9 shows that the employment rate for Israeli males is significantly lower than the OECD mean. The rate for Israeli women is similar to the OECD rate – even exceeding it in recent years – despite the fact that in certain population groups (like the Arab Israelis), women, and particularly those with low educational levels (Ben-David, 2010b), tend not to work outside of the home for traditional reasons.

The employment rate for Israeli men declined from 82 percent in 1998 to 78 percent in 2003; however, after Israel emerged from its recession the rate gradually returned to its original level by 2007. By comparison, the employment rate for men in OECD countries ranged from 86 percent to 89 percent during the period 1998 to 2009. In 2009 there was a 2.3

percent decline in the OECD's male employment rate, due to the economic recession, while Israel suffered only a minor decline of a half of a percentage point.

Figure 9  
**Employment rates by gender, 1998-2009**  
 ages 35-54



**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics and OECD.

The employment rate for Israeli women rose significantly over the last decade: from 63 percent in 1998 to 69 percent in 2009, the major portion of the increase taking place during the second half of the decade. Although Israeli women's employment rates are still much lower than those of men, Israel's gender gap in the employment sphere is narrowing. In an international comparison, the employment rate for Israeli women

increased at a faster rate than in the OECD countries and over the last few years, as noted earlier, it has exceeded the OECD rate.

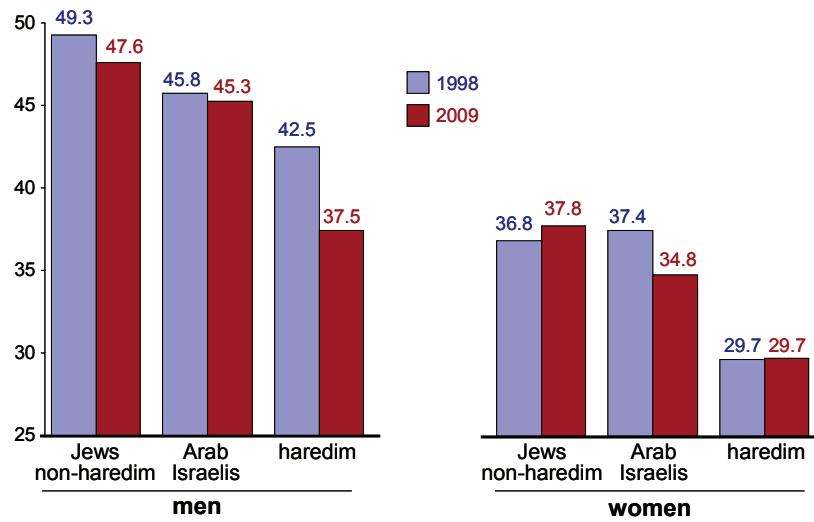
In total, between 2003 and 2009, once the recession of the earlier part of the decade had ended, the employment rate for Israeli men increased by 2.8 percentage points while the rate for women rose by 5.2 percentage points. During the same period, the poverty rate of Israeli households by economic income declined by 0.74 percent. These changes indicate that higher employment rates may contribute to lower poverty rates.

### *3.B. Extent of Work*

The extent of work may be measured in terms of the number of hours worked by a salaried worker per week. Figure 10 shows that the mean number of hours worked per week by ultra-Orthodox workers is significantly lower than that of the other population groups. In 2009, for example, ultra-Orthodox men of prime working age worked, on average, 37.5 hours per week, while non-ultra-Orthodox Jewish men worked an average of 47.6 hours per week – 27 percent more. Additionally, while the number of weekly work hours of non-ultra-Orthodox Jewish men declined by fewer than two hours (3.5 percent) during the period 1998-2009, the number of weekly work hours of ultra-Orthodox men declined by five, nearly 12 percent, on average. Ultra-Orthodox women also work less, about thirty hours per week versus 37 hours per week for non-ultra-Orthodox Jewish women (20 percent less). There was no change in the mean number of hours worked by ultra-Orthodox women during the period 1998-2009, while non-ultra-Orthodox Jewish women increased their number of weekly work hours by one, on average. Moreover, Arab men showed virtually no change in the number of hours they worked per week during the period 1998-2009, while the number of hours worked per week by Arab women declined, on average, by three hours (seven percent). It may be that the increase in Arab women's employment rates is reflected in a rising percentage of women employed in part-time jobs, leading to a decline in the average number of hours worked per week for

this population. This explanation does not apply with regard to the decline in number of weekly work hours recorded for ultra-Orthodox men, as their employment rates did not change significantly during this period.

Figure 10  
Weekly work hours, 1998 and 2009  
ages 35-54



**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics.

As the gap between the mean number of weekly work hours for ultra-Orthodox and for non-ultra-Orthodox Jewish men widened from 1998 to 2009 – with no significant change in these groups' employment rates – one may conclude that one possible cause of the widening gap in poverty rates between the various population groups during the period in question, as shown in Figure 4, is the decline in ultra-Orthodox men's mean number of weekly work hours.

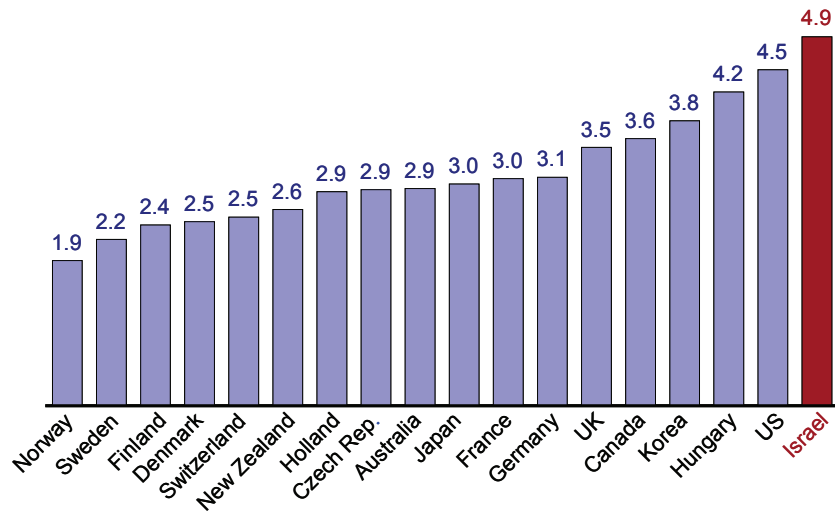
### *3.C. Wage Disparities*

In order to avoid the issue of part-time workers generally earning less (per hour) than full-time workers, the focus will be on salaried full-time workers (working at least 35 hours per week). There are many ways of measuring wage gaps. A 90-10 ratio was chosen: the ratio between the wage earned by a worker in the 90<sup>th</sup> wage percentile (the worker earning more than 90 percent of all workers) and that of a worker in the 10<sup>th</sup> percentile (one earning more than 10 percent of all workers). The advantage of this 90-10 ratio measure is that it is not affected by the highest and lowest wage earners, who might influence the findings in a manner disproportionate to their presence in the population.

Israel's 90-10 gross wage ratio for 1998 was 4.9 percent. What this means is that the wage earned by a worker in the 90<sup>th</sup> percentile was nearly five times higher than that earned by a worker in the 10<sup>th</sup> percentile. This ratio was the highest of all OECD countries in that year (Figure 11) and more than double the ratio for the Scandinavian countries which are characterized by a high degree of equality in this area.

Figure 11

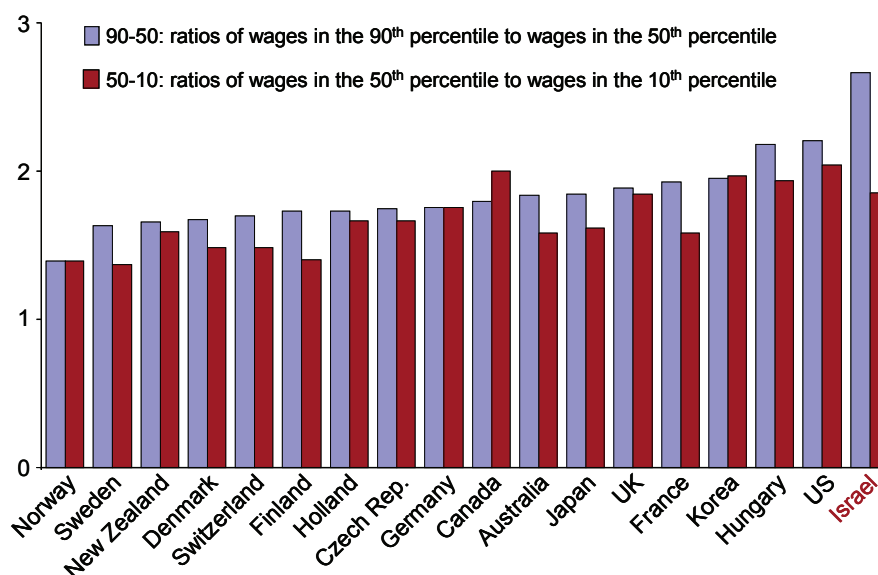
**90-10 wage differentials in Israel and the OECD**  
 ratios of wages in the 90<sup>th</sup> percentile to wages in the 10<sup>th</sup> percentile  
 for full-time salaried employees, 1998



**Source:** Taub Center for Social Policy Studies in Israel.  
**Data:** Central Bureau of Statistics and OECD.

Israel's wage distribution pattern differs from that of the OECD countries not only in its high degree of variance. When wage gaps are examined separately in the upper portion of the overall distribution (a 90-50 ratio) and in the lower portion (a 50-10 ratio), nearly all countries showed larger gaps in the upper portion for 1998 (Figure 12). Israel stood out in particular indicating that the country's ranking at the top of the wage gap list was due primarily to large discrepancies among those earning relatively high wages. However, even the wage gaps within the lower portion of Israel's wage distribution scale were relatively high. Only four other OECD countries (the US, Canada, Korea, and Hungary) had larger wage gaps.

Figure 12  
**Wage differentials in Israel and the OECD**  
 90-50 and 50-10 wage ratios, full-time salaried employees, 1998



**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics and OECD.

During the period 1998-2009, wage gaps in Israel, as reflected in the 90-10 ratio, fluctuated considerably (Figure 13). Up to 2000, the gaps widened only to narrow dramatically during the recession years of 2001-2003. This may indicate that, in the short term, the recession primarily affected high-wage earners. However, this cannot be concluded with certainty, as the low-wage earners may have lost their jobs or been forced to reduce their number of work hours during the recession, leading to smaller gaps among workers who managed to stay in full-time positions. After 2003 the wage gaps remained more or less stable. By contrast, in



the US – which is ranked second to Israel in terms of wage disparities – the gaps continued to widen steadily over the years, although they have never reached Israeli levels.

Figure 13



**Source:** Taub Center for Social Policy Studies in Israel.  
**Data:** Central Bureau of Statistics and OECD.

#### *4. Factors Behind Israeli Wage Disparities*

In Israel there are those who feel that raising the minimum wage is an effective means of resolving the wage gap problem.<sup>5</sup> Indeed, as demonstrated by OECD economists (2010), Israeli's minimum wage is one of the highest in the Western world (relative to the mean wage). However, the same source notes that Israel suffers from a high degree of a lack of enforcement of its labor laws, including the minimum wage law. Various Israeli sources (the State Comptroller, 2008; the Bank of Israel, 2009) point out that in recent years over a tenth of full-time salaried workers have been earning less than the minimum wage. As the minimum wage, though relatively high, is not enforced effectively, one may conclude that raising it is not a worthwhile means of battling wage disparities in Israel – at least not until the minimum wage law comes to be enforced at reasonable levels.

Simulations have indicated that if all full-time salaried workers earning less than the minimum wage were given the minimum wage, with no change in their number of work hours, the 90-10 ratio for 2009 would drop from 5.2 to 4.6. This ratio would place Israel below countries like Korea and the US on the wage-disparity scale. However, as there is a lack of data regarding minimum-wage violations in other countries, it is difficult to base an international comparison on such simulations. From this it may be concluded that, although enforcement of the minimum wage law may help narrow wage gaps in Israel, even full enforcement would not remove Israel from the list of countries suffering from relatively high wage disparities.

The primary causes of wage disparity should be sought in features of the labor market. If existing jobs are divided schematically into two types – those requiring a high level of skill and those not requiring a high level of skill – it is found, not surprisingly, that highly skilled workers earn more than those who are not highly skilled. A large wage gap provides

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<sup>5</sup> See Ynet article from 2.1.2011: <http://www.ynet.co.il/articles/0,7340,L-4007427,00.html>.

sufficient incentive for workers (at least for younger workers joining the labor force) to acquire skills through education. When the number of highly skilled workers becomes relatively large, wage disparities may be expected to narrow, unless there has been a simultaneous rise in demand for such workers on the part of employers. Thus, in order to analyze wage disparity variations over time the breakdown of change over time in existing jobs and change in worker attributes must be analyzed.

#### *4.A. Worker Attributes*

The focus will be on three main attributes: education, work experience, and gender. The first two reflect work skills that have been acquired, whether through formal study or on-the-job training. Gender is not an indicator of work skills, but the wage gaps that exist between men and women are well-known (this phenomenon has many causes that will not be addressed in this chapter).

Figure 14 presents wage gaps by gender, level of work experience and education, as well as the changes in these gaps over the last few years. In 1998, men earned 43 percent more than women, on average; by 2009, the gap had narrowed to 34 percent. This leads one to conclude that wage gaps between men and women were not a factor in the overall rise in wage gaps between 1998 and 2009.



**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics.

Wage gaps between more experienced and less experienced workers were not a central factor behind the overall widening of wage gaps. One can see that while a worker with more than ten years of experience earned, on average, 45 percent more than a worker with up to ten years' experience in 1998, this gap narrowed to 39 percent in 2005, then rose gradually to 53 percent in 2009. These fluctuations in wage gaps by level of work experience make it impossible to link work experience directly to the general rise in wage disparity.<sup>6</sup>

<sup>6</sup> When the worker population was broken down into a larger number of experience-level groups (up to 10 years, 10-20 years, 20-30 years, and over 30 years' experience), wage disparities between all worker groups with over 10 years' experience were negligible.

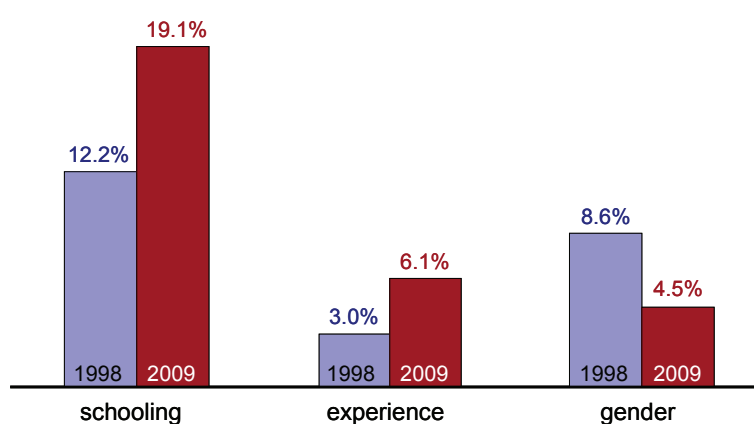
By contrast, the picture with respect to education is entirely different. Firstly, wage gaps between better-educated and less-well-educated workers are much larger: in 1998 a worker with over 12 years of schooling earned 66 percent more than a worker with up to 12 years of schooling, on average. Secondly, the education gap has in fact widened steadily over the years (despite fluctuations, the overall trend has been upward), reaching 80 percent in 2009. From this arises the conclusion that the main attribute correlated with the high level of wage disparity and with the overall widening of wage gaps in Israel is worker educational background. As education is, perhaps, the most important element contributing to worker skill levels, this comes as no surprise.

Education may be the most important component of worker skill, but one should not regard worker skill levels as measurable solely in terms of education. Educational level is measured in terms of number of years of schooling; however, the skills acquired through the education system, even among those with an equal number of years of schooling, vary considerably. This has to do with the diversity of disciplines studied, a lack of uniformity in instructional quality, differences in natural talent, and in skills acquired at home.

It should be noted that additional wage comparisons were conducted using different breakdowns by number of years of schooling and by academic degree. The findings did not differ significantly; in several instances they were even more unequivocal. For example, the wage gap between workers with academic degrees and workers without academic degrees grew from 65 percent in 1998 to 88 percent in 2009. However, it is not surprising to discover that significant wage disparities exist even among those with identical levels of education. Moreover, even when the effects of gender, work experience and educational level on wage gaps are controlled for, the wage for workers in the 90<sup>th</sup> percentile is over three and a half times higher than that of workers in the 10<sup>th</sup> percentile. That is, gender, work experience and education, as measured in this study, account for only a third of wage disparities. In any case, Figure 15 shows that the share of wage variance accounted for by number of years of

schooling increased by over 50 percent between 1998 and 2009, while the share accounted for by gender declined by over 50 percent. In each of these years, the share of wage variance accounted for by education was greater than the total share of gender and work experience combined. This finding reinforces the conclusion that education gaps are the primary cause of wage disparities in Israel.

Figure 15  
**Primary factors causing wage gaps**  
by degree of impact, 1998 and 2009



**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics.

Wage changes as a function of worker's skills and attributes are determined, amongst other things, by changes in the distribution of those skills and attributes in the working population. One example of such variation is women's increased willingness to work outside the home due to changes in family behavioral patterns. Another example is that young workers entering the labor market are highly educated while older, retiring workers generally have lower levels of formal education. These

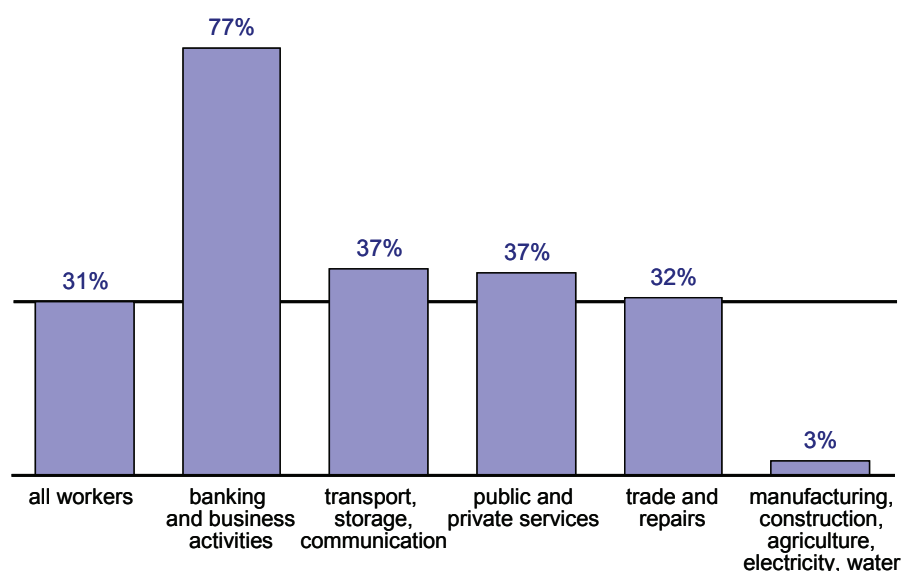
variations should not be separated from the economic incentives that drive them: the rise in women's wages and the greater flexibility in work conditions are among the main factors that led to women's increased willingness to join the labor force; while the greater compensation offered to the highly educated is one of the reasons why young people decide to earn degrees prior to entering the labor market. Changes in economic incentives are also driven by the demand for workers: when demand rose for women in the labor market, women's salaries increased, and when demand rose for highly educated workers, compensation for the highly educated rose accordingly. This leads to the question of what drives changes in the demand for workers.

#### *4.B. Job Composition*

One way of studying changes in the demand for workers is to look at variations in the distribution of quantity of work within the economy by sector and by occupation. Quantity of work can be measured in terms of the overall number of work hours (the number of workers multiplied by the mean number of work hours per worker). In Figure 16 one sees that the distribution of overall number of work hours across the various economic sectors changed significantly between 1998 and 2009. The largest increase in number of work hours was found in the banking and business services sectors, while manufacturing sectors showed only a minimal rise. These changes can be represented as an increase in the share of the economy's white collar sectors, at the expense of its blue collar sectors. From this an improvement in women's relative status within the labor market may be inferred, since men's physical advantage, which might perhaps be important in the blue collar sectors, has little significance in the white collar world. When the sector breakdown by gender is examined it was found that in the banking and business services sectors the percentage of employees who were women had reached 47 percent by 2009, while in the manufacturing sectors the percentage of women came to just 24 percent. One may also conclude that there has

been a rise in demand for educated workers, as jobs in the white collar sectors are relatively education-intensive compared with those in the blue collar sector. An examination of the sector distribution by educational level shows that the percentage of banking and financial service sector employees with academic degrees reached 72 percent in 2009, a much higher percentage than in the manufacturing sectors, where only 45 percent of workers had academic backgrounds. As the mean wage per full-time worker in the banking and financial service sectors is three times higher than in the manufacturing sectors, women and the highly educated have clearly improved their relative standing in terms of income as well.

Figure 16  
**The increase in the number of annual work hours**  
by economic branch, 1998-2009



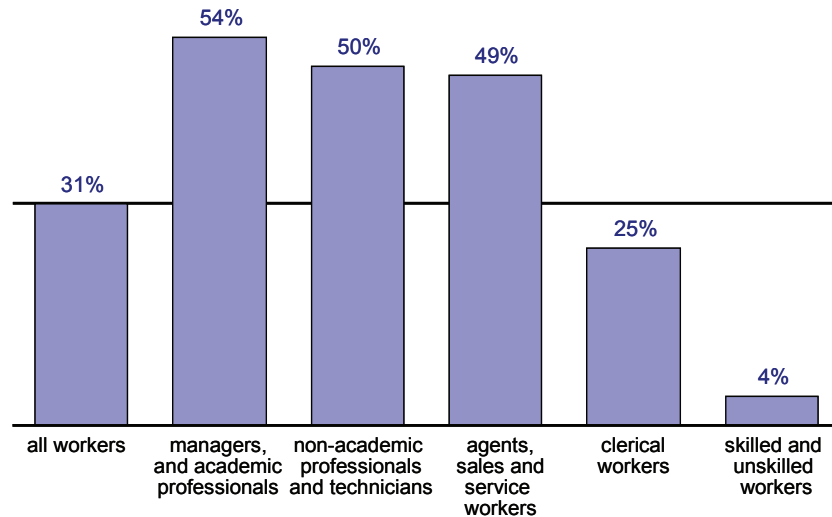
**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics.



Similar conclusions may be drawn when changes in work hour distribution by occupation are analyzed. Figure 17 shows that, between 1998 and 2009, the number of work hours (total annual number of hours) of managers and academic professionals, associate professionals and technicians increased greatly, as did that of agents, salespeople and service workers, while the number of work hours of skilled and unskilled workers grew to a limited degree, much less than the overall mean. In this case as well, the changes may be interpreted as a rise in the labor market share of white collar jobs versus blue collar jobs.

Figure 17  
**The increase in the number of annual work hours**  
 by occupation, 1998-2009



**Source:** Taub Center for Social Policy Studies in Israel.  
**Data:** Central Bureau of Statistics.

The distribution of occupations by gender shows that in 2009 women accounted for 58 percent of those in occupations whose number of work hours had increased, while the percentage of women among skilled and unskilled workers was just 21 percent. Similarly, the percentage of managers and academic professionals was 90 percent, but only 26 percent among skilled and unskilled workers. It is hardly surprising that the mean wage of full-time managers and academic professionals was over twice the mean wage of skilled and unskilled workers. Here, as well, it appears that women and the highly-educated have successfully climbed the wage ladder, due to relative changes in the number of work hours of the various occupations.

The previous analyses point to a positive correlation between changes in number of work hours for different kinds of workers and variations in the mean wage earned by these workers during the period 1998-2009. That is, there was a greater increase in the number of work hours for those who enjoyed higher wage increases. This indicates that the labor supply reacted to relative wage changes. However, it also indicates that labor supply adjustments have not completely neutralized a rise in demand for workers equipped with modern skills. This rise in demand stems from the growing importance of high-tech in general, and of information technology in particular, within the Israeli economy.

Theoretically, a rise in demand for a specific type of worker leads, in the immediate term, to an increase in the wage earned by this kind of worker relative to other workers. However, if as a result of this the labor supply of this specific type of worker rises to the same degree, then wage disparities may be expected to return to their previous levels. Since Israeli wage disparities are continuing to widen (except for the gap between men and women), one may conclude that changes in the demand for workers in Israel have been too large and too rapid for the labor supply to fully adjust.

As an example, a re-examination of the important, perhaps the primary, component of the worker skill set – educational level – is in order. Not only does education enable workers to be admitted to sectors

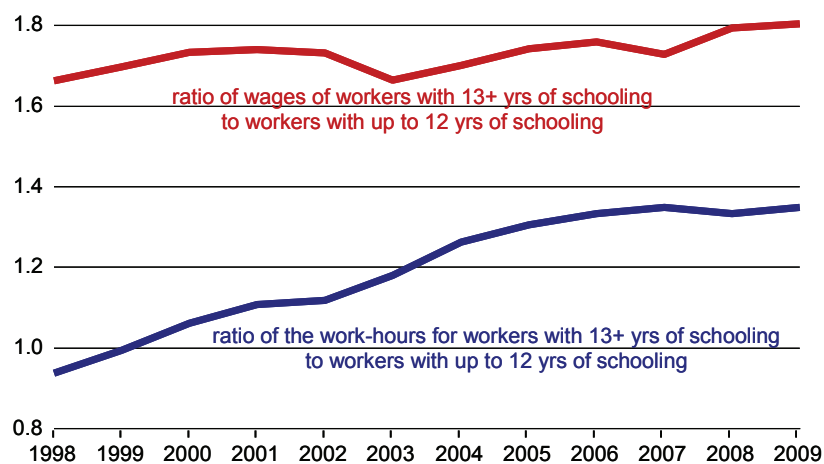
where demand is higher in relative terms, it also facilitates their mobility and their adaptability to changes that arise.

During the period 1998 to 2009 the real wage of workers with over 12 years of schooling increased by slightly more than one percent, while the real wage of workers with up to 12 years of schooling declined by nearly seven percent. The widening wage gap between those with higher and lower levels of education can be halted, or at least slowed, by furthering education. The strong link between education and employment is well-known: raising educational levels can increase employment rates and narrow wage disparities and thereby decrease income inequality and poverty. Indeed, during the period in question, there was an impressive rise in the Israeli labor force's overall educational level. Figure 18 (the lower curve) shows that in 1998 workers with over 12 years of schooling accounted for six percent fewer work hours than did workers with up to 12 years of schooling. By 2009 the situation had changed dramatically: the more highly-educated group accounted for 35 percent more work hours than did the less-educated group. However, the fact that the wage gap between the more and the less educated continued to widen (the upper curve), at least during the second half of the decade, indicates that the overall rise in educational level had not overcome the effect of increased demand for educated workers.<sup>7</sup>

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<sup>7</sup> When highly-educated workers were divided into two groups, those with 13-15 years of schooling and those with over 15 years of schooling, it was found that the more highly educated group grew at a much higher rate in terms of number of annual work hours between 1998 and 2009. However, the two groups' wages increased at similar rates over the course of the decade. What this means is that the increased supply of highly-educated workers supplied precisely the rise in demand for this kind of worker, compared to workers with 13-15 years of schooling.

Figure 18  
**Wages and work hours\* of educated workers versus others**  
 1998-2009



\* work hours are the total number of annual hours worked for all workers.

**Source:** Taub Center for Social Policy Studies in Israel.

**Data:** Central Bureau of Statistics.

## 5. Conclusion

Israeli income inequality and poverty levels are among the highest in the Western world. Cutbacks in National Insurance Institute allowances contributed to a rise in poverty rates by disposable income over the past decade, although poverty rates by economic income remained high relative to the OECD countries. This means that the high poverty rates cannot be attributed to allowance cuts alone.

Poverty rates are particularly high among the ultra-Orthodox, Arab Israelis and new immigrants living in the country's periphery. These three

groups account for the entire rise in the poverty rate by disposable income for the period 1998-2009. For the remainder of the population poverty rates have barely changed – in fact, there has been a slight decline from 13 percent to 12 percent (Figure 4). The ultra-Orthodox and Arab Israelis, Israel's two poorest population groups, are characterized by especially large families and by a particularly small percentage of families with more than one wage earner. Family size has a limited effect on poverty levels, but the number of wage earners is a more important factor. Hence, a rise in the employment rate is likely to lower poverty rates generally, and among the ultra-Orthodox and Arab Israeli sector particularly.

Compared with the OECD countries, Israel has an employment problem specifically with regard to men; Israeli women's employment rates are actually slightly higher than the OECD average. Nevertheless, the number of hours worked by employed women is relatively low compared with the number of hours worked by employed men. This has an impact mainly on ultra-Orthodox families, in which the clear majority of wage earners are women.<sup>8</sup>

Even when employment rates and number of work hours are taken into account, Israel's labor market is still characterized by relatively large disparities. Wage gaps among full-time salaried workers are larger than those in all of the OECD countries, although a major portion of this gap is that between high-wage earners and median-wage earners. However, even within the group of those earning relatively low wages, Israel has some of the largest disparities in the Western world. The disparities cannot be blamed on the minimum wage, as Israel's minimum wage relative to its mean wage is among the world's highest. Although better

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<sup>8</sup> Both ultra-Orthodox men and ultra-Orthodox women work fewer hours per week on average than the non-ultra-Orthodox; however, as ultra-Orthodox women work fewer hours per week than ultra-Orthodox men in any case, and as ultra-Orthodox women's employment rates are higher than those of ultra-Orthodox men (Ben-David, 2010b), the tendency of women to work part-time has a greater impact on the ultra-Orthodox family.

enforcement of the minimum wage law and other labor laws might help to narrow the disparities, it appears that they would still be relatively large compared with those of the OECD countries.

While wage disparities between men and women narrowed over the last decade, those between highly educated and less-well-educated workers started out high and continued to grow. As the relative increase in educated workers' wages was accompanied by a significant increase in the number of such workers between 1998 and 2009, one may conclude that the demand for educated workers grew faster than the supply. This conclusion is reinforced when the changes that have occurred in labor force distribution by sector and by occupation are examined. During the period in question there was a significant rise in the number of work hours in those sectors that chiefly employ better-educated workers, while the number of work hours in sectors employing less-educated workers experienced virtually no increase. Moreover, there was a major rise in the number of work hours for managers, professionals, agents, salespeople, and service workers – occupations that employ relatively highly educated workers – while the number of hours worked by skilled and unskilled workers grew only minimally. These two observations point to a rise in the importance of “white collar” jobs for which education tends to be essential, and a concomitant increase in returns to education within the labor market, despite the fact that the percentage of educated workers has risen significantly as well.

A “war-on-poverty” policy (which should be regarded as no less important than wars of other kinds) must address causes and not just symptoms. A major portion of the poverty problem is rooted in labor market disparities. Raising employment rates should be an important component of any war-on-poverty policy, since many of the current disparities are between families with different numbers of wage earners. Another important issue to be addressed is that of wage disparities. Here there is a need for immediate solutions such as better enforcement of the minimum wage law or enacting a more generous negative income tax system, as well as for a more comprehensive effort aimed at raising the

skill level of workers in low-wage jobs. It should be kept in mind, though, that increasing the percentage of those with at least 12 years of schooling, of those eligible for matriculation certificates, and of those enrolled in the higher education system is insufficient to narrow wage disparities. School curricula need to be redesigned and instructional methods reassessed in order to ensure that the next generation has high-level work skills suited to the labor market of a modern economy competing in the global market.

To conclude, it should be noted that the aforementioned features of a war-on-poverty policy should be implemented as part of a comprehensive strategy, not as point-specific solutions. Should they be introduced in the wrong proportions, the various policy features could lead to conflicting outcomes. For example, measures that successfully encourage employment could also bring larger numbers of low-earning workers into the labor force and thereby widen wage disparities. Therefore, a multifaceted strategy that works simultaneously to promote employment and to narrow wage gaps is needed.

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