

The Herbert M. Singer
Annual Report Series

STATE OF THE NATION REPORT

**Society, Economy and Policy
in Israel**

2014

Dan Ben-David, Editor



TAUB CENTER
for Social Policy Studies in Israel

STATE OF THE
NATION REPORT

*Society, Economy and Policy
in Israel*

2014

*This publication is dedicated,
in loving memory, to*

Ralph I. Goldman z"l

*a Taub Center founder,
Board Member, dear friend, trusted
advisor and guiding light.*

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Taub Center for Social Policy Studies in Israel

Jerusalem, December 2014

Taub Center for Social Policy Studies in Israel

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Foreword

This was a year of challenging national security issues, and Israeli society was once again forced to deal with crisis situations and heavy losses. Nevertheless, key socioeconomic issues still managed to rise above the winds of war. From protests on high dairy prices to the controversial proposal to eliminate value added taxes on apartments for young people and through the storm surrounding approval of the country's budget, the issue of the cost of living – its determinants and impact – continues to remain among the primary issues at the top of the country's agenda.

The chapters of this *State of the Nation Report 2014* offer an in-depth, professional and accessible presentation of some of the socioeconomic issues that appear regularly in the news: the latest trends in the housing market (Gruber); food insecurity in Israel (Chernichovsky and Regev); labor income inequality (Kimhi and Shraberman); and the magnitude and impact of the shadow economy (Gruber). Special attention is given in this year's *Report* to the elderly population in Israel, which is examined from two perspectives: the extent of poverty in this population group (Stier and Bleikh) and the welfare benefits this group receives (Azary-Viesel and Stier). In addition, the *Report* looks at trends in the education system (Blass), and particularly at the integration of Jews and Arab Israelis in the school system (Shwed et al.). The *Report* also focuses on developments in the Israeli health care system (Chernichovsky and Regev). The relationship (or lack thereof) between expenditure and income amongst Israeli households is examined in a chapter by Regev, with an emphasis on the Haredi population.

In addition to these issues, Center researchers also provide a comprehensive look at policy measures from around the world and offer policy insights on some of Israel's primary socioeconomic challenges. One chapter, written by Bowers and myself, examines the Flexicurity labor market model adopted by Nordic countries. It suggests elements that may be relevant for implementation in Israel to strengthen employer flexibility in hiring and firing while also improving workers' skills and strengthening the social safety net that assists the unemployed. The chapter by Chernichovsky and Bowers focuses on the issue of budgeting for healthcare on the basis of health status. It compares between an approach called Disability-Adjusted Life Years (DALYs) that takes into consideration quality of life and disability measures for funding and the current life-expectancy based system of budgeting.

This has been another year in which the Center has continued to expand and grow with the addition of researchers Shavit Madhala and Gilad Brand and Strategic Partnerships Officer Maya Dolgin. The Center is also benefitting from a new team of dedicated interns, Nofar Gueta and Tzlil Renassia from the Rothschild Ambassadors program, as well as Tova Cohen from the Israel Institute in cooperation with the Steinhardt Foundation. This year, Dr. Moshe Hazan joined the Taub Center as the Chair of the Economics Policy Program and Michael Saxon joined the Center's Board of Directors. The addition of new researchers and staff enable the Center to widen and deepen its research activities as well as its dissemination of findings. They augment one of the most dedicated, motivated and gifted group of individuals that I have ever had the pleasure to work with and allows us to deepen and strengthen our research and the production and dissemination of our findings. A special thanks goes to Liora Bowers, Hadas Fuchs, Suzanne Patt Benvenisti, and Eitan Regev, whose invaluable comments and corrections contributed greatly to the editing of this book.

The studies included in this *Report*, as well as in the other Taub Center publications and events, reflect our continuing efforts at creating broad evidence-based foundations providing objective and accessible examinations of Israel's key socioeconomic issues. We disseminate these research findings as widely as possible in an attempt to give the Israeli public – and its policy makers – a better understanding of the nature and implications of the country's long-run socioeconomic trajectories.

Prof. Dan Ben-David
Taub Center Executive Director

I. THE COST OF LIVING

Making Ends Meet – Household Income, Expenditures and Savings in Israel

Eitan Regev*

Abstract

This chapter surveys the balance of household income, expenditures and savings in various population groups and at various income levels, with special attention to the patterns of consumption and savings in the Haredi (ultra-Orthodox Jewish) sector and its activity in real estate. A large part of this chapter is devoted to the way the purchase of apartments is financed among the Haredi population in the face of its limited resources. The data indicate that the average Haredi household has a structural deficit of over NIS 3,000 a month between its income and expenditures (about a quarter of its expenditures), which is partially financed via extensive loans – thus generating a constant increase in Haredi households' indebtedness to banks and other lenders (such as benefit society funds). Haredi households' monthly mortgage payments rose by 72 percent in real terms over the last decade, and the share of Haredim with mortgages and the extent of their investment in real estate rose substantially, as well. It appears that a large part of the financing for these investments has its origin in "black" capital from foreign sources, and the proliferation of such investments might have a non-negligible effect on the demand for apartments (and apartments for investment, in particular) and their prices. An examination of the balance of income and expenditures in all sectors reveals a disturbing picture: the average household is unable to buy an apartment without assistance, usually from their parents' savings which are constantly dwindling.

* Eitan Regev, researcher, Taub Center; doctoral candidate, Department of Economics, The Hebrew University. I wish to thank Dan Ben-David and

Introduction

This chapter presents, in great detail, the components of income, expenditures and savings of households in Israel, divided according to population groups and income levels. The data presented are based on the Central Bureau of Statistics' Household Expenditure Survey for the years 2003-2012, although most of the figures refer to the year 2011.

The chapter consists of four main sections. The first and second sections examine monthly household income and expenditures in Israel, respectively. The third section surveys household savings and also focuses on investments in housing. A large part of this section is devoted to the Haredi (ultra-Orthodox) sector's activity in the field of real estate, and to the question regarding how Haredi households are able to buy apartments in view of their limited resources. The fourth section investigates the causes for the large gap between the reported income and expenditures in Haredi households, with reference to the sources of black capital income.

The overview provided in sections 1-3 proceeds top-down, that is, at the start of each section, the major components of the total income, expenditures or savings are presented, after which the secondary components of each of the major components are detailed. At the end of the third section, the detailed balances of household cash income and expenditures (and the gaps between them) are presented according to various population groups and income levels (see Figures 26A and 26B). These balances show which population groups in Israel find it harder than others "to make ends meet."

Ayal Kimhi for their guidance and assistance in formalizing the research framework; Noam Gruber for his good advice and for providing essential data; and Ben Richardson for his important insights, which contributed to an understanding of the bigger picture underlying the research.

1. Household Income

Household income derives from five primary sources: work, capital (including in-kind income¹ from ownership of a residential apartment), benefits and support, pensions and provident funds, and the redemption of tax-free savings funds (*kranot hishtalmut* in Hebrew). While the first four sources reflect a monthly flow of income, the redemption of tax-free savings funds occurs once every number of years and does not appear in the Central Bureau of Statistics' *Household Expenditure Survey*; it was therefore necessary to estimate it indirectly on the basis of households' monthly deposits in tax-free savings funds (which do appear in the survey).²

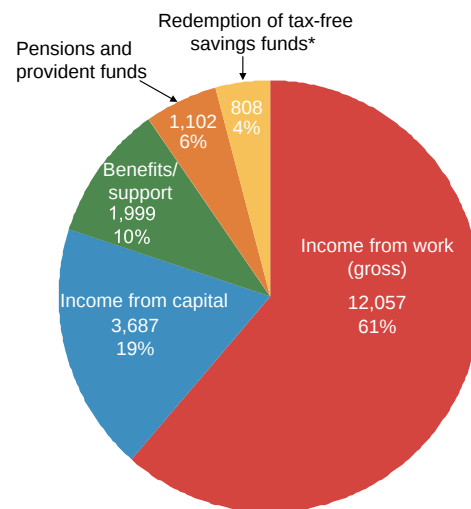
The average gross income from work per household in 2011 was NIS 12,057. The income from capital, most of it stemming from in-kind income due to owner-occupancy of an apartment, was NIS 3,687 on average. The income from benefits and support was NIS 1,999, and the income from pensions and provident funds was NIS 1,102. The (one-

¹ In-kind income from ownership of an apartment is not actual income, but the virtual crediting of income based on the (hypothetical) amount of rent the household would have had to pay if it did not own the apartment. In other words, the in-kind income from ownership of an apartment is actually the monthly expenditure that the household saves by virtue of ownership; or alternatively, the amount the household would receive if the apartment were rented out to another family.

² The estimate of the amount received (on a monthly basis) from the redemption of tax-free savings funds is calculated by multiplying the sum of monthly deposits by the worker in these funds by five, in order to also take into account the employer's contributions to the fund and the yield on capital until the time of redemption. (The employer's contributions are three times greater than those of the worker, and therefore the employer and worker contributions combined are four times greater than the contributions of the worker. Added to that is the fund's yield until the time of redemption, which usually occurs after six years. This yield is estimated at about 25 percent, and therefore the sum of the worker and the employer contributions has to be multiplied by 1.25 ($1.25 \times [1+3]=5$).)

time) income from redemption of advanced study funds translates into an average monthly income of NIS 808 (Figure 1).

Figure 1
Composition of household income
 average of all households, in shekels, 2011



* Tax-free savings funds are *kranot hishtalmut* in Hebrew

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Income by Quintiles

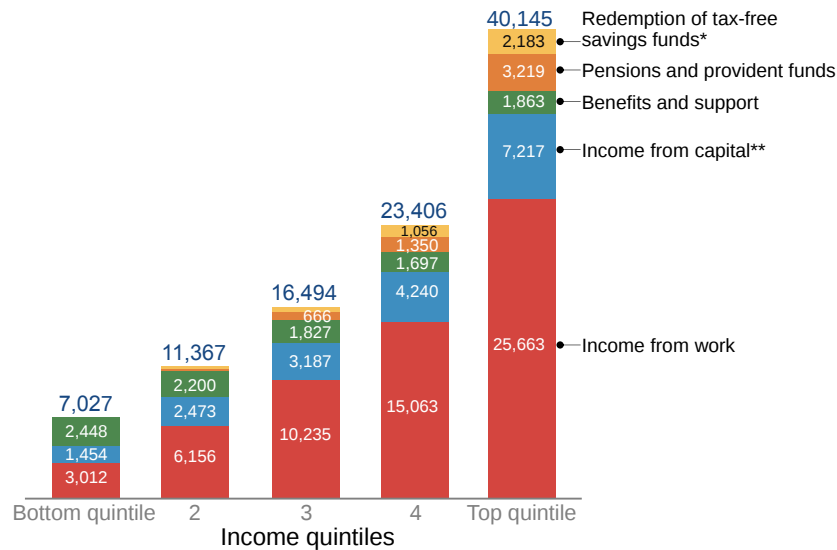
Upon examination of the gaps in gross income between the different income quintiles, it is seen that the average household income in the top quintile is almost double the average income in the fourth quintile, and

six times greater than the average in the bottom quintile (Figure 2).³ Most of the gap stems from significant gaps in gross pay, which narrow when compulsory payments (income tax, health tax and social security contributions) are deducted from income.⁴ Nonetheless, a substantial part of the gap in income stems from the fact that among households in the top quintile, the in-kind income from ownership of an apartment is much higher than that of households in the lower quintiles, as is income from pensions and provident funds, and from redemption of tax-free savings funds.

³ Most of the analyses presented in this chapter are by population groups. A detailed breakdown by income quintiles is given in the graphs in the appendices.

⁴ A detailed breakdown of compulsory payments by population groups is shown in Figure 11. Compulsory payments by income quintiles are shown in Appendix Figure 4.

Figure 2
Distribution of gross monthly household income
 by income quintiles, in shekels, 2011



* Calculated according to employee contributions to tax-free savings funds and multiplied by 5 (in order to account for the employer's contribution to the fund and the interest until redemption). Tax-free savings funds are *kranot hishtalmut* in Hebrew.

** Income from interest and dividends; in-kind income from car ownership; income from pension and property; in-kind income from apartment ownership

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

The major part of the analysis in this chapter is conducted by dividing the population into five groups: non-Haredi Jews, Haredi Jews,⁵ Muslims,

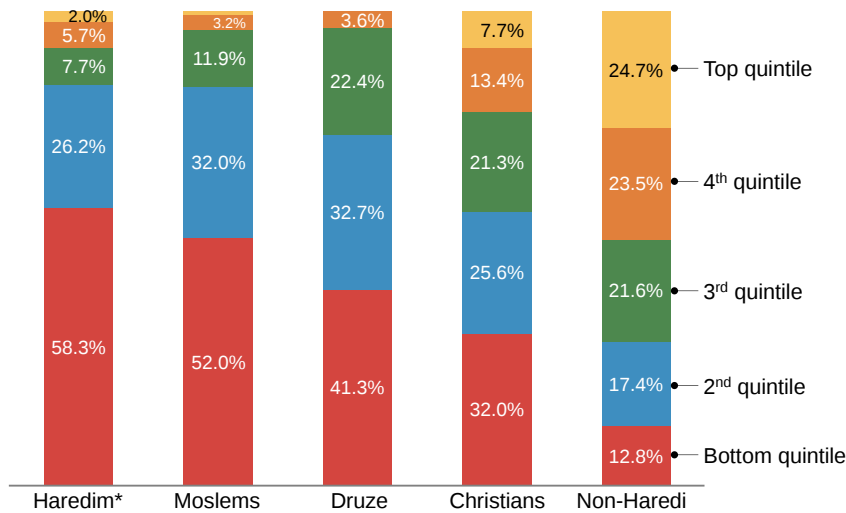
⁵ Households were defined as Haredi if they did not own a television set and at least one of the household members had attended a high yeshiva as the last institution of learning. The data from the 2011 *Social Survey* show that 97 percent of the Haredim that attended a great yeshiva do not watch television at all (and another 3 percent watch less than an hour a day). In contrast, about 60 percent of the (non-Haredi) religiously observant Jews who attended a great

Druze and Christians.⁶ There are substantial differences between the household income levels of the various population groups, and these differences have a large influence on patterns of consumption and saving in each group. As shown in Figure 3, which presents the distribution of households into income quintiles by population groups, the income distribution in each group is quite different. Of the Haredi households, 58.3 percent belong to the bottom quintile, as opposed to only 12.8 percent of non-Haredi Jewish households. Among non-Haredi Jews, about a quarter of households belong to the top quintile, whereas among Haredim, Muslims and Druze, only a negligible percentage of households belong to that quintile. These differences, as noted, are of major importance for the interpretation of the findings that follow.

yeshiva do watch television. Therefore, households that have yeshiva students among their members and own a television set are almost certainly non-Haredi.

⁶ About 75 percent of the Christian households are Arab, and about 25 percent are immigrants from the former Soviet Union.

Figure 3
**Distribution of households into income quintiles
 by population group, 2011**



* Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

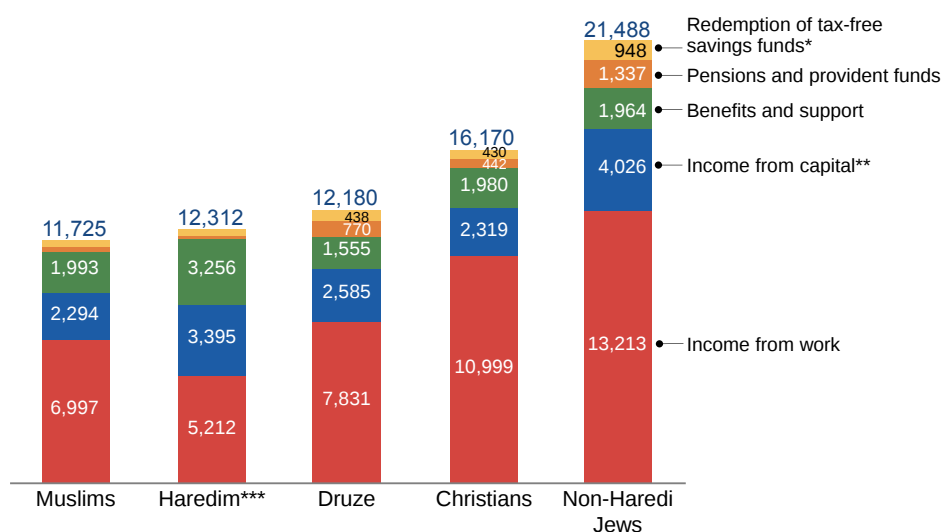
Data: Central Bureau of Statistics, *Household Expenditure Survey*

Income of Different Population Groups

Analysis of the income distribution of households from the various population groups (Figure 4) reveals that the income of non-Haredi Jewish households is substantially higher than that of the other groups, at an average of NIS 21,488 a month. It is important to note that this figure also includes in-kind income from ownership of an apartment and ownership of a motor vehicle (which are included in income from capital). Total income from work of non-Haredi Jewish households stands at NIS 13,213, as opposed to NIS 10,999 among Christians, NIS 7,831 among Druze, NIS 6,997 among Muslims, and NIS 5,212 among

Haredim. Even though the income of Haredi households from work is the lowest, their total income is higher than that of Muslim households. The two income sources that lead to this outcome are benefits and support and income from capital (mainly in-kind income from ownership of an apartment). While the income from capital of non-Jewish households ranges from NIS 2,300 to NIS 2,600, the income from capital of Haredi households stands at NIS 3,395. The gap in income from benefits and support is even wider. The income of Haredi households from benefits and support stands at 3,256 NIS, as opposed to NIS 2,000 among non-Haredi Jews, Christians, and Muslims, and NIS 1,555 among Druze.

Figure 4
Distribution of gross monthly household income
by population group, in shekels, 2011



* Calculated according to employee contributions to tax-free savings funds and multiplied by 5 (in order to account for the employer's contribution to the fund and the interest until redemption). Tax-free savings funds are *kranot hishtalmut* in Hebrew.

** Income from interest and dividends; in-kind income from car ownership; income from pension and property; in-kind income from apartment ownership

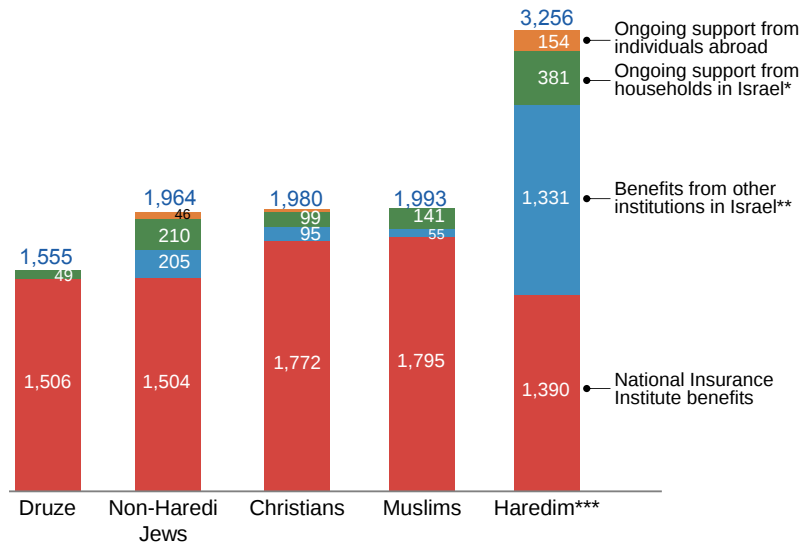
*** Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

In order to understand the cause of the gaps between the various sectors in terms of income from benefits and income from capital, these income items need to be examined in greater detail. As Figure 5 shows, most of the gap between Haredim and the other population groups in the scope of benefits and support stems from supports received from institutions in Israel that are not the National Insurance Institute (which is the source of most of the financial support for the other population groups). These institutions include, among others, the Ministry of Social Affairs and Social Services, the Ministry of Construction and Housing, the Jewish Agency, and yeshivas.

Figure 5
Monthly household benefits and support
 by population group and source of support, in shekels, 2011



* Income from individuals in Israel; alimony/child support; other ongoing income

** Ministry of Defense, Ministry of Immigrant Absorption, Ministry of Construction and Housing, Ministry of Social Affairs and Social Services, the Jewish Agency, yeshivas and the like; ongoing scholarships

*** Haredim are ultra-Orthodox Jews

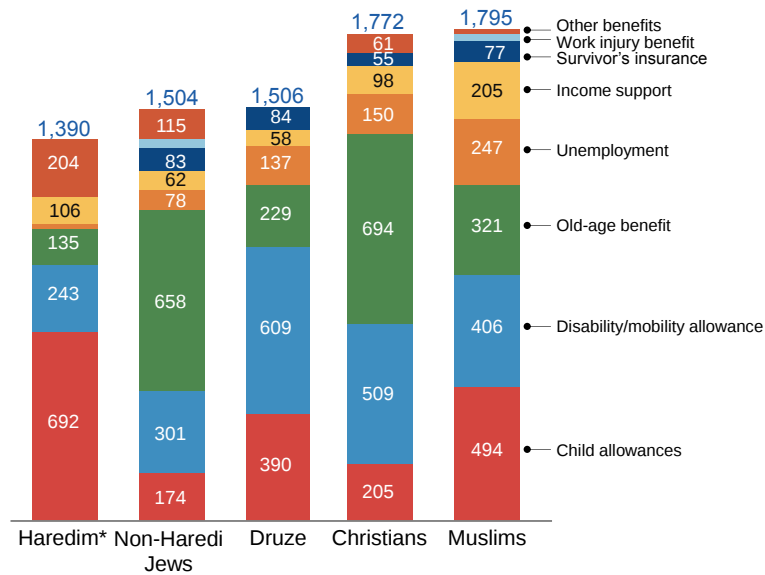
Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

The average Haredi household receives support from these institutions at a level of NIS 1,331 a month on average. In addition, Haredi households receive financial support from other households in Israel totaling NIS 381 a month, and from abroad totaling NIS 154. The extent of monthly support that an average Haredi household receives amounts to NIS 3,256 – a sum that is NIS 805 higher than the support received by the average household in the bottom quintile (Appendix Figure 1).

Haredi households receive support from the National Insurance Institute at a slightly lower level than the other population groups. There are several reasons for this. The main reason is the age composition of this group. It is a very young population – about 60 percent are below the age of 20. As a result, although the extent of child benefits to the Haredi sector is the highest among all population groups, the extent of old-age benefits and disability benefits is the lowest (Figure 6). While the average benefit per child in Israel stands at NIS 140, the average old-age benefit received by an elderly individual in 2012 amounts to NIS 2,109. The share of elderly persons in the Haredi sector is relatively low, and therefore, so is the share of old-age benefit recipients. Furthermore, a very young population is characterized by low rates of disabled persons, and, as a result, the share of disability benefit recipients is also lower among the Haredim. The rate of unemployment benefit recipients in the Haredi sector is also low compared to the other groups, most likely because unemployment stemming from the choice of a life of Torah study does not carry eligibility for unemployment benefits. Likewise, unlike the other population groups, many Torah scholars receive income support from the Ministry of Education (and not from the National Insurance Institute). This income is included under the item “support from other institutions in Israel” which appears in Figure 5 and in greater detail in Figure 7.

Figure 6
**Monthly household benefits from the
 National Insurance Institute**
 by population group and type of benefit, in shekels, 2011

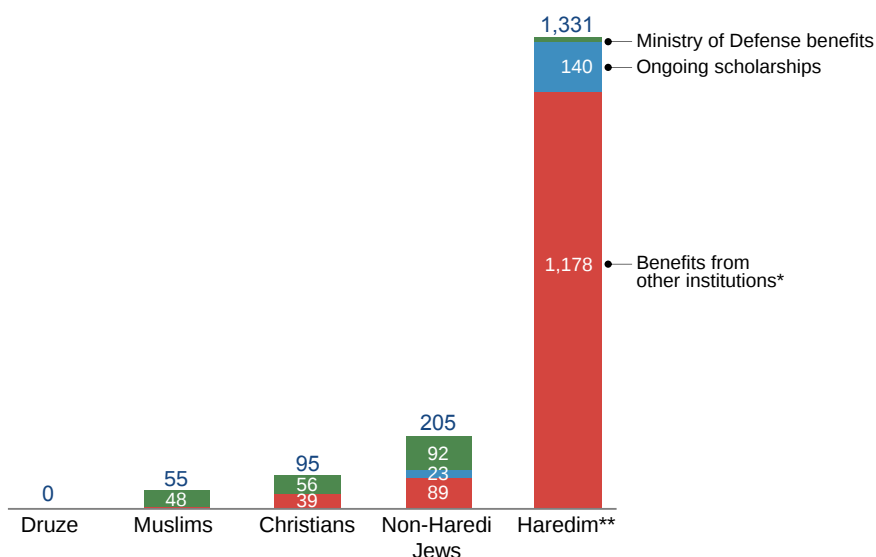


* Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Figure 7
**Monthly household benefits and support from institutions
 other than National Insurance Institute**
 by population group and source of support, in shekels, 2011



* Ministry of Immigrant Absorption, Ministry of Construction and Housing, Ministry of Social Affairs and Social Services, the Jewish Agency, yeshivas and the like

** Haredim are ultra-Orthodox Jews

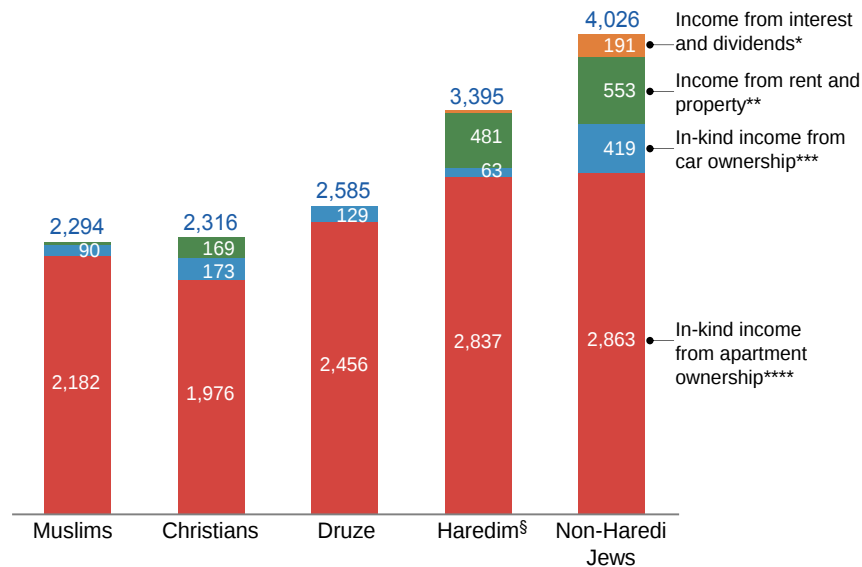
Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

When the components of the income from capital (Figure 8) are examined, it is evident that the gap between the income of Haredim from capital and the income of non-Jews from capital stems mainly from in-kind income from housing, that is, the crediting of income from ownership of an apartment. Among Haredim, the average income credited due to ownership of an apartment is NIS 2,837, while among non-Jews, it ranges between NIS 1,950 and NIS 2,500. The remainder of the gap stems from income from rent and property, which is a substantial income source for Haredim, but not for non-Jews. Income from capital

appears to be a component that contributes significantly to the income gaps between households in different quintiles (Appendix Figure 2).

Figure 8
Monthly household income from capital
 by population group and source of income, in shekels, 2011



* Interest on short-term deposits; interest on long-term savings plans (i.e., over a year); interest on bonds; dividends

** Income from house, apartment or room rental or from rental of other property

*** In-kind income from car ownership or use of a company car

**** In-kind income from homeownership, key-money or free housing

§ Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

2. Household Expenditures

Household expenditures in Israel can be broken down into four major items: consumption, compulsory payments, acquisition of assets (financial or real estate), and transfers to other households (e.g., alimony or child support payments). The main expenditure item is, of course, consumption, and the average monthly expenditure on this item in 2011 was NIS 13,967 (Figure 9). This sum also includes in-kind consumption from ownership of an apartment or a motor vehicle, and is therefore roughly NIS 3,000 higher than the pecuniary expenditure on consumption.⁷ Compulsory payments per household in Israel in 2011 on average stood at NIS 2,563, of which NIS 1,448 were paid in income taxes, NIS 568 in healthcare taxes, and NIS 547 to the National Insurance Institute. On average, financial transfers to other households amounted to NIS 444, of which NIS 406 was to households in Israel and NIS 38 to households abroad.

The average monthly investment in real estate and financial assets (which is defined by the Central Bureau of Statistics as “savings”) in 2011 amounted to NIS 3,622. This sum includes allocations (by the worker) for pensions, executive insurance⁸, provident funds and tax-free savings funds, as well as net investments in real estate (the value of apartments purchased minus the loans taken to finance their purchase).⁹

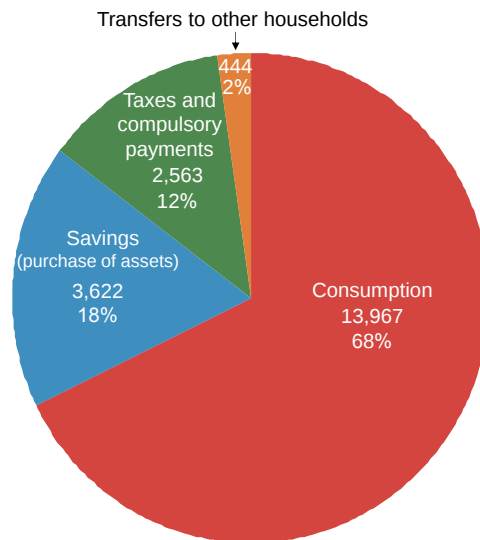
⁷ The details regarding total pecuniary expenditures, which refers to monetary expenditures or total expenditures minus in-kind expenditures, are presented in Figures 26A and 26B.

⁸ Executive insurance refers to a type of pension savings arrangement with an annuity coefficient that is guaranteed at the time of registration for the plan.

⁹ Since buying an apartment is a single large expenditure, and only a relatively small number of households buy an apartment each year, it is necessary to translate this expenditure into terms of average monthly expenditure per household. This is done by dividing the total net sum of purchases in a given year by the total number of households (including those that did not buy an apartment in that year) – i.e., the spreading of housing expenditures in a given year over all households – in order to obtain the average yearly expenditure

Not surprisingly, the lion's share of household savings is directed towards the purchase of an apartment.¹⁰

Figure 9
**Composition of household expenditures*,
in shekels, 2011**



* Calculated according to the average for all households

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

per household on the purchase of housing. That amount is then divided by 12 to obtain the average monthly expenditure.

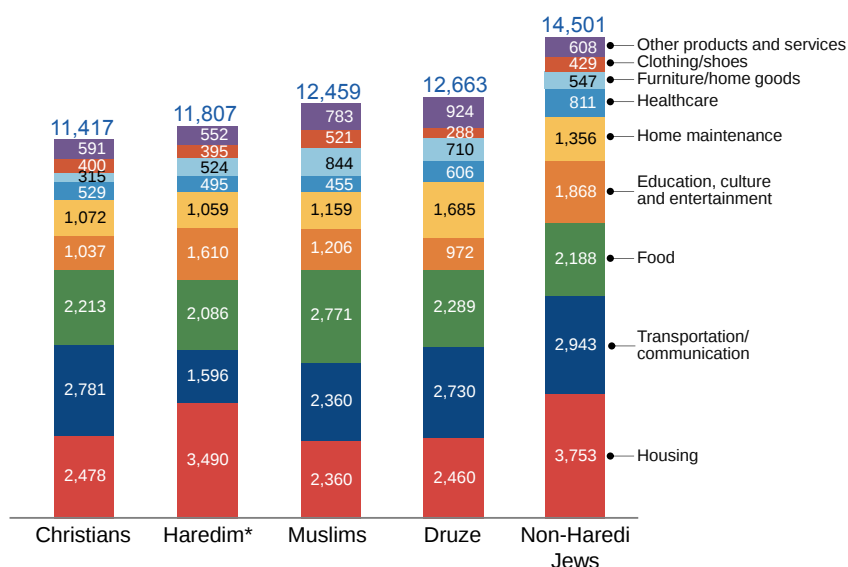
¹⁰ The term "savings" here refers only to investment in physical property (e.g., real estate) or a financial asset (e.g., tax-free savings funds). It does not include bank savings plans because there are no direct data on these, and their size can only be estimated on the basis of the gap between monetary income and expenditures (as will be shown in this chapter).

Consumption Expenditures

The distribution of consumption expenditures varies among the population groups, and can therefore shed light on the differences in their priorities. In all population groups (non-Haredi Jews, Haredim, Muslims, Christians, and Druze) the five main expenditure items are housing, transportation and communication, food, education, culture and entertainment, and home maintenance. Nonetheless, the priorities and the relative size of each of these expenditure items vary from group to group (Figure 10A).

Figure 10A (continued on next pages)

Distribution of household consumption expenditures by population group, in shekels, 2011



* Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

In three of the five population groups, the main expenditure item is housing. The expenditure on housing stands at NIS 3,753 among non-Haredi Jewish households and at NIS 3,490 among Haredi households, whereas among non-Jewish (Muslim, Christian and Druze) households, the expenditure on housing ranges from NIS 2,360 to NIS 2,480. It is important to note that the percentage rate of apartment ownership among non-Jewish families is significantly higher than among both non-Haredi Jews and Haredim (see Figure 14). Nonetheless, the value of these apartments seems to be lower in comparison to the value of apartments in the Jewish sector, and therefore non-Jews are credited with a lower in-kind expenditure on housing. Furthermore, as noted, only a small percentage of non-Jewish families live in rented apartments, and therefore the average expenditure on rent is significantly lower in this group.

A comparison of the composition of expenditures of Haredi families with that of non-Jewish families is especially interesting, since the total expenditure levels are rather similar but their composition is very different – which attests to significant differences in needs and priorities. Non-Jewish families spend about NIS 2,500 a month on transportation and communication, as opposed to only NIS 1,596 among Haredi families. The gap stems mainly from the fact that Haredi families use public transportation much more and private vehicles much less, but also from less consumption of communications content, such as cable television and internet, by Haredim.

It is interesting to note that among all population groups, except for the Muslims, the monthly expenditure on food is rather similar, standing at NIS 2,000 to NIS 2,300 per household. In the Muslim sector, that expenditure is significantly higher, standing at NIS 2,771. Most of the gap is explained by the relatively high expenditure of Muslim households on meat and poultry – about NIS 730, as opposed to about NIS 350 in the other sectors; and also by the higher expenditure on fresh vegetables – about NIS 215, as opposed to about NIS 150 in the other sectors.

The expenditure on education, culture and entertainment among Jewish households is significantly higher relative to non-Jews. While

non-Haredi Jews spend an average of NIS 1,868 a month on education and Haredim spend NIS 1,610, Muslims spend NIS 1,206, Christians spend NIS 1,037, and Druze spend only NIS 972. It is important to recall that the total expenditure on education, like the expenditure on food, depends on the number of household members; therefore per capita figures (as presented further in this chapter), provide a more accurate picture.

The expenditures on home maintenance (which include, among other things, municipal taxes, water, electricity, gas and fuel for domestic use, and expenditures on home maintenance and improvement) are rather similar among Haredim, Muslims and Christians, standing at about NIS 1,100 a month. Among non-Haredi Jews, the costs of home maintenance amounts to NIS 1,356 (mainly due to higher municipal taxes); among the Druze, they amount to NIS 1,685 (mainly due to the high expenditures on gas and fuel, and on home maintenance and improvement).

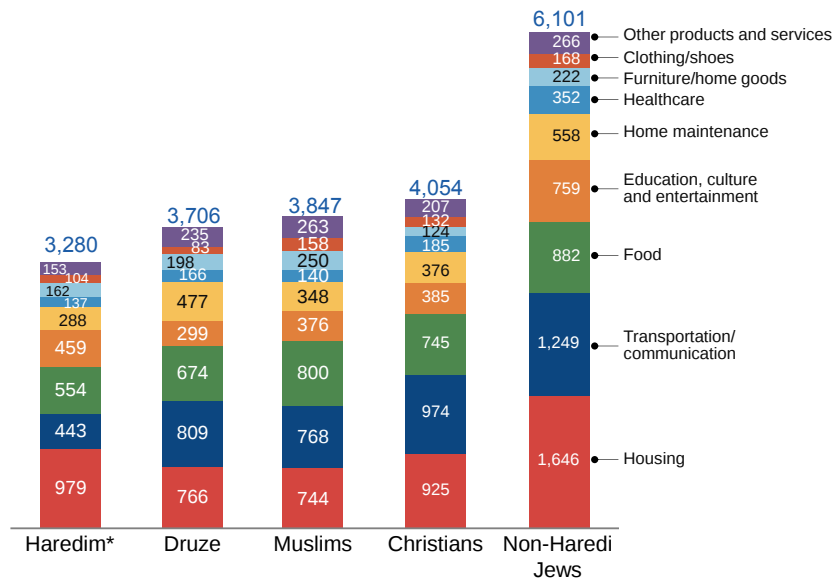
The overall expenditure on consumption of an average Haredi household amounts to NIS 11,807 a month – a level of expenditure similar to that of the second quintile (Appendix Figure 3A). As mentioned previously, however, the average number of members in a Haredi family is higher than that of other population groups, and that has an impact on the level of expenditures.

When one examines the distribution of household expenditures adjusted per capita¹¹ (Figure 10B), a clearer picture emerges. The expenditure per standardized person among Haredi households is the

¹¹ Per capita adjusted is a computational concept. The number of people in a household affects the standard of living that can be sustained by a given income, although it is customary to assume that not each additional person to a household consistently and equally impacts the possible standard of living, since the addition of one family member does not necessarily entail a proportional increase in expenditures. To establish a basis for comparison, the per capita adjusted calculation was performed according to a uniform scale. The scale sets as its basic unit a household of two persons; the more members are added, the less marginal weight is assigned to each new member of the household – and the figure obtained is the adjusted number of persons (according to the Central Bureau of Statistics website).

lowest, standing at NIS 3,280 as opposed to NIS 3,800 among Muslims and Druze, NIS 4,054 among Christians, and NIS 6,101 among non-Haredi Jews. The expenditure per standardized person among Haredim is similar to the equivalent expenditure in the bottom quintile, which stands at NIS 3,157 (Appendix Figure 3b). This outcome is, of course, a consequence of the relatively high number of members in Haredi families, and to a lesser extent also in Druze and Muslim families.

Figure 10B (continued from previous pages)
**Distribution of consumption expenditures
 per standardized person**
 by population group, in shekels, 2011



* Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Nonetheless, there are some items in which the per capita adjusted expenditure of Haredi households is higher than that of non-Jews –

namely, education and housing. The expenditure per standardized person on housing amounts to NIS 979 among Haredim, as opposed to NIS 744 among Muslims and NIS 766 among Druze. On education, Haredi households spend NIS 459 a month per standardized person, as opposed to Christian, Muslim and Druze households that spend NIS 385, NIS 376 and NIS 299, respectively. The relatively high per capita adjusted expenditure on housing and education among Haredi households is thus balanced by relatively low expenditures on transportation and communications, as well as on food and on home maintenance.

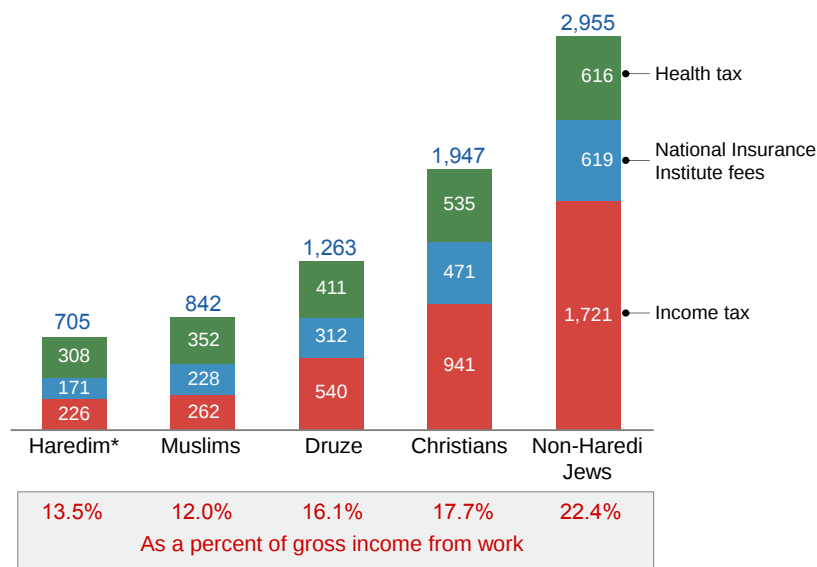
Taxes and Other Compulsory Payments

Israeli households' monthly compulsory payments are comprised of income tax, healthcare tax and National Insurance Institute payments. There are significant differences between the average per-household sums of compulsory payments in the different sectors. On average, non-Haredi Jewish households pay NIS 2,955 a month in taxes and other compulsory payments, as opposed to NIS 1,947 for Christian households, NIS 842 for Muslims, and NIS 705 for Haredim (Figure 11). These differences stem mainly from gaps in income from work – the average incomes of non-Haredi Jewish households are the highest, and their payments are therefore significantly higher than those of other sectors. The average sum of monthly taxes and payments among non-Haredi Jews is similar to that of the fourth quintile among the general population, while among Haredim it is similar to that of the second quintile (Appendix Figure 4).

A comparison of the components of the compulsory payments made by non-Haredi Jewish households to those of Christian households reveals that the gaps in payments for the healthcare tax and National Insurance are small, but the gaps in payments for income tax are very substantial. This stems from the progressive nature of the Israeli tax

system.¹² The difference between the average income from work of Christian households and that of non-Haredi Jewish households is only about 20 percent (Figure 4 previously); however, non-Haredi Jewish households appear to reach the higher tax brackets, and therefore the gap in these two groups' respective income tax payments is much wider: 83

Figure 11
Monthly household compulsory payments
 by population group, in shekels, 2011



* Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

percent.

¹² A progressive tax is one whose rate as a percentage of income rises with income; that is, those with higher income pay a higher tax rate than that paid by those with lower income.

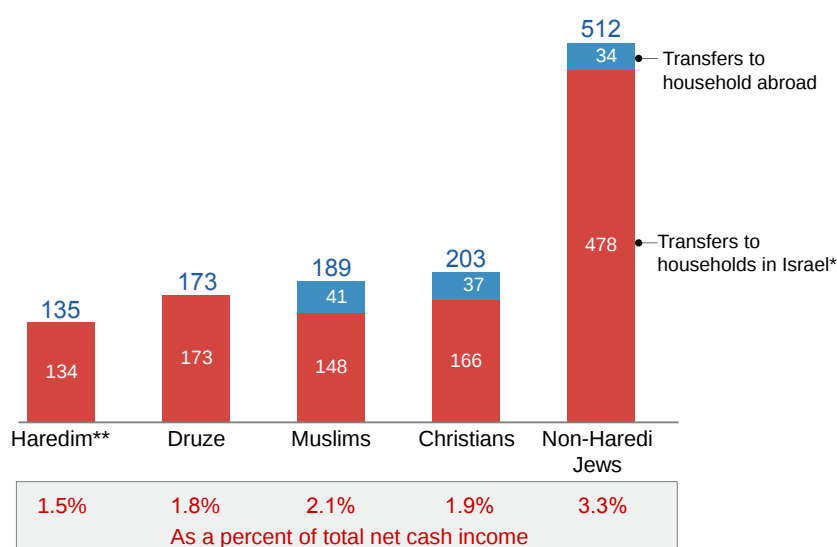
Transfers to Other Households

Another expenditure item, which sometimes tends to be forgotten when computing the total balance of expenditures, is transfers to other households (in Israel and abroad). Transfers to households abroad are negligible, amounting to only a few dozen shekels a month. Transfers to households in Israel include ongoing financial assistance to other households (including family), alimony or child support payments, monetary gifts at special occasions, and other monetary gifts. For non-Haredi Jews, this amounts to the non-negligible sum of NIS 478 a month – three times more than in other sectors (Figure 12). Almost half of this sum is devoted to monetary gifts at events such as weddings, circumcisions and bar mitzvahs. Not surprisingly, most of the transfers are made by households belonging to the top quintile, which transfer to other households in Israel and abroad on average NIS 1,228 each month – more than all the other households combined (Appendix Figure 5).

Figure 12

Transfers to other households

by population group, in shekels, 2011



* Ongoing transfers in Israel including alimony/child support, monetary gifts for special occasions, monetary gifts of less than NIS 100

** Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

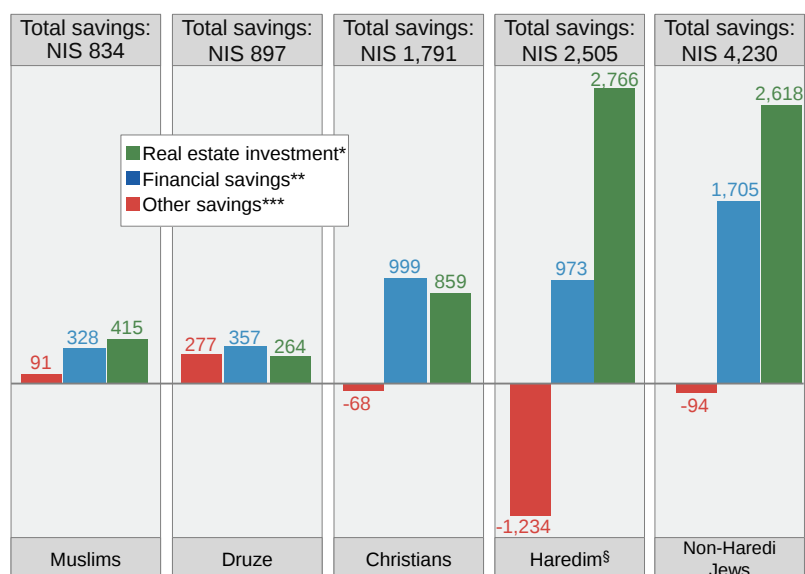
3. Household Savings

Households' monthly savings are defined here (in accordance with the definition of the Central Bureau of Statistics) as the sum of payments directed by household members into tangible and defined savings channels. These channels are divided into three main categories: 1) contractual (financial) savings, comprised of medium-term and long-term financial savings channels – provident funds, tax-free savings funds, pension funds, executive insurance, life insurance premiums, and mortgage payments (principal and interest); 2) investment in real estate; and 3) other savings (including the purchase of a motor vehicle, debt flows, and the monetary difference from the sale and purchase of furniture, equipment and motor vehicles). Financial savings, as defined in the Central Bureau of Statistics' *Household Expenditure Survey*, do not include financial savings accruing in bank accounts in months when total income is higher than total expenditures, since tracking these savings is complex and households' willingness to share information about them is relatively low. Nonetheless, the extent of the monthly changes in these savings can be estimated as the gap between net monetary income and the sum of all monetary expenditures (i.e., expenditure on consumption and transfers to other households and allocations to the reported savings components). Such an estimate will be presented below.

With regard to the reported savings components (Figure 13), it is evident that for most population groups the most significant savings channel is investment in real estate, which manifests in purchasing an apartment for residential purposes, purchasing an apartment as an investment, or investing in an existing apartment (renovation or expansion). Haredi households stand out by virtue of their high investment in real estate, at NIS 2,766 a month on average, as opposed to NIS 2,618 among non-Haredi Jews, NIS 859 among Christians, and NIS 415 among Muslims. Nonetheless, a large part of this investment is financed by accumulating debt. The "other savings" of Haredi households (which include negative savings due to taking mortgages and other loans in order to buy an apartment) are in a negative balance of NIS 1,234. It is

important to note that the high negative savings of Haredi households cannot be attributed to their low income level, but rather to their investment patterns. The fact that the average “other savings” among households from the bottom quintile has a negative balance of only NIS 183 attests to that (Appendix Figure 6).

Figure 13
Household monthly savings
 by type of savings and population group, in shekels, 2011



* Purchase of an apartment; net purchase of an apartment for the use of others or as an investment; investment in existing apartment

** Life insurance premiums; payments to provident funds, tax-free savings funds (*kranot hishtalmut*), pension funds, manager's pension insurance; mortgage payments (principal and interest)

*** Car purchase; debt flows; surplus from purchase and sales (furniture, equipment, motorcycles, cars)

§ Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

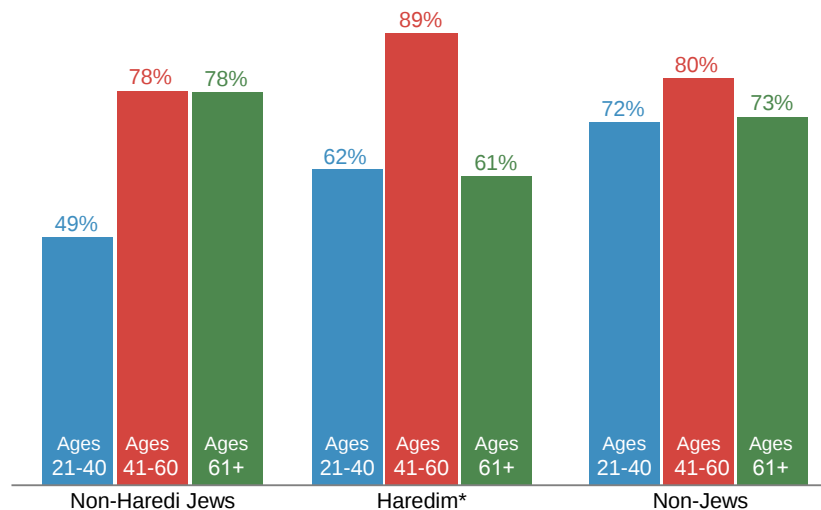
Data: Central Bureau of Statistics, *Household Expenditure Survey*

Despite the low annual investment of non-Jewish households in real estate, their rate of homeownership is higher in comparison to Jewish households (Figure 14). This is especially striking among the younger population (ages 21-40), where the apartment ownership rate among non-Jews is 72 percent, as opposed to 62 percent among Haredim and 49 percent among non-Haredi Jews. However, in the middle age group (41-60) the apartment ownership rate among Haredim is the highest – 89 percent, as opposed to 80 percent in the other sectors. Among the elderly population (61 and over) a different picture emerges: the highest ownership rate is found among non-Haredi Jews, and the lowest among Haredim (61 percent).

Figure 14

Homeownership rates

by age and population group, as percent of all households in each group, 2011



* Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

It appears that in the different population groups, there are generational changes in the pattern of home ownership, which may have stemmed from the demographic and socioeconomic changes that occurred in each group. Nonetheless, part of the difference in ownership rates between the various age groups may be attributed to the fact that among Haredim, marriage at a younger age leads to apartment purchases at an earlier stage (on average) in comparison to non-Haredi Jews, but the higher income levels (on average) among non-Haredi Jews leads at a later stage to a narrowing of the gap in apartment ownership, due to superior resources.

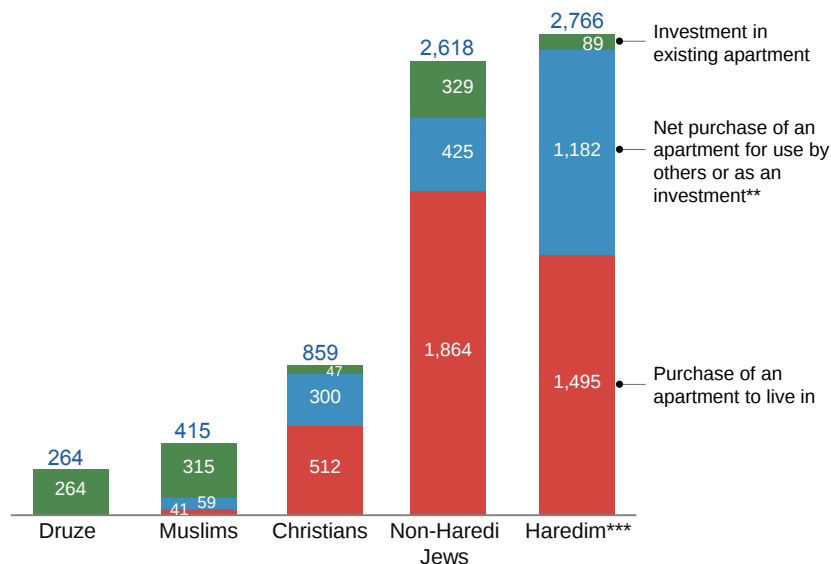
Patterns of Apartment Purchases in the Haredi Sector

Focusing on the components of investment in real estate clarifies the source of the gap in investment between Haredim and the other sectors, non-Haredi Jews in particular. While the average monthly expenditure of Haredi households on the purchase of apartments for residential purposes is slightly lower than among non-Haredi Jews (NIS 1,495 versus NIS 1,864, respectively), the expenditures of Haredi households on apartments that do not serve as residence for the household itself are much higher than those of non-Haredi Jews (NIS 1,182 versus NIS 425, respectively). In fact, the investments of Haredi households in apartments that do not serve as the family residence are high even in comparison to the average in the top quintile (NIS 996). This is surprising in view of the fact that in the top quintile, the average monthly investment in real estate (including the purchase of apartments to live in) amounts to NIS 6,008–2.2 times the average among Haredim (Appendix Figure 7).

This discrepancy stems in part from the fact that the practice of buying apartments for investment purposes is more common in the Haredi sector, and in part from the fact that most Haredi parents are inclined to buy apartments for their children in anticipation of their marriages. Importantly, in this context, note that although the apartments that Haredi parents buy for their children are usually registered under the children's name (and not the parents'), the expenditure itself is recorded in the

Central Bureau of Statistics *Household Expenditure Survey* as an expenditure of the parents – that is, the acquisition of an apartment not for self-residential purposes. From this, it may be inferred that in the Haredi sector, the purchase of an apartment not for one's own dwelling is usually due to the purchase of an apartment for one's children. However, in discussions with knowledgeable individuals in the Haredi world, the argument has also been made that the practice of buying apartments for investment purposes is rather widespread in this sector, and that many Torah scholars try to make a living through speculative real estate investments. The data seem to support that argument.

Figure 15
Average monthly household investment in real estate*
 by population group and investment type, in shekels, 2011



* Averages include households that did not invest in real estate in 2011

** The difference between the apartment purchase price and the apartment sale price (which was for use by others or for investment purposes)

*** Haredim are ultra-Orthodox Jews

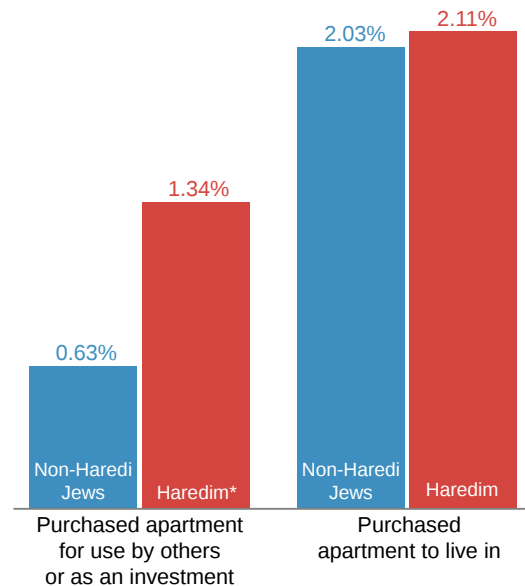
Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

It is important to note that the reliability of the data on apartment purchases in the *Household Expenditure Survey* is limited due to the small number of observations, which stems from the fact that only a small percentage of the sample population bought an apartment in the year in which the survey was conducted. Therefore, in order to obtain a more reliable picture regarding the patterns of real estate acquisition among Haredim, it is necessary to use multi-year averages. Figure 16 presents the average percentage of households that bought an apartment to live in and the percentage of households that bought an apartment not for their own use, among Haredim and non-Haredi Jews in the years 2003-2012.¹³ As can be seen, while the rate of buyers of an apartment for their own use is rather similar in the two groups (2.11 percent among Haredim, and 2.03 percent among non-Haredi Jews), the rate of buyers of an apartment not for their own residence among Haredim is more than double the rate among non-Haredi Jews (1.34 percent versus 0.63 percent, respectively). In other words, Haredim indeed do purchase apartments for the use of others (as investments or for their children's residence) at a very high rate.

¹³ The average percentage of households that bought an apartment in a given year was calculated as a simple average of households' apartment purchase rates in each year from 2003 to 2012.

Figure 16
Percent of households that purchased an apartment in a given year
 apartments to live in or for use by others,
 by population group, average for 2003-2012



* Haredim are ultra-Orthodox Jews

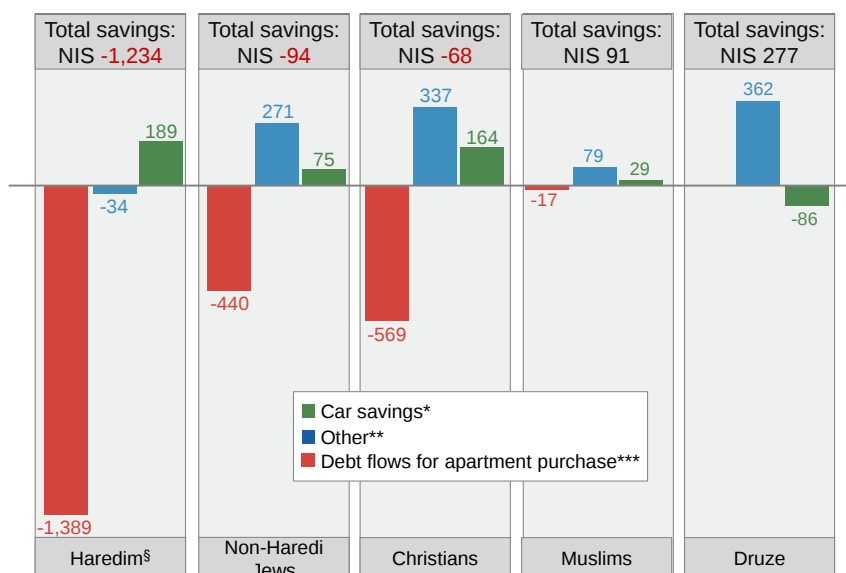
Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

The question that arises is where the money for apartment purchases comes from, and how Haredi households are able to invest such large sums in real estate given their relatively low income. An answer to the question is to some extent provided in Figure 17, which presents the components of “other savings” in the various sectors. It is easy to see that among Haredi households the negative savings component – which stems from an increase in liabilities due to the purchasing of apartments – is very high, standing at NIS 1,389, as opposed to only NIS 440 among

non-Haredi Jews. The meaning of this is most likely that Haredi households are willing to go deep into debt in order to buy apartments.

Figure 17
Other monthly savings
 by savings type and population group, in shekels, 2011



* Monthly value of a car that was purchased in the past 12 months less monthly depreciation

** Other housing loans; surplus from purchase and sales (furniture, equipment, motorcycles, cars); advances and other loan repayments

*** Growth in debt flows during the past 12 months for loans taken to purchase or build a home

§ Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

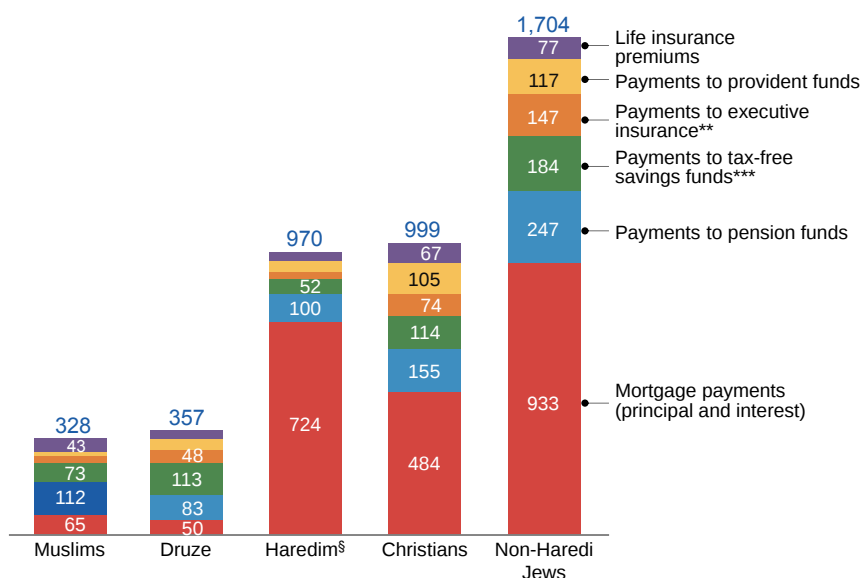
Data: Central Bureau of Statistics, *Household Expenditure Survey*

Focusing on the components of financial savings (Figure 18) provides additional insights regarding how Haredi couples are able to buy apartments despite their limited resources. Whereas non-Haredi Jewish households on average spend NIS 933 on mortgage payments,¹⁴ Haredi households on average spend only NIS 724 – despite the fact that in the two sectors the average number of rooms was quite similar (an average of 3.9 rooms in 2012). This may be attributed to protracted mortgage payment periods, as well as to the purchase of apartments in cheaper localities and as an organized purchasing group, which may serve to lower the price of the transaction.

The total financial savings of Haredi households are lower than those of the third quintile, and their allocations to tax-free savings funds and pension savings are lower than those of the second quintile (Appendix Figure 8). This is a direct result of their low income from work.

¹⁴ The figure regarding mortgage payments refers to an average that includes all the households (including those that have not taken out a mortgage).

Figure 18
Monthly financial savings*
 by savings type and population group, in shekels, 2011



* Only the employee's payments to pension funds, tax-free savings funds (*kranot hishtalmut*), executive insurance, and provident funds are shown. Employer contributions are not included.

** Executive insurance refers to a type of pension savings arrangement with an annuity coefficient that is guaranteed at the time of registration for the plan.

*** Tax-free savings funds are *kranot hishtalmut* in Hebrew.

§ Haredim are ultra-Orthodox Jews

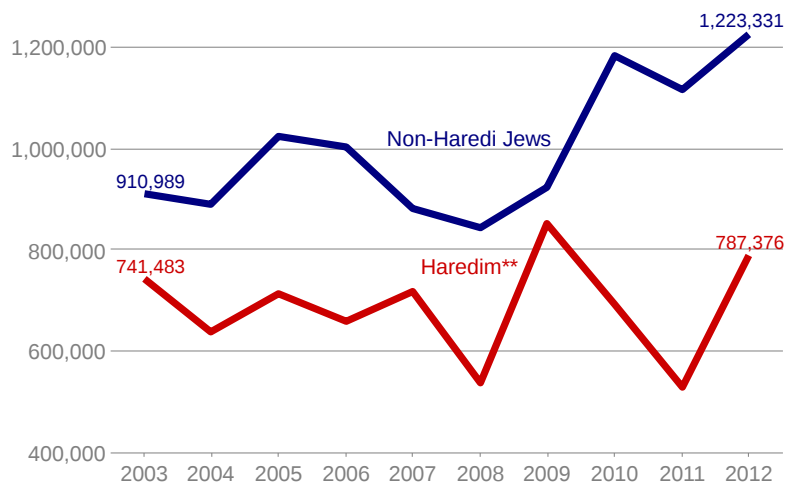
Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

The average price of apartments bought by Haredim is indeed substantially lower in comparison to the non-Haredi Jewish sector, and it has remained rather stable in the last decade – as opposed to a substantial rise in prices paid by non-Haredi Jews (Figure 19). In the non-Haredi Jewish sector, there has been a real increase of 34.3 percent in the average apartment purchase price in the last decade (from NIS 910,989 to

NIS 1,223,331). In contrast, among Haredim, there has been a rise of only 6.2 percent in the average purchase price over the same period (from NIS 741,483 to NIS 787,376). In other words, Haredim were buying cheaper apartments than non-Haredi Jews were even a decade ago, but the gap has grown much wider since. The relative stability of purchase prices in the Haredi sector may perhaps be attributed to a shift in purchase patterns towards apartments in relatively cheap periphery localities and a gradual distancing from the large Haredi centers (Jerusalem and Bnei Brak), in light of the substantial price rises in these areas.

Figure 19
Average price of an apartment*, 2003-2012
 by population group, in 2012 shekels



* The average price paid for an apartment in each year, by Haredim and non-Haredi Jews.

** Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

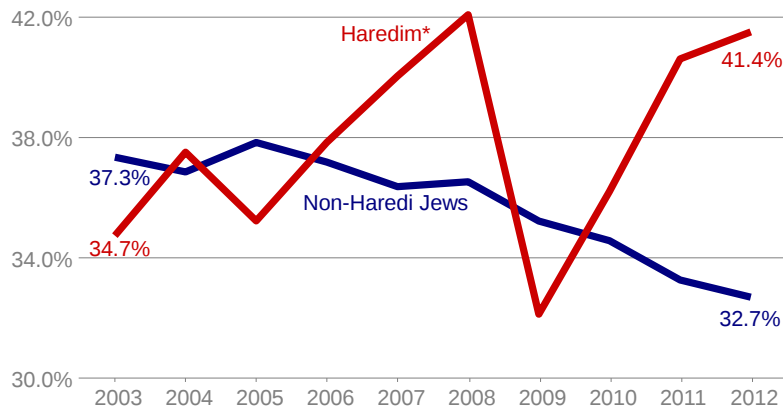
Data: Central Bureau of Statistics, *Household Expenditure Survey*

Despite this, the prevalent financing method in the Haredi sector, in which apartments are purchased via consistent increases in the extent of debts and liabilities, seems to be unsustainable over time given the current economic reality. This becomes very prominent when one examines the changes that have occurred in the patterns of financing apartment purchases in the Haredi sector over the last decade (Figure 20). Among non-Haredi Jews, the share of households making mortgage payments dropped in the last decade from 37.3 percent to 32.7 percent – a substantial decline that may stem from flexible demand that is negatively influenced by rising housing prices. In contrast, among Haredim, this share rose from 34.7 percent to 41.4 percent – even though during this period, as mentioned above, there was no substantial change in the prices of the apartments they bought. In other words, more Haredi households require loans today in order to buy an apartment at a given price. This trend may stem from two factors: on one hand, in the Haredi sector it is customary to buy an apartment at the time of marriage, and therefore the demand for apartments from Haredi couples is relatively inflexible; on the other hand, however, the economic resources available to them have dwindled. This assumption is supported also by the figures in Figure 17 above, which show that Haredi households' "other savings" are negative.

It is impossible to ignore the steep (and temporary) drop in the rate of Haredi households with a mortgage in the years 2008-2009 – the years of the subprime crisis abroad (Figure 20). This timing is no coincidence and is only one indication of the reliance of many Haredi households on economic assistance from abroad, in order to raise the down payment needed when applying for a mortgage.

In light of the above, the question arises: how do the banks continue to grant these families mortgages? From the banks' perspective, the mortgaged apartments serve as good securities for the return of the loan. The initial down payment that households are required to place (at least 30 percent of the cost of the apartment) serves to mitigate risk for the banks and ensures with high probability that they will not incur losses even in extreme cases where they might be forced to foreclose and sell the apartment at below the original purchase price.

Figure 20
Percent of households with a mortgage
 by population group, 2003-2012



* Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

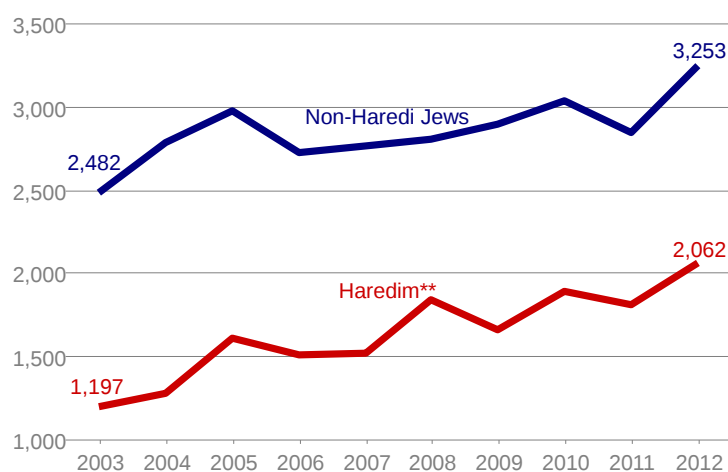
Furthermore, the data and the interviews conducted with knowledgeable individuals in the Haredi sector¹⁵ indicate that until now, the mortgage payment ethic among Haredi households, given their low income, has been relatively reasonable. In 2013, about 15 percent of Haredi mortgage-holders were behind in their mortgage payments – a high rate as compared to 8 percent among non-Haredi Jews, but low in comparison to the 23 percent rate among non-Jews (Appendix Figure 9). Fifteen percent is a non-negligible default rate, but according to testimonies, in extreme cases where a Haredi family is in danger of losing its apartment due to its inability to make timely mortgage payments, the community is likely to intervene and assist the family financially in order to prevent this outcome. Nonetheless, Haredi households' dwindling

¹⁵ For details of the individuals interviewed, see footnote 23.

resources and increasing liabilities in recent years put their future ability to afford their growing mortgage payments in question.

As Figure 21 shows, the average monthly mortgage payment has risen (in real terms) over the last decade by about NIS 800 among non-Haredi Jewish households (an increase of 31 percent), and by about NIS 900 among Haredi households (an increase of 72 percent). Among non-Haredi Jews, this trend aligns with the large rise in apartment prices in the last decade – apartment prices rose by 34 percent, and accordingly mortgage payments rose by 31 percent and the share of those taking out mortgages declined (due to flexible demand). Among the Haredim, however, a completely different picture emerges: the prices of the apartments they purchased rose by only 6 percent, but the average monthly mortgage payment increased by 72 percent, and the rate of those taking out mortgages rose as well (due to more inflexible demand and dwindling resources).

Figure 21
Average monthly mortgage*, 2003-2012
by population group, in 2012 shekels



* Averages do not include households without a mortgage

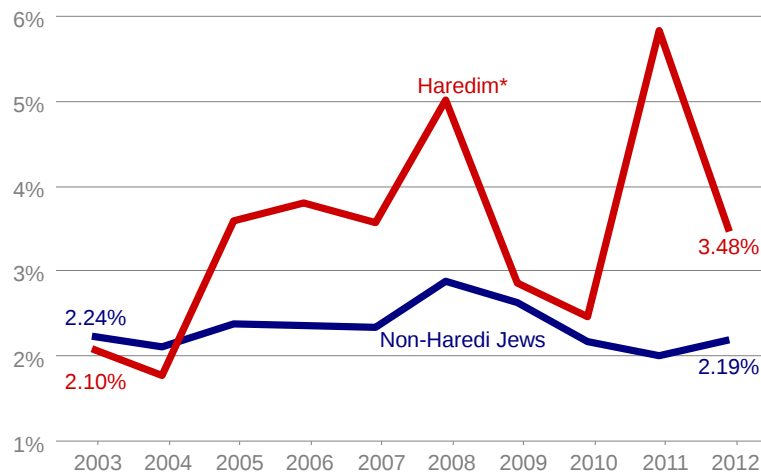
** Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Nonetheless, the inflexible demand and dwindling resources appear to provide only a partial explanation for this trend, and the big picture is more complex. In fact, over the course of the last decade, there has been a pronounced increase in the share of Haredi households purchasing an apartment in a given year (Figure 22). Again, note that the yearly data regarding apartment purchases are quite volatile, since only a small percentage of households buy an apartment in a given year. Despite that, the general trend is relatively clear – a non-negligible rise in the rate of Haredi apartment buyers, as opposed to stability, and perhaps even a certain decline, among non-Haredi Jews.

Figure 22
Percent of households purchasing an apartment in a given year
 by population group, 2003-2012



* Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

It might be reasonable to speculate that changes in the age composition of the Haredi population, that is, a rise in the share of young couples, are what led to the rise in the rate of apartment buyers – but the data show that the opposite is true. As can be seen in Figure 23 (which is based on data from the *Social Survey*, in which Haredim are identified by self-definition), the share of those aged 20 to 49 in the Haredi population aged 20 and over dropped in the last decade from 84.0 percent to 77.5 percent. In other words, the changes in the age composition of the Haredi population cannot explain the sharp rise in the rate of Haredi apartment buyers.

Figure 23
Share of 20-49-year-olds in the Haredi* adult population
among those age 20 and over, 2002-2012



* Haredim are ultra-Orthodox Jews

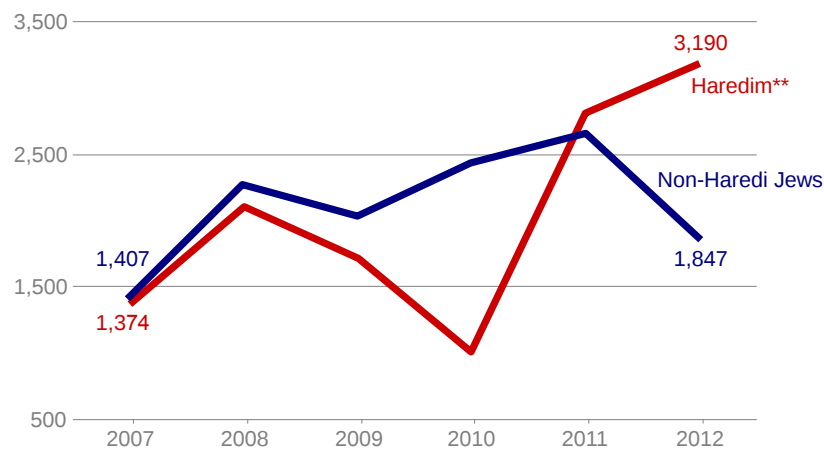
Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Social Surveys 2002-2012*

The findings thus far suggest that Haredi households are investing in real estate much more today than they did in the past. The trends shown in Figure 24 lend credence to this supposition. As can be seen, the average monthly investment in real estate¹⁶ among Haredi households jumped (in real terms) from NIS 1,374 in 2007 to NIS 3,190 in 2012. In contrast, among non-Haredi Jews there was only a moderate rise: from NIS 1,407 to NIS 1,847. Although the data here are rather volatile, it is still clear that the increase in Haredi investment in real estate is very substantial. But where does the money for these investments come from?

Figure 24

Average* monthly investment in real estate by population group
in 2012 shekels, 2007-2012



* Average monthly investment in real estate is calculated for all households, including those that did not invest in the given year

** Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

¹⁶ The average monthly investment in real estate was calculated for all households, including those that did not invest in real estate in that year.

The answer to that question is given in Figure 25. As noted previously, amongst Jewish households, debt flows related to the purchase of an apartment (i.e., an increase or decrease of the debt) is the most substantial component in the savings category defined as “other savings” (according to the Central Bureau of Statistics’ definition). When debt flows in a certain year are negative, it means that the household’s indebtedness (to banks or to other lenders) has increased. For example, when a household buys an apartment with the help of a mortgage or other loan, the flow of its debts in that year will be negative; but if in a certain year a household repays a large part of the debt to the bank (e.g., repayment of a balloon loan¹⁷), the flow of its debts in that year will be positive.¹⁸ As can be seen, the average flow of debts in recent years has been negative for Haredi households. This means that their debts to banks and other lenders are growing, and that their increased investment in real estate is speculative and financed by debt. A similar phenomenon was observed in the United States in 2007, on the eve of the big mortgage crisis. Ostensibly these are different cases, since many of the mortgages that were given then in the United States did not require any down payment, whereas in Israel the down payment required in order to be granted a mortgage is at least 30 percent of the apartment’s value. Many Haredi households, however, have the option of taking loans from benefit societies¹⁹ and using them as down payments for the purpose of taking out a mortgage.²⁰ In other words, the total amount of loans that a Haredi

¹⁷ A balloon loan is one that is repaid not in installments but at the end of the loan period, i.e., during the borrowing period the borrowers pay nothing at all, but at the end of the period, they pay the principal in full plus interest and indexation.

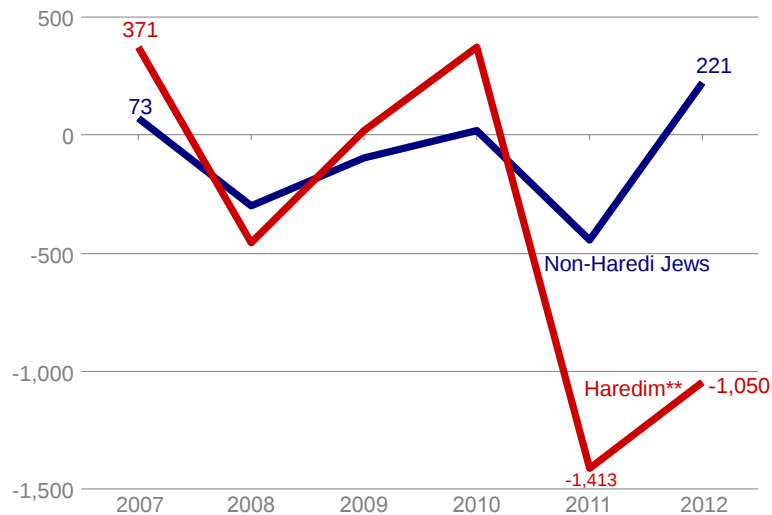
¹⁸ Monthly mortgage payments are not listed under “other savings” as positive debt flows, but under “Financial Savings” as the repayment of mortgages (principal and interest). Therefore, positive debt flows refer mainly to the repayment of one-time large sums, like a balloon loan.

¹⁹ A detailed explanation concerning these institutions appears on page 66.

²⁰ In addition, until 2008 it was possible to make use of the services of mortgage insurance companies in order to take out a mortgage with a down payment of less than 30 percent.

household takes for the purpose of buying an apartment can reach 100 percent of the purchase price – as was the case in the United States prior to the subprime crisis.

Figure 25
Monthly debt flows for apartment purchase*, 2007-2012
 by population group, in 2012 shekels



* Average monthly debt flows for an apartment purchase also includes households that did not purchase an apartment in the given year, that is, it is the average for all households.

** Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

In recent years, there has been a substantial increase in the share of poor households in the Haredi sector (Ben-David and Bleikh, 2013). This trend can be attributed in part to the cuts in state-funded financial support that began in 2003. The new economic reality for Haredim required the development of new sources of income in view of the growing population and dwindling resources (both internal and external) and posed a great

challenge to earning a sufficient livelihood while preserving the Torah-study lifestyle. As a result, many Haredim searched for income channels that would allow them to continue devoting the bulk of their time to Torah study, and thus many turned to the real estate field.

In order to invest in real estate, however, significant initial capital is necessary, which is not easy to obtain when earning a livelihood is already challenging. Due to that, there was a substantial rise in the size and extent of the loans taken by Haredi households. While there were some that did have sufficient initial capital, and have done well in real estate investments, there were many others who bought apartments using over-leveraged loan money, at great risk of insolvency.

The money used by Haredim to buy apartments comes from several sources. A good share of the loans comes from banks (as attested to by the rise in mortgage payments by Haredim), but it is reasonable to assume that loans from benefit societies, friends and family members are non-negligible sources of funding as well. Nonetheless, these resources are also limited, and therefore the continued increase in indebtedness of Haredi households without sufficient sources of repayment is unsustainable over time. When the flow of expenditures is larger than the flow of income over time, economic collapse is eventually inevitable. This is true for Haredi as well as non-Haredi households. While high housing prices are a heavy burden that make it difficult for all population groups to make ends meet, among Haredi households, the large investments in real estate and shortage of income from other sources give rise to large structural gaps between total income and total expenditures.

Financial Balance

Figures 26A and 26B present the balance of household monetary income and expenditures (not including in-kind income and in-kind expenditures) by population groups and income quintiles. Income includes gross wages and financial income from capital, from benefits and support, and from pensions and provident funds. Income also includes the redemption of tax-free savings funds, calculated on the basis of employee allocations to

these funds. Total monetary expenditures include financial expenditures on consumption (not including consumption in-kind), compulsory payments (income tax, health tax and National Insurance Institute contributions), transfers to other households, and the tangible components of savings (financial, real estate, and other).²¹ The gap shown (in red) in Figures 26A and 26B reflects the average monthly gap between household income and expenditures. This gap can also be thought of as the household monthly balance (monthly surplus or deficit) in the bank. Although it is reasonable to assume that some households do not report all of their income – and some of the expenditures are perhaps not reported either, to avoid paying tax on the purchases – this comparison (of reported income to reported expenditures) can still yield important insights regarding the economic challenges with which Israeli households contend.

As can be seen, there is a negative gap between income and expenditures in all the sectors (i.e., expenditures are higher). Nonetheless, whereas among non-Haredi Jews, the gap is only NIS 864, among Haredim it reaches NIS 3,209 a month – a third of a Haredi household's reported income. This is a high figure even in comparison to Muslim households, where the negative gap stands at NIS 1,919.²² Such a wide gap between reported expenditures and reported income may attest to under-reporting of income and a large-scale shadow economy. Nonetheless, this is not the full picture. As was shown also in Figure 21, the large gap between income and expenditures among Haredim attests as

²¹ In order to calculate the tangible components of savings, components defined as depreciation (on a motor vehicle or apartment) have to be deducted from the total savings, because depreciation does not constitute a financial expenditure and therefore doesn't directly affect the monthly financial balance.

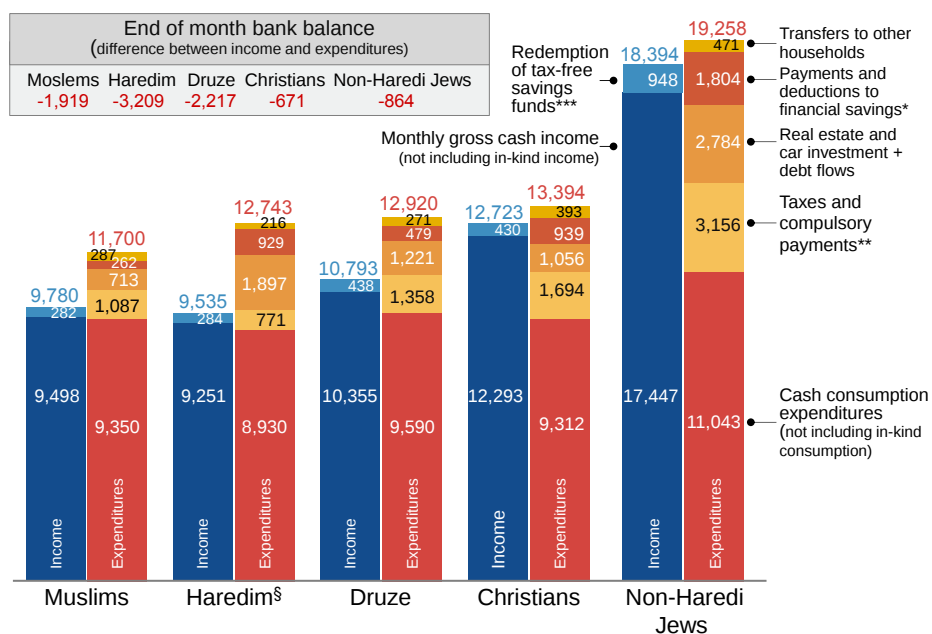
²² The gap between monetary income and expenditures may be slightly smaller since monetary gifts at events are counted on the expenditure side, but not on the income side. This amounts to an additional income of NIS 200 a month per household (for the entire population), but it is impossible to determine what the relevant sum is for each sector, since monetary gifts are also exchanged between households from different sectors.

well to their constantly growing indebtedness for the purpose of purchasing apartments.

Figure 26 (continued over next pages)

A. Household incomes and expenditures by population group

2007-2012 average, in 2012 shekels



* Mortgage payments; payments to provident funds, tax-free savings funds (*kranot hishtalmut*), executive insurance, pension funds, life insurance

** Income tax, health tax and National Insurance Institute payments

*** Calculated according to employee contributions to tax-free savings funds multiplied by 5 (to account for employer contributions and for returns on the principal until redemption)

§ Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

It is important to note that purchasing an apartment by means of down payment and monthly mortgage payments is indeed a savings channel that, with time, awards the buyer ownership of significant property of high value. However, this does not change the fact that at the monthly level, in terms of cash flows, the average household in each population group has a negative balance and is unable to make ends meet. Gruber (2014) shows that in the last decade, there has been a real increase of NIS 100 billion in household debt due to housing loans – which stands today at NIS 280 billion. In the last five years (during which housing prices soared) the share of total household debt due to housing loans increased as well, from 67 percent to 70.5 percent (Gruber, 2014).

These data demonstrate how difficult the housing crisis has made it for Israeli households to achieve an economic balance. For non-Haredi Jews, the investment in buying an apartment (to live in) is what drags them into the red from a positive monthly balance. Simply put, high housing prices are apparently the principal factor causing the average Israeli family to be unable to make ends meet.

A worrying picture also emerges when the financial balance of households in Israel by quintiles is examined (Figure 26B). Although the balance of households in the top quintile is positive, households in the other four quintiles exhibit a negative financial balance. Among households belonging to the bottom quintile, income is substantially lower than expenditures on consumption, and for the second lowest quintile gross monetary income is lower than consumption expenditure and compulsory taxes. For Quintiles 3 and 4, it is the purchase of an apartment that puts them into the red.

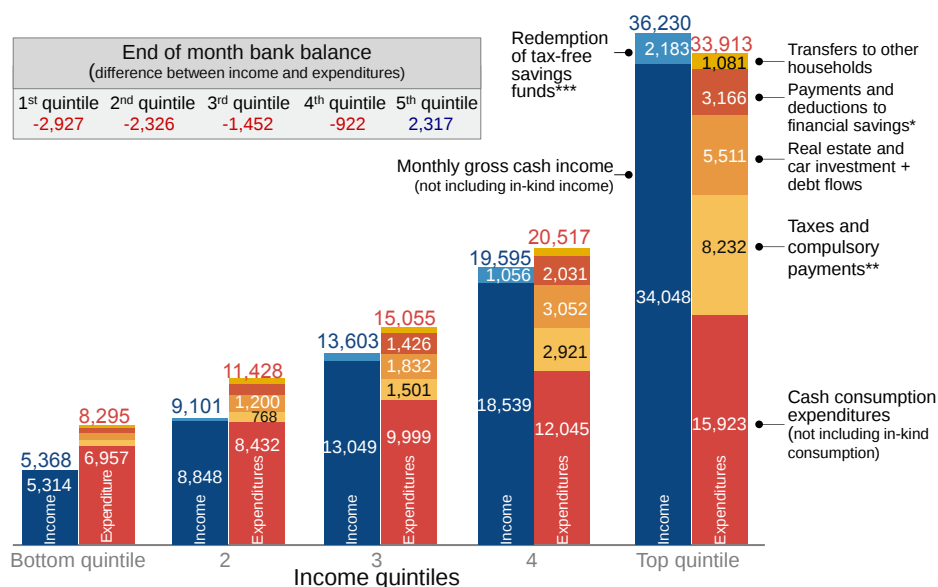
As mentioned, there are several possible explanations for these data, including the shadow economy or the existence of additional assets or other (legal) income sources that households participating in the *Household Expenditure Survey* choose not to divulge. However, if these possible factors are insufficient to explain such large gaps, it is very likely that households today – and young couples in particular – are forced to resort to the savings accumulated by their parents over the years in order to be able to buy apartments. If this is indeed the situation, it

means that the flow of savings, which in the past was positive, has turned negative; that is, the financial savings of the average household in Israel are dwindling. Furthermore, it seems that when young couples have no possibility of assistance from parents, purchasing an apartment usually becomes an unrealistic option.

Figure 26B (continued from previous pages)

Household incomes and expenditures by income quintiles

2007-2012 average, in 2012 shekels



* Mortgage payments; payments to provident funds, tax-free savings funds (*kranot hishtalmut*), executive insurance, pension funds, life insurance

** Income tax, health tax and National Insurance Institute payments

*** Calculated according to employee contributions to tax-free savings funds multiplied by 5 (to account for employer contributions and for returns on the principal until redemption)

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics, *Household Expenditure Survey*

4. Sources of the Gap Between Reported Income and Expenditures of Haredi Households

As shown in Figure 26A, the gap between the reported income and expenditures of Haredi households is exceptional in comparison to the other population groups, and it implies a monthly deficit of NIS 3,209 per household.

Such a large gap is liable to stem in part from unreported work, although that does not seem to explain it entirely. The gap between income and expenditures among non-Jews is only about NIS 2,000, but there is no apparent reason to assume that the extent of unreported labor income among them is smaller than among Haredim (and it is not unlikely for the opposite to be true). It is therefore reasonable to assume that Haredi households have additional unreported sources of income.

In this context, benefit society institutions and associations, which apparently play an important role in the economics of Haredi households, require special consideration. For that purpose, several interviews were conducted with Haredi insiders, and with non-Haredi individuals who are familiar with the sector and with the benefit society institutions.²³ The following are the main points revealed from those interviews.

Benefit Society Institutions (Gemilut Chasadim)

Benefit society institutions operate as nonprofit organizations and loan money to Haredi households at no interest. Nonetheless, these are loans that must be repaid (and not grants). The benefit societies, like banks, have collection mechanisms. There are guarantors for the loans, and when a borrower defaults on repayment, the money is collected from

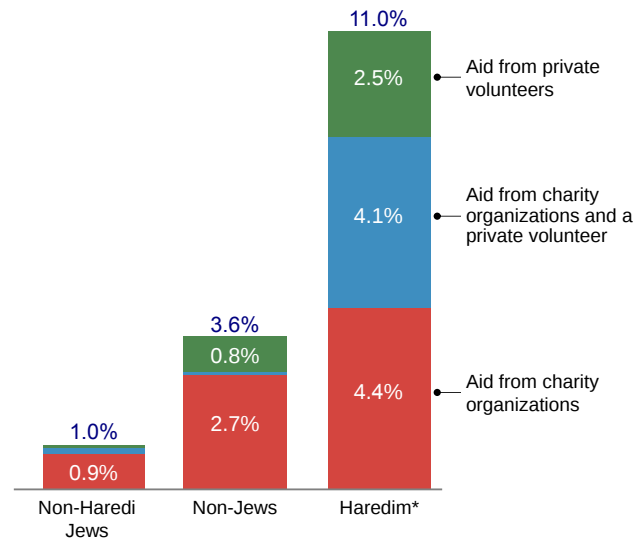
²³ The individuals interviewed were Uriel Lederberg – Managing Director of the "Pa'amonim" Association; Ben Richardson – a formerly Haredi British Jew, economist in the banking field, and graduate of Cambridge University; C.S. – a Haredi entrepreneur; Yonatan Lahmi – a Haredi student at the Hebrew University; and Y. – a young Haredi, educational rabbi at a yeshiva, and researcher at a social research institute.

them. The practice of rotating loans from one benefit society to another is also very common in such cases. Despite this, however, not all the loans are repaid in full and there are certainly cases in which the benefit society agrees to forgive or reduce the debt of certain borrowers who are in particularly dire straits. According to the estimates of some of the interviewees, 10-20 percent of the loan funds distributed by the benefit societies are never repaid.

Haredi households borrow money from benefit societies to put up the down payment necessary to take out a mortgage. This is especially common when the head of the family has to buy an apartment due to his daughter's marriage. Nonetheless, the fact that the loan does not bear any interest and the debt forgiveness rate is relatively high is also an incentive for Haredi real estate investors to buy apartments for financial purposes using initial capital provided by benefit societies (with the remainder financed by a mortgage), and to enjoy the difference between the standard interest rate and the zero interest on benefit society loans. As previously mentioned, this has become a widespread phenomenon in recent years (as evident in Figures 15, 16, 22 and 24).

Figure 27 presents the share of adult individuals (age 20 and above) who received financial assistance in 2013, by population group and assistance source. As can be seen, 11 percent of adult Haredi individuals received financial assistance, and about 9 percent received financial assistance from organizations, as opposed to only 2.8 percent of non-Jews and 0.9 percent of non-Haredi Jews who received financial assistance from organizations. These gaps among population groups not only stem from the high share of poor people in the Haredi sector; they persist also when examining the share of recipients of financial assistance from organizations among the low-income earners (less than NIS 2,000 per capita). Fifteen percent of the Haredim in this group received financial assistance, as opposed to 4.7 percent of low-income non-Jews and 3 percent among low-income non-Haredi Jews. In other words, the scope of financial assistance from organizations is much greater in the Haredi sector than in the other sectors, even when adjusted for the differences in income.

Figure 27
Share of adults receiving financial assistance, 2013
 by population group and source of aid, ages 20 and over



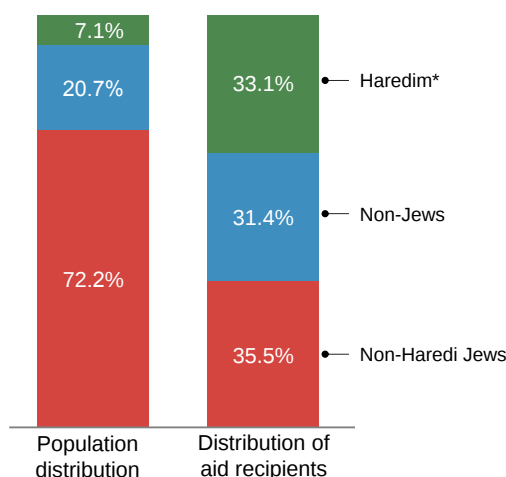
* Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Social Survey 2013*

In fact, about a third of adult individuals (age 20 and above) who received financial support in 2013 were Haredim, despite the fact that their share of this age group is only 7.1 percent (Figure 28).

Figure 28
**Distribution of financial assistance recipients
 versus population distribution**
 by population group, ages 20 and over, 2013



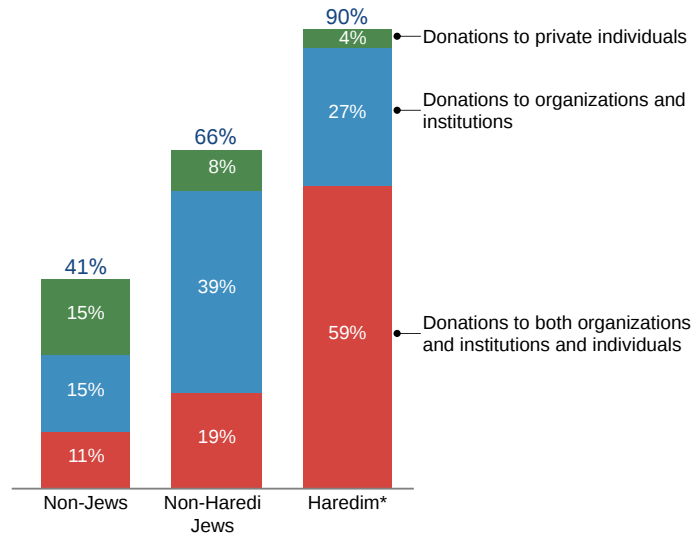
* Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Social Survey 2013*

It is important to note that in the Haredi sector, the extent of donations to non-profit and charitable organizations is also substantially greater relative to the other population groups. Ninety percent of adult Haredim donated money in 2013 (and 85 percent donated money to organizations) – as opposed to 66 percent of non-Haredi Jews and 41 percent of non-Jews (Figure 29). The average donation was also higher among Haredim: 42 percent of them donated over NIS 1,000 in 2013, as opposed to 10.2 percent of non-Haredi Jews and 5.4 percent of non-Jews.

Figure 29
Share of adults making donations, 2013
 by population group and destination of donations,
 ages 20 and over



* Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Social Survey 2013*

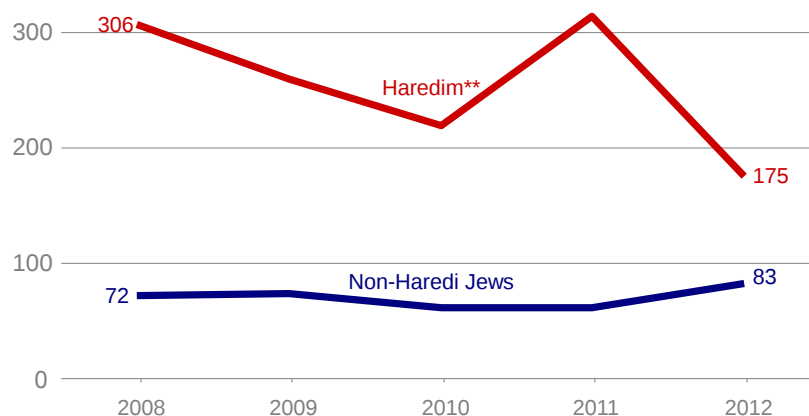
Nonetheless, even the extent of donations to associations, which is relatively large among Haredim in Israel, cannot on its own explain the wide gap between the reported income and expenditures of Haredi households, which currently stands at NIS 3,209 a month. Even if all the money that is donated to Haredi benefit societies finds its way back to Haredi households and constitutes income that is not reported in the *Household Expenditure Survey*, a large gap is still left between income and expenditures. As shown in Figure 30, in recent years, the average monthly donations of Haredi families ranged between NIS 175 and NIS 306 – and the general trend is one of decline (providing another

indication of the dwindling of resources of Haredi households). On the one hand, it is easy to see that the amounts donated by Israeli Haredim to charitable organizations can explain only a very small part of the gap between income and expenditures. On the other hand, all the interviews and data point to the benefit societies as the main unreported income source that allows many Haredi households to make ends meet. From this, it may be inferred that the lion's share of benefit society money comes from abroad (this is also confirmed in the interviews).

Figure 30

**Average monthly household donation* to
organizations and institutions, 2008-2012**

by population group, in 2012 shekels



* Averages include households that did not make a donation

** Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Financing Sources of Benefit Society Institutions

According to those interviewed, part of the benefit society money comes from donations by wealthy Haredim; in general, it is more customary in Haredi society for the rich to share their wealth with others. Nonetheless, most of the interviewees agree that most of the money originates from loans received disguised as donations and that the benefit societies are in every respect a business. They conduct widespread money-laundering activities, and most of the money that flows into them (black capital) comes in the form of loans from Jews living abroad or from Haredim living in Israel but considered foreign residents. They transfer the money to the benefit societies from foreign accounts, and money flows are very difficult to track.

In 2009, the FBI conducted a wave of arrests among senior members of the Syrian-Jewish (Halabi) community in New Jersey, on suspicion of breaking money-laundering related laws. It also considered taking legal action against several institution leaders and yeshiva heads in Israel suspected of belonging to the second circle of the money-laundering operation (Erlich, 2009). In September 2014, the Israel Police's Lahav 433 unit, in coordination with law enforcement agencies in the United States and Europe, exposed a worldwide money-laundering network that had been funneling hundreds of millions of shekels. Israeli citizens and residents, some of them Haredi, had taken high commissions on money-laundering deals for the benefit of criminals abroad. The Haredi members of the network exploited their ability to move the money from place to place by means of couriers and Torah scholars who fly frequently around the world in order to transfer the "dirty" money between countries in Europe, through Israel, and then back to Europe or the United States (Levy-Weinreb, 2014).

According to some of the interviewees, the money-laundering mechanism is very complex and includes an extensive network of institutions and contacts in Israel and abroad. For instance, an American tax offender interested in laundering \$100,000 can divide the sum into ten parts and transfer them to Jewish contacts or intermediaries of his

community. Each of those intermediaries then transfers the sum received (minus a small commission for the service rendered) to a benefit society institution in Israel as a private donation (but in effect it is a loan). Because the large sum has been divided into relatively small money transfers, it does not arouse suspicion. The benefit society institutions lend this money (at no interest) to Haredi households in Israel, and as mentioned above, their collection mechanisms ensure that most of the money will be repaid to them, so only 10-20 percent of loan funds are forgiven. For money-launderers abroad, that is a low price to pay for laundering relative to other alternatives.

When the benefit society institution has to return the loans received from abroad (minus 10-20 percent), an entire network of contacts and intermediaries swings into operation. The benefit institution may divide the amount and transfer it (in parts) to several contacts in the relevant community in Israel (i.e., the Haredi sect which that benefit society serves). Each of those contacts then donates the money received from the benefit society to one of the senior rabbis of that sect. That rabbi donates the money to several charity organizations in Israel (belonging to that sect), and those charity organizations donate the money to charity organizations abroad.²⁴

In the last stage, the charity organizations abroad must find ways to transfer the money back to the original lender without arousing the authorities' suspicion. One such way consists of ordering services from the lender himself at inflated prices, so that the payment will include both the cost of the services and the original amount of the loan. The entire process is intricate and sophisticated, and the method works well by virtue of the cooperation and mutual trust among all sides involved.

²⁴ Since there is little governmental oversight of charity organizations in Israel, it is very difficult to track the money. It may go through 20 different channels before returning to the original lender.

The Effect of “Black” Capital²⁵ on the Real Estate Market in Israel

According to the estimates of the State Revenue Administration, a large part of the market for real estate for investment purposes in Israel is based on black capital that is invested in the purchasing of apartments. Senior officials of the Tax Authority have declared that they are aware that considerable amounts of black capital are smuggled into Israel and laundered by means of real estate transactions. According to the study conducted by the State Revenue Administration, the gross monthly income of 18 percent of the households that bought an apartment for investment purposes in the years 2012-2014 was lower than NIS 7,000. It does not stand to reason that such a high percentage of households with such low income are purchasing apartments for investment purposes. It is more reasonable to assume that their reported income is only part of their real income, or that they are serving as cover for the real apartment buyer who is trying to avoid paying tax or revealing information on his capital assets (Mirovsky, 2014). As noted, these data align with the findings in Figure 26A, which shows that when Haredi households' expenditures on housing are taken into account, their total monthly expenditures are much higher than their reported income.

It seems that the flow of black capital from abroad, together with extensive money-laundering activity assisted by benefit society institutions, is what allows many Haredi households to buy apartments despite their low income. This is manifested by the purchase of apartments not only for residential but for investment purposes as well – while exploiting the no-interest loans and the frequency of debt forgiveness. The effect of this phenomenon on real estate prices in Israel deserves a deeper examination.

²⁵ Clack capital refers to money that has its sources in criminal activity such as tax evasion or illegal trade.

Spotlight: How Haredi Families Contend with Rising House Prices

Ayal Kimhi, Nachum Blass and Haim Bleikh

Between 2003 and 2012, there was a 34 percent rise in the prices of apartments whose buyers were non-Haredi Jewish households, but the prices of apartments bought by Haredim rose by only 6 percent during the same period. One of the explanations for this gap is that young Haredi families find housing solutions in areas where housing is particularly cheap, even subsidized.

To test this hypothesis, the change in the number of Jewish pupils in primary schools in various districts, by the type of school supervision (State, State-religious or Haredi) was examined. In general, there are various methods for identifying Haredi households in datasets, none of which is perfect. In contrast, the education system facilitates the precise identification of pupils attending Haredi schools, making it possible to track the demographic trends within the Haredi population with greater accuracy.

Table 1 presents the changes in the numbers of Jewish pupils attending grades 1-6 between 2000 and 2014, by type of supervision and by geographic district. The overall growth of the Haredi population is evident, manifested by the 80 percent increase in the number of pupils in Haredi schools, as opposed to increases of 23 percent in the state-religious schools and only 9 percent in the state schools. The breakdown by districts shows an increase at double the average national rate (160 percent) in Haredi schools in the central district, and at quadruple the average national rate (371 percent) in Judea and Samaria. Not surprisingly, these are the two districts with the highest growth rate in the total number of pupils (of all supervisory types): 36 percent and 120 percent, respectively.

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Table 1. **Changes in the number of Jewish pupils in grades 1-6 between 2000 and 2014, by type of supervision and geographic district**

District	Supervision			Total
	State	State-religious	Haredi	
South	-3%	+11%	+79%	+12%
Haifa	-2%	-3%	+62%	+3%
Jerusalem	-12%	+26%	+56%	+29%
Center	+27%	+23%	+160%	+36%
Tel Aviv	+9%	-1%	+25%	+12%
North	+1%	+21%	+47%	+9%
Judea/Samaria	+13%	+80%	+371%	+120%
Total	+9%	+23%	+80%	+24%

Source: Kimhi, Blass and Bleikh, Taub Center

Data: Ministry of Education

In effect, 65 percent of the increase in the number of Jewish pupils in grades 1-6 in the West Bank district was registered in the Haredi sector. Whereas 21 percent of Jewish pupils in grades 1-6 in the Judea and Samaria district attended Haredi schools in 2000, by 2014 that rate more than doubled to 45 percent.

That is not an indication of a process of growing Haredization of the population of this area. It is more reasonable to suppose that it concerns young Haredi families moving outwards in search of cheap housing solutions. Support for this notion can be found in the fact that in Ma'ale Adumim and Ariel, two relatively large localities with a mixed population of secular and national-religious Jews, there was a population

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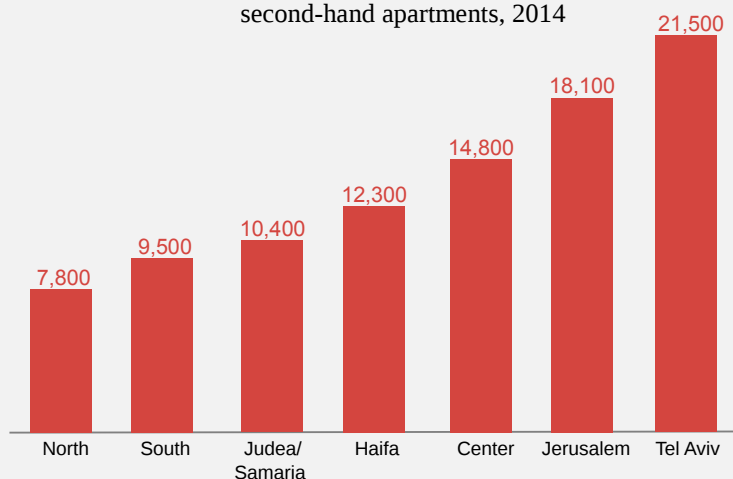
increase of 30 percent from 2002 to 2012, while in Modi'in Illit and Beitar Illit, the two large Haredi localities, population growth reached 130 percent in the same period.

Figure 31 shows that housing prices in the West Bank district are substantially lower than in the districts of Tel Aviv, Jerusalem, Haifa and the Center. The conclusion is that the Haredi population responds more to the price differentials than other populations, whether due to residential preferences that differ from those of the rest of the population or due to a lack of choice. In any event, it appears that moving to areas where apartments are cheaper is one of the ways, if not the principal way, in which the Haredi population contends with the high cost of living in general, and soaring housing prices in particular.

Figure 31

Apartment prices

price in shekels per square meter for new and second-hand apartments, 2014



Source: Ayal Kimhi, Nachum Blass and Haim Bleikh, Taub Center

Data: www.madlan.co.il

5. Summary and Conclusions

This chapter has surveyed the components of household income, expenditures and savings in Israel, and examined the differences between the various sectors and between households at different income levels. Special attention was devoted to the changes in the patterns of consumption and savings in the Haredi sector, with an emphasis on the real estate field. The findings reveal that in all of the sectors there are substantial gaps between the average reported financial expenditures and the average reported financial income. The gap is especially wide in the Haredi sector, amounting to NIS 3,209 a month (average for the years 2007-2012).

The existence of a shadow economy may explain part of the gap, but certainly not all of it. Based on the data, it stands to reason that besides the black capital from work and the flow of black capital from abroad, there is also a structural deficit that is causing a constant increase in Haredi households' indebtedness to banks and other lenders. The scope of Haredi households' debts due to the purchase of apartments has grown considerably in recent years; their monthly mortgage payments rose by 72 percent (in real terms) in the last decade, and the rate of Haredi mortgage holders rose from 34.7 percent to 41.4 percent. In contrast, the rate of mortgage holders among non-Haredi Jews declined.

Despite the rise in real estate prices, the scope of investment in real estate in the Haredi sector has only grown. The share of Haredi households buying an apartment for investment purposes stands at 1.34 percent a year, as opposed to only 0.63 percent among non-Haredi Jews (average for the years 2007-2012), and Haredi households' average monthly investment in real estate jumped from NIS 1,374 in 2007 to NIS 3,190 in 2012. In recent years the real estate investment field seems to have become entrenched in the Haredi sector and increasingly perceived as a channel which, on the one hand makes it possible to maintain a Torah-study lifestyle, and on the other hand yields a sufficient livelihood.

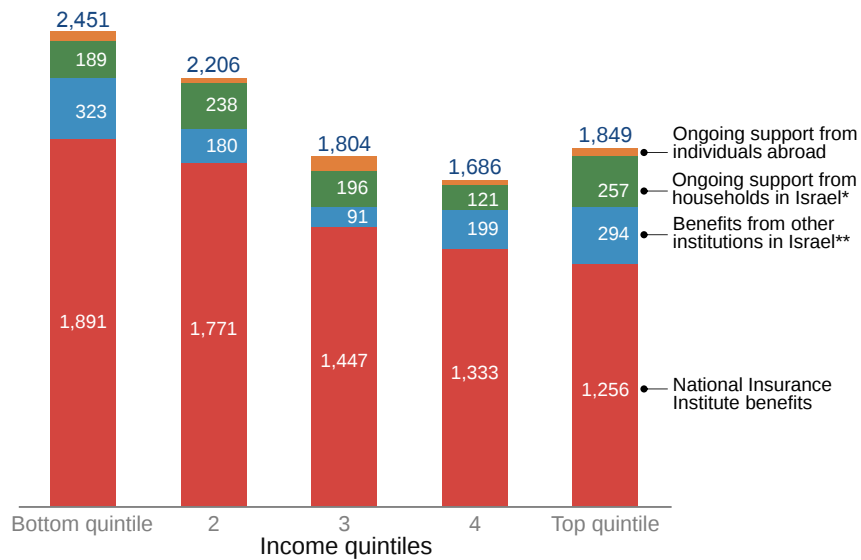
However, the trends revealed by the data raise considerable doubt regarding the long-term sustainability of this situation. The increase in loans and indebtedness points to a constant dwindling of the resources available to Haredi families and a growing dependency on external assistance. Although investment in real estate may indeed yield some investors a handsome income, investing by means of overleveraging and assuming heavy debts is dangerous and liable to have devastating consequences for the borrowers. Furthermore, in the Haredi sector, there seems to be an extensive flow of black capital originating from abroad – which reaches the Israeli real estate market through benefit society institutions and Haredi households. The effect of this phenomenon on real estate prices in Israel deserves a deeper examination. The high real estate prices constitute a significant economic hardship for other population groups as well.

A glance at the balance of income and expenditures across all sectors reveals a disturbing picture, according to which the average household in Israel is unable to buy an apartment without assistance (usually from parents) that originates from previous savings. In other words, the flow of financial savings is negative and the financial savings of the parents' generation are depleted in order to provide their children with real estate savings – the purchase of an apartment. It is doubtful whether this situation is sustainable in the long term either, for current apartment prices are making it very difficult for the younger generation to accumulate financial savings that would allow them – when the time comes – to help their children in a similar manner.

Appendices

Appendix Figure 1

Monthly household benefits and support
by income quintiles and source of support, in shekels, 2011



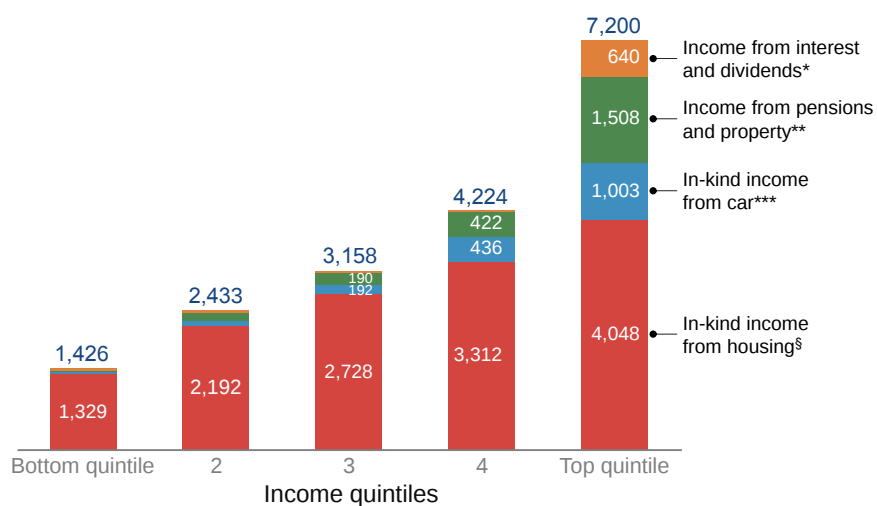
* Income from individuals in Israel; alimony/child support; other ongoing support

** Ministry of Defense, Ministry of Immigrant Absorption, Ministry of Construction and Housing, Ministry of Social Affairs and Social Services, the Jewish Agency, yeshivas and the like; ongoing scholarships

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Appendix Figure 2
Monthly household income from capital
 by income quintiles and source of income, in shekels, 2011



* Interest on short-term deposits; interest on savings plans for over a year; interest on bonds; dividends

** Income from house, apartment or room rental or from rental of other property

*** In-kind income from car ownership or use of a company car

§ Income in-kind from homeownership, key-money or free housing

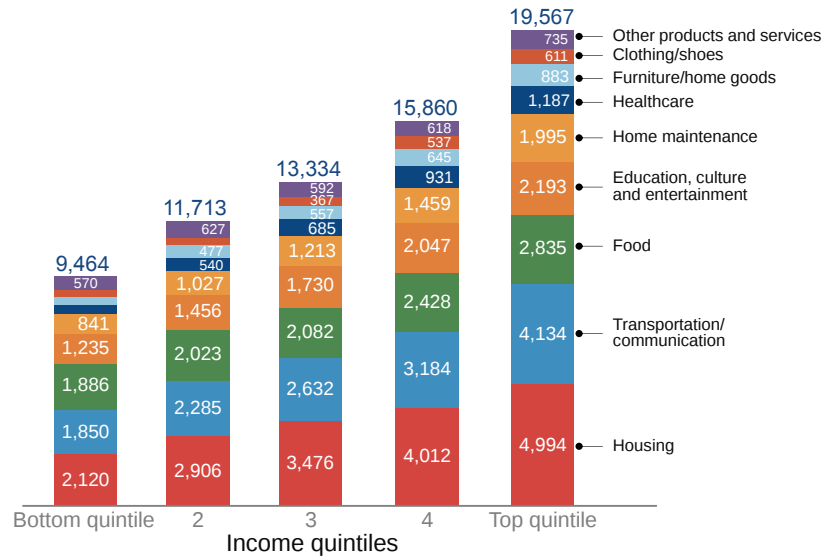
Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

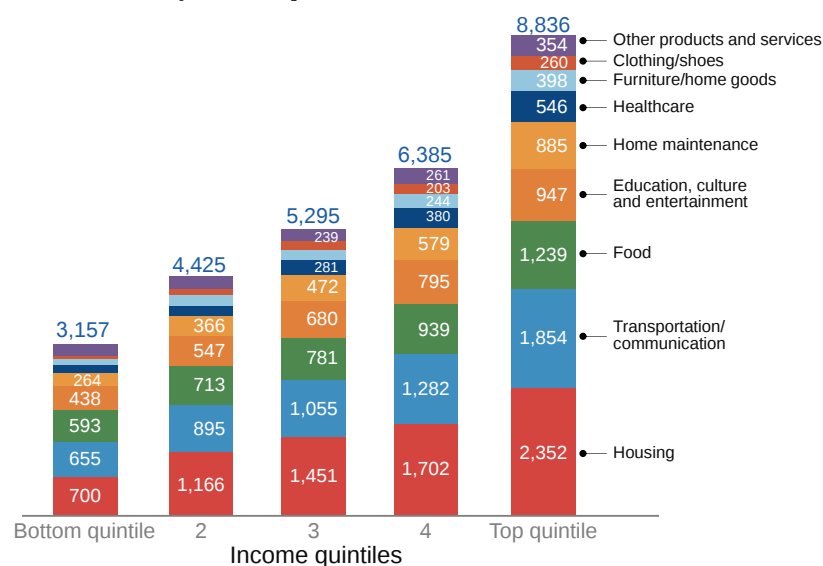
Appendix Figure 3

A. Distribution of household consumption expenditures

by income quintiles, in shekels, 2011

**B. Distribution of consumption expenditures per standardized person**

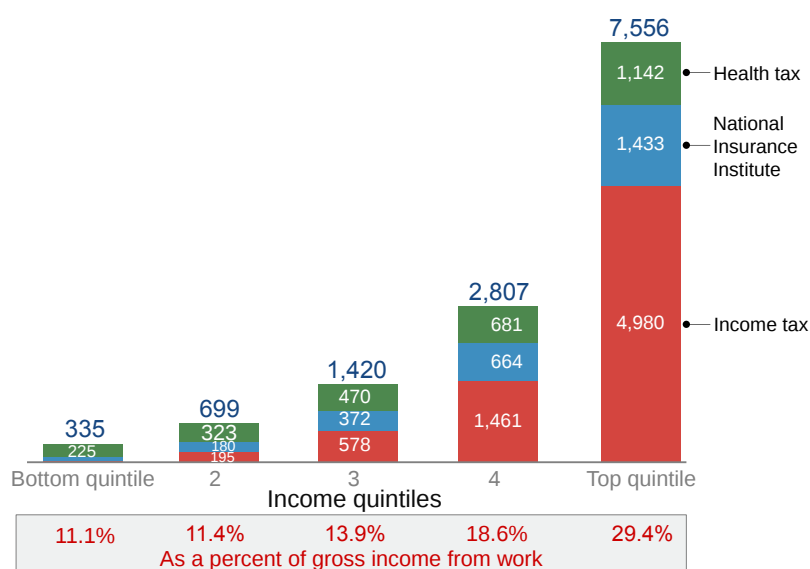
by income quintiles, in shekels, 2011



Source for both: Eitan Regev, Taub Center for Social Policy Studies in Israel

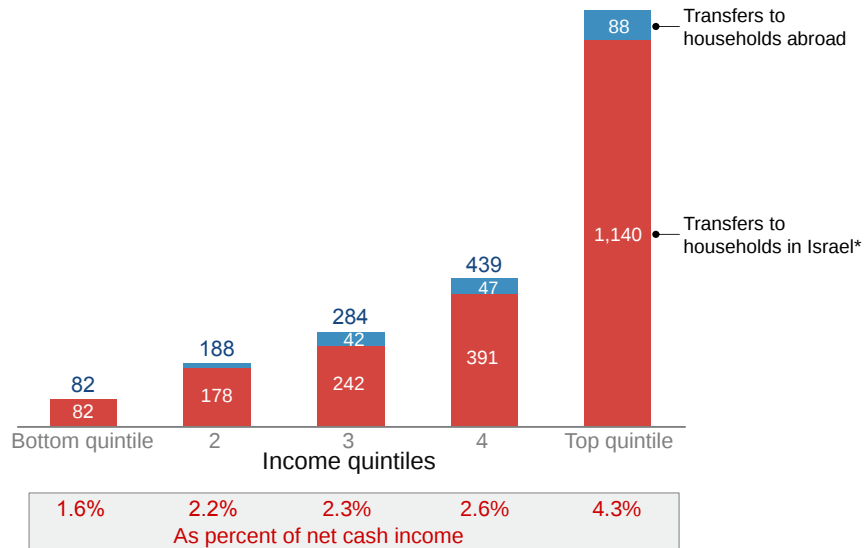
Data for both: Central Bureau of Statistics, *Household Expenditure Survey*

Appendix Figure 4
Monthly household compulsory payments
 by income quintiles, in shekels, 2011



Source: Eitan Regev, Taub Center for Social Policy Studies in Israel
 Data: Central Bureau of Statistics, *Household Expenditure Survey*

Appendix Figure 5
Monthly transfers to other households
 by income quintiles, in shekels, 2011

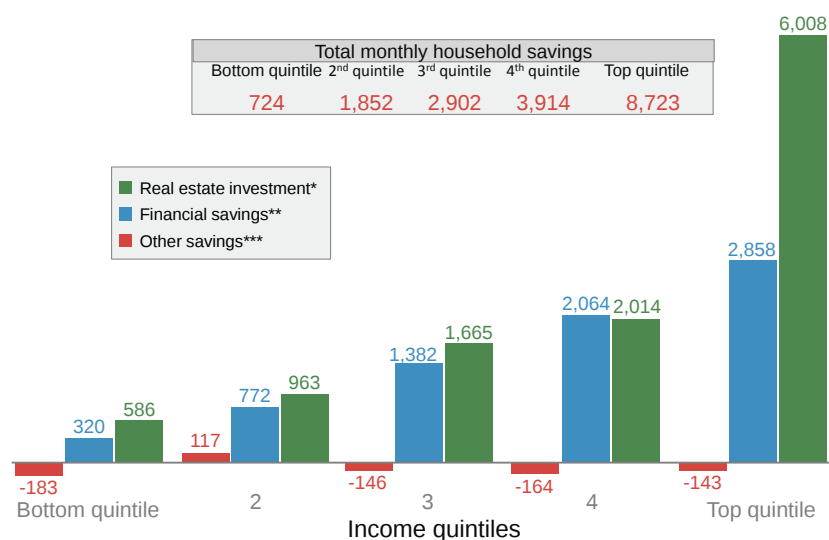


* Ongoing transfers in Israel including alimony/child support; monetary gifts for special occasions; monetary gifts of less than NIS 100

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Appendix Figure 6
Household monthly savings
 by type of savings and income quintiles, in shekels, 2011



* Purchase of an apartment; net purchase of an apartment for use by others or as an investment; investment in existing apartment

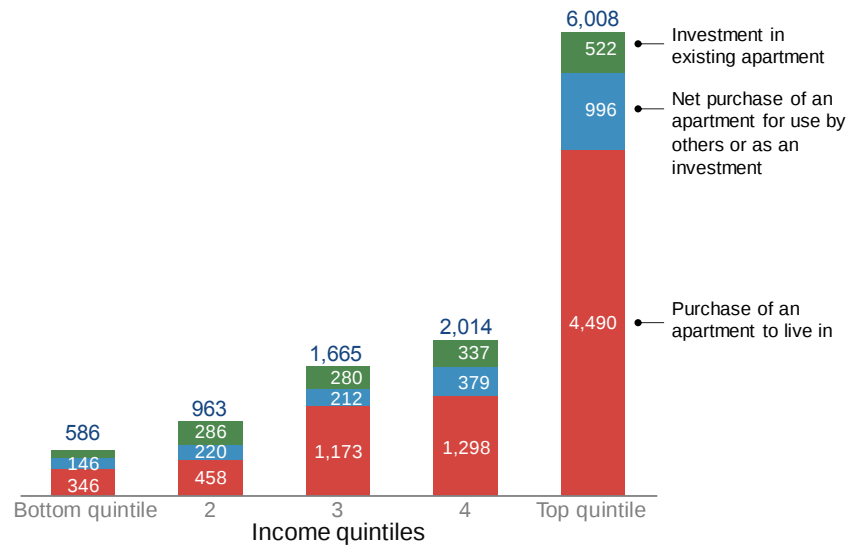
** Life insurance premiums; payments to provident funds, tax-free savings funds (*kranot hishtalmut*), pension funds, executive insurance; mortgage payments (principal and interest)

*** Car purchase; debt flows; surplus from purchase and sales (furniture, equipment, motorcycles, cars)

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Appendix Figure 7
Average monthly household investment in real estate*
 by income quintiles and investment type, in shekels, 2011



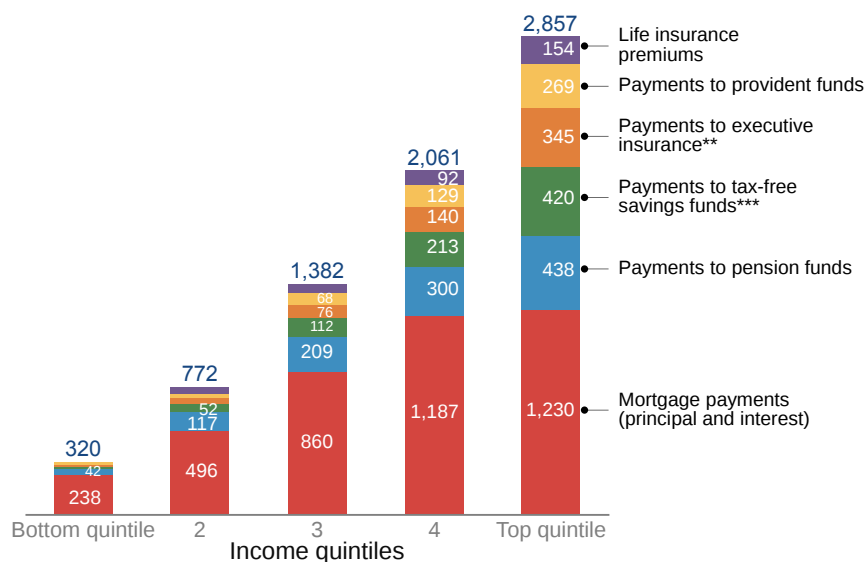
* Averages include households that did not invest in real estate in 2011

** Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Appendix Figure 8
Monthly financial savings*
 by income quintiles and savings type, in shekels, 2011



* Only the employee's payments to pension funds, tax-free savings funds (*kranot hishtalmut*), executive insurance, and provident funds are shown. The employer's contribution is not included.

** Executive insurance refers to a type of pension savings arrangement with an annuity coefficient that is guaranteed at the time of registration for the plan.

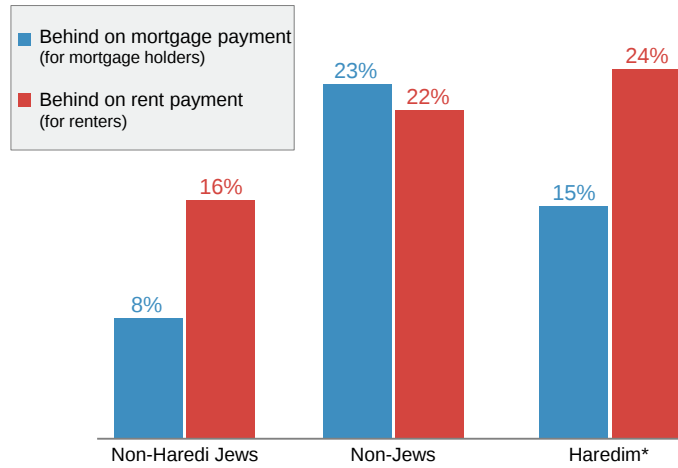
*** Tax-free savings funds are *kranot hishtalmut* in Hebrew

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Appendix Figure 9
**Share of households that are behind on rent
or mortgage payments**

by population group, age 20 and over, 2013



* Haredim are ultra-Orthodox Jews

Source: Eitan Regev, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Social Survey 2013*

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The Israeli Housing Market

Noam Gruber*

Abstract

Israeli housing prices have risen precipitously in recent years. The rising prices are due both to increased demand – driven mainly by low interest rates and preferential tax treatment – and to rigid supply, rooted in bureaucratic complications of the construction process, an inherent conflict of interest at the local level, and a high prevalence of condominium apartment living in Israel, which poses an obstacle to urban renewal. In the short term, in order to reduce demand, it is recommended that rental income be taxed in a manner similar to capital market income. In the long term, in order to foster greater housing-supply flexibility and reduce the housing market's high volatility, it is suggested that construction-related planning, approval and supervisory processes be simplified and decentralized, that income from development and the responsibility for laying the infrastructure necessary for that development be transferred to local authorities, and that the sale of apartment buildings based on tenant supermajority be authorized as an alternative to National Outline Plan 38 (known in Hebrew as TAMA 38) and vacate-and-build (known as pinui-binui) programs. It would also be desirable – so long as there is no negative impact on the environment or on the construction of future national infrastructure – to transfer the property rights to a large share of the country's available land to local authorities and private entities.

* Dr. Noam Gruber, senior researcher, Taub Center for Social Policy Studies in Israel. I thank Daniel Premisler for his extensive assistance in processing the data. I am also grateful to Dan Ben-David and to Ayal Kimhi for their useful comments.

Introduction

The more than 50 percent increase in housing prices that occurred during the period 2007-2013 (in real terms) is at present the main barrier to buying a home for many families and especially for younger and lower-income households. A steep decline in interest rates due to the global economic crisis, combined with capital-market taxation practices that created a comparative advantage for real estate investment, led to a sharp rise in the demand for housing. Rigid systemic barriers kept the housing supply from increasing in a manner commensurate with demand, resulting in competition between investors and young households for the limited supply of new residences. The outcome has been a price increase and the consequent crowding out of less-affluent households, which are compelled to rent from these same investors. The expectation that housing prices will remain high and keep rising in the foreseeable future has become a self-fulfilling prophecy and created the present housing bubble. Despite the government's efforts to bolster supply, the Israeli public is highly skeptical both of the state's professed desire to bring about a substantial drop in prices, and of its actual ability to do so. The aim of this chapter is to identify the causes of the housing price increase, analyze its impact on Israeli society, and review the policy measures that should be taken to address it.

1. Characteristics of the Housing Market

The lengthy period necessary to build an apartment distinguishes the housing market from other markets, in which supply is able to adapt to demand within relatively short time frames. This distinction is particularly relevant to Israel, where bureaucratic red tape leads to delays on both the national and local levels. Rigid supply means that prices are set in the short term by the demand side. In a functioning market, however, supply should gradually reduce housing prices to the range of their total construction cost – since as long as apartment prices exceed the

sum total of the costs entailed by their construction, it would be profitable for contractors to keep building. Thus, a rise in demand brings about a rise in prices, which should, in turn, expand the scope of construction and thereby of supply, up to the point where prices reach their natural level.¹ At times, however, this can be a long-term process, given how hard it is to significantly increase the housing supply within a short period, the time it takes to build, the need for appropriate infrastructure, and bureaucracy.

The more rigid the supply of housing, the more extreme and prolonged is the reaction of prices to changes in demand. This reaction is liable to be further exacerbated through buyer leveraging (increasing the mortgage payment to household income ratio) and investment entry and exit, to a point where a destructive cycle is created. For example, when prices rise, households leverage themselves to an ever-greater extent in order to afford them, meaning that more and more capital enters the real estate investment market; prices then continue to rise, and so on until the painful collapse occurs. This housing bubble phenomenon is much more prevalent in areas where supply is very rigid, as shown by Glaeser et al. (2008), because in these areas the expectation that prices will continue to rise is rational and self-fulfilling. Although opinions differ regarding the contention that there is a housing bubble in Israel,² it is clear that the rapid and ongoing rise in prices took place concomitantly with a major increase in real estate acquisitions for investment purposes, and that greater flexibility in the supply of apartments relative to price would stimulate construction on a larger scale and reduce price volatility in the housing market. As shown by Caldera Sanchez and Johansson (2011) in an international comparison, Israel's housing supply has a low elasticity

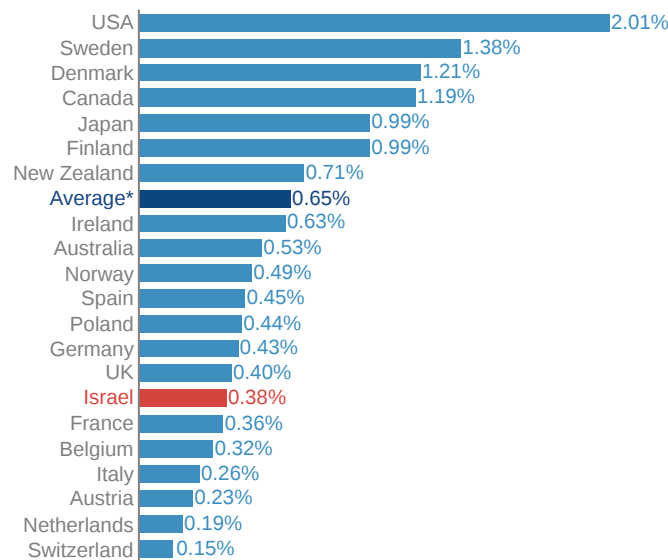
¹ The term "natural price level" refers to the level of prices at long-term equilibrium, reflecting the total construction cost plus reasonable profit for the developer.

² For example, Nagar and Segal (2011) and Dovman et al. (2011) find no real housing bubble, at least as of 2010. On the other hand, an International Monetary Fund report notes that Israeli housing prices are 25 percent higher than their natural level (IMF, 2014).

in relation to price (Figure 1). In Israel, a 1 percent increase in housing prices brings about a 0.38 percent increase in supply – a much lower ratio than in countries such as Canada and Denmark (1.2 percent), Sweden (1.4 percent) and the United States (2 percent). This characteristically Israeli phenomenon – price increases not accompanied by a commensurate expansion of the housing supply – produces the conditions in which a housing bubble can emerge, in contrast to countries where rising prices drive a steep increase in supply.

Figure 1

**Percent rise in the supply of new housing units
in response to 1 percent rise in housing price**



* Average of all countries in the figure

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Caldera Sanchez and Johansson, 2011

In an efficiently functioning market, rising demand should generate a rise in prices that in turn leads, within a relatively short timeframe, to a construction boom. When accompanied by the alleviation of transportation bottlenecks and the acceleration of regional development, a surge in construction can enlarge the supply and improve the quality of housing in a given market. Instead of this happening in Israel, however, recent years have witnessed a situation in which the initial price rise generated by limited supply continues indefinitely due to over-leveraging of buyers and investors, creating a speculative bubble. Soaring housing prices prompt calls for emergency measures on the part of the government, mainly in the form of large-scale construction projects. Yet these kinds of projects – having bypassed the planning authorities – are liable to put tremendous pressure on infrastructure, and to cause major environmental damage. The elevated prices encourage high-rise construction in places where there is no long-term justification for it,³ and the large gap that ensues between demand and supply results in low construction standards, since developers have less need to compete for buyers.⁴ Furthermore, direct government involvement in housing construction is liable to be a factor in the high proportion of poor-quality construction that so often characterizes public housing.⁵

Ultimately, high prices, buyer overleveraging and huge state construction projects increase the likelihood of a housing market collapse. In a pessimistic yet altogether plausible “doomsday” scenario, rising interest rates would lead to higher mortgage payments and lower housing demand. Meanwhile, public housing developers would flood the market with apartments. Investors – who have real estate on their hands that is losing its value at a time when they can see the potential for higher yields in the capital market – would hasten to sell the properties in their

³ Professor Rachel Alterman explains that the burdensome cost of maintaining high-rises makes them suitable for luxury apartments only (Shauli, 2014).

⁴ A study by Yehiel Rosenfeld and Hanan Ben Oz calls attention to Israel’s low construction standards (Smolsky, 2014).

⁵ As happened in the 1990s (Mirovsky, 2014).

possession. Households that bought apartments to live in and are tied to variable-rate mortgages with growing payments⁶ would also wish to sell their homes so as to pay off their debt and purchase similar or better apartments at lower prices, once prices ceased dropping. These factors would drive prices still lower, in a vicious cycle. Construction would halt completely, at least in the private sector, and the construction industry would suffer mass layoffs and widespread bankruptcies.

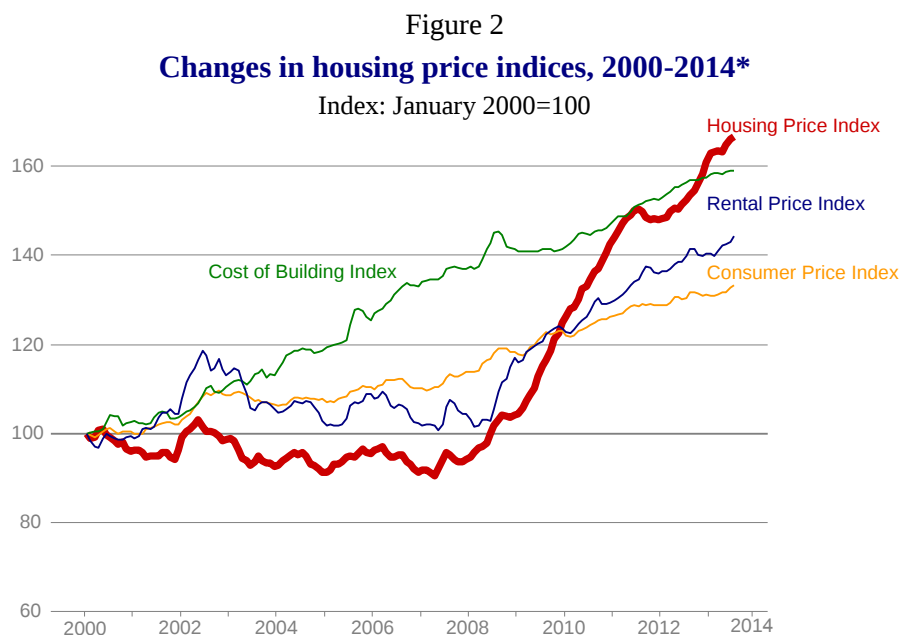
2. Estimating Housing Prices

Israeli public debate draws on several different kinds of housing price estimates. The Ministry of Finance (2013) reports on the ratio of mean/median apartment price to mean/median household income; the Ministry of Construction and Housing (2013) focuses on mean apartment prices in general and on the breakdown between new and secondhand units, as well as the breakdown by number of rooms; the Chief Government Appraiser (Ministry of Justice, 2013) examines changes in the average price of 4-room (3-bedroom) apartments, per unit sold and by city. By contrast, the Interdisciplinary Center's Gazit-Globe Real Estate Institute publishes its GGII index, based on secondhand apartment repeat sales, similar to the American Case-Shiller Index; and finally, the Central Bureau of Statistics publishes a housing price index based on the hedonic pricing method – that is, accounting for the effects of housing quality on price. The Central Bureau of Statistics also conducts a household expenditure survey that includes data on the value of homes owned by households, as estimated by the households themselves. The world's leading indices in terms of their ability to account for differences between residential units over time when calculating price changes, are the repeat-sales indices (Case-Shiller; GGII) and the hedonic indices, as used by the Central Bureau of Statistics. Each of these indices has its own drawbacks,

⁶ Variable-rate mortgages accounted for 80 percent of all mortgages in 2011, when the Supervisor of Banks limited the variable rate component of mortgage loans (Benita and Naor, 2013).

but the picture they provide regarding the price increases of recent years is nearly identical (Gazit-Globe Real Estate Institute, 2012). This chapter relies on the Central Bureau of Statistics' housing price index, except where otherwise indicated.

As may be seen in Figure 2, nominal housing prices, (i.e., prices not adjusted for changes in the Consumer Price Index) remained stable and even declined from the early 2000s to the beginning of 2008. Essentially, the June 2008 housing price index returned to its nominal level of January 2000. After adjusting for CPI increases during this period, the picture obtained is one of a real decline in housing prices during most of the 2000s. The housing price index caught up with the CPI index rise only in November 2009. Starting in early 2008, the housing price trend changed; prices began a steep and continuous ascent which, except for a brief drop in the second half of 2011, is ongoing. From the low point of April 2007 to June 2011, housing prices increased nominally by 84 percent, or by 53 percent in real terms adjusting for the change in CPI.



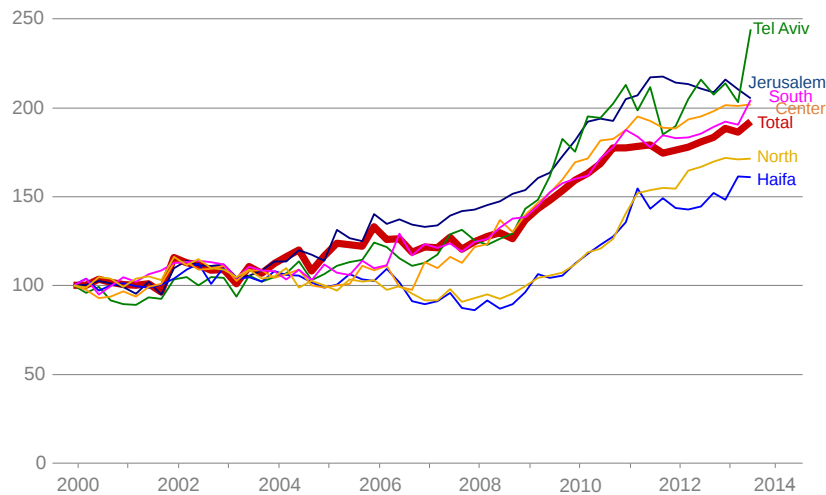
* Data are for January in each year

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics

As can be seen in Figure 3, the rise in housing prices is a nationwide phenomenon; it reached northern Israel with nearly a year's delay, but from early 2009 on, the trend has encompassed that region as well.

Figure 3
Housing Price Index for 3.5-4 room apartments*, by district
 Index: First quarter of 2000=100, in current prices, 2000-2014**



* Owner-occupied apartments

** Data are for January in each year

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics

Based on a comparison of the Housing Price Index to the Cost of Building Index, which represents construction costs of labor and materials but not the cost of land (Figure 2 previously), it appears that building input prices do not play a major role in the housing price rise, as there is no correlation between the two metrics.

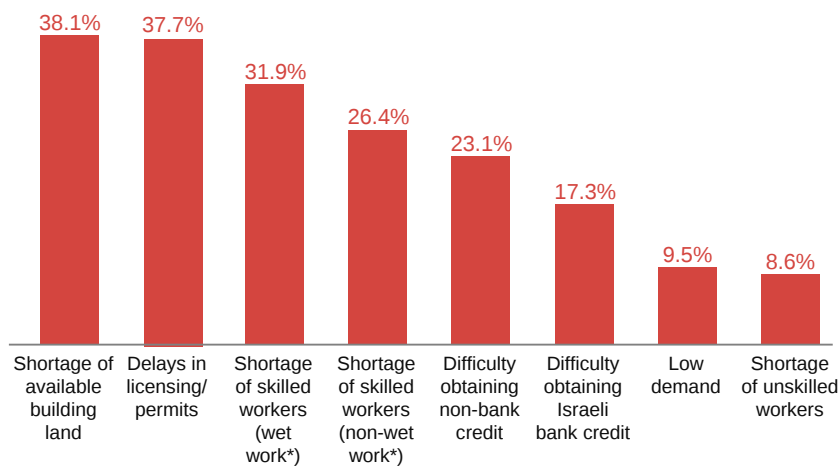
By contrast, the change in land prices between 1998 and 2012 closely corresponds to the rise in housing prices, at least in central Israel (Zussman, 2013). When one looks at the correlation between the change in land prices and the change in housing prices, and at the substantial regional price disparities, one finds that the primary cause of the housing price increase is the shortage of land for construction, rather than the impact of any other inputs. This hypothesis is also supported by Eckstein et al. (2012), who show that despite requiring similar inputs, commercial real estate prices have not increased alongside residential prices, as commercial real estate has not faced similar permit constraints to residential real estate.

The two main barriers behind the rigid supply, as reported by construction companies (Figure 4), are a lack of available land and permit delays. The companies also point to a shortage of skilled workers and to credit difficulties, although to a lesser degree.

Figure 4

Severe constraints reported by construction companies

percent of all construction companies, by type of constraint, October 2013



* Wet work includes foundation, plastering and flooring

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Business Tendency Survey*

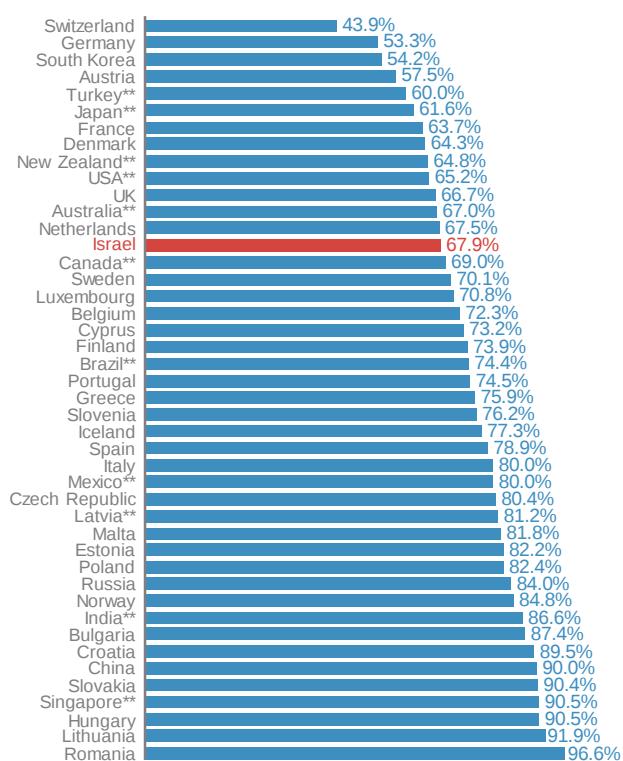
Since December 2010, when the Central Bureau of Statistics began conducting the Business Tendency Survey, and October 2013, there has been an improvement in the availability of skilled workers – a reduction from 43.5 percent to 31.9 percent in the share of construction firms reporting a severe shortage of skilled labor in wet work (foundation, plastering and flooring), and a reduction from 36.1 percent to 26.4 percent in the share of companies reporting a severe shortage of non-wet work labor. In contrast, the percentage of construction firms reporting that land shortages and permit delays are severely constraining their activity remained virtually unchanged during this period. The conclusion that can be drawn is that in order to increase housing supply flexibility, the government should now focus on shortening and simplifying the bureaucratic process involved in obtaining building permits.⁷

3. Social Impact of the Rise in Housing Prices

As noted by Andrews and Sanchez (2011), home ownership, whose rates have increased gradually in many OECD countries over recent decades, is regarded as a positive socioeconomic factor that enables households to accumulate assets while also fostering their community involvement and their children's scholastic achievements. Israeli homeownership rates are moderate by international comparison, although similar to the rates of most developed countries. Former Eastern bloc countries actually enjoy the highest homeownership rates, due to the transfer of residential unit ownership to tenants when the Communist era ended (Figure 5).

⁷ For a discussion of the construction industry's skilled labor shortage, see the Appendix.

Figure 5
Owner-occupier households*
 as percent of all households, 2012



* Not including apartment owners who are not living in the apartment that they own

** Data for the following years: Japan and Brazil (2008); Mexico (2009); Turkey, Australia, Canada, and India (2011); New Zealand, USA, Latvia, and Singapore (2013)

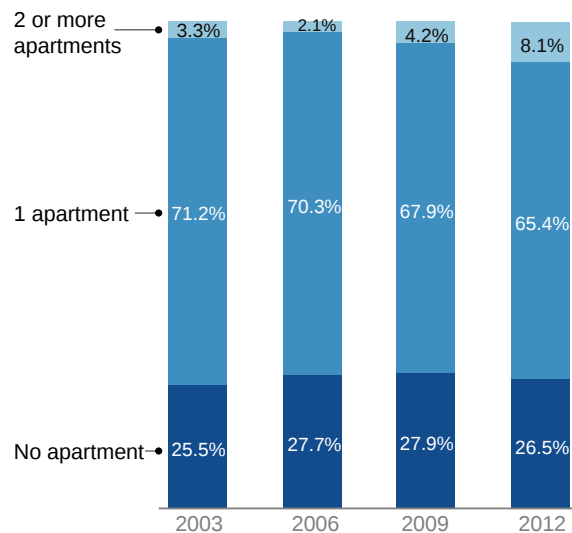
Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Caldera Sanchez and Johansson, 2011

Despite the escalating prices of recent years, the percentage of Israeli households that do not own an apartment of any kind (whether occupied by them or not) actually declined from 27.7 percent in 2006 to 26.5

percent in 2012 (Figure 6).⁸ Overall, what stands out in recent years is a dramatic rise in the percentage of households that own two or more apartments:⁹ from 2.1 percent in 2006 to 8.1 percent in 2012 – a nearly fourfold increase.

Figure 6
Distribution of households* by ownership category



* Head of household aged 25 and over

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

⁸ Of the households that do not own apartments, most (87 percent in 2012) rent apartments, while the rest live in apartments that do not belong to them – usually properties owned by relatives, employers or kibbutzim.

⁹ A household that owns at least two apartments is defined here as a household with one owner-occupied apartment and at least one additional apartment. The Central Bureau of Statistics' expenditure survey does not provide data on the exact number of additional apartments owned by each household; thus, a household that does not reside in an apartment that it owns but that owns additional apartments will be regarded as owning a single apartment.

The rise in the percentage of households that own two or more apartments reflects expanded investor activity in the real estate market – from 22.5 percent of purchases in 2003 to 30.4 percent in 2008, as noted by Ben Naim (2009). Bank of Israel Research Department data (2013) show that the percentage of investment transactions out of total residential transactions continued to rise during 2009 and 2010, but declined sharply in early 2011; since then it has remained in the 23 to 25 percent range.¹⁰ This moderation may be attributed to efforts to raise the purchase tax on residential investment properties – an increase that went into effect in February 2011. It is also likely that the summer 2011 housing protest and ensuing uncertainty also helped drive down the share of investment-related transactions.

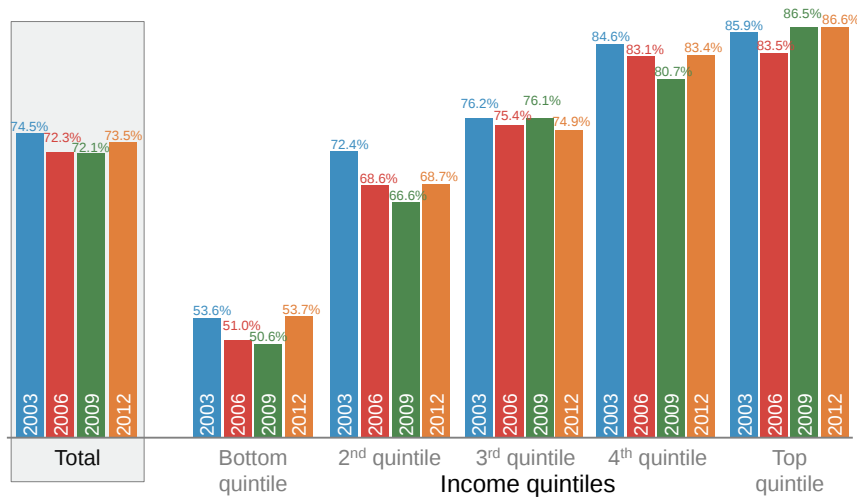
The rise in the percentage of owners of two or more apartments during a period when the percentage of non-homeowning households remained steady would seem, at first glance, contradictory: why aren't there more households living in apartments that they do not own (either rented or owned by relatives)? This phenomenon has two possible explanations: (1) the number of those with only a few residential properties rose, but the number of those with many such properties dropped because the large real estate investors realized their holdings – meaning that investors in the more-than-one-apartment category each owned fewer residential properties on average in 2012 than they did in 2006; (2) the number of vacant properties – those in which there is no one living on a permanent basis – rose. In addition to their investment function, these properties also serve as secondary residences for the wealthy. Based on Israel Electric Corporation data, the Trajtenberg Committee estimated the number of vacant apartments at 46,855 – a number that exceeds annual construction at the present rate.

As noted, despite the rise in the percentage of those who own at least two residential properties, the percentage of those who own at least one

¹⁰ According to Ministry of Construction and Housing data, 24.4 percent of total residential property transactions in the period between June 2012 and February 2013 were for investment purposes (21.6 percent of transactions were by local investors and 2.8 percent were by foreign investors).

apartment remained virtually unchanged over the past decade, even when examining a breakdown by income level (Figure 7). The homeownership rate for the lowest-income quintile, Quintile 1, ranged from 50-55 percent, while for quintiles 2 to 5, the range was 70 percent (Quintile 2) to 85 percent (Quintile 5).

Figure 7
Home ownership rate* by household income quintile



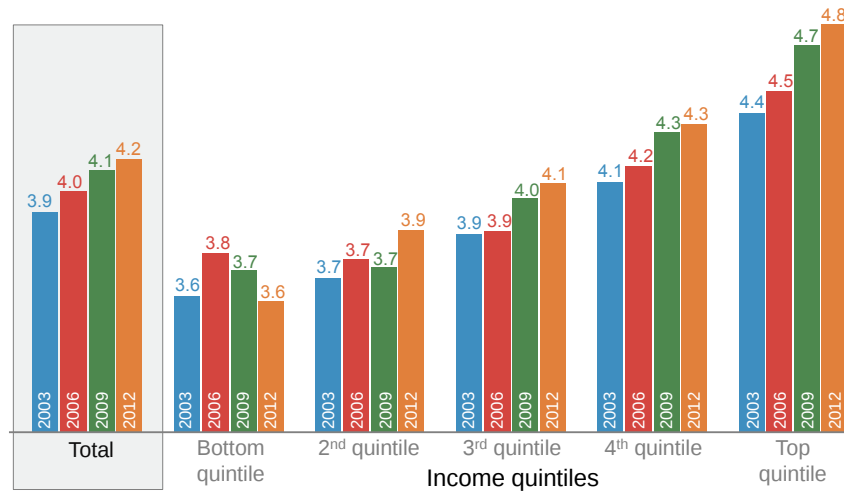
* Ownership of one or more apartments, regardless of whether owner lives in it.
Head of household aged 25 and over

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Moreover, the average number of rooms per apartment has been rising steadily for most income quintiles (2 to 5), as presented in Figure 8, and the price rise does not appear to be curbing this trend. Only for the bottom income quintile is there a trend toward fewer rooms on average, from 3.7 in 2009 to 3.6 in 2012.

Figure 8
Average number of rooms in owner-occupied apartments
 by household income quintile*, selected years



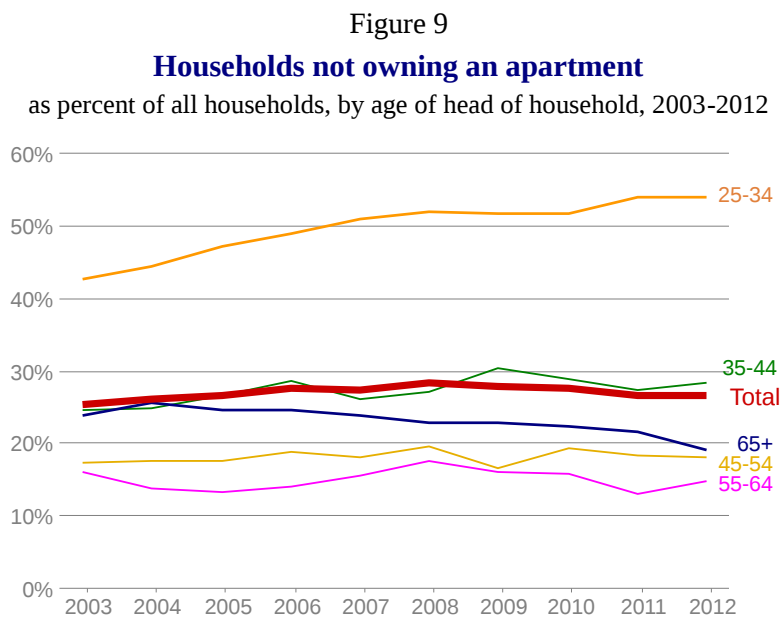
* Head of household aged 25 and over

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

The picture changes when households are divided by age of the head of household (Figure 9). Over the past decade, the percentage of young households in the 25-34 age range that do not own homes increased by 20 percent (from 43 percent in 2003 to 63 percent in 2012). However, this is a long-term trend and is likely also rooted in demographic shifts, such as a rise in the average marriage age, and is not necessarily due to an increase in housing prices. For example, even in 2007, before the price rise began, 51 percent of young Israeli households did not own homes. Although it stands to reason that the housing price increase would have had less impact on the homeownership rate among older households – those that already owned homes before prices started to rise – and a greater impact on younger households who still have the home purchase

decision before them, the actual data do not indicate a dramatic change in the long-term trend regarding homeownership rates among the young. It is hard to say how much of the non-homeownership rate increase among young households (from 51 percent in 2007 to 54 percent in 2012) is due to high housing prices, but if the younger population aspires to homeownership rates similar to those of older households, then today's housing prices clearly constitute a formidable hurdle. The data do, by contrast, offer some hope; the percentage of non-homeowning Israelis aged 65 and over is actually declining.



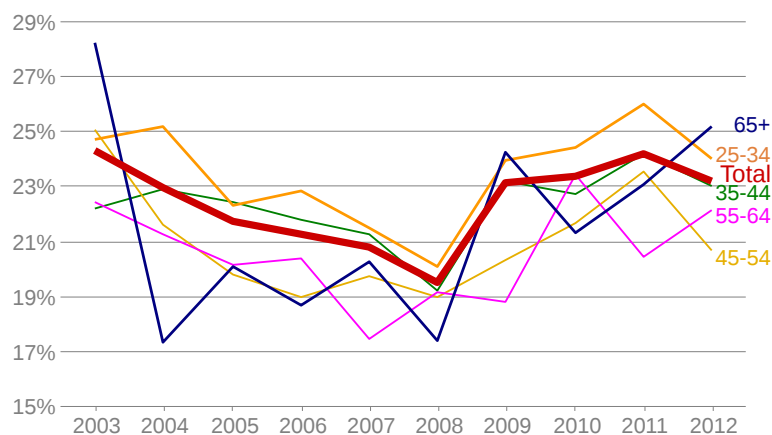
Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

The effect of housing price increases on economic well-being is reflected in the expenditures on rent for households living in rented apartments. The rise in rental expenditure clearly translates into a heavier

economic burden and, as seen in Figure 10, those hardest hit are the youngest and oldest renting households. These households lost about 5 percent of their disposable income during the period 2008-2011 due to the increased rent burden. It should be noted, however, that overall by 2011, the share of rent out of household income had returned to a level similar to that of 2003.

Figure 10
Share of rental expenditure out of household income
 median rent expenditure out of net cash income
 among renting households, by age group, 2003-2012



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

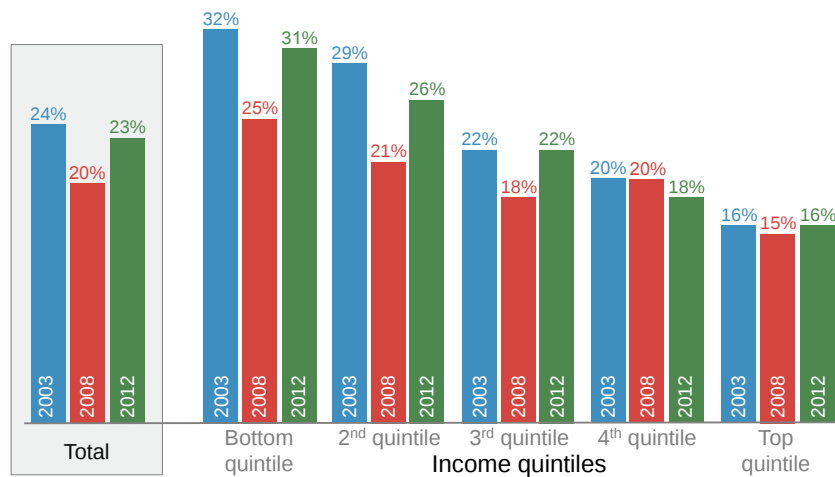
The negative impact on renters' economic well-being can also be seen in a breakdown by income quintiles (Figure 11). The increased share of rent out of household expenditures is most evident among low-income renters (the two lowest quintiles). Younger and lower-income households that have not bought apartments, whether by choice or because high housing prices have made the option unattainable, have been obliged in recent years to spend a higher (though not unprecedented) proportion of

their income on rent. Beyond the difficulty of buying a home at current prices, one may assume that high housing costs make it hard for households to save money and delay any future home purchase even further. If this trend within the young-household population continues, it could well have a long-term negative impact on Israeli homeownership rates.

Figure 11

Share of rental expenditure out of household income

median rate expenditure out of net cash income
among renting households*, by age group



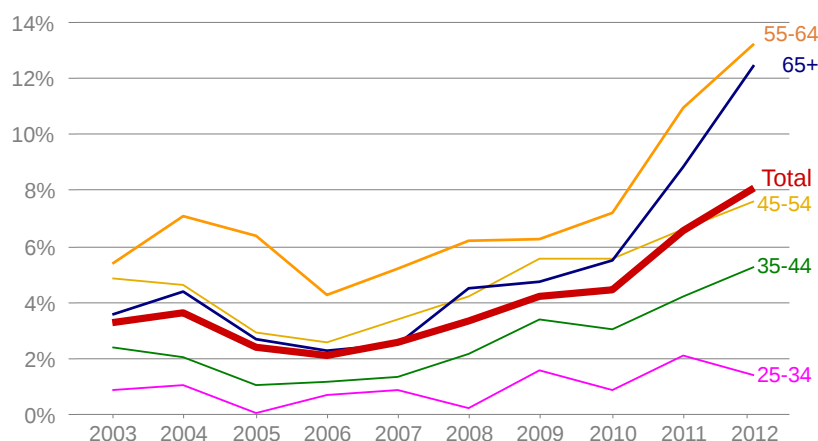
* Head of household aged 25 and over

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Entirely different trends are clearly discerned among households that own more than one residential property. Especially apparent is a rise in real estate holdings beginning in 2006. Although this increase is common to nearly all age and income groups, it particularly stands out among older households (Figure 12) and those with high incomes (Figure 13).

Figure 12
Ownership rate of two or more apartments
 by age of head of household, 2003-2012

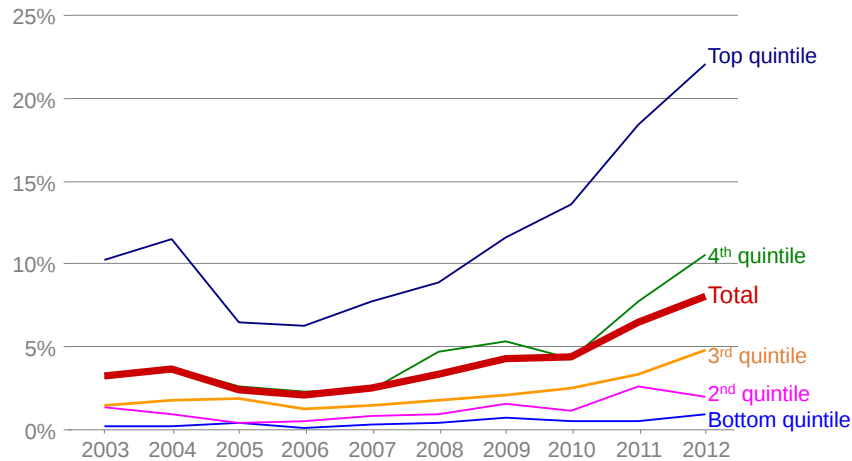


Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

More and more older households have chosen in recent years to invest their savings in additional residential properties, as an alternative to investment in the financial market and as a way of ensuring extra income for their post-retirement years. This creates a clear polarization between younger households, whose homeownership rates are declining, and older households whose demand for real estate is actually growing. The demand increase among older households raises prices and makes it difficult for younger people to buy homes, and these younger people then continue to rent – in all likelihood from older households. This intergenerational polarization, and the concern among younger people that they will not attain the quality of life that their parents enjoy, was a driving force behind the 2011 social protests, as described by Shalev (2012).

Figure 13
Ownership rate of two or more apartments
 by household income quintiles*, 2003-2012



* Head of household aged 25 and over

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

A similar polarization can also be seen between income levels.¹¹ High-income households, which owned more apartments to begin with, have benefited more from the rise in prices. The percentage of households in the highest quintile that own two or more residential properties has increased by 16 percentage points – from 6 percent in 2006 to 22 percent in 2012. The multiple-apartment ownership rate rose for all income groups, but it is clear that high-income households, those with more funds available for real estate investment, have seen the highest growth.

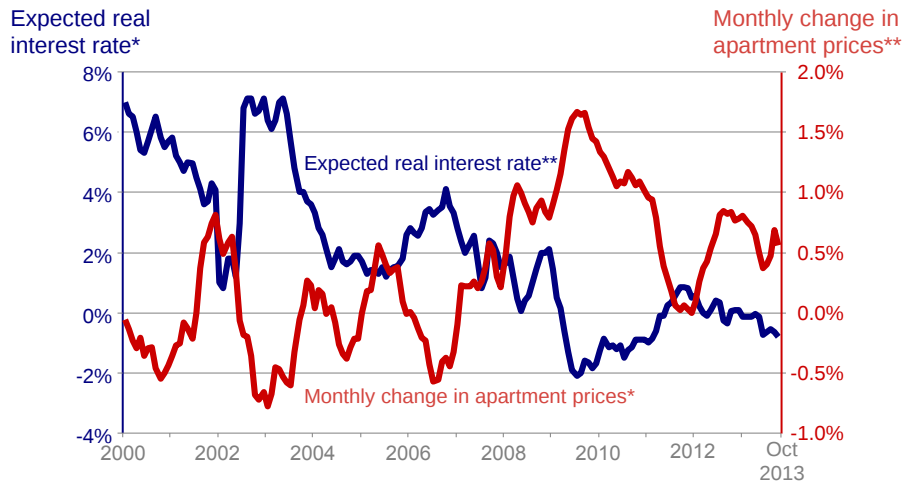
¹¹ This, however, is unsurprising, given the correlation between age and income and between extent of assets, age and income.

4. Impact of Interest Rates on Housing Demand

The worldwide recession that came about in the wake of the sub-prime crisis in the United States caused interest rates to fall dramatically across the globe, including in Israel. In response to the crisis, the Bank of Israel was forced to lower interest rates in order to spur local demand and avoid a recession, and especially in order to prevent a harsh blow to exports due to the strengthening of the shekel, which would have resulted from an influx of foreign capital in search of high returns on investment.

Low interest rates also had a major impact on housing demand, both by enhancing homebuyers' ability to pay and by making real estate investment more feasible compared to other investment options. Lower interest rates decrease monthly mortgage payments relative to the total mortgage amount, meaning that homebuyers can commit to a larger mortgage at the same monthly repayment rate, or reduce the monthly payment for the same size mortgage. This situation made it possible to afford more expensive properties and may have led renting households to choose to buy. Low interest rates also lessen the return on financial investments, such as bonds, and make real estate investment more attractive, relatively speaking. This effect is intensified by the tax preference granted to real estate versus financial investment. The distinction between those who buy real estate for residential purposes and those who purchase it as an investment is somewhat artificial, given that investment considerations such as low yield in the financial market and expectations of housing price increases may also incentivize renting households to buy properties to live in.

Figure 14
Expected real interest rates and changes in apartment prices
 percent, 2000-2013



* Bank of Israel interest rate less average projected inflation rate

** 10-month moving average: January 1 in each year, the four previous months and the five following months

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, Bank of Israel

As seen in Figure 14, there is a strong negative correlation between expected real interest rates and housing price changes. The very high correlation between three factors – expected real interest rate, level of real bond yield, and the mean interest rate on index-linked mortgages¹² – reflects the impact of the prevailing interest rate on household purchasing power (via mortgages) and on the relative attractiveness of real estate investment as compared with investment in the financial market.

¹² The interest rate on index-linked mortgages better reflects the real cost of the mortgage, since it adjusts for inflation.

In the early 2000s, when interest rates were high – up to 7 percent – housing prices were stagnant. When interest rates began to drop toward the end of 2006, housing prices started trending upward, peaking in late 2009 when prices were rising at a monthly rate of over 1.5 percent. The temporary interest rate hike in late 2009 was accompanied by a halt in the housing price increase during the same period; when interest rates were lowered once again, housing prices rose accordingly. Figure 14 supports the view that housing prices are, in the short term, determined by the demand side, and that low interest rates are a major cause of rapid housing price increases.¹³

As noted, low interest rates enable households to take out larger mortgages at the same monthly repayment rate. There is also a sense that the current cheap credit environment could potentially cause many households to leverage themselves even further, that is, to increase the size of the mortgage relative to their income by increasing their monthly payments or prolonging the mortgage term. The low interest rates further increase the amount households are willing and able to pay for home purchases.

As presented in Figure 15, the combination of the aforementioned factors – lower interest rates, higher ratio of mortgage payment to household income, and extended mortgage repayment periods – dramatically enlarges the mortgages that households can commit to. In Case A, with an annual interest rate of 7 percent – like that of the early 2000s – a household with a monthly income of NIS 10,000 that chooses a monthly payment of 25 percent of its income for a period of 10 years will be granted a mortgage of NIS 217,000. In Case B – with an annual interest rate of 2.5 percent, like that of the past five years – a household can get a NIS 265,000 mortgage at the same monthly payment rate and over the same term. Should the household decide to increase its payment rate to a 35 percent share of its monthly income at the same interest rate (Case C), it will get a NIS 372,000 mortgage. By comparison, if instead

¹³ Nagar and Segal (2011) also find that interest rates are the main factor behind the rise in Israeli housing prices.

of increasing its monthly payment, the household chooses to extend the mortgage term from 10 to 20 years and to pay 3.5 percent interest¹⁴ (Case D), then the household will be able to obtain a NIS 433,000 mortgage. Finally, in Case E – 3.5 percent annual interest, 35 percent share of monthly income and 20-year repayment period – a household with the same income can get a NIS 606,000 mortgage, nearly three times that obtained in Case A.

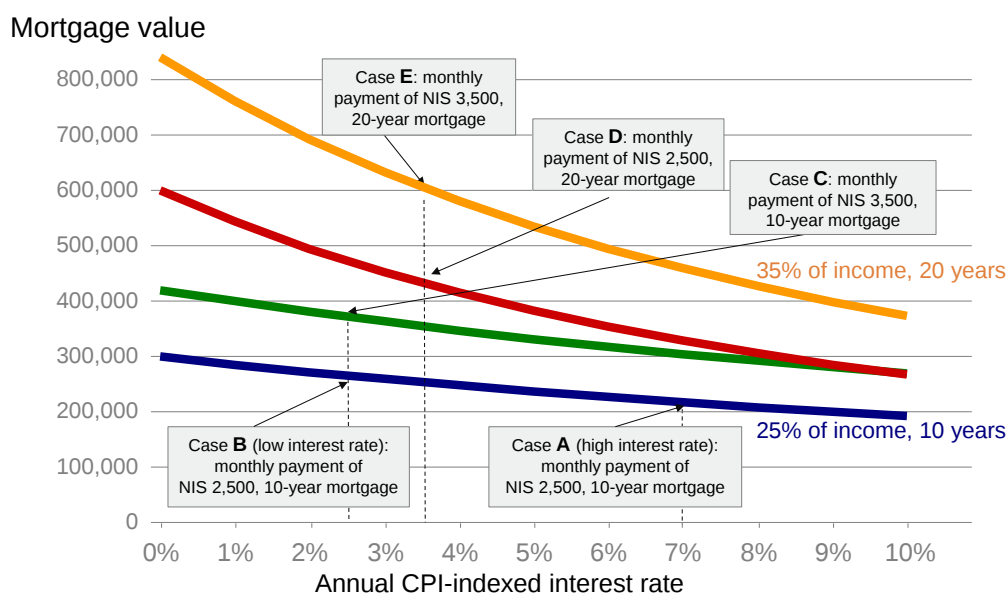
If the household can make a down payment of NIS 200,000, then in Case A, it could buy a home whose price is slightly more than NIS 400,000, at a loan-to-value (LTV) ratio of about 50 percent. By contrast, in Case E the household will purchase an apartment that costs at least twice as much – over NIS 800,000 – at an LTV of about 75 percent. As the supply of residential properties in the NIS 800,000 price range is currently minimal, this numerical example drives home just how far from affordable today's actual housing prices are for many Israeli families. Only households with substantial assets, or those with high incomes willing to commit to long-term mortgages at high monthly payment rates, are currently able to purchase apartments.

¹⁴ According to Bank of Israel data, the average interest on index-linked mortgages with terms of 15-20 years is about 1 percentage point higher than the interest on 5-10 year mortgages.

Figure 15

Mortgage simulation: Mortgage value for varying interest rates, monthly payments and repayment periods

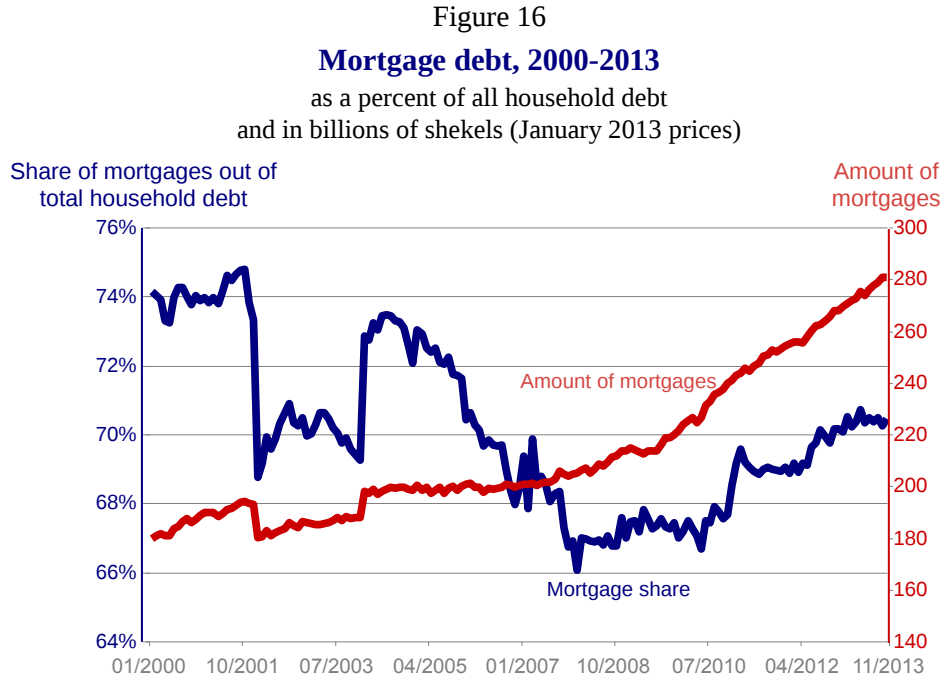
for households with net monthly income of NIS 10,000



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

The rise in households' ability to make mortgage payments due to lower interest rates could, as noted, potentially create a vicious cycle of rising prices and households leveraging themselves to ever-greater degrees by increasing their monthly payments and extending the terms of their mortgages to cope with the rising prices. The power of this feedback loop is reinforced by investor activity, since mounting prices in the housing market, coupled with low yield from other investment channels – due to low interest rates and to taxation of capital market profits – are liable to draw more and more capital and demand into the residential real estate market, thereby driving prices higher, and so on and so forth.

Figure 16 shows that household mortgages, both in absolute numbers and as a share of all household debt, have been trending steadily upward since the beginning of 2008, at the same time as the rise in housing prices. This correlation between debt and rise in prices can be interpreted as a representation of increased household leveraging – which is itself both an outcome of the housing price increase and a factor in its continuation.

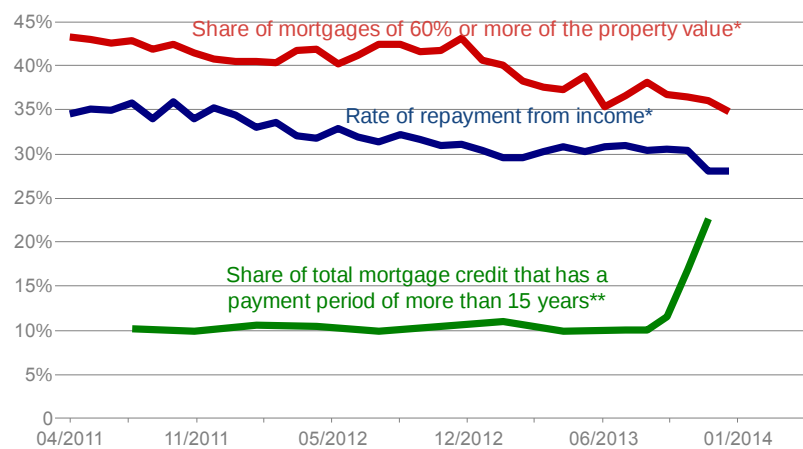


Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Bank of Israel (Reports of the Supervisor of Banks and Information and Statistics Department), Central Bureau of Statistics

One reservation regarding the foregoing is that the ratio of mortgage debt to total household debt, which amounts to a little over 70 percent, is not high relative to the levels of the first half of the 2000s. Moreover, household leverage rates, as reflected in mortgage size relative to asset value (LTV) and in monthly payment rates as a percentage of income, have not risen appreciably (Figures 17 and 18).

Figure 17
Mortgage characteristics
 by month of mortgage issue, 2011-2013



* Average weighted by mortgage size

** Presented by quarters until July 2013

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Bank of Israel

Unfortunately, the Bank of Israel began gathering and publishing detailed mortgage data only in 2011, meaning that no figures are available regarding changes in the LTV, average payment to income ratio, or length of mortgage terms during the period of rising prices between 2008 and 2010. In April 2011 – the point from which mortgage data are available – the picture indeed indicates relatively high leveraging; 43 percent of the mortgage credit issued was for mortgages in excess of 60 percent of the asset, while the average payment as a share of household income was 35 percent (Figure 17). The high leverage rate raises the risk of default, as in situations where a wage earner within the household loses his/her job. These data for 2011 thus point to a large proportion of high-risk mortgages.

In an effort to calculate mortgage characteristics for the period before precise data became available, Benita and Naor (2013) estimate the average financing rate (ratio of total loans to total assets sold) for the entire real estate market from 2002 on, by crossing data from the Bank of Israel, the Ministry of Finance and the Central Bureau of Statistics – demonstrating an overall upward trend, from 30 percent in 2002 to 45 percent in 2012. It should be emphasized that these data refer to the average financing rate for the entire real estate market, not just for those with mortgages (LTV), since some real estate transactions take place without mortgages. Additionally, Benita and Naor (2013) estimate the average payment to income ratio, and find a sharp rise over the years 2009-2010 – from 23 percent at the beginning of 2009 to over 30 percent in 2010.

In contrast to Benita and Naor's estimates, Figure 17 shows that over the past two years, there has been a decline both in the proportion of mortgages that exceed 60 percent of asset value – from 43.2 percent in April 2011 to 34.8 percent in December 2013 – and in the average payment to income ratio: from 34.5 percent in April 2011 to 28 percent in

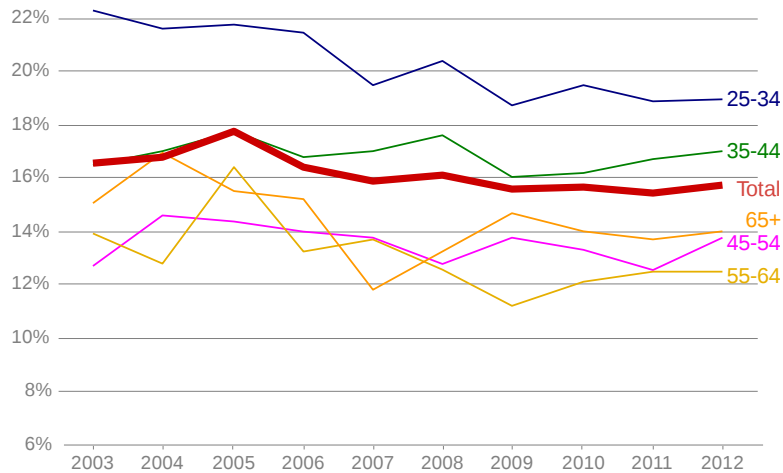
December 2013.¹⁵ The Central Bureau of Statistics' expenditure survey data are also inconsistent with Benita and Naor's assessments; they actually point to a decline in the mortgage payment to income ratio over the past decade (Figure 18).^{16,17}

¹⁵ The discrepancy in these figures may be due to Benita and Naor's use of average mortgage rates, as opposed to Bank of Israel data which are based on weighted averages, by mortgage size.

¹⁶ It should be noted that for households paying off older mortgages, the interest rate decline could have led to a drop in monthly payments, whether due to the mortgage's variable-rate component or to mortgage refinancing (i.e., taking out a new mortgage under improved conditions), meaning that examining an average of all mortgage-paying households would not be representative of the burden on households obtaining new mortgages. Furthermore, Benita and Naor (2013) focus on ratios of mean mortgage payments to mean income, rather than on the mean of the ratios between these factors. They justify their choice by contending that this ratio is biased downward, stemming from their assumption that the payment to income ratio declines with income. Although this is true for those with mortgages (per an analysis of the expenditure survey data conducted by the author), it is clear that the percentage of renters (who have no mortgage payments) actually declines with income (see Figure 6), meaning that this premise is not necessarily valid.

¹⁷ Use of the median rate rather than the mean is meant to neutralize the effect of extreme cases, such as households whose income is very low relative to their mortgage. When extreme outliers are removed, the mean and median trends are similar.

Figure 18
Median mortgage payment as percent of income
 among all households paying a mortgage,
 by age of head of household, 2003-2012



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Household Expenditure Survey*

Some declines in the leverage rate (LTV) and in the payment to income ratio (Figure 17) can be attributed to restrictions instituted by the Supervisor of Banks, out of a desire to limit risk in the housing credit market and circumvent any threat to the financial system's stability should a large number of households go into default, as happened in the United States during the sub-prime crisis period. Another (undeclared) objective of the Supervisor of Banks is to restrain the housing price upsurge and weaken the effect of interest rates on housing demand – given that the relationship between interest rates and housing prices could potentially limit the Bank of Israel's ability to bring interest rates down further in order to weaken the shekel against other currencies.

On November 1, 2012, differential limits were imposed on mortgage LTV: 75 percent for first-time homebuyers, 70 percent for home “upgraders” and 50 percent for investors. Since these restrictions were instituted there has been a consistent decline in leverage rates of more than 60 percent of asset value, and thus the limits appear to have achieved their goal of reducing the proportion of high-risk loans (Figure 17).

Additional restrictions imposed by the Supervisor of Banks on September 1, 2013 prohibit the granting of mortgages at payment rates exceeding 50 percent of household income, while instituting stricter reserve requirements for mortgages with payment-to-income ratios of 40-50 percent, limiting the variable-rate component within loans to no more than 66.7 percent,¹⁸ and prohibiting loan repayment periods in excess of 30 years. As seen in Figure 17, there was indeed a certain decrease in average payment as a share of income during the final months of 2013, but this came in exchange for a substantial increase in the payback period length. Thus, the percentage of mortgages with terms in excess of 15 years more than doubled within three months – from 10 percent in August to 22.6 percent in November, the last month for which data are available. It is altogether unclear whether the payment to income ratio limitations, which drove many households to extend their mortgage repayment terms so as to reduce their monthly payments, did indeed lower their mortgage risk. Firstly, when a household burdened with a high mortgage payment has trouble making its monthly payments, it already has the option of refinancing its mortgage (i.e., covering the payments by means of a second mortgage with better terms), and thereby extending the payback period and reducing the monthly payment. Secondly, according to the Bank of Israel Supervisor of Banks data, the longer the mortgage term, the higher the interest rate charged, meaning that the overall burden is greater and the household is exposed to risks such as unemployment and interest fluctuations over a longer period. The

¹⁸ This restriction is in addition to a May 2011 Supervisor of Banks directive, which limited to one-third the share of the loan that can have interest vary more frequently than every five years.

Supervisor of Banks would do well to focus on limiting the ratio between household income and total mortgage value, and let households strike the balance between mortgage term length and monthly payment rate as they see fit.

5. Taxing Rental Income

As discussed previously, the rise in housing prices of the last few years stemmed from increased demand due to low interest rates and a preferential taxation structure, as well as to supply-side failures. Addressing the demand side is easier, and will produce results within a shorter time frame.

Since Israel is a small and open economy, local control over interest rates is limited. However, taxation is under greater control. As explained by Sarel (2014), the capital gains tax that was instituted in Israel in 2003 created preference towards real estate investment. Sarel focuses on the advantage that emerged for those living in self-owned properties vis-à-vis renters, and argues that this advantage is the source of heightened demand for residential properties and for the rising price of such properties. This effect ought to have increased the homeownership rate, but that did not occur; rather, the homeownership rate for households in the 25-34 age range (Figures 7 and 9) actually continued its downward trend. As may be seen, Israeli households that have the ability to buy homes do so at high rates, meaning that the additional incentive of a tax advantage vis-à-vis capital market investments did not bring about a change in trend. However, when the choice between investing in the financial market or in real estate is at issue, this advantage turns out to be highly significant.

Real estate investment yields two types of profit: a rise in the value of the asset, on which a betterment tax is charged when the asset is sold; and rental income.¹⁹ At present, rental income, which is concentrated in the

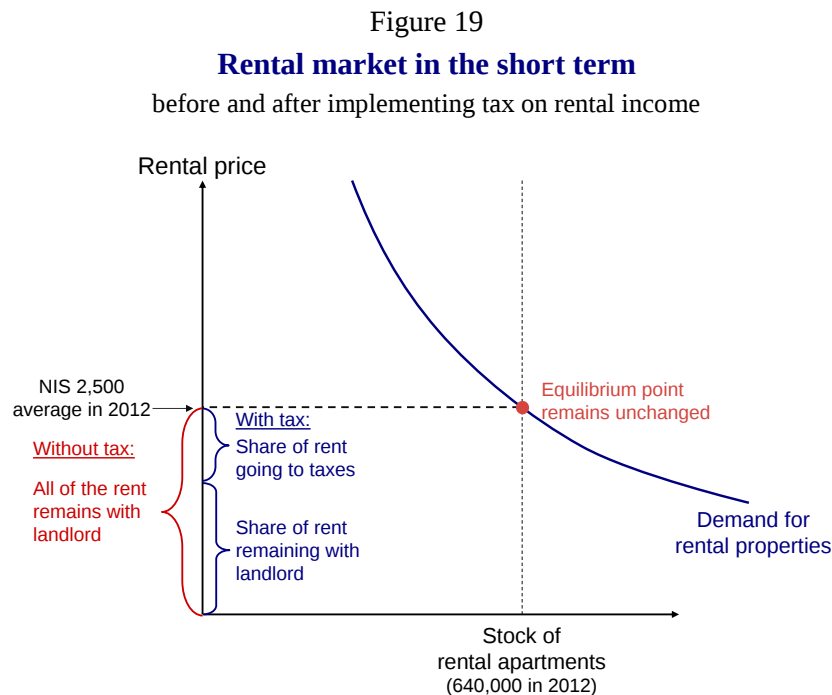
¹⁹ The betterment tax on the sale of residential properties is merely a supplemental measure, not an alternative to a tax on rental income, inasmuch

hands of the wealthy (Figure 13), is largely tax exempt,²⁰ unlike income from labor or financial capital. According to 2012 data – and current figures may be assumed to be higher – there are 640,000 residential units being rented, at an average monthly sum of NIS 2,500. This amounts to NIS 20 billion in rental payments per year, which are taxed at a low rate if at all – since it is unclear to what degree taxation is actually enforced for those monthly rents higher than NIS 5,080. Given that most rental income is concentrated in the hands of high-income households, rental income ought to be taxed at a higher rate. First of all, rental income should be subject to a value added tax. Additionally, it could be argued that this kind of income should be taxed at a fixed rate of 25 percent, like capital gains. Alternatively, rental income could be taxed at the marginal income tax rate of the property owner, as with labor income – which would ease the burden on retired people who derive most of their income from a single rental property. Depending on the taxation approach, it may be estimated that the state is currently foregoing income in the region of NIS 6-8 billion per year. This is a regressive distortion of the tax system, which creates excess demand for real estate assets while amplifying the impact of interest rates on the demand for those assets.

Some might argue that taxing rental income would simply cause landlords to pass their income loss on to tenants, thereby driving rents even higher. This claim, however, does not stand up to close examination; in the short term, rental market supply is rigid, meaning that there is a fixed number of units available for rent, and rents are determined by demand, meaning that landlords are already demanding the highest possible rent that they can get from their tenants (Figure 19).

as it does not tax rental income. It should be noted, moreover, that its ability to deter long-term investment in residential properties is very limited, since it can be deferred indefinitely, so long as the property is not sold.

²⁰ Rental apartment income under NIS 5,080 per month (according to 2014 data) is tax exempt.



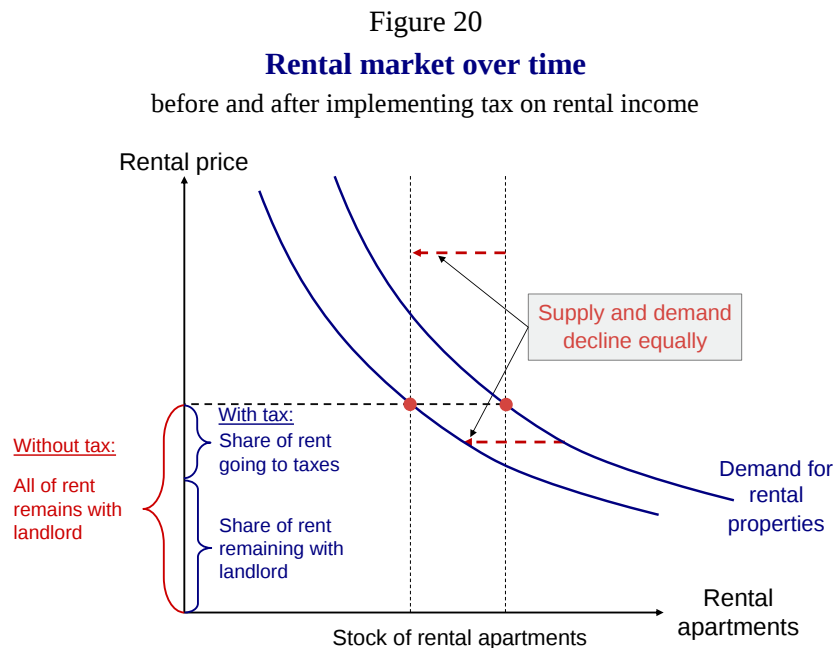
Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Over time, taxing rental income would reduce the supply of rental apartments, since the return on such assets would decline. Rental apartments would not, of course, disappear from the market but would, instead, be sold by investors to households that previously owned no apartments, i.e., to renters (investor-to-investor property sales would not reduce the supply of rental apartments). Taxing rental income would thus decrease both supply and demand in the rental housing market in a balanced manner, without affecting rent levels in the medium term, when investor-owned apartments would be sold (Figure 20).²¹ When they

²¹ One reservation to be noted is that a tax on rental income, which reduced the demand for residential investment properties, would lead to less housing construction and reduce the supply of rental apartments in the long term.

bought their properties, investors drove less affluent households to the rental market and thus increased the demand for rental housing, meaning that expanding the supply of rental units did not cause rents to drop. Similarly, the sale of investor-owned apartments and a reduced supply of such apartments would not cause rents to rise, since this trend would be counterbalanced by a simultaneous trend toward reduced rental demand. At the same time, the sale of investor-owned residential units would cause prices to drop.

It is clear that today's de facto exemption from tax on rental income is mainly a boon to landlords – who, as Figure 13 shows, already constitute, by and large, a high-income group. This regressive distortion of the tax system benefits the wealthy and raises both demand for housing and housing prices; moreover, it blocks off the rental housing market from companies that specialize in this area because tax-wise, they are disadvantaged vis-à-vis individuals. Companies' income from rental housing is subject to VAT, corporate tax and dividends tax (if paid). This greatly reduces companies' profit margins compared with private landlords and keeps them from competing effectively – despite their importance to the long-term rental market.



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

A proposal is currently under consideration to amend the Rental and Borrowing Law, which would require the existence of at least a three-year lease in order for private landlords to receive the rental income tax exemption for rents below NIS 5,080 (Bousso, 2014a). On the face of it, this is a step in the right direction, one that expands the tax base and forces the Israel Tax Authority to monitor rental transactions. However, the tax rate would still be only 10 percent – significantly lower than the rate for capital gains, and it can be evaded by means of a long-term lease. As noted, if the tax on rental income were brought into line with that on capital gains, companies would be better able to compete in the rental housing market and create a supply of long-term rental housing.

Should the state declare its intention to tax rental housing income within the next few years, that in and of itself could foster an immediate drop in the demand for investment properties, as well as in their prices. There can be no doubt that landlords would want to pass the cost of the tax on to tenants but, as noted, their ability to do this would be minimal, since the tax would not directly affect the supply-demand balance in the rental market.

It should, however, be noted that it would not be desirable to impose a rental income tax on households that rent out one apartment while themselves living in another rented apartment, since that would penalize geographic mobility. Additionally, if real estate taxes were to be brought in line with those on financial capital, it would be appropriate to annul the purchase tax.²²

6. Housing Supply

In short-term housing market fluctuations, it is demand that dictates prices. By contrast, in the long-term, prices are determined by construction costs, and the likelihood of extreme fluctuations in the form of real estate bubbles or housing market “crashes” is affected by supply elasticity, (i.e., by the rate at which supply increases in response to increasing prices).

Figure 21 presents a clear correlation between housing prices and the number of housing starts in Israel. In the early 2000s, there was a steep decline in housing starts, with approximately 1,000 fewer housing starts per month. The probable cause of this decline was housing market saturation and an expectation that prices would continue to drop for a long time, as they indeed did. It is also likely that the economic crisis set in motion by the Second (al-Aqsa) Intifada also played a role. Housing

²² State income from the purchase tax on residential properties amounted to NIS 2.2 billion in 2011 (Ben Naim, 2013). If the purchase tax were annulled, this income would be deducted from the additional revenues anticipated from the tax on rental income.

starts remained low until 2008, when housing prices began to recover – due, as noted previously, to falling interest rates – and this was accompanied by a rise in the number of housing starts, which quickly returned to the early 2000s level. The upward trend was halted, even reversed, in mid-2011. It may well be that the housing protest, which peaked during this period, generated uncertainty and an expectation of lower prices due to government intervention – leading, paradoxically, to a decline in housing starts, which have yet to return to their pre-protest levels. A decline in the planning stock may perhaps also be implicated in the housing-start drop. One way or another, despite an additional rise in housing prices in 2012-2013, the number of housing starts has remained steady – at 3,500 per month, or 42,000 per year.

It should again be clarified that current housing prices, which represent supply-demand equilibrium in the housing market, are a symptom, not the cause, of a problem: excess demand. In competitive markets, a price rise is followed by increased supply, leading to a sufficient increase in the number of apartments in the market and ultimately, in the long term, to a drop in prices to their natural level, close to that of construction costs. The problem starts when supply-side barriers keep housing starts from rising sufficiently, and the supply-demand gap fails to close, prices do not drop, and a vicious cycle begins, culminating in a housing bubble.

Figure 21
Apartment prices and housing starts, 2000-2013



* January 2000=100

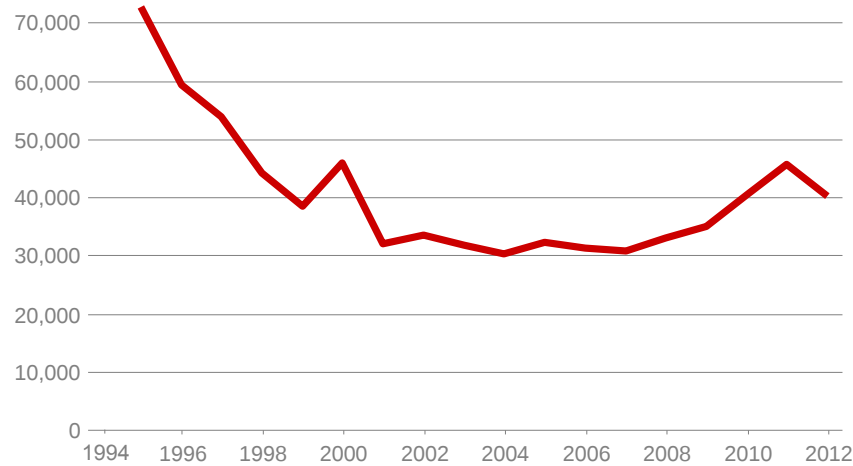
** Monthly figure, seasonally adjusted

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics

As indicated by Figure 22, the Israeli economy could build residential units on a much larger scale than it does at present. In the mid-1990s, subsequent to the wave of immigration from the former Soviet Union, the pace of construction accelerated greatly, via both public and private initiatives. In 1995, the construction of nearly 73,000 apartments commenced – a much higher figure than that of 2011, the past decade's peak housing-start year, when construction began on only 46,000 apartments. If the waiting period for building permits in high-demand areas were shorter, current prices would likely drive construction at a much faster pace, thereby closing the gap between demand and supply and, consequently, bringing prices down.

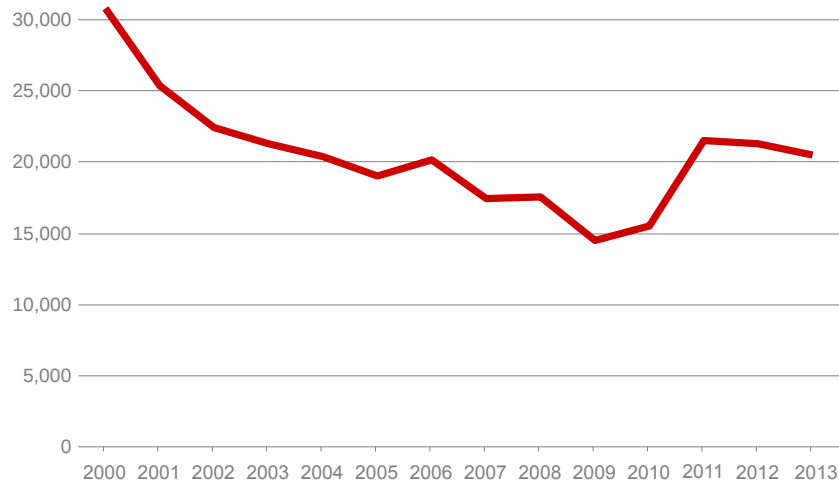
Figure 22
Annual housing starts, 1995-2012



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel
Data: Central Bureau of Statistics

The supply-demand disparities are also reflected in changes in the stock of new properties, that is, residential units whose construction has been completed but which have not yet been sold – though the relationship is relatively complicated. The existence of housing stock is a function of the time it takes to sell apartments. Thus, the size of the stock is proportional both to the scope of construction and to the pace with which units offered on the market are sold. For example, the drop in demand for housing in the early 2000s led to a decline in the number of housing starts and, consequently, to a gradual contraction of the housing stock – from over 30,000 units in late 2000 to 19,000 at the end of 2005 (Figure 23).

Figure 23
Stock of new apartments nationwide, 2000-2013



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

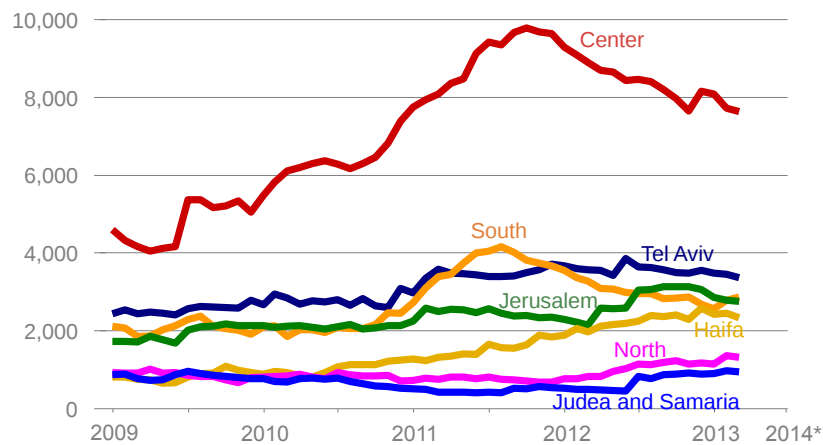
Data: Ministry of Construction and Housing

However, the upsurge in demand that started in 2008 also caused a decline in the housing stock: from 18,000 units in 2008 to 15,000 units in 2009, per Ministry of Construction and Housing data (or to 13,000 units per the Central Bureau of Statistics). The reason for this is that, in the construction field, supply does not increase immediately in response to rising demand, meaning that the extent of construction remains small while the time it takes to sell is shortened. Thus, during 2009-2010, alongside the dramatic rise in housing prices, the stock of residential units contracted to 15,000 – less than half of the stock available at the end of 2000. It is likely that, in addition to the low prevailing interest rates, the limited inventory also contributed to the price increase that took place during this high-demand period. Throughout 2011, when housing prices temporarily stabilized, there was a notable increase of 6,000 in the stock of new units, and the stock has remained at the 21,000-unit level until the

time of this writing. The stable stock of new apartment units over the past three years points to a pace of construction that is successfully meeting demand at current price levels, but is, again, insufficient to bring about a price drop.

The residential-unit stock expansion in 2011 meant a return to the range of the period 2002-2006. The stock gradually grew in all parts of the country, especially in the central district, though some of the impressive increase in central and southern Israel was offset by a decline in the period March 2012 to July 2013, as shown in Figure 24.

Figure 24
Stock of new apartments for sale
by district, 2009-2013



* Data are for July of each year and January for 2014

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics

The present period is characterized by relative price and stock stability, notwithstanding the high price levels; this is also reflected in construction company forecasts.²³

This situation is expected to continue for as long as there is no real change on the demand side – a rise in interest rates or a recession – or on the supply side, that is, the a removal of administrative barriers or massive state construction in high-demand areas. However, the current stability could be misleading, as the rising share of Israeli real estate investors points to a bubble-like dynamic and to a possible price free-fall should the bubble burst and investors try to sell their assets. Alongside the urgent need for a housing price drop, there is also a need for systemic change that would keep the present crisis from repeating itself. Although direct governmental intervention could be justified in light of current prices, it would be preferable for a more elastic supply to keep prices from rising in the first place because, as noted in the introduction, when supply is rigid, the risk of a real estate bubble greatly increases.

7. Limits on Israel's Housing Supply

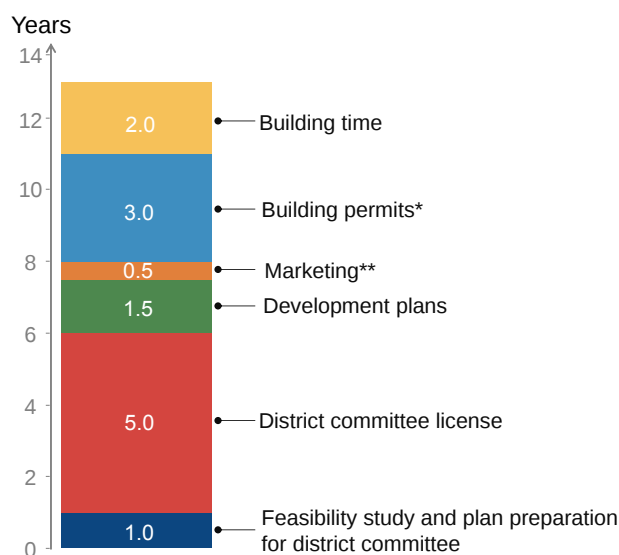
The main constraints on the supply side, as reported by construction companies (Figure 4), are a shortage of land on which to build and permit delays; the companies also note, to a lesser degree, a shortage of skilled workers and credit. The land shortage and permit delays are due to a complex bureaucratic structure, over-centralization on the national level, an inherent conflict of interest on the local level, and a high prevalence of condominium apartment buildings.

²³ As the Central Bureau of Statistics *Business Tendency Survey* from October 2013 shows, most (75.7 percent) construction companies expected prices to remain the same for the following three months. Of the rest, the share of companies that expected prices to increase (11.3 percent) or increase by a lot (2 percent) was very similar to the share of companies that expected prices to decrease (9.2 percent) or decrease by a lot (1.8 percent).

Figure 25 presents the procedural stages along the way to obtaining a permit for residential construction in Israel. The figure shows that the process in Israel takes, on average, 13 years. Actual construction accounts for two of those years,²⁴ while the remaining 11 are devoted to bureaucratic proceedings – assuming the construction plans are ultimately approved. The stages that stand out for their length are those of district committee approval (five years on average) and local committee approval (three years on average). By comparison, in most European Union countries, the maximum amount of time needed to obtain a building permit is 8-12 weeks (Pedro et al., 2011). These lengthy wait periods are clearly reflected in the rigidity of the Israeli housing market supply. When the building permit process takes this long, it is not surprising that people have trouble believing that real estate prices will drop in the foreseeable future.

²⁴ To compare, according to 2013 data, average construction time in the United States for a building with 20 residential units was a year and a half (U.S. Census Bureau, 2013).

Figure 25
Duration of the construction process in Israel
 by stages, in years



* Permit from the local committee

** Tender publication and decision regarding the winner

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

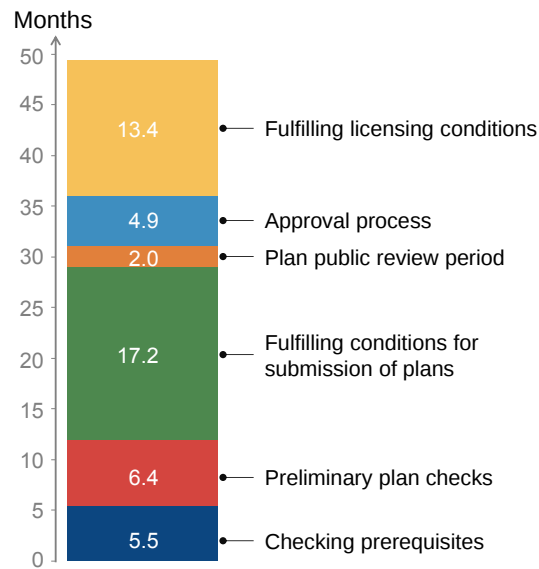
Data: Bank of Israel (2012)

Figure 26 presents the stages leading to district committee approval of a building plan (the five years shown in Figure 25).²⁵ Most of the delay associated with the district committee is at the stages of fulfilling

²⁵ As shown in Figure 25, it takes five years on average to obtain district committee authorization, but due to differences between the sources of data on the various stages of the process, Figure 26 shows the length of this stage to be a little over 4 years (49.4 months). Additional data on district committee processes are found in Planning Administration, Ministry of the Interior (2013).

submission conditions (17 months on average) and fulfilling licensing conditions (13 months on average). These delays are due to a broad variety of reasons, the most notable of which are insufficient infrastructure and stakeholder opposition (Han, 2010).

Figure 26
Duration of district committee licensing process
 by stages, in months



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Ministry of the Interior (2013)

Constraints on the National Level

On the national level, the state owns – directly or through the Jewish National Fund (JNF) – 93 percent of the country's land. Out of 22 million dunams,²⁶ including the Golan Heights and East Jerusalem, 20 million are administered by the Israel Lands Authority and the JNF, while 410,000 dunams represents non-regulated land, that is, land for which no legally-mandated surveying process has been carried out (the latter is also state-owned land). About 7 percent of the country's land, 1.5 million dunams, is privately-owned (Israel Lands Administration, 2013). Despite the fact that most of the country's land is state land, 50 percent of construction takes places on private land.²⁷ On the face of it, there is no lack of land for construction – as evidenced by the fact that urban and rural development reserves in the district outline plans (985,000 dunams) are larger than the country's built-up area (875,000 dunams), meaning that there is enough land to double the built-up area (Cohen et al., 2010). In reality, however, most of the land available for construction is in the periphery, far from the areas of high demand. Some 63 percent of district outline plan reserves for urban and rural development are in the southern and northern districts (excluding Haifa); by contrast, construction on reserves in the high-demand areas was severely limited by National Outline Plan 35 (NOP, the National Outline Plan constitutes a binding comprehensive framework for plans at the district and local levels, known in Hebrew as TAMA). Among the declared goals of NOP 35 were curtailing suburbanization in the center and populating Israel's periphery.²⁸

²⁶ A dunam is a land measurement unit equaling 1,000 square meters.

²⁷ Some 49 percent of housing starts during January-September 2013 were on State land (Ministry of Construction and Housing, 2013). Part of the reason for the high proportion of construction on private land is the fact that private land is concentrated mainly in the central region, where most demand lies.

²⁸ Regarding the effort to prevent suburbanization, see Administration of Planning, Ministry of the Interior (2005), p. 163. On limiting construction in the center and populating the periphery, see the same source, pp. 95, 103.

The authors of NOP 35 were unquestionably aware of the need to improve employment opportunities, transportation infrastructure and quality of education in the periphery so as to attract a strong population to these areas,²⁹ yet chose to disregard the formidable political and budgetary constraints that make these objectives so difficult to achieve. Moreover, by focusing on a long-term vision, the NOP authors chose to ignore the fact that even if the state actually had the financial resources and political will to advance the development of the periphery, the processes involved would extend over varying time periods of unforeseeable length – while restrictions on building would likely exert an impact in the shorter term, causing great hardship to the population in the meantime, as indeed happened. It is also clear that should the aspiration to improve living conditions in the periphery be realized, the periphery would then become more attractive and increase its population share even without the “stick” of construction restrictions in the center. Finally, the authors of NOP 35 gave no consideration to a prediction that came to be fulfilled, namely, that they would ultimately be enriching the owners of real estate in central Israel and making the residents of the periphery poorer by comparison. It is not rare in Israel for people originally from the periphery to live for periods of time in the center of the country, for study or work purposes, and then to return to the periphery. The heightened cost of living in the center relative to the periphery, in which housing plays a key role, undermines the physical and social mobility of those in Israel’s geographic periphery.³⁰

The centralized planning process and the state ownership of most available land is usually rationalized in terms of the desire to protect the country’s natural/scenic treasures and agricultural sector, as well as the need to retain land reserves for planning future infrastructure. In reality, Israel’s planning bodies have addressed neither objective, have

²⁹ See Administration of Planning, Ministry of the Interior (2005) pp. 124, 172, 216.

³⁰ In connection to this issue, see Andrews et al. (2011), who find that strict housing policies impair labor mobility.

indefinitely delayed final zoning of most of the land and, in the meantime, have been releasing land for development in very small increments. This is a comfortable arrangement for both the planning bodies and the real estate developers, as it enables the former to retain control over state land while ensuring for the latter, who are already highly experienced in interacting with the planning authorities, reduced competition due to the shortage of land available for construction. The outcome is very high residential density, reflected in a low number of rooms per person by international comparison (Figure 27) – even relative to countries with higher population densities,³¹ such as Korea and the Netherlands, or similar population densities, such as Belgium and Japan.

The problematic aspects of state intervention in, and over-centralization of, land management has been clear for some time.³² The current real estate crisis has put pressure on the establishment to address the dilemma, resulting in the institution of several reforms. In 2012, a streamlining and reorganization process for the Israel Lands Administration began, under which it was accorded “authority” status.³³ Many organizational changes were made to the Ministry of the Interior’s Planning Administration, aimed at accelerating the planning process (Planning Administration, Ministry of the Interior, 2013). A substantive change to the Planning and Building Law – the “pergola reform” – came into effect in August 2014.³⁴ At the same time, two “bureaucratic bypass” mechanisms were created: national housing committees, a fast-track planning framework within the Ministry of the Interior; and the

³¹ Population density is measured in terms of number of people per square kilometer.

³² The Ministry of Finance website contained committee reports and research studies on the topic, but the relevant webpage has been removed. A copy is still available at:
<http://web.archive.org/web/20120128173355/http://www.mof.gov.il/BudgetSite/Reform/Pages/LandsReform2009.aspx>

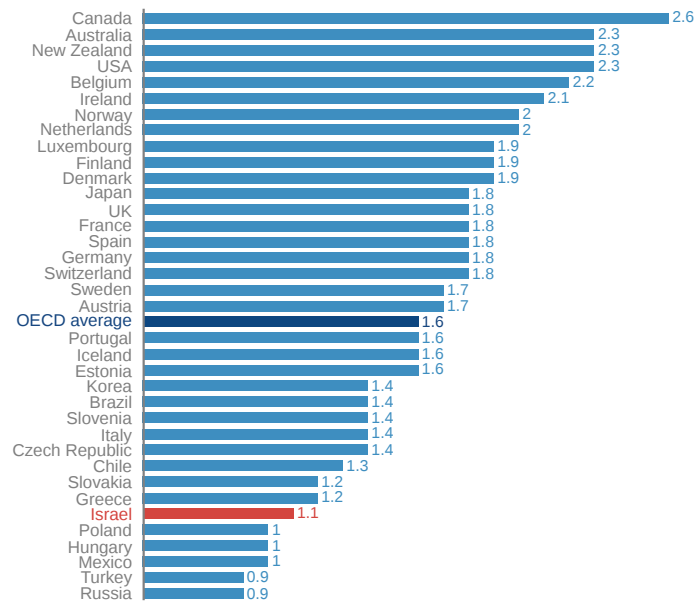
³³ About the transition from administration to authority and its impact, see Israel Land Administration (2013).

³⁴ For information on the reform, see the Ministry of the Interior website:
<http://www.moin.gov.il/Subjects/BuildingReform/Pages/default.aspx>.

Committee for the Preferred Housing Program, a trans-ministerial entity authorized to enable quick approval of construction plans on a large scale and to expropriate farmland for development purposes.

Figure 27

Average number of rooms per person, 2011*



* For those countries without data from 2011, the most recent data available was used

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: OECD (2013)

These are welcome measures, but one must be wary of magic bullets. The issue of how to balance the environmental-protection imperative and the needs of the agricultural sector vis-à-vis housing density and the cost of living within Israel's order of priorities is an important one that must not be treated lightly, but rather addressed earnestly and from a long-term perspective. This insight itself should lead us to reconsider the state's role in land ownership and in the initiation and approval of building plans,

since governmental failures in this arena are creating barriers to supply, and the resulting housing bubble and widespread distress could potentially overshadow longer-term considerations and bring about major damage to Israel's natural resources.

Constraints at the Local Level

As noted in the report of the Public Committee to Examine Administrative and Organizational Constraints in the Sphere of Planning and Building (Ministry of the Interior, 2011), and by Han (2010; 2013), national-scale barriers are by no means solely to blame for the limits on Israel's housing supply. Significant constraints exist at the local level and are keeping many projects that have already been approved at the national level from getting off the ground. Barriers affecting Israel's high-demand areas are primarily municipal ones, stemming for the most part from an inherent conflict of interest between developers and local authorities. High-density construction on a massive scale requires suitable infrastructure investment – roads, parking, sewage, educational and health facilities, playgrounds and parks. In the absence of such infrastructure and amenities, construction places a heavy burden on the residential environment, with negative outcomes for both long-time occupants and future residents of the new housing. High-density construction entails great expenditures at the land-unit level, which are by no means covered by development fees and additional property tax revenues, at least in the short term. The state bears responsibility for building or funding some of this infrastructure, but since numerous government bodies have a hand in the various forms of infrastructure,³⁵

³⁵ These include the Ministry of Construction and Housing, which is responsible for funding infrastructure in localities that rank low socioeconomically; the Ministry of Education, which is responsible for building schools; the Ministry of Transport and Road Safety, which bears responsibility for some transportation infrastructure, such as the interchanges that connect the national road network; the Ministry of National Infrastructure, which is charged with appropriate development of electricity, water and sewage infrastructure; and

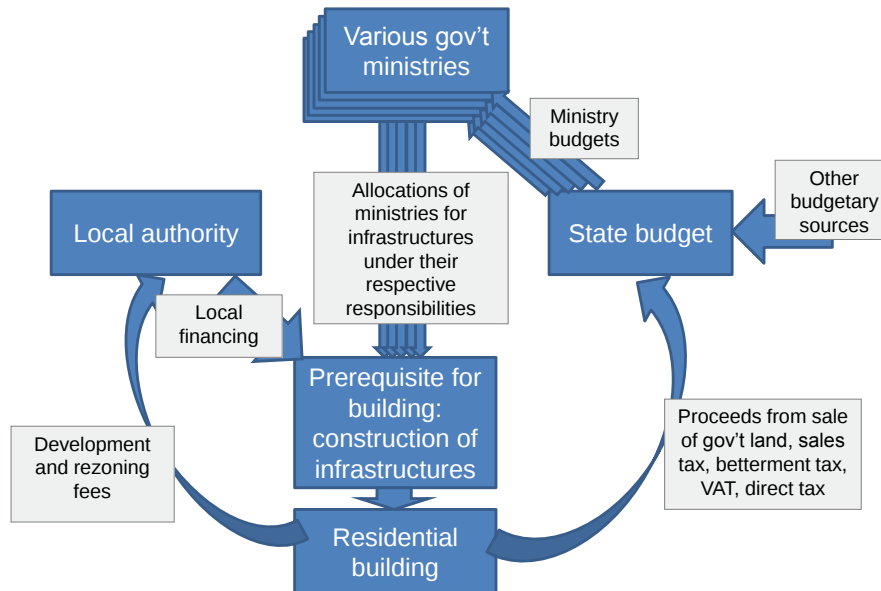
delays in the transfer of funds and in infrastructure development are par for the course. In reality, a great deal of the burden falls on the local authorities.³⁶

Figure 28 shows that residential construction generates income both for the central government (through the sale of government land and tax revenues), and for local governments (through development and rezoning fees). The central government's land-tax income goes into the state budget, accounting for a relatively small share of total government revenue. From there, the budget is divided among various ministries, which spend it in accordance with their specific priorities. Since the budget of the ministries is not conditional upon the implementation of construction projects, government ministries do not, when formulating their priorities, take into account the income that the state would ultimately receive should the ministries establish the infrastructure they are responsible for and thus enable such projects to proceed. Local government revenues are insufficient to meet the cost of the infrastructure for which localities are responsible and, as noted in the *Report of the Public Committee to Examine Administrative and Organizational Barriers in the Sphere of Planning and Building* (2011), local government is limited in its ability to increase development fees as needed or to require developers to fund infrastructure out of their own pocket. Thus, although real estate development generates considerable revenue for the state, a market failure has emerged in which this revenue is not being channeled efficiently toward the establishment of infrastructure that would facilitate such development.

the Ministry of Health, which is responsible for increasing the capacity of existing health facilities and creating new ones.

³⁶ This is especially evident when one looks at the burden on pre-existing infrastructure near new residential projects. Construction of a new neighborhood will, for example, increase traffic on the roads leading to it – which often pass through older neighborhoods.

Figure 28
Infrastructure budgeting process for residential building



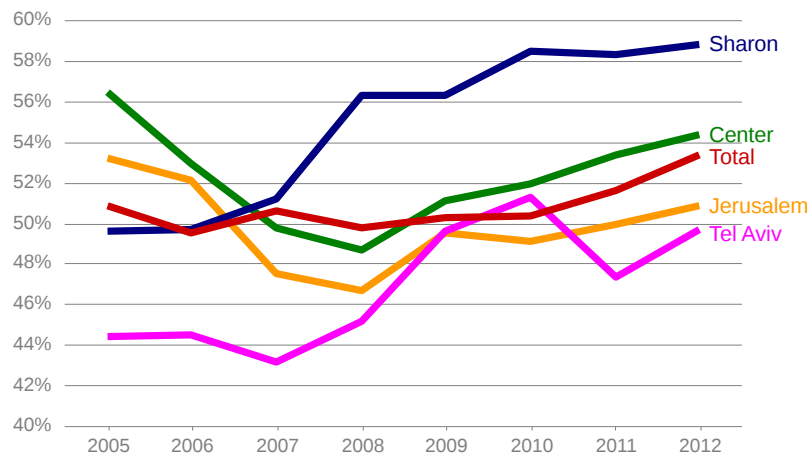
Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

The outcome is a conflict of interests between the developer who wants to build and earn a profit – especially when housing prices are high – and the local authority, which has no way of passing on to the developer the costs that development imposes upon it. This state of affairs is highly reminiscent of a market failure due to the existence of a negative externality, but with this difference: if the tax receipts generated by real estate development were used to fund the necessary infrastructure, the local authority would be spared many costs and delays and market failure would be prevented.

Under the current circumstances, it is hardly surprising that many Israeli mayors have no desire to significantly increase the population of their cities. It is in the local authority's interest to keep high-density

development at bay while pursuing an opposite course – that of increasing municipal revenue by encouraging the construction of low-density luxury housing and commercial and industrial projects, which require little in the way of infrastructure investment but generate more property-tax revenue. As shown by Eckstein et al. (2012), the price per square meter of commercial or industrial space has barely risen over the past decade, and stands at about half the level of residential prices. Since the construction inputs are very similar, the explanation for this huge gap is the local authorities' tendency to prefer commercial and industrial land uses for approval. Another testament to local authorities' interest in curtailing high-density construction is the rise in the price of small apartments relative to large ones (Figure 29).

Figure 29
**Prices of 2.5-3 room apartments
 relative to 4.5-5 room apartments**
 owner-occupied apartments, by region, 2005-2012



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics

In recent years the share of small apartments in the construction mix has dwindled greatly. The fact that their relative price increased while their share in the construction mix declined points to constraints on the supply side – local authorities simply are not interested in such projects and thwart their approval by the local committees. If the decline in small-unit construction were due solely to falling demand for this housing type, one would expect the price of small apartments to drop vis-à-vis large apartments.

Israel's ministries are well aware of these problems, and in order to foster large-scale residential construction, they have reinstated what are called “blanket agreements” – agreements between government ministries, first and foremost the Ministry of Finance, and the local authorities on whose land projects are slated for construction.³⁷ Via these agreements, the state provides generous funding on the order of billions of shekels, to establish needed infrastructure even before projects commence. The relevant government ministries commit to laying the infrastructure for which they are responsible by a predetermined date, and in return, the local authority commits to advancing the project without delays. Blanket agreements of this kind are in place for Kiryat Gat (7,000 residential units), Modi'in-Maccabim-Re'ut (11,800 residential units), and Rosh Ha'Ayin (15,700 units), while agreements regarding construction on a similar scale are slated for Kiryat Bialik, Rishon LeZion, Herzliya, Yavne, and Beer Sheba.³⁸ In the negotiations regarding a given project's size, density and the amount of government funding to be provided, local authorities are, of course, interested in limiting the extent of building and in increasing the amount of government funding (Bouso, 2014b; 2014c). Government funding for the blanket agreements is supposed to be repaid, at least partially, in the form of state revenue

³⁷ See a detailed discussion on the Israel Lands Authority website: <http://www.mmi.gov.il/shivukweb/pages/mainProject1.html>.

³⁸ See Ministry of Construction and Housing press release of February 4, 2014: <http://www.moch.gov.il/Spokesman/Pages/DoverListItem.aspx?ListID=5b390c93-15b2-4841-87e3-abf31c1af63d&WebId=fe384cf7-21cd-49eb-8bbb-71ed64f47de0&ItemID=567>.

from the land sales and from taxes paid on the sale of the final product. It can be said that under blanket agreements, the money travels a long, circuitous route, from real estate transactions to the state coffers and back to funding the needed infrastructure; along the way it provides employment within the government apparatus.

The blanket-agreement framework is one way of resolving the conflict of interests that exists between the developer and local authority, as the additional funding covers the cost of building infrastructure; however, this is a crisis measure. Blanket agreements entail large advance expenditures on the part of the state, which can be expected to make such commitments only when housing prices have spun out of control and public pressure is sufficiently strong. Furthermore, the framework is suited specifically to large-scale projects. For many small transactions, the need to coordinate between the various government ministries and to negotiate with the local authorities would still result in major delays.

In reality, competition is emerging between local authorities, which want to increase their share both of industrial/commercial development and of low-density luxury housing aimed at attracting the affluent. Local authorities have an incentive to reduce their share of high-density housing and small apartments, as that would keep weaker populations away. The conflicting interests of developers (who want to build high-density housing in high-demand areas, so as to extract more profit from the same land area), and of local authorities (which oppose this kind of building due to its infrastructure demands) are a recipe for corruption in the form of permit-buying, meaning that some developer profits find their way to the private pockets of planning committee members rather than to funding needed development. Local authorities should be in competition with each other to attract developers, but under the current circumstances, it is actually the developers who compete for limited building-permit quotas. The outcome is curtailed construction, insufficient infrastructure and corruption.

Rather than funds meandering through the complex channels of government bureaucracy before finally returning to the localities as development budgets (in the best-case scenario), or finding their way, as

they often do, into the pockets of the local-authority functionaries who control the various processes involved in approving projects, local authorities ought to be allowed to directly and transparently impose higher development and rezoning fees and taxes upon all land-sale transactions that have been approved for construction,³⁹ while the amount of tax revenue collected by the central government should be reduced. This would increase local-authority motivation to advance real estate transactions, especially for high-density construction. Moreover, because real estate values are directly linked to the quality of local infrastructure, this would create another incentive for local authorities to improve infrastructure that lies within their jurisdiction, so as to increase their tax revenue from real estate. The competition that would emerge between local authorities for construction projects is what would limit the amount of the fees being charged.⁴⁰

This approach makes blanket agreements superfluous, is also well-suited to small-scale projects, works in reaction to demand change and without involvement of the central government, and has the potential to improve municipal infrastructure quality. The budgetary cost is minimal, given that the funds in question are already meant to be invested in infrastructure development, with the state transferring its responsibility to the local authority. Concentrating responsibility for all types of local infrastructure in the hands of a single entity – the local authority – would streamline and accelerate the process, and would free central government bodies to address infrastructure on a national scale. One way of making this happen is to transfer the property rights to land in their jurisdiction to

³⁹ As the Ministry of the Interior has indeed proposed, in a planned continuation of the Planning and Building Law reform (the Pergola Reform). See Bousso (2014d).

⁴⁰ Clearly, the more in-demand local authorities would be able to charge higher development and betterment taxes. This raises concerns about a poverty trap, in which weaker local authorities are unable to improve their infrastructure and attract stronger populations because they cannot impose fees at a meaningful level. The central government could assist local authorities in this situation by means of balancing grants.

the local authorities, and to enable them to use revenue from land development for infrastructure-building, after taxes have been paid to the state. Local authorities should not be allowed to increase their development fees without a corresponding state renouncement of its land-development revenues, since that would constitute an additional tax on real estate projects and impair their feasibility.

Constraints to Urban Renewal

Israel's urban landscape has enormous potential for renewal and densification. Replacing old, neglected 2-4 story buildings with modern, higher-occupancy buildings would greatly increase the housing supply in high-demand areas. At the same time, residents would benefit from living in state-of-the-art, technologically-advanced living environments featuring modern architectural design – and all without appreciably harming the environment. Given both the enormous demand for urban housing and the concern that large-scale construction in Israel's open areas could be environmentally detrimental, urban renewal (encompassing urban densification) would appear to be the perfect solution. In reality, however, construction based on existing buildings (NOP 38 and “vacate-and-build” or *pinui-binui*) accounted for only a small proportion of total residential construction during the period 1997-2008, at a national average of 4 percent (Cohen et al., 2010).

Two main barriers stand in the way of urban renewal and are responsible for the current situation. The first is municipal opposition due to the burden on infrastructure as discussed. Boosting density within urban boundaries entails a corresponding investment in infrastructure, which is especially difficult and expensive to install in already built-up areas. Here as well, if local government's share of direct income from renewal projects were to be increased at the expense of central government revenues, one would expect projects to go forward much more quickly. Moreover, in areas that are especially dense such as Gush Dan (Tel Aviv metropolitan area), major improvements to the transportation infrastructure are needed (e.g., subways) so as to facilitate

additional large-scale construction. The second barrier is the high prevalence of cooperative housing in Israel. Cooperative buildings pose the problem of multiple rights to a single property; because the consent of multiple unit owners is needed, it is hard to advance redevelopment projects. In many situations, a conflict arises between the general good – that of most residents, not to mention the national interest in urban renewal and a larger housing supply – and individual rights, since for certain residents the envisioned transaction might be undesirable. Also, when unanimous consent is required, there is sometimes a temptation to be the lone holdout, so as to extort better conditions for oneself, in exchange for one's consent. This is a challenge faced by cities around the world where condominium living is common, but the situation in Israeli cities is particularly acute.

The first attempt to address the problem was part of an effort to rehabilitate poor and disenfranchised neighborhoods. Within the framework of the Building and Vacating of Renewal Areas Law (1965) an unsuccessful attempt was made to evacuate poor neighborhoods by force. On the basis of this law, a vacate-and-build mechanism was created in which the Ministry of Construction and Housing designates a site for redevelopment, with the residents being eligible, via a supermajority (currently 80 percent), to accept a developer's proposal to tear down the building and erect another in its place. The specific terms of the deal are determined through negotiation between the developer and the residents, but in most cases, the transaction would promise each apartment owner in the building a new and larger unit to be built within three years, with the developer paying the residents' rent during the construction period. In 2006, the Vacate and Build (Compensation) Law was passed, making holdouts responsible for compensating their fellow residents for the financial harm caused by delaying redevelopment, should their refusal be deemed inappropriate.⁴¹ The vacate-and-build mechanism was not very

⁴¹ For more information, see the Ministry of Construction and Housing website: http://www.moch.gov.il/shikum_vehitchadshut/hitchadshut_ironit/Pages/dayy_arim_sarvanim.aspx.

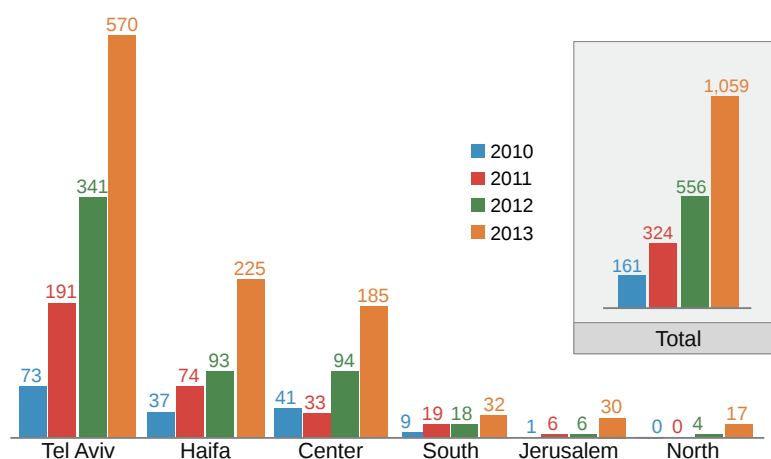
successful, due to bureaucratic red tape. As with new construction, cities have little interest in advancing projects of this kind due both to the pressure they put on infrastructure, and to their cumbersome nature. Residents have to move homes twice – from the building designated for demolition to a rental apartment and then to the new building on the original site – while the developer has to pay the residents' rent during the interim period – a burden that makes the project less feasible for the developer.

NOP 38 is another mechanism for urban renewal in a condominium framework. The plan was intended to facilitate the reinforcement of older buildings against earthquakes. According to the original plan (38/1), residents are eligible to hire a developer to renovate an old building (one built before 1980) that is not earthquake-resistant, reinforce it, add a "safe room" to each apartment and make the building accessible by installing an elevator. In return, the developer receives the right to add units to the building. At first, rights were granted for a single additional story, but the passing of Amendment 3 to the NOP (38/3) expanded the entitlement to 2.5 stories. NOP 38/1 requires a majority of only 66 percent of residents in order to implement a project. This mechanism (38/1, Reinforcement of an Existing Building) bypasses the complications inherent in the vacate-and-build model, as residents need not move to rented apartments and then return. They are, however, obliged to live for significant periods of time in a construction site – itself a heavy price to pay. The ability to add stories is limited as well, both by the NOP regulations and by the existing building's limited stability, lot size, and the local infrastructure's capacity.

In recent years, as housing prices have soared, NOP 38 projects have become more common (Figure 30). It is not surprising that most NOP 38 projects are concentrated in high-demand areas – more than half of them in the Tel Aviv district – since the feasibility of such projects for developers depends on the value of the new apartments that will be available to them in the buildings. Clearly, NOP 38 is insufficient as a means of reinforcing buildings against earthquakes, as there is no financial incentive to implement the program in Israel's periphery; by

contrast, it has advantages as a mechanism for urban renewal and for increasing the supply of apartments in high-demand areas.

Figure 30
Number of applications for NOP 38
 by district, 2010-2013

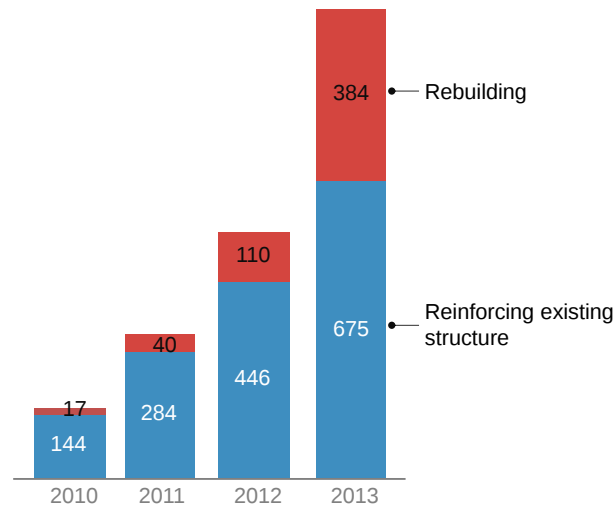


Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Ministry of the Interior

Another amendment to NOP 38 (38/2) provides the option of tearing down a building and erecting another in its place – a kind of fast-track, small-scale, vacate-and-build mechanism. In this instance as well, as in the original vacate-and-build mechanism (not within the framework of NOP 38), an 80 percent majority of residents is required. Figure 31 presents the distribution of NOP 38 requests by the share of requests referring to Amendment 38/2 (demolition and rebuilding) versus those referring to Amendment 38/1 (reinforcement of an existing building).

Figure 31
Number of applications for National Outline Plan 38
 by application type, 2010-2013



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel
 Data: Ministry of the Interior

Despite the growing number of urban renewal projects, the potential is clearly far from having been exhausted. Recently, a problematic proposal by the 90-days housing team⁴² for yet another type of urban renewal was approved – “build-vacate-build.” This is a multi-stage exchange deal in which a new building is constructed on vacant land, the residents of an old building move into it, a new building is erected in place of the old one

⁴² An inter-ministerial government team charged with addressing the housing problem, established at the beginning of the present administration.

and so on.⁴³ This mechanism is meant to spare the residents of the older building the move to a rental apartment during the interim period and thereby raise their consent rate, while also increasing the project's feasibility for the developers. However, the mechanism's complex nature would require the government to play a dominant role, to the point of taking on the developer function. Moreover, the exchange transaction's serial character would greatly limit the scale of construction, as it would be impossible to tear down a building and construct another in its place until the new apartments were ready for the old building's residents.

A simple alternative to these awkward barter transactions would be to let residents of the old building decide, by supermajority, to sell the building to the developer as is. This would enable them to buy apartments of their own choosing, without any interim rental period. In such a transaction, the developer would not have to cover anyone's rent, meaning that he could pay a higher price for the old building. Moreover, it would not be necessary to wait until one building had been completed in order to tear down the next, as in the build-vacate-build model; it would be possible to demolish and erect several buildings simultaneously, in accordance with demand. This option does not undermine individual rights, as the sale requires a supermajority, just as in the regular vacate-and-build mechanism. The option is already being implemented in several places where condominium living is prevalent. For example, in Singapore, 90 percent of whose residents live in condominiums, a resident supermajority of 90 percent is needed to sell an apartment building that was built within the last 10 years, and an 80 percent supermajority is required for the sale of an older building.⁴⁴

To conclude, the cumbersome nature of today's vacate-and-build mechanisms constitutes a barrier to urban renewal and to enlarging the

⁴³ For details on the program, see the following Ministry of Construction and Housing press release:

<http://www.moch.gov.il/Spokesman/Pages/DoverListItem.aspx?ListID=5b390c93-15b2-4841-87e3-abf31c1af63d&WebId=fe384cf7-21cd-49eb-8bbb-71ed64f47de0&ItemID=551>.

⁴⁴ See: <http://www.mnd.gov.sg/stb/typesofapplicationannex1.html>.

housing supply in built-up areas. Two recommendations whose adoption would greatly facilitate urban renewal – a process that is also important in terms of enhancing housing-supply flexibility in response to price changes are: (1) transferring a portion of vacate-and-build transaction profits to the local authority where the project is being carried out, for purposes of infrastructure improvement as needed to support the increased density; (2) giving residents of condominium buildings the right to sell the entire property to a developer via a supermajority, while imposing a defined legal responsibility on holdouts.

Table 1. **Supermajorities required for the sale of a cooperative building, international comparison**

Location	Supermajority required for sale
Alberta, Canada	75%
Guangzhou and Shanghai, China	66.7% of owners accounting for 66.7% of the property
Hong Kong, China	80%
Japan (except Tokyo)	80%
New South Wales, Australia*	66.7%
New York City and Washington D.C.	80%
New Zealand	75%
Singapore	90% for buildings up to 10 years old 80% for buildings older than 10 years
Taipei, Taiwan	Urban development fast track area: 50% of owners accounting for 50% of the property Urban development priority area: 60% of owners accounting for 66.7% of the property Other areas: 66.7% of owners accounting for 75% of the property
Tokyo	66.7%

* Proposed legislation

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Legislative Council Secretariat, 2010; New South Wales Ministry of Fair Trading, 2013

8. Summary and Conclusions

Israel in 2014 is more polarized than ever between rich and poor, between the haves and the have-nots. Those who own residential properties – especially older and higher-income households – have benefited in recent years from an impressive rise in property values; some have invested a portion of their financial assets in real estate so as to benefit even more from the price hike. By contrast, those who do not own apartments – mainly younger and lower-income households – have been forced to choose between burdensome mortgages and soaring rents that take up a large share of their income, making it hard for them to save and turning the idea of a home of their own into a distant dream. Continuation of the price rise would further exacerbate the economic disparities between rich and poor and between the younger and the older generations. However, should prices drop precipitously – should the housing bubble burst – the outcome would not be entirely positive; non-homeowning households would benefit, but households that had invested in residential units would be hurt, as would construction companies and construction-sector workers. In an especially undesirable scenario, it would even undermine the stability of the banks and of the Israeli economy as a whole – as happened with the last recession in the United States.

The initial cause of Israel's housing price surge was the low interest rates that were instituted in the wake of the global economic crisis. A small and open economy such as Israel's cannot deviate far from the international interest-rate environment without suffering from dramatic changes in the exchange rate. Like other economies worldwide that were not affected by the recession but were, however, forced to drop their interest rates, Israel also experienced a rise in the prices of yield-bearing assets, including real estate. However, the extent of the housing price increase and the fact that it is still going on may be attributed both to a tax regime that favors real estate investment (which has intensified the effect of lower interest rates on housing-market demand), and to rigid constraints hindering expansion of the housing supply.

In order to address the present real estate price bubble in the short term, the existing tax system distortion must be corrected, and income from rent and income from financial assets must be taxed equally. More equal taxation would reduce the demand for real estate investment properties and enable companies specializing in rental apartments to enter the market – thereby developing a supply of long-term rental units.

In the long term, in order to reduce housing prices, curb volatility and keep new housing bubbles from forming, a systemic approach should be taken to supply-side constraints.

On the national level, state control of land and a highly-centralized planning process have made Israel's residential density one of the highest in the developed world. The state should relinquish control of the nation's land, and retain only those areas slated for infrastructure development on a national scale or that are crucial for protecting the country's natural resources.

In the local arena, the high cost of infrastructure development causes local authorities to oppose high-density construction, which is costly for them. Resources, expenditures and power should therefore be concentrated at the local level; local authorities should become "one-stop shops" for all aspects of land development, leaving central government entities responsible only for supervision and coordination on a national scale. A framework in which the power to approve development, the income from development and the responsibility for establishing suitable infrastructure are all concentrated in one place would help shorten the bureaucratic process and accelerate construction in response to rising demand.

In addition to these supply barriers, the condominium buildings that are very common in Israel constitute an impediment to urban renewal, a process that has the potential to greatly increase the housing supply in high-demand areas. Urban densification through vacate-and-build projects or through the reinforcement and expansion of existing buildings (NOP 38) cause considerable disruption to residents who must either rent apartments while the new building is being constructed (vacate-and-build) or live in construction sites for extended periods (NOP 38/1). For

many residents, especially the elderly and people with disabilities, this is not feasible. It is therefore recommended that another option be created, that of selling a building via resident supermajority – a system that is employed in many places around the world where condominium living is prevalent. The legal infrastructure for vacate-and-build could be adapted to such a framework, which calls for a supermajority decision and the assignment of legal responsibility to holdout residents. Moreover, if meaningful urban densification is to happen in Gush Dan, Jerusalem and Haifa, an efficient and accessible public transit system suited to the density and needs of the population must be created.

Finally, Israel must invest in improving education and job opportunities in the periphery and in connecting the periphery to existing urban centers by means of appropriate transportation infrastructure. Care must be taken not to repeat the unfortunate mistakes of NOP 35, which aspired in vain to strengthen the periphery by limiting the housing supply in central Israel.

The current housing crisis has generated an array of policy initiatives. Some are worthwhile measures that aim to resolve various housing-supply bottlenecks (e.g., reforms relating to the Israel Land Authority the Administration of Planning and building law). Other measures are marred by high costs and dubious benefits. The plan calling for zero VAT on apartments for young households may be seen as a legitimate political decision, one that takes an affirmative-action approach toward young non-homeowners vis-à-vis older people upgrading their housing and real estate investors. However, this program does not address barriers on the supply side, meaning that it is not a useful means of bringing the present crisis to an end or of preventing the next crisis. Moreover, in circumstances of rigid supply, a major portion of the VAT discount would ultimately, in all likelihood, reach the pockets of developers.

In contrast to the zero-VAT program, the target-price program (in which the government grants land at a discounted price to developers, who in turn pledge to sell residential housing at a discount relative to local market prices) has no political-ideological justification; its sole purpose is to generate competition between contractors that would

translate into lower prices for buyers. However, there is great concern that lower prices would come at the expense of construction quality and amenities. It is unlikely that this artificial mechanism, which seeks to mimic competition via bureaucratic means rather than by removing the obstacles that inhibit it, will be of any real use.

The current housing crisis is not a matter of fate. Limiting demand by means of a tax on rental income, while also removing constraints on the supply side, would help bring prices down, improve construction quality and keep similar crises from occurring in the future. The housing question has to be addressed carefully and in depth, as measures that would result in poor-quality construction, with no provision for suitable infrastructure or preventing environmental damage, would do more harm than good.

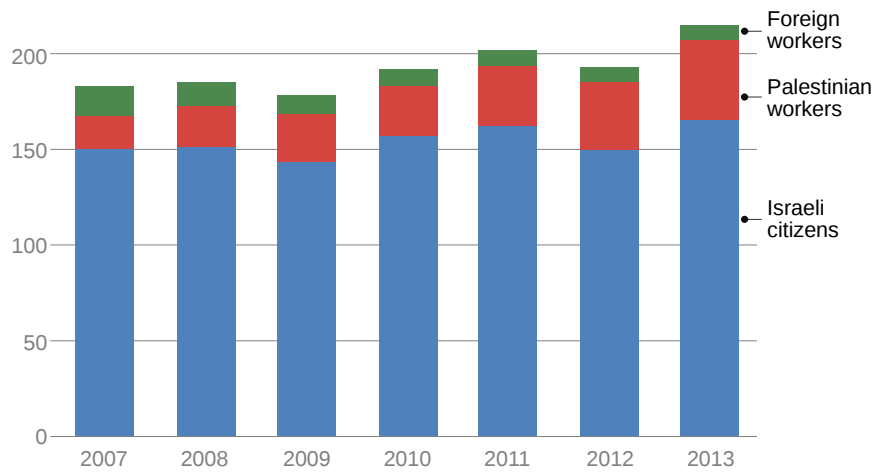
Appendix

Training Workers for the Construction Industry

As noted, the recent increase in housing prices was not caused by a labor shortage, but rather by a rise in demand coupled with a rigid supply of land approved for development. Nevertheless, the growing scope of construction has brought about a concomitant rise in the demand for skilled labor, meaning that a potential shortage of workers would slow the pace of development and cause a further surge in housing prices.

The construction industry bears a stigma, especially in the eyes of Jewish Israelis, and this state of affairs tends to be taken as a given. Raising the quota of foreign laborers and Palestinian workers is consequently thought of as a necessary evil, one that cannot be avoided if the pace of construction is to be accelerated (Appendix Figure 1). Scholars have already noted the absurdity of a situation in which Israel – a country that has an overabundance of low-skilled workers – must import more and more such workers (Ben-David, 2013). There are objective reasons why jobseekers are deterred from entering the construction industry, and Israel needs to address them, rather than continuing to rely on labor migration and on Palestinian workers.

Appendix Figure 1
Official number of employees in the construction industry
in thousands, 2007-2013

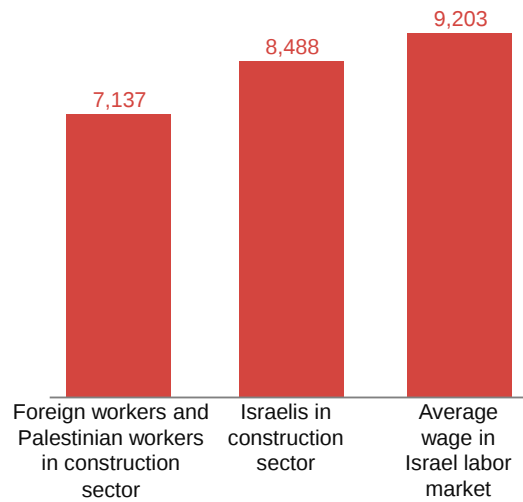


Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Ministry of Construction and Housing (2013)

There are a number of factors behind Israeli jobseekers' aversion to entering the construction industry. Firstly, as shown by Appendix Figure 2, the wages in this sector are below average.

Appendix Figure 2
Average monthly wage for construction industry employees
in shekels, 2013



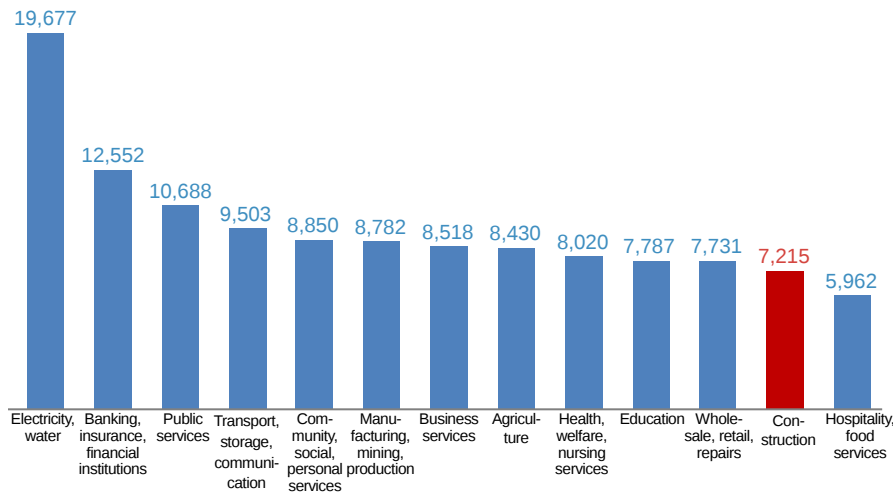
Source: Noam Gruber, Taub Center for Social Policy Studies in Israel
Data: Ministry of Construction and Housing (2013)

Appendix Figure 3 presents the mean wages of a range of sectors for males with 11-12 years of schooling. For this segment of the population, construction-industry wages are higher only than those of the hospitality and food services industry.

These low wages reflect productivity levels (output per work hour) in the construction industry; productivity is low compared both to other sectors in the Israeli economy and to the construction industry in European countries (Ben-David, 2013). Productivity is low because Israel relies on low-wage labor rather than investing in automation of the sector and in advanced construction technologies.

Appendix Figure 3
Wages for full-time employed men*, 2012

average monthly wage, in shekels, by sector,
 men with 11-12 years of schooling



* Not including foreign and Palestinian workers

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, *Business Tendency Survey*

There appear, however, to be other major factors besides the low wages that make employment in construction so unattractive: (1) Construction industry work generally takes place in difficult physical conditions and involves significant risk of injury or even death;⁴⁵ (2) The construction industry also has the negative image of an unregulated industry, major segments of which operate as part of the shadow economy, meaning that no social benefits are offered to workers;⁴⁶ and

⁴⁵ Over half of work-accident fatalities in 2012 were in the construction industry (Occupational Safety and Health Administration, 2012).

⁴⁶ It should be noted that informal labor does not benefit the unskilled worker – who in any case would be paying low taxes but would at least benefit from

(3) The sector lacks a clear, recognized career-advancement path, from laborer to skilled worker or foreman.

Low wages, physically-demanding work, limited protection in cases of work-related disability – especially in informal employment environments – and unclear career advancement opportunities all deter people from seeking work in construction and give the industry a negative public image.

The challenges faced by the government are therefore many:

- Encourage automation of the construction industry, which is expected to increase the sector's productivity and mean wage while also helping to ease the physical labor aspect of construction work.
- Reinforce safety supervision and eradicate the plague of informal labor in the industry, so as to lower the risks involved in construction work and improve workers' level of social protection.

Subsidize in-service training for workers in the sector, based on seniority; this would enable the construction workforce to advance and professionalize. Despite both worker and employer demand, prior efforts to train Israelis failed, due mainly to a lack of long-term commitment on the part of the state to reduce reliance on imported labor in the sector, and to an increased supply of Israeli workers (Heruti-Sover, 2014). Special note should be taken of the potential for workers among the Haredi (ultra-Orthodox) community, which has trouble finding work in other industries due to lack of suitable education (Regev, 2013). A new program to train Haredim for the construction industry was launched not long ago at HaBonim College in Ashdod, and the hopes are that this program and others like it will be able to bridge the need for paid employment among Haredim with the growing demand for construction workers, while enabling Israel to break its dependence on migrant labor and Palestinian workers (Glick, 2014). Consideration could also be given to recognizing construction work and other necessary occupations as a form of civil

social protection if his employment was official – but rather his employer, who conceals his activity and evades tax on his profits.

service that, for some sectors of society, could be an alternative to military service (Gruber, 2012).

Israel's construction industry has relied for many years on cheap labor – at first on Palestinian workers and later on foreign workers as well. The industry should be weaned from this harmful dependence. Other countries' experience indicates that investing in automation and switching to technologically advanced construction methods hastens the building process, improves construction quality and ultimately increases labor productivity – a positive development that would drive wages higher. The Israeli government should consistently strive to reduce the number of foreign workers in the industry (even in the face of pressure from construction companies), ensure proper supervision and safeguarding of worker safety and rights, and subsidize vocational and in-service training in the construction industry.

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II. MACRO AND LABOR MARKET

Labor Market Reform in Israel and the Flexicurity Option

Dan Ben-David and Liora Bowers*

Abstract

Flexicurity is the name commonly ascribed to a set of labor market and welfare policies, adopted primarily by Nordic countries, providing relatively high levels of hiring and firing flexibility to employers alongside a financial safety net and employability for workers. Flexicurity countries have higher levels and faster growth in labor productivity and the gap between these countries and Israel has been increasing for decades. These countries are also characterized by higher rates of employment and lower rates of poverty and income inequality than Israel – which raises a number of questions, chief among them: is the better socioeconomic performance in flexicurity countries due to flexicurity policies and could this approach be a viable option for Israel? This chapter explores these questions through an examination of the various attributes of flexicurity policies and a comparison of socioeconomic outcomes in flexicurity countries, other country groupings and Israel, and concludes with some relevant policy recommendations.

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The idea for this study emanated from a presentation of the Taub Center's *State of the Nation Report 2013* before the senior staff at the Prime Minister's Office and a subsequent request by that Office for an examination of Flexicurity's possible applicability for Israel. Previous versions of this project were presented in sessions with various members of the Prime Minister's

Introduction

Combining some of the developed world's lowest productivity levels with its highest rates of poverty and income inequality, Israel is situated on socioeconomic trajectories that are unsustainable in the long run. On the other hand, Israel continues to have some of the world's best universities and a highly innovative high tech sector. Foreign direct investments and venture capital continue to stream in at rates that provide only a hint of the country's tremendous potential – if, and when, it will be able to channel the knowledge that it already possesses towards a much larger share of its population. Israel's rapidly changing demographic landscape still provides a window of opportunity, albeit a steadily narrowing one, for harnessing the country's unique resources before it crosses a point beyond which it will be unable to adopt policies that are already challenging to implement today.

The country is in urgent need of a systemic reset of its national priorities, from its current acquiescence to sectoral, business and personal pressures and interests towards a comprehensive plan targeted at its core challenges and their underlying determinants. Ben-David (2014) provides an outline of what such a plan should entail. It is based on three policy spheres that together require general budgetary reprioritization. The first policy sphere focuses on the need to restructure incentives – from non-work to pro-work incentives, and for employers to hire from the existing pool of Israelis as opposed to importing unskilled and uneducated workers from abroad – while providing a comprehensive employment package yielding the skills necessary for contending in an open economy.

Office, cabinet ministries and the Bank of Israel. We would like to thank Adi Brender, Roie Dror, Haggay Etkes, Michal Fink, Eugene Kandel, Ayal Kimhi, Lilach Lurie, Guy Mundlak, Ehud Praver and Michal Tzuk for their useful comments and suggestions and Hadas Fuchs and Kyrill Shraberman for data assistance. The final determination of what to include in this chapter and the recommendations in it were made by the authors alone.

The second policy sphere addresses the need to create a supportive surrounding environment for those whose incentive structures have changed, and who have picked up elementary skills that can enable them to put their foot in the economic door and gradually open it further. The third policy sphere emphasizes the strategic perspective, including, but not limited to: budget transparency to enable a rechanneling of scarce resources; fundamental educational reform ranging from implementation of a considerably upgraded core curriculum that effectively prepares individuals for entry into a fiercely competitive global labor market and a modern democratic society to improved methods for selection, training and compensation of teachers; and heightened law enforcement aimed at reducing a shadow economy currently estimated at over one-fifth of Israel's GDP (Gruber, 2014).

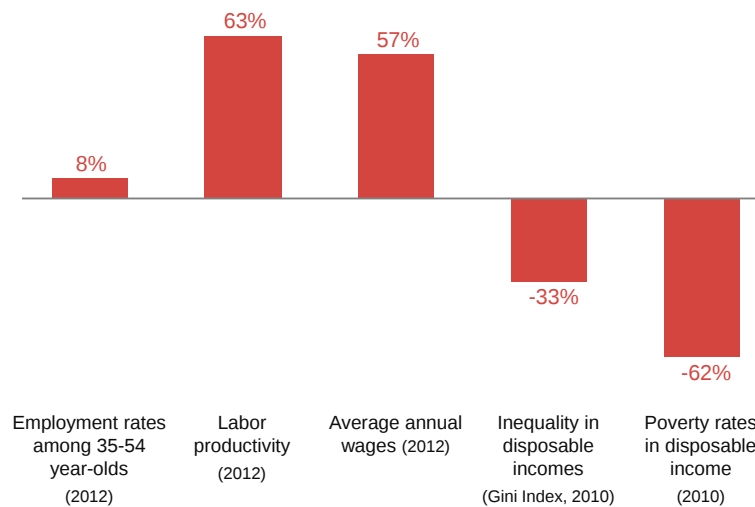
This chapter delves deeper into elements highlighted in Ben-David's (2014) first policy sphere in the comprehensive plan, analyzing possible policy routes in this vein. Specifically, the objective here is examine the applicability for Israel of a concept commonly known as flexicurity, a strategy intended to increase labor market flexibility for employers while providing financial security and employability for labor force participants (not to be confused with job protection in a specific place of work). This is a system currently in place – in one form or another – in Nordic countries and in the Netherlands (together, the “Flexicurity countries” or “Flexicurity model”). Along with providing history and background on flexicurity, this chapter classifies Israel and other Western countries according to various flexicurity indicators and discusses relevant social and policy implications for Israel if it were to adopt aspects of the traditional flexicurity system.

1. The Danish Example

One of the Nordic countries, Denmark, has in fact become somewhat of a poster country for the flexicurity system. A socioeconomic comparison of Denmark to Israel using a number of different measures (Figure 1)

provides a glimpse of the differences between the two countries. Employment rates among prime working-age men aged 35-54 in Denmark are 8 percent higher than in Israel. A larger labor force means greater output for the same population, which in turn translates into higher GDP per capita (i.e., higher living standards for the Danish population).

Figure 1
A socioeconomic comparison of Denmark and Israel
 percent differences between Denmark and Israel*



* Calculated as the percent difference in the measures for Denmark minus the measures for Israel

Source: Dan Ben-David and Liora Bowers, Taub Center

Data: OECD

Not only are Danish employment rates higher, so is labor productivity, which is defined as GDP produced per hour worked. The average Danish worker produced 63 percent more than the average Israeli worker during each hour worked in 2012. This finding has two major implications. First of all, while addressing business cycles (recessionary periods versus

inflationary periods) around the long run trend is important, the primary determinant of the entire trend – i.e., the main factor determining the height and the slope of a country's long run multi-decade economic growth trajectory – is productivity. A key measure of productivity is labor productivity, which is the focus here and which has a direct link to wages. If a worker does not produce much per hour (that is, low worker labor productivity), then it is not possible for that worker to receive high wages since there is no source from which to draw upon to provide high wages. Though high productivity is insufficient for guaranteeing high wages, rising productivity is certainly a necessary condition for incomes to rise. Hence, it should come as no surprise that Danish wages are 57 percent higher than Israeli wages.

While faster growth and higher incomes must be a major policy objective, the question is whether these come at the expense of higher income gaps within a country. As the Danish example highlights, this need not be the case. Income inequality in Denmark is considerably lower than it is in Israel. The Gini coefficient of disposable incomes (that is, after accounting for the deduction of taxes and the addition of welfare payments) is a full one-third lower in Denmark than in Israel. The share of Danish households living below the disposable income poverty line is 62 percent below the share in Israel, that is, Denmark has a poverty rate that is roughly one-third that of Israel.

The bottom line is that it is possible to have both much higher incomes and economic growth and much lower rates of income inequality and poverty. The question is how these twin outcomes might be accomplished, how the system of flexicurity is related to these differences in economic performance, and what aspects of the system might be applicable for Israel?

The primary question is whether flexicurity is a win-win (i.e., Pareto improving) set of policies in which both employers and workers end up better off, or is one group better off at the expense of the other (i.e., zero-sum game)? The fact that the Flexicurity countries have relatively high productivity, high living standards, and high employment rates is not an indication that flexicurity is a win-win because there is a serious absence

of counterfactuals (or understanding of how the outcomes in Flexicurity countries would have been different if flexicurity were not the policy). In other words, the high government expenditures needed to fund flexicurity policies require higher taxes – or reduction of other expenditures – which reduces the incentive to invest and to work, which in turn reduce productivity and employment. So had there been lower taxes in the Flexicurity countries, could productivity and employment rates there have been even higher than they currently are? One of the primary difficulties in this realm is isolating the impact of flexicurity policies on socioeconomic outcomes. To our knowledge, there does not exist even one rigorous econometric study providing such an examination of statistically significant relationships, let alone causal links. Given the huge number of factors at play, it may not be too surprising that no such findings can be found.

In lieu of empirical research testing to examine whether flexicurity is a win-win, the second best approach then arises. Specifically, even if one could say that the Danes (for example) could have had even higher productivity and employment rates without flexicurity, the fact that they already have some of the highest rates could be considered sufficient in light of the perceived benefits resulting from the employment flexibility and personal security that they have.

The question is whether it might be possible to replicate the Danish example in Israel? To be able to better respond to this question, there is a need to understand the underlying reasons why these two countries have such differences in productivity and employment rates, as well as in wages and in income inequality. How much of these differences are structural (e.g., educational quality, quantity and disparity; physical infrastructure; competition) and how much are behavioral (e.g., formation and enforcement of laws, rules and regulations). The objective here is to examine the potential contributions and applicability of flexicurity policies in Israel.

2. Defining Flexicurity

Starting in the 1980s, the debate between hiring/firing flexibility sought by employers and employment protection legislation demanded by trade unions in Europe became louder. The strong economic performance of Anglo countries including the United States, Canada and the United Kingdom, as well as the “Dutch miracle” of the 1990s (a quick recovery from slow growth and high unemployment as a result of labor market reform), convinced some policy makers of the importance of deregulating labor markets. They believed that improved productivity, economic growth and a stronger labor market would ensue from employment flexibility. Simultaneously, labor groups expressed concern regarding workers’ rights and financial security. The term flexicurity, a strategy to increase both flexibility within labor markets and individual security, emerged in the mid-1990s in the Netherlands (Tangian, 2008). Spotlight A describes the Dutch “Flexibility and Security Law” that represented a major milestone in the implementation of flexicurity policies in the Netherlands.

Spotlight A: The Dutch Flexibility and Security Law

The Dutch Flexibility and Security Law and accompanying legislation (“the Law”), enacted in the late 1990s, represented a monumental shift towards flexicurity via labor regulation in the Netherlands. Prior to the law, employers had to navigate a cumbersome process to receive permission from a regional employment office in order to dismiss a worker. By the mid-1990s many employers were circumventing this requirement by asking civil courts to dissolve employment contracts (Houwing, 2010).

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The Law simplified and sped up the procedures for dismissing regular employees and shortened the required notice period for dismissal. The Law also implemented the “3-3-3” rule for fixed-term contracts, allowing employers to hire a worker for up to three consecutive fixed-term contracts for a total of three years, at which point they were required to offer an open-ended contract. The Law considered contracts to be consecutive if they were renewed within three months, which prevented employers from indefinitely rehiring workers on limited term contracts and preventing them from obtaining the full benefits and security of regular employment. Simultaneously, in order to increase access to temporary workers, the Law also liberalized rules on temporary work agencies, removing their licensing requirement.

Various measures were implemented to improve security for non-regular employees, including: 1) the presumption that the relationship between employers and employees implies the existence of an employment contract for workers, subject to labor laws, even if one does not formally exist; 2) a guarantee of a minimum three hours pay when on-call workers are called to work; 3) a limit of a one-month trial period for contracts lasting up to two years; 4) coverage of temporary workers by a legal employment contract that allows for benefits such as pension and sick leave, albeit with more flexibility than a standard contract.

It is important to note, however, that the Law allows for deviation from these regulations through Collective Labor Agreements.

By the early 2000s, the concept of flexicurity had gained traction throughout Europe. It was defined as a policy that aimed to “enhance the flexibility of labor markets, work organization and labor relations on the one hand, and to enhance security – employment security and social security – notably for weaker groups in and outside the labor market, on the other hand” (Wilthagen and Tros, 2004).

Key elements of flexicurity, shown in Table 1 and communicated by the 2007 European Commission's "Towards Common Principles of Flexicurity," include: 1) flexible contractual arrangements in open, inclusive labor markets; 2) life-long learning and upgrading of skills; 3) active labor market policies; and, 4) a social welfare system that provides protection during transition periods.

The European Commission (2007) recognized that flexicurity must be adaptive to important cultural and socioeconomic differences among member countries. It also highlighted that the support of the social partners (labor unions and employer groups) was imperative for the advancement of flexicurity principles. The Commission articulated that flexicurity requires larger government budgets dedicated to supporting labor activation programs and providing financial assistance for the unemployed, with higher taxation levels likely to be required.

Table 1. **The four main principles of Flexicurity**

Flexibility		Security	
Flexible and reliable work contracts in accordance with labor laws, collective wage bargaining agreements and modern work organization principles.	The introduction of lifelong learning strategies to support the continual adaptability of employees, particularly the most vulnerable in the labor market.	Effective active labor market policies, including counseling, assessment, training and wage-subsidized jobs.	Modernization of social security systems to provide financial support that encourages employment and facilitates labor market mobility.

Source: European Commission, 2007

The terms flexibility and security can be further broken down into various components, as shown in Table 2. While flexicurity policies have tended to focus on promoting external flexibility such as hiring and firing, there has been a more recent emphasis on internal flexibility (such as hours worked), functional flexibility (adjusting employee tasks to fit employer needs) and pay flexibility as well (basing compensation on merit and market conditions). The security aspect of these policies does not take the form of job security that ensures that an employee maintains the same job with the same employer. Instead, the emphasis is on

increasing the likelihood of individuals remaining employable, ensuring sufficient income during transition and unemployment periods, and enabling individuals to better combine their work responsibilities with their family commitments.

Table 2. **Key elements of Flexicurity**

Flexibility	
External	Ease of adjusting number of workers, including hiring and firing (e.g., dismissal notice periods and procedures, required severance payments) and flexible contract forms
Internal	Ease of adjusting work intensity, including overtime, part-time, weekend work, or use of flexible working-time schemes
Functional	Ease of adjusting employee tasks to fit current needs, including job rotation, multi-tasking, increased employee autonomy and decision making responsibility
Pay	Ease of adjusting worker pay based on results, performance and the market
Security	
Employment	Heightened likelihood of remaining employable and being able to find work
Income	Heightened likelihood of receiving sufficient and consistent income in periods of transition or unemployment
Combination	Heightened likelihood that a person can combine work with private responsibilities and commitments, such as family

Source: Wilthagen and Tros, 2004

Aside from the advantages to employers, there are two notable benefits of flexibility for workers. One important goal of flexibility is to promote lifecycle transitions, helping individuals move more seamlessly through educational and training paths and various career positions. Flexibility is intended to encourage upward mobility along with talent and skill development, which also heighten employability.

Second, flexibility in the labor market for employees on regular, open-ended contracts is also intended to reduce labor market segmentation between regular and non-regular (temporary agency or fixed-term contract) workers.¹ Such labor market segmentation can lead to vast differences between the protection, rights and social security benefits of regular and non-regular employees. Where significant segmentation exists, workers can get trapped in a cycle of ongoing work relationships that exclude them from collective wage bargaining agreements, employee learning and investment, social security and other benefits (European Commission, 2007).

3. Classification of Developed Countries by Flexicurity Parameters

There have been many efforts to classify countries according to labor market and social policies, particularly within the flexicurity framework. Studies utilize a broad range of indicators that are aggregated and analyzed in various ways. Nonetheless, the results tend to be similar, with general consensus on five major country categories across the developed world. These categories are as follows:

- Anglo-Saxon countries (Australia, Canada, Ireland, New Zealand, UK, USA), characterized by high labor market flexibility, low security relative to Western European countries and low taxation
- Flexicurity countries (Denmark, Finland, the Netherlands, Norway, Sweden), defined by high security, medium labor market flexibility and high taxation

¹ Temporary workers are those workers who are paid through an employment agency/labor firm. Fixed-term contracts entail those employees working on a contract of fixed duration and excludes employees paid by an employment agency/labor firm.

- Continental countries (Austria, Belgium, France, Germany), characterized by relatively low labor market flexibility, medium-to-high security and relatively high taxation
- Mediterranean countries (Greece, Italy, Portugal, Spain), considered to have fairly rigid labor markets with lower security than Western European countries and mixed patterns of taxation
- Eastern European countries (Czech Republic, Estonia, Hungary, Poland, Slovakia), characterized by low security, medium flexibility and relatively low taxation

Both the Anglo-Saxon and the Flexicurity countries have historically had high rates of labor market participation and relatively low unemployment. The Flexicurity model, with medium levels of flexibility, places a considerable emphasis on lifelong learning, vocational training and labor activation policies. Over the long term, it has enjoyed strong innovation and productivity outcomes, good working conditions (based on high marks from employees on job satisfaction and work-life balance) and particularly low rates of poverty and income inequality. The Anglo-Saxon model is notable for its high external flexibility (including high labor mobility and low labor market segmentation). It is characterized by high rates of secondary education coupled with moderate levels of vocational training and little investment in labor activation. The model thus entails lower taxes and lower budget spending on transfers than in the Flexicurity countries (European Commission, 2007).

Nonetheless, given historical, cultural and major socioeconomic differences among the countries analyzed, it is challenging to attribute specific social and economic results solely to labor flexibility and labor activation or to income security policies. As described in Spotlight B, the Great Recession in recent years has also played out differently across the different systems.

Spotlight B: Flexicurity and the Great Recession

The severe recession beginning in 2008 affected different European countries in different ways. With a very low unemployment rate prior to the crisis, Denmark witnessed a relatively large increase in unemployment between 2007 and 2009. Germany was an anomaly during the crisis and saw unemployment rates decrease. The German response to the crisis entailed a reliance on internal flexibility, with almost one-third of firms implementing reduced work hours, rather than a reduction in workers. With the exception of high crisis countries such as Portugal and Spain, those countries with stricter employment protection legislation, such as Austria and Belgium, tended to reduce work hours rather than the number of employees during the recession. Nonetheless, because of greater job creation and destruction in higher flexibility labor markets, the number of unemployed tended to be higher but the duration shorter in Flexicurity model countries (Andersen, 2011; Schmitt, 2011).

The outgoing head of the Danish Federation of Trade Unions noted (Bredgaard and Daemmrigh, 2013): “When I was young, security meant having a good, solid job. This was not very exciting – but in a way, it was very safe. This security disappeared as globalization emerged. Security is no longer to hold on desperately to the same job throughout your life. Security is to stay cool when you hear rumors of outsourcing from the boardroom. Because deep down you know that you have solid skills and that you will quickly be able to find a new job if the old one is relocated. Security is not to be able to stay on. Security is to be able to move. It is precisely this new security through training and education that we have now embarked on creating for every worker.”

4. Flexicurity Countries Compared to Others

A comparison of the five country groupings described above, together with Israel, on a number of indicators relating to flexibility, security and the labor market is provided in Appendix Table 1. Labor market flexibility is assessed using OECD employment protection legislation indices for regular workers (those with open-ended contracts) and for those workers with temporary contracts, including both workers hired through temporary work agencies and with fixed-term contracts. The index for regular workers considers expenses and procedures incurred in dismissing an individual or group of workers with typical open-ended contracts. A higher index score indicates a more rigid labor market where it is harder to hire and dismiss workers.

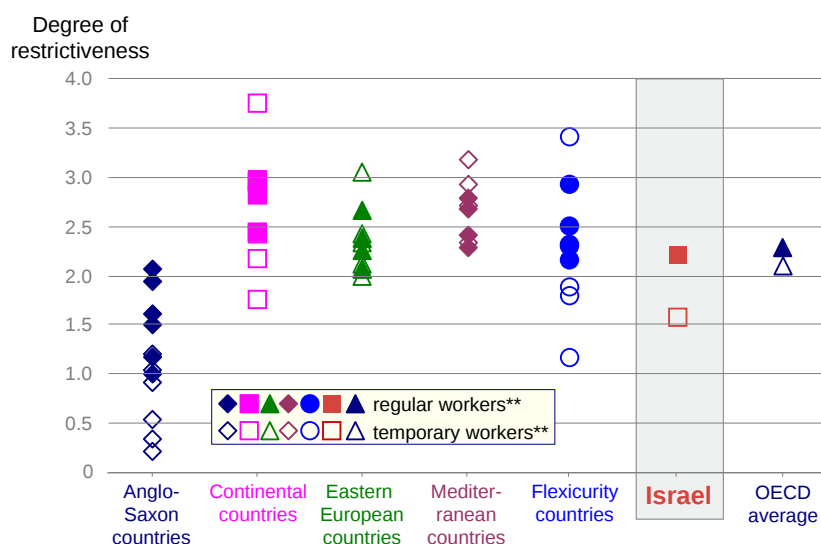
Israel scores relatively low on the Employment Protection Legislation Index. While not as flexible as the Anglo-Saxon countries (for example, Israel has particularly high mandatory severance pay requirements), it has short notification periods and low procedural barriers for individual dismissal. Dismissal of a larger number of workers entails an additional notification requirement to the Israeli Employment Service Bureau, but unlike many other OECD countries, this does not involve additional costs (OECD, 2013a).

Using the Employment Protection Legislation Indices, Figure 2 provides a visualization of Israel relative to the various country groupings with regard to employer hiring flexibility. It shows the spread within the country groupings for both regular workers (those with open-ended contracts) and workers with temporary or fixed-term contracts.

While Israel appears to be quite similar to the OECD average with regard to regular workers – and more flexible for temporary/fixed-term contract workers – such a comparison blurs the picture somewhat because averages do not show the differences between different country groupings. The Index ranges for regular workers are fairly similar for the various European groupings and Mediterranean countries while the Anglo-Saxon nations have considerably greater hiring and firing flexibility for such workers. Israel is situated between the Anglo-Saxon

group and the other groups, with less flexibility than the Anglo-Saxon countries and greater flexibility than the other groups.

Figure 2
Hiring flexibility for employers
 Employment Protection Legislation Index*, 2013



* The OECD's Employment Protection Legislation Index ranges from 0 (the least restrictive) to 6 (the most restrictive).

** The index for regular workers measures how strict regulations are for employers to dismiss workers with open-ended contracts. The index for temporary contracts measures how strict the regulations are on the use of temporary or fixed-term contract workers.

Source: Dan Ben-David and Liora Bowers, Taub Center

Data: OECD

With regard to temporary/fixed-term contract workers, there is greater within-group variation, although the position of the various groups relative to others remains unchanged. Here, too, Israel's employers have

greater flexibility with respect to nearly all of the European countries, but less hiring flexibility than all of the Anglo-Saxon ones.

Like the Anglo-Saxon countries and several others, Israel does not limit the types of work that can be done by temporary workers. However, Israel's authorization and reporting requirements on temporary work, as well as limits on the number of renewals of temporary worker assignments, are considered of medium strictness. When it comes to the fixed-term contracts, Israel is again aligned with the Anglo-Saxon countries. There are no significant restrictions on what circumstances or for what type of work fixed-term contracts can be used, nor the duration or number of such contracts an employer can sign with an employee (OECD, 2013a). It is important to note, however, that Israel's public sector is much less flexible than either the private sector in Israel or the public sectors in the Flexicurity and Anglo-Saxon countries. (See Spotlight C for more details).

Spotlight C: External Flexibility in the Public Sector

Although the public sector is an important part of the overall work force in Western countries, the flexicurity discussion largely focuses on the private sector. The public sector across countries tends to be less externally flexible than the private sector, and focuses more on internal mobility within the government.

Nonetheless, there does appear to be some correlation between external flexibility in the private and public sectors. For example, the Flexicurity

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countries have a public sector that is considered a “position-based” system, characterized by hiring based on openings for specific positions that are broadly accessible to both internal and external candidates.

Such a system shows greater mobility between the public and private sectors, and greater managerial flexibility and delegation, as agencies often determine their own human resource management rules and employees’ rights are more aligned with their individual performance (Kuperus and Rode, 2010). With the exception of Ireland, the Anglo-Saxon countries also tend to be more position-based systems (OECD, 2014).

The public sector in Israel operates mainly as a career-based system, characterized by specific entry criteria that are decided centrally rather than at the managerial/departmental level, and continuous career development and job protection that supports lifelong civil service employment. This structure is reminiscent of the systems in the Continental countries.

The OECD Recruitment Index that ranges from 0 (an externally less flexible system) to 1 (a more externally flexible system) takes into account the entry mechanisms, external recruitment methods, and selection processes of senior civil servants. This index gives Israel a score of 0.35, well below the OECD average of 0.5 on this index, reflecting a less flexible and more career-based system (OECD, 2014). The Israeli public sector employs about 19 percent of the labor force, slightly above the OECD average but much lower than the 28 percent average of the Flexicurity countries (Central Bureau of Statistics, 2013).

There is far less external flexibility in Israel’s public sector than the private sector. A 2013 report by the Civil Service Reform Commission identified the lack of performance evaluations in determining advancement or pay together with little turnover among managers and lengthy hiring periods as key problems in the civil service (Dayan, 2013; Bassok, 2013).

Panels A-C in Figure 3 provide comparisons of the security picture for employees – where it is important to remember that this refers to national safety net attributes rather than to job security in a particular place of employment. Panel A displays the share of unemployed persons receiving unemployment benefits. Israel places quite a bit below the OECD average, and below all but two of the countries in the figure, with only 27 percent of the unemployed in Israel actually receiving unemployment benefits (International Labor Organization, 2011). One of the reasons for this is that many of Israel's longer-term unemployed have exhausted their benefits, which cover a relatively short period of time. Others may not receive such benefits because they are new entrants to the labor market or because they recently entered the labor market and did not accumulate sufficient working days to meet the requirements for benefits.

In 2011, Israel spent only 0.6 percent of its GDP on unemployment insurance and income support for the unemployed, which is among the lowest OECD outlays in this regard. The low spending, however, may be a positive indicator partly related to Israel's low unemployment rate. Consequently, it should come as no surprise that Israel's net income replacement rate (the amount that the unemployed receive as a percent of their disposable income – i.e., after taxes and transfers – during their previous employment) is also relatively low (Panel B). On average, considering various earnings levels and family situations, an adult in Israel can expect to have a net replacement rate of 41 percent via unemployment and social support programs in the five years following unemployment. This is among the lowest income replacement rates in the OECD. It is important to note, however, that individuals' personal situations greatly affect their replacement rates. For example, Israelis who are married with children tend to have replacement rates that are closer to the OECD average. Furthermore, initial replacement rates for those who lose their job in Israel are actually quite high relative to the OECD, but the financial support does not last very long.

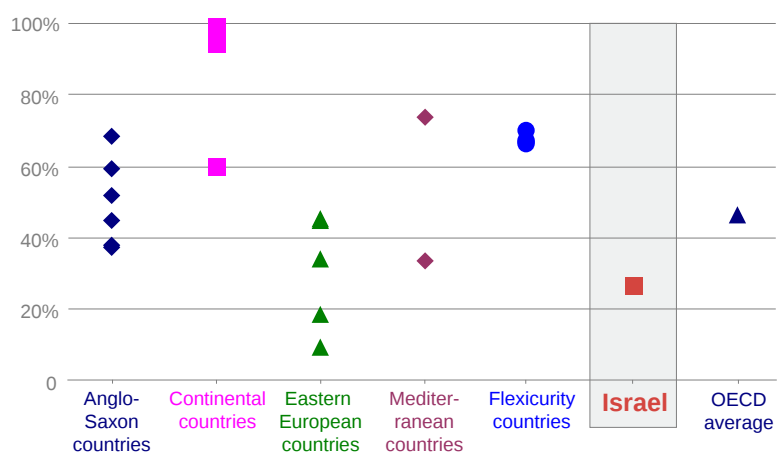
Finally, active labor market policies, which include job placement, training and job creation policies, are important for both flexibility and security of the work force. These programs are designed to help workers

develop new skills, retrain or connect with open job opportunities. Countries often make participation in such programs mandatory in order to receive unemployment benefits which also serves as a motivator to counter the disincentives to work that come from receiving income support. As shown in Panel C of Figure 3, active labor market policies are used extensively in the Flexicurity countries, which spend an average 1.37 percent of their GDP on these efforts. At 0.18 percent of GDP, Israel spends well below the OECD average on such programs and is situated at the bottom end of all of the countries in the figure.

Figure 3 (continued on next page)

Security for employees

Panel A: Share of unemployed receiving unemployment benefits, 2006-2008*



* Data not available for select countries

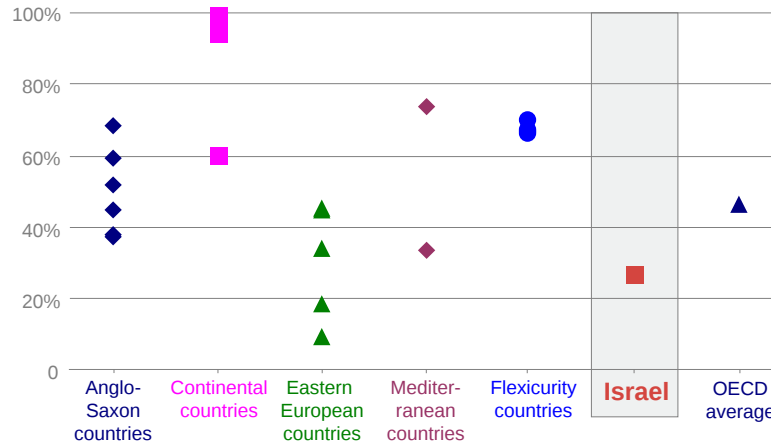
Source: Dan Ben-David and Liora Bowers, Taub Center

Data: International Labor Organization (2011)

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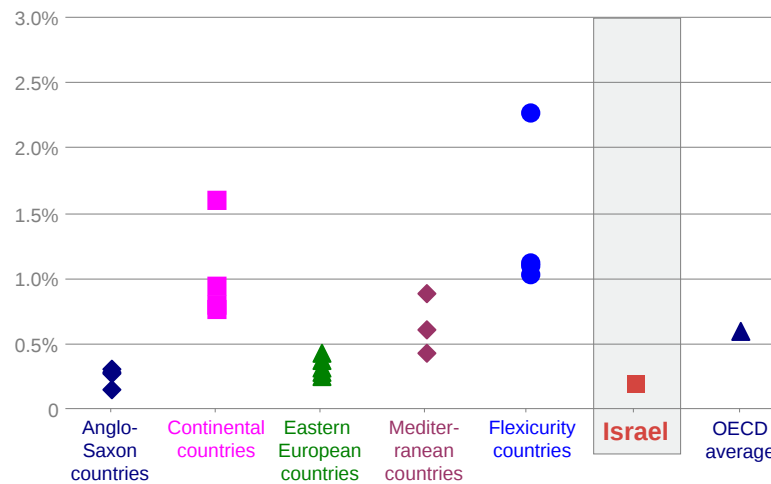
Security for employees

Panel B: Net income replacement rate for unemployed*, 2011



* Data not available for select countries

Panel C: Expenditures on active labor market policies as percent of GDP**, 2011



* Net income replacement rate as percent of previous income earned (after taxes and transfers); averaged across various wage rates and family situations; includes social support and other means-tested benefits; average of first 60 months following unemployment

** Active labor market policies include job placement, training and job creation policies. Data not available for select countries.

Source for both: Dan Ben-David and Liora Bowers, Taub Center

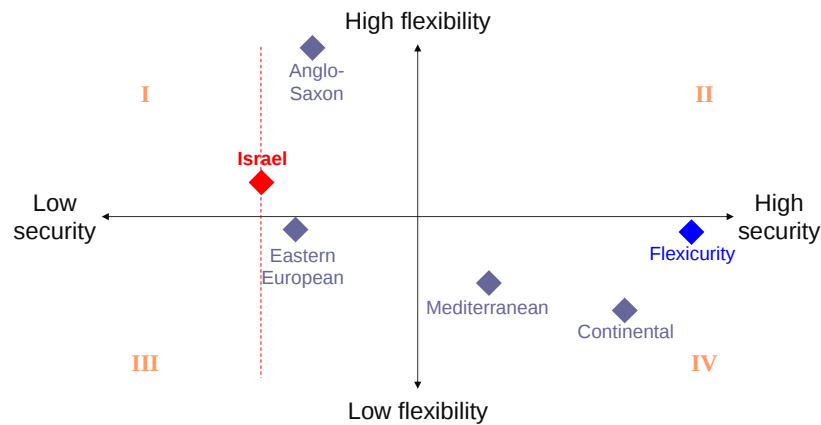
Data for both: OECD

To sustain large government support in labor and other welfare policies, taxation levels are much higher in the Flexicurity countries – averaging 43 percent of GDP versus 29 percent and 33 percent of GDP in the Anglo-Saxon countries and Israel, respectively. In order to sustain the flexicurity model of a substantial, generous safety-net, the model relies on a high rate of employment. As Appendix Table 1 shows, Flexicurity countries have higher labor force participation and lower unemployment rates among working-age adults than the other four country groupings. Israel also has relatively low unemployment rates, but its labor force participation rate is around the OECD average.

While Appendix Table 1 provides the country group averages – together with Israel's scores – on various measures of employment flexibility and security, Figure 4 merges a number of relevant indicators to create a composite index showing the relative positioning of the five country groups and Israel with regards to flexibility and security. The figure highlights Israel's unique position, characterized by a somewhat higher level of flexibility (slightly higher than the Flexicurity country average as indicated by its position on the vertical axis), but a low security level, even in comparison to the Eastern European and Anglo-Saxon countries (its location on the horizontal axis).

The picture that arises from the figure is not complete, since it shows the extent of the national safety net (in terms of provision of financial security and employability for individuals) in all of the sectors, while Israel's private and public sectors are distinguished by varying degrees of labor market flexibility within each of them. In other words, the private and public sectors in Israel are arrayed along the red dotted line in Figure 4 and the challenge that the country faces is how to move the entire dotted line rightwards and upwards in the direction of greater security together with greater flexibility (i.e., shortening the dotted line and moving it from Quadrants I and III to Quadrant II in Figure 4).

Figure 4
Classification of countries
 by degree of employment flexibility and security*, various years



* Security and flexibility are measured relative to OECD averages based on the two flexibility indices (Employment Protection Legislation Indices for regular workers and for temporary workers) and four security indicators (active labor market spending, net income replacement rate, unemployment insurance spending, and percent receiving unemployment benefits).

Source: Dan Ben-David and Liora Bowers, Taub Center

Data: OECD

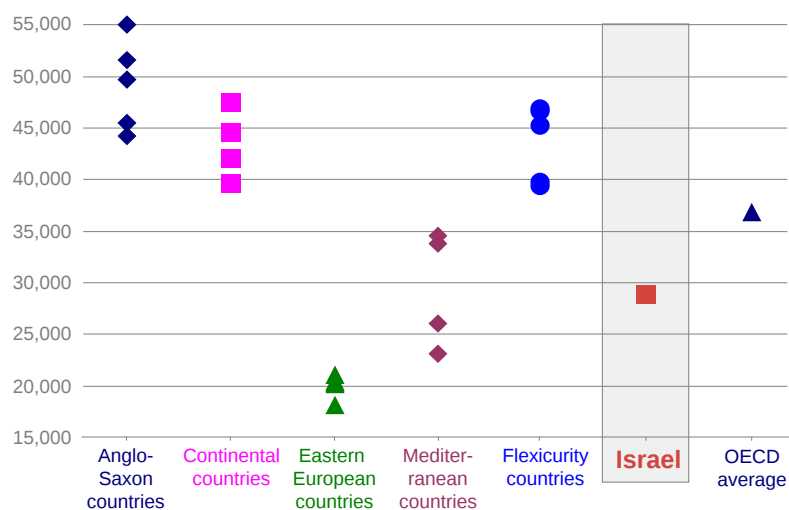
5. A Comparison of Macroeconomic Performance Between Flexicurity Countries and Other Countries

To what extent are the countries that are characterized by the different policies described above distinguished in their relative macroeconomic performances and are the various country groupings also distinguishable in this regard? Do the Flexicurity countries stand out in terms of macroeconomic outcomes? While the following analysis should not be

considered as suggestive of causal effects of the policies, it is nonetheless useful in determining the degree of delineation between the groups, where this exists, while providing a basis for comparison to Israel.

Wages and labor productivity in Flexicurity countries are high and similar to Continental and Anglo-Saxon countries. The position of the wage range in the Anglo-Saxon countries is the highest, with wage ranges in all three of the groups positioned above the OECD average (Figure 5). Wages in the Eastern European and Mediterranean countries are all below the OECD average, with the former group below the rest. The average annual wage in Israel is below the OECD average and, in fact, below nearly all of the Western countries in Figure 5.

Figure 5
Average annual wages*, 2012



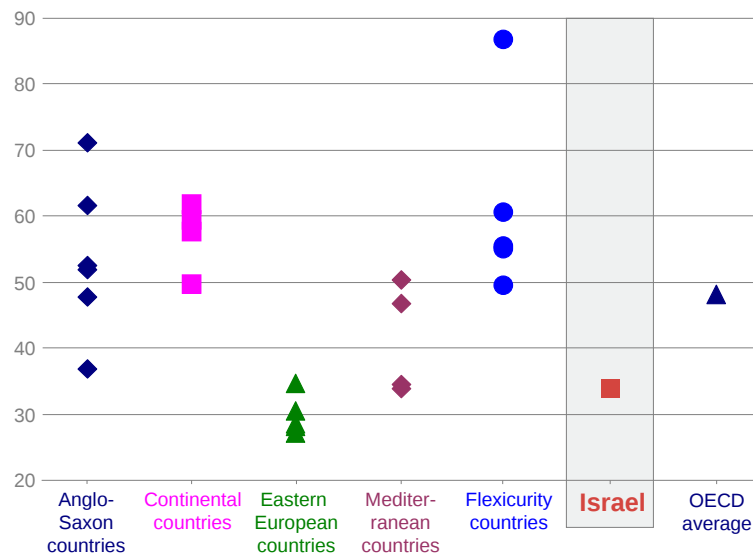
* In PPP dollars

Source: Dan Ben-David and Liora Bowers, Taub Center

Data: OECD

The productivity picture is similar to that of the wages (Figure 6), although the spread between the countries is a bit greater. While the data underlying Figure 6 is the most recent available at the time of this writing, it is nonetheless susceptible to the fact that many of these countries have still not emerged from their worst recession since the 1930s. To enable a broader, long-run perspective of the country groupings' relative positions over time, Figure 7 (and Appendix Figures 1-4) provides data on these groups extending as far back as possible for each of the variables examined below.

Figure 6
Labor productivity
 GDP per hour worked*, 2012

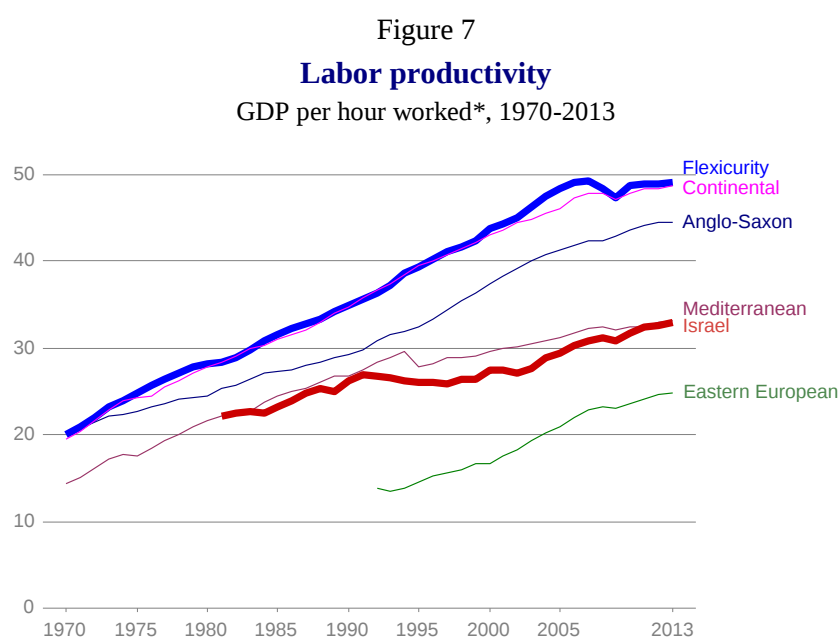


* In PPP dollars

Source: Dan Ben-David and Liora Bowers, Taub Center

Data: OECD

The long-run labor productivity trends in Figure 7 show that the relative productivity levels of the groups to one another have been fairly consistent for decades. Productivity levels in the Flexicurity and Continental European countries were similar to the Anglo-Saxon countries in 1970. Since then, the productivity of the two former groups has risen steadily above the latter group, with nearly identical productivity levels between them for over four decades. After exhibiting slower productivity growth until the early 1990s, the Anglo-Saxon countries returned to a growth path that was roughly parallel with the Flexicurity and Continental European countries – albeit below them.



* In 2005 PPP dollars

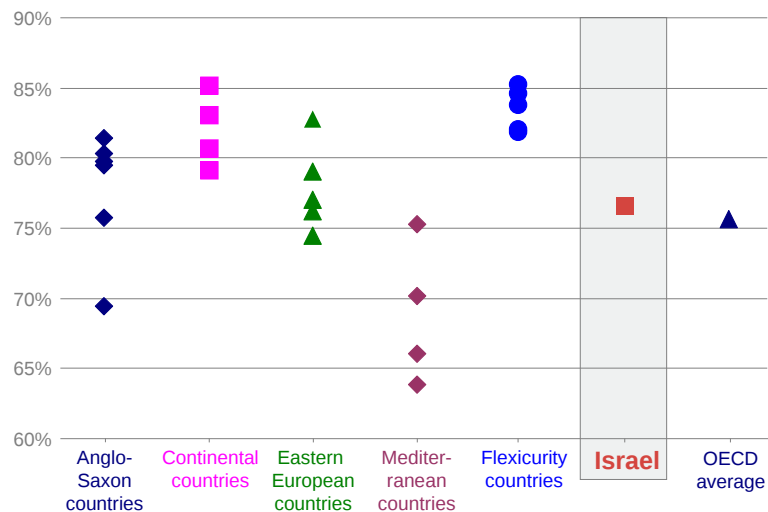
Source: Dan Ben-David and Liora Bowers, Taub Center

Data: OECD

Israel's productivity path has been similar to that of the Mediterranean countries since 1980, although slightly below those countries for most of this period. These paths are not only at lower productivity levels than the Flexicurity, Continental and Anglo-Saxon groups, they are also flatter (with the exception of the recent major recession years), indicating that the Mediterranean countries and Israel have been falling further and further behind the leading developed countries for decades.

Employment rates of 25-54-year-olds are high and similar among the Flexicurity countries – and they are relatively comparable to rates of employment in the Continental European countries (Figure 8).

Figure 8
Employment rates
25-54-year-olds, 2012



Source: Dan Ben-David and Liora Bowers, Taub Center

Data: OECD

Employment rates in Eastern European and Anglo-Saxon countries tend to be lower than in the Flexicurity and Continental European countries, with the Mediterranean countries exhibiting the lowest rates among the groups. Israel's employment rate in 2012 was slightly above the OECD average for this age group, though it is clear that this apparent resemblance to the OECD is simply a facet of averaging across relatively different country groupings. Israel's employment rate is below the rates in all of the Flexicurity and Continental countries and above all of the Mediterranean countries.

As shown in Appendix Figure 1, the Flexicurity countries have consistently had the highest employment rates among all of the groups since the early 1980s, with the Continental countries steadily catching up to them together with the Anglo-Saxon countries. However, the severe recession of the past half-decade had a major negative impact on the Anglo-Saxon countries, causing their employment rates to drop considerably in recent years. Israel's employment rates have consistently been at the bottom, together with the Mediterranean countries, until the onset of Israel's major recession at the beginning of the last decade. After falling behind initially, Israel's post-2002 recession recovery period led to employment increases while the recent Great Recession in the West coincided with a sharp drop in Mediterranean country employment to below Israeli levels.

Cross-country comparisons of income inequality (Figure 9) and poverty (Figure 10) are fairly similar, with the Flexicurity and Continental European countries displaying the lowest rates and the Eastern European countries not far behind them. Anglo-Saxon and Mediterranean countries exhibit substantially higher rates of inequality and poverty. In both instances, Israel is characterized by greater inequality and poverty than all of the other countries except the United States. The relative positions of these different country groupings – and Israel's – have been fairly steady since the mid-1980s (Appendix Figures 2 and 3).

Figure 9
Income inequality, 2010

Gini Index of disposable incomes among working age population: ages 18-65

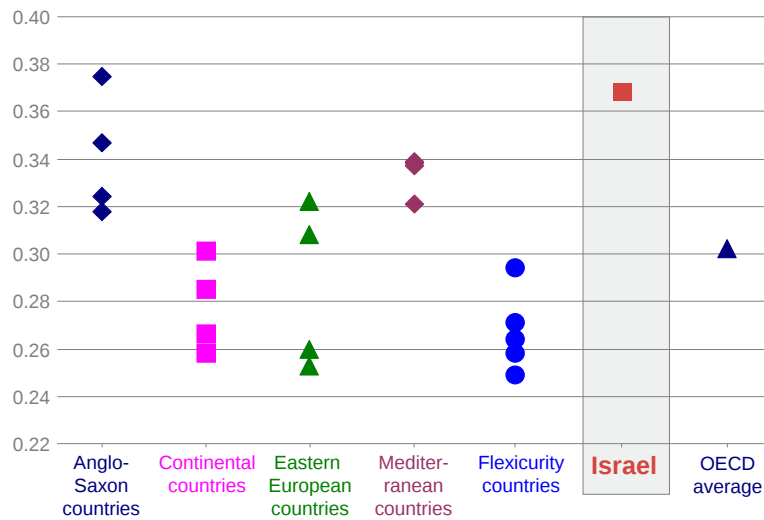
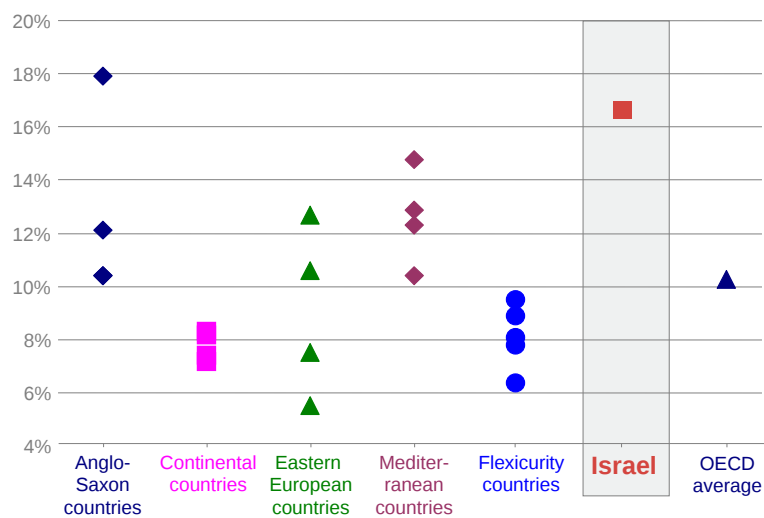


Figure 10

Poverty rates*, 2010

in disposable income for 18-65 age group



* Poverty line is 50 percent of median income

Source for both: Dan Ben-David and Liora Bowers, Taub Center

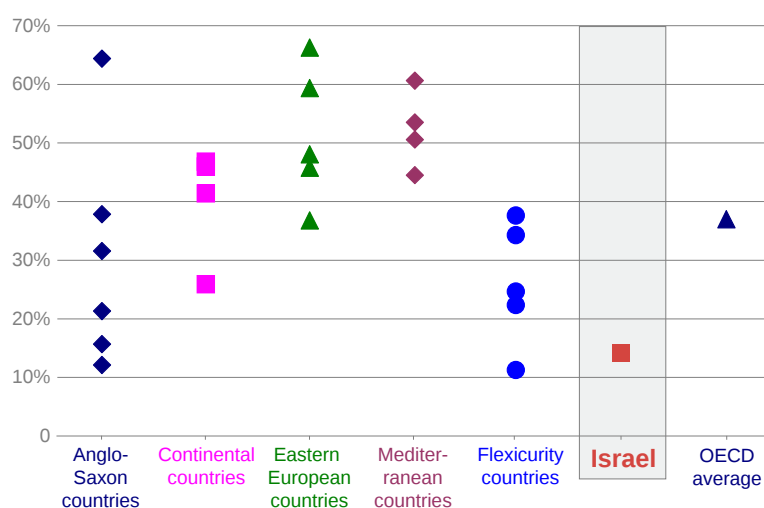
Data for both: OECD

The duration of periods of unemployment within a country provides an indication of, among other things, the generosity of the unemployment compensation on the one hand, and the ability to find employment and the flexibility of employers to hire and fire as needed, on the other hand. The share of unemployed persons in the Flexicurity countries who remained unemployed for less than one year is among the highest in the developed world. The flip side of this is that the share of unemployed persons in these countries who were unemployed for one year or more is among the lowest (Figure 11), a finding that is both interesting and instructive.

Figure 11

Percent unemployed for 1 year or more, 2012

as share of total unemployed, 25-54-year-olds



Source: Dan Ben-David and Liora Bowers, Taub Center

Data: OECD

The fact that this trend in the Flexicurity countries has been fairly consistent over the past two decades (Appendix Figure 4) makes it easier to understand the degree of worker satisfaction with flexicurity in these countries. They are given many months to do what is needed to find employment, while benefitting from relatively high unemployment compensation together with active labor market policies encouraging employment skills training to help them turn things around. The fact that the picture is reversed for unemployment duration lasting one year and over, and the fact that employment rates in Flexicurity countries are consistently very high in any event, is an indication that these policies – generous as they may be – are not open-ended.

Israel, as indicated previously, does not stand out in terms of the generosity of its unemployment assistance package and has relatively high flexibility for employers. As such, the percent of those unemployed less than one year in Israel is above the OECD average while the share of unemployed one year and over is among the lowest in the developed world since the mid-1990s (Appendix Figure 4).

The above indicators suggest some fairly substantial socioeconomic success among Flexicurity countries. Productivity and employment rates are high in these countries while rates of poverty and income inequality are relatively low. As noted before, it is hard to determine the specific contribution of flexicurity policies to the outcomes – particularly in view of the fact that non-flexicurity Continental European countries often display similar socioeconomic outcomes. That said, it is still noteworthy that it is possible to adopt successful policies that both encourage growth and provide security for employees, not in terms of protected employment in the same position but rather in the sense of a strong social safety net and labor activation programs that will catch those who fall and help put them back on their feet within the span of a year.

6. Moving Towards a Flexicurity Model in Israel: Considerations and Recommendations

The underlying system of labor relations is considered a key contributor to the socioeconomic success of flexicurity. Denmark has almost 70 percent union membership among employees, one of the highest rates in the OECD, with the vast majority of employees covered by collective bargaining agreements. Instead of focusing on employment protection, though, Danish unions have used their strong influence to improve working conditions, wages and training and are supportive partners to Danish flexicurity (Mailand, 2009).

The near universal representation of workers and employers in unions and employer associations, respectively, allows these groups to transcend narrow, particularistic demands and focus on collective needs. This has contributed to what might be considered a sense of social responsibility for the overall well-being of the country, even to the point that unions exert a moderating effect on wage increases. There is an emphasis on increasing productivity and efficiency with the belief that both employers and workers will benefit from these.

In Israel, roughly 65-75 percent of the work force is in the private sector, which is generally characterized by low employment protection for regular and temporary workers,² while the remainder of the country's work force are in the public sector that is characterized by very little or no flexibility. Among workers who have little employment protection, the required notification period for termination of employment is relatively short and the procedural barriers to employment termination are also low. Aside from notification requirements, there are next to no additional costs incurred in the dismissal of larger groups of workers. In the case of temporary workers, there is no limit on types of work, with some reporting requirements and limits on the renewals of temporary work

² This is not always the case, with the banking sector being one major exception.

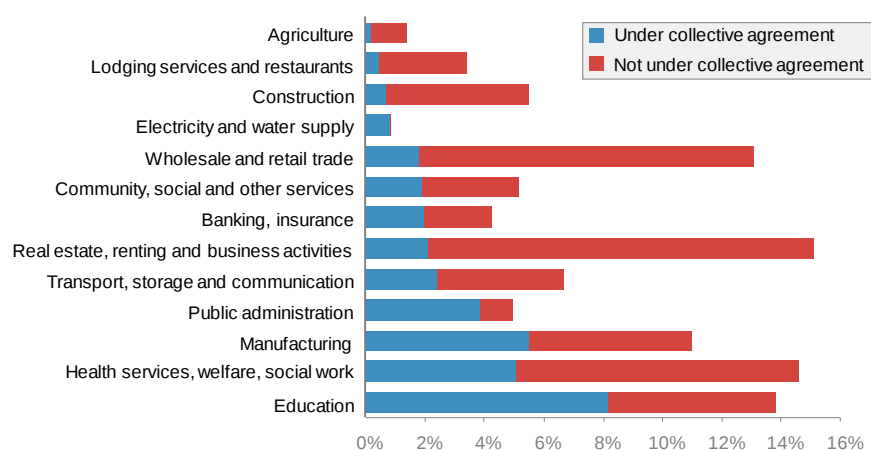
assignments. There is no restriction on the number of renewals for fixed-term contracts.

Figure 12 shows the share of Israeli workers in each economic sector. These shares are further divided by the proportion covered under collective bargaining agreements and the remainder who are not covered. It is important to note that the collective agreement coverage data shown here is self-reported, while in practice it is assumed that this rate is slightly higher as not all individuals are aware of their coverage status. Sectors with high levels of job protection are public administration; water and electricity; education, health and social services; finance; community services; transportation and communications; and portions of manufacturing.

Figure 12

Distribution of workers by economic sector and collective agreement coverage rates in Israel*

2011 (distribution of workers) and 2012 (coverage rates)



* Distribution of the labor market represents Israelis aged 25-64. Collective coverage rates are based on 2012 self-reported data, and all together represent about one-third of workers. However, experts in the field estimate that actual collective agreement coverage rates are closer to 50 percent.

Source: Dan Ben-David, Liora Bowers and Kyrill Shraberman, Taub Center

Data: OECD, International Labor Organization

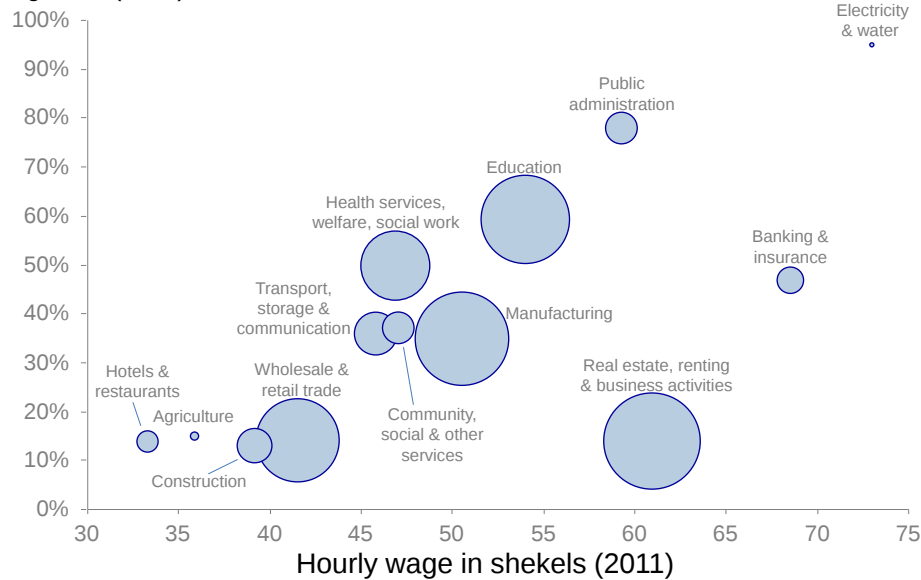
As noted in the discussion on Figure 4, Israel's private and public sectors are arrayed along the dotted red line extending from Quadrant I to Quadrant III with varying degrees of flexibility. One possible proxy for flexibility is the rate of collective agreement coverage detailed in Figure 12. The positive relationship between this coverage rate and hourly wages can be seen in Figure 13 (the sizes of the various sectors are depicted by the size of the circles in the figure). On the lower left side of the figure, with the lowest rates of collective agreement coverage and lowest average hourly wages are workers in hotels and restaurants. Close by are the agriculture and construction sectors with low coverage rates and low hourly wages. At the top far right of the figure are the electricity and water workers. This sector comprises a relatively small number of workers; nearly all are covered by collective agreements and their average wages are the highest of all the sectors.

While the positive link between collective agreement coverage and hourly wages appears to be quite strong, this relationship should nonetheless be qualified. For example, hourly wages are also linked to education levels and there tends to be a positive relationship – albeit a somewhat weaker one than in Figure 13 – between number of years of education and coverage rates as well as between the share of academics in each sector and coverage rates. On the other hand, it is not obvious that this link is due to higher productivity, since Israeli collective bargaining agreements invariably contain clauses providing for higher wages to individuals with academic degrees regardless of whether the academic education is even related to their work and actually increases productivity.

Figure 13

Collective agreement coverage rates* and hourly wages

hourly wage, distribution of workers and coverage rates, by economic sector

Collective agreement
coverage rate (2012)

* Collective coverage rates are based on 2012 self-reported data, and all together represent about one-third of workers. However, experts in the field estimate that actual collective agreement coverage rates are closer to 50 percent. Size of bubble represents relative size of the sector by share of 25-64-year-old employees.

Source: Dan Ben-David, Liora Bowers and Kyrill Shraberman, Taub Center

Data: Central Bureau of Statistics (2011), Bank of Israel (2012)

An estimated 50 percent of Israeli employees are covered by collective agreements. Of these, it is estimated that 50-70 percent are more difficult to dismiss (to varying degrees). The remainder (i.e., those covered by collective agreements but who are still relatively easy to

dismiss) include some specific groups such as privatized social workers, temporary workers, security guards, etc. In general, Israeli collective agreements include provisions for tenure. While on paper it is not so difficult to dismiss individuals with tenure, there are nonetheless barriers to dismissal in the form of work place norms, practices and worker committees.³

Moving Israel towards a flexicurity model entails various benefits as well as challenges. Flexicurity's promise of a dynamic, competitive and adaptable labor market could greatly benefit Israel in the many sectors that are quite the opposite. It would be highly beneficial to implement policies that would improve the country's competitiveness, including substantially spurring its currently low labor productivity. Improvements in the social welfare system that would be reflected in lower rates of poverty and income inequality are particularly essential given Israel's weak performance in this area, although there is concern about the possible adverse effects on employment if these changes are not part of a comprehensive policy.

Another benefit of a flexicurity model is the promotion of broad participation in the labor market, including among women and older adults. As Israel seeks to address its rapidly aging population (it is currently relatively young, but its rate of aging is relatively high) and increase employment rates among the 55+ age group, lifelong training and skills adaptation, along with working hours flexibility, can help attain this goal.

A major concern regarding the active pursuit of flexicurity policies relates to the feasibility of truly replicating the Flexicurity model. Many European governments attempting to introduce labor reforms have faced significant challenges and social turmoil. Consequently, the current thinking is that countries such as the Netherlands and Denmark that have been more effective in these areas likely enjoyed particularly supportive historical circumstances. In fact, it has been argued that the Danish model

³ Information and estimates in this paragraph were provided by Guy Mundlak, Tel Aviv University.

is not the result of carefully crafted policies around a long-term strategy, but rather, the result of historical processes with roots in the late 1800s and mid-1900s' institutional structure and social agreements over time (Zhou, 2007). Since an historic agreement in 1899, collective bargaining rather than the courts or government has been the main platform for dispute resolution between employers and employees in Denmark. Danish unions accepted the right of employers to hire and fire as needed, in exchange for employers accepting organized labor's right to negotiate and strike on issues related to wages, benefits and working conditions.

External flexibility, alongside an emphasis on improved working conditions, has thus been a long-standing feature of the Danish system of employer-union relations (Bredgaard and Daemmrigh, 2013). Danish trade unions also chose not to fight against the growing globalization or free trade of the 1990s, but pushed harder for continued training and education for both employed and unemployed workers. A 2005 Eurobarometer survey showed that 70 percent of Danes agreed that it is "good for people to change jobs every few years," while less than 30 percent of their German or Austrian counterparts felt the same way. Danes likewise were twice as likely as the average European to view the impact of globalization on domestic companies and job growth as positive (Bredgaard and Daemmrigh, 2013).

An influential study by Algan and Cahuc (2006) showed much higher rates of public spiritedness – that is, people believing it is wrong to claim government benefits to which one does not have a right – in Flexicurity countries versus other developed countries. This study argues that countries with weak public spiritedness would have a hard time implementing flexicurity policies that may further incentivize people to take advantage of government benefits.

In Israel, various incentives exist for non-participation in the labor market, such as universal child allowances and benefits given to Haredim (ultra-Orthodox Jews) studying in a yeshiva. Long-lasting incentives towards non-participation in the labor force alongside potentially lower levels of public spiritedness (as evidenced by the Israel's very large shadow economy – see Gruber, 2014) may challenge attempts to develop

an effective flexicurity system. In light of its historical evolution, both in terms of employer-employee relations and the welfare state compared to the Flexicurity countries, it is unclear whether Israel would be able to effectively replicate the various components of flexicurity. Furthermore, flexicurity itself was never a deliberate policy package in the countries where it exists. Instead, it culminated from evolution of employee-employer relations, alongside supportive legislation.

Just as important is the ongoing debate about the sustainability and perseverance of flexicurity under difficult economic times. As the socioeconomic indicators examined in this chapter suggest, it does not appear that the Flexicurity countries fared worse than other developed Western European countries during the massive recession of recent years. If anything, they appear to have done better in some instances. Nonetheless, large increases in unemployment during the Great Recession increased budgetary spending as a result of rising unemployment and social support costs, challenging the quality and resources of labor activation programs (Andersen, 2011). That said, while business cycles exist and must be accounted for, Israel must design its policies on the basis of a long-term perspective. In moving forward with a flexicurity approach, the following recommendations are important for policy makers and the general public in Israel to consider:

1. The Flexicurity model requires significant budgetary expenditures in both income security measures and labor activation policies. For Israel, this means much greater expenditure on welfare alongside the initiation of new labor activation programs, such as a revamped “Wisconsin program” meant to train and connect the unemployed with new opportunities. Ensuring the continued availability of childcare, which is relatively accessible in Israel – and growing with the expansion of universal preschool starting at age three – is an important contributor to labor market participation.
2. The Flexicurity model involves high levels of direct taxation and its generous income support benefits create adverse incentives for

prompt re-entry into the labor market. Denmark counters these disincentives with labor activation policies and monitoring systems to ensure continued employment search by the unemployed. For example, in certain cases, unemployed Danes are required to accept job offers outside of their primary occupation after three months of unemployment benefits, and failure to be activated (e.g., refusing employment or not participating in training programs) results in benefit loss (Zhou, 2007). The impact of these measures was shown previously in Figure 11, where among the unemployed, Denmark (and the other Flexicurity countries) has a relatively high share that are unemployed for a period of less than one year, but relatively low unemployment duration for one year and over. In Israel, policies such as a more substantial negative income tax could help provide incentives to work. Improved enforcement of existing labor laws (notably on minimum wage, working hours and discrimination) is imperative to encourage labor market participation by and provide security for lower-skilled workers.

3. The obligation of the government, employers and individuals to lifelong learning is a core principle of the flexicurity system. Employment contracts stipulating continued learning, and government-supported career guidance, training and education opportunities are an important policy response to increased job insecurity (Sultana, 2012). For example, employers and unions in Denmark are very involved in designing and participating in continuing vocational training, which is largely financed by the government (Bredgaard and Larsen, 2007). Almost a third of Danish working-age adults participated in education and training in 2011, a high rate among European countries, approached only by Finland and Sweden (Eurostat, 2011). Employers provide the time, as collective agreements generally grant employees the right to take 1-2 weeks off with pay in order to participate (Jørgensen, 2009). Developing supportive cultural attitudes and

implementing policies at the government and employer level that promote lifelong learning are essential for creating a robust flexicurity system in Israel.

4. Israel already has relatively low employment protection for non-regular workers, particularly those on fixed-term contracts. There is concern that increasing flexibility “at the margins” would increase segmentation and cement gaps between regular and non-regular workers, particularly hurting women and minorities. Emphasis on flexibility within Israeli labor markets should thus focus on regular workers, particularly increasing the flexibility within organizations in areas such as work hours, schedules and tasks.
5. Israel stands out from the Flexicurity and Anglo-Saxon countries with regard to having particularly low external flexibility in the public sector relative to the private sector. To move towards the Flexicurity model entails a shift away from career-based to position-based public sector employment. This requires more flexibility in hiring and firing, the hiring of individuals on the basis of credentials and merit for specific positions, and greater mobility between the private and public sector. It also requires decentralization and delegation of work on the basis of performance results.

The bottom line is that much of Israel’s private sector already has considerable employer flexibility, so it is unclear what could be given to these employers to encourage them to support a stronger safety net and lifelong learning for employees. On the other hand, there are some sectors – private as well as public – in which employees have so much job protection (i.e., low employer flexibility) that there appears to be little incentive for them to give up this job protection in order to provide employers with more flexibility. In light of both of these obstacles, it appears that the primary areas that Israel needs to concentrate on are:

- The enhancement of labor productivity – which will yield higher profits (good for firms) and higher wages (good for employees)
- The adoption of flexicurity-type labor activation policies that include upgrading of skills alongside providing adequate income replacement to ensure financial security for a limited period of time
- Better schools and the encouragement and promotion of lifelong learning and continued on-the-job training, which could benefit both employers and employees

The combination of these improvements will yield higher incomes – that is, win-win for all – in conjunction with the provision of improved coping mechanisms for workers to deal with the hiring flexibility required for greater productivity. The Israeli government's role in this regard requires it to focus on:

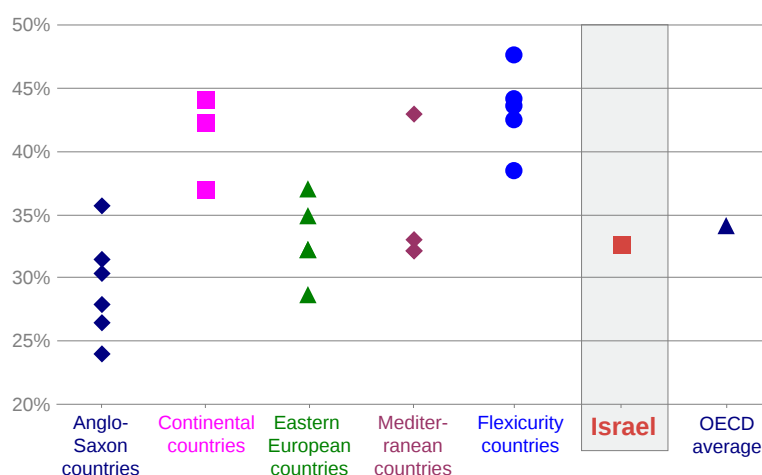
- Greater enforcement of existing employment laws and regulations that protect workers while lowering the burden of rigid stipulations that reduce employment flexibility
- Provision of much-improved labor activation policies and income support in times of transition to help employees adapt more quickly to changing economic circumstances while reducing anxiety levels that promote resistance to employer flexibility

7. Paying for Flexicurity in Israel

Adoption of the flexicurity policies recommended in this chapter will require considerably greater government spending on these issues than in the past. There is a question of where the money will come from. A comparison of tax revenues – or what is commonly referred to as tax burdens – across the various country groupings (Figure 14) shows that the Flexicurity countries are characterized by relatively high levels of taxation, closely followed by the Continental European countries. The fact that the Eastern European countries have considerably lower tax

burdens, with yet even lower tax burdens among several Anglo-Saxon countries yields an average OECD tax burden that is only slightly greater than Israel's. However, the figure clearly indicates how low Israel's tax burden is in comparison to the flexicurity countries. In addition, Israel spends much more than all of the other countries (as a share of its GDP) on defense and interest payments on its debt, so it has considerably less left over to finance flexicurity policies under the current state of affairs.

Figure 14
Tax revenue
 as percent of GDP, 2011

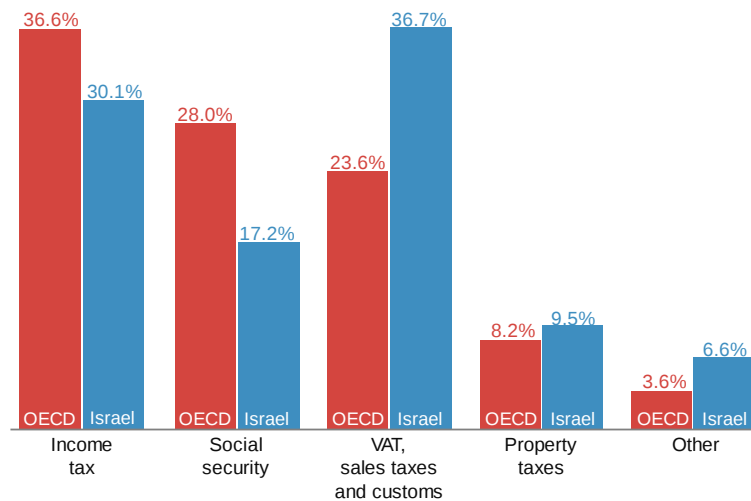


Source: Dan Ben-David and Liora Bowers, Taub Center
 Data: OECD

If greater expenditures are needed, where can the resources come from? One option that might emerge from a comparison of Israel and the Flexicurity countries is to simply increase the Israeli tax burden. This then leads to the question: which taxes should be raised? Compared to the OECD, Israel already bases a disproportionate share of its income on

indirect taxation, including VAT, sales taxes and customs (Figure 15).⁴ Indirect taxes are considered regressive taxes in that they are shouldered more heavily – as a share of income – by the poor than by the wealthy.⁵ Thus, a further raising of indirect taxes would place an even greater burden on Israel's poor.

Figure 15
Distribution of total national tax revenues
by tax type, 2011



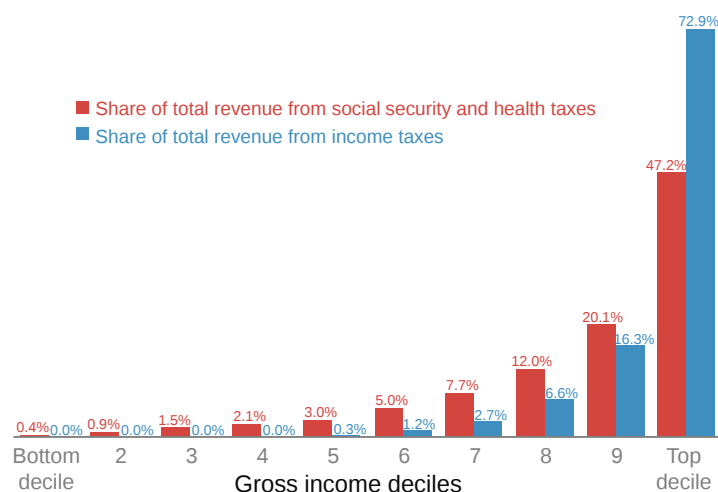
Source: Ministry of Finance

⁴ The lower revenues from social security taxes in Israel are the result of low contributions from Israeli employers (1.5 percent of GDP in Israel compared to 4.8 percent of GDP in the OECD in 2011). On the other hand, social security taxes paid by Israeli wage earners are 3.8 percent of GDP, compared with 3.1 percent of GDP in the OECD.

⁵ The poor spend a much greater share of their income on consumption than do

The logical conclusion may then be to increase the government's revenues from direct taxation by increasing income tax rates. However, this route for raising government tax revenues is not quite as obvious as it may initially appear. On the one hand, the share of Israeli government revenues raised from direct taxes is a sixth lower than the OECD average – which would appear to indicate that there is room to raise these. On the other hand, revenues from direct taxation have an extremely skewed distribution in Israel (Figure 16).

Figure 16
**Share of total national revenue from direct taxes
originating from each income decile, 2011**



Source: Dan Ben-David, *A Picture of the Nation 2014*, Taub Center

Data: Ministry of Finance

the wealthy. Consequently, indirect taxes such as VAT comprise a greater share of the poor's income than that of the wealthiest – hence, the term “regressive tax” is applied to them.

A full 90 percent of the country's entire income tax revenue comes from just the top two income deciles, that is, 20 percent of the population contributes 90 percent of the income tax revenues. At the same time, the huge income gaps within Israel are reflected in the fact that a full half of the country does not pay any income tax at all because their incomes are so low that they do not reach the bottom income tax bracket. As a result, there is a serious question about whether it would be possible to further increase the direct tax burden on the few who already shoulder it.

The above two constraints (difficulty in raising the already high indirect taxes any further, and the difficulty in raising income taxes from poor, or increasing the tax burden even further on the very few who actually bear it) are substantial, but not insurmountable. These constraints require a shift in focus from the tax income side to the budget expenditure side. Specifically, a country facing the extreme budget constraints that Israel has to contend with must find the political wherewithal to distribute its limited non-defense budgetary resources with greater efficiency than other developed countries. National priorities need to shift towards budgetary allocations that benefit a greater part of society rather than sectoral, business or personal interests. This is not a pipe dream but an attainable policy option that requires considerably improved budget transparency and substantially improved collection efforts, which in turn require a concerted effort to reduce the shadow economy (Gruber, 2014).

8. Conclusion

Flexicurity emerged as a powerful policy concept in the mid-1990s in Europe, as the debate raged about the effects of job protection on economic growth and social welfare systems. The general requirements for success of flexicurity are flexible labor markets, lifelong learning for employees, active labor market policies and social security systems that provide financial support during transition periods.

Countries with flexicurity are characterized by advantages for employers, such as flexibility in adjustment to competitive demands,

access to a skilled work force and low labor relations strife. Advantages for employees include good working conditions, training and upgrading of skills, options for transition and mobility throughout the career cycle, financial security in times of transition and a reduction in labor market segmentation between regular and temporary/fixed-contract workers.

For flexicurity to succeed, both the public and private sectors should be more aligned with regard to employment flexibility. This would require greater flexibility in the public sector, including such practices as: facilitation of hiring from outside the public sector and greater mobility between the public and private sectors; decentralization of human resources management to provide departments and managers with greater discretion; and a closer connection between individual performance and their compensation and promotion. To more closely align with much of the private sector, the public sector (and more inflexible parts of the private sector, such as banking/insurance) also need to move away from the norm of lifelong employment and rigid dismissal and tenure policies.

Substantial budgetary expenditures are required for welfare state and labor activation policies to support and sustain the security aspect of the system. The model places a major emphasis on labor activation to deal more effectively with unemployment. This includes required participation in training or education programs after a short period of unemployment. Likewise, workers are required to accept job offers after a given period of unemployment. Reliance on decentralization is an important facet of the policy, using private sector job training and partnership between the government and employers. In short, flexicurity entails

- a major emphasis on lifelong learning,
- employment contracts that stipulate continued learning,
- career guidance, training and education that is government-supported with employers providing time off,
- and the joint involvement of employers and unions in designing and participating in continued vocational training.

Flexicurity reflects an attempt at finding a win-win arrangement between workers, employers and policy makers. Productivity improvements need to be a fundamental facet of such policies, since these pave the way for higher living standards that enable – among other things – the substantial budgetary costs that accompany their implementation. Therefore, such a solution needs to encompass flexibility in the labor markets, along with financial support for the unemployed (limited in time) and continuous training provided by the government and employers.

Five developed country groupings based on distinct labor and social welfare systems have been identified based on flexicurity indicators (Flexicurity, Anglo-Saxon, Continental European, Eastern Europe, and Mediterranean countries). The Flexicurity countries are characterized by a relative ease of hiring/firing workers and income and employability security. These countries have generally had very good macroeconomic outcomes and low rates of poverty and inequality. The Anglo-Saxon countries have also been recognized as having good economic results, based on a combination of a highly flexible labor market and lower levels of security. It is important to note that both the Flexicurity and Anglo-Saxon countries experienced larger drops in employment during the Great Recession than the Continental countries that have less flexible labor markets. This put significant budgetary pressure on the already high financial and occupational assistance packages provided to the unemployed in the Flexicurity countries.

Based on flexicurity indicators, Israel falls in a unique position of having higher flexibility than the Flexicurity countries, but even lower levels of security and less investment in active assistance (job placement, training) from the government in case of unemployment than the Anglo-Saxon countries. If Israel wants to move towards greater flexicurity, significant budgetary outlays would have to be made to assist the unemployed, both financially and with training and job placement assistance. Labor activation policies and monitoring systems to counter the disincentives to employment must be put in place.

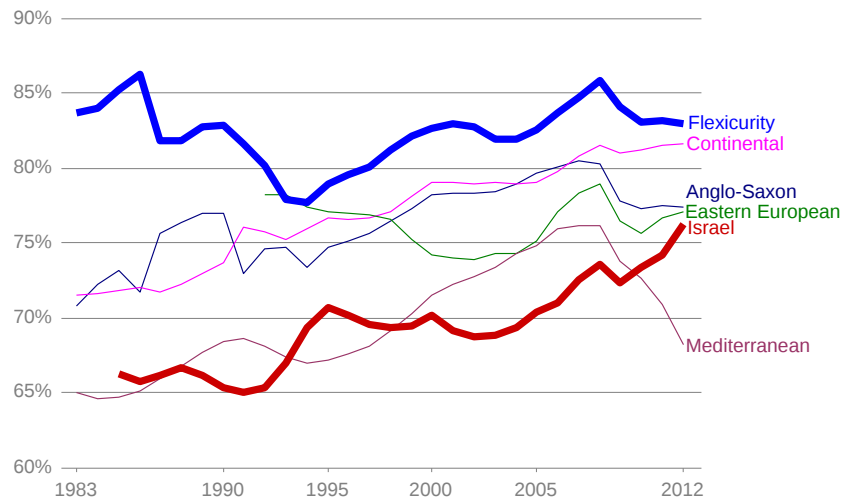
Labor activation policies should provide incentives to work – both financially through a more substantial negative income tax, targeted at specific populations such as lower-income families, and through stronger enforcement of existing labor protections such as minimum wage and anti-discrimination laws. Investments by the government in infrastructure and transportation, as well as increasing the resources and responsibility of municipalities with regard to local employment will assist Israelis, particularly those in the periphery, in terms of job mobility. Finally, a major opportunity for increased flexibility lies in the public sector, where entry and exit of employees is particularly constrained.

In sectors where unions dominate, employers and unions should collaborate to improve working conditions, benefits and continued education and focus less on job protection. For the benefit of the entire population, there should be much greater commitment by the government and employers to lifelong training. Employers should also encourage internal (adjustable work schedules) and functional (multi-tasking and autonomy) flexibility. Finally, there is a need to reduce labor market segmentation between regular and non-regular (temporary agency or fixed-term contract) workers which often leads to vast differences in protection under the law, as well as the rights and social benefits that each group receives.

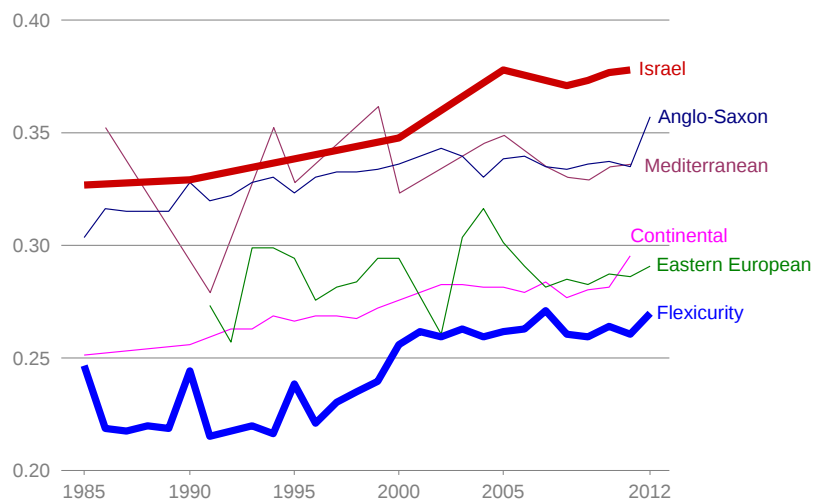
In summary, while implementation of comprehensive flexicurity policy in Israel is not a politically feasible or economically viable option, there are certainly facets of the system that the country can and should implement. The overarching policy goal should be to enhance productivity, growth and employment while providing a serious social safety net that offers Israelis adequate financial peace of mind during transition periods and assistance in improving job skills. These policy options are indeed possible, but their implementation will require an extensive and systemic reassessment of Israel's national priorities.

Appendices

Appendix Figure 1
Employment rates
 25-54-year-olds, 1983-2012

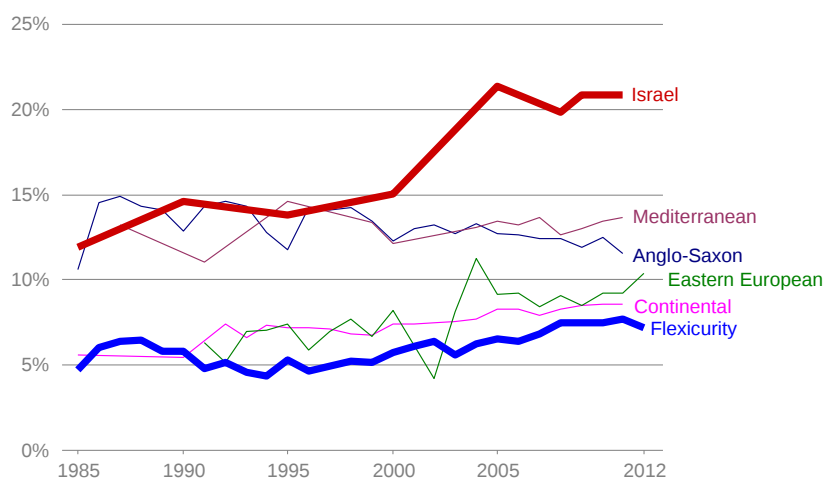


Appendix Figure 2
Income inequality
 Gini Index of disposable incomes, 1985-2012

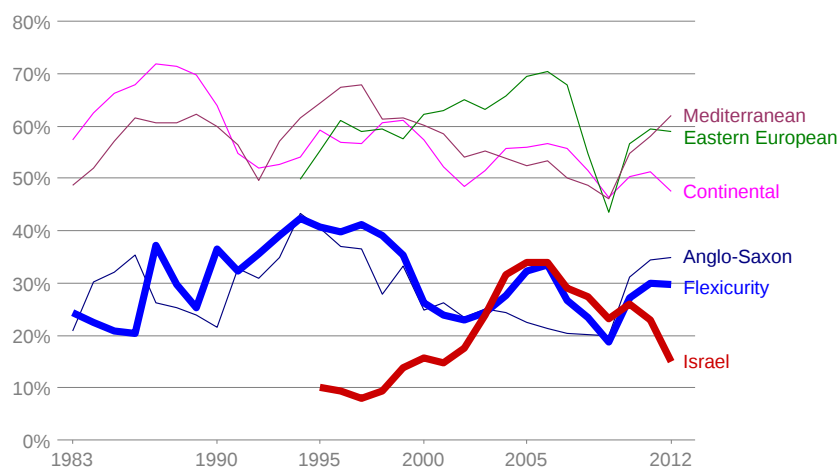


Source for both: Dan Ben-David and Liora Bowers, Taub Center
 Data for both: OECD

Appendix Figure 3
Poverty rates
 in disposable incomes, 1985-2012



Appendix Figure 4
Percent unemployed 1 year and over
 as share of total unemployed, 25-54-year-olds, 1983-2012



Source for both: Dan Ben-David and Liora Bowers, Taub Center
 Data for both: OECD

Appendix Table 1. **Flexicurity data on selected indicators in Israel, relative to country groupings**

Index	Anglo-Saxon (1)	Flexi-curity (2)	Conti-nental (3)	Eastern Europe (4)	Mediterranean (5)	OECD	Israel
Flexibility							
Employment Protection Legislation Index (2013)*							
Regular workers	1.55	2.45	2.80	2.29	2.54	2.29	2.20
Temporary contracts	0.71	1.88	2.52	2.38	2.78	2.08	1.58
Security							
Net income replacement rate for unemployed** (2011)	50%	64%	57%	43%	39%	50%	41%
Unemployment benefits/income support (% of GDP, 2011)***	0.54%	1.16%	1.45%	0.45%	1.84%	0.86%	0.60%
Active labor market policies (% of GDP, 2011)***	0.24%	1.37%	1.02%	0.32%	0.63%	0.58%	0.18%
% of unemployed receiving unemployment benefits (2006-2008)***	49.7%	67.6%	84.3%	30.2%	53.4%	46.1%	26.6%
Other measures							
Labor force participation rate (2012)****	79.3%	83.0%	78.7%	77.3%	76.4%	78.4%	78.7%
Unemployment rate (2012)****	6.8%	5.1%	5.9%	9.1%	17.2%	7.5%	5.9%
Total tax revenue (as % of GDP, 2011)	29.3%	43.3%	41.8%	33.1%	35.1%	34.1%	32.6%

(1) Australia, Canada, Ireland, New Zealand, UK, USA; (2) Denmark, Finland, Netherlands, Sweden, Norway; (3) Austria, Belgium, France, Germany; (4) Czech Republic, Estonia, Hungary, Poland, Slovak Republic; (5) Greece, Italy, Portugal, Spain

* The OECD's Employment Protection Legislation Index is on a scale of 0-6 (0 being least restrictive, 6 being most restrictive). The index for regular workers measures how strict regulations are for employers to dismiss workers with open-ended contracts. The index for temporary contracts measures how strict the regulations are on the use of temporary or fixed-term contract workers.

** Net income replacement rate as percent of previous income earned (after taxes and transfers); averaged across various wage rates and family situations; includes social support and other means-tested benefits; average of first 60 months following unemployment.

*** Data not available for select countries.

**** Labor force participation and unemployment rates are for the population aged 25-64.

Data: OECD; International Labor Organization (2011)

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Labor Income Inequality Trends in Israel

Ayal Kimhi and Kyrill Shraberman*

Abstract

This study examines developments with regard to wage disparities in Israel during the period 1997 to 2011. This period witnessed a growing return, or yield, on education, a factor which could lead to a rise in labor income inequality. Israeli labor income gaps actually declined somewhat, though, due to the fact that low-wage earners improved their status relative to higher-wage earners. One possible factor in the narrowing of labor income disparities was the rise in the minimum wage. Workers in income Deciles 7 and 8 experienced a wage decline, relative to lower- and higher-wage workers, and this led to a more polarized labor income distribution. This polarization trend is also evident in the distribution of work-hours by occupation; occupations associated with both low and high wages witnessed an increase in work-hours relative to work-hours in occupations characterized by mid-range wages. A breakdown by occupation shows that the education wage premium for low-income occupations increased, while for high-wage occupations there was a decline in the return on education. This fact may also explain the relative wage increase experienced by low-wage earners. These trends indicate that higher education is now becoming economically advantageous to those in low-wage occupations.

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Introduction

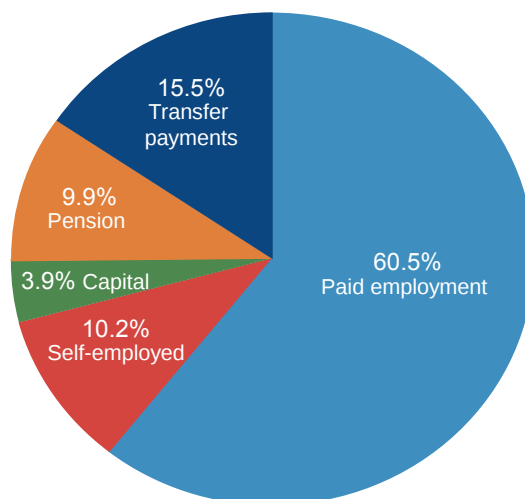
Much has been said and written about the problem of income inequality in Israel. Ben-David and Bleikh (2013) showed that disposable income inequality in Israel¹ is among the highest in the OECD, while the Israeli taxation and social services system is among the least effective in the OECD in terms of reducing inequality. Rising income inequality is a global phenomenon; however, even in international comparisons, Israel lies in the upper part of the distribution. Market income inequality in Israel grew substantially until 2002, but since then, has shown a moderate downward trend. Still, this moderate decline in market income inequality is not reflected in the figures for disposable income inequality due mainly to the social benefit cutbacks of a decade ago, which primarily hurt weaker socioeconomic groups.

About 60 percent of the average Israeli household's per capita income comes from employment (Figure 1). A prior study (Kimhi, 2009) found that labor income contributes a large share to income inequality relative to its share in total income. It is therefore useful in the course of this discussion on income inequality to call special attention to the issue of income from employment.²

¹ Disposable income refers to "net" income, that is, market income (income from labor, capital and pension) after taxes, with the addition of benefits and other transfer payments.

² This chapter focuses on hourly wage rather than total income from work, inasmuch as hourly wage more accurately reflects a worker's relative value and controls for workers' decisions regarding the number of hours that they work. However, Heathcote et al. (2010) found that wage distribution changes are the main factor behind changes in working hour distribution and, accordingly, in the distribution of labor income.

Figure 1
Gross per capita income distribution
for average household, by sources of income, 2011



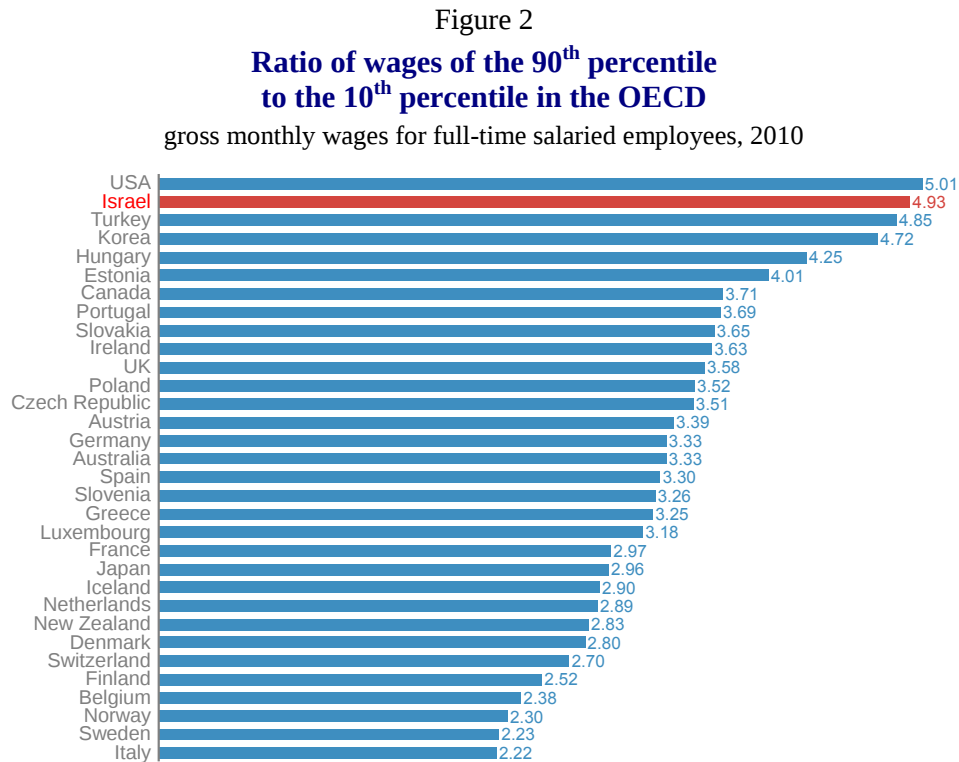
Source: Ayal Kimhi and Kyrill Shraberman, Taub Center
Data: Central Bureau of Statistics, *Income Survey*

1. International Comparisons of Wage Differences

Kimhi (2011) looked at wage inequality vis-à-vis income inequality and found that Israel leads the OECD countries in inequality, and that inequality within the upper portion of the wage distribution scale is substantially greater than in the lower portion, with the gap being much larger than that of other countries.³ A review of more current figures

³ Wage inequality is commonly measured in terms of the ratio between the wage of employees in the 90th percentile and that of employees in the 10th percentile (the 90/10 income inequality ratio). Similarly, inequality in the

paints a similar picture: according to 2010 data, Israel ranks second among the OECD countries in terms of wage disparities, after the United States (Figure 2).



Source: Ayal Kimhi and Kyrill Shraberman, Taub Center

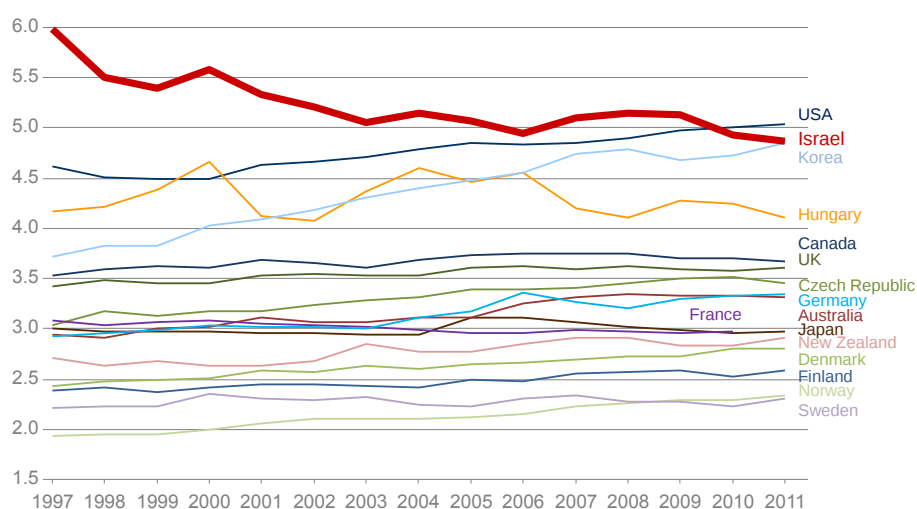
Data: Central Bureau of Statistics, *Income Survey*; OECD

Nevertheless, examining wage gaps over time (Figure 3) shows a downward trend in Israel – from a six-fold disparity between the 10th and

upper part of the distribution is measured in terms of a 90/50 ratio, while inequality in the lower portion of the distribution is measured in terms of a 50/10 ratio.

the 90th percentiles in 1997 – a much higher ratio than in any the other OECD country – to a less than five-fold disparity in 2011, during a period characterized by growing wage gaps in most OECD countries. The United States, for example, experienced a widening gap between the 10th and the 90th percentiles – from 4.5-fold in 1997 to over 5-fold in 2011.

Figure 3
**Ratio of wages of the 90th percentile
to the 10th percentile in the OECD**
gross monthly wages for full-time salaried employees, 1997-2011

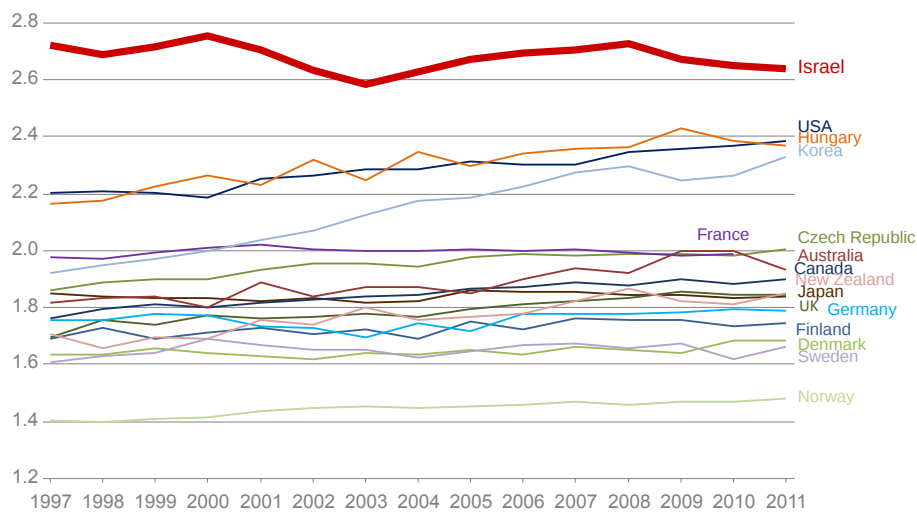


Source: Ayal Kimhi and Kyrill Shraberman, Taub Center
Data: Central Bureau of Statistics, *Income Survey*; OECD

Figure 4 shows that the wage disparities in the upper portion of Israel's wage distribution (90/50 ratio) are significantly higher than those of the other OECD countries. As with the 90/10 ratio, the 90/50 ratio has also been trending downward over the past decade and a half, in contrast to the upward trend observed for this ratio in other countries during the

same period. However, this decline is quite moderate compared with that of the 90/10 ratio – a finding that points toward a more meaningful wage-gap reduction within the lower portion of the wage distribution.

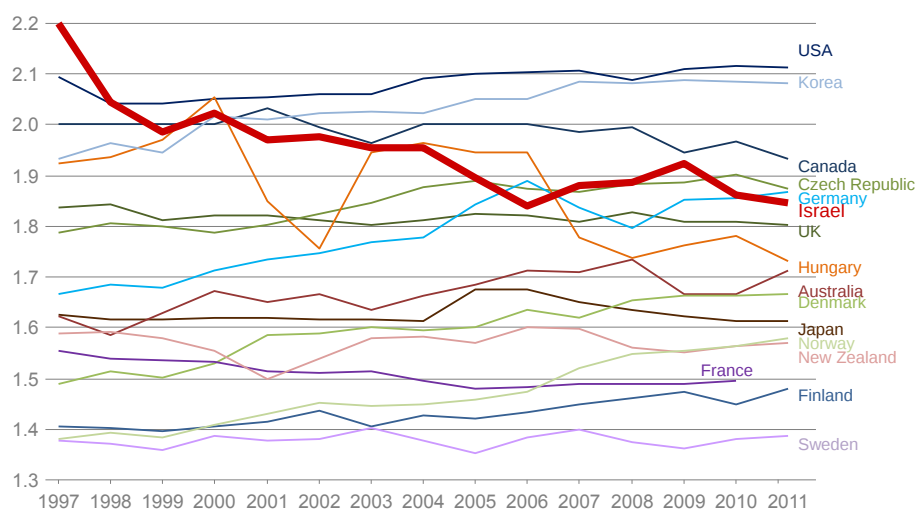
Figure 4
Ratio of wages of the 90th percentile to the 50th percentile in the OECD
 gross monthly wages for full-time salaried employees, 1997-2011



Source: Ayal Kimhi and Kyrill Shraberman, Taub Center
 Data: Central Bureau of Statistics, *Income Survey*; OECD

Figure 5 shows that wage disparities within the lower part of the distribution scale declined sharply between 1997 and 2011. In 1997, Israel led the OECD in terms of its 50/10 ratio, while by 2011, five other countries had larger wage gaps than Israel in the lower part of the distribution.

Figure 5
**Ratio of wages of the 50th percentile
to the 10th percentile in the OECD**
gross monthly wages for full-time salaried employees, 1997-2011



Source: Ayal Kimhi and Kyrill Shraberman, Taub Center
Data: Central Bureau of Statistics, *Income Survey*; OECD

It is interesting to note that the Scandinavian countries, despite their reputation as welfare states, also have relatively low gross wage disparities, in both the upper and lower parts of the wage distribution. This would seem to indicate that the Scandinavian countries' labor markets are equitable in and of themselves, even before state intervention through the taxation and social benefit system. Clearly, it is easier to maintain a generous welfare system when the labor market is relatively equitable to begin with.

In most OECD countries, the wage disparities in the upper part of the distribution are larger than those in the lower part. This is a well-known

feature of wage distributions, especially in the many countries where an effective minimum wage is in place. An exception is the United Kingdom, whose 50/10 wage gap is larger than its 90/50 gap. In Norway, the 90/50 disparity was greater than the 50/10 disparity in the late 1990s, but the country's positioning changed over the past decade as wage gaps in the lower portion of the distribution grew significantly, while disparities in the upper part of the distribution grew much more moderately.

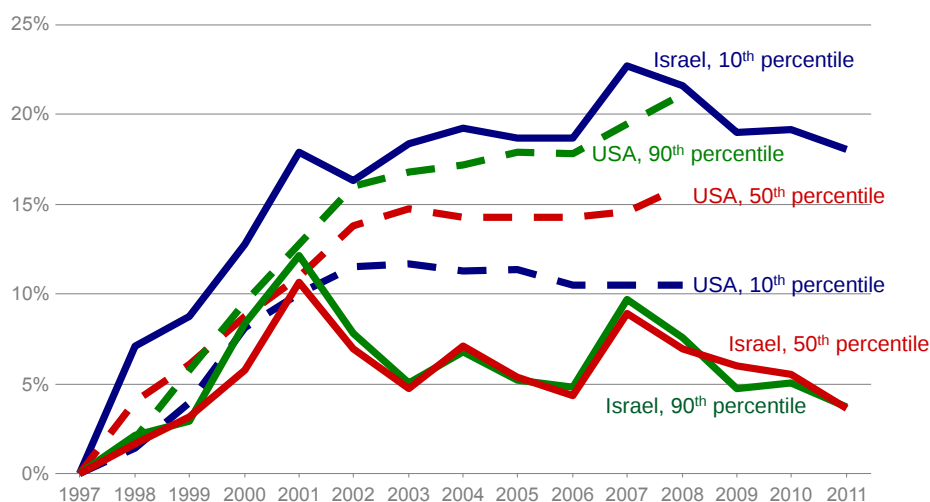
To examine the various aspects of Israel's wage-gap decline from another angle, the cumulative change in real hourly wage since 1997 for three representative wage percentiles – the 10th percentile, the 50th percentile (the median wage), and the 90th percentile – is presented in Figure 6. The changes that have taken place in Israel are compared with changes in the United States, as reported by Acemoglu and Autor (2012). With regard to the American wage changes (Figure 6), wages in the 10th percentile increased by a little over 10 percent between 1997 and 2008. During the same period the median wage rose by over 15 percent, while wages in the 90th percentile increased by over 20 percent. These changes indicate a widening of wage gaps in the U.S., within both the upper and the lower parts of the wage distribution, as presented in Figures 4 and 5.

In Israel, the picture is entirely different; between 1997 and 2001, the median wage increased by 11 percent, while wages in the 90th percentile grew by 12 percent. By contrast, wages in the 10th percentile increased by 18 percent.⁴ During the recession years of 2001-2003, the median wage fell by 6 percent, while the 90th percentile wage fell even more. By contrast, the 10th percentile wage continued to rise even during this period, although at a more moderate rate than in the preceding years. From 2003 to 2011, the wages of all three percentiles experienced no substantial changes, although there were fluctuations from year to year. Ultimately, during the period 1997-2011, the 50th percentile and 90th

⁴ Most of the rise in the 10th percentile wage relative to the median wage occurred between 1997-1998, while the period 1998-2001 witnessed similar rates of wage increases for all three percentiles.

percentile wages grew by 4 percent, while the 10th percentile wage showed a cumulative increase of 18 percent.

Figure 6
Cumulative change in real hourly wage, by wage percentile
 salaried employees aged 25-64, Israel (1997-2011) versus USA (1997-2008)



Source: Israel: Ayal Kimhi and Kyrill Shraberman, Taub Center; USA: Acemoglu and Autor (2012)

Data: Central Bureau of Statistics, *Income Survey*

These trends clearly support the conclusion that, in Israel, wage gaps in the upper part of the distribution did not change during the period in question, while they narrowed considerably in the lower portion of the distribution.⁵ Possible reasons for these changes in wage disparity will be discussed, including changes in the minimum wage and in the return on

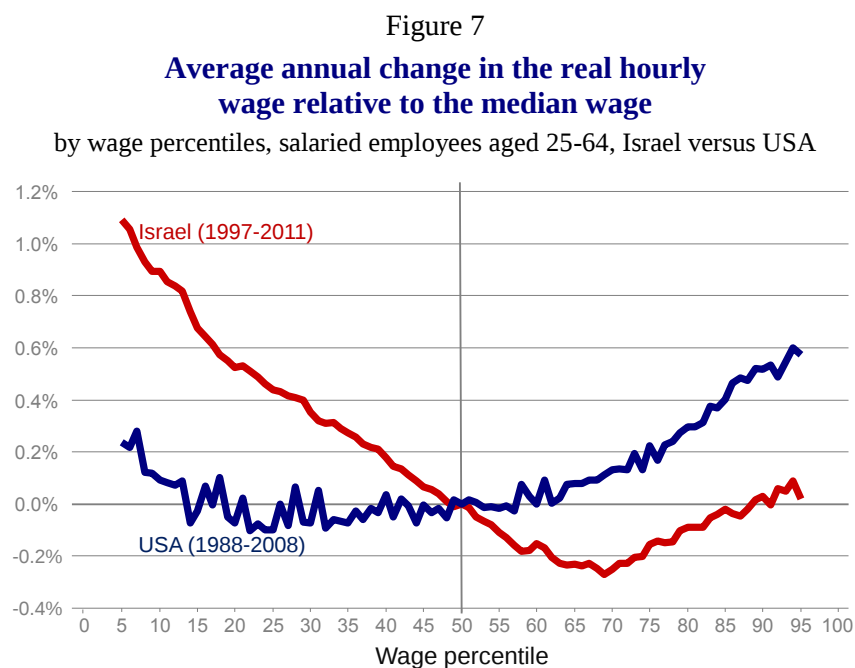
⁵ The data used in Figure 6 differs slightly from that of Figures 3-5. Figure 6 data are presented in terms of the hourly wage of all salaried employees, while Figures 3-5 present OECD data that refer to the monthly wage of full-time salaried employees only.

education, as well as phenomena related to wage behavior during periods of economic recession.

2. Changes in the Wage Distribution

In order to obtain a complete picture of the changes in wage distribution, the average annual change in real wage per hour for each wage percentile relative to the median is presented (Figure 7). A change of 1 percent, for example, means that the wage of the percentile in question increased by 1 percent beyond the change in the median wage. In the curve representing the United States, a relative wage increase in the upper part of the distribution is seen, that is, in the percentiles above the median, such that, from approximately the 57th percentile on, wages rise gradually moving up the scale.

Thus, the expansion of wage inequality in the United States within the upper part of the distribution extends across all wage levels, and is not merely the result of a rise in the wage of the uppermost 1 percentile, as is commonly thought. In the lower part of the U.S. wage distribution, no significant changes occurred, except for a relatively moderate wage increase relative to the median for the bottom 14 percentiles.



Source: Ayal Kimhi and Kyrill Shraberman, Taub Center (Israel); Acemoglu and Autor (2012) (USA)

Data: Central Bureau of Statistics, *Income Survey*

The changes in Israel's wage distribution are nearly the reverse of those in the United States. The distribution's lower portion actually witnessed a gradual wage increase relative to the median wage, a trend that reflects the significant decline in wage inequality within this portion of the distribution. In the upper part of the distribution, there is an interesting phenomenon. While no real change occurred in the wage of percentiles 85-95 compared with the median wage, the wage of percentiles 50-85 declined relative to the median. Essentially, it can be said that while the lower part of the wage distribution improved its relative status and approached the median from below, percentiles 50-85 approached the median from above – a trend that points to a relative wage

decline for this group. In general, it appears that income Deciles 7 and 8 of the wage distribution are the main losers from the labor market changes that took place between 1997 and 2011. If workers in Deciles 6-8 may be regarded as the middle or upper-middle class of salaried employees, the conclusion is that the disparity between the middle and lower classes has narrowed, while the gap between the middle and the upper classes has widened.

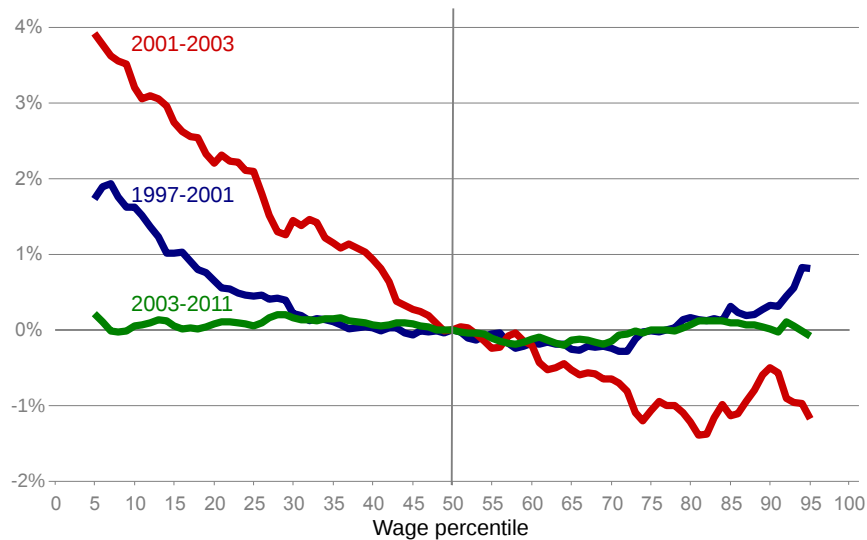
While Figure 6 showed that the relative changes in wage were not consistent across the period under study, Figure 8 looks at the relative changes in wage that occurred across the distribution (as in Figure 7) during three sub-periods: 1997-2001, 2001-2003 and 2003-2011.⁶ It can be seen that the period 1997-2001 witnessed nearly a 1 percent average annual increase in the wage of the highest wage-earners relative to the median, and a nearly 2 percent increase in the wage of the lowest-paid workers. This is an indication of the relative weakening of the middle class. During the period 2001-2003, the wage of the lowest-paid workers showed a two-fold increase vis-à-vis the preceding period – nearly 4 percent – while the wage of the highest earners declined relative to the median wage. The most notable phenomenon of the period is thus the wage-gap reduction that occurred across the entire distribution. During these years, the Israeli economy experienced a deep recession, and it is clear that workers' wage decreases were in direct relation to their pre-recession wages. It could be that during the recession, employers cut back on flexible components of their employees' wages – overtime for workers at mid-range and high salaries and bonus payments for managerial personnel – so as to avoid dismissing these workers; whereas, if the need arose to reduce expenses associated with low-wage employees, there was almost no alternative but to dismiss them.

During the third sub-period, 2003-2011, changes in wage distribution were slight. This is rather surprising given that the employment rate was

⁶ These sub-periods were chosen following several different attempts to divide the time period as a whole. This was the division that yielded the most prominent differences.

trending upward during this period, and the trend was at least partly attributable to policy changes such as social benefit cutbacks and programs aimed at encouraging employment. It would be possible to assume that the workers who joined the labor market due to the policy changes were from the lower portion of the wage distribution, and this is perhaps the reason that the median wage remained more or less stable during this period (Figure 6). Nevertheless, wages of workers at both ends of the distribution remained stable.

Figure 8
**Average annual change in the real
 hourly wage relative to the median wage**
 by wage percentiles, salaried employees aged 25-64,
 Israel, by sub-periods



Source: Ayal Kimhi and Kyrill Shraberman, Taub Center

Data: Central Bureau of Statistics, *Income Survey*

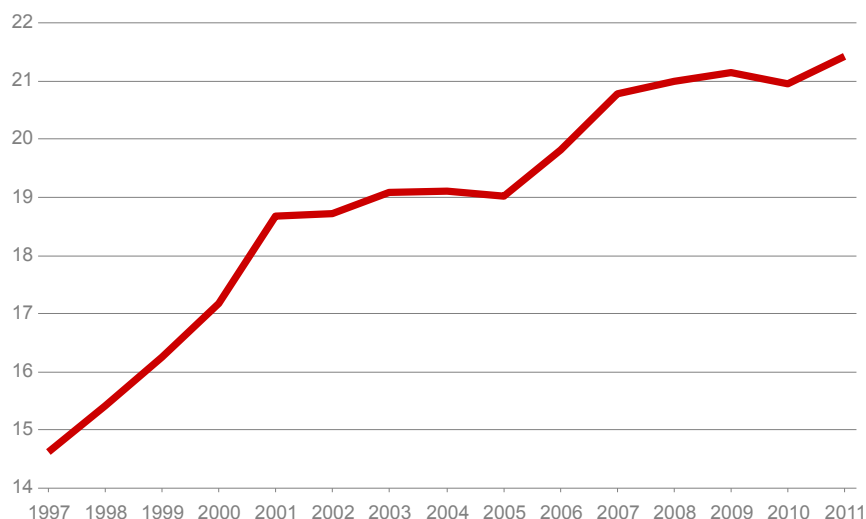
3. The Reasons for Wage Distribution Changes

One possible reason for the wage-gap reduction in general, and for the wage increase experienced by the lowest wage-earners in particular, is the rise in the minimum wage. When changes in minimum wage are examined in real terms (Figure 9), it is found that the minimum wage rose substantially during the period 1997-2001, at an average annual rate of 6.3 percent. This fact explains, at least in part, the average annual wage increase of 4.4 percent enjoyed by the 10th percentile during that same period. By contrast, during the years 2001-2005, there was almost no increase in the minimum wage in real terms nor, as Figure 6 shows, did the wages of workers in the 10th percentile rise during this period. Another significant minimum wage increase took place in 2006-2007, and here, as well, impact on the wages of workers in the 10th percentile can be seen. However, the median wage also rose at the same time, as did the wage of workers in the 90th percentile, meaning that this minimum wage increase had no impact on wage disparities.

To conclude, the minimum wage increase likely explains the reduction in wage disparities during the 5-year period of 1997-2001; however, the more dramatic reduction that took place during 2001-2003 appears to have had other causes. As noted, one possible cause is the reaction of employers to the recession of that period.⁷

⁷ There may, of course, be other reasons as well. For example, a comprehensive OECD study (2011) found changes in labor laws to have been a major cause of wage-gap changes in the organization member states.

Figure 9
Minimum hourly wage in shekels
2011 prices



Source: Ayal Kimhi and Kyrill Shraberman, Taub Center

Data: National Insurance Institute

Previous studies have shown that wage gaps are largely determined by the education wage premium, which is the wage gap between more educated and less educated workers (Kimhi, 2011; 2012). This finding points to the likelihood that changes in the education wage premium contributed to the Israeli wage disparity changes that have been noted. Since education is correlated with higher pay, one would expect to find a decline in the education wage premium during the years when wage gaps narrowed.

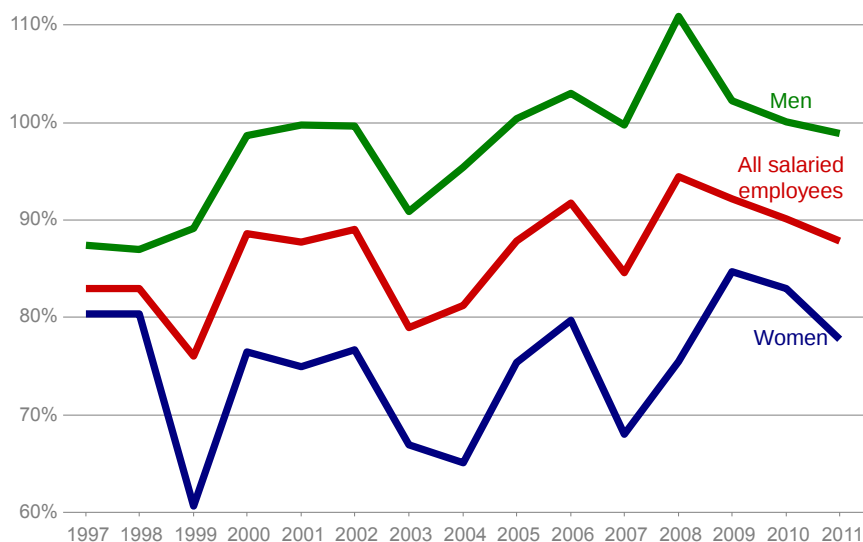
Figure 10 presents the wage disparities that prevail between those with 16 or more years of schooling and those with no more than a secondary

education.⁸ The figure shows the moderate rise that occurred in the education wage premium for all salaried employees, from 83 percent in 1997 to 88 percent in 2011. It also shows the higher education wage premium for men relative to women and that the rise in the education wage premium during this period was enjoyed almost exclusively by men. A closer look at short-term trends in the education wage premium reveals that it declined during the period 2002-2003, and there was a similar decline in wage disparities in those same years. Building on the earlier argument, the steep minimum-wage increase that occurred between 1997 and 2001 brought with it a narrowing of wage gaps despite the moderate rise in the education wage premium that characterized those years – while between 2001 and 2003, when the minimum wage remained virtually unchanged, the continued narrowing of wage gaps appears to have resulted from a decline in the education wage premium. The fact that wage gaps narrowed to a more moderate degree during the period 1997-2001 is explained by the conflicting impact of the minimum wage increase versus the education wage premium increase, while the wage disparity standstill that characterized the years 2003-2011 appears to have resulted from the fact that the period's relatively moderate minimum wage increase was counteracted by a rise in the education wage premium.⁹

⁸ The education wage premium was also examined by adjusting for the demographic changes that took place during the period in question. For this purpose the salaried-employee population at each level of educational attainment was divided into groups by gender and potential experience (age minus years of schooling minus 6), and for each group the average hourly wage was calculated, as well as the group's share in the population. The average wage for each educational level was calculated as the average of the average wage of each group, adjusted for the groups' average share over the years. In this way the changes in population composition over the period under investigation are controlled for. Measured in this way, the education wage premium was slightly lower than that in Figure 10, while the rate of increase in the premium was slightly higher.

⁹ Moretti (2013) found that although better-educated workers tend to concentrate in metropolitan areas, the cost of living is also higher in those

Figure 10
Trends in the return on higher education, by gender
 differences in hourly wage between salaried employees with
 16+ years of schooling and those with 0-12 years of schooling



Source: Ayal Kimhi and Kyrill Shraberman, Taub Center

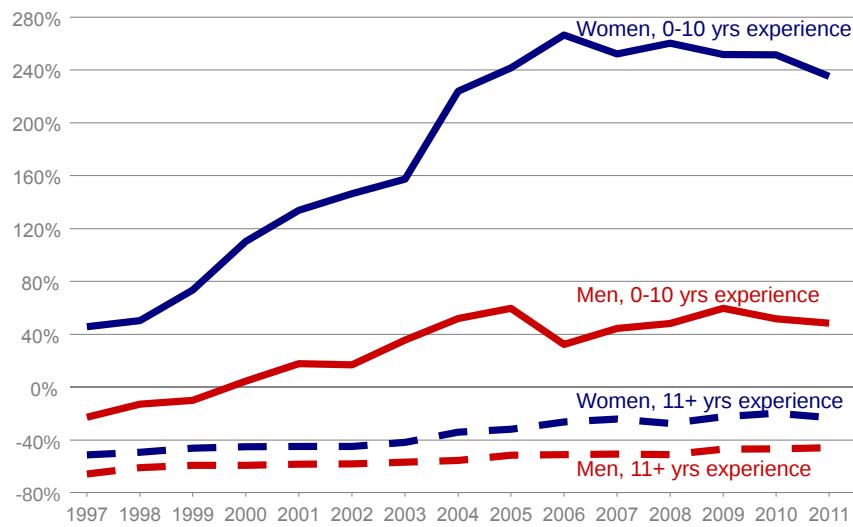
Data: Central Bureau of Statistics, *Income Survey*

The rise in the education wage premium took place alongside a rise in the share of more educated workers in the Israeli labor market. Figure 11 presents the total number of work-hours of employed persons with 16 years of schooling or more compared with the total number of work-hours of employed persons with no more than 12 years of schooling. The ratio trend is presented by gender, for workers with no more than 10 years of potential experience and for workers with at least 11 years of potential experience. For example, in 1997, the total number of work-

areas. Accordingly, when geographic differences are offset by price levels, more moderate changes in wage disparity are seen.

hours of males with a relatively high degree of seniority (11 or more years of experience) and a high degree of educational attainment was over 60 percent lower than the total number of work-hours of males with relatively high seniority and low educational attainment, but this gap had narrowed to 45 percent by 2011. For women with relatively high seniority, the gap is smaller than for men, although the trend is similar.

Figure 11
**Difference in work-hours between individuals
 with 16+ years of schooling and individuals
 with up to 12 years of schooling***
 ages 25-64, 1997-2011



* Numbers on the vertical axis show in percentages the greater number of work hours of those with 16+ years of schooling versus those with 0-12 years of schooling

Source: Ayal Kimhi and Kyrill Shraberman, Taub Center

Data: Central Bureau of Statistics, *Labor Force Survey*

The disparity trend for relatively young males (those with no more than 10 years of experience) reverses itself from 2000 on; starting in 2004 the total number of work-hours of more educated younger males is 40-60 percent higher than that of the less educated. As with older workers, in the case of relatively young workers, the gaps are larger and also widen at a faster rate for women. The total number of work-hours of relatively young and more educated women was over 40 percent higher than the total number of work-hours of relatively young, less educated women in 1997. This gap widened to 260 percent in 2006, then narrowed slightly in the following years. These figures reinforce earlier findings with regard to rising educational attainment levels within the population (Shavit and Bronstein, 2011) and declining employment rates among the less educated populations (Ben-David, 2011) over the years.¹⁰

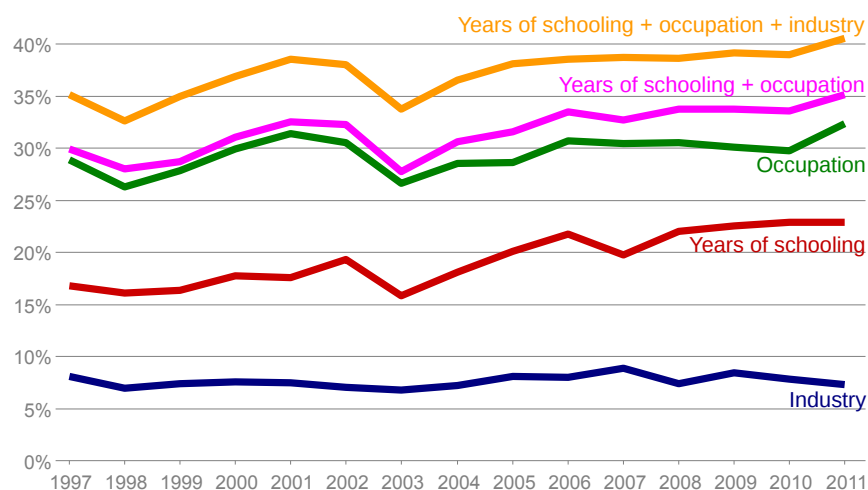
However, education is not the sole factor, and may not even be the main factor, in wage disparities. Kimhi (2012) found, for example, significant wage gaps between workers in different occupations. An examination of the explanatory power of wages as a function of number of years of schooling (Figure 12)¹¹ indicates that differences in years of schooling explain 16 to 20 percent of salaried employees' wage differences during the period 1997-2005. From that time on, the explanatory power of wage as a function of years of schooling gradually increased, so that in 2011, years of schooling explained 23 percent of the wage differences among salaried employees. The rise in explanatory power of years of schooling underscores the growing importance of

¹⁰ No satisfactory explanation was found for the fact that the rise in the relative number of work hours of more educated workers within the younger population halted during the middle of the last decade.

¹¹ "Explanatory power" is R^2 divided by the variable under investigation (years of schooling, occupation, industry sector and their interactions) in log (wage) regression, which, in addition to that factor, also included a fourth-degree polynomial of potential experience (age minus years of schooling minus 6 or age minus 17, whichever is smaller). Years of schooling were divided into three groups: 0-12, 13-15, and 16 or more.

education in determining workers' earning power, in a manner similar to what was found regarding the education wage premium (Figure 10).

Figure 12
Explanatory variables for wage differences
employees aged 25-64, 1997-2011*



* Percentages reflect the extent to which explanatory variables explain wage differences, after accounting for the influence of differences in potential experience (age minus age at end of formal education). Adding together two or three variables reflects the cumulative explanatory value of the variables.

Source: Ayal Kimhi and Kyrill Shraberman, Taub Center

Data: Central Bureau of Statistics, *Income Survey*

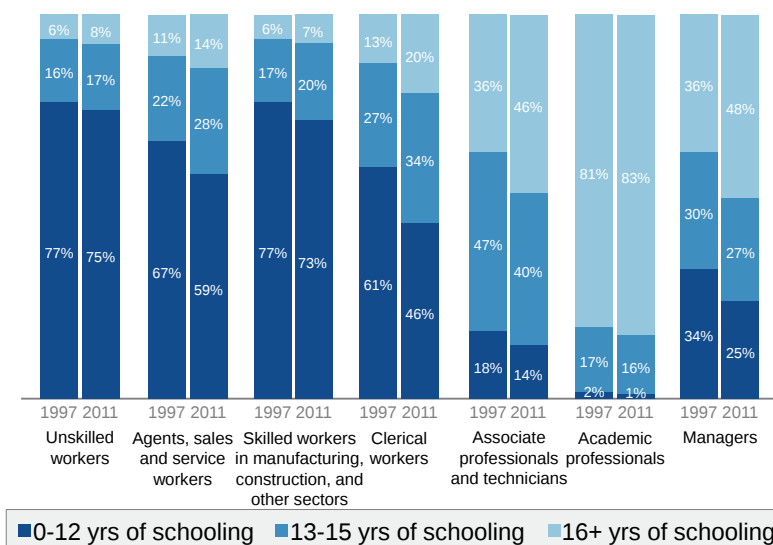
Despite education's growing importance, the explanatory power of occupation during the sample period is significantly greater, hovering at around 30 percent. In this context, however, the relatively high correlation between educational attainment level and occupation must be taken into account (Figure 13). Adding in years of schooling to occupation does not, therefore, significantly increase the explanatory power on wages. On the other hand, a worker's industry sector on its own

does not predict wage as much as schooling and occupation do, and its explanatory power ranges from 5 to 10 percent. The correlation between industry sector and occupation and years of schooling is lower, meaning that its addition to years of schooling and occupation significantly increases the explanatory power of wage.

Figure 13

**Relation between education and occupation,
employed persons aged 25-64**

distribution of work-hours by education in each occupational category*



* Occupational categories are arranged from left to right by increasing order of average wages for the years 1997-2011

Source: Ayal Kimhi and Kyrill Shraberman, Taub Center

Data: Central Bureau of Statistics, *Labor Force Surveys*

In order to examine the correlation between a worker's level of educational attainment and occupation, Figure 13 presents the distribution of workers by years of schooling for each of seven occupational groups.

The occupations are listed from left to right by their average wage (from low to high wages). The figure clearly shows that, in the three relatively low-wage occupations, between half and three-quarters of work-hours come from those workers with no more than 12 years of schooling, while workers of this education level account for no more than a third of the work-hours in the three relatively high-wage occupations. In general, wage and educational attainment are consistently linked across occupations, except in two instances: agents and sales and service workers are, on average, more highly educated than skilled workers, but their wages are lower on average. On the other hand, managers are less educated than those in the academic professions although their wages are higher.

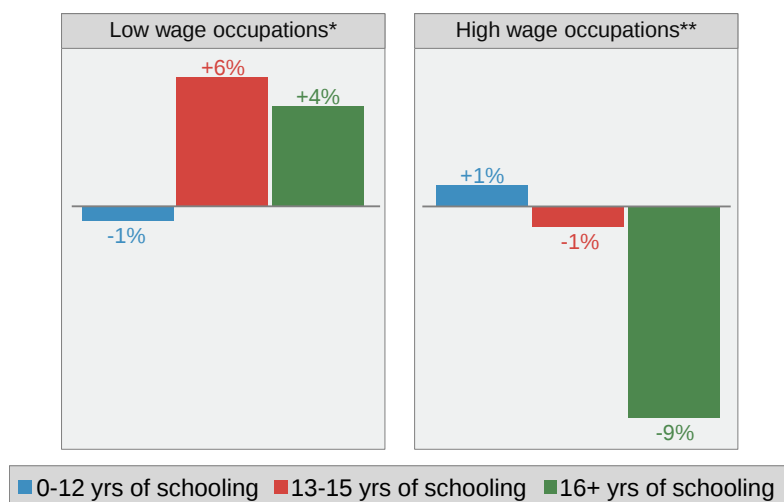
Each of the occupational groups shows a rise in the average level of educational attainment among its workers over the years. The most moderate increases were found in occupations associated with lower levels of educational attainment, among unskilled and skilled workers, and among those in occupations associated with the highest educational attainment level – those in academic occupations, nearly all of whom by definition have pursued higher education.

Figure 14 presents the changes in hourly wage that took place between 1997 and 2011 by educational attainment level, broken down by occupation and wage level.¹² One can see that the education wage premium, as reflected in the wage gap between highly educated workers and less educated workers, declined in the high-wage occupations, due primarily to a drop in the wages of those with 16 or more years of schooling. By contrast, the education wage premium rose in the low-wage occupations, due mainly to a rise in the wages of those with post-secondary education. The conclusion is that the rise in the education wage premium over the years, as reflected in Figure 10, is mainly the

¹² A less aggregated occupational breakdown indicated similar though less precise trends, due to a scarcity of highly educated people in low-wage occupations and a lack of less educated people in high-wage occupations.

result of an increase in the education wage premium for those employed in low-wage occupations.

Figure 14
Changes in hourly wage between 1997 and 2011
 by occupation and years of schooling, in fixed prices



* Skilled workers, agents, sales and service workers, unskilled workers

** Managers, academic professionals, associate professionals and technicians, and clerical workers

Source: Ayal Kimhi and Kyrill Shraberman, Taub Center

Data: Central Bureau of Statistics, *Income Survey*

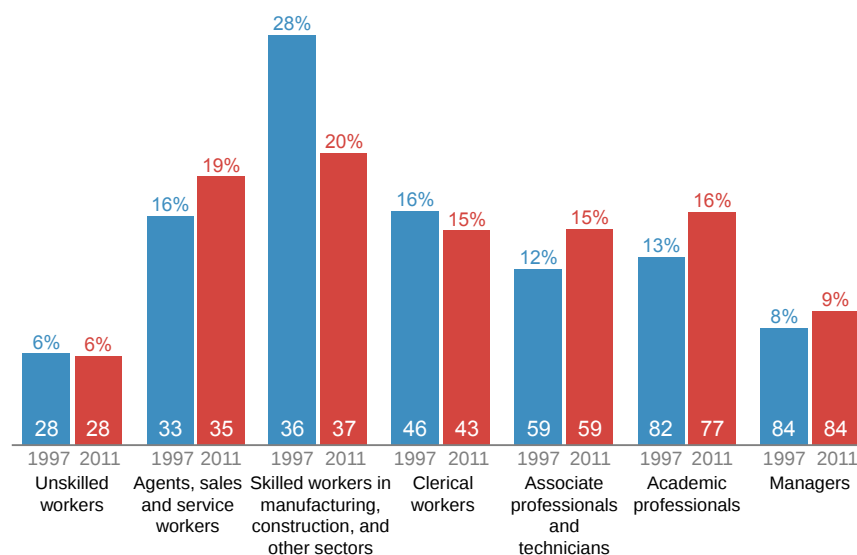
At the same time, there is a downward trend in the percentage of skilled workers in manufacturing, construction, agriculture, and the like (Figure 15) – sectors that account for the majority of low-wage occupations. By contrast, an upturn was seen in the percentage of workers at the higher wage levels, a process that has also contributed to the education wage premium increase.

The trend toward rising education wage premiums in low-wage occupations is of great importance with regard to the continued

narrowing of wage gaps in the economy as a whole – especially given that worker educational levels continue to trend upward. Even when highly educated workers are not hired for work in high-wage occupations, their educational investment does not go to waste – not even when they are employed in low-wage occupations. The employment of highly educated workers in low-wage occupations likely increases labor productivity, meaning that the wages of those working in these occupations will continue to rise.

Figure 15 presents the total work-hour distribution in the economy by occupational group. The work-hours of skilled workers, the largest group of workers, declined significantly relative to the other occupations. A much more moderate decline was also found in the work-hours of clerical workers. It should be noted that these two occupations mainly employ workers who were situated in the middle of the 1997 wage distribution, between the bottom of the second quintile and the bottom of the fourth quintile. The 9 percentage points of work-hours that these two occupations lost were taken up, in part, by lower-wage occupations such as agents and sales and service workers (3 percentage points), with the majority going to higher-wage occupations. This hints at increasing polarization in the occupational distribution, and at a decline in the relative weight of those occupations situated in the middle of the wage distribution.

Figure 15
Distribution of work-hours by occupation
 employees aged 25-64, as percent of total work hours*



* Occupational categories are arranged by average hourly wage in 2011 shekels (the number at the bottom of the column)

Source: Ayal Kimhi and Kyrill Shraberman, Taub Center

Data: Central Bureau of Statistics, *Labor Force Survey*

The decline in the relative weight of the middle class raises the question of how that decline is related to that observed in the wage distribution by percentile (Figure 7). Figure 16 presents the change in the relative share of each occupation with regard to total number of work-hours, alongside the change in real average hourly wage of workers employed in that occupation. Comparing these two changes facilitates an understanding of their causes. If each occupational group can be regarded as a separate labor market, the changes in work-hours and in hourly wage are the outcome of changes in labor supply on the part of workers in the given occupation, and of changes in the demand for these workers' labor.

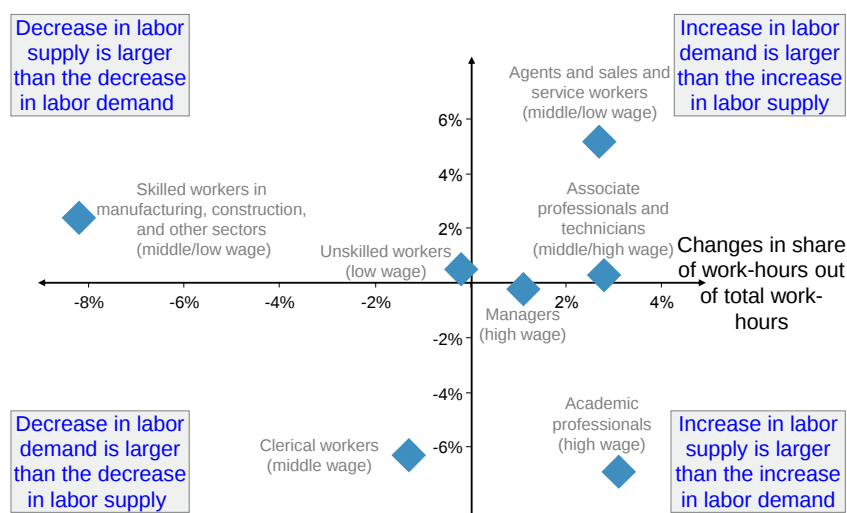
On the assumption that each labor market of this kind starts out at equilibrium, then a rise in labor supply and demand at the same rate will produce an increase in the total number of work-hours, with no change in wage. Looking at Figure 16, it may be concluded that this is the situation in the labor market for associate professionals and technicians and for managers. In the case of agents and sales and service workers, there is a notable rise in both employment and wages. This situation is characteristic of a rise in demand for these workers, over and above a rise in supply. In the case of clerical workers, the situation is reversed; there is a simultaneous decline in employment and in wages due, apparently, to a clear decline in demand for these workers.

Opposite changes with regard to employment and wage attest to the dominant impact of changes in labor supply as compared to demand. In the case of those employed in academic occupations, the trend toward increased employment and a simultaneous decrease in wages points to a larger rise in the supply of labor relative to demand, while a trend toward declining employment and a simultaneous rise in wages among skilled workers indicates a larger decline in the labor supply relative to demand.

This analysis aligns with the overall rise in the share of more educated workers (Figure 13). Naturally, more educated people prefer to enter high-wage occupations, leading to a rise in labor supply in these occupations. When demand rises simultaneously, as in the case of managers and associate professionals and technicians, the surplus supply is readily absorbed and the change in wage is minimal. When demand does not rise at the same rate, as in the case of those in academic occupations, some of the increased supply is absorbed by the market, but this comes at the price of a significant decline in the labor wage. Obviously an increased supply of labor in certain occupations entails a relative decline in supply in other occupations. In the case of clerical workers, even though there was a decline in the supply of these workers, the drop in demand was even sharper, meaning that the level of employment declined and, at the same time, there was a drop in wage levels. The situation of agents and sales and service workers is the opposite; the demand for these workers grew and, accordingly, both

employment rates and wages rose. Regarding skilled workers, the decline in supply appears to have been the steepest and, in any case, more precipitous than any possible decline in the demand for workers. Following this, employment declined and wages rose. The decline in the supply of skilled workers is substantiated by employers' commonly-voiced claim that Israelis no longer want to work in "blue-collar" jobs.

Figure 16
Changes in share of work-hours and in real hourly wage in each occupation group between 1997 and 2011
 salaried employees aged 25-64



Source: Ayal Kimhi and Kyrill Shraberman, Taub Center

Data: Central Bureau of Statistics, *Labor Force Survey and Income Survey*

Figure 16 offers a possible explanation of the narrowed wage-gap phenomenon, as shown in Figure 3. Figure 16 demonstrates the wage decrease experienced by clerical workers and associate professionals and technicians as well as academic professionals situated within the upper part of the wage distribution, in contrast to the rise in wages enjoyed by agents and sales and service workers, and by skilled workers, situated in the lower portion of the distribution. The data in parentheses in the figure show that those occupations that lost workers (i.e., the skilled workers and to a lesser degree, clerical workers) are situated in the central part of the wage distribution, a fact that contributes to the deteriorating status of mid-level salaried employees.

In order to present this outcome in a more intuitive way, Figure 17 shows the changes in the relative share of work-hours for each work-hour decile between 1997 and 2011. Work-hour deciles were determined on the basis of each of the occupation groups that appear in Figure 16. A more detailed breakdown of occupations (according to Central Bureau of Statistics definitions) within each occupational group was examined and arranged in ascending order by average wage. Afterward, proceeding through the detailed occupational list as arranged by average wage, the total number of work-hours was divided into deciles so that each decile contains a tenth of the total number of work-hours (see the appendix for a more detailed explanation of the division into deciles). According to the figure, the reduction in number of work-hours was particularly notable in Deciles 3-5 and, to a lesser degree, in Decile 6.¹³ If this is added to the fact that the deterioration in wages was especially profound in wage Deciles 6-8 (Figure 7), it is found that a particularly broad range of

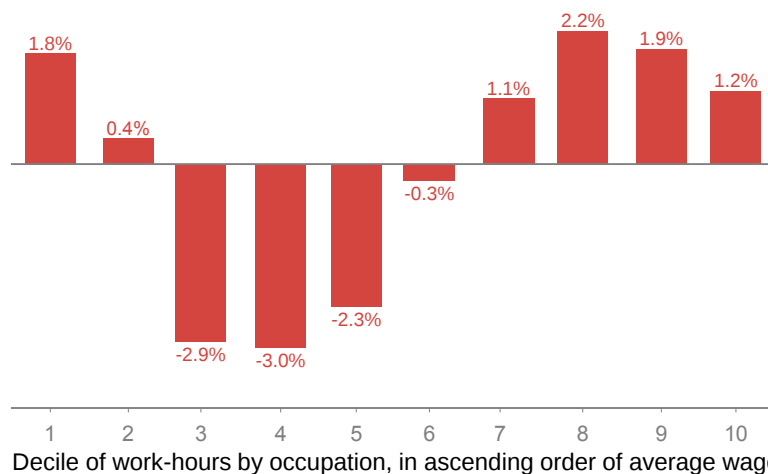
¹³ A similar phenomenon was also documented in the United States, where the number of work-hours was found to have declined primarily in jobs of a routine nature (Jaimovich and Siu, 2012). A few studies have found that one of the main causes of this phenomenon is technological advancement in the high-tech industries (Autor and Dorn, 2013; Michaels et al., 2014). Another study points to changes in the composition of demand due to population aging as another possible cause (Moreno-Galbis and Sopraseuth, 2014), though not one that is relevant to Israel.

workers situated in the central portion of the wage distribution have potentially been hurt by the labor market changes due to a relative decline in their wage and number of work-hours. It is clear that, over the years, some of these workers switched to different occupations and that these other occupations therefore experienced a relative increase in number of work-hours and/or a wage increase. While in the absence of a database that traces workers' employment and wage data over time there is no way of identifying and characterizing the worker groups most adversely affected, one can nevertheless say, with a greater degree of certainty, that workers situated at the ends of the distribution scale were not hurt, and that their status actually improved.

Figure 17

**Changes in share of work-hours by deciles of work-hours
by occupation*, out of total work-hours**

difference between 1997 and 2011, workers aged 25-64



Decile of work-hours by occupation, in ascending order of average wage

* In each occupational group (Central Bureau of Statistics categorization), detailed occupations were ranked by average wage and then divided into deciles by number of work-hours. For a full explanation, see the appendix to this chapter.

Source: Ayal Kimhi and Kyrill Shraberman, Taub Center

Data: Central Bureau of Statistics, *Labor Force Survey* and *Income Survey*

4. Summary and Conclusions

This chapter looked at the development of wage gaps in Israel during the period 1997-2011. One of the findings presented is that the education wage premium increased over this period. This fact, in and of itself, could potentially contribute to larger wage disparities between workers on a variety of characteristics. It turns out, however, that wage disparities narrowed somewhat, in light of the trend toward improved status of workers in the low-wage deciles relative to those in the higher-wage deciles. This trend runs counter to the prevailing trend in other developed countries during the period in question. At least some of the improvement in the status of low-wage workers may be attributed to a trend toward gradual increases in the minimum wage. At the same time, workers in Deciles 7-8 experienced a wage decline relative to lower- and higher-wage workers. The wage distribution thus became more polarized between the wealthiest and everyone else.

A breakdown by occupation showed that the education wage premium in low-wage occupations had increased, likely due to technological progress in those industries where such occupations are numerous. An opposite trend was seen in higher-wage occupations, where the return on education declined. An analysis of these opposing trends may explain the relative wage increase enjoyed by workers in low-wage occupations. Higher education is, in effect, becoming economically valuable even in occupations characterized by low wages.

The distribution of work-hours by occupation also reflects a polarization trend; work-hours in both low-wage and high-wage occupations increased relative to work-hours in middle-wage occupations which primarily employ skilled workers in manufacturing, construction and agriculture. An integrated analysis of the changes in wage and employment by occupation indicates that labor supply grew in education-intensive occupations which, naturally, are characterized by relatively high wages. But while demand for the labor of managers and associate professionals and technicians increased at the same time, demand for workers in the academic occupations did not keep up with the supply of

such workers, resulting in a relative real wage decline for academic professionals. Data in the lower part of the wage distribution attest to a drop in demand for clerical workers relative to the supply of such workers, which resulted in a downward trend in wages of clerical workers. By contrast, the wages of agents and sales and service workers rose thanks to rising demand for these workers; likewise, skilled workers' wages increased due to a significant decline in their supply. All of these findings indicate that the wage-gap reduction may be attributed both to changes in the supply of workers in certain occupations, due apparently to more widespread pursuit of post-secondary education, and to changes in demand for these or other occupations, stemming from changes in technology or in product demand.

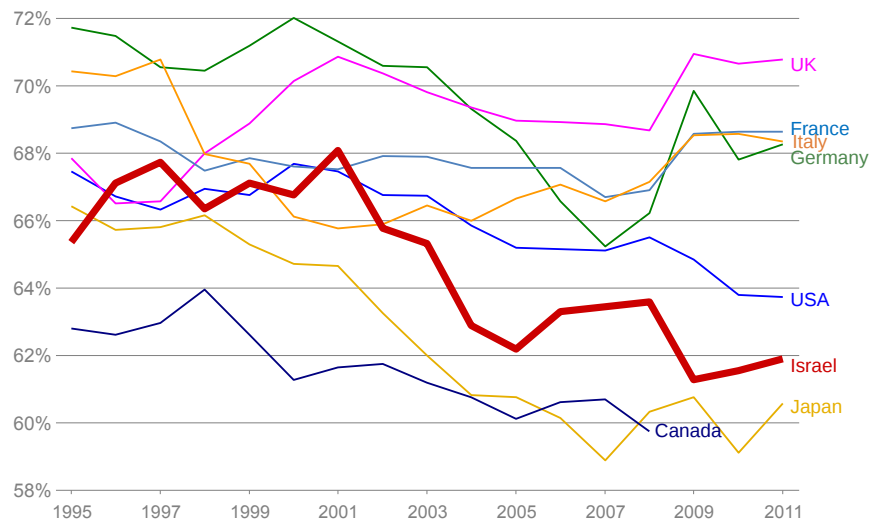
The narrowing of wage gaps is, in and of itself, good news, but by no means justifies complacency. First, wage gaps, especially in the upper part of the distribution, are still very large by international standards. Second, the status deterioration suffered by workers in the middle part of the wage distribution – both in terms of employment possibilities available to these workers and in terms of the wage they receive for their labor – attests to growing polarization within the labor market, and that can hardly be regarded as good news. Finally, it should be remembered that the gaps have narrowed only with regard to labor income which constitutes, at most, 60 percent of average household income.

Thus, it is also important to know how income from other sources is distributed. Although this discussion deviates from the present study's objectives, it may be assumed with a high degree of certainty that income from capital is distributed much less equally than is income from labor; in other words, most capital income is in the hands of the higher income deciles (see Regev, 2014). From this perspective, it is interesting to examine what happened to capital income's share of the national income pie.

Figure 18 shows that, according to the national accounts of the late 1990s and the early 2000s, income from labor accounted for two-thirds of Israel's national income. Starting in 2001, labor's share of the national-income pie showed a downward trend, reaching 62 percent in 2011. A

similar trend could be observed in most of the G-7 countries; however, the decline in Israel was more substantial than in all other countries except Japan. What this means is that a smaller amount of national income is transferred to workers as income from labor, while a larger portion is transferred to the wealthy. The fact that capital income is concentrated in the hands of the upper deciles intensifies the labor market's already-existing polarization. The bottom line is that low-wage workers enjoyed a rise in the minimum wage, the affluent enjoyed a rise in capital income, and the middle class was left behind.

Figure 18
The share of labor earnings in national income
 Israel and G-7 countries, 1995-2011



Source: Ayal Kimhi and Daniel Premisler, Taub Center
 Data: OECD

In the past decade, much attention has been paid to the problem of the working poor (Stier, 2011). Policy measures such as raising the minimum wage and instituting a negative income tax aimed to address this problem, at least in part. The present study has shown that the increased minimum wage has served the purpose for which it was intended. By contrast, less attention has been paid to middle-class income levels, despite the fact that a relative decline in the income of young families, along with the cost of living, played an important role in the 2011 social protests (Shalev, 2012). As shown in this chapter, the middle class, by way of shifts in the demand for workers, has also been negatively affected by labor market changes that resulted from both technological developments in Israel and globally as well as from changing demand for different types of products and services.

The Israeli labor market is flexible in some ways and rigid in others. For example, the Bank of Israel (2014) found that workers tend to keep their jobs even during periods of structural change, while wages tend to rise or drop in accordance with the state of the market. There is nothing worrisome about this so long as the changes are cyclical; however, when they constitute trends, the question arises of whether institutional change is required in order to enhance occupational flexibility. Clearly, wage changes in specific occupations are partly due to the retirement or dismissal of workers at a certain wage level and the hiring of new workers at other wage levels; it may be, however, that wage change is also due to changes in the pay of existing workers. The question needs to be asked: why don't workers whose wage has eroded find other employment? In this context, it is worth examining the need for improved placement and vocational training services to help workers change their occupation in accordance with structural shifts in the labor market.

The chapter cannot come to an end without a discussion of the issue of education. The trend in recent years toward a higher share of academic degree holders in the labor force has led to a decline in the education wage premium. Highly educated workers are holding jobs that in the past were held by less educated workers – the reason being, apparently, that not all academic degree holders manage to find jobs commensurate with

their expectations, and as a result, some find themselves in lower-wage occupations. In this context, it should be noted that the education wage premium actually rose in occupations that employ less educated and lower-wage workers, meaning that the human capital investment represented by an academic degree is still worthwhile, not only from the state's perspective but from the individual's perspective, as well.

Nevertheless, it should be noted that academic degrees are not homogeneous. Degree-holders come from institutions that differ in quality and in the range of study disciplines that they offer; the labor market cannot be expected to compensate everyone in an identical manner. This may translate into erosion of the economic value of academic degrees whose supply has risen sharply in recent years – meaning that students need to be aware of the labor market value of the study programs that they choose. An academic degree in and of itself does not guarantee a high wage, although it does usually guarantee a wage higher than that of workers in the same occupation who do not hold an academic degree.

Appendix

An Example of How Work-Hours Were Divided into Deciles (Figure 17)

The market's total number of work-hours was divided into deciles as follows:

The occupation groups (see Figure 16) were ranked by average wage during the period 1997-2011, from lowest to highest.

Each occupational group was further divided into more detailed occupational categories, which are arranged in order of average wage, from lowest to highest.

For each detailed occupation category, the average annual total aggregate work-hours for the period 1997-2011 is given.

The total work-hours were divided into deciles, via proceeding through the list of detailed occupations as arranged by wage, such that each decile accounts for a tenth of the total work-hours.

The following example presents the allocation of occupations to work-hour deciles for two relatively low-wage occupation groups: (1) unskilled workers; (2) agents and sales and service workers.

The example in Appendix Table 1 shows that Decile 1 includes all unskilled workers, as well as caregivers, who are the lowest paid detailed occupation category within the agents and sales and service workers occupational group. The remaining detailed occupations that fall into the agents and sales and service workers group are in Decile 2, except for wholesale and commercial agents (the highest-paying detailed occupation category among the latter), who are in Decile 3.

Appendix Table 1. **An example of dividing occupational deciles by hourly wage**

Occupation (Central Bureau of Statistics)	Hourly wage*	Decile
Unskilled workers		
Unskilled workers in agricultural picking, packaging, sorting, and stocking	25.3	1
Building cleaners, kitchen and laundry workers	26.3	1
Guards, messengers, ushers and others	27.9	1
Other unskilled workers	28.1	1
Unskilled workers in ground preparation and road work	29.7	1
Porters and longshoremen	34.1	1
Janitors, nightwatchmen, and other cleaning workers	38.3	1
Agents and sales and service workers		
Caregivers	25.4	1
Other service employees	29.6	2
Sales, shop assistants and models	31.1	2
Workers in hospitality	34.4	2
Tour guides and stewards	42.9	2
Financial and business agents	53.1	2
Wholesale and commercial agents	53.3	3

* Hourly wage (in shekels) represents the average for 1997-2011, in 2011 prices

Source: Ayal Kimhi and Kyrill Shraberman, Taub Center

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The Shadow Economy in Israel

Noam Gruber*

Abstract

The size of the shadow economy in Israel is estimated at about 20 percent of GDP, double that of more advanced countries. It is estimated that halving the size of the shadow economy would increase state revenues by 3-4 percent of GDP, about NIS 30-40 billion. With this additional income, the government would be able to increase public spending, reduce the tax burden and lower the national debt. The primary factors encouraging the shadow economy include a high marginal tax rate, cumbersome bureaucracy, insufficient enforcement, and flawed reporting norms. In order to reduce the size of the phenomenon, it is necessary to focus on three main areas: (1) improving the enforcement process: it is recommended that goals be set for the Israel Tax Authority both in terms of enforcement and in terms of improved service and more streamlined reporting, and that norms of transparency be applied with regard to meeting these goals; (2) changing the collection method: to make it more difficult for citizens to evade taxes, it is recommended that tax filing be made mandatory, that the system move to taxation on the basis of households (rather than individuals) and that it recognize expenses, and that information technology is leveraged to facilitate automated reporting and regulation; and (3) reducing the tax burden: it is recommended that tax rates be lowered for small businesses that use electronic means of reporting income in order to reduce incentives to conceal income.

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Introduction

The shadow economy arises from the concealment of income from legal economic activity. It is concentrated mainly in the self-employed and small business sectors. For example, plumbers, farmers, shop owners, or salaried employees who do not report income to the tax authorities are all part of the shadow economy. The definition of the shadow economy does not include income from illegal activity, such as drug dealing, extortion or prostitution, although these cases also concern unreported income. Individuals and companies that evade taxes through legal loopholes, for example by means of wallet companies¹, are not included in the definition of the shadow economy either, as long as their income reporting is honest. Since employees in large companies usually do not have much opportunity to avoid paying income taxes, and since the risks of tax evasion are generally greater than the benefits for large companies, tax evasion is likely most common among the self-employed, small businesses and those they employ (OECD, 2013c).

Income that is required to be reported to the tax authorities, but does not get reported avoids being taxed according to the law and thus the state is deprived of revenues estimated at tens of billions of shekels. In addition to the harm caused to the state from the loss of revenues from taxes, those involved in the shadow economy may be harmed personally because they do not enjoy the protection of the law.²

¹ A wallet company is formed for the benefit of its owner's tax-planning, and it does not conduct any independent economic activity. The company provides the same service that its owner would provide if he were a hired employee, and its main purpose is to reduce its owner's tax burden.

² For example, workers who collude in the concealment of their income may find themselves earning less than the minimum wage, without receiving any social benefits stipulated by law, such as deductions for pension and severance pay. Businesses in the shadow economy will find it hard to defend themselves against crime, such as extortion, fraud or theft, because turning to the authorities may expose their concealment of income.

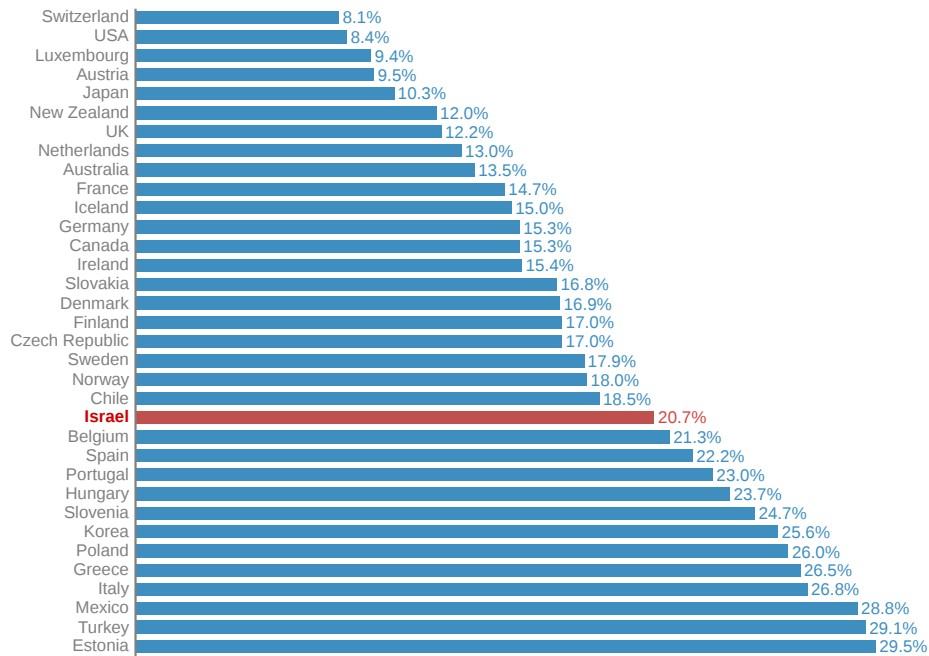
Enforcement efforts by the Tax Authority provide a partial glimpse into the size of the shadow economy,³ but this phenomenon's very nature makes it difficult to estimate its exact proportions. There are a range of estimation methods, from anonymous income surveys, to the use of indirect economic indicators such as electricity consumption or the cash stock circulating in the economy, through to economic models based on theoretical assumptions.⁴

According to Buehn and Schneider (2011) and Elgin and Oztunali (2012), the size of the shadow economy in Israel is slightly more than one-fifth of GDP, which is currently about NIS 200 billion. For comparison, the size of the shadow economy is estimated to be 16-17 percent of GDP on average for the OECD countries; and in the United States, Japan, and the most advanced European countries, it is estimated at about 10 percent of GDP.

³ See the Tax Authority's website:
<http://taxes.gov.il/EnforcementAndDeterrence/Pages/EnforcementHodaot.aspx>

⁴ For a survey of the methods in the relevant economics literature, see Elgin and Oztunali (2012) and Schneider and Buehn (2013).

Figure 1
Shadow economy in Israel and the OECD
 as percent of GDP, 2007



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Buehn and Schneider, 2012

The potential to increase state revenues by reducing the size of the shadow economy in Israel is clear. Reducing the scope of concealed income by 10 percentage points, that is, almost by half, (at an assumed average tax rate of 30-40 percent⁵), would increase state revenues by 3-4 percent of GDP, or NIS 30-40 billion. This amount is equivalent to the

⁵ The rate of the state's revenues from taxes in Israel is about 30 percent of GDP. Since the motivation for concealing income is to avoid paying taxes, despite the risk involved, it may be assumed that the unreported income likely would have been taxed at a high rate.

budget of the Ministry of Education. Along with increasing the state's revenues from taxes, reducing the size of the shadow economy would allow for a more equitable and just taxation system, by both taxing income that is currently concealed and reducing tax rates for all taxpayers. Furthermore, on the assumption that many of those who conceal income also receive social assistance on the basis of self-reported false income data, reducing the size of this phenomenon would free resources for the benefit of those who truly need them.

What, then, are the reasons underlying the shadow economy phenomenon, and what are options for addressing it?

1. Main Reasons for the Shadow Economy

The reasons for the shadow economy can be classified into several main categories:⁶

The Tax Burden

Clearly the tax burden is a primary motivation for tax evasion. The marginal tax rate is an important consideration in the decision to conceal income, and the higher the rate, the greater the motivation to do so. In Israel, as in many other countries, a business owner may pay taxes as a self-employed individual ("authorized dealer") or as a limited liability company. As a company, the owner pays tax on profits at a uniform rate of 48.55 percent (57.8 percent inclusive of value-added tax (VAT)).⁷

⁶ For an academic discussion of the reasons for the shadow economy, see Schneider and Buehn (2012); for a survey of the literature presenting examples from the OECD countries, see OECD (2010).

⁷ For every 1 shekel of income inclusive of VAT, the state currently collects 18 agorot (i.e., NIS 0.18) in VAT. Of the 82 agorot remaining, 26.5 percent in corporate tax, or an additional 22 agorot, is collected, leaving 60 agorot. When these profits are drawn, 30 percent, or another 18 agorot, will be collected as the dividend tax of an interest-holder. At the end of the process, 42 agorot remain, which puts the overall tax rate at 58 percent.

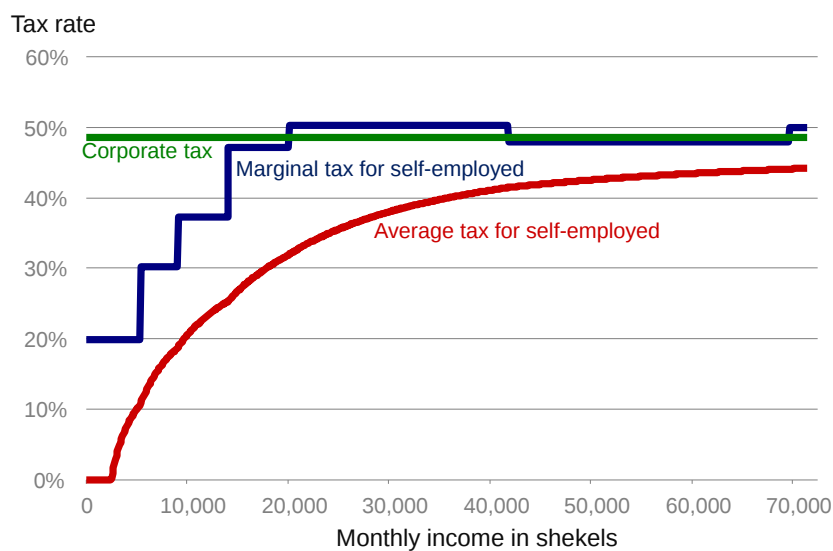
Starting at monthly taxable income of NIS 14,000, the marginal tax rate (income tax and National Insurance Institute contributions) of an authorized dealer is similar, at about 47 percent, as shown in Figure 2.

For example, the tax on a transaction between a consumer and a self-employed service-provider in Israel will generally be the VAT⁸ (currently 18 percent) as well as the marginal tax rate applied to the service-provider, which together can reach almost 60 percent for monthly income above NIS 14,000.⁹ At such a tax rate, there is growing temptation not to report the transaction. Aside from taxation, it is necessary to add the benefits of transfer payments received by low-income earners, mainly unemployment benefits, income supplements and negative income tax. The higher these payments, the greater the temptation is to conceal income in order to receive them. As such, increasing the tax rate contributes to enlarging the shadow economy in addition to harming economic activity. In light of this, raising tax rates too high may even diminish the state's total revenues from taxes.

⁸ Since an authorized dealer or limited liability company is entitled to reimbursement for the VAT they paid, VAT is actually collected only on the added value or operational profit of the transaction.

⁹ For example, a self-employed worker whose monthly income is between NIS 14,000-20,000: for every 1 shekel, the state collects 18 agorot VAT. Of the remaining 82 agorot, 47 percent (income tax and national insurance for self-employed), or an additional 39 agorot, is collected. Of the original 1 shekel, about 43 agorot remain, so the overall tax rate for self-employed is 57 percent.

Figure 2
Tax rates for self-employed and companies in Israel*



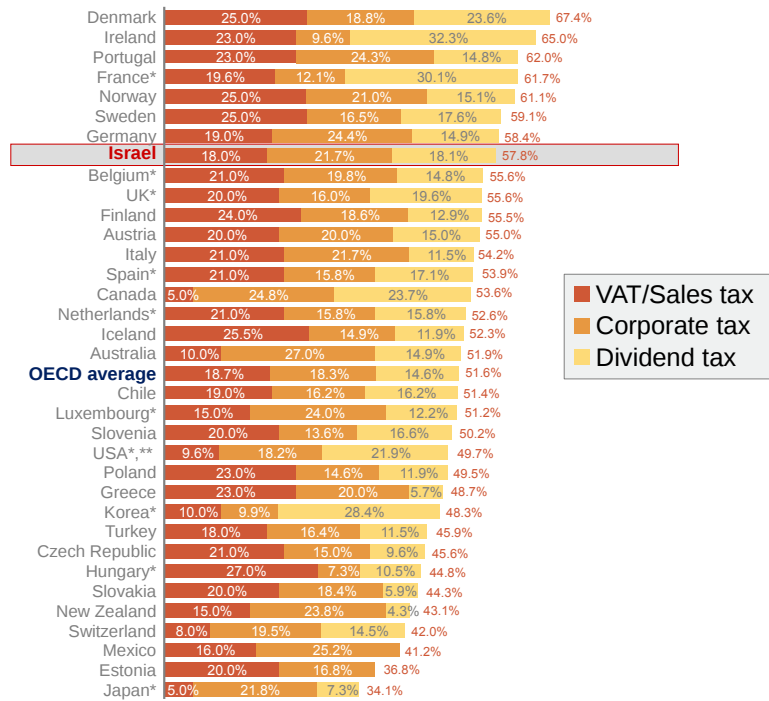
* The calculations assume 2.25 credit points of about NIS 218 per point. For the self-employed, the rate includes income tax and National Insurance Institute contributions, without negative income tax. For Israeli corporations, the rate includes income tax and dividend tax for controlling owners. For details of tax rates see Appendix Table 1.

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Tax Authority

An international comparison of the tax burden as calculated, inclusive of VAT, shows that the tax rate for small businesses in Israel is relatively high (Figure 3).

Figure 3
Effective tax rate for small businesses
 in Israel (2014) and OECD countries (2013), as percent of income



* Calculation include preferential tax for small businesses

** Average of all the states

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

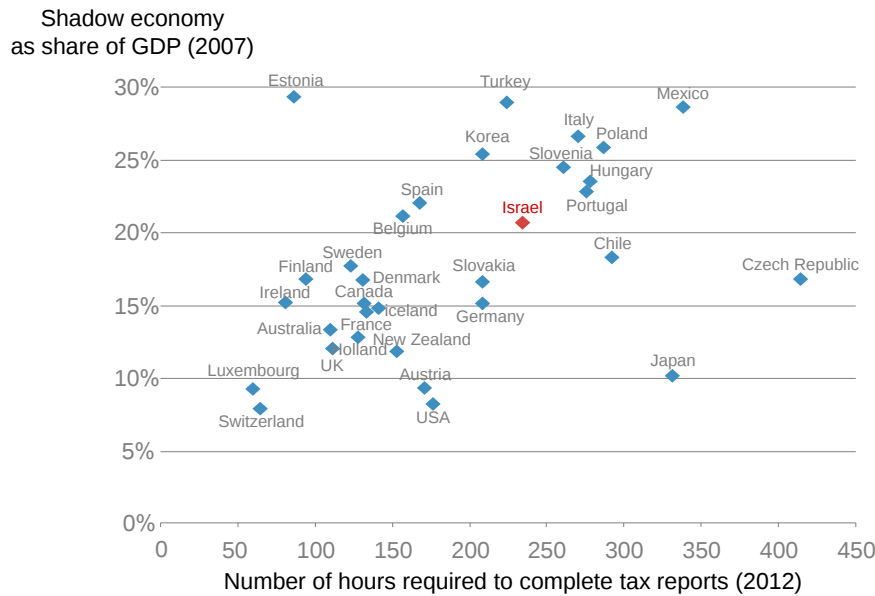
Data: OECD

The complexity and transparency of the taxation system also have a substantial influence on the extent of concealment. More complicated and costly reporting and greater uncertainty regarding the tax to be assessed is likely to result in a greater reluctance to report. The bureaucratic burden facing lawful businesses (and the scope of institutional corruption, if such exists) can be considered another type of tax that drives businesses to

operate in the shadows. If on the other hand, state institutions were to assist with business activity, it would provide an incentive for those concealing income to join the formal economy. The connection between tax rates, the complexity of the collection and payment system, and the estimated size of the shadow economy is supported empirically by a large number of economic studies. More recent studies on this subject include Gorodnichenko et al. (2009), Peter (2009), and Schneider and Buehn (2012).

According to the World Bank, in 2012, a company in Israel had to spend an average of 235 working hours (about 20 hours a month) to complete the required tax filing process, as opposed to an average of 163 hours in the European Union, 175 hours in the United States, and less than 100 hours in some other countries (Luxembourg, Switzerland, Hong Kong, Ireland, Estonia, Norway, and Finland). Such a bureaucratic burden is even more onerous to small businesses, which are already prone to conceal income, due to its high cost relative to the businesses' revenue and particularly their profit. Furthermore, the relative size of a small business often does not warrant using the services of a professional to interface with the tax authorities and sometimes does not even economically justify the use of accounting services. The OECD data clearly show the correlation between the time required to file corporate tax reports and the size of the shadow economy (Figure 4).

Figure 4
**Relation between time needed to file corporate
 tax reports and size of shadow economy**



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: World Bank, Buehn and Schneider (2011)

There is a clear trend in the developed world wherein tax authorities treat small businesses and their tax advisers as they would clients, and are investing resources in streamlining and automating the reporting interface with the aim of simplifying the process.¹⁰ Accordingly, the tax agencies establish goals for improving satisfaction with the collection process, and assess whether they have met these goals through periodic questionnaires

¹⁰ This policy is called Engagement and Involvement. See for example, the OECD survey in this field (OECD, 2013c), the HMRC report in Britain (HMRC, 2013a), and tools for involvement in the United States: <http://www.irs.gov/uac/Get-Involved>

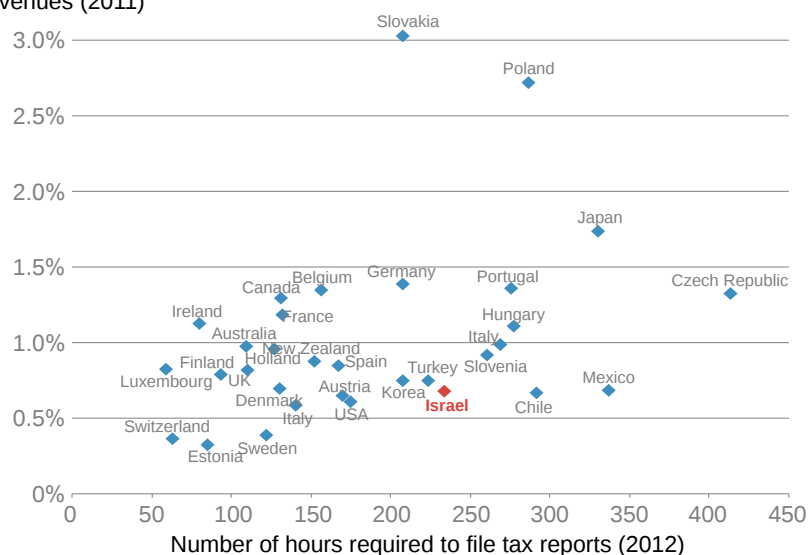
and even individual interviews, which allow small businesses to provide suggestions for improvement. Meanwhile, it is evident that countries such as the Netherlands and Denmark are progressing towards full automation of the taxation process for small businesses, whereby electronic tax payments are calculated and processed by computer, without any active involvement by the business itself. In Israel, too, progress can and should be made in these directions.

Relieving the complexity of the reporting process may reduce not only the size of the shadow economy, but also the cost of tax collection to the state. As Figure 5 shows, there is a correlation between the cost of tax collection and the time required to report income.

Figure 5

Relation between time needed to file tax reports and tax collection costs

Tax collection costs as share
of tax revenues (2011)



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: World Bank, OECD

Enforcement and Punishment

Efficiency of regulation and severity of punishment may deter people from concealing income and thereby reduce the size of the shadow economy. The greater the probability of being caught by the tax authorities and paying a steep fine, the less attractive concealment becomes. The harder it is to discover the concealed income – for example, in a transaction between a supplier and a client where the sides agree, explicitly or implicitly, to withhold tax and split the profit among themselves in the form of a “cash discount” – and the more infrequent and the less thorough the monitoring by tax agencies, the less effective is the deterrence. In such cases, reporting becomes dependent on the goodwill and moral integrity of the parties to the transaction. The deterrent effect that is achieved by active enforcement and effective punishment is supported by studies such as Andreoni et al. (1998), Slemrod (2007), and Blackwell (2007).

The Israel Tax Authority publicly reports on only a small portion of its monitoring and enforcement operations. Unlike its counterparts in other countries, such as the American Internal Revenue Service (IRS) and Her Majesty’s Revenue and Customs in Britain (HMRC), it does not publish regular and comparable statistics about the annual scope of this activity, even though such reporting was explicitly recommended in 2000 as part of the conclusions of the Ben Bassat Committee.

As shown in Table 1, in the fiscal year 2013, the IRS conducted 5,314 criminal investigations, filed 3,865 indictments, and won 3,311 convictions. Of the convicted tax offenders, 80.1 percent were sent to prison. In 2012, \$5.3 billion, or 44 percent of the IRS budget of \$12.1 billion was invested in enforcement. Of that sum, \$645.6 million (5.3 percent) was allocated to investigations, and about \$4.5 billion (37.25 percent) was invested in inspections. The \$5.3 billion that was invested in enforcement yielded the collection of a total \$31.1 billion from unpaid taxes or reporting errors (IRS, 2013).

In the United Kingdom (Great Britain and Northern Ireland), in the fiscal year 2011-2012, more than one-quarter of the HMRC budget (£1.0

billion out of £3.8 billion) was invested in enforcement and compliance activities. Total revenues from taxes came to £474 billion, of which £16.7 billion was collected by means of enforcement activity. This activity included, among other things, the filing of 545 indictments and the obtaining of 413 convictions, which yielded more than £1 billion, as well as the prevention of mistakes and fraud in negative income tax to the extent of £1.5 billion. Enforcement activity in the UK continues to grow, and from January through November 2013, there were 690 convictions in cases brought by HMRC against assessed taxpayers for the concealment of income which corresponded to a total of 355 years' imprisonment. HMRC has announced its goal of more than 1,000 indictments in 2014 (HMRC, 2013b; 2013c).

Table 1. **Performance of tax collection agencies in the USA and UK**

Performance measures	Internal Revenue Service (IRS), USA*	Her Majesty's Revenue and Customs (HMRC), UK**	Israel Tax Authority
Share of budget spent on enforcement	44% (\$5.3 billion)	26% (£1 billion)	Data not published
Indictments	3,865	545	Data not published
Convictions	3,311	413	Data not published
Revenue from enforcement activity	\$31.1 billion	£16.7 billion	Data not published

* Data for fiscal year 2013

** Data for fiscal year 2011-2012 (the UK includes Britain and Northern Ireland)

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: IRS, HMRC (2013b, 2013c)

Given the lack of reporting in Israel, it is not possible to properly compare the activity of the Israel Tax Authority in the fields of enforcement and collection with that of their counterparts in other countries. Since 2009, the Tax Authority has ceased publishing annual reports on its activity (although reports in the past also did not include data on the scope of enforcement activity and its results). The yearly report published by the Tax Authority's own Unit for Implementation of the Freedom of Information Law includes only partial data on the Authority's activity and budget, from which it may be concluded that the Tax Authority spent NIS 1.67 billion in 2012. The expenditures on operations and information-gathering amounted to NIS 6.5 million, and spending by the Unit for Fighting Crime came to NIS 8.3 million. According to this data, the Tax Authority allocated less than 1 percent of its budget to enforcement, although this finding is dependent upon the definition of various expenditures.

In an interview conducted upon his retirement, former Tax Authority director (2007-2011) Yehuda Nasardishi revealed that the sampling rate of tax returns dropped dramatically over the last decade, from 8.8 percent in 2004 to 2.4 percent in 2011 (Bassok, 2011). The Tax Authority website lists four convictions for tax offenses in 2011, five in 2012, and four in 2013, with some of these cases being appeals. However, a search of online judicial decision databases shows a far larger number of tax offense files.¹¹ With regard to the Israel Tax Authority, then, the preliminary picture that emerges is one of lack of transparency and an absence of clear goals in the area of enforcement.

Not only are very few resources allocated to the identification of unpaid taxes, but the punishment does not serve as effective deterrence either. Although the Tax Authority has the power to impose stiff punishment, the use of such sanctions is rare. In the years 2006-2010, according to Or's study (2013), on average 27 percent of private

¹¹ See, for example,
<http://www.takdin.co.il/search/%D7%94%D7%A2%D7%9C%D7%9E%D7%AA%C2%A0%D7%9E%D7%A1.html> (in Hebrew)

companies had not filed an income report to the Tax Authority as of three months following the deadline set by law, but punitive action was taken against only 8 percent of these companies. A relatively low administrative fine was imposed on 3.1 percent of them, and an investigation that could lead to a criminal proceeding was launched against 4.5 percent. About 20 percent of the companies that did not file on time did not file at all throughout the five-year period of the research, so there was no possibility of making an assessment and collecting tax from them. Proceedings were undertaken against only 12.5 percent of these companies.¹² Or's findings on geographical distribution show an especially low tax filing rate in two sectors: Arab localities and Jewish settlements beyond the Green Line.

Faced with such light enforcement, even the self-employed and businesses that choose to file a tax report may nonetheless try to conceal income. Those caught concealing income for the first time can usually avoid criminal proceeding by paying a fine, generally 20-40 percent of the concealed income, in addition to the tax due. The overburdening of the judicial system has also led to the creation of an administrative punitive procedure as an alternative to criminal proceedings, with the latter being undertaken only as a last resort in the most serious cases.¹³

As noted, the marginal tax rate in Israel for a company or the self-employed with a monthly income that reaches NIS 14,000 is almost 60 percent. This means that a business owner who has not yet been caught concealing income, can assume that, if caught, he will be given the option of paying 30 percent of the amount concealed or a similar fine assessed by administrative procedure. The business owner will thus prefer to conceal income as long as he estimates that there is less than a two-thirds probability of being caught.

¹² Before the Knesset's Finance Committee on February 3, 2014, Tax Authority representatives argued that a considerable share of the companies that failed to report were in the process of dissolution at the time. Or disputes this claim.

¹³ Or (2013) shows that relatively little use is made of the administrative procedure.

Under these conditions – when very few of those who choose to report are audited, and of those who are audited and caught, many can choose an administrative rather than criminal proceeding – the evasion of tax payment is especially appealing.

Reporting Norms

The more the concealment of income from the tax authorities is considered commonplace and legitimate by the public, the greater the chances that an individual will choose not to report income. Public perception of the justice and equality of the taxation system also impacts the magnitude of concealment of taxable income – with the feeling “If the rich hardly pay any taxes, why should I pay?”¹⁴ – as does the perception of the returns to tax, in terms of the quality of public services for the individual and the fair distribution of these services among the entire population. It appears then, that fairness, transparency and consistency in the collection of taxes and a public emphasis on good governance may in and of themselves contribute to an increase in the state’s revenues. The role and importance of reporting norms have been investigated in studies such as Feld and Frey (2007) and Torgler and Scheider (2009).

With regard to the taxation of companies in Israel, it is hard to argue that small businesses, whose ability to conceal income is relatively great, are accorded equal treatment in taxation. As Ben Naim and Gedalia (2013) show, the share of companies that are awarded preferential taxation status through the Encouragement of Capital Investments Law increases the larger the company. When companies are divided into percentiles by revenue size, the share of companies awarded preferential status in the 1st to 75th percentile is very low (only a few percentage points), while preferential status jumps to about 20 percent in the upper quartile.

In 2014, companies that have been awarded the status of “preferred business” through the Encouragement of Capital Investments Law,

¹⁴ This attitude is well reflected in Alon’s (2013) opinion piece.

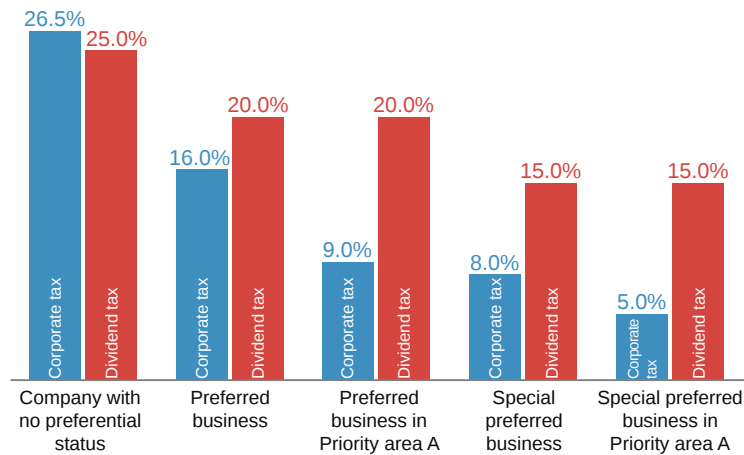
according to the criterion of exporting at least one-quarter of their production, had a 10.5 percentage point reduction in corporate tax and a 5 percentage point reduction in dividend tax (tax assessed on profits distributed among company shareholders) compared to a regular company.¹⁵ Companies of this status located in national priority areas¹⁶ pay corporate tax at a rate of only 9 percent (up from 7 percent in 2013), about one-third that of a regular company. Large companies that are awarded the status of “special preferred business” receive additional significant benefits, as shown in Figure 6, which presents the taxation rates according to the Encouragement of Capital Investments Law. The international comparison conducted by Ben Naim and Gedalia (2013) shows that, unlike in Israel, tax benefits elsewhere around the world are not conditional on the share of exports, but rather on meeting investment and employment goals.¹⁷ Additional concerns are highlighted by the remarks made by the State Comptroller in his last annual report (2013): “[...] the cost of the Law has been rapidly growing in recent years, but there has been no thorough examination of its benefit to the economy.”

¹⁵ These gaps have narrowed from 2013, when the difference in corporate tax was 12.5 percentage points and the difference in dividend tax was 10 percentage points.

¹⁶ Government-defined development zones, mostly in the northern and southern regions of Israel.

¹⁷ Furthermore, it bears mention that Israel is a signatory to the World Trade Organization charter, which prohibits the encouragement of exports. The Encouragement of Capital Investments Law in its present form contravenes the charter.

Figure 6
**Comparison of tax rates in the
 Encouragement of Capital Investments Law**
 dividend and corporate tax rates, by company status, 2014



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Ministry of Finance, Ministry of Economy

Approved enterprises are also entitled to investment participation and accelerated depreciation grants, and the larger ones among them may obtain, through direct negotiation, special grants for billions of shekels. According to the State Revenue Division's report, the cost of the income tax benefit stemming from the Encouragement of Capital Investments Law rose from NIS 2.3 billion in 2003 to about NIS 7.2 billion in 2011, even though during those years the regular corporate tax rate dropped from 36 percent to 24 percent (Ben Naim and Gedalia, 2013). For the sake of comparison, in 2011, a total of NIS 26.7 billion in corporate taxes was collected; the cost of the tax benefit by means of the Encouragement of Capital Investments Law constituted 27 percent of that revenue. It could be argued that the State Revenue Division's calculation overestimates the Law's cost, as it assumes zero flexibility in corporate

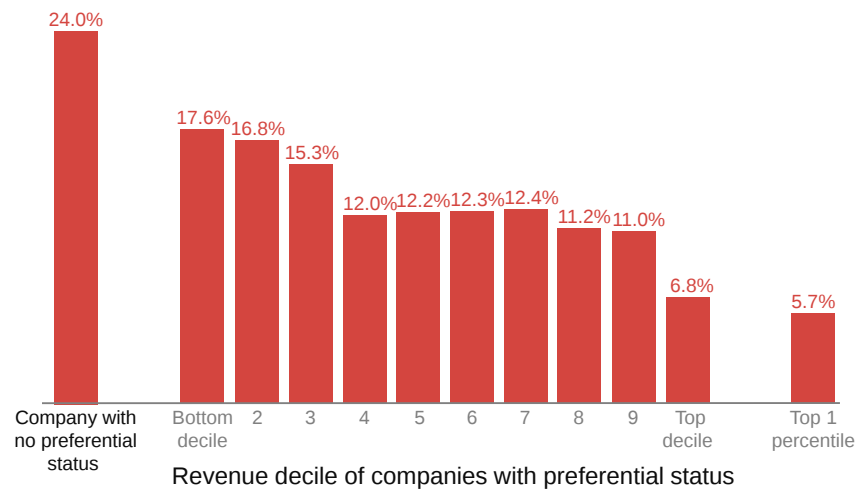
profits, (i.e., that companies' activity and profits remain the same even at different tax rates), whereas it is reasonable to assume that profits would decrease if companies were required to pay the full tax. However, it could also be argued to the contrary that the calculation is in fact an underestimation, since it does not include the cost of the dividend tax and accelerated depreciation benefits and special grants, or the issue of trapped profits,¹⁸ which saved some corporate giants billions of shekels in tax payments in recent years.

Tax exemptions given by the law are extremely biased in favor of larger companies. For example, the one-tenth of companies that had the highest income among the approved enterprises (the top decile) received 92 percent of the benefits, and the four largest companies,¹⁹ which constitute only 0.5 percent of the 829 approved enterprises, received almost 60 percent of the benefits. As shown in Figure 7, not only are the benefits to the corporate giants larger, but there is also an inverse relation between the effective corporate tax rate and company size: among companies with preferential status, the top decile by corporate revenue paid an effective tax rate of 6.8 percent, less than half the rate paid by the bottom decile (17.6 percent).

¹⁸ In the framework of the Encouragement of Capital Investments Law, companies enjoyed an exemption from tax on profits reinvested in Israel. Profits that were neither distributed nor reinvested, (i.e., trapped profits), enjoyed this exemption until such time as they were distributed or reinvested, as the state was interested in encouraging reinvestment in Israel. A 2012 amendment to the Law required companies that had received an exemption from tax on trapped profits to begin to pay tax on these profits. The amendment allowed significant tax benefits on trapped profits, with the aim of encouraging companies to distribute the trapped profits and pay tax on them.

¹⁹ Teva, Intel, ICL, and Checkpoint.

Figure 7
Effective corporate tax rate for companies with preferential status*
 by company income decile, 2011



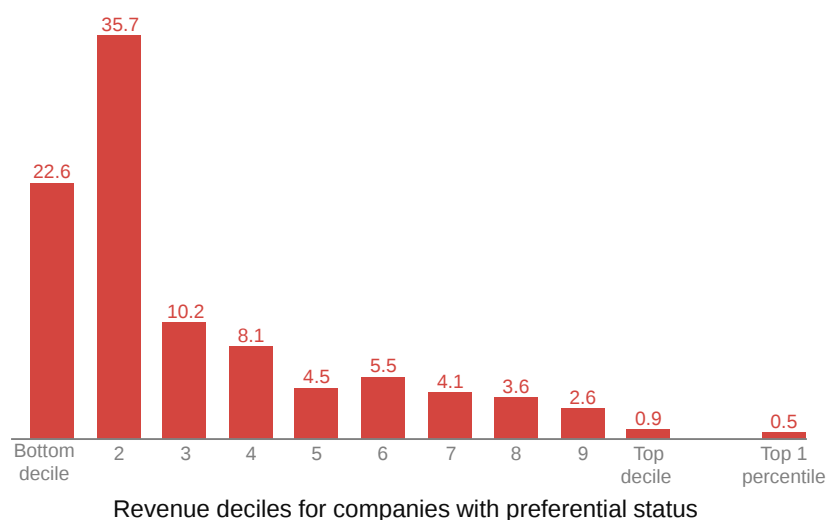
* According to Encouragement of Capital Investments Law

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Ben Naim and Gedalia (2013)

A comparison of the taxes collected from companies that enjoy preferential status (corporate tax and wage taxes) and the cost to the state of the benefits, shows that the large companies are able to exploit their bargaining power vis-à-vis the state and to pay less taxes relative to benefits (Figure 8) to such an extent that, in effect, the tax revenues from the top revenue decile of preferential status companies are lower than the cost of the benefits received by them.

Figure 8
Ratio between tax revenues and benefits
 for companies with preferential status*, by company revenue decile, 2011



* According to Encouragement of Capital Investments Law

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Ben Naim and Gedalia (2013)

Besides the Encouragement of Capital Investments Law, grants and benefits to the extent of NIS 1.5 billion are awarded by the Chief Scientist, which are not relevant to small businesses because they generally are not technology-intensive and do not have the resources to fulfill all the grant requirements. In total, then, each year the State of Israel awards at least NIS 9 billion to big businesses.²⁰ For the sake of comparison, total revenues from corporate income tax came to NIS 26

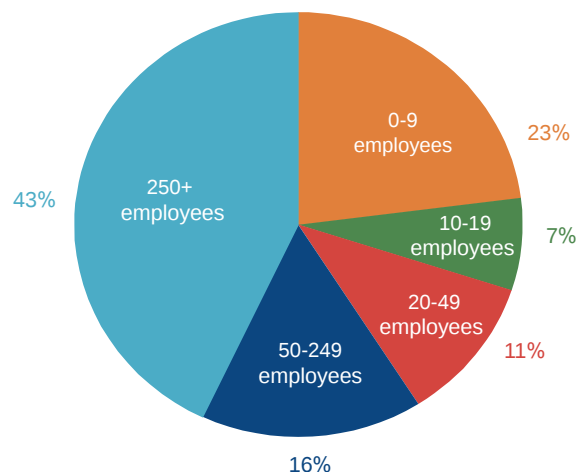
²⁰ The Encouragement of Capital Investment Law awards NIS 7.2 billion in corporate tax reductions, plus dividend tax reductions, investment grants and directly negotiated grants. On top of that, the Chief Scientist awarded NIS 1.5 billion worth of grants. NIS 9 billion is a rough total estimate.

billion in 2012, while those from self-employed income tax came to about NIS 11 billion. There is no doubt that the effective tax rates for large companies are much lower than those set by law, and that reducing the magnitude of grants and benefits to such companies could go a long way toward financing a significant easing of tax rates for small businesses and the self-employed.

It can be asserted, then, that taxation policy in Israel is more severe when it comes to small businesses than to larger ones. Since the discrimination against small businesses clearly provides a justification for the norm of concealing income, and since eliminating it would allow for decreasing the tax burden – which in turn would reduce the incentive to conceal income – it is necessary to examine whether this discrimination is justified from economic considerations of profit and loss to the state. In other words, are small businesses being treated properly by the state, especially considering the fact that they do not have much power to stand up to or bargain with the authorities? As Figure 9 shows, businesses employing up to four workers (defined as “very small businesses”) and those employing 5-19 workers (“small businesses”) together employ about 30 percent of the wage workers in the commercial sector. According to The Small and Medium Businesses Agency in Israel, 99.3 percent of all the businesses in Israel are small and medium-sized businesses that employ up to 100 workers. Fifty-five percent of all employees work in such businesses, which represent about 45 percent of GDP (The Small and Medium Businesses Agency in Israel (2013)²¹).

²¹ It should be noted that data from The Small and Medium Businesses Agency in Israel does not match that of the OECD, according to which in 2009, 15 percent of workers were employed in businesses with 0-9 workers; about 10 percent in businesses with 10-19 workers; about 23 percent in businesses with 20-49 workers; about 15 percent in businesses with 50-249 workers; and about 37 percent in businesses with more than 250 workers (OECD, 2013c).

Figure 9
Distribution of employees in the business sector
by number of company employees, 2008



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel
Data: Ben Naim and Gedalia (2013)

The tax environment for small businesses has a known impact on key economic variables in the entire economy: 1) cost of living – businesses pass on their costs to customers; 2) dynamics of the economy – low taxation encourages the establishment of new businesses and expansion of existing ones; 3) economic stability – small businesses, which are among the largest employers in the economy overall, are the most vulnerable to variations in the business cycle. There is no economic logic behind the discrimination against small businesses when eliminating such discrimination and reducing the tax burden on them would limit the size of the shadow economy and lead to an improvement in reporting norms in the long run, which in turn might contribute to a rise in total state revenues. In 11 of the OECD countries, small businesses enjoy

preferential taxation.²² Such preference should be considered in Israel as well, especially in the context of a transition to an electronic transaction reporting system, as will be detailed.

2. Mandatory Tax Filing

The call for implementing mandatory tax filing in Israel has been raised several times in the past: in the Ben Shachar Committee (1975), in the Sheshinsky Committee (1988), in the report of the State Revenue Division (1997), and in the report of the Ben Bassat Committee (2000).²³ According to the proposal, each year every resident in Israel, whether salaried or self-employed, would be required to declare income from all sources. This move is mainly aimed at reducing the concealment of income in Israel and at reducing the size of the shadow economy. An additional aim is to make it possible to conduct more in-depth income audits, and to thereby ensure that government assistance reaches only those who are truly in need.

However, assuming that mandatory filing will reduce the size of the shadow economy is not a foregone conclusion. After all, those who withhold tax clearly know that they are breaking the law. Furthermore, as discussed previously, the potential for tax evasion is higher among the self-employed and small businesses, which are already required to report income. Why, then, should there be an expectation of improved collection if the reporting obligation is extended to the entire population? As discussed in the report of the Ben Bassat Committee (Chapter 11), mandatory filing would allow the transition to a different taxation model, more like the one employed in the United States. In such a model, the tax paid by a household is determined on the basis of the combined income

²² For details, see Tzadik (2012).

²³ The Ben Bassat Committee recommended applying a general reporting obligation in stages, starting with assessed taxpayers with a high income as well as “high-risk” taxpayers — certain professionals and households whose expenditures and property do not align with their income (Ben Bassat, 2000).

of the two partners, including entitlements to deductions for specific expenses on the basis of tax receipts. Since this approach focuses on household income, it is easier to verify the income data against the consumption and property data as a control for the truthfulness of the reporting. Thus, when one household reports low income but has considerable property, while another household reports that it is renting an apartment from the first household, the first household would be required to explain the discrepancy between its low income, high expenditures, and expensive property. Furthermore, a system of deductions that requires proof of expenditure incentivizes households to demand and keep receipts and to report expenditures, so concealment becomes more difficult. Entitlement to deductions for expenditures such as housing, household upkeep and repair, automobile maintenance, and education and childcare services is expected to greatly diminish the concealment of income in these areas, and to make transactions without a receipt generally less acceptable. Additionally, the taxation procedure in general will become simpler and include income from a variety of sources that are taxed uniformly according to the tax bracket of each household – instead of the current assessment of different tax rates on selected sources of income, which favors some sources over others. Simplifying the taxation system by eliminating the different tax rates may even lower the costs of enforcement.

The recurring proposals to implement mandatory filing have been met by stiff opposition, led by the Tax Authority. One State Revenue Division report asserts: “This step involves not insignificant costs to the tax authorities and the assessed taxpayers, will increase friction between the citizen and the authorities, especially among populations that are not relevant to the tax authorities, and is liable to encounter widespread noncompliance” (State Revenue Division Report, 1997, Chapter 18; from Zussman and Romanov, 1998).

The Tax Authority’s opposition to mandatory filing, joined with fears of its considerable costs, widespread public indignation and an explosive confrontation between the state and certain populations, has made mandatory filing politically unfeasible in the past. Nonetheless, it is a step

that is still being considered. The chapter on the taxation system in the report of the Trajtenberg Committee for Socioeconomic Change refrained from recommending the institution of mandatory filing, emphasizing instead increased enforcement by existing means. On the other hand, the Arbeli Committee for Fighting Black Capital, which was established as a continuation of the work of the Trajtenberg Committee, strongly recommends its implementation. This is a highly important recommendation, considering that the Arbeli Committee is an internal committee of the Tax Authority, which has led the opposition to mandatory filing (Arlosoroff, 2013).

It is, therefore, a good time to examine to what extent, if any, mandatory filing would reduce the size of the shadow economy in Israel. Likewise, the expected costs should be clarified and weighed against the anticipated benefits.

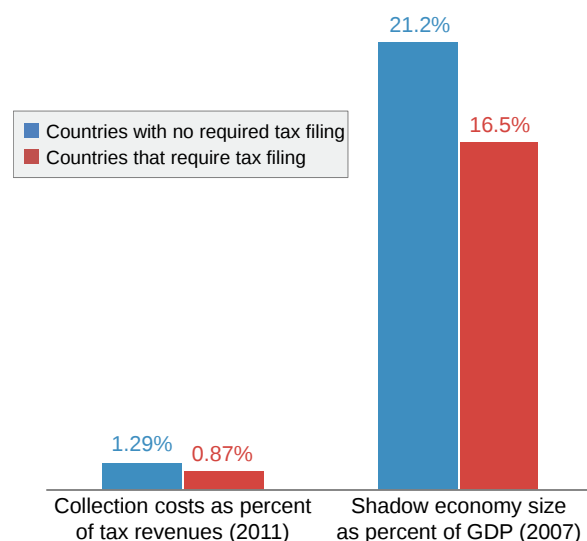
For the sake of comparison, OECD countries are classified into two categories: countries such as Israel that have not implemented mandatory filing for salaried employees, and countries where there is such an obligation.²⁴

The OECD countries that have mandatory filing are: Australia, Austria, Belgium, Canada, Chile, Denmark, Estonia, France, Germany, Great Britain, Iceland, Ireland, Italy, Netherlands, New Zealand, Norway (no data on collection costs), Portugal, Spain, Sweden, Switzerland, and the United States.

The OECD countries that do not have mandatory filing are: the Czech Republic, Finland, Greece (no data on collection costs), Hungary, Israel, Japan, Luxembourg, Mexico, Poland, Slovakia, Slovenia, South Korea, and Turkey.

²⁴ For the purpose of classifying the countries, data were used from several information sources: 1. Effective rates of tax payment channels in the OECD, oecd.org/site/ctpfta/Table-7-4.xlsx; 2. Worldwide-tax.com; 3. Europa.eu; 4. Kpmg.com

Figure 10
**The shadow economy as a share of GDP and
 collection costs as a share of tax revenues**
 according to whether or not tax filing is mandatory,
 average for OECD countries



Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: World Bank, Buehn and Schneider (2012)

Of the 10 OECD countries in which the size of the shadow economy is extremely small, only Japan and Luxembourg do not have mandatory filing. It is hard to compare Luxembourg, a tiny and rich country that is in effect a city-state, with other countries. In Japan, although the shadow economy is small even in the absence of mandatory filing, collection costs are the highest of all the OECD countries that did not belong to the former Communist Bloc. It would seem that the small size of the shadow economy in Japan is achieved by, among other things, exceptionally intensive enforcement.

On average, in the OECD countries that do not have mandatory filing, collection costs amount to 1.29 percent of revenues, that is, on average to collect 1 shekel in taxes, 1.29 agorot must be invested. Slovakia and Poland stand out for their high collection costs. The average estimated size of the shadow economy in countries without mandatory filing is 21.2 percent, slightly higher than the estimate for Israel, and ranges from about 10 percent in Luxembourg and Japan to almost 30 percent in Turkey and Mexico.

In terms of economic development, the countries that do not have mandatory tax reporting are very diverse. The per capita GDP in Turkey and Mexico, about \$17,000²⁵ in 2012, is among the lowest in the OECD, while the per capita GDP in Finland, about \$38,000, is higher than the OECD average, and the per capita GDP in Luxembourg, about \$91,000, is among the highest in the world.

For the sake of comparison, the 21 of 34 (61 percent) OECD countries that have mandatory filing are characterized by a higher than average level of economic development, as well as by a smaller shadow economy (16.5 percent of GDP on average, about 5 percentage points less than in countries that do not have mandatory filing) and lower collection costs (0.87 percent of revenues on average – lower by 0.4 percentage points, or about one-third, than in countries that do not have mandatory filing). The tax authorities in countries with mandatory filing must handle and process many more yearly reports, and therefore the fact that their collection costs are lower is slightly surprising. This may indicate a lack of efficiency on the part of the collection agencies in some of the countries that do not have mandatory reporting.²⁶

In this context, it is important to note that the costs of collection by means of mandatory filing, as presented here, are the costs to state

²⁵ American dollars weighted by purchasing power.

²⁶ In this regard, Blass (2013) argues that the significantly higher number of Tax Authority workers in Israel relative to the entire population as compared to the United States attests to inefficiency. It should be noted that collection costs' share of tax revenues in Israel, 0.68 percent, is in fact relatively low, especially compared to countries that do not have mandatory filing.

institutions only, and do not include the costs to taxpayers in terms of time, effort invested, and payment for tax counseling services. Those costs constitute another reason why it is necessary to simplify and streamline the income tax laws in Israel, and to eliminate the exemptions and reductions currently given, which contribute to distorting the entire collection procedure and making it more expensive.²⁷ However, the data clearly do not support the Tax Authority's claim that the implementation of mandatory filing necessarily entails high costs. It is reasonable, though, to expect that the change in the reporting system will entail exceptional expenditures in the initial period, both for training personnel and outreach and for a "trial period" of strict enforcement, which is necessary for generating sufficient response and habit changes from the public. Nonetheless, as emerges from the data presented in Figure 10, the claim that a transition to mandatory filing would increase collection costs in the long term has no grounding. If mandatory filing would facilitate a reduction in the size of the shadow economy in Israel, then it would seem quite logical to impose such a reporting obligation.

The intelligent use of modern technology can certainly lower the costs of the transition, both to the authorities and to citizens. According to OECD data, one of the prominent developments of the last decade in the tax field has been the creation of computerized systems, which leverage vast information accumulated from a variety of sources on the known incomes of a household for the purpose of creating pre-completed tax reports (OECD, 2013b). The household receives a yearly report, usually electronic, on its income and taxes, and it must correct the report and add any unlisted income, as well as submit receipts against expenditures for tax deductions. The entire reporting procedure is made accessible and can be performed online, simply and quickly. The more information that authorities can collect ahead of time to create pre-completed tax reports, the more blurred becomes the distinction between general reporting and taxing at the source, and accordingly, the lower the reporting burden on

²⁷ In this context, it is not surprising to discover that the Tax Counselors' Bureau in Israel supports the implementation of mandatory filing (Ozeri, 2012).

households. This is especially so for salaried employees, since their entire income is automatically reported to the authorities. In combination with data on property and expenditures, the concentration of information makes it possible for the tax authorities to conduct automatic searches for suspect households, the veracity of whose reports should be inspected. There is no doubt that the State of Israel's technological capabilities allow the automation of the tax system so that oversight will increase, whether by means of a broader reporting obligation and enhanced deterrence or by means of computerized searches for tax evaders, without significantly increasing the costs of the process either to the authorities or to the taxpayers.

A proposal currently under discussion in the Knesset, would make tax evasion a criminal offense under the Prohibition on Money Laundering Law. This initiative may provide the Tax Authority with a variety of tools against tax evaders, such as the power to prevent individuals from exiting Israel and the impoundment of vehicles. More importantly, it would allow the Tax Authority (Ministry of Finance) and the Money Laundering and Terror Financing Prohibition Authority (Ministry of Justice) to pool their information, thus providing a more robust infrastructure for identifying tax offenders. The concentration of information on household income and expenditures is vital, then, to an efficient monitoring system and reducing tax evasion.

3. Electronic Money, Reduced Use of Cash and Automatic Transaction Reporting

In May 2013, Visa Europe issued a report promoting the company's electronic payment system as a means of reducing the use of cash, with the aim of decreasing the size of the shadow economy in Europe (Visa Europe et al., 2013). Following this initiative, such a step was also discussed in Israel (Kaneh, 2013).

Cash transactions leave no trace, and are therefore most difficult to discover and tax. The relative extent of the use of cash is considered a

leading indicator for shadow economy activity. In countries characterized by a large shadow economy, the amount of cash in circulation relative to the total amount of cash and liquid deposits is higher, and vice versa – the lower the rate of income concealment, and the better the infrastructure for electronic payments, the less cash is used.

Cash, therefore, fulfills a dual role: on the one hand, it facilitates the creation of a shadow economy in that it allows transactions to be concealed from the authorities; while on the other hand, it serves as an indicator for the existence of the phenomenon. The more convenient and accepted electronic payments become, the more efficiently the authorities are able to monitor large movements of cash, thus limiting unreported transactions. It is clear, however, that as long as non-reporting remains the norm and cash transactions remain common and profitable as a simple way of concealing income, electronic payments will not replace the use of cash sufficiently enough to impact the shadow economy. It seems that the power of prohibiting large cash transactions in order to deter those who, from the outset, intend to break the law and conceal income is extremely limited. Any radical measure to significantly reduce the supply of cash would harm all who use it, for legal purposes or otherwise, and might cause economic damage and spark a public outcry. Ultimately, the outcome may be the use of cash in the form of foreign currencies as a substitute for the local currency. In Sweden, the country closest to the ideal of a “cashless society,” the transition to electronic methods of payment was entirely voluntary, with no coercion.

The concern is that the regulator, the Israeli government, will be too hasty to use the stick – punitive actions against the possession of cash, which could cause more harm than good – instead of focusing on the carrot – improving the electronic money infrastructure in Israel and rewarding individuals and businesses that choose to use it. The Antitrust Authority and the Bank of Israel have taken action recently against the credit card clearance monopoly and the arbitrary commissions, totaling about NIS 3 billion a year, charged to businesses for the use of credit instead of debit (Izasco and Koren, 2013). However, much more can be done to encourage electronic payment. Given that the relative cost of

reporting income is higher for small businesses, the electronic reporting of their transactions to the tax authorities should be made more accessible through the computerized taxation of their income and deductions. This would greatly relieve them of the bureaucratic burden of reporting, in terms of both time and accounting expenses. Such systems, which were designed in consultation between the tax authorities and the taxpayers, are already being implemented in the Netherlands and Denmark. An OECD (2013b) report describes the Danish project as follows:

“The central idea is the automatic flow of information on transactions between the business, its bank, the accounting system, and the collection agency. Thus, small business owners will no longer have to understand (and concern themselves with) complex tax regulations. Instead, they will be able to focus on their expertise, while the collection agency will have better certainty regarding the quality of their reports.”

As previously stated, the high tax rate on small businesses as compared with that on large companies creates an ostensible justification for the concealment of taxable income, and there is no reason to believe that the differential taxes are economically efficient. Furthermore, it can be reasonably expected that automatic taxation of small businesses will also save substantial costs for the Tax Authority, and provides justification for considering a significant tax discount on the income of small businesses who use automatically reported transactions. With regard to the implementation of mandatory filing, electronic receipts from such an system could entitle households to receive automatic tax deductions computed by pre-completed tax reports. This benefit could incentivize both small businesses and households to prefer electronic payments over cash transactions, thus reducing the extent of such transactions and making progress towards changing the norm.

4. Summary and Conclusions

The moral objective of shrinking the shadow economy is to distribute the tax burden more fairly, and the utilitarian objective is to simultaneously increase public spending, lower taxes, and reduce the national debt. The conditions for achieving these objectives are simple: eradicate the factors that incentivize taxpayers to conceal taxable income, enhance deterrence against the concealment of income, and change the social norms that regard the phenomenon with understanding and forgiveness.

Contending with the factors that incentivize taxpayers to conceal income demands a lowering of the tax rates for small businesses on the one hand, and a streamlining of the reporting process and a view of the taxpayer as a client on the other hand. When someone earning NIS 14,000 a month faces a marginal tax rate of almost 60 percent (including VAT), and is also forced to spend 20 hours a month dealing with the bureaucracy that surrounds the reporting, the temptation to conceal income is considerable. The tax authorities in the advanced countries establish clear goals for improving service quality and taxpayer satisfaction, and publish their performance on a yearly basis. These authorities conduct an ongoing dialogue with the tax-paying public, in particular with the owners of small businesses. This communication allows for organizational and technological improvements that streamline the reporting and collection process and contribute to the user experience.

Alongside easing the bureaucratic burden for truthful reporters, enhanced deterrence demands efficient and firm enforcement against evaders, far beyond what currently exists. It is necessary to root out the impression, which is largely justified today, that the chances of getting caught for tax evasion are low and that, even if concealment is discovered, the treatment of the offense will be forgiving. The high cost of the criminal procedure in terms of time and money has led to a decline in its use and the rise of several administrative alternatives, which themselves are hardly utilized (Or, 2013). It seems, however, that the short-run savings to the state in the costs of enforcement and punitive measures have led to a long-run loss, due to the debasement of reporting

norms. Serious crime demands scrupulous enforcement, and the performance of the advanced countries' tax authorities attests to the fact that there is no substitute for the deterrence that such enforcement produces. To that end, transparency regarding the scope of the Tax Authority's activity is required, as are clear punitive goals, immediate fines for any unauthorized delay in filing tax reports, as well as yearly monetary goals regarding the discovery of withheld taxes – as is customary in counterpart systems such as the American IRS or British HMRC. It is likewise necessary to reduce the bottlenecks in the judicial system by strengthening the taxation and economic departments in the State Attorney's Office, and by establishing a court for tax affairs with expert judges. There is great potential for leveraging information technology both to provide relief to taxpayers and to aid enforcement efforts. Such technology would allow merging and cross-referencing data from a variety of sources, so that a large number of files can be swiftly audited for suspicious patterns. These data can also be used to create pre-completed tax reports, which would greatly streamline the reporting process for households and facilitate the transition to mandatory filing with minimal burden. An electronic payment system that interfaces with the Tax Authority's computers would allow both the automatic taxation of businesses (saving costs for both the Tax Authority and the businesses), as well as automatic deductions to households for recognized expenses. The advantages of using electronic payments will induce both businesses and households to substitute them more and more for the use of cash.

In addition to easing the tax process and intensifying enforcement, changing public norms requires a public perception of tax collection as fair and expenditures as efficient. In Israel, it is commonly believed that taxes are invested in an inefficient and inequitable manner, so that powerful groups in and out of the public sector benefit more. The question regarding the efficiency of expenditures is beyond the scope of this work, but an important step in this area would be for all public entities to set measurable goals for improvement in efficiency and service to the public.

With regard to the fairness of tax collection, the public has a (justified) perception of inequality in the tax system, whereby the strong use their power to obtain tax relief, whether through tax planning or through the Encouragement of Capital Investments Law, the Office of the Chief Scientist, or direct bargaining with the government. To change the situation, it is necessary to promote transparency in the tax system, simplify the system and make it more accessible to taxpayers, fight aggressive tax planning, and implement a more reasonable distribution of the tax burden between small and large businesses. Small businesses have no real lobby nor do they have bargaining power, but they are very important to employment, competition and the growth of the economy. The Encouragement of Capital Investments Law needs to be amended to encourage investment and employment in both small and large businesses, as is customary in many countries. The preferential taxation of small businesses could be limited to income reported through the electronic payment system as described in this chapter, thus encouraging businesses to participate.

The size of the shadow economy in Israel reflects problematic norms among the tax-paying public, but also significant failures of the taxation system and regulation. Improving the functioning of the Tax Authority, leveraging information technology, easing the tax burden of small businesses, and transitioning to mandatory filing are necessary and possible steps that can dramatically diminish the phenomenon of tax evasion in Israel and increase available public resources.

Appendix

Appendix Table 1. **Tax rates for self-employed in Israel*, 2014**

Tax brackets (NIS)	Marginal income tax (%)	National Insurance (%)	Total marginal tax (%)	Actual tax (NIS)	Average tax rate (%)
5,280	10	9.8	19.8	556	10.5
9,010	14	16.2	30.2	1,684	18.7
14,000	21	16.2	37.2	3,541	25.3
20,000	31	16.2	47.2	6,375	31.9
41,830	34	16.2	50.2	17,340	41.5
67,630	48	0.0	48.0	29,724	44.0
More than 67,630	50	0.0	50.0	–	–

* 2.25 deduction points at a value of NIS 218 per point. Note the lack of correspondence between the income tax rates and the National Insurance rates (a reduced rate up to NIS 5,297 and collection ceiling at NIS 42,435).

Source: Noam Gruber, Taub Center for Social Policy Studies in Israel

Data: Israel Tax Authority

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Social Expenditure Tables

Sagit Azary-Viesel and Yulia Cogan

The Taub Center Appendix tables
as complete and continuous time series
are available as Excel files
on the Center website:
www.taubcenter.org.il*

** All tables show final budget figures except for 2014*

Table 1. **Social services expenditures**
total expenditure and expenditure in current budget, 1980-2014

	As percent of government expenditure		As percent of GDP
	Total	excl. debt repayment	
1. Total budget: current and development			
1980	23.9	31.7	17.8
1985	18.2	32.1	15.5
1989	26.1	42.0	16.4
1996	36.8	53.2	19.9
2000	38.4	54.9	18.1
2005	35.3	51.6	16.4
2006	34.3	50.6	15.1
2007	34.3	50.8	14.6
2008	34.8	51.4	14.5
2009	35.9	51.7	14.8
2010	36.1	53.1	14.9
2011	35.9	53.4	14.7
2012	35.9	53.7	14.9
2013	37.2	54.1	15.1
2014	36.7	53.5	14.7
2. Current budget			
1980	26.4	30.4	15.1
1985	24.6	32.3	14.4
1989	34.0	42.8	15.6
1996	43.4	51.3	16.9
2000	45.9	54.2	16.4
2005	43.9	52.1	15.4
2006	43.3	51.3	14.4
2007	43.7	51.4	13.9
2008	45.1	52.5	13.9
2009	46.0	53.2	14.3
2010	47.6	54.9	14.4
2011	48.1	55.5	14.3
2012	48.5	55.8	14.4
2013	49.0	55.9	14.6
2014	49.1	56.4	14.2

Table 2. **Government expenditures, by use**

	Total expenditure	Of this: Debt repayment	Total excluding debt repayment			
			Total	Social services	Defense	Other
1. Total budget (current and development, in percent)						
1980	100.0	24.5	100.0	31.7	39.5	28.8
1985	100.0	43.4	100.0	32.1	40.2	27.7
1989	100.0	37.8	100.0	42.0	33.1	24.9
1996	100.0	30.8	100.0	53.2	24.5	22.3
2000	100.0	30.0	100.0	54.9	24.0	21.1
2005	100.0	31.6	100.0	51.6	25.3	23.1
2006	100.0	32.1	100.0	50.6	25.7	23.7
2007	100.0	32.5	100.0	50.8	25.8	23.4
2008	100.0	32.3	100.0	51.4	24.8	23.8
2009	100.0	30.6	100.0	51.7	23.8	24.4
2010	100.0	32.0	100.0	53.1	23.3	23.6
2011	100.0	32.8	100.0	53.4	22.5	24.1
2012	100.0	33.2	100.0	53.7	22.0	24.3
2013	100.0	31.2	100.0	54.1	21.3	24.6
2014	100.0	31.3	100.0	53.5	19.0	27.6
2. Current budget (in percent)						
1980	100.0	13.3	100.0	30.4	44.5	25.0
1985	100.0	24.1	100.0	32.3	43.6	24.1
1989	100.0	20.6	100.0	42.8	35.4	21.8
1996	100.0	15.5	100.0	51.3	27.6	21.0
2000	100.0	15.4	100.0	54.2	26.1	19.7
2005	100.0	15.8	100.0	52.1	27.2	20.7
2006	100.0	15.7	100.0	51.3	27.4	21.3
2007	100.0	15.0	100.0	51.4	27.5	21.1
2008	100.0	14.1	100.0	52.5	26.4	21.1
2009	100.0	13.5	100.0	53.2	25.4	21.4
2010	100.0	13.3	100.0	54.9	24.8	20.3
2011	100.0	13.2	100.0	55.5	24.0	20.5
2012	100.0	13.0	100.0	55.8	23.6	20.7
2013	100.0	12.3	100.0	55.9	22.8	21.3
2014	100.0	13.0	100.0	56.4	20.7	22.9

Table 3. **Social services expenditures**

	Total	Income security	Direct services			
			Total	Education	Health	Other*
1. Total budget (current and development, in percent)						
1980	100.0	30.7	69.3	30.9	21.1	17.3
1985	100.0	41.0	59.0	28.6	19.9	10.5
1989	100.0	42.4	57.6	28.4	19.0	10.1
1996	100.0	33.4	66.6	30.3	17.4	18.8
2000	100.0	39.3	60.7	30.4	15.0	15.3
2005	100.0	39.5	60.5	30.4	17.2	12.9
2006	100.0	40.2	59.8	30.4	17.4	12.0
2007	100.0	39.8	60.2	31.7	16.2	12.4
2008	100.0	40.3	59.7	31.3	16.7	11.7
2009	100.0	41.1	58.9	31.3	16.6	11.0
2010	100.0	41.0	59.0	31.9	17.0	10.1
2011	100.0	41.2	58.8	32.3	16.5	10.0
2012	100.0	40.2	59.8	32.8	16.5	10.5
2013	100.0	38.6	61.4	32.7	17.7	11.0
2014	100.0	38.0	62.0	33.1	17.5	11.4
2. Current budget (in percent)						
1980	100.0	36.0	64.0	34.5	23.7	5.8
1985	100.0	44.2	55.8	30.2	20.9	4.8
1989	100.0	44.5	55.5	29.3	19.7	6.6
1996	100.0	39.1	60.9	33.9	19.3	7.7
2000	100.0	43.3	56.7	32.3	16.1	8.3
2005	100.0	42.0	58.0	31.7	18.1	8.2
2006	100.0	42.2	57.8	31.3	18.0	8.5
2007	100.0	41.8	58.2	32.7	16.8	8.6
2008	100.0	42.1	57.9	32.0	17.2	8.7
2009	100.0	42.7	57.3	31.8	16.9	8.6
2010	100.0	42.2	57.8	32.0	17.1	8.6
2011	100.0	42.3	57.7	32.4	16.6	8.6
2012	100.0	41.5	58.5	32.9	16.8	8.8
2013	100.0	39.9	60.1	33.1	18.0	9.1
2014	100.0	39.3	60.7	33.4	17.8	9.5

* Primarily personal social services, absorption, and housing

Table 4. **Social services expenditures, by main components***
(continued on next page)

	Total	Income security	In-kind services					Absorption	Housing
			Total	Education	Health	Welfare	Labor		
1. Total budget: current and development (in million shekels, 2013 prices)									
1980	55,905	13,279	42,626	20,284	13,893	2,393	340	382	5,333
1985	56,320	17,317	39,003	19,538	13,544	2,094	327	430	3,070
1989	65,365	23,257	42,108	21,097	14,144	2,917	477	916	2,556
1996	116,888	36,059	80,829	36,506	20,987	4,424	611	2,468	15,833
2000	127,666	47,788	79,877	39,545	19,468	5,916	774	2,739	11,435
2005	122,425	47,303	75,122	37,729	21,294	6,797	947	1,538	6,817
2006	122,940	48,812	74,128	37,731	21,563	6,979	1,173	1,640	5,043
2007	126,602	49,752	76,850	40,551	20,672	7,574	1,269	1,446	5,339
2008	127,858	50,850	77,008	40,452	21,648	7,847	1,330	1,449	4,281
2009	135,374	54,274	81,100	43,152	22,877	8,402	1,364	1,421	3,884
2010	140,603	56,518	84,085	45,503	24,233	8,913	1,339	1,432	2,665
2011	143,432	57,985	85,447	46,948	23,990	9,121	1,412	1,433	2,543
2012	151,114	60,479	90,635	49,694	25,069	9,715	1,598	1,419	3,139
2013	157,717	61,221	96,497	51,913	27,053	10,432	2,106	1,397	3,595
2014	158,544	60,454	98,091	52,307	27,665	10,745	2,416	1,377	3,582
Average annual percent change									
1980-1985	0.1	5.5	-1.8	-0.8	-0.5	-2.6	-0.8	2.4	-10.5
1985-1989	3.8	7.7	1.9	1.9	1.1	8.6	9.9	20.8	-4.5
1989-1996	8.7	6.5	9.8	8.2	5.8	6.1	3.6	15.2	29.8
1996-2000	2.2	7.3	-0.3	2.0	-1.9	7.5	6.1	2.6	-7.8
2000-2005	-0.8	-0.2	-1.2	-0.9	1.8	2.8	4.1	-10.9	-9.8
2005-2010	2.8	3.6	2.3	3.8	2.6	5.6	7.2	-1.4	-17.1
2010-2014	3.0	1.7	3.9	3.5	3.4	4.8	15.9	-1.0	7.7

* Income security expenditure is deflated by the Consumer Price Index. All other expenditures in the Current Budget are deflated by the Public Civilian Consumer Price Index; the Development Budget expenditures are deflated by the Construction Price Index.

Table 4. (continued from previous page) **Social services expenditures, by main components**

	Total	Income security	Direct services						
			Total	Education	Health	Welfare	Labor	Absorption	Housing
2. Current budget only (in million shekels, 2013 prices)									
1980	49,790	13,279	36,511	19,681	13,517	2,354	340	382	237
1985	52,868	17,317	35,551	19,224	13,299	2,065	327	430	206
1989	62,702	23,257	39,444	20,811	13,971	2,893	477	916	376
1996	98,453	36,059	62,394	34,760	19,763	4,367	611	2,468	425
2000	114,353	47,788	66,565	37,967	18,870	5,868	774	2,739	347
2005	114,863	47,303	67,560	36,971	21,069	6,776	947	1,538	260
2006	117,156	48,812	68,344	37,053	21,261	6,964	1,173	1,640	254
2007	120,530	49,752	70,779	39,831	20,428	8,573	1,270	1,447	243
2008	122,759	50,850	71,909	39,720	21,352	7,830	1,330	1,449	227
2009	130,448	54,274	76,174	42,291	22,482	8,377	1,364	1,421	238
2010	136,364	56,518	79,846	44,273	23,683	8,875	1,339	1,432	244
2011	139,427	57,985	81,442	45,780	23,473	9,100	1,412	1,433	244
2012	146,468	60,479	85,988	48,349	24,708	9,679	1,598	1,419	237
2013	153,482	61,221	92,261	50,756	27,595	10,213	2,106	1,397	194
2014	153,354	60,454	92,900	51,150	27,251	10,526	2,416	1,377	181
Average annual change (percent)									
1980-1985	1.2	5.5	-0.5	-0.5	-0.3	-2.6	-0.8	2.4	-2.7
1985-1989	4.4	7.7	2.6	2.0	1.2	8.8	9.9	20.8	16.2
1989-1996	6.7	6.5	6.8	7.6	5.1	6.1	3.6	15.2	1.8
1996-2000	3.8	7.3	1.6	2.2	-1.1	7.7	6.1	2.6	-4.9
2000-2005	0.1	-0.2	0.3	-0.5	2.2	2.9	4.1	-10.9	-5.6
2005-2010	3.5	3.6	3.4	3.7	2.4	5.5	7.2	-1.4	-1.3
2010-2014	3.0	1.7	3.9	3.7	3.6	4.4	15.9	-1.0	-7.2

Table 5. **Social services expenditures per capita, by main components*** (continued on next page)

	Income security		Direct services						
	Total		Total	Education	Health	Welfare	Labor	Absorption	Housing
1. Total budget: current and development (in shekels, 2013 prices)									
1980	14,417	3,424	10,993	5,231	3,583	617	88	99	1,375
1985	13,305	4,091	9,214	4,616	3,200	495	77	102	725
1989	14,467	5,147	9,320	4,669	3,131	646	106	203	566
1996	20,560	6,343	14,218	6,421	3,692	778	107	434	2,785
2000	20,299	7,599	12,701	6,288	3,096	941	123	436	1,818
2005	17,666	6,826	10,840	5,444	3,073	981	137	222	984
2006	17,429	6,920	10,509	5,349	3,057	989	166	233	715
2007	17,632	6,929	10,703	5,648	2,879	1,055	177	201	744
2008	17,494	6,957	10,536	5,535	2,962	1,074	183	198	586
2009	18,085	7,250	10,834	5,765	3,056	1,122	182	190	519
2010	18,443	7,414	11,030	5,969	3,179	1,169	176	188	350
2011	18,470	7,467	11,003	6,045	3,089	1,174	182	184	328
2012	19,103	7,645	11,457	6,282	3,169	1,228	202	179	397
2013	19,506	7,526	11,980	6,382	3,443	1,283	259	174	442
2014	19,281	7,352	11,929	6,361	3,364	1,307	294	167	436
Average annual change (percent)									
1980-1985	-1.6	3.6	-3.5	-2.5	-2.2	-4.3	-2.5	0.6	-12.0
1985-1989	2.1	5.9	0.3	0.3	-0.5	6.9	8.1	18.9	-6.0
1989-1996	5.1	3.0	6.2	4.7	2.4	2.7	0.2	11.5	25.6
1996-2000	-0.3	4.6	-2.8	-0.5	-4.3	4.8	3.4	0.1	-10.1
2000-2005	-2.7	-2.1	-3.1	-2.8	-0.2	0.8	2.1	-12.6	-11.6
2005-2010	0.9	1.7	0.3	1.9	0.7	3.6	5.2	-3.3	-18.7
2010-2014	1.1	-0.2	2.0	1.6	1.4	2.8	13.7	-2.8	5.7

* Income maintenance expenditure is deflated by the Consumer Price Index. All other expenditures in the Current Budget are deflated by the Public Civilian Consumer Price Index; the Development Budget expenditures are deflated by the Construction Price Index.

Table 5. (continued from previous page) **Social services expenditures per capita, by main components***

	Total	Income security	Direct services						
			Total	Education	Health	Welfare	Labor	Absorption	Housing
2. Current budget only (in shekels, 2013 prices)									
1980	12,840	3,424	9,416	5,075	3,486	607	88	99	61
1985	12,489	4,091	8,398	4,541	3,142	488	77	102	49
1989	13,878	5,147	8,730	4,606	3,092	640	10	203	83
1996	17,318	6,343	10,975	6,114	3,467	668	107	434	75
2000	18,182	7,599	10,584	6,037	3,000	933	123	436	55
2005	16,575	6,826	9,749	5,335	3,040	978	137	222	38
2006	16,609	6,920	9,689	5,253	3,014	987	166	233	36
2007	16,787	6,929	9,858	5,547	2,845	1,053	177	201	34
2008	16,796	6,957	9,839	5,435	2,921	1,071	182	198	31
2009	17,427	7,250	10,176	5,650	3,003	1,119	182	190	32
2010	17,887	7,414	10,474	5,807	3,107	1,164	176	188	32
2011	17,954	7,467	10,487	5,895	3,023	1,176	182	184	31
2012	18,516	7,645	10,870	6,112	3,123	1,224	202	179	30
2013	18,868	7,526	11,342	6,240	3,392	1,256	259	172	24
2014	18,650	7,352	11,298	6,221	3,314	1,280	294	1671	22
Average annual change (percent)									
1980-1985	-0.6	3.6	-2.3	-2.2	-2.1	-4.3	-2.5	0.6	-4.4
1985-1989	2.7	5.9	1.0	0.4	-0.4	7.0	8.1	18.9	14.4
1989-1996	3.2	3.0	3.3	4.1	1.7	2.6	0.2	11.5	-1.5
1996-2000	1.2	4.6	-0.9	-0.3	-3.6	5.0	3.4	0.1	-7.3
2000-2005	-1.8	-2.1	-1.6	-2.4	0.3	0.9	2.1	-12.6	-7.4
2005-2010	1.5	1.7	1.4	1.7	0.4	3.6	5.2	-3.3	-3.1
2010-2014	1.0	-0.2	1.9	1.7	1.6	2.4	13.7	-2.8	-8.9

Table 6. **Income security expenditure, by main components***

	Total	Old-age and survivors	Child allowances	General disability	Unem- ployment	Income support	Other NII	Nazi victims
In million shekels, 2013 prices								
1980	13,279	5,968	4,010	1,460	241	0	1,179	421
1985	17,317	7,983	4,478	2,261	452	578	1,230	336
1989	23,257	10,140	5,358	2,703	1,734	707	2,081	534
1996	36,059	14,270	8,000	4,326	2,497	2,124	3,704	1,137
2000	47,788	17,857	9,194	6,570	3,918	3,807	4,913	1,528
2005	47,303	19,833	5,470	9,144	2,431	3,368	5,544	1,513
2006	48,812	20,509	5,941	9,679	2,338	3,134	5,656	1,554
2007	49,752	20,696	5,909	10,419	2,089	2,875	6,075	1,688
2008	50,850	20,939	5,807	10,602	2,091	2,718	6,556	2,137
2009	54,274	21,942	6,136	10,983	3,330	2,731	6,853	2,300
2010	56,518	23,350	6,645	11,555	2,715	2,707	7,131	2,416
2011	57,985	24,089	7,136	11,689	2,587	2,562	7,342	2,581
2012	60,479	25,011	7,375	12,352	2,890	2,538	7,778	2,535
2013	61,221	25,722	6,390	12,691	3,176	2,583	8,138	2,521
2014	60,454	26,557	4,697	13,309	3,357	1,712	8,543	2,279
Average annual percent changes								
1980-1985	5.5	6.0	2.2	9.1	13.3	—	0.9	-4.4
1985-1989	7.7	6.2	4.6	4.6	40.0	5.2	14.0	12.3
1989-1996	6.5	5.0	5.9	7.0	5.3	17.0	8.6	11.4
1996-2000	7.3	5.8	3.5	11.0	11.9	15.7	7.3	7.7
2000-2005	-0.2	2.1	-9.9	6.8	-9.1	-2.4	2.4	-0.2
2005-2010	3.6	3.3	4.0	4.8	2.2	-4.3	5.2	9.8
2010-2014	1.7	3.3	-8.3	3.6	5.5	-10.8	4.6	-1.5

* Deflated by the Consumer Price Index

Table 7. **Income security expenditures, by main components (percent)**

	Total	Old-age and survivors	Child allowances	General disability	Unem- ployment	Income support	Other NII	Nazi victims
1980	100.0	44.9	30.2	11.0	1.8	0.0	8.9	3.2
1985	100.0	46.1	25.9	13.1	2.6	3.3	7.1	1.9
1989	100.0	43.6	23.0	11.6	7.5	3.0	8.9	2.3
1996	100.0	39.6	22.2	12.0	6.9	5.9	10.3	3.2
2000	100.0	37.4	19.2	13.7	8.2	8.0	10.3	3.2
2005	100.0	41.9	11.6	19.3	5.1	7.1	11.7	3.2
2006	100.0	42.0	12.2	19.8	4.8	6.4	11.6	3.2
2007	100.0	41.6	11.9	20.9	4.2	5.8	12.2	3.4
2008	100.0	41.2	11.4	20.8	4.1	5.3	12.9	4.2
2009	100.0	40.4	11.3	20.2	6.1	5.0	12.6	4.2
2010	100.0	41.3	11.8	20.4	4.8	4.8	12.6	4.3
2011	100.0	41.5	12.3	20.2	4.5	4.4	12.7	4.5
2012	100.0	41.4	12.2	20.4	4.8	4.2	12.9	4.2
2013	100.0	42.9	10.4	20.7	5.2	4.2	13.3	4.1
2014	100.0	43.9	7.8	22.0	5.6	2.8	14.1	3.8

Table 8. **Education expenditures in current budget, by main components***

	Total	General	Pre-schools	Primary education	Secondary education	**Post-secondary education	Tertiary education	Vocational training	Yeshivas
In million shekels, 2013 prices									
1980	19,681	2,056	673	5,598	4,929	901	4,412	679	344
1985	19,224	1,812	911	4,919	5,258	971	3,970	651	733
1989	20,811	1,573	1,051	5,478	6,112	1,185	3,774	642	996
1996	34,760	2,481	1,929	9,270	10,256	2,077	6,230	1,000	1,517
2000	37,967	2,689	2,350	10,080	11,053	2,275	6,986	982	1,553
2005	36,971	2,654	2,732	10,869	10,656	1,911	6,652	708	769
2006	37,053	2,457	2,873	11,216	10,402	2,043	6,586	632	843
2007	39,831	2,501	2,897	12,658	10,614	2,165	7,228	616	1,151
2008	39,720	2,354	3,124	12,900	10,919	2,174	6,575	546	1,128
2009	42,291	2,513	3,354	13,146	11,133	2,231	7,889	620	1,404
2010	44,273	3,289	2,948	14,964	11,269	2,050	7,672	698	1,383
2011	45,780	3,307	3,090	15,895	11,788	2,014	7,699	704	1,284
2012	48,349	3,320	3,409	16,341	12,750	2,545	8,000	750	1,233
2013	50,756	3,344	5,270	17,354	13,575	1,275	8,406	671	860
2014	51,150	3,161	5,243	17,974	14,082	1,197	8,069	797	628
Average annual change (percent)									
1980-1985	-0.5	-2.5	3.6	-2.6	1.3	1.5	-2.1	-0.8	16.3
1985-1989	2.0	—	—	—	—	—	-1.3	-0.3	8.0
1989-1996	7.6	6.7	9.1	7.8	7.7	8.3	7.4	6.5	6.2
1996-2000	2.2	2.0	5.1	2.1	1.9	2.3	2.9	-0.5	0.6
2000-2005	-0.5	-0.3	3.1	1.5	-0.7	-3.4	-0.9	-6.3	-13.1
2005-2010	3.7	4.4	1.5	6.6	1.1	1.4	2.8	-0.3	12.5
2010-2014	3.7	-1.0	15.5	4.7	5.7	-12.6	1.3	3.4	-17.9

* Deflated by the Consumer Price Index

** Including teacher training and continuing education

Table 9. **Health expenditures out of current budget, by main components***

	Total	Government participation in health insurance				Direct expenditures				
		Total	Parallel tax	Co-pay-ments	Other transfers	General hospital care**	Psychi-atric care	Long-term care	Public health and other**	Other ****
In million shekels, 2013 prices										
1980	13,517	7,670	5,495	—	2,175	1,533	1,061	578	822	1,852
1985	13,299	9,058	7,233	234	1,590	627	752	536	663	1,664
1989	13,971	10,382	8,965	1,026	390	189	845	694	532	1,280
1996	19,763	14,354	10,148	2,688	1,517	270	1,463	1,028	912	1,737
2000	18,870	12,539	0	11,814	725	223	1,462	1,342	1,425	1,879
2005	21,069	14,076	0	13,058	1,018	209	1,872	1,489	1,270	2,153
2006	21,261	14,243	0	13,421	822	213	1,768	1,552	1,296	2,188
2007	20,427	13,159	0	12,399	760	166	1,859	1,571	1,248	2,424
2008	21,352	13,915	0	12,938	978	85	1,870	1,595	1,349	2,536
2009	22,482	14,182	0	13,358	824	156	1,970	1,688	1,672	2,814
2010	23,683	15,056	0	14,223	833	277	1,982	1,620	1,717	3,031
2011	23,473	15,182	0	14,344	837	593	2,023	1,560	1,087	3,023
2012	24,708	15,825	0	14,838	987	676	2,195	1,624	1,100	3,288
2013	27,595	17,902	0	16,979	923	743	2,347	1,792	1,185	3,625
2014	27,251	17,919	0	16,631	1,288	574	1,786	1,804	1,106	4,062
Average annual change (percent)										
1980-1985	-0.3	3.4	5.7	—	-6.1	-16.4	-6.7	-1.5	-4.2	-2.1
1985-1989	1.2	3.5	5.5	44.6	-29.6	-25.9	3.0	6.7	-3.2	-6.3
1989-1996	5.1	4.7	1.8	14.7	21.4	5.2	8.2	5.8	6.6	4.4
1996-2000	-1.1	-3.3	—	44.8	-16.9	-4.7	0.0	6.9	11.8	2.0
2000-2005	2.2	2.3	—	2.0	7.0	-1.3	5.1	2.1	-2.3	2.9
2005-2010	2.4	1.4	—	1.7	-3.9	5.8	1.2	1.7	6.2	7.1
2010-2014	3.6	4.4	—	4.0	11.5	—	-2.6	2.7	—	

* Deflated by the Consumer Price Index

** Since 2011 this item includes “general administrative expenditures” without inpatient hospitalization

*** Since 2011 this item includes “public health expenditures” only

**** Includes government health expenditures in non-Ministry of Health budgets

Table 10. **Investment expenditures**
as percent of total Education and Health budgets

	Education	Health	Total Education and Health
1980	4.7	4.3	4.5
1985	2.3	2.6	2.4
1989	1.8	1.6	1.7
1996	4.6	5.6	4.9
2000	3.6	2.8	3.4
2005	2.0	1.0	1.6
2006	1.8	1.4	1.7
2007	1.9	1.2	1.6
2008	1.9	1.4	1.7
2009	2.0	1.8	2.0
2010	2.7	2.3	2.6
2011	2.5	2.4	2.4
2012	2.7	1.5	2.3
2013	2.2	1.5	2.0
2014	2.2	1.5	1.9

Definitions and Sources

Definitions

Government social services expenditures include all expenditures on education, health, income maintenance, welfare (personal social services), housing, employment, and immigrant integration by government ministries and agencies and by the National Insurance Institute. The analysis in this book includes the current budget (current expenditures) and the development budget (investments). Government expenditures are treated in net terms, i.e., total expenditures less earmarked revenues from outside agencies (such as co-payments from recipients of services).

The focus is on total government expenditures on in-kind services provided by the government (public consumption) and on subsidies and transfers such as National Insurance allowances, government support of non-governmental health institutions and support of non-governmental schools. Thus, the data reflect the activity of the government as a funding agent for the various social services, irrespective of the agency that delivers them.

The expenditures pertain to fiscal years that correspond to calendar years (January-December).¹ Data are shown in constant 2013 prices. The absolute figures were deflated by either the Consumer Price Index or by an implicit price index for Civilian Public Consumption. Investment expenditure, implemented through the development budget was deflated by the Construction Inputs Price Index.

¹ Until 1990, the fiscal year began on April 1 and ended at the end of the following March. For the transition period – fiscal 1991 – a nine-month budget (April-December) was approved. To facilitate comparison with data from previous years, the 1991 budget expenditures were “translated” into full-year terms by linear extrapolation.

Classification of Social Expenditures

Social service expenditures were functionally classified by main fields (education, health, etc.) irrespective of the agency that delivers the service. This classification is different from that used conventionally in the government budget and in the annual reports of the Accountant General, which categorize expenditures by administrative units (e.g., ministries and departments). Below is a detailed list of items included in each field.

Education. Education expenditures include Ministry of Education outlays for school systems (pre-primary, primary, secondary, post-secondary), general expenses for the education system, government participation in higher education budgets, and government expenditures for vocational training (Ministry of Economy formerly Ministry of Industry, Trade and Labor). Transfers to secondary schools from education levy receipts were also included until this was abolished in 1987.

Health. Health expenditures include Ministry of Health outlays for health services (general inpatient, long-term, and psychiatric care; vocational training; public health services; government participation in the funding of National Health Insurance; and transfer payments to public medical institutions), including Defense Ministry participation in the Health Ministry budget. The National Insurance Institute health expenditures (inpatient maternity care, medical care for work accidents, health outlays under the Long-Term Care Insurance Law, and transfers to the health funds from Parallel Tax receipts until this tax was abolished in 1997) are also included, as are the health expenditures of the Unit for Care of Victims of Nazi Persecution. To facilitate comparison with previous years' data, the health tax that citizens pay through the State Health Insurance Law is treated as a substitute for the sick fund dues that households remitted directly to the sick funds in earlier years and thus not considered here government expenditure. In 2011 there was a structural change to the budget of the Ministry of Health. The change is expressed in two appendixes of direct expenditures – the general inpatient line no

longer includes inpatient hospitalization expenditures rather spending on general administration and the public health service outlays no longer includes additional outlays.

The Social Security System. Social Security System expenditures include all transfers from the National Insurance Institute (with the exception of reserve duty compensation and expenditures explicitly included in other social service fields) and benefits for victims of Nazi persecution.

Other social services. These include government outlays for personal social services (expenditures by the Ministry of Social Affairs and Social Services for the care of children, the elderly, the disabled, and the mentally disabled; community work; and, most expenditures by the National Insurance Institute on account of the Long-Term Care Insurance Law); housing (expenditures by the Ministry of Construction and Housing); employment (expenditures by the Ministry of Economy for labor relations, personnel planning and referral, occupational safety, and employment grant programs); and immigrant integration (expenditures by the Ministry of Immigrant Absorption).

Sources

The data on government expenditures for social services are based on the government's financial statements, prepared by the Accountant General of the Finance Ministry (the 2013-2014 data are original budget data) and on the Statistical Quarterlies of the National Insurance Institute. The explanatory notes attached to the state budget and the Bank of Israel Annual Report for the years at issue were also used. To compute real expenditures, the appropriate price indices supplied by the Central Bureau of Statistics were used.

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III. EDUCATION

Integration of Arab Israelis and Jews in Schools in Israel

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Abstract

Israel's citizen population in 2014 is about 75 percent Jewish and 20 percent Arab, but in most areas of life there is a sharp separation between the two groups. An absolute majority of Israelis live in homogenous Jewish or Arab localities, work in separate workplaces and attend separate schools. Nonetheless, the reality of separation is changing, and more integrative spaces are being created in various fields. This chapter focuses on the education system in Israel, examining past and present separation and integration between Jews and Arabs, and the reasons for and challenges posed by such. Part 1 surveys the genesis of the separation between Israel's Arabs and Jews in the school system over the course of the twentieth century. Part 2 presents contemporary data on the slowly accelerating trend of integration over the past decade. Part 3 deals with the motivations of parents when it comes to choosing an integrated school for their children, and the conclusion touches briefly upon the challenges that integration poses to the designers of education policy.

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Introduction

Much has been written about the attempts at integration of pupils from various ethnic backgrounds in Israel (e.g., Shavit, 1984; Mizrachi et al., 2013; Resh and Kfir, 2004), but most of the studies in this field deal with pupils from different ethnic backgrounds within Jewish society. In recent years, a few studies have been published on bilingual schools that integrate Arab¹ and Jewish pupils, with the goal of educating them towards equality and peaceful coexistence (Bekerman, 2008; Bekerman and Horenczyk, 2004). These schools have also garnered some attention in the media but they are very few in number; there are currently five such schools and three such preschools in Israel.

However, a fair number of pupils attend Jewish schools where some of the pupils are Arab, and the number of these schools has grown in the past decade, albeit at a rather slow rate. The aim of this chapter is to describe overall trends in the integration of Jews and Arabs in schools through a historical survey of the separation, an investigation of the trends in the field in recent years, an attempt to understand the considerations of Arab and Jewish parents when it comes to sending their children to these schools, and a brief discussion of the challenges facing Jewish-Arab integration in schools.

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¹ The term Arab in this chapter always refers to Arab Israelis.

1. *Historical Background*

Israel's society is comprised of various ethnic and cultural groups with the most prominent distinction being between Jews and Arabs. Jews account for about 75 percent of the state's citizens and Arabs for about 20 percent. The majority of both Jews and Arabs live in nationally² (Jewish versus Arab) homogeneous localities, although the degree and nature of the separation between the two groups have changed over the course of time. During previous centuries, the small Jewish minority that lived in then-Palestine resided almost entirely alongside the Arab population in mixed towns. Starting at the end of the nineteenth century, and continuing into the twentieth century (both before and during the course of the British Mandate period), the *Yishuv* (the pre-statehood Jewish collective and its institutions) grew significantly. Consequently, many new Jewish localities were established, which intensified the separation between the groups. In the wake of the violent events of 1929, the Jews left some of the mixed towns and started to concentrate in Jewish neighborhoods and localities. These processes further intensified the separation.

In the field of education, the separation was almost complete from the beginning. During the British Mandate period, the schools – even those operating in the mixed towns – were separate for Jews and Arabs, and only a few of them integrated Jewish and Arab pupils. The end of the Mandate and the circumstances surrounding the establishment of the State of Israel intensified the separation between the two groups. Most of the Arab inhabitants of the areas that were to become Israel left, and Jews – mainly new immigrants – settled in some of these communities, as well as in the towns that had been mixed before the war. Over the subsequent years, hundreds more localities were established for the Jewish population, while the natural increase of the Arab population remained concentrated in the villages that had survived the war, which swelled into large towns. Today, 90 percent of the Arab population resides in Arab

² The Hebrew term "*leom*" is translated here as "national." It distinguishes between Arab and Jewish citizens of Israel.

localities, and most of the rest reside in Arab neighborhoods within predominantly Jewish towns and cities (Smootha, 2012). Most Jews reside in Jewish towns, and only 22 percent reside in mixed localities (Khamaisi, 2009).³

Against this background of almost complete segregation in residential areas, it is no surprise that the separation in the education system is also severe. In order to understand the history of separation and integration in education, it is necessary to examine the development of the education system since Israel's establishment.

In 1949, the Compulsory Education Law was enacted, which was meant to ensure that every Israeli citizen, including Arabs, would receive a primary education (Dror, 2007). Mar'i (1978) and Al Haj (1995) point out that the implementation of this law among the Arab population in Israel was problematic in light of the chaos in 1949, and note that the shortage of classrooms and teachers led to the improvisation of makeshift and partial solutions. In those days, the law was implemented only in part (Al Haj, 1995; Mar'i, 1978). Furthermore, there was a blurring of authority between the Ministry of Education and the military government to which Israel's Arabs were subject until 1966. The military government sometimes interfered in decisions that were the responsibility of the Ministry of Education, such as the physical location of schools and the employment of teachers and principals (Al Haj, 1995).

In 1953, the State Education Law was enacted, which was meant to eliminate the various educational streams and consolidate them under the state's auspices. The political power of the Haredi (ultra-Orthodox) and national-religious parties ensured the autonomy or independence of their populations' educational streams. The Arab population, with its meager political power, was unable to obtain such educational autonomy. This gave rise to the peculiar situation that the Arab education system, which differs significantly from all streams of Jewish education, remained under

³ For the sake of comparison, in the United States one-third of all African-Americans reside in areas that are populated entirely by African-Americans, and one-half of all whites reside in areas that are populated entirely by whites. The degree of residential separation in Israel is, then, very large relative to the American case.

secular state auspices while functioning as a separate unit within it (Al Haj, 1995).

Al Haj points to three different approaches that were available to decision makers in addressing the relationship between Arabs and Jews in the education system: assimilation, separation and integration. The minority in support of assimilation saw it as a means of promoting the Zionist idea to the Arab minority and bringing this group within the state's embrace, while distancing it from the surrounding Arab world. The proponents of separation argued that without the creation of an encompassing Israeli identity, it would not be possible to integrate the Arab minority into the Jewish majority, and since there was no intention to develop a civil culture that was not Jewish-national, the integration course was doomed. Abu-Asbeh (2007) even argued that the supporters of separation between Jewish and Arab education sought to achieve a twofold goal: to reduce the feeling of discrimination among the Arabs – who in a separate system were granted a certain (albeit restricted) measure of administrative and cultural autonomy – and at the same time strengthen the state's control of education (Al Haj, 1995).

The integration approach received very little support over the years and almost no practical attempts were made to implement it. Opposition to it aligned with the interests of various factors in civil society. Mar'i (1978) writes, for example, that the attempt by the former mayor of Haifa, Aba Hushi, to establish a mixed school in the city met with fierce opposition from Jewish parents. According to him, Jewish parents were afraid of intimate relations between young people, especially Jewish girls and Arab boys. In Arab society, too, separation was usually viewed as desirable, because the Arab education system was supposed to contribute to the preservation of Palestinian national identity among Israel's Arab population (Mar'i, 1978).

Nonetheless, in recent years a change is evident in the trend of separation between Jews and Arabs that has been prevalent in the Israeli education system. The slow process of integration derives in part from the increasing residential mixing between the two sectors in towns and neighborhoods. Another force is the poor state of the Arab education

system, prompting certain Arab parents to prefer Jewish education, which they see as being of higher quality. Lastly, the process should also be attributed to the deliberate efforts of non-profits and parents' groups interested in affording their children a mixed and bilingual education.

This chapter presents an analysis of the Ministry of Education's registration data in order to understand the scope of the phenomenon. It then proceeds to discuss the reasons for the current integration and its implications for mixed schools based on about 30 interviews with principals and other personnel in mixed schools.

2. Integration in the Education System, 2003-2013

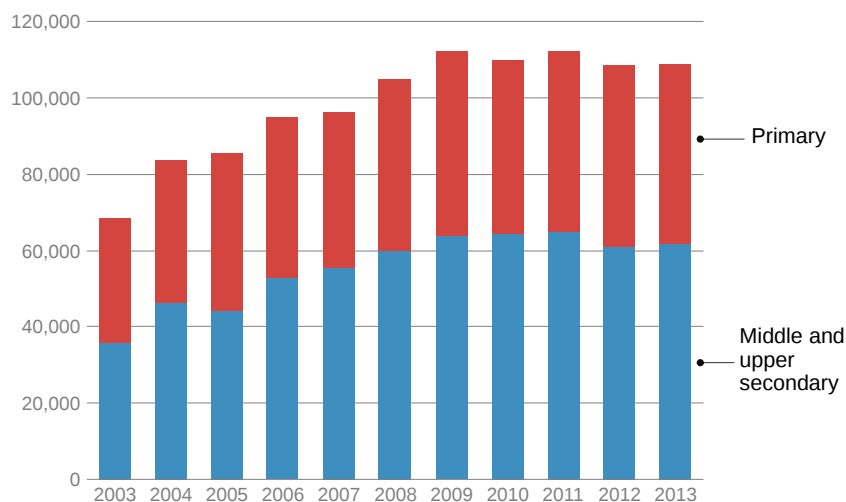
In 2013, about 1.6 million pupils attended primary and secondary schools in Israel. Of that number, 870,000 pupils attended schools without even a single Arab pupil (over half of these pupils attended religious or Haredi schools), and almost 330,000 attended schools without even one Jewish pupil. In contrast, almost 395,000 pupils attended schools with at least one Arab pupil or one Jewish pupil. This figure includes about 5,600 Arab pupils attending Jewish schools and 360 Jewish pupils attending Arab schools. The rest of the 395,000 are either Jews attending a Jewish school that also has an Arab minority, or Arabs attending an Arab school that a few Jews also attend. Since one pupil of a different sector than the majority does not suffice to define a school as "mixed," in this paper the definition of mixed schools is those in which more than 1 percent of the pupils are Jews and more than 1 percent are Arabs. (This, too, is a very liberal definition, and the integration between the two groups in schools where the mixing is more numerically significant will also be examined.)

According to this 1 percent definition, almost 5,000 Arabs attended mixed Jewish schools, while 177 Jews studied in Arab schools – one-third of them in a bilingual school classified as Arab, and the rest in prestigious church-run schools or schools for special education. The share of Arabs in the Jewish mixed schools according to this definition ranged from 1 percent to 81 percent (at the Special Education School for the

Deaf in Jerusalem) of all the pupils in the school, and was on average 7.6 percent. The share of Jews in the Arab mixed schools according to the same definition ranged from 1 percent to 45 percent (at the Bilingual School in Kfar Kara classified as Arab), and was on average 13.3 percent of all the pupils in a school. It is important to bear in mind, of course, that even a small number of pupils of a different nationality could grant all pupils at the school some familiarity with the "Other."

Figure 1 presents the number of pupils attending mixed schools during the years 2003-2013. It shows a growing phenomenon: the population of those attending mixed schools grew by 59 percent, from 68,000 in 2003 to 109,000 in 2013. During the same period, the population of those attending a school without any Arab students grew by 9 percent, and the population of those attending a school without any Jews grew by 33 percent. Most of the growth in mixed schools occurred until 2008, and then the numbers stabilized. Nonetheless, a somewhat different picture emerges when the growth patterns by age group are examined: middle and upper secondary schools versus primary schools. The share of secondary school pupils out of all the pupils at mixed schools increased from 52 percent in 2003 to 58 percent in 2011. Most of the growth in the population of mixed middle and upper secondary schools occurred between 2004 and 2008, and since then there has been a slight decline in the number of pupils attending them. However, most of the growth in the population of the mixed primary schools occurred between 2006 and 2009.

Figure 1
Number of pupils in mixed schools
 by education level, 2003-2013



* A school is considered mixed if minority of its pupils (Jewish or Arab) represents more than 1 percent of its pupil population.

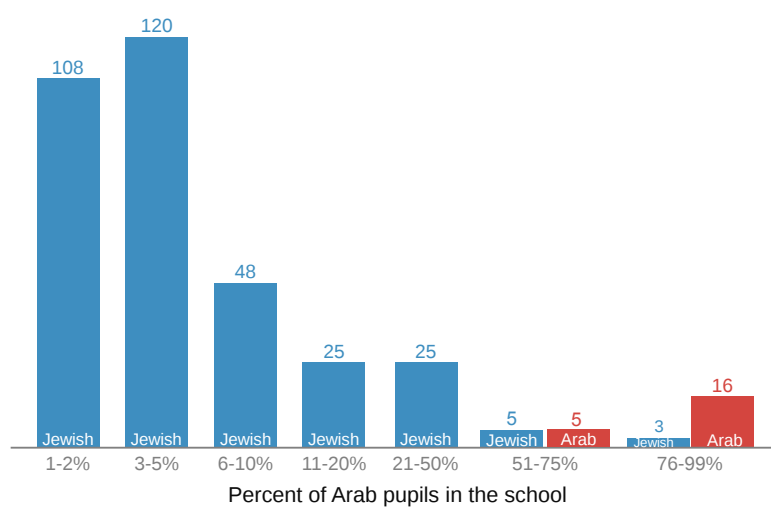
Source: Shwed, Shavit, Dellashi, and Ofek, Taub Center

Data: Ministry of Education

Where do the pupils of mixed schools attend school? Figure 2 presents the distribution of the 355 institutions at which Arabs and Jews learn side by side according to the share of Arab students at the school and according to educational sector (Arab versus Jewish). As the figure shows, 334 (94 percent) of the schools belong to the Jewish sector, and the rest belong to the Arab sector. In most of the mixed schools in Jewish education, the share of Arabs is low: in 228 of them the share of Arabs is no larger than 5 percent, in 48 schools the share ranges between 6 and 10 percent, and in 50 schools the share is 11-50 percent of the pupils. Interestingly, note that in five Jewish schools the share of Arabs is 51-75 percent. These are the bilingual schools in Beer Sheva and Jerusalem, the Weizmann School in Yafo (currently being closed), and two special

education schools in Jerusalem and Lod, respectively. In three of the Jewish schools, the share of Arabs is even greater than 75 percent: the bilingual Galil School located in Kibbutz Ashbal, an external high school in Haifa, and the special education school for the deaf in Jerusalem.

Figure 2
Distribution of mixed schools* by sector
by percent of Arab** pupils in the school, 2013



* A school is considered mixed if the minority of its pupils (Jewish or Arab) is greater than 1 percent of its pupil population.

** Arab refers to Arab Israelis

Source: Shwed, Shavit, Dellashi, and Ofek, Taub Center

Data: Ministry of Education

Among the Arab mixed schools, in five of them the share of Jews is in the range of 25-50 percent. These are the bilingual school in Kfar Kara⁴,

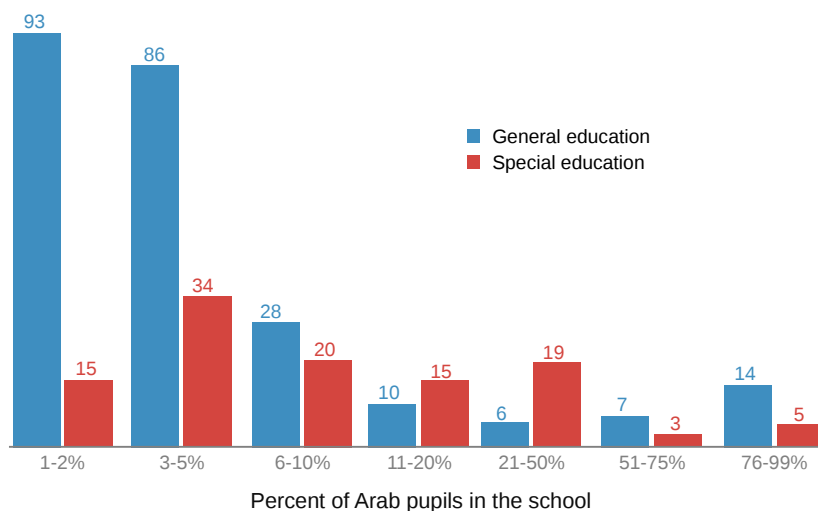
⁴ The Ministry of Education classifies schools by educational sector according to its own considerations. For example, the school in Neve Shalom-Wahat el-Salaam (a mixed community) is defined as a Jewish school while the bilingual Gesher al Havadi School, located in the Arab local council of Kfar Kara, is

an Armenian church school in Jerusalem, a special education school in Haifa, and two international church schools in Yafo, most of whose pupils who are classified as Jews are from the former Soviet Union and attend them in order to acquire a high-quality European education. Of the 16 remaining Arab mixed schools that include a small minority of Jews (more than 1 percent but less than 25 percent), four are special education schools and the rest are most likely schools attended by children of mixed families that reside in an Arab community, but who are classified by the state as Jews.

Special education accounts for a significant portion of the mixed schools. As Figure 3 shows, among mixed schools attended by up to 5 percent Arab pupils (228 schools), 49 are special education institutions and 179 belong to general education. In the next three categories combined (representing 6 to 50 percent Arab), special education schools constitute the majority. Among the Arab Israeli schools with Jewish pupils, about one-quarter are classified as special education.

officially classified as an Arab school. The Yad Beyad primary school in Jerusalem is defined as Jewish, while its high school is defined as Arab.

Figure 3
Number of mixed schools*
 by percent of Arab pupils and school type, 2013



* A school is considered mixed if the minority of its pupils (Jewish or Arab) represents more than 1 percent of its pupil population.

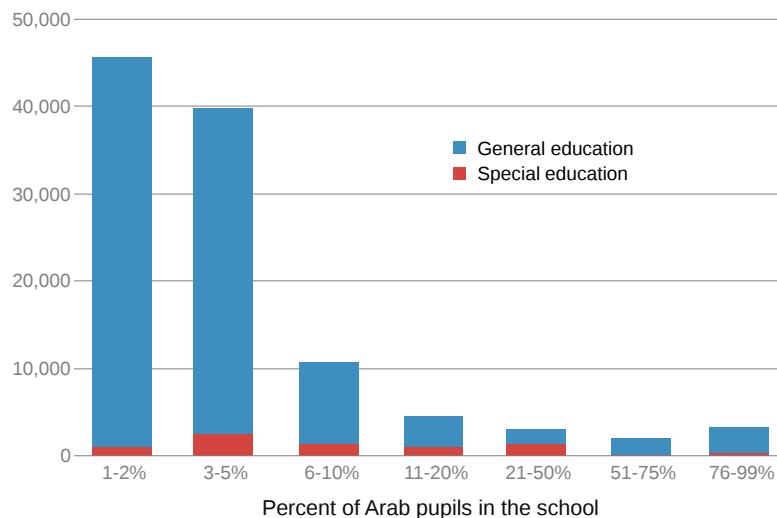
Source: Shwed, Shavit, Dellashi, and Ofek, Taub Center

Data: Ministry of Education

Ostensibly, it would seem that special education pupils constitute a significant portion of all the pupils at schools that integrate Jews and Arabs, but Figure 4 shows that this assumption is false, since the schools in special education are generally very small. The figure presents the distribution of pupils (as opposed to schools) according to the same categories presented in Figure 3. As can be seen, of the 108,872 pupils attending mixed schools only 7,856 – about 7 percent – attend special education schools. The factors that motivate mixing in special education are likely different from those operating in general education. The motivation for mixing in special education is due to the education system's efforts to concentrate pupils according to their special needs,

irrespective of nationality. Since relatively few pupils are concerned, henceforward those attending special education schools will not be included in the calculations (pupils of special education classes in general schools will continue to be included in the figures).

Figure 4
Distribution of pupils in mixed schools*
 by percent of Arab pupils and school type, 2013



* A school is considered mixed if the minority of pupils (Jewish or Arab) represents more than 1 percent of the school's pupil population.

Source: Shwed, Shavit, Dellashi, and Ofek, Taub Center

Data: Ministry of Education

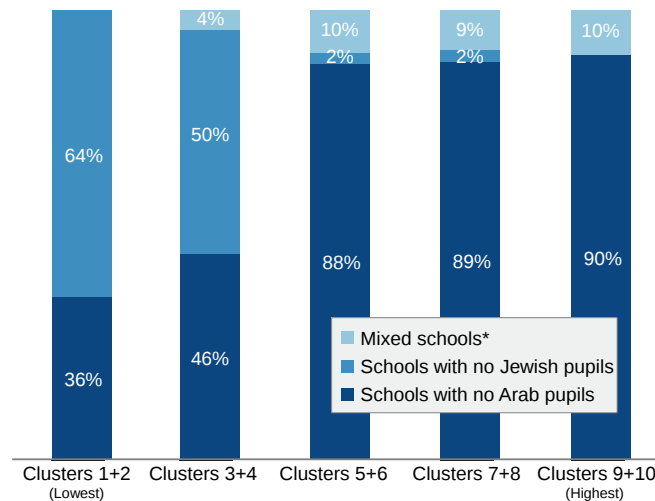
Analyzing the distribution of mixed schools according to the socioeconomic level of the locality in which they are situated (excluding special education schools) shows that they are prevalent in localities populated mainly by members of the middle and upper-middle class. Figure 5 presents the distribution of pupils among the schools by the level of mixing, on the basis of the socioeconomic cluster associated with the

school's locality.⁵ The mixed schools are a minority, of course, in every cluster. But in the lowest clusters – in which most of the localities are predominantly Arab or disproportionately Haredi – there is not a single mixed school. In clusters 3-4, nearly 5 percent of the pupils attend mixed schools, versus almost 10 percent of the pupils in clusters 5-6 and 9 percent of the pupils in clusters 7-8, which belong to the upper-middle class. Clusters 9-10 feature the largest share of pupils in mixed schools – around 11 percent.

The mixed schools, then, are concentrated mainly in localities belonging to socioeconomic clusters 5 and above. Importantly, though, mixing is common mainly in the weakest neighborhoods in the various localities. For example, in the Tel Aviv-Yafo municipality, the mixed schools are situated in Yafo, the weaker of the two municipal partners from a socioeconomic aspect.

⁵ The socioeconomic ranking of localities in Israel is calculated using the socioeconomic measure of the Central Bureau of Statistics (CBS), which consists of a combination of aggregate characteristics including: demographics, education and higher education, employment, and standard of living (income, number of cars, residential attributes). All the localities are divided into ten clusters. Cluster 1 denotes the lowest socioeconomic level, while cluster 10 comprises the group of localities with the highest socioeconomic measure.

Figure 5
Distribution of pupils in schools
 by level of mix and socioeconomic cluster of school location, 2013



* A school is considered mixed if the minority of pupils (Jewish or Arab) represents more than 1 percent of the school's pupil population.

Source: Shwed, Shavit, Dellashi, and Ofek, Taub Center

Data: Ministry of Education

To summarize, the analysis of the Ministry of Education's registration figures suggests that the phenomenon of integration between Arabs and Jews in schools is typical of non-religious state-run (*mamlachti*) education, primarily in the Jewish sector. The phenomenon has expanded in the last decade, initially in secondary schools and afterwards in primary schools. It is not exceptionally characteristic of special education, and extends mainly to localities belonging to the middle or higher socioeconomic clusters albeit in schools that are located in less affluent neighborhoods. In State-religious and Haredi education there is no integration of Arab pupils whatsoever.

Jewish Mixed Schools in Mixed Neighborhoods

The remainder of this chapter is based on the interviews that were performed with principals and teachers in mixed schools. As noted previously, the great majority of mixed schools are situated in mixed neighborhoods of a low socioeconomic level. The share of Arab pupils in these schools is relatively small. The population defined as “Jewish” in these schools generally includes a large share of children of immigrants from the former Soviet Union and Ethiopia, and lately also a few pupils from Peru in South America. In some of these schools, there is no clear majority group, and the school’s population resembles a mosaic of various small ethnic and national groups. Besides the Jewish pupils, the mixed schools are attended by both Muslim and Christian Arabs, as well as a few Druze and Circassian pupils.⁶

In most of the schools studied, the principals noted that a large share of their pupils comes from poor households, and only a few of them have educated parents. This is true of members of all ethnic and national groups in the schools. These schools are generally seen as relatively weak and the average achievement level of their pupils, as measured by the Meitzav tests (Hebrew acronym for Measures of School Efficiency and Growth), is low relative to the nationwide level.

From a cultural and organizational aspect, mixed schools operate as Jewish schools, and from an ideological-pedagogical aspect they are Jewish-Zionist schools in every respect. In all of the schools included in the study, the principals emphasized that the school was Jewish-Zionist in terms of its identity and curriculum. The great majority of teachers are Jewish, and if the school does employ Arab teachers, most of them teach Arabic (although a small number of Arab teachers teach other subjects in Jewish education). Nonetheless, these schools are distinct from each other in their attitude towards their Arab student population. Some of the schools emphasize tolerance, multiculturalism and acceptance of the “Other” – including the Arab other – as a minority in the school, but most

⁶ The Circassian pupils are mainly from one village, Rekhaniya, in the Upper Galilee.

of them have chosen a strategy of color-blindness⁷, that is, they disregard the existence of Arab pupils at the school and treat them just like other pupils. These schools, like most of the schools in *mamlachti* (state-run) Jewish education, emphasize the values of “the Land of Israel for the people of Israel” and celebrate military service, while ignoring the conflict this raises among some of their Arab pupils. Several principals even emphasized the importance they attribute to the fact that some Arab pupils choose to serve in the military or to perform some other type of national service.

In some of the mixed neighborhoods, Arab parents have a variety of alternatives, such as *mamlachti* Arab schools and selective church schools. If so, why do Arab parents send their children to the mixed Jewish schools? The Jewish mixed schools’ principals were asked to assess the reasons for this, and the following is a brief summary of their answers. None of the principals cited a single and distinct reason, and there appears to be a complex combination of factors involved.

The factor cited most often is Arab perceptions regarding the quality of Jewish education. The Jewish schools are perceived by Arab parents as being of higher quality than the *mamlachti* Arab schools. Some Arab parents believe that the quality of the teachers and amount of resources at *mamlachti* Arab schools are insufficient, and they are interested in improving the quality of their children’s education. Beside the aspiration to provide a quality education, a second factor is cultural capital. There are Arab parents who are interested in having their children be educated in Hebrew and study the Israeli (and in effect, Jewish) culture, because it may help them get ahead in a society whose dominant culture is Jewish.

⁷ This is a term borrowed from the strategy of creating interracial equality between whites and African-Americans in the United States, which means a nominal disregard for ethnic or racial origin in the provision of civil services, by eliminating the privileges awarded to whites and the racial discrimination against African-Americans. This approach was considered a fundamental reform in relation to the previous situation, but subsequently came under fire from those arguing that such an approach veils covert and open racism that continues to exist under the cover of “color-blindness” (e.g., Bonilla-Silva, 2003).

Another frequently cited factor relevant only to a limited number of pupils is how the Jewish schools contend with special pupils. Certain Arab parents are not satisfied with the way Arab schools manage their children's learning disabilities and adjustment difficulties, and hope that the Jewish schools, which are perceived as more advanced, will better handle their struggling children.

Another reason for preferring a mixed school is the existence of what might be called liminal populations: children of Palestinian families that collaborated with the Israeli security forces and children of mixed couples. In most of the mixed schools, there is a small Arab minority of children of "collaborator" families (Cohen, 2006). With state assistance, these families have settled in mixed neighborhoods, but are sometimes hesitant to send their children to Arab schools for fear of them being harmed. The Jewish school serves as a relatively safe sanctuary for them. In addition, some of the Arab pupils in the mixed schools are children of mixed families. Such families mostly reside in an Arabic-speaking community, but would like their children to know Hebrew and be familiar with Jewish culture, to which the family of one of the parents (usually the mother) belongs.

While Arab parents believe that these schools are preferable to the state-run Arab schools from a learning perspective, many Jews view these schools' education level as low relative to other schools in Jewish education. Higher-educated families among the Jews in mixed neighborhoods (like all higher-educated families) are looking for higher-quality solutions for their children, and some of them send their children to better schools outside the neighborhood by changing their official residential address in order to circumvent the registration area requirements. Others seek solutions in special or regional schools in the private sector, such as the Teva (nature) school in Yafo. Furthermore, there are Jewish families that remove their children from schools that are attended by Arab pupils. For example, at a primary school in Yafo, the number of Jewish pupils kept dropping as the number of Arab pupils rose (Levy and Shavit, in preparation). In the literature, this phenomenon is termed "white flight," referencing the flight of whites from

neighborhoods and schools which have seen an influx of minority students. Some families have turned to schools in the State-religious or even Haredi education system, because these schools do not accept non-Jews at all.

Understandably, then, the motivations of Jewish parents to send their children to mixed schools are fundamentally different from those of most Arab families. Many of the Jewish pupils who remain in these schools are sons and daughters of parents who are unable to find alternative solutions. These are generally poor families lacking in higher education, or immigrant families that are unfamiliar with the intricacies of the education system and that do not know how to circumvent the registration area requirements. It can be said, then, that the main reason that Jewish pupils attend mixed schools is either a lack of information or an absence of alternatives or initiative.

Bilingual Schools

There are five bilingual schools in Israel today, and these schools are committed to equality and coexistence between Arabs and Jews in Israel. Like many of the Haredi schools, these schools enjoy the formal status of being “recognized but unofficial.” This means that they are subject to supervision by the Ministry of Education and enjoy its budgetary support, albeit at a lower rate (about 70 percent) than official state-run schools. Since the bilingual schools insist on staffing each class with a pair of teachers – Jewish and Arab – their operating costs are very high, and the difference between the Ministry of Education’s allocation and actual expenditures is made up by donations and tuition fees. Three of these schools – Gesher al Havadi in Kfar Kara, Galil in Ashbal near Sakhnin, and the bilingual school in Jerusalem – operate under the umbrella of the non-profit organization Yad Beyad. The remaining two are the pioneering bilingual school in Neve Shalom-Wahat el-Salaam and Deganya which is located in Beer Sheva and operates with the support of the non-profit organization Hagar. There are also three bilingual preschools that aspire to grow into schools, in Yafo, Haifa and Heilf. These schools are

characterized by placing an equal emphasis on Jewish and Palestinian-Arab language and culture.

The bilingual schools observe the holidays of the Jewish and Israeli calendar and those of Islam and Christianity (depending on the pupils' religion) as well as the Palestinian national holidays (including Nakba Day). The Arab pupils are not a minority in the school, and among older pupils they even constitute a majority.

The pupils at these bilingual schools generally come from established and higher-educated households. Although their principals are insistent that the schools are not elitist – for example, the school in Neve Shalom is attended by pupils from the lower-class Rakevet neighborhood in Lod, and the bilingual school in Jerusalem by lower-class Arab pupils from East Jerusalem and lower-middle class Jewish pupils from the Pat neighborhood in which it is located – actually such disadvantaged pupils form only a small percentage of their populations.

With regard to the bilingual schools, too, there are noticeable differences between the respective motivations of Arabs and Jews to attend them. According to the principals, the level of study is a more important issue for the Arab parents, while the ideology of integration and coexistence is of greater importance for most of the Jewish parents. This aligns with the findings of the study by Bekerman and Horenczyk (2004), who studied these schools. Of course, the bilingual schools also meet the needs of mixed couples. While putting their children into either Jewish or Arab education entails renouncing certain components of identity, the bilingual schools accommodate both components of a mixed couple's identity.

3. Conclusion

Israel appears to be in the midst of a slow process of reducing the residential, occupational and educational separation between Jews and Arabs. This chapter focuses on integration in the education system. From a situation of almost complete separation between Jews and Arabs that lasted for decades, recent years have seen a slowly developing trend of integration in various schools. Although schools featuring a high rate of integration are still rare, the data show that the integration trend is slowly expanding, and it is important that it is brought to the attention of both scholars and policy makers.

This chapter is a first attempt to examine the scope of the phenomenon and its development in the last decade. The data show that about 109,000 pupils – about 6 percent of all the pupils in Israel, and almost 15 percent of those in state-run Jewish education – attend schools in which some encounter between pupils from the two groups takes place. That share grew slowly during the first years of the previous decade and has since stabilized.

The buds of integration in Israeli education for the most part do not stem from any deliberate policy of the education system. Rather, they have sprouted from below, from the parents themselves and from the initiatives of organizations in civil society. One of the important factors affecting the increase in the prevalence of integration is the proliferation of mixed localities and neighborhoods, as growing numbers of Arabs move into localities whose population was almost exclusively Jewish since the State's establishment (Nazareth Ilit, Beer Sheva, Hazor Haglilit, Karmiel, and others). The mixing of Arabs and Jews in these localities has led to a rise in the number of Arab families that choose to send their children to Jewish schools. The motivations prompting them to do so are, as noted, diverse: some of them believe that the quality of Jewish education is higher. Others want their children to learn proper Hebrew, which will help them integrate into Jewish-Israeli society. Still others see Jewish education as a solution to their children's special needs or as a refuge from hostility and vengeance.

A more modest (from a numerical aspect) but very important role in the mixing process is played by the non-profit organizations Yad Beyad, Neve Shalom-Wahat el-Salaam, and Hagar. These organizations promote bilingual and bicultural education with the aim of advancing equality, understanding and social integration between the two national groups. The considerations of parents who choose these schools are both similar and different from those of parents who send their children to a mixed school in Jewish education; they include a commitment to coexistence and multiculturalism, as well as an attempt to escape from the state-run education system with its various problems.

And what is the role of the Ministry of Education in this mixing process? It is hard to say that the Ministry is enthusiastic about it. By law, the Ministry and the local authorities allow Arab pupils to enroll at Jewish schools in their place of residence. The Ministry also recognizes the bilingual schools, just as it recognizes many other schools established by parents' organizations, and tolerates their existence. However, the Ministry does not encourage mixed Jewish schools to adopt and integrate multicultural elements in the curriculum. Its position seems to be that if Arabs want to attend Jewish schools they are welcome to do so, but on condition that they accept the schools' Jewish-Zionist character and not demand cultural concessions.

The impression gained from visits to the mixed Jewish schools is that the great majority of them are not equipped with a suitable educational toolbox for the supportive and respectful accommodation of cultural differences. This manifests itself mainly during outbreaks of the conflict between Israel and the Arab world and on the national holidays of Israel and the Palestinian people (e.g., Independence Day, Remembrance Day and Nakba Day). The absence of policy and appropriate training on the part of the Ministry of Education leaves many principals and teachers to deal with these difficult dilemmas on their own. Sometimes they manage to find limited solutions to these challenges, but many ignore the challenge as if it does not exist.

The increasing integration in the education system raises many questions. What degree of social integration, in terms of friendships, is achieved between Arab and Jewish pupils who attend mixed classes? Are there differences among these schools in the degree of integration attained? What are the school factors that promote or hinder integration? What are the implications of mixed education for the pupils' attitudes towards the "Other" and towards the Israeli-Palestinian conflict? What are the implications of Jewish education for the occupational achievements of Arab pupils down the road? How do the pupils' parents regard mixing in the schools? Future researchers in this important field face the challenge of investigating these questions in order to reach a deeper understanding of the integration phenomenon in Israel's education system.

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Trends in the Development of the Education System

Nachum Blass*

Abstract

In recent years, several important changes have taken place in the education system: the trend in the demographic composition of pupils has changed significantly; the resources at the disposal of the education system have grown considerably; and with regards to the work force, all of the primary and a large portion of post-primary education teachers are now part of the most recent educational reforms ("New Horizon" and "Courage to Change"). The professional education qualifications of teachers have improved, and the great majority of them now have higher education. The learning achievements of Israel's pupils have also improved, as is evident from the results of the Meitzav tests, matriculation exams and international testing. Furthermore, the achievement gaps between pupil populations have narrowed, including those between Jewish and Arab Israeli pupils. Improvement is also evident in the educational environment of schools. Despite these changes, the financial allocation per pupil in Israel is still low relative to the OECD countries, and despite the narrowing of gaps between various population groups, they remain among the largest of the OECD countries. There is still a long way to go until the quality of what the education system provides to its pupils and until pupil achievement, in both learning and educational terms, meet the standards of the countries that Israel seeks to emulate.

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1. Demographic Trends

In the past five years, there has been a decrease in the share of Arab-Israeli and Haredi (ultra-Orthodox) pupils in the education system. Since these two populations are characterized by weak socioeconomic backgrounds, this change has had a large effect on the system. This section will examine the effect of the demographic changes on preschools and on primary education in light of the implementation of the Trajtenberg Committee's recommendations.

Preschools. In the past 15 years, there have been large changes in the rates of Arab Israeli and Haredi children attending preschool. From 2000-2010, there was an increase in the two groups' share of the preschool population mainly due to the Compulsory Education Law, which was first implemented in weaker socioeconomic localities where many Arab Israelis and Haredim reside. In contrast, during the last five years, the share of Arab Israelis and Haredim in preschools has declined, due to a combination of further implementation of the Trajtenberg Committee's recommendations as well as changes in natural growth patterns. The most prominent change was recorded in 2013, when the number of children attending State preschools rose by 22,000 – from 150,000 to 172,000.

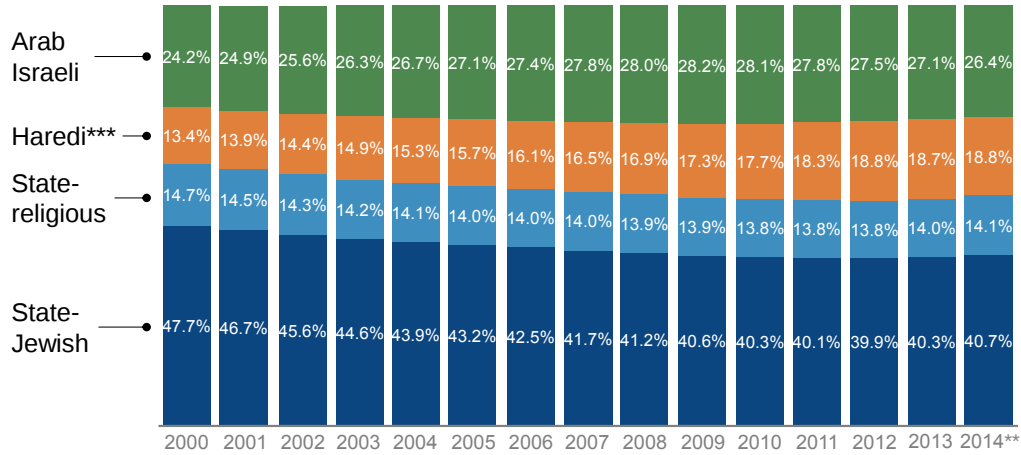
Most of the increase in 2013 came from children who did not attend preschool in the past, or who attended private preschools and transferred to State preschools following the implementation of the Trajtenberg Committee's recommendations. Nonetheless, it should be noted that in the three years prior to the recommendations' implementation, there was already an increase in the growth rate of enrollment in State education, as opposed to a significant decline in the growth rate of enrollment in Haredi preschools. Examining the period before implementation of the Trajtenberg Committee's recommendations shows that between 2000 and 2006, the number of pupils in Arab Israeli and Haredi preschools rose by 61 percent and 47 percent, respectively, whereas the number of pupils in State and State-religious preschools rose by 1 percent and 6 percent, respectively. In contrast, between 2006 and 2012, the number of pupils in

Arab Israeli preschools declined by 1 percent and the number of pupils in Haredi preschools rose by 16 percent, while the number of pupils rose by 20 percent in State preschools and by 22 percent in State-religious preschools.

Grades 1-6. The picture in grades 1-6¹ points to a change of direction in the composition of the primary education population. The change is evident starting in 2010, and consists mainly of stabilization (and indications of a slight increase) in the share of pupils in Jewish education, and a decline in the share of pupils in Arab Israeli education. In examining the share of Arab Israeli pupils in this age group, two distinct periods can be discerned: between 1999 and 2008, there was an increase from 24.2 percent to 28.2 percent, and between 2008 and 2013, there was a drop from 28.2 percent to 26.4 percent. There are also two distinct periods characterizing the share of pupils in Jewish State-run education: a continuous decline from 47.7 percent in 1999 to 39.9 percent in 2011, followed by a slight recovery and a rise to 40.7 percent in 2013. The trends in State-religious education paralleled those of Jewish State education. The share of pupils in Haredi education over the last three years remained stable at 18.8 percent, in contrast to the continuous rise between 1999 and 2011, when the share of pupils in Haredi education grew from 13.4 percent to 18.8 percent. The data indicate that these demographic changes are apparently not due to an exceptional change in a single year, but rather, a trend that began near the end of the previous decade and continues to the present. It goes without saying that this trend may not continue, but these findings suggest that the rhetoric and tone of the public discourse concerning the demographic composition of the education system and its possible future consequences should adjust to match the facts.

¹ In Haredi education, primary education is customary through eighth grade, so for comparison purposes, only grades 1-6 were examined.

Figure 1
Distribution of pupils in grades 1-6
 by population groups, school years 2000-2014*



* Years relate to the year in which school ends

** Ministry of Education calculations

***Haredi are ultra-Orthodox Jews

Source: Nachum Blass and Haim Bleikh, Taub Center

Data: Ministry of Education

2. Resources Available to the Education System

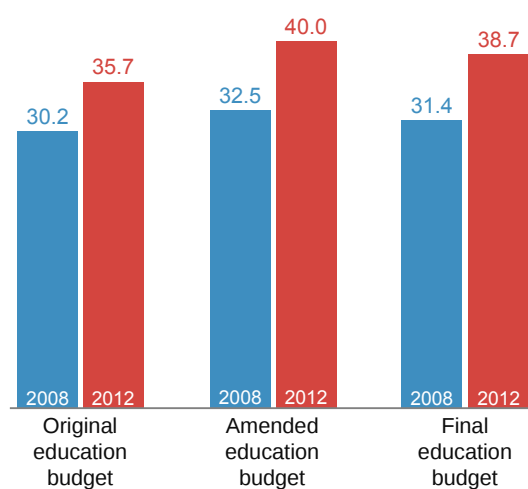
Budget

Since 2008, there has been a significant increase in the Ministry of Education budget, including in the original budget, the amended budget (i.e., in the budget as calculated at the end of the fiscal year, after all the budget changes during the year are taken into account) and in the final budget (i.e., the actual expenditure of funds). The increase is especially prominent in the years 2013-2014, although data regarding actual expenditures are not yet available for these years. The main reason for the

change is most likely due to the wage agreements signed with the Teachers' Union and with the Teachers' Organization. It is important to emphasize that these wage agreements involved far-reaching changes in the work patterns of teachers, which added hundreds of thousands of working hours to the education system via additional classroom hours, a reduction in the number of pupils per class, and an increase in the average working hours for teachers (Blass, 2013).

In the period between 2008 and 2012, the amended budget and the final budget increased by 23.0 percent and 23.2 percent, respectively while the overall number of pupils rose by 10 percent (Figure 2)².

Figure 2
**Original, amended and final budget of the
Ministry of Education**
in billions of shekels, 2011 prices



Source: Yulia Cogan, Taub Center for Social Policy Studies in Israel

Data: *Accountant General's Report*

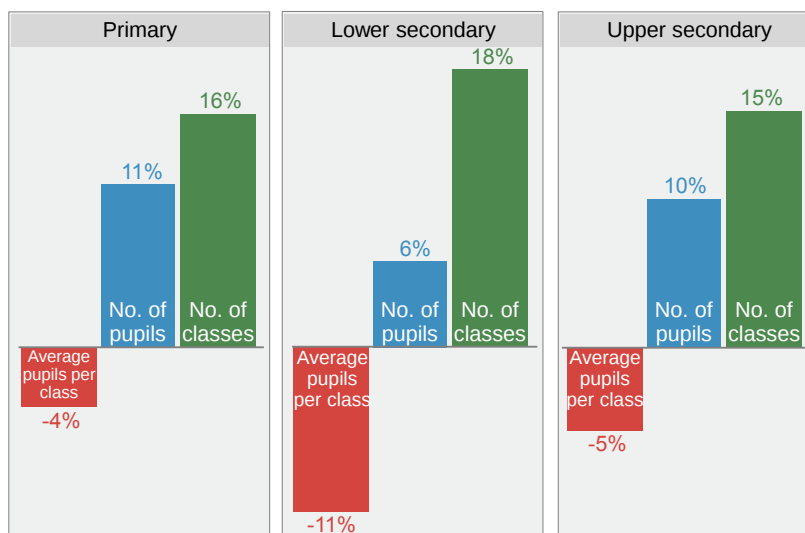
² The original budget for the years 2013-2014 increased by more than 33 percent as compared to the 2008 budget, but the data on changes in the amended budget and the final budget for these years is not yet available.

The increased budget had many consequences in several important areas:

Class size. The increased budget enabled partial implementation of the section in the teacher wage agreement, which called for reducing average class size. This implementation is evidenced by the fact that there was a greater increase in the number of classes than in the number of pupils (Figure 3). The increase in the pupil population between 2008 and 2013 occurred mainly in primary education (due to an increase in the number of children in this age cohort) and in upper secondary schools (due to increased attendance rates of those born in the relevant years). During the same period, the number of classes in primary education grew by 16 percent, which contributed to a 4 percent drop in average class size. The most prominent increase in the number of classes was in the lower secondary schools, which manifested in an 11 percent drop in the average class size between 2008 and 2013. The average number of pupils per class in primary education dropped by 4 percent and in upper secondary schools declined by 5 percent during the same period.

Although these findings represent an important development with regards to class size, the situation is still far from the goal as outlined several years ago. In October 2007, the Teachers' Organization began one of the hardest and longest strikes in the Israeli economy. The strike ended in December 2007, and according to the Organization, one of its major achievements was the government's agreement, in principle, to gradually reduce the number of pupils per class to 32, that is, by at least 20 percent.

Figure 3
Change in the number of classes and pupils
 by education level, between 2008 and 2013



Source: Nachum Blass, Taub Center for Social Policy Studies in Israel
 Data: Central Bureau of Statistics

It appears, then, that the Ministry of Education did act to meet its obligation, albeit very slowly.³ This action was possible mainly in light of the increase in the Ministry's budget, although the budgetary allocation in this area was not fully utilized⁴ (Appendix Table 1). The State's delay in actually meeting its obligation eventually led to a protest on the part of

³ A previous publication by the Taub Center for Social Policy Studies in Israel that dealt with this subject (Blass, 2008) anticipated there would be serious difficulties in implementing the decision to reduce class size.

⁴ While it is possible that some of the funds from one budget line were transferred for use in another budget line, there is no evidence in the explanations to the budget or to the amended budget that this is in fact the case. For a detailed discussion on the subject of the use of the budget in general, and this item in particular, see Blass (2014).

those parents whose children were not yet part of the class size reform and who remained in large classes – a protest that began at the end of the 2013-2014 school year, and was dubbed “the protest of the sardines.”

Teaching staff and weekly per class and per pupil hours⁵ in primary education.⁶ As noted previously, the Ministry of Education budget grew far beyond the increase in the number of pupils, and together with the improvement in teachers’ wages, a reduction in class size was also possible. The question arises as to whether the increased budget also allowed for an increase in the number of weekly teaching hours allocated to schools.

The “New Horizon” agreement brought about an essential change in the structure of the teaching job. Before the signing of the agreement, a full-time job was defined as 30 weekly working hours. However, due to deductions in hours from the required teaching time (homeroom teaching, reduced hours for new mothers, training time, and benefits to veteran teachers), a full-time job was only 23 weekly teaching hours (including hours of individual instruction, if such were included in the teaching schedule). Following the agreement, a full-time job is defined as 36 hours – of which 26 hours is frontal teaching, 5 hours is for individual instruction in small groups, and another 5 hours is for other school-related needs. Since veteran teachers and new mothers have retained some of their benefits even after the agreement, teachers now work an average 28.2 weekly hours. As such, there has been a 23 percent increase

⁵ The term “weekly hours” is a budgetary term, which denotes the number of weekly hours that a teacher is required to work based on the cost of one working hour by a teacher in the course of a year.

⁶ This part of the chapter deals only with primary schools for two reasons. The first is that the major changes due to the new wage agreements have only been completed in primary education; the second is because there have been changes in how teaching staff are reported in the other educational levels during this time period. In 2008, the reporting included all teachers teaching in post-primary education, whereas in 2013, the lower secondary schools were separated from the upper secondary schools. Since some teachers work in both lower and upper secondary schools, it was not possible to compare the data from the different years.

in the average working hours since the signing of the “New Horizon” agreement.⁷

Indeed, Table 1 clearly shows a 28 percent increase in teaching hours allocated per pupil, and a 24 percent increase in hours per class. This is an extremely significant increase, and if used wisely can be beneficial at many levels.

Table 1. **Pupil data, classes and teaching staff in primary schools, 2008 and 2013**

	2008	2013	Percent change 2008 to 2013
Number of pupils (A)	839,268	933,053	11%
Number of classes (B)	32,793	37,822	15%
Teaching staff* (C)	64,594	75,166	16%
Total weekly teaching hours (D)	1,485,504	2,118,030	43%
Weekly teaching hours per pupil (D/A)	1.76	2.27	28%
Weekly teaching hours per class (D/B)	45.3	56.0	24%
Average weekly teacher work hours (D/C)	23.0	28.2	23%

* All teachers, irrespective of their weekly number of work hours

Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics, various years

⁷ No data are available showing how the “New Horizon” agreement affected teachers' average wage, due to the fact that the supplements were awarded differentially based on tenure, number of continuing education courses completed and pay rank.

3. International Comparison of Education System Developments

To obtain a complete picture of developments in Israel, it is interesting to examine what happened during the same period in other countries in the area of education expenditures. Table 2 shows the expenditure per pupil in various OECD countries relative to Israel. However, it is important to note that the picture arising from the data is incomplete, because the data cover the years 1995-2010 (these are the most updated OECD data available). The trends – a faster increase in OECD spending on the one hand and a slower increase in Israeli spending on the other – were reversed in the years 2010-2013. While the per pupil expenditure for primary education in Israel increased dramatically in the last few years, the level of investment in education was frozen in other OECD countries due to the economic crisis. It is reasonable to assume that with the completion of the reform in teacher working conditions in the coming years, the figures for Israel will be much higher in forthcoming OECD publications.

Table 2 clearly shows that from 2005-2010, the investment per pupil in the education system grew more rapidly in Israel than in the OECD countries on average⁸ and only six countries increased their investments at a faster rate than Israel. In contrast, in previous periods, the per pupil expenditure in Israel grew far less than the OECD average.

⁸ The average includes all the OECD member states.

Table 2. **Per pupil expenditure in Israel and OECD countries***

in fixed prices, ordered by change between 2005 and 2010**,
Base year: 2005=100

	1995	2000	2010
Slovakia	62	68	159
Poland	50	78	153
Estonia	53	66	134
Ireland	53	69	133
Australia	73	88	131
Czech Republic	75	71	125
Israel	94	101	120
OECD average	73	84	117
Netherlands	73	87	113
Spain	73	87	113
USA	74	89	113
Sweden	84	90	113
Finland	81	85	112
Norway	86	92	111
Portugal	63	88	109
England	62	62	109
Japan	78	90	109
Switzerland	81	89	108
Mexico	74	85	104
Denmark	79	91	102
Italy	96	97	97
Hungary	61	64	95

* OECD countries for which there is information for all of the years. In PPP dollars. Not including students.

** The table relates to different years than the text because these are the latest years when data is available. As has been noted, it is important to emphasize that the per pupil expenditure in Israel rose greatly in the years following those shown in the table.

Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: OECD (2013)

It is necessary, however, to consider the data in Table 2 in the context of the data shown in Table 3: expenditure per pupil in 2010 in primary and post-primary education, and the size of expenditures relative to per capita GDP. In this area, Israel is still at the bottom of the list. If countries such as Turkey and Mexico are removed from the calculation, the picture becomes even worse. In comparison to the OECD average (including Turkey and Mexico), the gap between Israel and the OECD in the size of expenditure per pupil relative to per capita GDP is not so large. However, the expenditure per pupil in monetary terms (in purchasing power parity dollars) is higher in the OECD than in Israel by 24 percent in primary education and by 62 percent in post-primary education. Nonetheless, it is important to emphasize that the situation has improved considerably since 2010, especially in primary education, and it is expected to improve in post-primary education as well with the implementation of the latest wage agreement.

Table 3. **Per pupil expenditure on primary and post-primary education, 2010** (continued next page)

in PPP dollars and relative to per capita GDP, Israel and OECD countries, ordered by total expenditure on primary education

	Primary education		Post-primary education	
	Relative to per capita GDP	PPP dollars	Relative to per capita GDP	PPP dollars
Luxembourg	25.1%	21,240	20.8%	17,633
Norway	27.3%	12,255	30.9%	13,852
USA	24.1%	11,193	26.8%	12,464
Switzerland	24.5%	11,513	30.6%	14,972
Denmark	26.9%	10,935	28.9%	11,747
Austria	25.3%	10,244	31.1%	12,551
Sweden	25.4%	9,987	25.9%	10,185
Iceland	26.7%	9,483	22.1%	7,841
Australia	23.1%	9,463	25.4%	10,350

Table 3. (continued from previous page) **Per pupil expenditure on primary and post-primary education, 2010**

in PPP dollars and relative to per capita GDP, Israel and OECD countries, ordered by total expenditure on primary education

	Primary education		Post-primary education	
	Relative to per capita GDP	PPP dollars	Relative to per capita GDP	PPP dollars
UK	26.5%	9,369	29.6%	10,452
Slovenia	33.5%	8,935	30.7%	8,187
Belgium	23.4%	8,852	29.1%	11,004
Italy	25.9%	8,296	26.8%	8,607
Ireland	20.4%	8,384	27.8%	11,380
Japan	23.7%	8,353	28.2%	9,957
Netherlands	19.1%	7,954	28.4%	11,838
Finland	21.2%	7,624	25.4%	9,162
Spain	23.1%	7,291	30.4%	9,608
OECD average	23.2%	7,155	26.5%	9,086
New Zealand	23.1%	6,842	27.6%	8,170
France	19.2%	6,622	31.6%	10,877
Korea	22.9%	6,601	28.0%	8,060
Poland	29.6%	5,937	27.4%	5,483
Portugal	23.2%	5,922	34.8%	8,882
Israel	21.7%	5,758	21.1%	5,616
Slovakia	24.7%	5,732	20.7%	4,806
Estonia	25.6%	5,140	32.1%	6,444
Hungary	22.7%	4,684	22.1%	4,553
Czech Republic	16.2%	4,120	25.8%	6,546
Chile	19.1%	3,301	18.0%	3,110
Mexico	15.3%	2,331	17.3%	2,632
Turkey	11.8%	1,860	15.7%	2,470

Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: OECD (2013)

4. *Work Force*

Table 1 shows that despite (and perhaps because of) the dramatic change in the structure of the teaching job and the increase in the number of teaching hours, the number of teachers in primary education rose by 16 percent between 2008 and 2013, while the number of pupils rose by only 11 percent during the same period. The unequivocal conclusion drawn from these findings is that the fear that the signing of the “New Horizon” agreement would lead to large-scale retirement among teachers was unfounded. The assumption might be that the increase in the number of teachers was made possible by a decrease in the average size of a teaching position, since the variable examined is teaching work force, i.e. the number of teachers and not the number of job positions. It turns out, however, not only did the average teaching position in primary education not decline, it grew slightly (from 76.6 percent before the signing of the agreement – about three-quarters of a full-time job – to 78.3 percent afterwards).

Table 4 points to improvement in other respects relating to the work force in the education system:

- Curtailing the feminization of the profession: Between 2008 and 2013, there was a slight decline in the share of women teachers in Jewish education. While there was a slight increase in the share of women teachers in Arab Israeli education during this period, since overall there are more teachers in Jewish education, the overall share of women in the teaching force declined.⁹

⁹ The decline in the share of women in the teaching work force is seen as an improvement for two main reasons: first, since half of the pupils are boys, an increase in the number of male teachers means an improvement in teachers’ ability to serve as gender-specific role models. Second, in light of the fact that men’s professional bargaining power is greater, an increase in the number of male teachers enhances teachers’ ability to gain better working conditions and pay.

- A slowing down of the aging of the teaching staff in the Jewish education system:¹⁰ In 2013, the share of young teachers stood at 12.9 percent, as opposed to 12.8 percent in 2008 and 12.3 percent in 2010. Relative to previous years, this is a substantial slowdown of the trend towards older teachers in the teaching work force. There is no evidence of a similar phenomenon in the Arab Israeli education system, since the growth rate of teachers in this system has slowed considerably.
- Continuing the academization of teaching work force: In the years 2008-2013, the number of teachers who held academic degrees, both first and second degrees, grew considerably. In Arab Israeli education, where the trend is particularly prominent, the share of teachers with academic degrees is already larger than the share in the Jewish education system. This apparently stems from a surplus of Arab Israeli teachers and the limited employment opportunities available to Arab Israeli degree holders in other fields.

Table 4. **Primary school teaching work force characteristics by population groups, 2008 and 2013**

	Jews		Arab Israelis	
	2008	2013	2008	2013
Women	87.9%	86.1%	74.6%	76.8%
Aged 29 or less	12.8%	12.9%	28.6%	20.3%
Aged 50 or over	25.1%	25.8%	12.7%	13.8%
Academic degree	70.5%	81.5%	72.9%	89.3%
Of these: with a second degree	18.4%	22.4%	7.0%	13.2%
Average weekly work hours	22.6	27.5	24.1	30.1
Average years of teaching tenure	15.8	15.8	12.0	13.3

Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics

¹⁰ The Central Bureau of Statistics does not publish this data according to the type of supervisory authority in Jewish education (State, State-religious, or Haredi), so it is not possible to examine whether there are differences among the types of supervisory authority in this context.

In summary, it can be said that in the wake of the signing of the “New Horizon” agreement, the expected negative consequences did not materialize, and instead, several positive developments have taken place with regards to the quality of the teaching work force, as measured by accepted indices.

International Comparison of Teachers’ Wages

Since the signing of the “New Horizon” agreement in primary education and in some of the lower secondary schools, teachers’ employment terms have somewhat improved. Table 5 shows that, for most teachers, salaries hardly improved between 2000 and 2005. In contrast, in the years after the agreement, salaries in primary education increased more rapidly than in other countries (and more rapidly than the OECD average). Furthermore, since the latest data are for 2010, the situation of teachers in primary education today is even better than indicated by the table. The 2011 data point to a 40 percent increase in wages since 2000, and it may be assumed that the data for 2012, the year in which the transition of all teachers to the “New Horizon” wage agreement was completed, will be even higher.

Table 5. **Comparison of teacher's wages, 2005 and 2010**

with an academic degree and 15 years of seniority, in fixed prices
Base year: 2000=100

	Primary		Lower secondary		Upper secondary	
	2005	2010	2005	2010	2005	2010
Australia	108	111	108	111	108	111
Austria	111	115	115	120	106	111
Belgium (Flemish)	109	110	103	105	103	105
Belgium (French)	106	111	101	104	101	104
Czech Republic	180	201	180	204	150	178
Italy	106	105	105	105	105	105
Denmark	107	127	107	127	111	126
Iceland	112	116	112	116	111	99
England	109	109	109	109	109	109
Estonia	119	169	119	169	119	169
Finland	117	121	108	111	109	112
France	95	92	95	93	96	93
Greece	113	104	113	104	113	104
Hungary	159	125	159	125	158	117
Ireland	117	135	115	133	115	133
Israel	100	134	1,090	111	99	102
Japan	99	92	99	92	99	92
Korea	125	117	126	117	126	117
Mexico	104	108	105	109	–	–
New Zealand	102	107	102	109	102	112
OECD average	116	122	113	117	115	119
Portugal	114	125	114	125	114	125
Scotland	123	122	123	122	123	122
Spain	105	113	109	116	104	110
Switzerland	103	103	98	98	96	96
USA	104	103	105	103	98	103

Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: OECD (2013)

In the lower secondary schools as well, where only some of the teachers joined the agreement, the rate of change in teachers' wages has been more rapid than in the OECD countries. In the upper secondary schools, Israeli teachers still lag behind their OECD counterparts, but in light of the fact that they, too, signed a labor agreement very similar to "New Horizon" in 2011, the data for 2013 and 2014 will almost certainly show an increase (also the budgetary data for these years, as noted in Appendix Table 1, imply the same result).

5. *Learning Achievements*

The Meitzav Exams¹¹

An improvement in the results of the Meitzav exams is evident between 2008 and 2013 in all subjects – both among Hebrew speakers (not including Haredim, who do not take the Meitzav exams) and among Arabic speakers, both in the fifth grade and in the eighth grade. Figure 4, which is taken from Ben-David (2014), shows the improvement trends in the scores. Cumulatively, there was a 10.5 percent improvement among Arabic speakers in the eighth grade in science and technology between 2008 and 2013, and a 9.5 percent improvement among Hebrew speakers during the same years. In the same subject in the fifth grade, the cumulative changes amounted to 13 percent among Arabic speakers and 4.5 percent among Hebrew speakers. In the eighth grade, the cumulative improvement in the mathematics score was 3 percent among Arabic speakers and 3.5 percent among Hebrew speakers, while in the fifth grade, it was 12 percent and 6.5 percent, respectively. Those familiar with

¹¹ Meitzav is a Hebrew acronym for Measurement of School Growth and Efficiency. These tests are calibrated to allow a comparison over time, and every effort is made to ensure the quality of their administration and reliability. It is, of course, possible that schools today are making a greater effort than in the past to succeed on them, but there is no proof of that.

the education field know that an improvement of this scale is no doubt significant, regardless of the question regarding its cause.

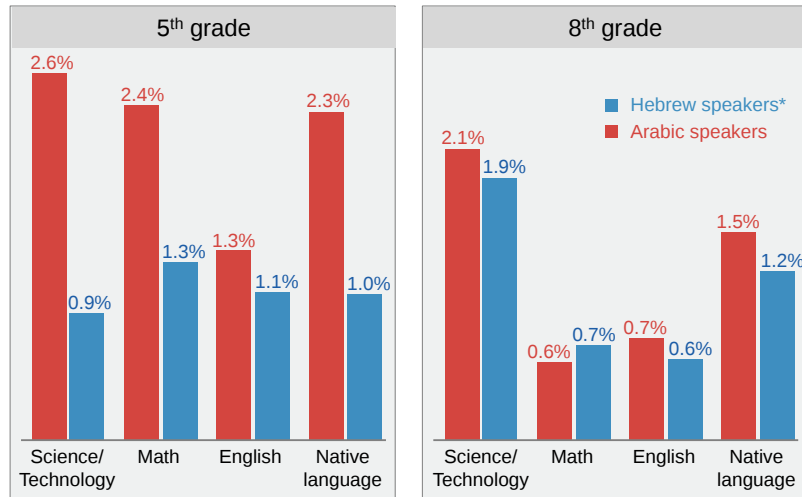
Despite this change, significant gaps were found in the achievements between schools in all the subjects, in all classes, and in every year. Nonetheless, among pupils of a middle-class socioeconomic background, the Arabic-speakers' achievements in a portion of the tests are higher than those of Hebrew-speakers.¹²

¹² It is a legitimate question which part of the improvement in achievement stems from the contribution of the education system, and which part can be attributed to the change in the socioeconomic and demographic structure of society in Israel (Hanushek, 2003; Shavit and Bronstein, 2011; Zussman and Tsur, 2008). However, deciding this question is of no significance to the present discussion for three reasons. First, the discussion deals with a relatively very short period of time, in which it would be difficult for changes in the social structure to be seen. Second, Haredi pupils do not participate in the Meitzav tests. And third, the data show that there has been improvement both in Jewish education and in Arab Israeli education – and the improvement among Arab Israelis is greater.

Figure 4

Improvements in achievement in core subjects

average annual change in Meitzav** exam scores, 2008-2013



* Does not include Haredim (ultra-Orthodox)

** Measures of School Efficiency and Growth

Source: Dan Ben-David, *State of the Nation Report 2014*, Taub Center

Data: National Authority for Measurement and Evaluation in Education (RAMA)

Matriculation Exams

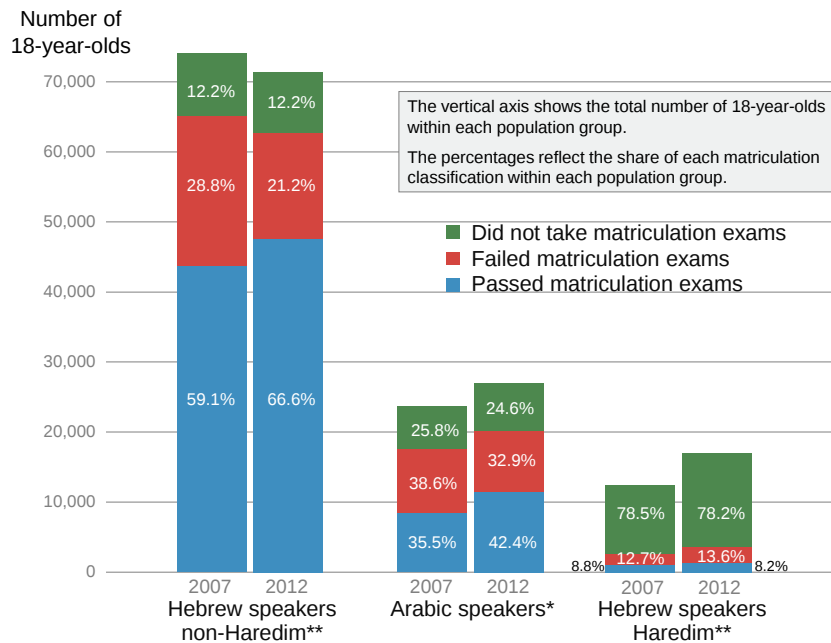
According to Ministry of Education data, the share of those eligible for matriculation out of the entire age cohort rose from about 46.3 percent for the school year ending in 2007 to 48.6 percent at the end of the 2012 school year (Ministry of Education and Culture, 2013). This may appear to be negligible, but it should be seen in the context of the large increase in the number of boys and girls who do not study the Israeli core curriculum and do not take the matriculation exams (in particular, Haredim and Arab Israelis in East Jerusalem, whose combined share of the entire population rose from 15.1 percent in 2007 to 19 percent in

2012). Among the main groups of pupils who do take the matriculation exams (pupils in State and State-religious education, both Jews and Arab Israelis, and Haredim attending institutions that offer matriculation to their pupils), the eligibility rate rose from 59.1 percent in 2007 to 66.6 percent for non-Haredi Jews in 2012, and from 35.5 percent to 42.4 percent for Arab Israelis (Figure 5).

It is important to emphasize that the share of eligibility for matriculation that is measured at the end of secondary school studies as of 2012 stands at 62.4 percent of all pupils in the twelfth grade and, as noted, at 49.8 percent of the entire age cohort (not shown in the figure) is not the final figure. A large portion (25 percent) of those who failed the matriculation exams at the end of their secondary school studies continue to complete the exams and are eligible for a certificate in the years following secondary school. Relying on figures from the past, the final matriculation qualification rate should have an additional 6 percent added for those completing the exams after twelfth grade as well as another 1-1.5 percent for those who took the matriculation exams as external students. Ultimately, the eligibility rate that correctly reflects the trends in the education system is in the range of 60 percent.¹³

¹³ To this figure, the 1-1.5 percent of those eligible for matriculation who take external exams should also be added.

Figure 5
Distribution of 12th grade age cohort
 by population group and matriculation status



* Does not include East Jerusalem

** Haredim are ultra-Orthodox Jews

Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: Ministry of Education

There are those who claim that the rise in the eligibility rate stems from a decline in the exams' difficulty level, but this has yet to be shown by the research. On the other hand, it is known that the share of pupils who study for a larger number of matriculation units has grown over the years. There are also those who argue that the number of pupils studying sciences and technology, and their share among all students taking the matriculation exams, is declining. On this issue too, however, the data show that the reality differs from the perception. While from 1995 to

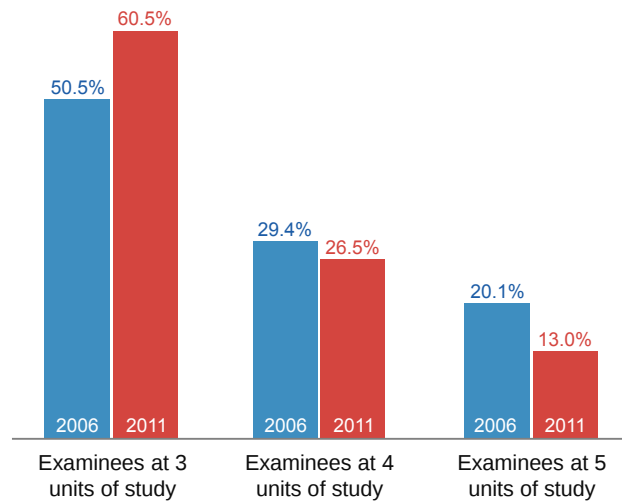
2010, the number of pupils rose by only 14 percent, the rates of those eligible for matriculation in mathematics, physics and biology increased far beyond this figure (Blass, 2014).¹⁴ Considering the changes that have occurred in the demographic composition of the pupil population, there has been significant progress that contradicts the public perception of deficits in the teaching of the sciences.

Despite this positive data, the State Comptroller has pointed to a worrying phenomenon, namely a decline in the number and rate of pupils who take the exams in mathematics at the four or five unit level (Figure 6). However, these data should be seen in relation to the demographic changes in the twelfth-grade pupil population during this period. According to Ministry of Education data, the number of Jewish pupils in State and State-religious schools (the population group in which the share of those taking the matriculation exams is relatively high) declined by about 3,000 from 2007 to 2012 and the number of pupils declined by a similar number. In contrast, the number of Haredi pupils attending the twelfth grade (the vast majority of whom do not take the mathematics exams at the five-unit level) rose by 4,500 between 2007 and 2012, and the number of non-Jewish pupils (whose matriculation achievements are lower) also rose by about 3,000. (In other words, between 2007 and 2012, the number of “strong” pupils fell by about 3,000 and the number of “weak” pupils rose by about 7,500.)¹⁵

¹⁴ There is no detailed data for pupils taking the matriculation exams in the sciences because the Ministry of Education has stopped publishing these numbers. According to the Central Bureau of Statistics, the number taking the exams at a level that includes at least two science and/or technology units has remained the same (22.9 percent in 2013 versus 23.2 percent in 2006), while the number of those taking the exams with an emphasis on technological studies (more units in technology than in humanities), rose from 17.6 percent to 21.2 percent.

¹⁵ It goes without saying that not all the pupils in State and State-religious education are “strong,” and not all pupils in Arab Israeli and Haredi education are “weak.” Nonetheless, this generalization regarding pupils’ ability to succeed in the matriculation exam in mathematics at the five-unit level according to their education system is very close to the reality.

Figure 6
**Distribution of examinees in math
 by matriculation units of study**
 as percent of all examinees, 2006 and 2011



Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: *State Comptroller's Report 2014*

These developments at least in part explain the decline in the rate of those taking and completing the matriculation exams at the five-unit level for mathematics (Figure 6). Even if the demographic trends are taken into consideration, the question arises: Why is the rate of pupils who choose not to study at the higher unit levels rising? The answer may lie in two approaches: on the one hand, there is a growing tendency to judge the school's quality by its matriculation eligibility rates, which greatly influences the policy of both school principals and teachers; and on the other hand, there is a rise in a more functional approach to taking the matriculation exams that gives greater importance to the overall average score. Pupils and teachers calculate and consider what is best for them: a relatively high score at a low examination level or a low score at a high

examination level. Such calculations were also done in the past, but they seem to be gaining in popularity.¹⁶

International Tests

Many believe that Israel's performance in international exams attests to the poor level of education in Israel, and even more so, to the lower chances of successful integration into the world economy in the future. In contrast, others are opposed to drawing such conclusions from the scores on these tests, and especially to the ranking of countries according to the average achievement level of their pupils. (Recently, 101 educational international scholars wrote an open letter to the administrator of the PISA tests, demanding that the tests in 2015 be cancelled because of the damage they were causing to national education systems, and the overblown significance the heads of those systems were ascribing to these tests; *The Guardian*, 2014.)

This current discussion does not deal with the importance of international tests and their national significance, but only with the issue of whether Israeli pupils' achievements on these tests have improved during the period under study. The answer to that question is

¹⁶ After the completion of this chapter, the results of the 2013 matriculation exams were made public (without details of the data by subject matter or socioeconomic classification of the school location. The reasons for this are unclear). The authors of this chapter feel that the most significant trend in the 2013 data is not the steep rise in the rate of those qualifying in each sector (although this is quite important in and of itself), but the impressive rate of those completing twelfth grade and the rate of those taking the matriculation exams. The rise in the matriculation qualifying rate, which has reached over 50 percent of the age group for the first time since the establishment of the State (and not for the first time in 20 years as was written in the press release) can be attributed to a drop in the level of the tests – which has never been proven – or to a rise in the number of pupils taking the exams. The Ministry of Education is to be commended for this. A rise of more than 3 percent in the number of pupils taking the matriculation exams is a significant accomplishment when this group includes pupils from the weakest sectors of the population.

unequivocal: Israeli pupils improved their achievements considerably. When their achievements are compared to those of pupils in all the participating countries, a very positive picture emerges regarding Israel's progress, both with regards to overall scores and in the reduction of the share of weak pupils and increase in the share of strong pupils.

TIMSS test.¹⁷ Between 2007 and 2011, there was a dramatic improvement in Israeli pupil achievement on the TIMSS test, both in terms of the score itself and Israel's international ranking (Table 6). Such large increases in scores and ranking are very rare, and often are not repeated on subsequent tests. With the publication of the results, a bitter argument erupted (exacerbated in light of the fact that the publication occurred shortly before elections to the Knesset) concerning what caused the leap: could it be attributed to the policy undertaken by the heads of the system, or were other factors that had nothing to do with ongoing educational activity responsible? In retrospect, the truth appears to lie somewhere in the middle: the Ministry of Education and RAMA (Hebrew acronym for National Authority for Measurement and Evaluation) have strengthened Israeli pupil achievement, and the critics' claim that the results are unreliable was overblown. The 2007 data were exceptionally low for various reasons, including the fact that the test was administered during the great teachers' strike. The 2011 data, however, were apparently bolstered by changes in translation, better pupil preparation through adjusting educational material specifically to the subjects examined on the TIMSS tests, and additional teaching hours (all of which are entirely legitimate means).

A look at the results presented in Table 6 shows that of the 21 countries that participated in all the TIMSS tests for the eighth grade since 1999 – including individual states in the United States (Massachusetts) and provinces in Canada (Ontario and Quebec) – Israel had the largest increase in its average score. The country's place in the

¹⁷ The Trends in International Mathematics and Science Study (TIMSS) is the oldest of the international tests. Fourth and eighth graders are examined in sciences and mathematics. In Israel, only eighth graders take the test.

ranking also had the steepest rise.¹⁸ While the achievement level of Israeli pupils is not spectacular in comparison to that of pupils in other countries, the improved achievements in Israel are certainly impressive (the standard deviation has hardly changed, standing at 99 points in 2011 versus 98 points in 2007).

Table 6. **Comparison of achievements on TIMSS test by country, 2007 and 2011** (continued on next page)

average score on science and math in eighth grade in all countries that gave the tests continuously from 1999 to 2011, ordered by change in rank

	2007		2011		Difference in score	Difference in rank
	Score	Rank	Score	Rank		
Israel	463	16	514	9	51	7
Russia	512	11	539	7	27	4
Romania	431	18	458	16	27	2
USA	508	12	509	11	1	1
Singapore	593	3	611	2	18	1
Korea	597	2	613	1	16	1
Iran	403	21	415	21	12	0
Hong Kong	572	4	586	4	14	0
Japan	570	5	570	5	0	0
Massachusetts*	547	6	561	6	14	0
Tunisia	420	20	425	20	5	0
Italy	480	14	498	15	18	-1

¹⁸ In the same context, it bears mention that the share of weak pupils in Israel dropped from 25 percent in 2007 to 13 percent in 2011, with a corresponding drop in the percentage of weak students taking the PISA tests (see data in Table 9).

Table 6. (continued from previous page) **Comparison of achievements on TIMSS test by country, 2007 and 2011**

average score on science and math in eight grade in all countries that gave the tests continuously from 1999, ordered by change in rank

	2007		2011		Difference in score	Difference in rank
	Score	Rank	Score	Rank		
Lithuania	506	13	502	14	-4	-1
Quebec*	528	7	532	8	4	-1
Ontario*	517	8	512	10	-5	-2
England	513	10	507	12	-6	-2
Taiwan	598	1	609	3	11	-2
Malaysia	474	15	440	17	-34	-2
Thailand	441	17	427	19	-14	-2
Jordan	427	19	406	22	-21	-3
Hungary	517	9	505	13	-12	-4

* State or territory in the USA/Canada

Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: TIMSS 2007 and TIMSS 2011 Reports

PIRLS tests.¹⁹ The results of the PIRLS tests for 2011 were similar to the results of the TIMSS test conducted the same year. Israel placed second after Iran in terms of its improved score, and third after England and the United States in terms of its improved ranking (Table 7). Here too, Israel's achievements remained low relative to most of the countries, but a process of improvement is certainly evident.

¹⁹ The Progress in International Reading Literacy Study (PIRLS) tests examine literacy for fourth and fifth graders.

Table 7. **Comparison of achievements on the PIRLS tests by country, 2006 and 2011**

average score in reading and language skills in countries that participated in the tests, ordered by change in rank

	2006		2011		Difference in score	Difference in rank
	Score	Rank	Score	Rank		
England	539	12	552	5	13	7
USA	540	11	556	4	16	7
Israel	512	18	541	12	29	6
Quebec*	533	13	548	7	15	6
Hong Kong	564	2	571	1	7	1
Slovakia	531	15	535	14	4	1
Singapore	558	3	567	3	9	0
Ontario*	554	5	548	6	-6	-1
Iran	421	21	457	22	36	-1
Morocco	323	22	310	23	-13	-1
Norway	498	19	507	20	9	-1
Slovenia	522	16	530	17	8	-1
Romania	439	20	502	21	13	-1
Russia	565	1	568	2	3	-1
Sweden	549	8	542	9	-7	-1
New Zealand	532	14	531	16	-1	-2
France	522	17	520	19	-2	-2
Italy	551	6	541	10	-10	-4
Netherlands	557	4	546	8	-11	-4
Bulgaria	547	10	532	15	-15	-5
Hungary	551	7	539	13	-12	-6

* Territory in Canada

Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: PIRLS 2006 and 2011 Reports

PISA tests.²⁰ On the PISA tests administered in 2012, Israel ranked in second place with regards to the improved average score of its pupils, and was among only 10 countries that improved their scores relative to 2009 (out of 26 countries that participated in both tests). With regard to the improvement in ranking, Israel placed tenth (Table 8).

Among the prominent low-ranked countries were Australia – whose pupils' scores dropped by 10 points between 2009 and 2012, and whose ranking fell from 8th to 9th place – and New Zealand –whose pupils' scores dropped by 19 points, and whose ranking fell from 6th to 11th place. Since the early 1990s, both of these countries have undergone far-reaching neoliberal educational reforms: more decentralization, independent management, reduction of Ministry of Education bureaucracy, and the like.²¹ The achievements of pupils in the United States also dropped by 6 points, and the country's ranking fell from 20th to 21st place, despite all the efforts invested in the framework of the No Child Left Behind Act (NCLB). During the same period, Finnish pupils' scores dropped by 22 points, and the country fell from 2nd to 4th place in the achievements ranking.

Furthermore, Israel significantly reduced the share of pupils scoring in the lowest levels in the sciences, (third-highest improvement following Turkey and Poland) (Table 9). From among 34 countries, Israel had the eleventh largest improvement in the share of pupils whose scores were at the highest levels.

²⁰ The Programme for International Student Assessment (PISA) aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students.

²¹ It is interesting to note that Poland, the country that advanced the most on the PISA tests, underwent a far-reaching reform very similar to the reform in Israel in 1967, which included the establishment of lower secondary schools and comprehensive schools.

Table 8. **Comparison of achievements on PISA exams by country, 2009 and 2012**

average score in math in all countries that participated in the tests,
ordered by change in rank

	2009		2012		Difference in score	Difference in rank
	Score	Rank	Score	Rank		
Ireland	487	19	501	10	14	9
Poland	495	14	518	6	23	8
Austria	496	13	506	8	10	5
Italy	483	23	485	19	2	4
Czech Republic	493	16	499	13	6	3
Portugal	487	21	487	18	0	3
Japan	529	4	536	2	7	2
Luxembourg	489	18	490	16	1	2
Spain	483	22	484	20	1	2
Israel	447	25	466	24	19	1
Belgium	515	7	515	7	0	0
Mexico	419	26	413	26	-6	0
Korea	546	1	546	1	0	0
Canada	527	5	518	5	-9	0
Switzerland	534	3	531	3	-3	0
Australia	514	8	504	9	-10	-1
USA	487	20	481	21	-6	-1
Greece	466	24	453	25	-13	-1
France	497	12	495	14	-2	-2
Denmark	503	10	500	12	-3	-2
Finland	541	2	519	4	-22	-2
New Zealand	519	6	500	11	-19	-5
Norway	498	11	489	17	-9	-6
Iceland	507	9	493	15	-14	-6
Hungary	490	17	477	23	-13	-6
Sweden	494	15	478	22	-16	-7

Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: PISA 2009 and 2012 Reports

Table 9. **Percent of strong and weak science pupils on the PISA exams**

(continued on next page)

in all countries that participated in the testing in the relevant years, ordered by change between 2006 and 2012 in percentage of weak pupils*

	% of strong pupils (over Level 5 out of 6 levels)			% of weak pupils (below Level 2 out of 6 levels)		
	2006	2012	Difference between 2006 and 2012	2006	2012	Difference between 2006 and 2012
Turkey	0.9%	1.8%	0.9%	46.6%	26.4%	-20.2%
Poland	6.8%	10.8%	4.0%	17.0%	9.0%	-8.0%
Israel	5.2%	5.8%	0.6%	36.1%	28.9%	-7.2%
Italy	4.6%	6.1%	1.5%	25.3%	18.7%	-6.6%
USA	9.1%	7.5%	-1.6%	24.4%	18.1%	-6.3%
Portugal	3.1%	4.5%	1.4%	24.5%	19.0%	-5.5%
Chile	1.9%	1.0%	-0.9%	39.7%	34.5%	-5.2%
Korea	10.3%	11.7%	1.4%	11.2%	6.6%	-4.6%
Ireland	9.4%	10.7%	1.3%	15.5%	11.1%	-4.4%
Mexico	0.3%	0.1%	-0.2%	50.9%	47.0%	-3.9%
Spain	4.9%	4.8%	-0.1%	19.6%	15.7%	-3.9%
Japan	15.1%	18.2%	3.1%	12.0%	8.5%	-3.5%
Switzerland	10.5%	9.3%	-1.2%	16.1%	12.8%	-3.3%
Germany	11.8%	12.2%	0.4%	15.4%	12.2%	-3.2%
Estonia	11.5%	12.8%	1.3%	7.7%	5.0%	-2.7%
France	8.0%	7.9%	-0.1%	21.2%	18.7%	-2.4%
OECD average	8.9%	8.4%	-0.5%	19.8%	17.8%	-2.01%
England	13.7%	11.2%	-2.5%	16.7%	15.0%	-1.7%
Czech Republic	11.6%	7.6%	-4.0%	15.5%	13.8%	-1.7%
Denmark	6.8%	6.8%	0.0%	18.4%	16.7%	-1.7%
Norway	6.1%	7.5%	1.4%	21.1%	19.6%	-1.5%
Slovenia	12.9%	9.6%	-3.3%	13.9%	12.9%	-1.0%
Austria	10.0%	7.9%	-2.1%	16.3%	15.8%	-0.5%
Luxembourg	5.9%	8.2%	2.3%	22.1%	22.2%	0.1%

Table 9. (continued from previous page) **Percent of strong and weak science pupils on the PISA exams**

in all countries that participated in the testing in the relevant years, ordered by change between 2006 and 2012 in percent of weak pupils*

	% of strong pupils (over Level 5 out of 6 levels)			% of weak pupils (below Level 2 out of 6 levels)		
	2006	2012	Difference between 2006 and 2012	2006	2012	Difference between 2006 and 2012
Netherlands	13.1%	11.8%	-1.3%	13.0%	13.1%	0.1%
Canada	14.4%	11.3%	-3.1%	10.0%	10.4%	0.4%
Belgium	10.1%	9.1%	-1.0%	17.0%	17.7%	0.7%
Australia	14.6%	13.6%	-1.0%	12.9%	13.6%	0.7%
Greece	3.4%	2.5%	-0.9%	24.0%	25.5%	1.5%
New Zealand	17.6%	13.4%	-4.2%	13.7%	16.3%	2.6%
Hungary	6.9%	5.9%	-1.0%	15.0%	18.0%	3.0%
Iceland	6.3%	5.2%	-1.1%	20.6%	24.0%	3.4%
Finland	20.9%	17.1%	-3.8%	4.1%	0.7%	3.6%
Sweden	7.9%	6.3%	-1.6%	16.4%	22.2%	5.8%
Slovakia	5.8%	4.9%	-0.9%	20.2%	26.9%	6.7%

* Results on these tests are divided into 6 levels (or 7, when the first level is divided into two). Pupils scoring at or below 262 points are considered to be in Level 1, while pupils scoring at or above 698 are considered to be in Level 6. The average score is 500.

Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: PISA (2012)

In light of all of this, it appears that Israel's situation, which was poor in terms of pupil achievement relative to other countries in the early 2000s, has not worsened and perhaps has even improved.

6. The Environment and Learning Atmosphere in Schools

The learning atmosphere in schools is a topic of no less importance than learning achievements, and has received considerable media attention. This attention has focused often more on serious cases of violence among pupils and between pupils and teachers. The pupil and teacher questionnaires in the Meitzav tests afford a glimpse beyond the serious and exceptional incidents, and allow for focus on the ongoing trends (although in some cases, the improvement is still insufficient). This section presents some of the findings related to learning atmosphere during the years 2008-2013.²²

- With regards to pupils' general attitude towards school, there has been a rise in the rates of those reporting a generally positive attitude. Among teachers, the level of satisfaction has remained stable at 70 percent.
- An improvement is evident in the relations between teachers and pupils at all age levels, in both Jewish and Arab-Israeli education (with the exception of Arab Israeli upper secondary schools).
- There has been a downward trend in the share of students reporting a lack of feeling safe at school (except among tenth and eleventh graders), and there has been a moderate drop in the share of fifth and sixth graders reporting involvement in violent incidents.
- There has been a drop in the share of teachers reporting feeling a lack of safety at school.
- The trend shows an improvement in appropriate behavior in classes at all age levels, in both Jewish and Arab Israeli education (except among Arab Israeli tenth- and eleventh-grade pupils, where the situation is stable).

²² All of the findings appear in the summary report for 2013 on the RAMA website.

These findings were verified and confirmed in another large study (RAMA, 2014), which was devoted entirely to monitoring school violence. The study included over 20,000 pupils in primary, lower and upper secondary education, and showed that between 2009 and 2013, there was improvement in most measures (i.e., there was a drop in reports of violence), and there was no worsening in any of the indicators. The declines in the rate of pupils reporting aggravated violence, social violence, violence on the part of teaching staff and towards teaching staff, sexual violence, violence on buses, and alcohol abuse were particularly prominent. This trend encompasses all age groups, but is especially prominent in primary education – where the level of violence, both in the past and present, is the highest. There has also been improvement in the lower secondary schools. In the upper secondary schools, some measures have shown improvement while others have remained stable. The improvement is evident in both Jewish and Arab-Israeli education, but is especially striking in the Arab-Israeli schools.²³

Narrowing the Gaps Between Jewish and Arab-Israeli Education

One of the most serious, ongoing failures of the education system in Israel is the vast gap between the resources allocated to Jewish education and those allocated to Arab Israeli education, as well as pupil achievement in each of these education systems. This grave failure has cast a long shadow over the policy of the Ministry of Education throughout the years. Nonetheless, in this area, too, there has been improvement in recent years with regards to the resources allocated to the Arab Israeli education system, its work force, and pupil achievement.

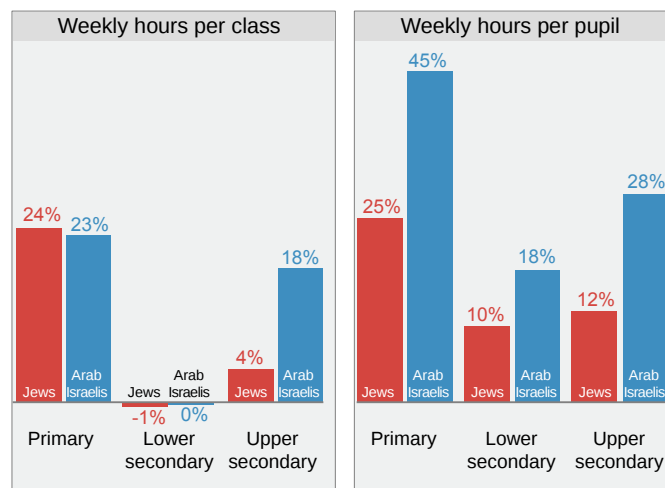
As noted, the education system has enjoyed a significant increase in the resources at its disposal in recent years. Figure 7 shows that

²³ Major improvement was noted between the first two measurement periods (between 2009 and 2011). When the results of the third measurement period (2013) are compared to those of the second measurement period (2011), the data generally show stability, albeit with a slight drop in the primary schools.

differential use has been made of these resources, which has compensated somewhat for the continued discrimination. In primary education, the per class budget, expressed by the weekly teaching hours allocated to each class, was already higher in Arab Israeli education in 2005, but the per pupil budget was significantly lower (the reason being that the average class size in Arab Israeli education was much larger). Due to the increase in resources allocated to the primary education system, the increase in weekly hours per class was similar in the Arab and Jewish education systems. In contrast, the per pupil allocation in Arab Israeli education was much larger, mainly as a result of a reduction in class size, which was made possible by new construction and a decline in the natural growth rate. A similar process is taking place in post-primary education, although there the allocation per pupil in the Arab Israeli system is still lower than the allocation in Jewish education.

Figure 7

Changes in weekly study hours per class and pupil
by education level, between 2005 and 2013



Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: Central Bureau of Statistics

With regards to teaching work force, there have been impressive developments in both primary and post-primary education. The attributes of the work force in the Arab-Israeli system are becoming more and more similar to those in the Jewish system (see Section 4 on the topic of work force and Appendix Table 2).

In the area of learning achievements, while the gaps remain very large, the pupils in Arab-Israeli education are making faster progress than the pupils in Jewish education. This is true in both the fifth and eighth grades, as shown in Figure 5 previously. Nonetheless, the progress in these younger age groups is not manifested in the attendance rates in post-primary education or in the percentage eligible for matriculation. Despite the overall progress, gaps remain.

7. Summary

The findings of this chapter clearly indicate that in the areas where the system aims to improve – teacher working conditions and their professional educational level, achievements on national and international tests, the gaps between Jewish and Arab Israeli pupils in both resource allocation and achievements, and school environment – there has been improvement. Nonetheless, the improvements are still far from satisfactory in these areas as well as in other areas of education that do not garner the same attention (see the declaration of goals in the State Education Law in Appendix 3). As shown in this chapter, the general improvement indicates that the efforts have paid off, and thus similar efforts should be demanded in other areas where improvement is needed. Some of the most pressing needs include: changing the education system budgetary method to be based on differential budgeting according to socioeconomic background data, improving the quality of teaching, and putting greater emphasis on improving the school environment, especially in relations between pupils, and between teachers, pupils, and parents.

Appendices

Appendix Table 1. **Allocation to decrease pupils per class, 2009-2012**
in original, amended and final budget
(2012 prices, in thousands)

Year	Original budget	Amended budget	Final budget
Primary			
2009*	71,635	0	0
2010	57,571	3	3
2011	56,687	0	0
2012	262,686	0	0
Total Primary	448,583	3	3
Post-primary			
2010	53,417	66,850	66,850
2011	118,507	106,286	102,492
2012	139,577	104,643	104,471
Total post-primary	311,501	277,779	273,813
Overall total	760,084	277,782	273,816

* There is no 2009 data for “decreasing class size in post-primary schools.” Although other budget lines were involved in this issue, there were no monies allocated in any of the budgets in that year.

Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: Ministry of Finance

Appendix Table 2. **Distribution of teaching work force in secondary education by selected characteristics**

by level of education and population groups, 2005 and 2013

	Jewish system		Arab Israeli system	
	2005	2013	2005	2013
Lower secondary				
Women	83.3%	80.1%	51.0%	65.6%
Under 29-years-old	6.0%	6.6%	24.4%	18.0%
Over 50-years-old	31.5%	34.7%	12.7%	14.4%
Academic pay grade	87.9%	92.8%	79.4%	95.6%
MA level pay grade or higher	32.5%	41.7%	15.2%	23.2%
Average weekly work hours	20.9	19.0	21.2	27.2
Average years of seniority in teaching	18.1	18.5	13.4	13.7
Upper secondary				
Women	70.7%	73.4%	40.5%	50.5%
Under 29-years-old	7.6%	6.8%	21.0%	17.5%
Over 50-years-old	36.6%	39.0%	14.5%	20.0%
Academic pay grade	81.3%	87.2%	80.7%	89.7%
MA level pay grade or higher	33.2%	41.1%	20.8%	28.9%
Average weekly work hours	18.7	19.9	22.5	25.9
Average years of seniority in teaching	19.6	19.5	13.4	14.3

Source: Nachum Blass, Taub Center for Social Policy Studies in Israel

Data: Ministry of Education

Appendix 3. *State Education Law (2000 Amendment)*

The goals of State education are:

1. To educate a person to love his fellow man, his nation and his country, to be a loyal citizen of the State of Israel, who respects his parents and his family, his heritage, his cultural identity and his tongue;
2. To inculcate the principles in the Declaration of the State of Israel's Establishment and the values of the State of Israel as a Jewish and democratic state and to develop an attitude of respect for human rights, for the basic freedoms, for democratic values, for obeying the law, and for the culture and opinions of others; and also to educate toward striving for peace and tolerance in the relations between persons and between nations;
3. To teach the history of the Land of Israel and the State of Israel;
4. To teach the Torah of Israel, the history of the Jewish people, the heritage of Israel and Jewish tradition; to inculcate a consciousness and respect for the memory of the Holocaust and the Heroism;
5. To develop the character of the boy and girl, their creativity and their various talents, towards the full exploitation of their ability as human beings living a life of quality and meaning;
6. To acquaint boy and girl with the various fields of knowledge and science, with all types of human accomplishment from the past to the present, and with the basic skills they will need in their lives as adults in a free society; and to encourage physical activity and leisure culture.
7. To strengthen the faculty of judgment and critique, to cultivate intellectual curiosity, independent thinking and initiative, and to develop an awareness of changes and innovations;

8. To grant equality of opportunity to every boy and girl, to enable them to develop in their own way, and to foster an atmosphere that encourages and supports diversity;
9. To cultivate involvement in Israeli social life, a willingness to accept responsibilities and dispatch them with devotion and accountability, a desire for mutual assistance, contributing to the community, volunteerism, and striving for social justice in the State of Israel;
10. To develop an attitude of respect and responsibility towards the natural environment and a bond with the land, its landscapes, the animals that inhabit it, and what grows upon it;
11. To be familiar with the language, culture, history, heritage and unique tradition of the Arab population and of other population groups in the State of Israel, and to recognize the equal rights of all Israel's citizens.

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IV. POVERTY AND WELFARE

Poverty Within the Elderly Population in Israel

Haya Stier and Haim Bleikh*

Abstract

This chapter examines the risk of poverty among the elderly in Israel. While there has been an increase in poverty among the general population, the findings point to a decline in poverty rates among the elderly over time. These lower poverty rates relative to the younger population are achieved primarily through the National Insurance Institute old-age benefits that constitute a safety net for many people, as well as through income from retirement pensions. In practice, poverty rates among those entitled to pensions are extremely low. When the elderly population is broken down into three groups, long-term residents, immigrants from the former Soviet Union and Arab Israelis, poverty rates were found to be higher among the two groups with low pension entitlement – immigrants and Arab Israelis. One way that some of the elderly deal with poverty and hardship is to live with younger, working family members. Such living arrangements are especially typical among Arab Israelis and Russian immigrants, granting them a higher economic standing than they would have living on their own and helping them avoid poverty.

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Introduction

Poverty rates in Israel are amongst the highest in the West, a problem examined previously by researchers (Ben-David and Bleikh, 2013) and policy makers (OECD, 2011). Research in this realm points to work force participation as one of the central factors linked to poverty. Indeed, individuals who do not work are in danger of poverty and dependence on the welfare system. The elderly represent a population group that has largely ceased working due to its age; hence they face a relatively high risk of poverty and economic hardship. Some among this population succeed in living comfortably even after retiring from the work force, in most cases due to pensions accumulated and savings set aside during their working years. Yet many elderly fall within vulnerable population groups: people who worked throughout their lives under employment conditions that did not provide for a pension or immigrants who arrived in Israel at a later age and did not accrue pension rights. They are left, in practice, without a private source of income and are entirely dependent on government institutions and the welfare system.

In Western countries, the average age is consistently rising due to declining fertility rates on the one hand, and increasing life expectancy on the other (Wray, 2006). The aging process impacts poverty and inequality since most of the elderly no longer participate in the labor force and instead subsist largely on their savings – capital savings or employment pensions – or on welfare system entitlements. Thus, a heavy burden is placed on the economic systems of Western countries, which has led many countries to change their systems and raise the retirement age. The problem of poverty and inequality amongst the elderly is at the heart of the public discourse in many countries. Unlike other population groups whose entitlement to government assistance is open to debate, there is a general consensus that the elderly population is entitled to assistance. They are not expected to seek income through work because they are often not capable of doing so. At the same time, as much research shows, the share of adults over age 65 who remain in the work force for

increasingly longer periods, whether for economic or other reasons, is rising steadily (Kimhi and Shraberman, 2013).

Many countries seek to decrease poverty rates among the elderly through government pensions and allowances and other forms of support, each country according to its own pension agreements and the nature of its welfare system. In Israel as well, much attention is being paid to the economic plight of the elderly. Israel is a country with a relatively young population, chiefly due to high fertility rates that help maintain a younger age structure. At the same time, the percentage of people 65 and older amongst the overall population is rising steadily: from 6.7 percent in 1970 to 10.4 percent today. The percentage of people 75 and older has risen from 1.9 percent to 4.8 percent over the last forty years (Central Bureau of Statistics, 2013). The increase in the elderly population, along with the special needs of these individuals – especially following their departure from the work force – has intensified the need for a discussion on the economic condition of the elderly and on the governmental and private resources available to them.

Israeli poverty rates are linked to the labor force participation of the head of household, as well as to a variety of demographic factors, including family size and the composition of the household's wage earners (Stier, 2011). The elderly population faces a high risk of poverty due to limited income sources and because not everyone can draw on savings or employment pensions. Many depend on government allowances. Comparative studies indicate that in countries awarding generous government pensions and other forms of support to the elderly, poverty rates amongst the elderly are low (Kangas and Palme, 2000). There are other factors that facilitate a better economic situation for elderly households relative to the general population, such as the fact that most of the elderly live as couples or alone as single individuals. Furthermore, in these smaller family units, the level of needs is also low, and several studies show that the elderly are not necessarily the age group that suffers the most from economic hardship (Stier and Lewin, 2013).

This chapter presents a picture of poverty within various types of elderly households in Israel, with reference to their income sources and

the high degree of variation among those sources. To facilitate an examination of their economic situation, the elderly population in Israel is defined as those above the current retirement age, at which point the majority of this population no longer participates in the labor force. The retirement age in Israel, which affords entitlement to an old-age benefit, has risen over the years. Until 2004 it was 65 for men, and 60 for women. Since then, the retirement age has risen to 67 for men and 62 for women.

1. Characteristics of Households in Which the Elderly Reside

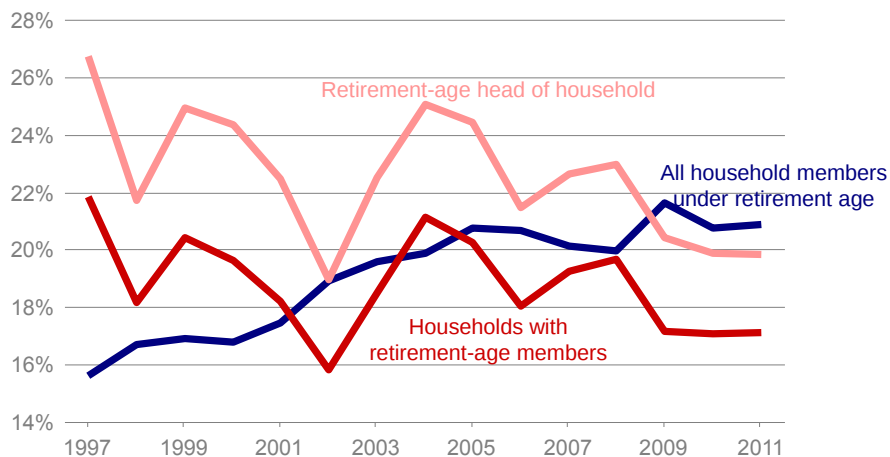
Since poverty is measured in terms of households, a picture of the households in which the elderly reside must first be presented. Data about elderly households, such as National Insurance Institute (NII) poverty figures, reflect that most of the elderly live in households headed by persons who have reached retirement age. Yet there are also “mixed” households, or “extended” households, in which elderly persons who have left the work force live together with younger people who are still economically active. For example, there are middle-aged families with children who also live with their elderly parents. These living arrangements affect the poverty picture and impact the differences between the various social groups.

Figure 1 presents poverty figures in Israel¹ between 1997 and 2011, distinguishing between three types of households: (1) households in which the head of the household or spouse has reached retirement age (henceforth: retirement-age head of household); (2) households with members who have reached retirement age – whether as heads of the household or as part of an extended family such that this household includes the first group as well; (3) “young” households, containing no

¹ Poverty rates are calculated according to income after tax deductions and transfers, adjusted according to household size.

individuals of retirement age. For parallel poverty figures by individuals rather than households, see Appendix Figure 4.

Figure 1
Percent of households below the poverty line
 by household type and ages of its members, 1997-2011*



* Data for 2000-2001 do not include residents of East Jerusalem

Source: Haya Stier and Haim Bleikh, Taub Center

Data: Central Bureau of Statistics

In 26 percent of Israeli households, there are elderly household members who have reached the retirement age. About 18 percent of households are headed by an elderly member. The elderly in Israel constitute 10 percent of the population, and most of them (71 percent) live in a household that they head.²

² Even when calculating according to the retirement age in practice before 2004 (60 for women and 65 for men), the data point to similar trends. See Appendix Figure 1.

Several interesting conclusions emerge from comparing these three types of households. A comparison between households with elderly members and younger households shows that in the late 1990s, poverty rates in households with elderly members were noticeably higher than those of younger households. In 1997, the difference was about 22 percent to about 15.5 percent. Poverty rates became more unstable during this period, both among the general population and among the elderly. Since 2003, economic instability, changes in welfare policy and in the level of general inequality in Israel have exacerbated this volatility. For example, the elderly experienced changes in government allowances during this time. Over the long term, these allowances have increased, but between 2002 and 2004, there were cutbacks, which were then followed by increases (Azary-Viesel and Stier, 2014; NII, 2012).

One result of these changes was a reversal in poverty-level trends. Poverty rates particularly increased amongst younger people from the end of the 1990s until the middle of the last decade, and then they stabilized. The picture among the elderly is different. At the start of the period, poverty rates in households with elderly members (about 22 percent in 1997) were higher than those of younger households. In 2001, the trend changed, reaching about 16 percent for elderly households versus 19 percent for younger households in 2002. Since then, there has been a rise in poverty rates for both groups, although it has been more rapid among the younger population. Today, 17 percent of households with elderly members live below the poverty line, versus 21 percent among households that have no elderly members.

A comparison between households headed by an elderly person and all households with elderly members shows a similar trend of changing poverty rates over time. Yet poverty rates in households headed by a retirement-age person are consistently higher, with the exception of 2009. Thus it seems that the elderly who live with other family members in the work force are more able to avoid poverty and manage economic hardships. This comparison suggests that the official data of the NII regarding poverty amongst the elderly (for example, as presented in the annual survey results) is somewhat biased since it only shows the

households headed by the elderly, and ignores the sizable share of elderly who live with younger family members.

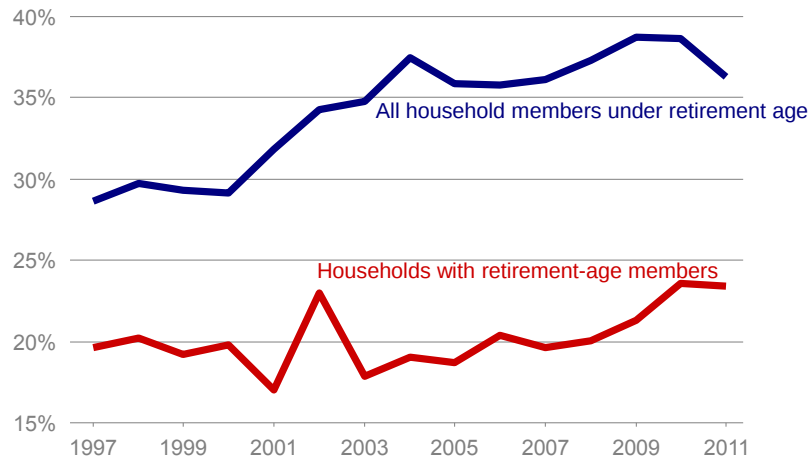
As noted, the relatively low poverty rate among the elderly as compared to the young is likely due to a combination of factors such as the composition of the households in which they live, the level of government support they receive, their entitlement to employment pensions, and their continued economic activity in the work force. These assumptions will be discussed in greater depth.

Many studies show that the “poverty line” is only one parameter to describe the economic situation, and that there is great variety within the population defined as poor, that is, those who live below the poverty line (see, for example, NII, 2013). In order to more accurately assess the situation of the poor, the “depth of poverty” must be examined to estimate just how far below the poverty line various population groups fall. Depth of poverty is measured in terms of “the poverty gap ratio” – the percentage gap between the average income of poor households and the poverty line (NII, 2013). The greater this gap, the lower one’s placement below the poverty line, attesting to greater poverty. Figure 2 presents the average depth of poverty in households without retirement-age members versus households with at least one retirement-age member. The lines present the distance of each of the two types of households from the poverty line in percentages.

Figure 2

Depth of poverty

the gap between average income of poor households and the poverty line, in percent, by household composition, 1997-2011*



* Data for 2000-2001 do not include residents of East Jerusalem

Source: Haya Stier and Haim Bleikh, Taub Center

Data: Central Bureau of Statistics

The picture of the poverty gap raises two important findings. First, poverty is less deep for households with elderly members than for those with no elderly members. Thus, for example, in 2011, the average income for poor households with elderly members was 24 percent below the poverty line, as opposed to homes without elderly members, where it was 36 percent below the poverty line. Relatively small gaps were registered between the two types of households at the start of the period (1997) – 20 percent versus 29 percent respectively. That small gap can, on the one hand, be attributed to the universal old-age benefit and the income supplement that enabled most of the elderly, even those who did not succeed in escaping poverty, to enjoy a standard of living resembling that

of households not having any elderly members. On the other hand, the existence of a gap in favor of the elderly could also be attributed to the fact that most elderly households are smaller than those of the younger population.

Yet the two types of households have both seen an increase in the depth of poverty over the years. The average depth of poverty among younger households has grown from 29 percent beneath the poverty line in 1997 to 36 percent today. Among households with elderly members, poverty has deepened from 20 percent to 24 percent beneath the poverty line. In other words, among younger households, not only has the depth of poverty increased over time, but the gap relative to elderly households has also grown. Among the elderly, while there has been a noticeable decrease in poverty rates, the poverty gap ratio for those under the poverty line has increased. It can be concluded that despite the decline in elderly poverty rates, and despite the increase in government transfers to the elderly – most of which, as noted, are universal – the plight of those elderly persons classified as poor is worse than in the past, on average. To understand the factors behind this deterioration, within the context of the general decline in poverty rates of the elderly, the social characteristics of this population as well as their income sources must be examined and will be further discussed in the proceeding section.

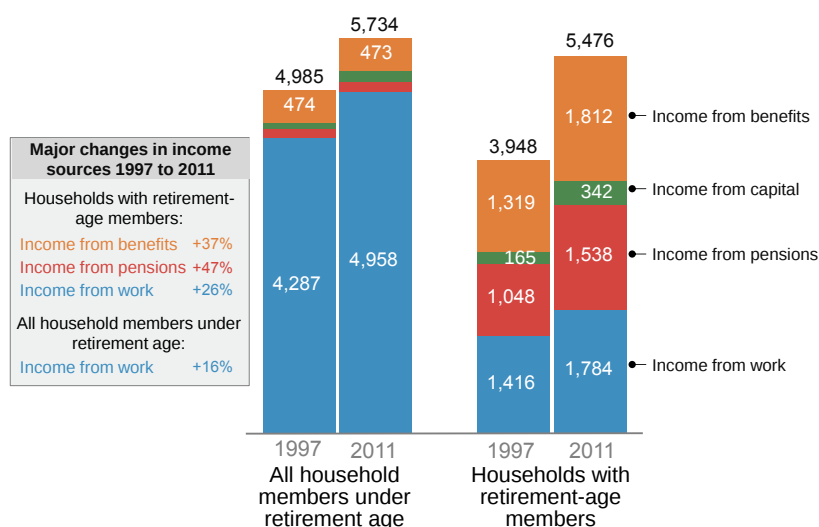
2. Income Sources of the Elderly Population in Israel

The discussion in this section will focus on income sources of the elderly population in Israel and on the extent to which changes in poverty rates and in depth of poverty can be attributed to changes in income sources. Households with elderly members have three main income sources: (a) government support, particularly the old-age benefit paid to the general elderly population; (b) employment pensions; and (c) work income from those elderly those are still active in the work force or from other household members of working age who contribute economically.

Another possible income source for these households is capital income. Over the years, several important changes have occurred regarding income sources in households with elderly members: (a) the percentage of elderly living in households that receive income from employment pensions is on the rise. Employment pensions were paid to 48 percent of those reaching retirement age in 1999, in comparison to 51 percent in 2011 (Figure 7); (b) over the years, there has been a rise in the percentage of workers who do not leave the work force upon reaching retirement age. Kimhi and Shraberman (2013) show that work force participation amongst 65-74-year-old men rose from 20 percent in 2000 to 30 percent in 2011; and, at the same time, participation in the work force by women in that same age range rose from 7 percent to 12 percent. While part of that increase, particularly among men, is a result of the rise in the retirement age, nonetheless, many elderly persons who have reached retirement age are still involved in economic activity. In the wake of this activity, there has been a rise in the labor income of the elderly population; (c) the old-age benefit paid to those of retirement age has increased (NII, 2012).

Figure 3 presents the income sources of households with retirement-age members in 1997 and 2011. The figure relates to gross income per standardized person in 2011 prices, such that incomes for the two time periods can be compared.

Figure 3
Gross monthly household income
 per standardized person, in 2011 shekels, by household type
 and source of income, 1997 and 2011



Source: Haya Stier and Haim Bleikh, Taub Center

Data: Central Bureau of Statistics

The figure indicates three income sources of similar weight among households with retirement-age members: labor income, employment pensions and government benefits. These three components have each grown over time with the rise in the standard of living, yet the relative weight of each remains similar. Pensions reflected 27 percent of gross income per standardized person in 1997, and their weight had risen to 28 percent in 2011. Employment income was 36 percent of the total gross income per standardized person in 1997, and decreased to 33 percent in 2011. Government support accounted for 33 percent of gross income per standardized person in both periods. Over time, income from capital rose somewhat as well. The rise in every income source points to an

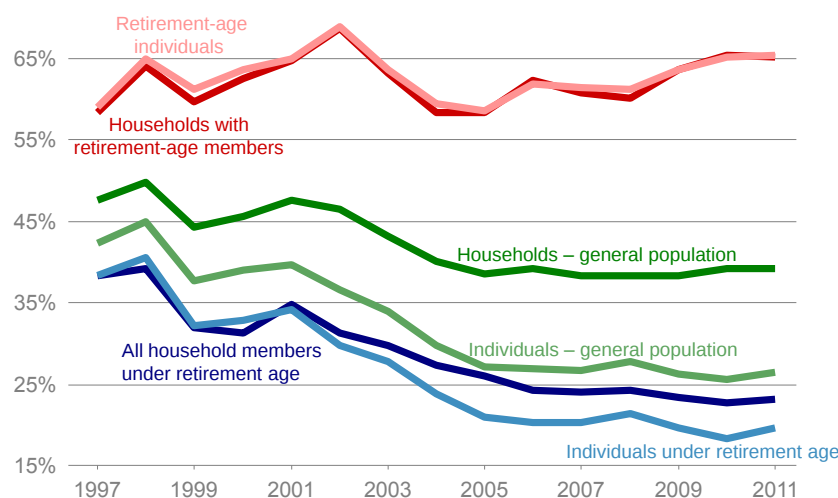
improvement in the economic status of households with elderly members, and to a great extent also explains the decrease in poverty rates.

In comparison to households with elderly members, there have been minor changes in income per standardized person in younger households. As expected, in these households, most of the income comes from labor, as these households have members of working age. Only a minority of income comes from government or other sources. An interesting point is that while there has been a noticeable rise in income per standardized person in elderly households, the rise in younger households has been more modest and comes entirely from changes in labor income. The government has not increased support during this time period, and has even cut back on major allowances to this population, such as the child allowance. A final analysis shows a very similar income level between younger households and those of the elderly in 2011, due to increased income for the elderly. Figure 3 shows that the increase in income of elderly households between 1997 and 2011 comes mainly from the increase in pensions (by 47 percent) and government support (by 37 percent).

As noted, most of the elderly do not participate in the work force, and their main income comes from employment pensions and government allowances. As the data shows, government support, namely old-age benefits, reflect about a third of the income to elderly households in both time periods. The increase in government support brings with it an increased standard of living and a decrease in poverty in some households.

Indeed, within the elderly population, there is great importance to government support, especially since a sizable segment of this population has no other income source. Figure 4 presents the decline in poverty rates after transfer payments and tax deductions for retirement-age individuals relative to pre-retirement-age individuals, and for households with elderly members as compared to those without. In other words, the percentages shown represent the decrease in poverty accounted for by transfer payments and tax deductions for each population group.

Figure 4
**Percent decline in poverty rate in market income
 versus disposable income poverty rate**
 among individuals and households, 1997-2011*



* Data for 2000-2001 do not include residents of East Jerusalem

Source: Haya Stier and Haim Bleikh, Taub Center

Data: Central Bureau of Statistics

The figure shows that transfer payments and tax deductions reduce poverty substantially more among the elderly than among the younger population. Thus, for example, in 2011, allowances and tax breaks contributed to a 65 percent reduction in poverty rates among the elderly, whereas among the younger population, allowances and tax breaks decreased poverty rates by only about 20 percent for households and even less than that for younger individuals. Even when examining long-term trends, the government's effectiveness in reducing poverty for the elderly is fairly stable. In contrast, over the course of time, different trends are reflected among younger households. Specifically, it appears that the

government's influence in decreasing poverty among the younger population has been declining. While the taxation system and government transfers contributed to reducing poverty for the younger population by about 38 percent in 1997, the decrease was only about 20 percent in 2011. These differences are due in large part to reductions in child allowances and other benefits to the younger population. Social characteristics, such as family size, place those under retirement age at a higher risk of poverty (NII, 2012).

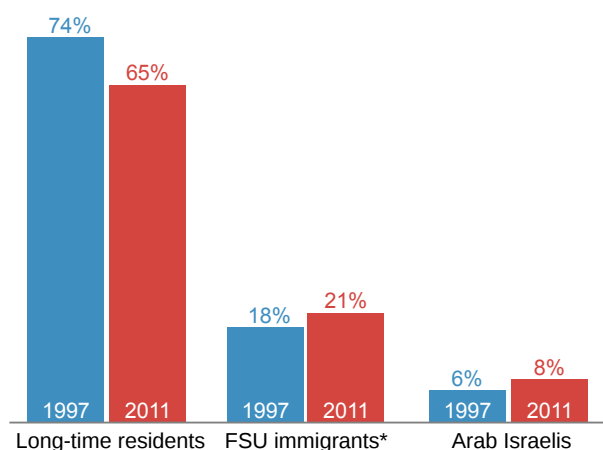
In conclusion, poverty rates among the elderly population in Israel are low in comparison to those of the younger population. Thanks to universal allowances and government support of those elderly who lack other income sources, the welfare system succeeds in decreasing the poverty for this population more than it does for the younger population.

3. Heterogeneity Among the Elderly

Just as with the general population, there is great variety in the social characteristics of the elderly and their households. That variety is highly linked to differences in the availability of income sources and to the risk of poverty for household members. In this section, three segments of the elderly population are examined in detail: (1) "long-time residents," consisting of Jews who were born in Israel or who arrived before 1989; (2) the population that moved to Israel from the former Soviet Union after 1989; (3) the Arab Israeli population.

Figure 5 presents the breakdown of these three groups at two time periods: 1997 and 2011. In recent decades, the relative percentage of elderly Jewish long-time residents in Israel has decreased: from 74 percent of the total elderly population in 1997 to 65 percent today. In contrast, the relative percentage of the other two groups among the elderly population has increased: from 18 to 21 percent for immigrants from the former Soviet Union, most of whom arrived prior to 2005; and from 6 to 8 percent for the Arab Israeli population.

Figure 5
Distribution of retirement-age individuals
 by population group, 1997 and 2011



* Data do not include immigrants from other countries

Source: Haya Stier and Haim Bleikh, Taub Center

Data: Central Bureau of Statistics

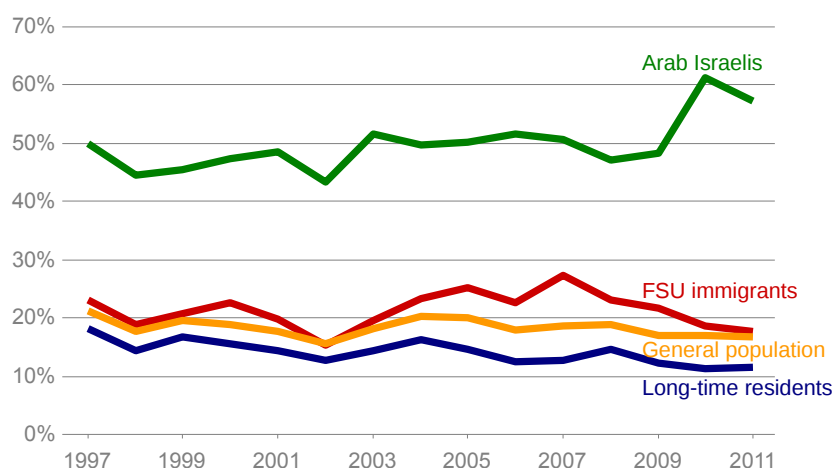
These demographic changes influence the picture of poverty and inequality in the elderly population, inasmuch as a sizable portion of the immigrants from the 1990s arrived in Israel at an older age and did not have enough time in Israel to qualify for any meaningful pension. The increased share of immigrants from the former Soviet Union among the elderly population greatly increases the share of the population that relies primarily on government support. This group is also characterized by low employment rates and by a low income level relative to the long-time resident group (Kimhi and Shraberman, 2013). Among the Arab Israeli population, the share of elderly people is very low, due, on the one hand, to high fertility rates, and on the other, to low life expectancy among their elderly (Central Bureau of Statistics, 2013). The Arab Israeli population

thus reflects a small minority out of the elderly population in Israel. At the same time, since poverty rates amongst Arab Israelis are very high, one can assume that their elderly face more severe economic difficulties than do the elderly of the other two groups. Likewise, this group has the lowest rates of participation in the work force beyond retirement age, compared to the other two elderly population groups in Israel (Kimhi and Shraberman, 2013).

An examination of poverty rates among the elderly³ in the three groups between 1997-2011 (Figure 6) shows substantial differences among them, both in the rates themselves and in the long-term trends. Poverty rates among elderly Arab Israelis are the highest: about 60 percent live below the poverty line, compared to considerably lower levels among the Jewish population. About 18 percent of immigrants from the former Soviet Union live below the poverty line, similar to the general elderly population average. Only 11 percent of long-time Jewish residents fall below the poverty line. With regards to long-term trends, there has been a slight decline in poverty rates among long-time residents, and, in recent years, also among immigrants from the former Soviet Union. By contrast, among the elderly Arab Israeli population, poverty rates are high and stable – about 50 percent in most years, although decreases were recorded early in this time period, followed by an increase to 60 percent in 2010 and a small decrease since then.

³ From among all the retirement-age elderly, including those living in households headed by a working-age individual.

Figure 6
Percent of retirement-age individuals below the poverty line
 by population group, 1997-2011*



* Data for 2000-2001 do not include residents of East Jerusalem

Source: Haya Stier and Haim Bleikh, Taub Center

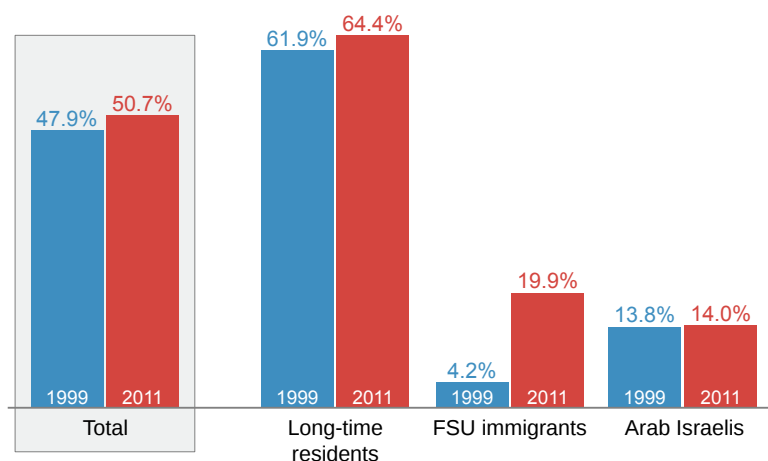
Data: Central Bureau of Statistics

The decrease in poverty rates among households of long-time residents apparently reflects the increasing share of elderly persons who have accumulated pensions during their lifetimes. Figure 7 presents the percentage of elderly, from retirement age and up, who live in households with income from employment pensions.⁴ This figure accentuates the sizable difference between the three groups – about two-thirds of all

⁴ Employment pensions are generally paid out to those who have stopped work in order to retire; however households can also include individuals who have not yet reached retirement age and who receive employment pensions, living together in the household with an elderly person who has no employment pension. Moreover, entitlement data for pensions are lower in practice than those shown in Figure 7, for not all elderly persons in the household are necessarily entitled to employment pensions.

elderly Jewish long-time residents benefit from a pension component to their household income, a rise of about 2.5 percentage points since 1999. By contrast, only 20 percent of immigrants from the former Soviet Union, and less than 15 percent of elderly Arab Israelis, live in households that benefit from any pension payments. There is a noticeable rise in the percentage of immigrants entitled to pension payments, in accordance with the growing number of years they lived in Israel and their accumulated rights over that time. It is harder to reach any conclusion about the Arab Israeli elderly population due to its relatively small size, although the figure suggests a fairly low rate of pension recipients amongst elderly Arab Israelis. The low rate of pension coverage of Arab Israelis derives from the ongoing difficulties of this population in the work force, and its particular vulnerability. In the past, Arab Israelis did not have high employment rates in organizations bound by collective wage and pension arrangements. It may well be that changes in employment arrangements, particularly the transition to employment through temporary employment agencies, the decrease in the employment of blue-collar workers, and the decreased power of organized labor in general hurt Arab Israelis more than other groups.

Figure 7
Percent of retirement-age individuals living in a household receiving income from pensions
 out of all retirement-age individuals, 1999 and 2011



Source: Haya Stier and Haim Bleikh, Taub Center

Data: Central Bureau of Statistics

One of the central factors in preventing poverty among the elderly is pension eligibility. The poverty rate among all households with at least one elderly member entitled to a pension stands at 2 percent.⁵ By contrast, in households with elderly members and no pension income, poverty rates are relatively high, even though these households may have other forms of income, such as income from work or from capital, as was shown in Figure 3. Figure 8 shows trends in poverty rates for the years 1997-2011 among the elderly for the three population groups in question, as compared to the general elderly population. The figure shows that among Arab Israelis who live in households without pension income, poverty rates stand between 65 and 75 percent, with small changes over

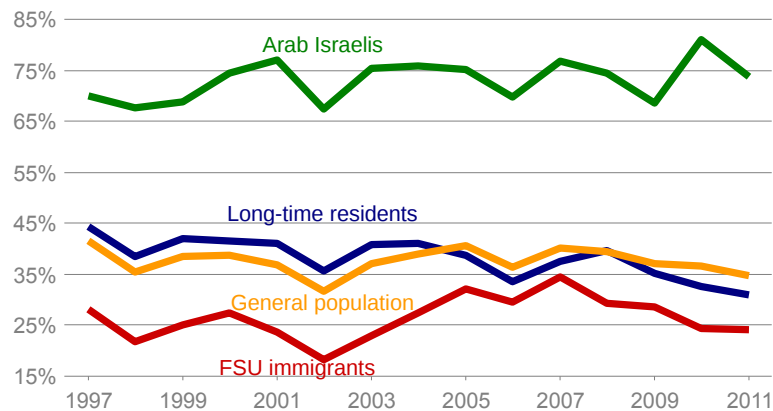
⁵ Due to the low number of observations, poverty rates among those entitled to pensions in the three population groups are not presented.

the period. Among long-time residents and immigrants from the former Soviet Union, poverty rates stood at 31 percent and 24 percent, respectively, in 2011. The relatively low poverty rate in this group derives from the eligibility of immigrants from the former Soviet Union for income supplements and others forms of support. Among the general elderly population, there was a rise in poverty rates at the beginning of the 2000s, yet similar to the trend for long-time residents, there has been a decrease in poverty in recent years.

Figure 8

**Poverty rates among retirement-age individuals
living in households with no income from pensions**

out of all retirement-age individuals in households without income from pensions, by population group, 1997-2011*



* Data for 2000-2001 do not include residents of East Jerusalem

Source: Haya Stier and Haim Bleikh, Taub Center

Data: Central Bureau of Statistics

4. Living Arrangements Among the Elderly Population

One method of dealing with poverty and economic need, as well as with the physical and social hardships that often accompany the elderly, is shared living arrangements with working-age relatives (Phua, McNally and Park, 2007; Lee, 2009). Most of the elderly in Israel maintain independent households, and most own their own apartments. In about 80 percent of elderly households, the head of the house or spouse has reached retirement age.⁶ Conversely, 20 percent of households with elderly members are households headed by a younger person, that is, households headed by a working-age individual.⁷

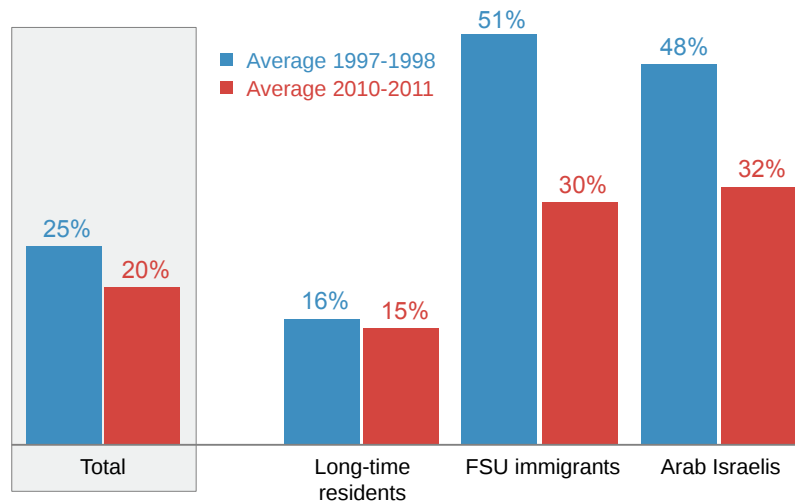
Figure 9 compares the share of households with elderly members that are headed by a working-age individual for two time periods (1997-1998 and 2010-2011), among the three elderly population groups under discussion – long-time residents, immigrants from the former Soviet Union and Arab Israelis. According to the figure, during this period, there was a 5 percentage point decline in the share of all households that are headed by a working-age individual and have an elderly person living with them. A sizable percentage of this decline can be attributed to the change in living arrangements of immigrants from the former Soviet

⁶ A household in which only one person within a couple has reached retirement age is also defined as having a “retirement-age head of household.” The head of the household is determined by the degree of involvement in the work force. In some households, for example, the elderly man has ceased working, but the woman is still in the work force and is thus considered the head of the household. The reverse is also the case if a man is still in the work force and the woman has ceased working.

⁷ “Households headed by a working-age individual” are households headed by someone who works and has not yet reached retirement age, and in which at least one household member is of retirement age and is not married to the head of the household. An example of such a household would be a young couple who lives with their children and the parent of one member of the couple. Such a household is defined as an “extended family” or “extended household.”

Union, who in the first years of their arrival in Israel often resided in extended living arrangements with younger family members, yet, as the years passed, established separate households. Indeed, as the figure shows, in 1997, half of households in which elderly Soviet immigrants lived were extended households, whereas today only about 30 percent are households of this type. Among Arab Israelis, the phenomenon of joint residences for the elderly in households headed by the young is also widespread. Here as well, since the end of the 1990s, there has been a trend towards a declining share of elderly households headed by the young – from 48 percent to 32 percent. Among long-time residents, the share of extended homes is lower (15 percent) and has been relatively stable over time.

Figure 9
Percent of households with working-age head of household*
 out of all households with retirement-age members,
 averages for 1997-1998 and 2010-2011



* Neither head of household nor spouse is of retirement age

Source: Haya Stier and Haim Bleikh, Taub Center

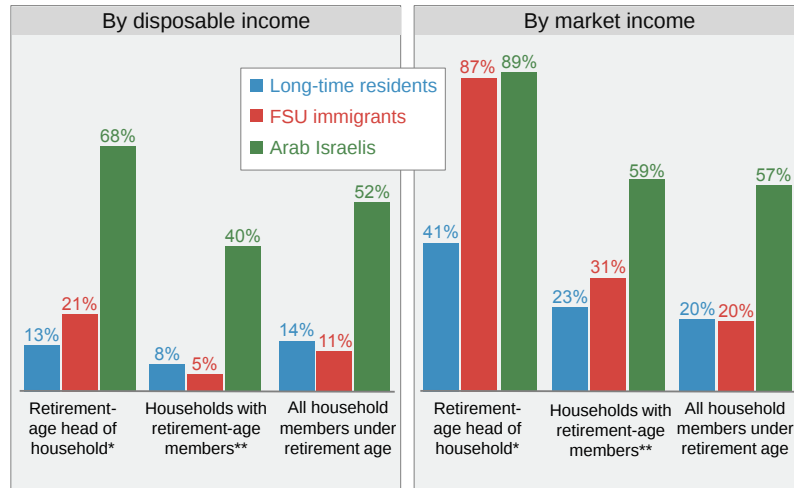
Data: Central Bureau of Statistics

How do living arrangements influence poverty rates within the elderly population and can these living arrangements be viewed as a strategy for families (be they elderly or young) in dealing with the hardships of poverty?

Figure 10 presents the percentage of households under the poverty line from 2010-2011, for each of the three groups: long-time residents, immigrants from the former Soviet Union and Arab Israelis, both among households headed by working-age individuals (with and without elderly members), and households headed by the elderly. The left side presents the percentage of poor households according to disposable income, that is, after the payment of taxes as well as the receipt of allowances and benefits. The right side relates to market income (market income includes income from work, employment pensions, and capital gains, before taxation and before receiving governmental support). Comparing the share of poor households by disposable income shows that in extended families headed by a working-age individual and also containing retirement-age members, the share of poor households is substantially lower than in those headed by an elderly person. Living arrangements of extended families are characterized by households with lower poverty rates.

The differences regarding percentage of households under the poverty line are particularly salient among the more vulnerable populations – Arab Israelis and immigrants from the former Soviet Union. Among all households headed by an elderly person, the poverty rate is 19 percent, versus 10 percent for households with an elderly member but headed by a person of working age (not shown in figure). This difference in poverty rates according to housing arrangement is consistent for all groups: amongst long-time residents, the percentage of poor households headed by an elderly person is 13 percent, versus 8 percent for households with an elderly member but headed by a person of working age. The percentages are 21 percent versus 5 percent respectively amongst immigrants from the former Soviet Union, and 68 percent versus 40 percent respectively amongst Arab Israelis.

Figure 10
Percent of households below the poverty line
 by household type, average for 2010-2011



* Head of household is retirement age, or classified as spouse of retirement-age individual

** Neither head of household nor spouse is of retirement age

Source: Haya Stier and Haim Bleikh, Taub Center

Data: Central Bureau of Statistics

These differences are also noticeable when market income is examined.⁸ Practically speaking, a comparison of the difference between poverty rates by market income and disposable income shows that government transfers and tax deductions to elderly Arab Israelis and immigrants from the former Soviet Union have a greater influence among those living in extended families headed by the young than in families headed by an elderly person. Among elderly immigrants from the former Soviet Union living in households they themselves head, taxes and

⁸ Market income includes income from work, employment pensions, and capital gains before taxation and before receiving governmental support.

government allowances decrease the rate of poverty by 76 percent, whereas amongst elderly persons who reside in households headed by young people, the decrease is 85 percent. Among Arab Israelis, the decrease is noticeably less in both types of families, although the trend is similar – 23 percent and 32 percent respectively. Among long-time residents, there is no actual difference in the decrease in poverty between household types – 69 percent and 67 percent respectively.

An examination of income sources for both groups – households headed by an elderly person and those headed by the young – points to the importance of housing arrangements, especially within a population entirely dependent on government allowances. Income sources for each of the three elderly population groups examined are presented in Figure 11. The figure shows that the main sources of income in retirement-age headed households are pensions and government support. A smaller portion of income is from work or from capital gains. Figure 11 also shows that among certain populations, retirement-age individuals living in households they themselves head are more likely to live under the poverty line than if they live in extended families.

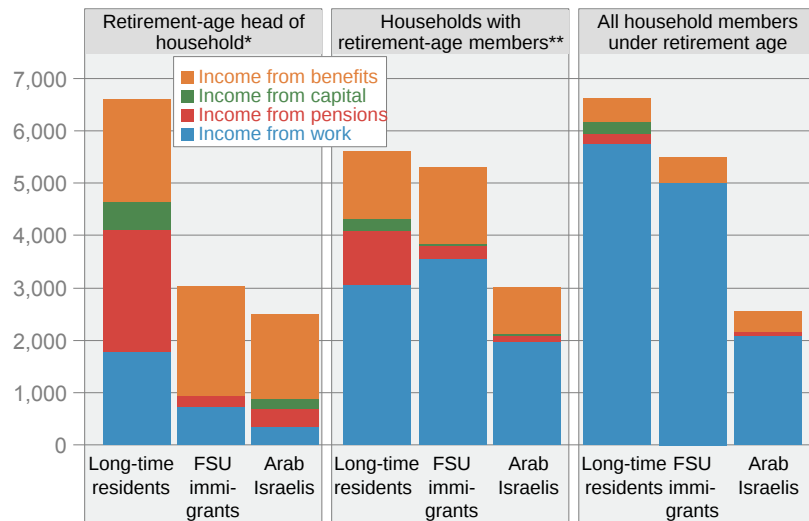
Among the long-time resident Jewish population, the income from pensions in households headed by an elderly person reaches an average of NIS 2,309 per month per standardized person, versus NIS 1,036 in households with elderly members headed by working-age persons. Sixty-two percent of households headed by an elderly person have some income from pensions, which account for an average NIS 3,984 in total household income (see Appendix Figures 2 and 3). Only 54 percent of extended households have pension income, which accounts for an average NIS 2,877 in total income. In other words, those elderly who live in extended families have relatively lower pension incomes. It can thus be assumed that if they were to establish their own, independent households, their standard of living would be lower still. This is especially likely considering that the general standard of living of households headed by an elderly person among the long-time resident population is higher than that of households with elderly members headed by younger persons. The average income per standardized person in households headed by an

elderly person is NIS 6,600 per month versus NIS 5,600 in households that also have an elderly resident headed by a younger person. In households headed by an elderly person, income from government support is larger, both due to a higher percentage of both spouses receiving an old-age benefit, and because on average, these elderly persons have accumulated a higher level old-age benefit (for details on eligibility for old-age benefits, see Azary-Viesel and Stier, 2014; NII, 2012). Also their income derived from capital gains is higher. By contrast, as expected, the income from work is higher in households headed by a working-age person.

Figure 11

Gross monthly household income

per standardized person, by household type, population group and income source, 2011



* Head of household is retirement age, or classified as spouse of retirement-age individual

** Neither head of household nor spouse is of retirement age

Source: Haya Stier and Haim Bleikh, Taub Center

Data: Central Bureau of Statistics

The picture is somewhat different for the other two population groups, in which, a priori, their eligibility for a pension and the size of their pensions are recognizably lower than that of long-time residents (see Appendix Figures 2 and 3). Among immigrants from the former Soviet Union, there is almost no difference in pension income per standardized person between the two types of households, and even though government support is higher amongst households headed by a retirement-age person, their standard of living falls below that of families headed by a person of working age, in which the main income source is from work. Also, among the Arab Israeli population, the standard of living for extended family households is higher than for households headed by an elderly person. While there is higher income from pensions, capital gains and government benefits in households headed by an elderly person, the standard of living of such households nonetheless falls well below that of households headed by persons of working age: an average of NIS 2,500 per standardized person versus NIS 3,000.

Interesting differences arise when comparing households with retirement-age individuals to households headed by individuals of working age and with no elderly members. Among the Jewish long-time resident population, households without retirement-age individuals enjoy a higher income level, most of which derives from employment. Their standard of living resembles that of elderly persons who head their own households and is higher than that of extended households. The difference between young and extended family households is particularly notable regarding work income – NIS 5,743 per standardized person in young households, versus NIS 3,062 per standardized person in extended households. A similar picture is seen regarding nominal incomes (see Appendix Figure 2). When examining households of immigrants from the former Soviet Union and of Arab Israelis, it can be concluded that shared housing affords the younger household members a higher standard of living on average. With a relatively low addition of individuals, such households enjoy a higher level of government support. For both population groups, income from employment in extended households falls below that of households in which there are no elderly individuals,

but the level of government support is notably higher in extended households, and compensates for the lower level of labor income. Thus the two types of households achieve a similar income. Among Arab Israelis, the extended family achieves a higher standard of living than that of the other two types of households.

It can be concluded that extended living arrangements, which are apparently more prevalent among low-income families, make a substantial contribution to improving the living conditions of the elderly population in economically vulnerable groups – in this case Arab Israelis and immigrants, groups that have not established pension rights as a considerable income source. This is also true, when it is considered that amongst these groups, a sizable share of households headed by the young with elderly members are not necessarily well off. As was shown, the income level per standardized person is lower amongst Arab Israeli and immigrant households in each type of household than it is for Jewish long-time residents. Moreover, it is assumed that an extended household contributes not only to raising the living standard of elderly individuals but that of the younger family, which benefits both from additional pension income and government support. This residential arrangement can be viewed a strategy for avoiding poverty for the entire family, young and old alike.

Spotlight: International Comparisons of Poverty Among the Elderly

As Ben-David and Bleikh (2013), Gornick and Jantti (2011), and many other studies have shown, most developed countries decrease market income poverty to a much greater extent than Israel does. The figure presents market income and disposable income poverty rates for 2010 by age group.⁹ Examining the poverty rate by market income for the general population, before government intervention from taxes or welfare, Israel fares slightly better than the OECD average. Israel has 28 percent poverty rate versus an average of 29 percent, and has a lower poverty rate than 15 other OECD countries. Yet when examining disposable income poverty rates (after government intervention) among the general population, the situation is entirely different. Israel had the highest disposable income poverty rate, at 21 percent, versus the 12 percent average for developed countries. Thus, Israel's taxation and welfare policies decrease the percentage of poor households by just 25 percent, versus an average of 65 percent in developed countries.

The picture becomes even clearer when discussing the economic situation of the elderly. As can be seen, market income poverty rates among the elderly are lower in Israel compared to other countries (47 percent versus an average of 74 percent in OECD countries). Yet the disposable income poverty rates place Israel near the top: 21 percent of all elderly are under the poverty line, versus 12 percent for the OECD average. Israel's taxation and welfare policies decrease poverty among those aged 65 and over by only 55 percent versus an average of 84 percent in developed countries.

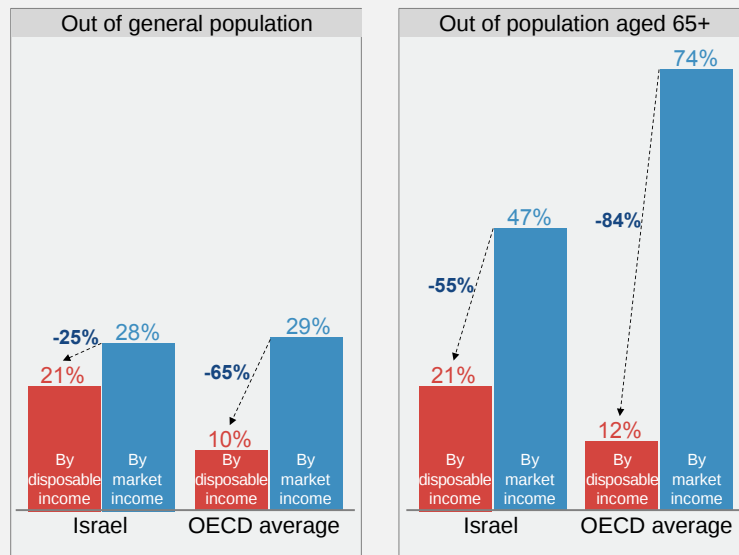
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⁹ Poverty data are calculated in accordance with the OECD approach.

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Figure 12

Percent of individuals under the poverty line
by age of head of household and by income type, 2010*



* OECD calculations are based on those countries which have data available for both the elderly and general population

Source: Haya Stier and Haim Bleikh, Taub Center

Data: OECD

Can it be concluded that Israel's welfare policy is inefficient even with regards to the elderly population? The answer to this question is complex, as the market income structure in every country must first be considered. When dealing with the working-age population, market income is mostly composed of income derived from work, a fact that applies for all countries.

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By contrast, there is a great difference in the market income structure of the elderly population, stemming from unique pension and allowance arrangements in each country (Bowers, 2014).

The pension system in Israel is composed of three levels: the first is based on NII allowances, including a universal old-age allowance, and an income supplement to ensure a minimal level of subsistence after retirement age. The second is composed of an employment pensions, amassed over the course of an individual's employment.¹⁰ The third level depends on an individual's own initiative and on his ability to amass additional savings beyond the employment pension (Achdut and Spivak, 2010). In 2008, a reform was initiated in Israel requiring employers and workers to set aside money from wages into a pension fund. Nonetheless, most of today's pension income derives from employment pension arrangements that predate this reform. Unlike in Israel, most developed countries have a pension system based largely on universal government social insurance. Thus, the importance of employment pension plans differs between countries, and in some, is relatively small.¹¹ In countries where financial support for retirement-age individuals is chiefly communal, the share of market income out of total income for the elderly is low. Therefore, market income poverty rates among the elderly are considerably larger in those countries than in Israel, as shown in the figure.

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¹⁰ Budgetary pensions arrangements refer to the defined-benefit pensions paid out of the state budget and provided to veteran state employees, such as teachers, military, police, and local authorities.

¹¹ In a few countries, employment pension plans have been in force over the years, but in most cases they do not apply to the elderly but to younger people who have not yet retired.

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To assess the efficiency of the governmental transfer system, the impact of the size of the elderly population relative to the general population, must be examined. Israel is characterized by a relatively young population. The percent of people 65 and over within the population is relatively lower than in other countries. According to OECD data, people 65 and over account for about 10 percent of Israel's population, versus the OECD average of about 16 percent. The composition of the population influences poverty rates for market income. In countries where market income of the elderly is low or negligible compared to other incomes sources (due to the country's pension policy), and the elderly make up a large share of the population, market income poverty rates will be high across the general population as well, and vice versa¹².

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¹² This can be described by way of an equation for calculating market income poverty rates as a weighted average of poverty rates in sub-populations – the population of those over the age of 65 and the population of those below age 65: $P1m * S1 + P2m * S2 = Pm$.

Pm is the share of poor people by market income across the entire population: $P1m$ is the share of poor people by market income among those 65 and older. $S1$ is the share of those 65 and older within the general population. $P2m$ is the share of poor people by market income among the population under age 65. $S2$ is the share of those under age 65 within the general population. Thus, for example, the contribution of the elderly population to market income poverty rates in the OECD countries is 11.8 percent, whereas the market income poverty rate in the general population is 29 percent:

$$P1m * S1 = 74\% * 16\% = 11.8\%.$$

According to that same calculation, the contribution of the elderly in Israel to poverty rates is just 4.7 percent :

$$P1m * S1 = 47\% * 10\% = 4.7\%$$

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Considering that market income poverty rates for the general population in Israel (28 percent) are similar to those in developed countries (29 percent), it is easy to see that the contribution of those 65 and over to the market income poverty rate of the general population is significantly higher in developed countries than in Israel. Regarding market income, the difference between Israel and the developed countries vis-à-vis the composition of poor populations helps explain the array of considerations and constraints faced by decision makers regarding policies for reducing poverty. Thus, for example, the developed countries are faced with an elderly population that is consistently increasing and that constitutes a large electoral power; a working-age population that is decreasing in size, chiefly due to low birthrates; and a historic social contract according to which the state has a central and important role in funding old-age pensions by way of contributions by the employed. In contrast, Israeli decision makers are faced with an elderly population whose relative percentage – and perhaps relative political power as well – is small, coupled with high poverty rates among working-age families, particularly among large families.

This picture in Israel is entirely different from that of the developed countries, and suggests a different approach to reducing poverty. For example, the developed countries are committed to maintaining a similar level of universal pensions for the current generation of the elderly, even though this is likely to increase the ongoing financial burden on the younger generation. This is the policy because the current elderly population has no other income sources, nor is there any expectation that it will join the work force. Moreover, the array of pension payments is socially embedded and accepted as a behavioral norm. Changes involving sharp cuts in universal pensions are liable to contribute to political pressure and social unrest. Thus, poverty data points to a great emphasis

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on lowering poverty rates among those 65 and older (by 84 percent) in developed countries. Taking into account the large share of elderly in the general population, overall disposable income poverty rates are likewise substantially reduced.

By contrast, the challenges regarding poverty in Israel are different in many ways. Large families constitute a substantial portion of the poor population. From an economic standpoint, it is harder to support large families than smaller ones, such as elderly households.¹³ From this perspective, Israel's welfare system has a hard time greatly reducing poverty. Therefore, the degree to which government intervention reduces poverty among the general population is also much lower in Israel than in developed countries.

In conclusion, the social safety net of developed countries – which for many in Israel are a model worth emulating – are effective in reducing the degree of market income poverty, yet they do not succeed in addressing the fundamental demographic problems that threaten their economic stability. The difference between Israel and these developed countries is due to differences in the composition of the poor population and in pension policy regarding the elderly. In light of this, it is very likely that an international comparison of poverty indices will present a partial or slanted picture of the gaps that actually exist.

¹³ There is constant tension between the size of allocations to working-age families and the negative incentive that these allowances are liable to create with regards to joining the labor force. Additionally, the size of the household influences the degree of effectiveness of transfer payments in lifting the household from below the poverty line.

5. Conclusion

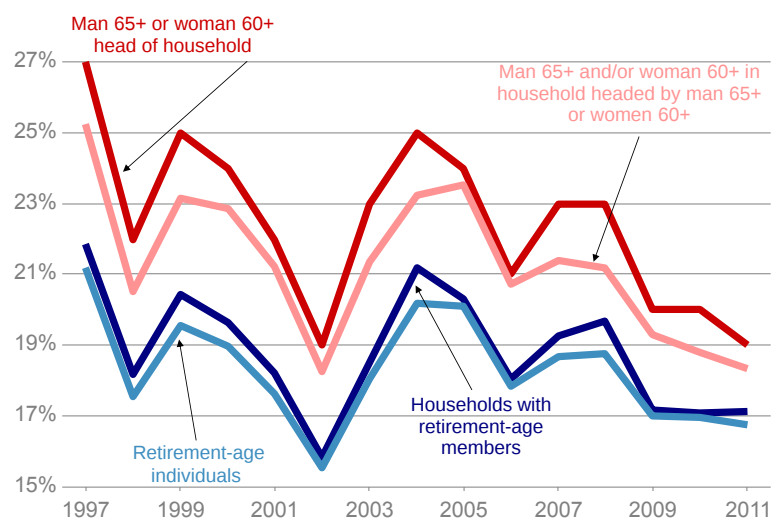
This chapter surveyed the economic situation of the elderly population in Israel with the aim of understanding to what degree that group is successfully lifted from poverty. The chapter also examined differences between social groups within the elderly population. From the findings, it is evident that poverty rates within the retirement-age population are lower than those in the general population and in the younger population in Israel. The welfare system, particularly the system of old-age benefits granted to all those who cease work at retirement age, operates as an efficient mechanism for rescuing elderly people from poverty, as opposed to other support systems granted to the younger population. This finding shows that old-age benefits in Israel are efficient at extricating people from poverty and at improving the standard of living of this vulnerable population group, both because they cover the entire elderly population and because they have been less eroded than other benefits over the years.

At the same time, despite the entitlement to old-age benefits, not all elderly populations succeed in living above the poverty line. The main finding of this research is the fact that income from pensions is the most central component to improving the standard of living within the elderly population, and in affording economic security during old age. Among elderly persons living in households enjoying pension income, poverty rates are extremely low. Lack of a pension largely explains the economic vulnerability of immigrants from the former Soviet Union – many of whom have been unable to accumulate pension savings during their time living in Israel – and of Arab Israelis, who have worked predominantly in workplaces that do not offer pensions. Presumably now that pension contributions are mandatory in Israel, the economic standing of future generations of elderly people will improve, although it must be noted that the size of pension savings is a direct result of a worker's wage levels and employment history.

This chapter points to the great importance of living arrangements among the elderly population, an issue often ignored when the economic condition of this population is being examined. Thus, for example, Israel's official data (the data of NII, as compiled from their annual surveys), describes to households headed by the elderly or to households headed by working-age individuals, but does not relate to the extended group of mixed elderly and young households. International research has similarly found that shared residences are an effective strategy for overcoming economic difficulties, both for younger people and for the elderly (Phua et al., 2007; Lee, 2009; Isengard and Szydlic, 2012). This sort of living arrangement allows elderly persons with a paucity of income sources, especially those lacking pension income or income from work, to improve their standard of living when they would otherwise be exposed to poverty and economic hardship. The combination of labor income contributed by younger people living in the household and government support received by the elderly helps raise the standard of living for the entire household. This strategy of extended residences is more widespread among groups that are economically vulnerable – Arab Israelis and immigrants from the former Soviet Union (Burr et al., 2012). At the same time, there may well be other reasons for shared residences beyond the economic motive, such as cultural, health or social factors. It appears, however, that government support on its own cannot guarantee economic security to those elderly persons who lack income from pensions or other sources.

Appendices

Appendix Figure 1
Share of households and individuals below the poverty line
 by household type, 1997-2011*

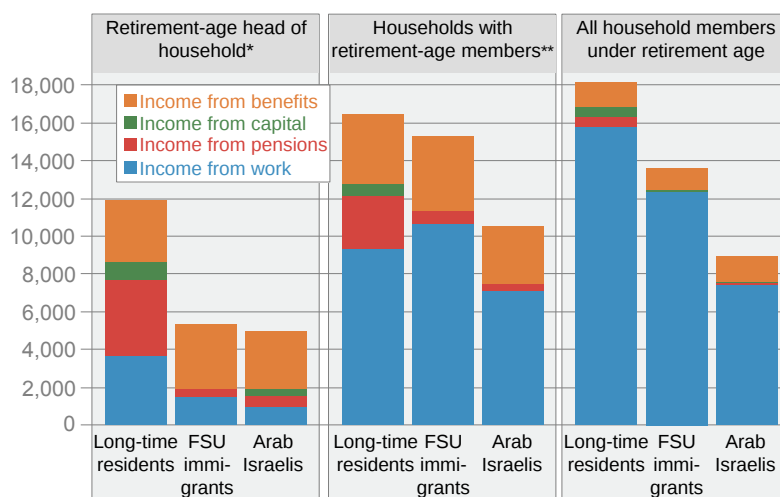


* Data for 2000-2001 do not include residents of East Jerusalem

Source: Haya Stier and Haim Bleikh, Taub Center

Data: Central Bureau of Statistics

Appendix Figure 2
Gross monthly household income
 by household type, population group and income source, 2011



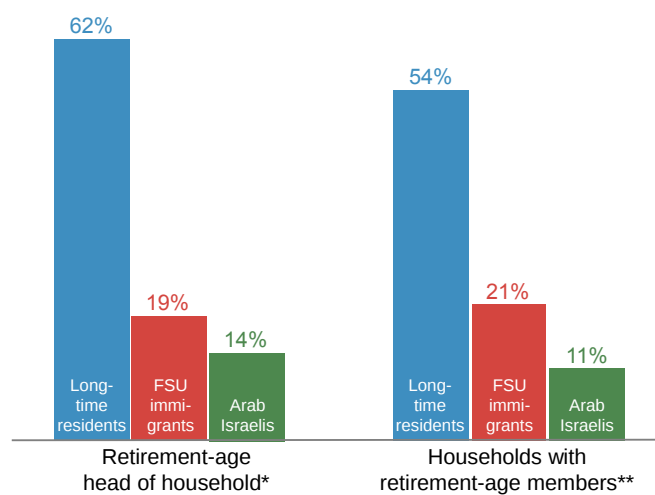
* Head of household is retirement age, or classified as spouse of retirement-age individual

** Neither head of household nor spouse is of retirement age

Source: Haya Stier and Haim Bleikh, Taub Center

Data: Central Bureau of Statistics

Appendix Figure 3
Share of households with income from pensions
by household type and population group, 2011



* Head of household is retirement age, or classified as spouse of retirement-age individual

** Neither head of household nor spouse is of retirement age

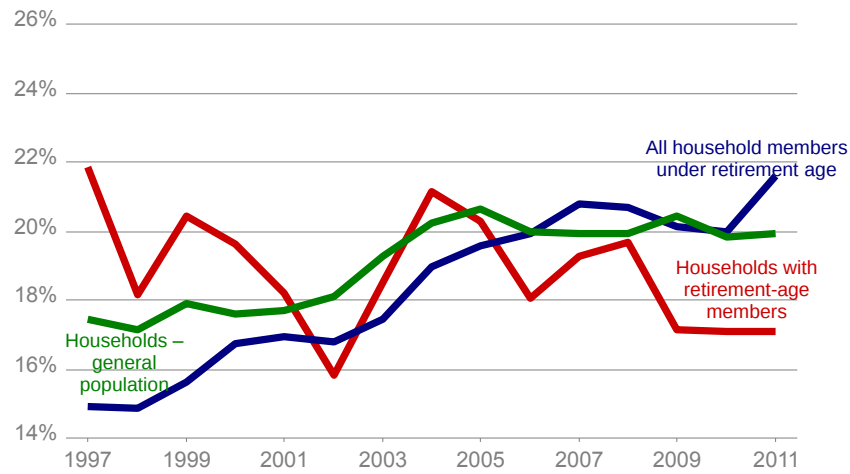
Source: Haya Stier and Haim Bleikh, Taub Center

Data: Central Bureau of Statistics

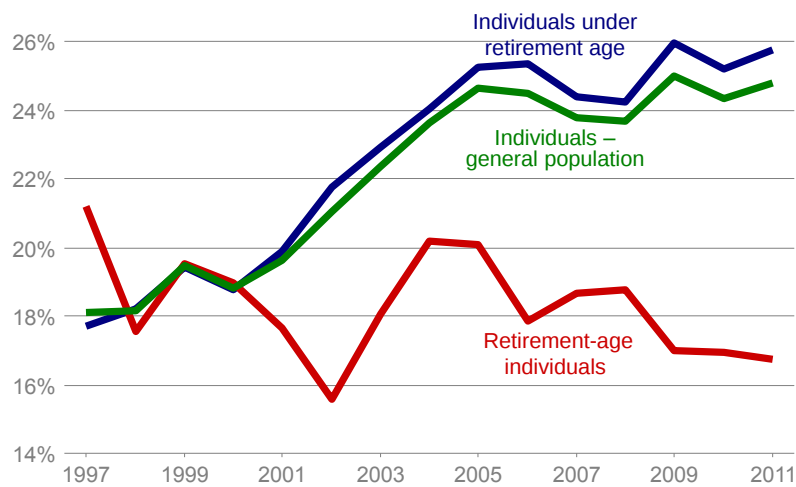
Appendix Figure 4

A. Share of households below the poverty line

by household type, 1997-2011*

**B. Share of individuals below the poverty line**

by age, 1997-2011*



* Data for 2000-2001 do not include residents of East Jerusalem

Source for both: Haya Stier and Haim Bleikh, Taub Center

Data for both: Central Bureau of Statistics

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Welfare Budgets for Israel's Elderly Population

Sagit Azary-Viesel and Haya Stier*

Abstract

This chapter reviews the budgets allocated to the care of Israel's elderly population and the various allowances and services intended for them. The review points to an increase in the allowances provided by the National Insurance Institute and the success of these benefits in distancing the elderly from the poverty line. Yet, the level of transfer allowances has deteriorated over time in relation to the rise in the standard of living in the economy. Along with the allowances, many services are provided for the elderly, some of which serve a large portion of the elderly population (i.e., long-term care benefits), while others, such as assistance with housing, are intended for more specific groups. The dispersion of budgets and services intended for the elderly among different government ministries adversely affects the ability to follow up on the implementation of funding, leads to wasted resources and causes incomplete utilization of benefits by the intended beneficiaries of the allowances and services.

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Introduction

Israel is a country characterized by a relatively young population, with the elderly constituting about 10 percent of the overall population (Central Bureau of Statistics, 2013). Yet, in Israel, too, this population group is on the rise. The aging population and growing share of the elderly in the population, typical of the Western world, has broad implications for social policy. These processes require greater allocation of resources for the elderly, sometimes coming at the expense of budgets for other populations that are also in need of assistance (Brooks and Manza, 2006). Various welfare policies in many countries are even perceived as biased to the benefit of the elderly population, due to diverse political and ideological reasons (Tepe and Vanhuysse, 2010). The aging of the population thus has important implications for the manner in which public resources are allocated and the need for long-term strategic planning for the elderly population.

This chapter presents a survey of the overall public resources invested by Israel in its elderly population, as well as trends over time in this regard. There are two major goals for this study: (1) to examine the extent of assistance provided to the elderly by the country's support network, with particular attention to its efficacy in maintaining the elderly above the poverty line. In this regard, allowances from the National Insurance Institute (NII) and changes in them over time will be reviewed; (2) to map out the services and benefits for the elderly population provided by government ministries. This topic raises questions regarding the manner of budgeting, its necessity, and mainly the extent to which the benefits and services offered are actually utilized by the target population. The chapter concludes with an analysis of most of the public budgets allocated to Israel's elderly population on two levels: budgets distributed as monetary benefits and budgets allocated as in-kind services (non-cash social services such as community-based services). These budgets include old-age benefits, income supplement and long-term care benefits paid by the NII; the expenditures of government ministries, including the Ministry of Social Affairs and Social Services, the Ministry for Pensioner

Affairs, the Ministry of Construction and Housing; construction and housing grants; and other subsidies and transfer allowances.

1. National Insurance Institute Benefits

The National Insurance Institute provides Israel's elderly population, upon reaching the official retirement age, with a variety of allowances whose purpose is to ensure a basic income for those who have retired from active employment. The old-age benefit and survivor insurance are the major components of the social security allowances, and constitute about 37 percent of the total allowance payments of the NII. The old-age benefit alone constitutes about 26 percent of the total allowances paid out by the NII, and it is expected that the share of old-age and survivor insurance will increase as the population continues to age.

Old-Age Benefits

The old-age benefit in Israel is the most basic level of allowance at retirement and is universally granted to each insured person. This allowance guarantees a set monthly income at retirement age and is determined by the age of the applicant, his employment status and whether he was insured by the National Insurance Institute for the required time period set by law. The law differentiates between "absolute age," in which the allowance is paid to every insured person regardless of income, and "conditional age," which is based on meeting the minimum retirement age and is means-tested. In defining the retirement age, some changes have been introduced since June 2004. Until June 30, 2004, the retirement age was 65 for men and 60 for women. As of July 1, 2004, the retirement age began increasing by annually by four-month increments, and currently is 67 for men and 62 for women. For men, the absolute age of eligibility for the old-age benefit, regardless of income or employment status, has remained constant at age 70. For women, the absolute age of

retirement is increasing gradually, with the age ultimately set to increase from 65 to 70 for all those born after May 1950 (NII, 2013).

Every insured person who reaches the official retirement age is thus entitled to the basic allowance, but this entitlement is conditional upon a means test.¹ An insured person who continues to work past retirement age and whose income is higher than the official upper limit for allowance eligibility, or, a person with a high income from sources other than the allowance is entitled to the old-age benefit at the absolute age. In addition to the basic old-age benefit, payments are made for one's spouse and children as well as for seniority supplements to those who have received an old-age allowance and survivor insurance for over ten years. There is also a postponement supplement for those who postpone receiving an allowance until they reach the absolute age for retirement, due to work or high income. An individual who lives solely from the old-age benefit or on a very low income is eligible under certain circumstances to receive an additional income supplement.² By special arrangement with the Ministry of Finance, an old-age benefit is granted to new immigrants who came to Israel at retirement age and were unable to accumulate insurance benefits with the NII.³

Figure 1 shows the changes in the average old-age benefit per capita and the average elderly income supplement per capita (without burial allowance and without survivor insurance) over the last 30 years. That is,

¹ According to the means test, an individual whose earnings from work (not including allowance payments from his workplace) total no more than NIS 5,032 per month and no more than NIS 10,064 per month from non-employment-based income (interest, rental income, etc.) is entitled to an allowance at retirement age. Not included in the means test is income from German reparation payments, differences due to indexing of loans, deposits, or savings plans provided they are exempt from income tax.

² The income supplement is given to an individual, yet takes into consideration the spouse's income. For the complete criteria of entitlement see the NII website: btl.gov.il/benefits/old_age/hashHachZ/Pages/tnaiZakautTosefet.aspx

³ An Israeli resident who is ineligible for the old-age benefit because he came to Israel past the age of 60-62, receives a special allowance from the National Insurance Institute, funded by the Ministry of Finance.

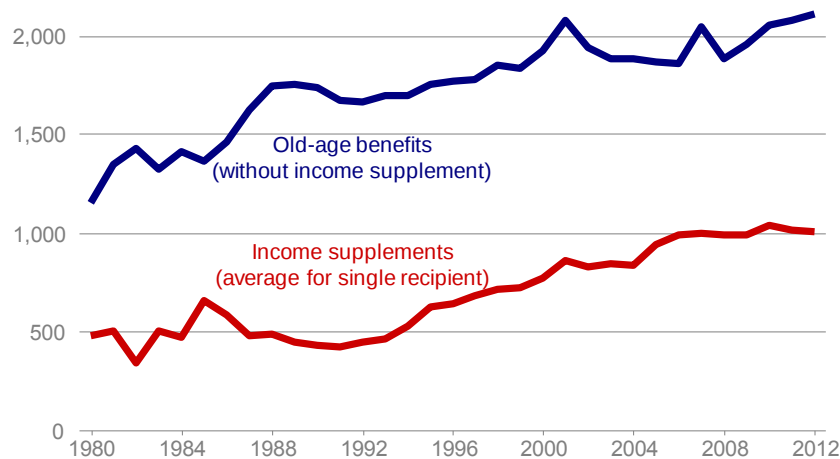
it shows the total old-age benefits payments and the total income supplement payments divided by the number of recipients of each type of benefit.

In 2013, the basic old-age benefit for an individual beneficiary who had not yet reached the age of 70 was about NIS 1,500 per month. The basic elderly income supplement for a single eligible beneficiary totaled about NIS 1,200 per month. As previously noted, in addition to the basic allowance, there are supplements based on seniority, age and children. Since the 1980s, there has been a clear upward trend in the allowance levels. There are some notable landmarks in this regard. The start of the 21st century saw a substantial increase in the allowance levels, but this increase later eroded following changes in economic policy and in the allowance linkage mechanism (i.e., until 2003 allowances were linked to the average earnings in the market; since 2003 they have been linked to the consumer price index). According to data from the National Insurance Institute (NII, 2007), old-age benefits were not updated between 2002 and 2004 and were even lowered in 2004. Altogether, the basic old-age benefit lost about 10 percent of its real value between 2001 and 2004. The elderly income supplement level was not harmed by these changes, as can be seen from the figure.

In 2004, it was decided to gradually increase the age of entitlement for an allowance over a six-year period – from 2004 to 2009. In accordance with the Economic Efficiency Law (2009), it was determined that the basic old-age and survivor insurance benefit would gradually rise by 7.3 percent by 2011. Indeed, in 2009 the old-age and survivor insurance benefit had already increased by 3 percent, and in line with the plan, in January 2011, the 7.3 percent increase was completed (Horev, Keidar and Hershkovich, 2011).

Figure 1 also presents changes in the elderly income supplement, which is paid to those retirees of limited means as an additional supplement. Analysis of the data in real terms (Figure 1) shows that this supplement increased substantially between 2004 and 2006 (17 percent), whereas from 2006 to 2012, there was only a 1.8 percent increase.

Figure 1
**Old-age benefits and income supplements
 for the elderly, 1980-2012**
 in 2012 shekels

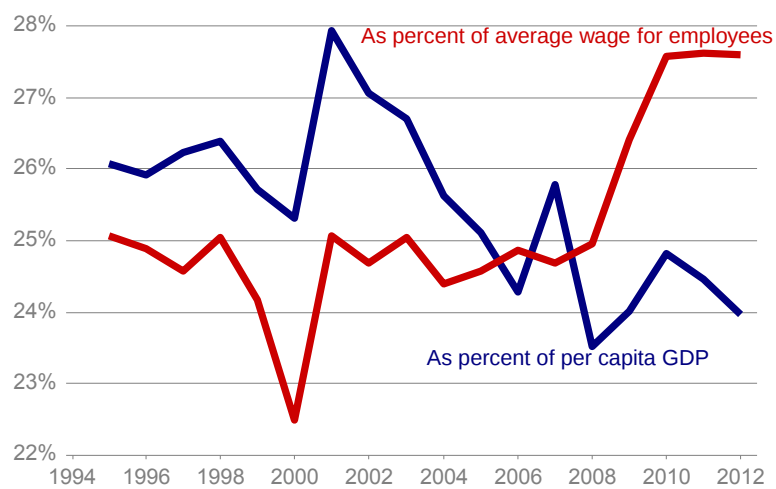


Source: Sagit Azary-Viesel and Haya Stier, Taub Center
 Data: National Insurance Institute

Figure 2 presents changes in the size of the old-age allowance during the past two decades (1995-2012), relative to the per capita income and the average wage in the economy. Generally, from 1995 to 2008, some stability is evident in the size of the allowance as a percent of average earnings, except for a sharp decline in 2000. In 2009, however, there was substantial improvement and the size of the allowance increased from 25 percent of average earnings in 2008 to 27.6 percent in 2010, and has since remained stable at that level. In contrast, when measuring the average allowance as a percent of per capita income for the same time period, a reverse trend is noted from 2002 onward. Assuming that per capita income serves as a standard-of-living index, it can be argued that the old-age benefit does not succeed in staying consistent with the population's average standard of living. In this sense, the elderly population's

condition has worsened since 2002, especially for those whose major source of income is the allowance from the NII. In that year, the allowance stood at 27.1 percent of per capita income, and by 2012, it had declined to about 24 percent. The data clearly show that, relative to the increase in the standard of living in the economy, the allowance has been continually eroding.

Figure 2
Old-age benefits
as percent of per capita GDP and of the average
market wage for employees, 1995-2012

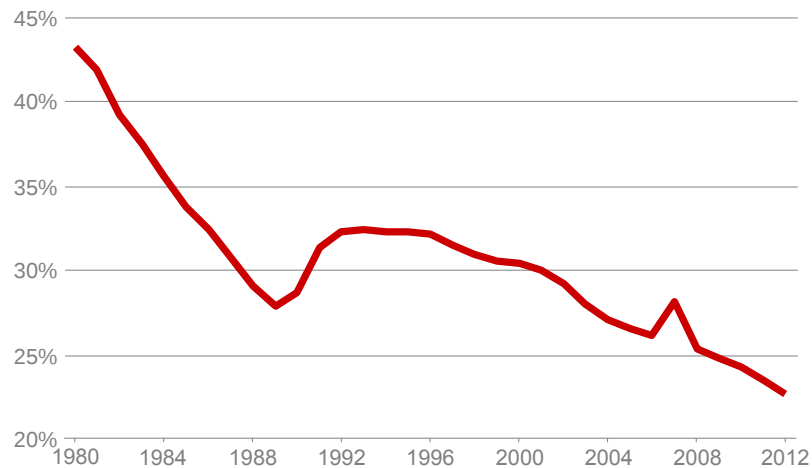


Source: Sagit Azary-Viesel and Haya Stier, Taub Center

Data: National Insurance Institute, Central Bureau of Statistics

Figure 3 presents the percent of actual recipients of the elderly income supplement out of the population of old-age benefit recipients. The figure reflects a downward trend – from about 45 percent in 1980 to about 23 percent in 2012 – explained by an increase in the number of the elderly still employed along with an increase in their incomes from allowances and other sources (Kimhi and Shraberman, 2013). At the same time, there was a decline in the number of immigrants who received the elderly income supplement, which is provided outside of the National Insurance law through an agreement with the Ministry of Finance (NII, 2007). In general, it can be concluded that the decline in the number of recipients of the elderly income supplement was the result of changes within the elderly population itself and did not reflect a change in eligibility conditions.

Figure 3
Recipients of income supplements
 as percent of old-age benefit recipients, 1980-2012



Source: Sagit Azary-Viesel and Haya Stier, Taub Center

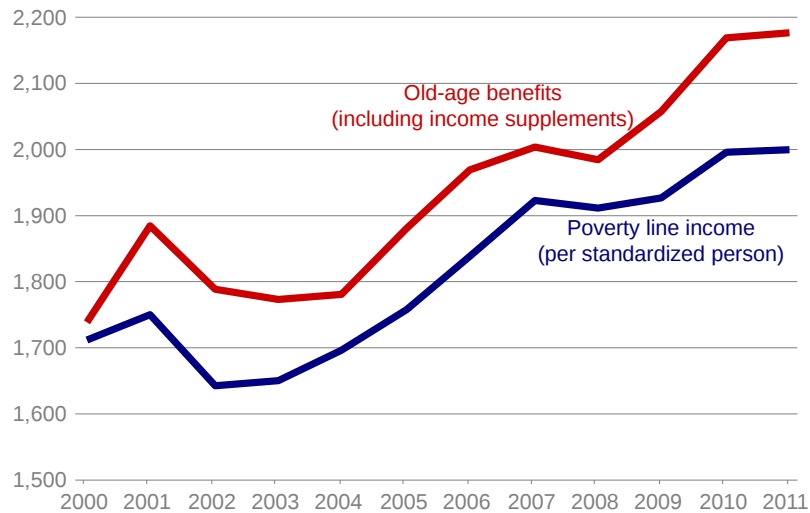
Data: National Insurance Institute

One of the goals of the old-age benefit and the elderly income supplement is to guarantee a minimum standard of living for the population of retirees (Cohen and Antler, 1985). Therefore, one of the important questions is to what extent the old-age benefit in fact succeeds in preventing poverty among its target population. Figure 4 shows the level of old-age benefits for a single elderly person over a ten-year period as compared to the per capita poverty line income.

The figure illustrates the degree of success of government policy in rescuing from poverty those elderly individuals who have no income other than the old-age benefit or the income supplement. Nevertheless, the allowances cannot save this entire population from poverty, as is evidenced by the fact that about 17 percent of elderly households live under the poverty line (Stier and Bleikh, 2014). The poverty line is based on per capita income adjusted to the size of the household. It is important to note that some of the elderly live with their spouses or with other family members, and the allowance itself is insufficient to fully prevent poverty in every existing household structure. Over the years, old-age benefits have increased, widening the gap between these benefits and the per capita poverty line income – which confirms that the allowance has succeeded in distancing the elderly from the poverty line. Although extrication from poverty does not indicate the general standard of living of the elderly, it does constitute an important dimension in the support of the elderly. Further on, this chapter will survey additional benefits provided for this population, including expenditures on in-kind services that offer a solution for a variety of the elderly population's needs.

Figure 4
**Poverty line income and old-age benefits
 for the elderly, 2000-2011**

monthly figures, in 2011 shekels



Source: Sagit Azary-Viesel and Haya Stier, Taub Center

Data: National Insurance Institute

Long-Term Care Benefits

Beyond the universal old-age benefit and support for those of limited means, the NII provides additional help to the elderly who have difficulty with daily functioning and living skills and require supervisory care. The Long-Term Care Law, passed in 1980, was designed to provide individual care for the elderly population within the community framework and applies to all old-age benefit and survivor insurance recipients, and not necessarily to those who are needy. Residents of Israel who have reached retirement age and are dependent upon others for their daily activities or need supervisory care are entitled to the long-term care

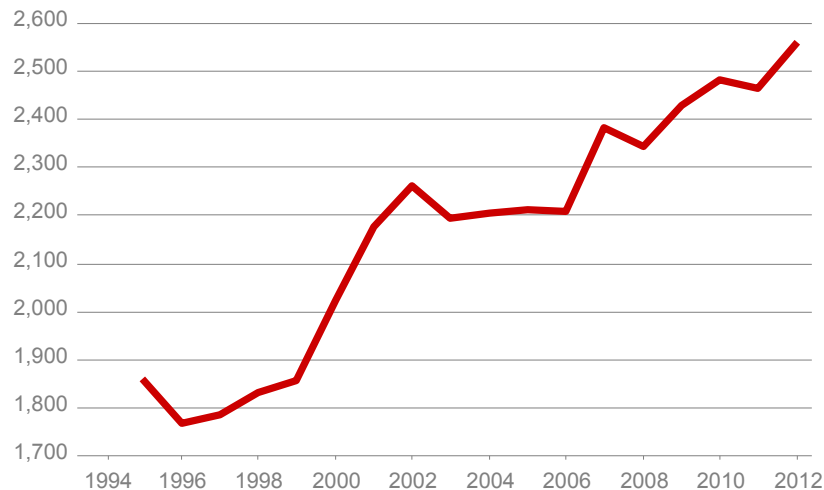
benefits of the NII, as determined by law and according to certain conditions and basic principles. Entitlement to this benefit is determined through administration of a test to ascertain the level of independent functioning on activities of daily living, carried out by a NII representative (a nurse or physiotherapist) during a home visit (Reut Eshel, 2014). The long-term care benefit is intended solely for the elderly who live at home or in assisted living, and by definition, its purpose is to provide assistance for the elderly within the community and not those residing in institutions. The benefit is also conditional upon a means test, and the entitlement and amount are determined by the NII. In the event that an elderly person's income is above the determined upper limit, taking into consideration the spouse's income as well, only half the benefit is approved, or it is not granted at all.⁴ Moreover, entitlement to this benefit is limited to the elderly who are not receiving special service benefits from the NII or general assistance allowances from the Ministry of Defense.

The total spending on long-term care benefits stands at about 0.5 percent of GDP per year, and in 2012 was estimated at NIS 4.6 billion. Figure 5 shows the average per capita expenditure for long-term care benefits, that is, the total expenditure of the National Insurance Institute for long-term care benefits for all recipients from 1990-2012 (in 2012 prices) divided by the number of recipients. The figure clearly shows that the long-term care benefit is on the rise – from NIS 1,859 per month at the beginning of the period to NIS 2,561 in 2012.

⁴ For example, an individual with an income of up to NIS 9,000 receives the full benefit, whereas one with an income between NIS 9,000 and NIS 13,600 receives half the benefit.

Figure 5
**Average expenditure on long-term care benefits for
 a single elderly recipient, 1995-2012**

monthly figures, in 2012 shekels



Source: Sagit Azary-Viesel and Haya Stier, Taub Center

Data: National Insurance Institute

The number of those eligible for the long-term care benefit has also increased over the years, despite the rise in the entitlement age. From 1991 to 2012, this number increased nearly five-fold – a dramatic increase, even in relation to the rise in the size of the elderly population during that time. The proportion of those in the over-65 population receiving the long-term care benefit stood at 21 percent in 2012, compared to 8.3 percent in 1991. There are several reasons for this increase. First, there has been a significant increase in the life expectancy of the elderly. For example, the portion of the over-65 population who were 85 and older was 8.6 percent in 1996, whereas it had increased to approximately 13.3 percent by 2012 (according to the data of the Central Bureau of Statistics). Moreover, the availability of the long-term care

benefit seems to have influenced the preference of the elderly to receive home care and remain in the community rather than moving to institutional care. Some changes in legislation, such as concessions in the dependency evaluation process, have also contributed to the increase in the number of entitled elderly persons. Since 2012, a “temporary fast track” of the evaluation process has also been offered, with the degree of dependency determined on the basis of medical documents. This is intended for those who, due to a sudden medical event, become temporarily dependent on others for a period of up to two months, and require assistance in carrying out basic every-day functions (NII, 2012). An additional legislative change has enabled those who have reached the age of 90 to receive the benefit, based on the opinion of a doctor of their choosing who specializes in geriatrics, without the dependency test administered by the inspectors of the NII. At the same time, perhaps the increased utilization of the entitlement is also the result of a growing awareness among the public of its existence in recent years.

A 2008 study by the NII regarding the share of the elderly population in Israel entitled to a public subsidy for long-term care services relative to 17 OECD countries revealed that Israel was first in its support of the elderly population in nearly all the categories reviewed, or shared first place with another country or countries. One possible conclusion is that the conditions for entitlement to the long-term care benefit in Israel enable the inclusion of a significant share of the elderly within its framework (NII, 2012). In this regard, it is noteworthy that over the years, due to the increase in the life expectancy, there has also been an increase in the length of time for which individuals receive the long-term care benefit. It is estimated that the average life span of an elderly person, from the moment that long-term care is required, has increased two-fold in the past two decades – from 18 months during the 1990’s to about 36 months today (Horev, Keider, and Hershkovich, 2011).

In addition to the direct subsidies offered to the elderly population in Israel through the NII, many other services are available to the elderly, most of which include public expenditures for “in-kind services” and are mainly financed by various government ministries including the Ministry

of Social Affairs and Social Services, the Ministry of Finance, the Ministry for Pensioner Affairs, and the Ministry of Construction and Housing. The next section reviews the ministry budgets allocations to the elderly population. For this purpose, several concepts should be differentiated:

A. Net budget versus gross budget: The net budget represents the total financial resources allocated by the government to the ministry (the original budget), whereas the “gross budget” also includes the “income-dependent expenditure,” that is, the total financial resources at the ministry’s disposal – which includes funding from national resources and funding from external bodies, especially the local authorities and public institutions such as day care centers and rehabilitation centers.

B. The original budget, the amended budget and the final budget: The original budget is the basic budget (the budget prepared by the Ministry of Finance along with all the other ministries) brought to the Knesset for approval. In contrast, the amended budget is dynamic and changes throughout the year in accordance with legislation, revisions approved by the Knesset Finance Committee, the transfer of budget surplus, and other factors. At the year’s end, the budget includes all the modifications carried out throughout the year. The final budget refers to funds that were actually spent.

2. The Ministry of Social Affairs and Social Services – The Service for the Elderly

The Unit of Service to the Elderly operates under the auspices of the Division for Individual and Social Services of the Ministry of Social Affairs and Social Services. Its purpose is to provide personal and social services to the elderly in the community and in community centers, along with supervision of these services.

An analysis of the unit's budget reveals several trends over the years 2005-2012 (Figure 6).

A. A decline in the original budget and the approved budget as compared to an increase in the final budget. A significant decline is evident in the original budget and in the approved budget of the unit throughout the time period, as compared to a rather consistent increase of 23 percent cumulatively in the period between 2005 and 2012 in the final budget.

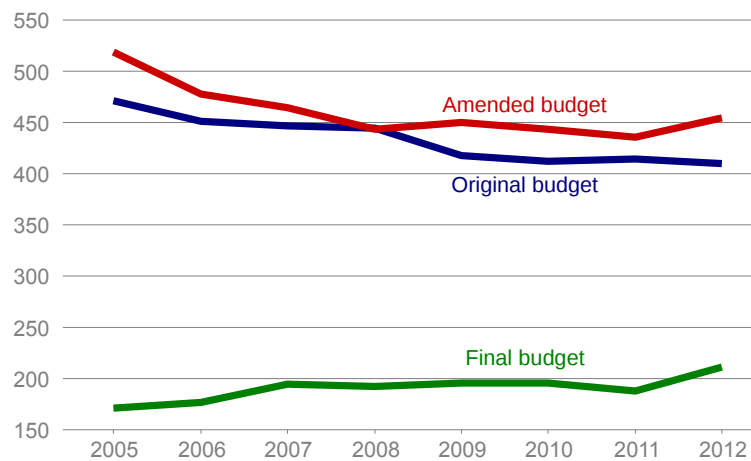
In 2012, the Ministry's original budget was estimated at NIS 409 million, as compared to NIS 471 million in 2005. The approved budget was estimated at NIS 454 million as opposed to NIS 519 million in 2005, whereas the final budget showed a clear upward trend – from NIS 172 million in 2005 to NIS 211 million in 2012.

B. A gap of tens of percentage points between the original and approved budgets and the spending in practice. There is a gap of tens of percentage points between the basic budget (the original budget and the approved budget) and actual spending, although an upward trend in the final budget is clear (as discussed in paragraph A). The budget that was actually utilized in 2012 was estimated at 46 percent of the approved budget at the disposal of the Division for Social and Individual Services that year; in 2005, 33 percent was utilized.

There are several possible explanations for the low level of utilization of the budget over the years. (1) The manner of transferring funds through the local authorities: the budget for services for the elderly is managed by the Division for Individual and Social Services, and nearly all of it is transferred to the local authorities. However, because the local authorities are then required to finance 25 percent of their welfare budgets, those local authorities that are financially weak often lack the means to match their portion of the expenditures and, for that reason, may not fully utilize the allocation in each of the budget items (State Comptroller's Report, 2001). (2) The manner of decision making and

budget approval: there are years in which the budget is not approved on time, such that the fiscal year begins without an approved budget and spending for each month is based on the previous year's budget, which in most cases is lower than the final approved budget. An alternative explanation is that many changes are introduced during the course of the fiscal year, and by year's end, there are resources in the ministry's budget that can no longer be utilized and thus budget surpluses remain. Therefore, in many cases the final budget reported at the end of the year is lower than the original and approved budgets.

Figure 6
Ministry budget for the Service for the Elderly, 2005-2012
 in 2012 million shekels, by type of budget



Source: Sagit Azary-Viesel and Haya Stier, Taub Center

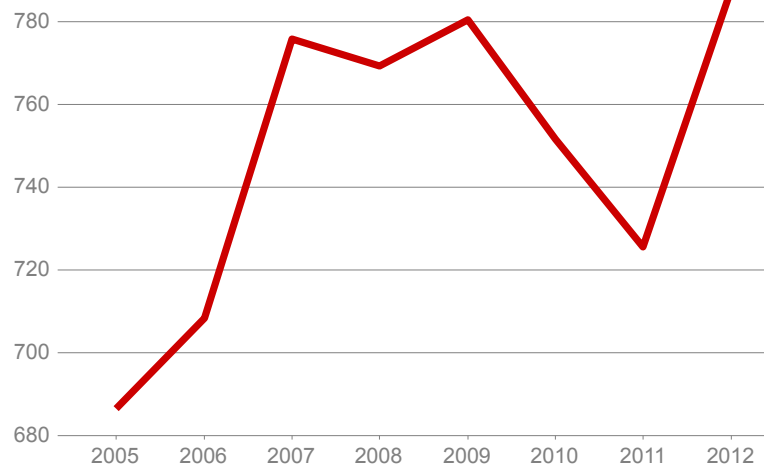
Data: Budget Department, Ministry of Finance

Figure 7 presents a general upward trend in actual spending (final budget) on services for the elderly for the years 2005 to 2012, adjusted to the size of the assisted population (that is, the budget divided by the total number of benefit recipients). Thus, the per capita budget increased in real prices from NIS 680 in 2005 to NIS 788 in 2012, despite the dramatic drop in the per capita budget in the years 2010-2011. The increase is explained mainly by a greater allocation of resources to those services provided mostly within the community framework: day care centers, clubs and supportive communities, some of which enjoy financial support from the Ministry and are under its supervision. Thus, during the past decade, a sharp upward trend was noted in the number of supportive communities⁵ from 28 in 1998 to 253 in 2011; from 6,400 households that were part of these communities at the beginning of the previous decade to 37,097 towards the end of the decade.

Additionally, a substantial increase was noted in the number of the elderly who attended day care centers, corresponding with the increase in the number of new day care centers built for this population. In the early 1990s, there were 53 centers that served about 3,700 elderly people, and by the end of 2008, the centers numbered 172 and served about 15,400 elderly people.

⁵ The growth of supportive communities, located in areas where there is a high proportion of elderly, is an interesting development in the field of elderly services over the past decade. Within the framework of the supportive community, elderly members of the community receive a variety of services: distress buttons, help from the community's housefather, emergency medical services as needed, and participation in social activities. These communities were developed through the initiative of the Reut Eshel Organization in the years 1995-1996 (Tyne, 2008).

Figure 7
Final Ministry budget for the Service for the Elderly, 2005-2012
 per person allocation, in 2012 shekels



Source: Sagit Azary-Viesel and Haya Stier, Taub Center
 Data: Budget Department, Ministry of Finance

3. Additional Services for the Elderly Provided by Government Ministries

The Prime Minister's Office – The Bureau for Senior Citizens

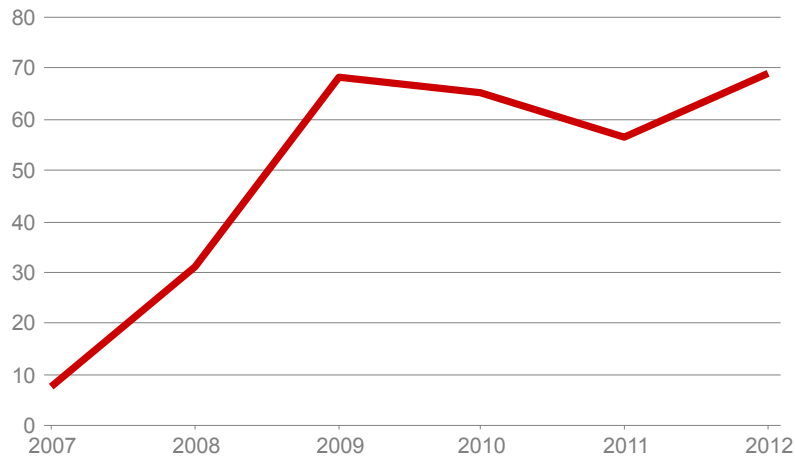
The Bureau for Senior Citizens was established in 2007 to serve as government headquarters for developing programs and services for the elderly population. Its purpose is to lead and implement projects, legislation and changes in the public agenda, with its main objective being to improve the quality of life of Israel's senior citizens. Since its inception, this government office has worked to strengthen and promote

the status of senior citizens through empowerment as well as through enhancing their influence and prominence in society. The data indicate that about 830,000 senior citizens living today in Israel enjoy the programs developed by this office and benefit from the services it provides.

Among the fields of activity and programs under the auspices of the Bureau are: a national hotline for senior citizen inquiries; a government information center for Holocaust survivors; projects for Holocaust survivors; the "Tehila" program – completing elementary education for adults; lecture series and continuing education courses; the government program to fight violence towards the elderly; "The Elderly in Movement" – activities of youth movements in cooperation with senior citizens; students on behalf of senior citizens; a research fund; and a prevention program addressing suicidal tendencies and suicide.

The Bureau's final budget, as presented in Figure 8, indicates an increase in the resources allocated to senior citizens. Yet, there are no details of the services provided by the Bureau at the individual or program level, nor is it possible to know how many senior citizens enjoy each program.

Figure 8
**Ministry of Pensioner Affairs budget –
 final budget figures, 2007-2012**
 in 2012 million shekels



Source: Sagit Azary-Viesel and Haya Stier, Taub Center

Data: Budget Department, Ministry of Finance

The Ministry of Communications – Discounts on “Bezek” Phone Line Fees

The Ministry of Communications provides a discount on the fixed usage charges of the “Bezek” phone company for recipients of both the old-age benefit and of either the elderly income supplement or the additional disability allowance. Eligible recipients are entitled to a 50 percent discount on their telephone (landline) fees. Figure 9 presents the trend in the budget that finances this discount for the years 2005-2012, showing a clear decline in financing for this discount, from nearly NIS 400,000 in 2005 to less than a quarter of that amount today.

Figure 9
Budget for discounts on landline telephone charges, 2005-2012
in 2012 thousand shekels



Source: Sagit Azary-Viesel and Haya Stier, Taub Center

Data: Budget Department, Ministry of Finance

The decline in the actual financing of the discount stems from the substantial decline in the number of people receiving this benefit due to two reasons. First, the expansion of competition within the communications sector has served to lower the user fees for Bezek lines by tens of percentage points, and has even led some customers to switch to less expensive Bezek packages or to competing companies offering lower prices, without the need for this discount. Second, there has been a decline in the number of recipients eligible for the elderly income supplement, from 194,000 in 2005 to 186,000 in 2012, and since this is the population that is automatically eligible for the discount, the budget for discounts naturally declined.⁶ No data is available, however, for the

⁶ Discounts are granted by Bezek according to lists of beneficiaries that the company receives from the National Insurance Institute.

number of recipients of the old-age benefit who are also recipients of a disability allowance and are therefore eligible for the Bezek discount.

The Ministry of Transport and Road Safety – Various Budget Line Subsidies

One of the benefits that every senior citizen is eligible to receive is a “senior citizen card,” that provides a 50 percent discount on public transportation. According to data from the “Or Yarak” organization (a non-profit organizations whose name means Green Light), about 33 percent of Israel’s elderly population uses public transportation. Figure 10 illustrates the cost of this public transportation subsidy, showing a decline in the total subsidy in real terms. In 2005, the subsidy cost was estimated at NIS 250 million, whereas in 2012, the cost declined to about NIS 235 million (in 2012 prices). It could be asked whether the expenditure declined due to a decrease in the number of beneficiaries, a change in the amount of the subsidy or for some other reason. An examination of the data indicates that the subsidy remained constant at 50 percent for the years 2005-2012. There is no direct data regarding the percentage of elderly who receive the subsidy on public transportation, although it may be assumed that the level of public transportation use by seniors would correspond to the general increase among all public transportation users (about 3 percent annually, according to data of the Knesset Research and Information Center). It seems, therefore, that the decline in the total expenditure on public transportation subsidies was apparently not the result of a drop in the subsidy or in the percentage of users, but was the result of the reform in public transportation that contributed to a 37-50 percent savings on operational costs, thereby allowing for a drop in the level of subsidies required (Ida and Talit, 2014).

Figure 10
**Amount of subsidies for public transportation
for elderly citizens, 2005-2012**
in 2012 million shekels



Source: Sagit Azary-Viesel and Haya Stier, Taub Center
Data: Budget Department, Ministry of Finance

The Ministry of Construction and Housing

Budgets for support and assistance

The Ministry of Construction and Housing also allocates part of its budget to the elderly population. In Israel, the homeownership rate among the elderly is quite high. In 2012, 79 percent of elderly households owned a home, compared to an average of 76 percent in the OECD countries (OECD, 2013). It follows then that among households headed by the elderly, about 21 percent do not own a home and are in need of other housing solutions: rentals in public housing, private rentals or

assisted living. The Housing Ministry's assistance is aimed at both those who purchase a home and those who rent, and development budgets are also available for those residing in assisted living frameworks, as will be described in further detail.

The Ministry of Construction and Housing support budgets are divided into three major tracks:

A. Help with mortgage payments for the elderly of up to NIS 300 per month. This support went into effect in April 2010 in accordance with several conditions.⁷

B. Rental payment assistance grants. This program is intended to assist the elderly who live on the NII's old-age benefit and income supplement, and is part of a general rental assistance program for Israel's population. The elderly population constitutes about 40 percent of the recipients of this benefit, with the level of assistance based on the individual's age, physical condition, and place of residence, as well as other special considerations for certain recipients including Holocaust survivors and disabled war veterans. Thus, for example, an elderly couple 70-74 years of age who lives alone in a small locality outside of a national priority area is entitled to receive about NIS 1,200 per month, compared to a single elderly man with the same profile who is entitled to NIS 890.⁸

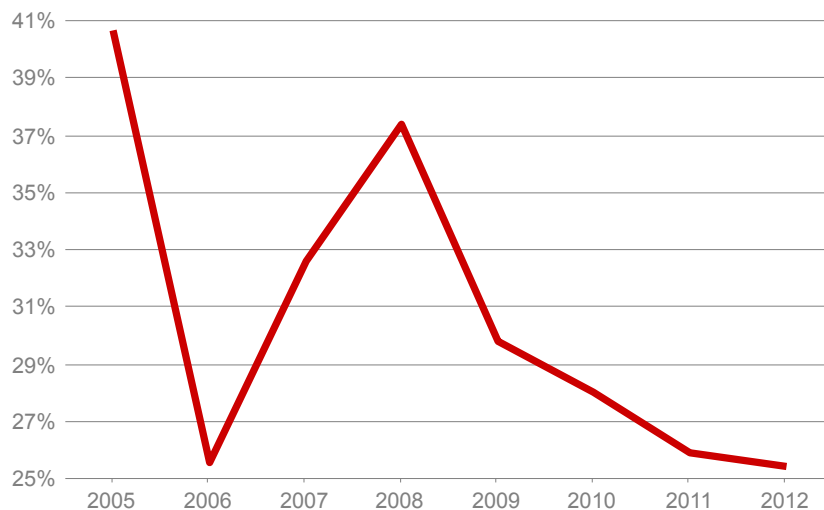
Figure 11 shows the level of the average rental assistance given to an eligible recipient, relative to average rental costs in the market. Since no long-term series data on the average assistance to

⁷ Assistance is limited to those elderly who receive the old-age benefit, including the income supplement or the allowance for victims of Nazi persecution, and who obtained a mortgage for residential purposes up until November 4, 2007, with restrictions on the price of the apartment.

⁸ Within this program, rental assistance is also provided for elderly new immigrants living with their families. Elderly Holocaust survivors, World War II veterans and Chernobyl reactor neutralizers are entitled to an additional assistance of 10 percent on top of the amounts quoted above.

the entitled elderly population is available, average assistance was calculated for all entitled recipients, including new immigrants and other specific populations.⁹ From 2005 to 2012, it is clear that the level of assistance decreased significantly, from 40 percent of the average rent costs in 2005 to 25 percent of the average rent costs in 2012. The sharp decline in 2006 stems from an increase in entitlement, which was amended in 2007. The overall decline stems mainly from a significant increase in rent costs, at an average of about 5 percent per year, as compared to a very moderate increase, even at times a decline, in the rate of assistance – an average of about 0.3 percent per year, in real terms (according to data from the Ministry of Construction and Housing).

Figure 11
Average rent assistance
as percent of average rental price, 2005-2012



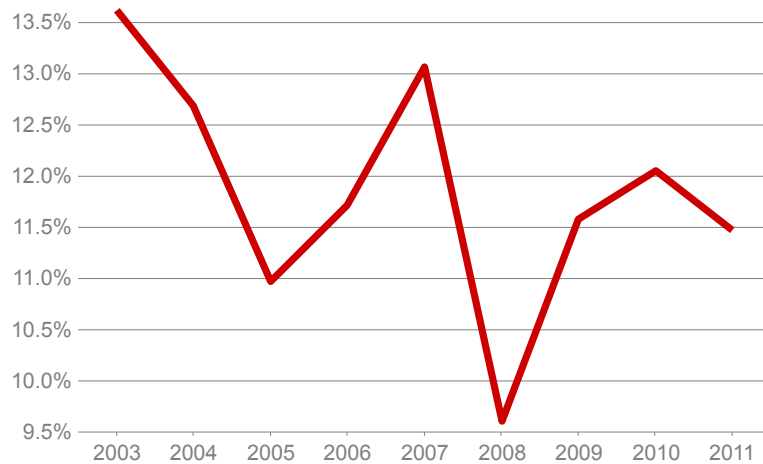
Source: Sagit Azary-Viesel and Haya Stier, Taub Center

Data: Ministry of Construction and Housing; Budget Department, Ministry of Finance

⁹ In this section, in addition to the budget data, data from the population division of the Ministry of Construction and Housing was used.

Eligibility for Public Housing. Elderly individuals who do not own a home and whose only source of income is an old-age benefit and income supplement from the NII, or those who have exhausted their earning capacity and have very low income, are eligible for public housing with rent subsidies. Figure 12 shows the share of the over-65 population residing in public housing. There is a clear general downward trend – from 13.6 percent in 2003 to 11.4 percent in 2011 – although, during this time period, increases have also been noted from time to time in the share of the elderly population who reside in public housing with rent subsidies.

Figure 12
Elderly living in public rental housing
as percent of all those aged 65 and over, 2003-2011



Source: Sagit Azary-Viesel and Haya Stier, Taub Center

Data: Central Bureau of Statistics, *Household Expenditure Survey*

The Development Budget

Budget for housing for the elderly. The Ministry of Construction and Housing also budgets for constructing housing units for the elderly, operating assisted living for the elderly, and maintaining and renovating assisted living facilities for the elderly. The development budget for public assisted living is earmarked mainly for the elderly population with a low income who have no other permanent housing solution. This budget line does not include about 3 percent of all those aged 65 and older who reside in long-term care centers, mostly nursing homes¹⁰ and long-term care units or hospitals for the chronically ill. All of these are financed by the Ministry of Health's budget. Financial assistance is given on the basis of the individual's financial status as well as on the basis of unique needs (Reut Eshel, 2012).

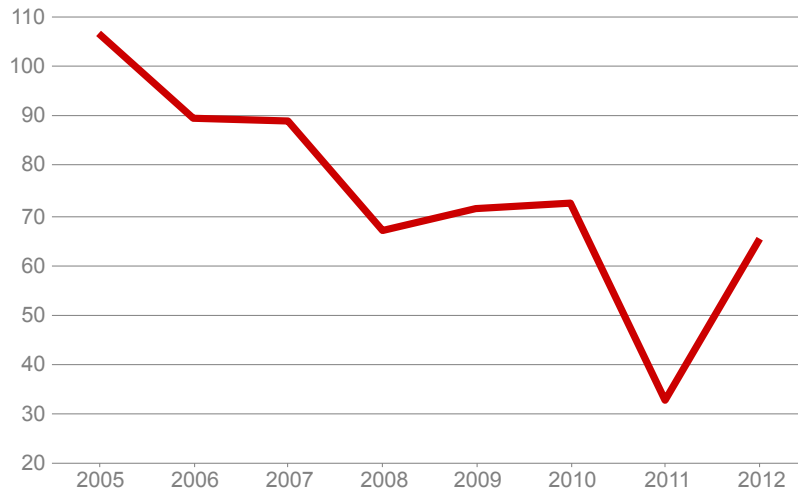
Figure 13 indicates that the development budget for assisted living using public funds has declined, although there was some improvement in 2012 – from about NIS 106 million in 2005 to about NIS 65 million (in 2012 prices).

In this section, no adjustment was made for the number of elderly recipients supported by the budgetary clause under discussion since the data refer to the elderly in all assisted living frameworks – both private and public.¹¹ Due to a lack of detailed data, it is problematic to analyze public policies for the elderly population in Israel, and the need to collect data from all assisted living facilities must be emphasized.

¹⁰ Nursing homes operate under the auspices of the Ministry of Welfare or the Ministry of Health, and offer services targeted at elderly individuals that need assistance in managing their daily lives.

¹¹ About 4.3 percent of those 65 years old and older reside in assisted living facilities, both public and private. Nearly half of them (48 percent) are subsidized. There has been an increase in the number of elderly living in assisted living facilities – from 21,315 in 2004 to 23,043 in 2012 (Central Bureau of Statistics, 2011).

Figure 13
**Government budget for elderly assisted
 living housing, 2005-2012**
 in 2012 million shekels



Source: Sagit Azary-Viesel and Haya Stier, Taub Center

Data: Budget Department, Ministry of Finance

Additional General Benefits

In addition to the defined budgets presented in this chapter, the elderly are also entitled to discounts on municipal taxes, electricity bills, water bills from the Water Authority, and medications, and they are exempt from the requirement to obtain a public television license.¹² No data were found detailing the total amount of these entitlements and their total cost to the various ministries. In an attempt to estimate the benefits package to

¹² These discounts are intended for the elderly who receive the old-age benefit along with the income supplement or disability allowance, although some elderly people receiving the old-age allowance alone are entitled to a partial discount on municipal taxes.

which the elderly are entitled, an evaluation was undertaken, which included the old-age benefit, elderly income supplement, long-term care benefit, municipal tax discount, discounts on electricity and water payments, exemption from the television license, discounts from Bezek, discounts on public transportation, and rental assistance for those eligible. The benefits package was calculated in order to clarify the extent of government support, as shown in Table 1. Calculations are based on the comparison between three different elderly populations, based on their socioeconomic characteristics: (1) the over-75 population who are not dependent at all on government assistance, who have income from a pension and own a home, and are not in need of long-term care benefits; (2) the over-75 population who own a home, do not have income from a pension and are not in need of long-term care benefits; and (3) the over-75 population who are fully dependent on government assistance, have no income from a pension, do not own a home and are eligible for long-term care benefits.

The table shows a substantial gap between the independent elderly person who is not dependent on NII allowances and the elderly person who is fully dependent upon the system. For example, a single elderly person, 75 years or older, who lives alone, owns a home and receives income from a pension, will receive a benefits package with an average value of NIS 2,454 a month. In contrast, a single elderly person in the same age bracket who owns a home and has no income from a pension or other sources will receive a benefits package with an average value of NIS 3,324. A single elderly person in the same age bracket who is in need of full support from the government – who has disabilities and is eligible for long-term care benefits, who has no income from a pension or other sources and who does not own a home – will receive a benefits package with an average value of NIS 6,908.

Table 1. **Monthly basket of benefits to the elderly divided into three socioeconomic groups, for those aged 75 and over living alone (in shekels)**

	Independent, apartment owner, with pension	Independent, apartment owner, without pension or other income source	Non-apartment owner, no pension, in need of long-term-care benefit
Old-age benefits* (including seniority supplement)	2,296	2,887	2,887
Income supplement	–	Included in old- age benefits	Included in old- age benefits
Long-term care	–	–	2,561
Municipal tax discount (monthly calculation)**	74	88-294***	206
Electricity discount	–	120	120
Water discount	–	–	19
Television license exemption	30	30	30
Telephone landline discount	–	30	30
Public transportation discount	55	55	55
Rent assistance	–	–	1,000****
Total	2,454	3,324	6,908

* Includes an additional of 50 percent for the maximum seniority level, on the assumption that the elderly individual was insured for at least 35 years. ** Based on the average municipal tax payment per elderly person, according to the Central Bureau of Statistics *Household Expenditure Survey*. *** Dependent on the local authority and the amount of discount. **** Large residential area.

Source: Sagit Azary-Viesel and Haya Stier, Taub Center

Data: Kol Zchut website; various government ministry websites; Central Bureau of Statistics, *Household Expenditure Survey 2012*

The review indicates a policy of increasing the allowances received by Israel's elderly population from the National Insurance Institute. For example, in 2005, an elderly person subsisting on NII allowances – the old-age benefit, elderly income supplement and long-term care benefit – received allowances and services equivalent to an average of NIS 5,015 per month as compared to NIS 5,677 per month in 2012 (in 2012 prices). This policy has resulted in successfully raising the elderly living on government allowances above the poverty line (Stier and Bleikh, 2014). The rate of poverty among the elderly population has declined over time, and it is safe to assume that, to some extent, this can be explained by the improvement in the allowances and budgets allocated to them.

The poverty and inequality indices relate to the income variable only, and so are not adjusted for the level of services provided to Israel's elderly. However, an increase in the total budget allocated to the elderly population is noted – from about NIS 19.8 billion in 2005 to about NIS 25.9 billion in 2012 (in 2012 prices). A more detailed examination of the assistance provided through various programs indicates a measure of budgetary erosion in some, as in housing, for example. The amount of rental assistance for the eligible elderly population has deteriorated relative to the average rent costs in the economy. Additionally, budgets for assisted living have declined with time, even though the population is increasingly growing older and this is the group for which this assistance is intended. Therefore, thought should be given to housing arrangements and the changing needs of this population group. Housing support is of major importance in old age even though it does not guarantee the continued ability of an elderly individual to live at home, or cope with changes resulting from disability and the resulting need for assistance or care, and cannot prevent the need to perhaps even move to an assisted living facility or institution.

An additional issue that the analysis reveals is the lack of data on the number of the elderly entitled to assistance, especially with regards to housing. This raises difficulties in the attempt to conduct an analysis of policies in this area.

An analysis of the budgets for assisting Israel's elderly population raises some important points. First of all, services are provided under the auspices of several ministries. This situation is not unique to Israel; in Australia, for example, all the services for the elderly population are provided via a large number of government programs on a federal, national and regional scale. In contrast, in Ireland, a complete benefits package is provided, contingent upon a means test for those aged 65-69 and available to all those aged 70 and over (OECD, 2013). The diffusion among the ministries in Israel makes it difficult to carry out any follow-up, especially on a long-term basis, of the services provided to various population groups. This situation may hamper the complete utilization and maximization of these benefits among the relevant populations. Therefore, it is important to unite all the services under the umbrella of one ministry that will be responsible for budget allocations for the various activities, for informing the eligible public and for increasing the target population's ability to maximize its use of entitlements. The dispersion of budgets on the one hand and the various methods of assistance on the other hand leads to duplication and waste of resources, especially with regards to eligibility assessments. It makes the process of receiving assistance difficult and can lead to a lack of information and to confusion, resulting in diminished use of the elderly population's entitlements.

Except for the budgets of the National Insurance Institute, there is a clear under-performance in budget expenditure for elderly services. This is partially due to diminished use of services that are less relevant today, such as discounts for phone services, and partially due to bureaucratic issues that should be addressed within the various ministries. Implications on the level of services provided for the elderly population and the manner in which budgets are managed should be studied. There is also the need for renewed thinking about the needs of the elderly population and ways of reaching those who have difficulty in maximizing their entitlements. The issues of services and benefits carry implications of great importance, as their erosion or lack of use mainly harm the poor, who are more dependent than others on the benefits to which they are entitled.

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Patterns of Expenditure on Food in Israel

Dov Chernichovsky and Eitan Regev*

Abstract

The issue of food insecurity is at the top of the public agenda in Israel. This chapter attempts to define the normative per capita expenditure on food in Israel; the normative expenditure refers to one that is neither insufficient nor excessive. It also examines the composition of food expenditure by income levels in order to assess the possible consequences of that composition on nutrition. In this manner, the chapter aims to help formulate policies that could alleviate the distress of households that are unable to meet the normative expenditure. The findings indicate that the normative per capita expenditure on food in Israel – not including the costs of “dining out” and alcoholic beverages – is about NIS 600 monthly. Families in the lowest decile need an additional NIS 170 per capita per month to reach this amount, while families in the second lowest decile need about NIS 90 to reach it. Likewise, differences were found in the various foods that were avoided when necessary. As per person income declines, households tend to maintain their expenditures on meat and poultry, bread and baked goods, and vegetable oils at a relatively stable level, but tend to forgo eggs, milk and dairy products, and especially fruit and vegetables, even though they constitute the basis for a healthy Mediterranean diet.

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Introduction

The issue of food insecurity has been greatly discussed in Israel, both in the context of poverty and on its own. According to statistics from the National Insurance Institute, about 320,000 households in Israel – nearly a million people – suffer from food insecurity (Endeweld et al., 2012). The National Council for Food Security estimates that, based on objective eligibility tests, about 110,000 households are eligible for support in purchasing food (National Council for Food Security, 2014). The recently published State Comptroller's Report (2014) also refers to the state's responsibility in this area.

This chapter attempts to examine the subject using data from the 2011 *Household Expenditure Survey* conducted by the Central Bureau of Statistics (CBS), and thus to help formulate a policy for alleviating this type of distress by defining the minimum normative per capita expenditure on food in Israel. From the perspective of the entire consumer public, this expenditure should be sufficient but not include luxury foods.¹ Once a normative level has been defined, it is easier to examine the extent and characteristics of food insecurity in Israel in terms of expenditure, and to contend with it using appropriate tools related to guaranteed income and food prices.

1. Data on Food Expenditure in Israel

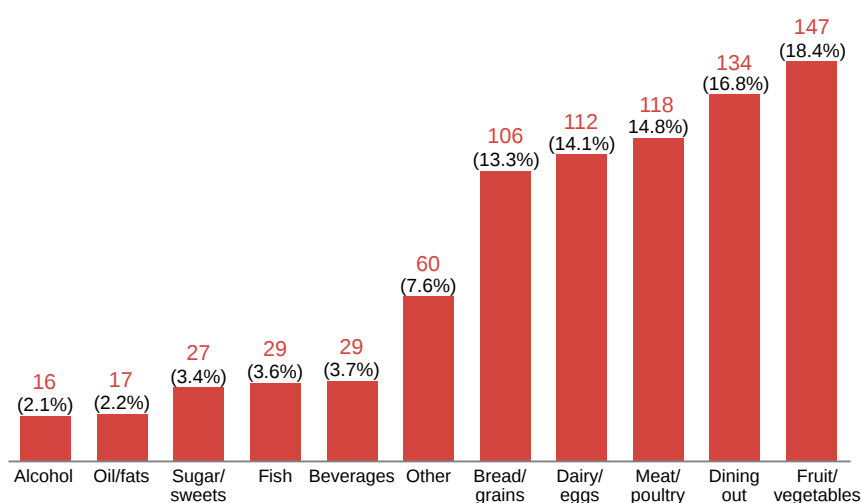
The average monthly per capita expenditure on food in Israel is about NIS 800 and the average monthly household expenditure is NIS 2,260. This sum amounts to 17.1 percent of total net household income, and to 21.4 percent of overall household expenditure.² In the distribution among

¹ A definition from a subjective viewpoint lies at the basis of defining relative poverty – in contrast to absolute poverty, which is determined by income level (Chernichovsky and Navon, 2012). This also applies to food insecurity.

² Net cash income and expenditures (not including in-kind income and expenditure for homeownership).

food groups, expenditure on fruit and vegetables is the highest at 18 percent of total food expenditures. It is followed by the expenditure on dining out (17 percent), meat and poultry (15 percent), eggs, milk and dairy products (14 percent), and bread, grains and baked goods (13 percent) (Figure 1).

Figure 1
Monthly per person food expenditure by food group
 in shekels and as a percent of all household expenditure on food, 2011



Source: Dov Chernichovsky and Eitan Regev, Taub Center

Data: Central Bureau of Statistics, *Household Expenditure Survey 2011*

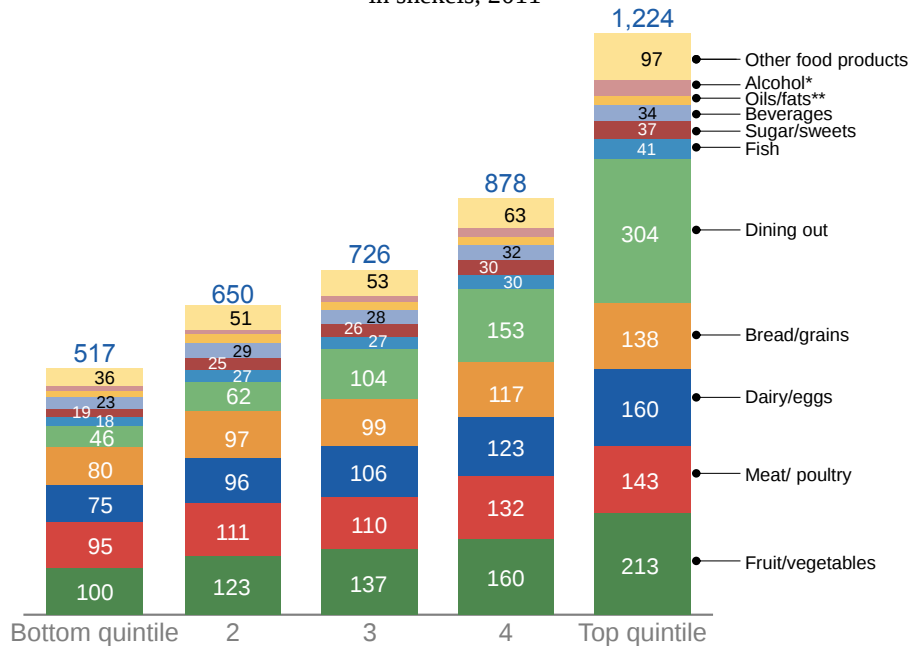
Distribution of Food Expenditure by Income Level

The per capita expenditure on food in the bottom income quintile is NIS 517 per month.³ In the top income quintile, the expenditure stands at NIS 1,224 monthly – 2.4 times that of the bottom quintile⁴ (Figure 2).

Figure 2

Monthly per person food expenditure by income quintiles

in shekels, 2011



* Expenditure on alcoholic beverages (in shekels): top quintile (32); 4th quintile (18); 3rd quintile (13); 2nd quintile (9); bottom quintile (9)

** Expenditure on vegetable oils and fats (in shekels): top quintile (19); 4th quintile (17); 3rd quintile (18); 2nd quintile (18); bottom quintile (14)

Source: Dov Chernichovsky and Eitan Regev, Taub Center

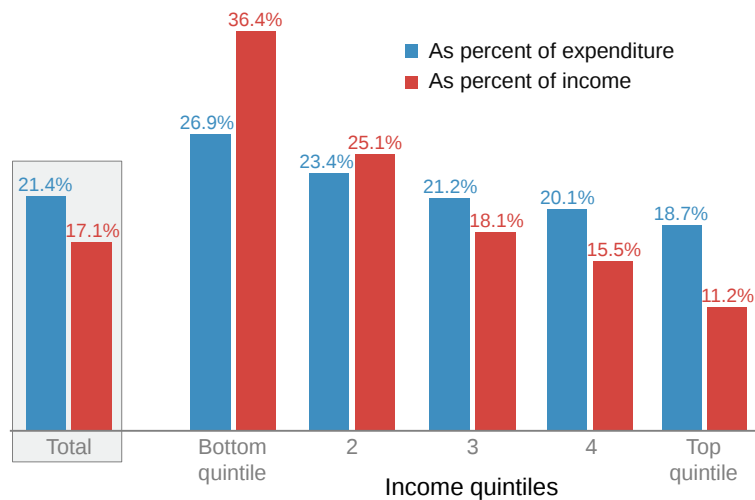
Data: Central Bureau of Statistics, *Household Expenditure Survey 2011*

³ The chapter will refer alternately to income quintiles and deciles when discussing the income distribution, depending on the topic and the level of detail of the analysis.

⁴ It should be noted that the differences between the quintiles in expenditures on food do not necessarily represent differences in the quantities of food

As expected, in the lower income quintiles, the expenditure on food constitutes a larger part of both income and expenditures. Households in the bottom quintile spend about 36.4 percent of their income on food – 3.5 times more than households in the top quintile, which spend only about 11.2 percent of their income on food (Figure 3).

Figure 3
Food expenditure as percent of income and expenditures*
by household, by income quintiles, 2011



* Net cash income and expenditures (not including income from in-kind services)

Source for both figures: Dov Chernichovsky and Eitan Regev, Taub Center

Data for both figures: Central Bureau of Statistics, *Household Expenditure Survey 2011*

consumed; they are also dependent on food prices, including different kinds of foods in the same group (e.g., various types of bread). Nonetheless, it is assumed that there is a certain correspondence between the amount of the expenditure and the quantities of food purchased, especially when the different quintiles' expenditures in each of the food groups are compared.

⁵ These terms are equivalent to elasticity in economics. For details of the measurement method, see the appendix.

The distribution of expenditure by food groups reveals that households in the top quintile tend to spend relatively large sums on dining out, whereas in the lower quintiles (1-3), this expenditure is relatively small. The top quintile's expenditure on food products such as fruit and vegetables, eggs and dairy products, bread, grains and baked goods are also high relative to that of the bottom quintile – differences in expenditure of 113, 113, and 73 percent, respectively.

"Essential Expenditure" on Food

Expenditure on food varies greatly and includes the purchase of staples, as well as expenditure on what can be considered luxuries, such as dining out in restaurants or buying food products that might be considered extravagant. In order to assess the necessity of the expenditure by food items from the perspective of the average household in Israel, the effect of household income and size on both the total food expenditure and the expenditure on various food groups was examined. That is, the extent to which expenditure on various food groups changes due to changes in the income or size of the household was examined.⁵ Expenditure items that change relatively little when there is a change in income, but change a great deal when there is a change in the number of household members were defined as essential expenditure items. This approach assumes that if despite a drop in income of a household of a given size, the household nonetheless does not reduce its expenditure on a certain food group, then it perceives the expenditure on this food group as an essential expenditure. Likewise, if a household grows in size and the expenditure also increases (i.e., the increase in the number of household members does not significantly reduce the per capita expenditure on a certain food group), that food group is considered an essential expenditure.⁶

⁵ These terms are equivalent to elasticity in economics. For details of the measurement method, see the appendix.

⁶ Obviously a household may change the composition of the expenditure to cheaper products, almost certainly within the same food group.

In accordance with these assumptions, a summary measure of the two effects – the effect of income and the effect of household size – was defined for the purchase of food in general, and for the various food groups in particular. The measure presents the relative necessity of an expenditure as the ratio between the extent to which it is affected by household size and the extent to which it is affected by income level.⁷ A higher score on the measure attests to a greater effect of household size relative to a smaller effect of income – that is, it represents a more essential expenditure.

Table 1 presents the effects of household income and family size on various expenditure items, as well as the Essential Expenditure Measure.⁸ The calculation was done for a 10 percent change in the average household income (NIS 13,136) and average household size (3.2 members). Full details of the methodology are presented in the appendix to this chapter. As can be seen, an increase of 10 percent in income prompts an increase of 4.6 percent in food expenditure.

With regard to the various food groups, the effect of income on expenditure on meat, poultry and fish seems to be relatively small. Similarly, the expenditure on cooking oils is affected only slightly by income level. In contrast, the relatively large effect of income on the expenditure on fruit and vegetables, as well as on milk, dairy products and eggs is noteworthy.

⁷ For more on this, see Chernichovsky (in preparation).

⁸ The full estimates on which these data are based are presented in detail in Chernichovsky and Regev (in preparation).

Table 1. **Effects of household income and size on food expenditure and Essential Expenditure Measure by food group**

Food group	Effect of household income*	Effect of household size*	Essential Expenditure Measure**
Total food expenditure	4.6%	4.1%	0.89
Meat/poultry	1.6%	5.2%	3.06
Bread/baked goods	2.6%	7.1%	2.72
Vegetable oils	1.0%	2.2%	2.24
Beverages	1.6%	3.5%	2.24
Milk, dairy and eggs	3.0%	5.7%	1.85
Fish	1.7%	2.8%	1.56
Fruit/vegetables	3.3%	4.9%	1.45
Sugar/sweets	2.7%	3.2%	1.17
Other food products	3.2%	3.1%	0.95
Dining out	9.0%	-4.3%	—
Alcohol	3.5%	-2.1%	—

* Percent change in expenditure for a 10 percent change in income or household size

** Effect of household size divided by effect of income

Source: Dov Chernichovsky and Eitan Regev, Taub Center

Data: Central Bureau of Statistics, *Household Expenditure Survey 2011*

At the same time, the elasticity of the total expenditure on food relative to the number of household members is 0.41. That is, on average, an increase of 10 percent in the number of household members leads to an increase of 4.1 percent in total household food expenditure. The explanation for this lies in the advantage of size and in the change in the components of the food basket for larger families. For example, the expenditure on bread and baked goods is affected to a relatively large extent by family size (an average increase of 7.2 percent in expenditure with an increase of 10 percent in household size), as is the expenditure on meat and poultry (5.0 percent), and dairy products and eggs (5.6 percent). In contrast, the expenditure on dining out is negatively and significantly

affected by family size (-4.3 percent). In other words, when all other household characteristics are the same, as household size increases, expenditure on bread and dairy products rises while expenditure on dining out declines.

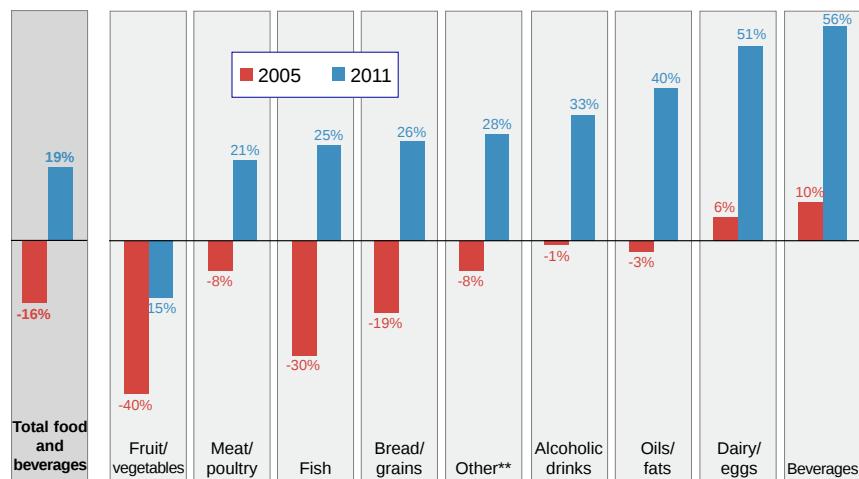
The leading expenditure items on the Essential Expenditure Measure are meat and poultry, bread and baked goods, cooking oils, and beverages; alcoholic beverages and dining out are ranked at the bottom of the list. The expenditure items ranked in the middle are milk and dairy products, fish, and fruit and vegetables. The significance of these findings is that as per capita income declines, there is a greater tendency to forgo milk and dairy products, fish, and fruit and vegetables. In contrast, spending on meat and poultry, bread and baked goods, cooking oils, and beverages⁹ remains relatively stable.

The tendency for poorer households to forego dairy products and fish appears to stem from the substantial price rises in these food categories over the past few years (Figure 4). In 2005, most food products in Israel were less expensive relative to the OECD, however in just six years, all food categories in Israel, except for fruit and vegetables, have become more expensive. Dairy products were only 6 percent more expensive in 2005, yet in 2011, they reached a price level 51 percent higher than the OECD average. Fish were 30 percent cheaper in 2005, but in 2011 they were 25 percent more expensive than the OECD average. As noted, fruit and vegetables remained less expensive relative to the OECD, however, in 2005, they were considerably cheaper (40 percent) while in 2011, they were only 15 percent cheaper. While the price of most vegetables sold in Israel is relatively low, the price of many fruits is not cheap, especially those that are on the one hand expensive to grow in Israel and on the other hand not imported from other countries. This appears to be the reason that the expenditure on fruit and vegetables in Israel is especially sensitive to income level – poorer families buy mainly cheaper

⁹ Although beverages are not an essential food group from a nutritional aspect, it would appear that Israeli households consider them a subjectively important item, as expenditure on beverages remains rather stable among lower-income households, as well.

vegetables, while more well-off families also buy expensive fruits. From a broader perspective, it is apparent that the substantial rise in food prices over the past few years in Israel has also had a negative effect on the composition of food consumption – especially among poorer families.

Figure 4
Differences in food prices between Israel and the OECD average*
2005 and 2011



* The difference between prices in Israel and the average OECD price

** Other foods: instant food mixes, prepared meals (frozen or dried), granola, baking aids, baby food, deliveries of prepared food, chewing gum, milk and soy desserts, dried beans and legumes, coffee and tea, sauces, spices, meat and cheese substitutes

Source: Dov Chernichovsky and Eitan Regev, Taub Center

Data: OECD

Normative Expenditure

In order to determine the normative expenditure on items with a positive value on the Essential Expenditure Measure, the average monthly expenditure (in 2011) in each food group was examined by income deciles (Figures 5A-5D). The purpose was to ascertain in which income ranges the per capita expenditure remains relatively fixed even when per capita income changes.¹⁰ The assumption is that expenditure will remain fixed in those income ranges where the household income is high enough to purchase all the food that the household requires, but not high enough to purchase food that would be defined as a luxury in terms of quality and quantity. The logic behind this assumption is that if household income is insufficient to buy all the food that the household requires, a rise in income may be expected to prompt an increase in expenditure on food. Similarly, if household income is high enough to purchase luxury food, a rise in income may also be expected to prompt an increase in expenditure. However, when the expenditure on food does not change within a certain income range, it is reasonable to assume that the income of households in this range is high enough to purchase all the food that they require, but not high enough to purchase luxury food. In other words, the expenditure that remains fixed within a broad enough income range represents the normative, or broadly accepted, essential expenditure. In the absence of sufficient data on quantities, prices and quality of food products consumed by households, there is no way to directly determine which part of the population forgoes a certain food (or compromises on its quality) and to what extent. Nonetheless, finding the income range in which the expenditure on a certain food is relatively stable makes it possible to determine with high probability that the households located below this range are forced to make certain concessions in food consumption (in quantity, quality, or both). Furthermore, this approach makes it possible to calculate the monetary value of these concessions.

¹⁰ The examination is done by income deciles rather than quintiles, in order to get a more detailed picture of the expenditure patterns according to income.

In Figures 5A-5D, the normative expenditure range is indicated in green, the food insecurity range in red, and the luxury range in blue.

Starting with a comprehensive view on total food spending, the average monthly per capita expenditure stabilizes at around NIS 662 (Figure 5A).¹¹ As the figure shows, the second decile's expenditure on food is lower by NIS 99 per month than the normative expenditure, while the lowest decile spends NIS 192 less than the normative expenditure on food. When unnecessary items (i.e., dining out and alcoholic beverages) are eliminated from the analysis, the gaps are NIS 90 and NIS 169, respectively, as detailed in Table 2.

Normative expenditures for specific food groups were also determined using this same method (Table 2). The food items for which the normative expenditures were the highest (in absolute amounts) were fruit and vegetables – NIS 137; meat and poultry – NIS 110; and milk, dairy products and eggs – NIS 101.

In the meat and poultry category, the second decile appears to spend a sum close to the normative expenditure, while the lowest decile lacks NIS 27 per capita per month for this item – which accounts for 25 percent of the normative expenditure (Figure 5B). In contrast, it is evident that the lowest two deciles, which are below the poverty line, make a relatively significant concession in their expenditures on dairy products and eggs; the average expenditure of households in the second decile on food items in this group is NIS 22 lower than the normative expenditure (a concession of 22 percent), while the lowest decile's expenditure is NIS 29 lower (a concession of 29 percent). An even more significant concession is evident in the category of fruit and vegetables, where the second decile lacked NIS 25 (a concession of 18 percent) to match the normative expenditure, and the lowest decile lacked NIS 48 (35 percent of the normative expenditure) (Figures 5C and 5D). Thus, with respect to

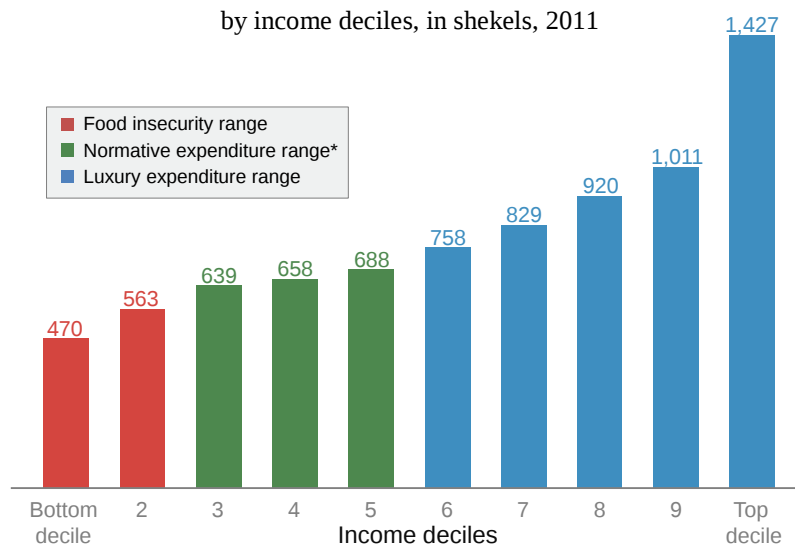
¹¹ Stabilization of food expenditure is defined as occurring when the differences in expenditure between adjacent deciles are minimal.

these food groups, a picture emerges of insufficiency within the lowest two deciles and relative stability from the third decile upwards.¹²

Figure 5 (continued on next pages)

A. Average monthly per person expenditure on food

by income deciles, in shekels, 2011



* The normative expenditure range is defined as the lowest group of income deciles with minimal differences in food expenditures.

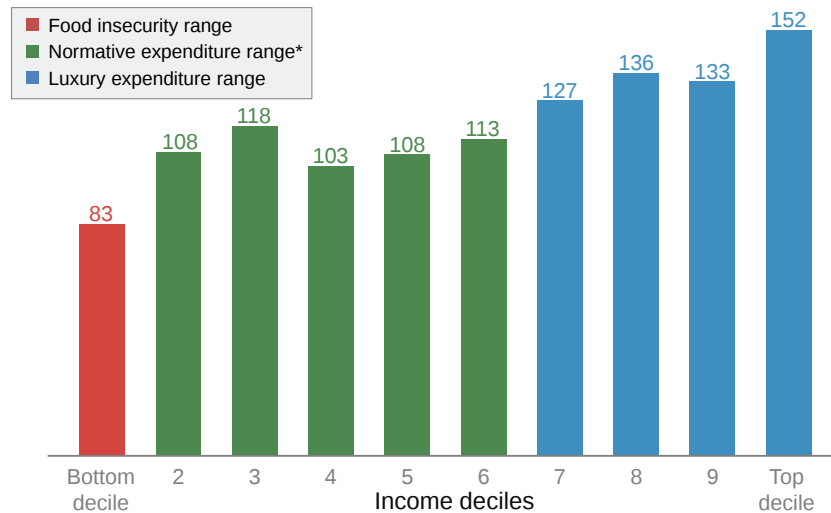
Source: Dov Chernichovsky and Eitan Regev, Taub Center

Data: Central Bureau of Statistics, *Household Expenditure Survey 2011*

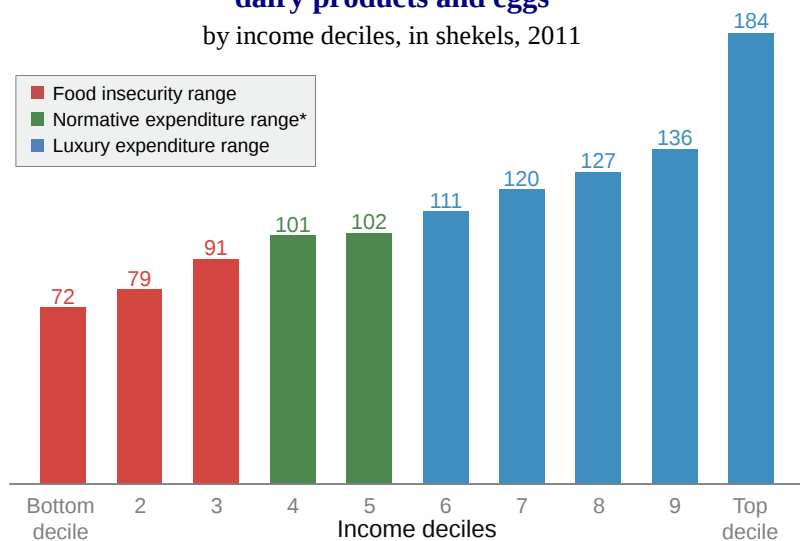
¹² It is important to note that regarding certain food items, expenditure stabilizes only in the fourth decile (e.g., milk and dairy products), whereas regarding other food groups, expenditure stabilizes by the second decile (e.g., meat and poultry). As noted, stabilization of expenditure for a certain food category in the second or third deciles indicates that – from the households' perspective – this food group is essential, or one that is hard to go without.

Figure 5 (continued from previous page)

B. Average monthly per person expenditure on meat and poultry
by income deciles, in shekels, 2011



C. Average monthly per person expenditure on dairy products and eggs
by income deciles, in shekels, 2011



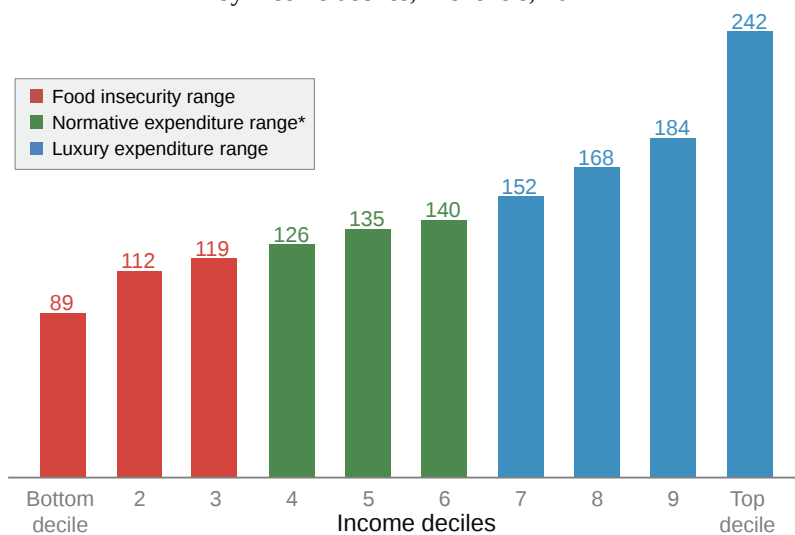
* The normative expenditure range is defined as the lowest group of income deciles with minimal differences in food expenditures.

Source for both: Dov Chernichovsky and Eitan Regev, Taub Center

Data for both: Central Bureau of Statistics, *Household Expenditure Survey 2011*

Figure 5 (continued from previous pages)

D. Average monthly per person expenditure on fruit and vegetables
by income deciles, in shekels, 2011



* The normative expenditure range is defined as the lowest group of income deciles with minimal differences in food expenditures.

Source: Dov Chernichovsky and Eitan Regev, Taub Center

Data: Central Bureau of Statistics, *Household Expenditure Survey 2011*

Table 2. **Normative expenditure on food and its difference from the expenditures of the lowest two income deciles**
by food groups, 2011

Food group	Normative expenditure	Difference between normative expenditure and expenditure of 2 nd lowest income decile	Difference between normative expenditure and expenditure of lowest income decile
	NIS*	NIS	NIS
Total food expenditure	662	99	192
Meat/poultry	110	2	27
Bread/baked goods	95	10	12
Vegetable oils	19	3	6
Beverages	29	5	8
Milk, dairy and eggs	101	22	29
Fish	27	6	11
Fruit/vegetables	137	25	48
Sugar/sweets	26	6	8
Other food products	52	11	20
Total without dining out and alcohol	596	90	169

* Normative expenditure is the average expenditure of the deciles marked in green in Figures 4A-4D. For more detail regarding food groups not included in these figures, see Chernichovsky and Regev (in preparation).

2. Summary

The pattern of food expenditure in relation to income among Israeli households is unsurprising. The share of expenditure on food in relation to income is greater the lower the per capita household income level. Nonetheless, the changes that occur in the composition of food expenditure when there are changes in household income and size are interesting and somewhat surprising. The burden is especially great regarding those products that households regard as most essential (i.e., items for which households do not decrease their consumption despite a decline in per capita income): principally meat and poultry, bread and baked goods, and vegetable oils. In contrast, there are food groups that households “cut back” on relative to others when there is a decline in income or an increase in household size: milk, dairy products and eggs, and especially fruit and vegetables. In effect, the expenditure on fruit and vegetables exhibits a pattern similar to that of spending on luxury foods.

In the absence of sufficient knowledge concerning the cost of food for the various income groups (since food prices vary from one place to another, as does the quality of the purchased products), it is difficult to assess precisely the full significance of this study’s findings with regard to the quantity and quality of actual food consumption. Nonetheless, it may be assumed that these patterns of expenditure are liable to have nutritional consequences relating to poverty – especially when comparing the middle deciles to the two deciles that are below the poverty line. With the decline in income, households tend to continue consuming protein from meat and poultry, carbohydrates from bread, baked goods and vegetable oils, but are likely to find it challenging to consume sufficient amounts of milk and dairy products, and especially fruit and vegetables, which are the basis for a healthy Mediterranean diet. The findings also align with public sentiment regarding the high cost of food, which has been expressed in, among other things, the “cottage cheese protest” and other attempts to lower fruit and vegetable prices through public protests and independent organizing efforts by citizens.

Appendix

Method of Calculating Elasticity in Food Expenditure

The elasticity figures shown in Table 1 are based on an analysis of the Central Bureau of Statistics' 2011 *Household Expenditures Survey*. The analysis includes OLS regressions, in which the explained variable (for all food categories) is the household's log monthly expenditure on the relevant food category (Chernichovsky and Regev, in preparation). The explanatory variables are various household characteristics: log net income, log number of household members, log age of head of household, home ownership, whether the head of household is female, whether the family is Haredi, whether the family is Arab Israeli, and whether the family resides in the country's geographic periphery.

The effect of the household characteristics on the level of food expenditure is different for each food group. Nonetheless, when the effect of these characteristics on total food expenditure is examined, the bigger picture becomes somewhat clearer. As can be seen in Tables 1 and 2, the elasticity of the total expenditure on food relative to income is about 46 percent, and the elasticity relative to family size is about 41 percent. As expected, these two variables are very distinct (for all the food categories). The elasticity of expenditure relative to age of head of household is about 10 percent.

Interestingly, when household income and size are taken into account, the sex of the head of household has no distinct effect on the level of food expenditure, nor does belonging to the Haredi sector. In contrast, it appears that belonging to the Muslim or Druze sector increases a household's food expenditure by about 21 percent – mainly because of greater expenditure on meat products among these populations (Regev, 2014). Residing in the periphery also increases the expenditure on food by about 6 percent. Somewhat surprisingly, home ownership (without a mortgage) does not increase food expenditure in comparison to renting, while home ownership (with a mortgage) reduces expenditure by about 9 percent. The fact that homeowners do not spend more on food than

renters may reflect the overall budgetary constraints in place after buying a home which are necessary in order to meet the payments and commitments that go along with such a purchase.

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V. HEALTHCARE

Financing and Work Force Issues in Israel's Healthcare System

Dov Chernichovsky and Eitan Regev*

Abstract

This chapter will discuss two structural problems in the healthcare system: the continued downward trend in the share of public funding for the system and the ongoing decline in the supply of the physician work force relative to the population, with particular emphasis on the aging of the physician population. Both of these problems pose a risk to Israel's good performance with regard to its population's health. In contrast to the trends in the healthcare systems of other developed countries, including the United States, there is a continuing shift towards greater private funding in the Israeli healthcare system. This trend widens the disparities in access to health services and widens overall gaps between income groups. These changes in the healthcare system are the result not only of the diminishing share of public funding, but are also due to the fact that a large portion of private financing occurs via out-of-pocket expenditure. Although some 80 percent of the population has supplemental insurance in Israel, this insurance does not contribute sufficiently to reducing direct out-of-pocket expenditure, unlike in other countries where the private insurance system is more developed. The aging of the physician population is another issue. While it is beneficial that older physicians bring with them greater experience to the healthcare system, considering the overall decline in the number of physicians relative to the population in Israel, this trend could lead to a further drop in the supply of practicing physicians.

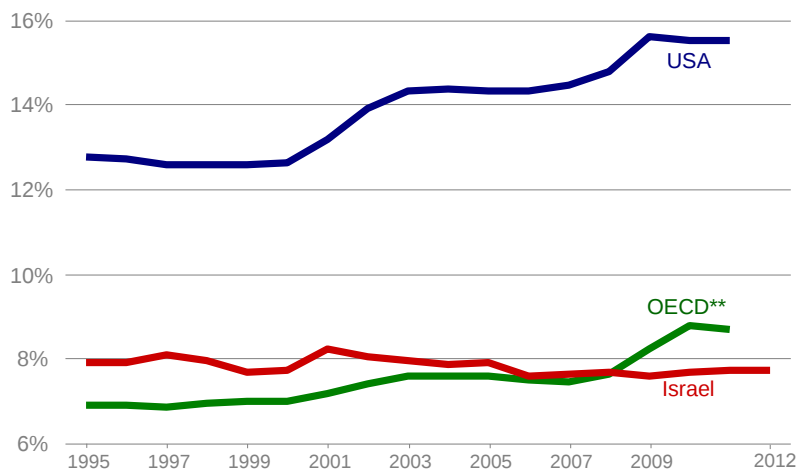
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1. National Expenditure on Healthcare Services and the Composition of the System's Funding

Total Expenditure on Healthcare Services

The national expenditure on healthcare services in Israel, including public and private spending, was NIS 73.8 billion in 2012, which is 7.7 percent of GDP (Figure 1). Even when taking into account the differences in each country's age distribution (Israel has a relatively low rate of elderly in the population – only 10 percent compared to 16 percent in Western Europe and the United States), Israel's healthcare spending is at a low level compared to other developed countries with national health insurance systems.

Figure 1
National healthcare expenditure*
as percent of GDP, 1995-2012



* Adjusted for standardized person using Israeli risk adjustment terms (old capitation method) as percent of GDP

** Average for 23 OECD countries (excluding USA)

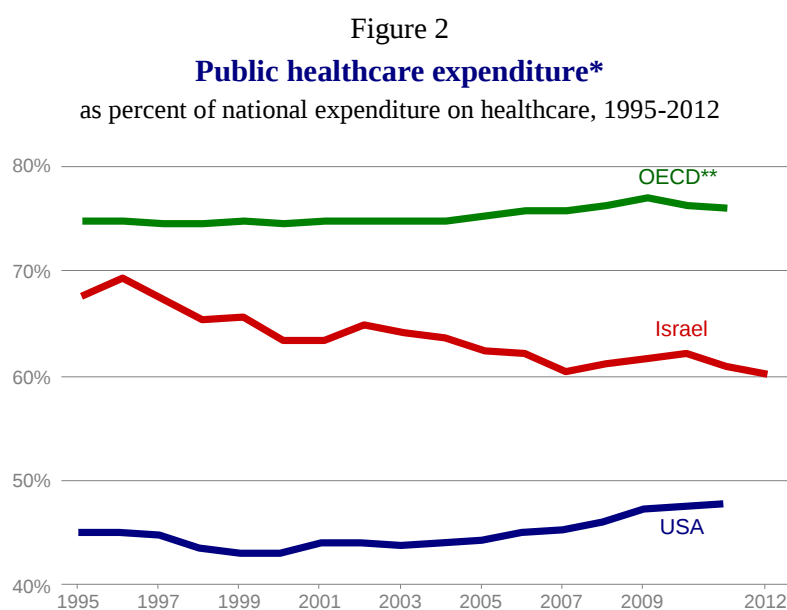
Source: Dov Chernichovsky and Eitan Regev, Taub Center

Data: Central Bureau of Statistics, OECD

Israel's level of national healthcare expenditure relative to Israel's GDP is lower than the average expenditure in the 23 most developed countries in the OECD, which stands at 8.7 percent of GDP. Furthermore, Israel demonstrates a relatively consistent trend of a diminishing share of healthcare expenditure in contrast to the developed OECD countries and the United States, which continues to stand out as an exception with its high level of health spending relative to its GDP at 15.5 percent.

The Composition of National Expenditure for Healthcare

In Israel, the downward trend in the share of public financing out of total healthcare expenditure continues (Figure 2). In 2012, public financing represented 60.1 percent of all healthcare expenditure, compared to 61.0 percent in 2011. This share is low compared to the average share of public financing in the 23 most developed countries in the OECD, which is 76.1 percent (excluding the U.S., whose share is 47.8 percent).



* Adjusted for standardized person using Israeli risk adjustment terms (old capitation method) as percent of GDP

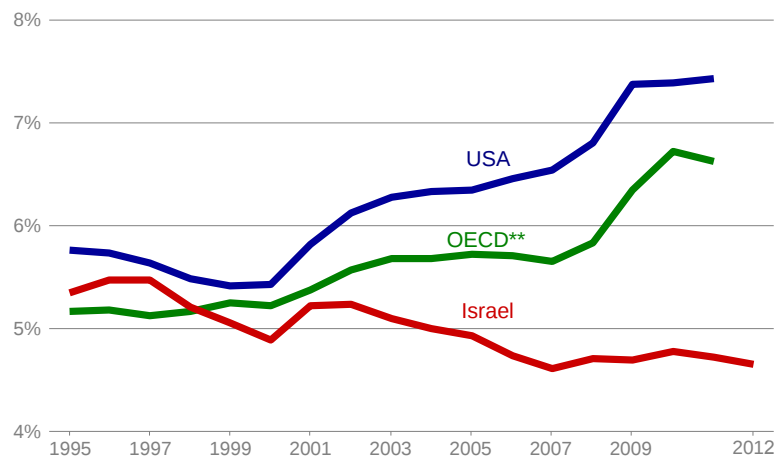
** Average for 23 OECD countries (excluding USA)

Source: Dov Chernichovsky and Eitan Regev, Taub Center

Data: Central Bureau of Statistics, OECD

The drop in the share of public financing for healthcare is especially evident when measuring healthcare expenditure as a percent of GDP. As Figure 3 shows, the publicly financed share of healthcare expenditure in relation to GDP has been dropping over the years in Israel and remains low compared to the U.S. and to the OECD average, even after adjusting for the different age distributions in these countries. This means that relative to its resources, Israel devotes a very low share of its economic output to the public financing of healthcare relative to the OECD average and the United States.

Figure 3
Public healthcare expenditure*
as percent of GDP, 1995-2012



* Adjusted for standardized person using Israeli risk adjustment terms (old capitation method) as percent of GDP

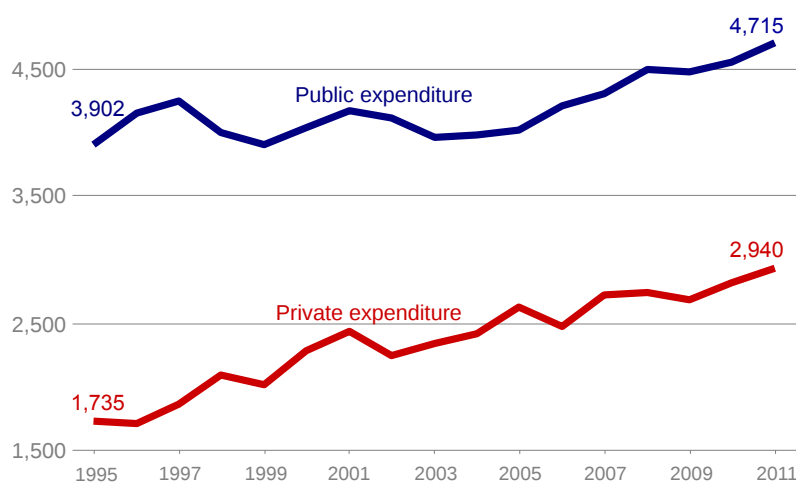
** Average for 23 OECD countries (excluding USA)

Source: Dov Chernichovsky and Eitan Regev, Taub Center

Data: Central Bureau of Statistics, OECD

This situation is reflected in the trend towards increasing per capita private spending on healthcare. Public expenditure per capita has grown by only 20.8 percent cumulatively from 1995 to 2011: from NIS 3,902 to NIS 4,715 (in 2005 prices) – an average increase of 1.2 percent per year. Meanwhile, private per capita spending during these years grew by 69.5 percent: from NIS 1,735 to NIS 2,940 – an annual average growth rate of 3.4 percent (Figure 4).

Figure 4
Per capita healthcare expenditure – public versus private
in 2005 shekels, 1995-2012



Source: Dov Chernichovsky and Eitan Regev, Taub Center

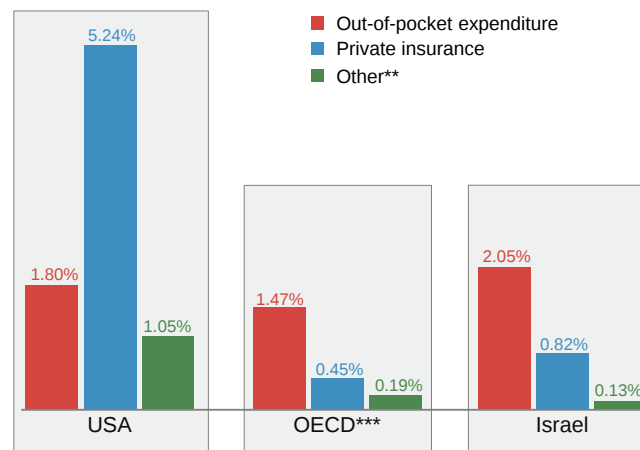
Data: Central Bureau of Statistics, OECD

These figures have an impact on household budgets: they lead to an increase in the regressivity of healthcare financing, contribute to a widening of gaps in income distribution, and reduce the security of household budgets with regards to medical expenditures while increasing disparities in access to healthcare services (Chernichovsky and Navon, 2012).

The Composition of Private Expenditure for Healthcare

Figure 5 presents the distribution of private financing for medical services as a share of GDP. In Israel, the total expenditure for private financing is 3 percent of GDP. Expenditure on private insurance is 0.82 percent of GDP, compared to only 0.45 percent of GDP in the OECD and 5.24 percent in the United States. Direct out-of-pocket expenditure in Israel is much higher, at 2.05 percent of GDP, as compared to 1.47 percent in the OECD and 1.80 percent in the United States.

Figure 5
Distribution of private healthcare expenditure*
as percent of GDP, 2011



* Adjusted for standardized person using Israeli risk adjustment terms (old capitation method) as percent of GDP

** Other: includes not-for-profit organizations that contribute to households (not including health funds); corporations (that do not supply health insurance)

***Average for 20 OECD countries (excluding USA)

Source: Dov Chernichovsky and Eitan Regev, Taub Center

Data: Central Bureau of Statistics, OECD

These figures indicate that the importance of private insurance in Israel, as compared to public insurance, is greater than in the OECD, but less than in the United States. On this issue, Israel falls in between the OECD and the United States, due to the relative decline in public financing and public insurance expenditure. With regards to the burden on household budgets, Israel is in a less favorable situation since the share of direct out-of-pocket expenditure in Israel is higher than in both the OECD countries and the United States.

2. The Demographic Distribution of the Physician Population

The sharp decline in the physician work force in Israel (relative to its population) is the result of a fundamental structural problem in the system, and the consequences of this decline are worsening as demand increases. This increase partially stems from the aging of the general population, but also from the change in the structure of demand: as the demand for privately-financed healthcare is allowed and encouraged to increase, it leads to an increase in overall demand for healthcare services (Chernichovsky and Regev, 2013).

As previous research has shown, there has been a sharp decline in the number of physicians per 1,000 people in Israel while other countries have experienced a rise (Chernichovsky and Regev, 2013). A demographic analysis of the composition of the physician population by age and gender indicates an even more acute problem than that indicated by the raw data alone.

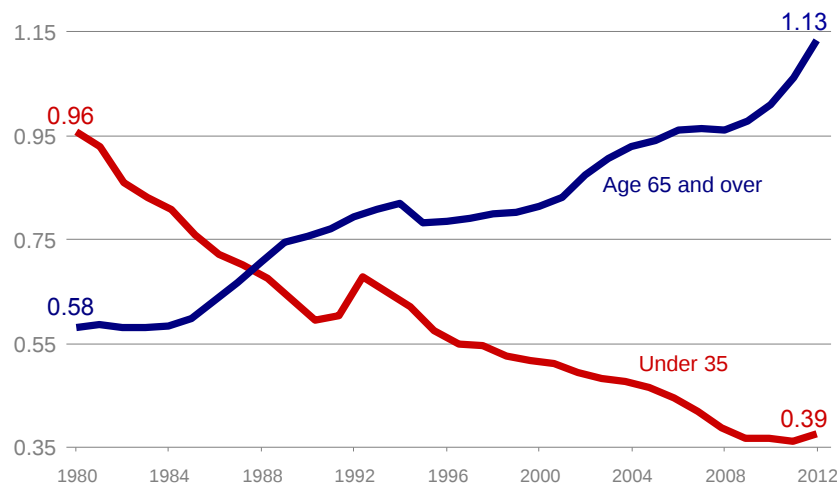
The Age Composition of Physicians in Israel

As of 2012, about 35,000 certified physicians were registered in Israel (some are not practicing).¹ Over the last three decades, there has been a

¹ The data presented in Figure 6 refers only to practicing physicians.

60 percent drop in the share of young physicians (under 35) in the population: in 1980 there were 0.96 young physicians per 1,000 people, compared to 0.39 today. Meanwhile, there was a 95 percent rise in the share of older physicians (aged 65 and up) in the population, from 0.58 per 1,000 people in 1980 to 1.13 in 2012 (Figure 6).

Figure 6
Certified physicians per 1,000 population
 by age groups: under 35; 65 and over, 1980-2012

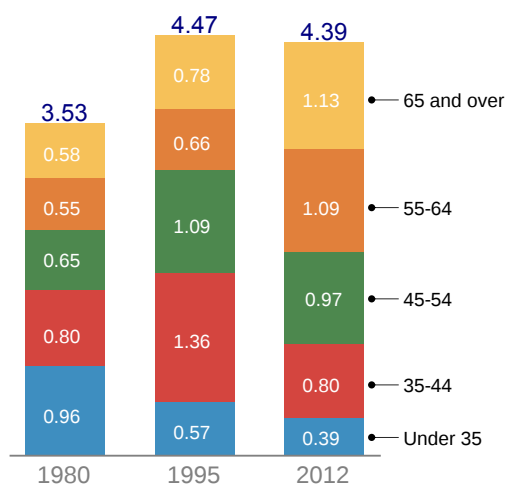


Source: Dov Chernichovsky and Eitan Regev, Taub Center
 Data: Central Bureau of Statistics, OECD

The share of physicians aged 35-44 in the population rose from 0.80 physicians per 1,000 people in 1980 to 1.36 in 1995. That rise is a result of the influx of physicians who immigrated to Israel from the former Soviet Union in the early 1990s. However, in recent years, the share of physicians in that age group has fallen again, returning to a share of 0.80 physicians per 1,000 people in 2012. Meanwhile, the share of physicians aged 55 and over rose from 1.44 physicians per 1,000 people in 1995 to

2.22 in 2012 (Figure 7). This data indicates that the generation of immigrants, who comprised the majority of Israeli physicians for the last two decades, is approaching retirement age, and not enough young physicians have entered the system to replace them. In fact, compared to both 1980 and 1995, there has been a sharp decline in recent years in the supply of physicians aged 44 and under in the population.

Figure 7
Certified physicians per 1,000 population
by age groups, 1980, 1995 and 2012

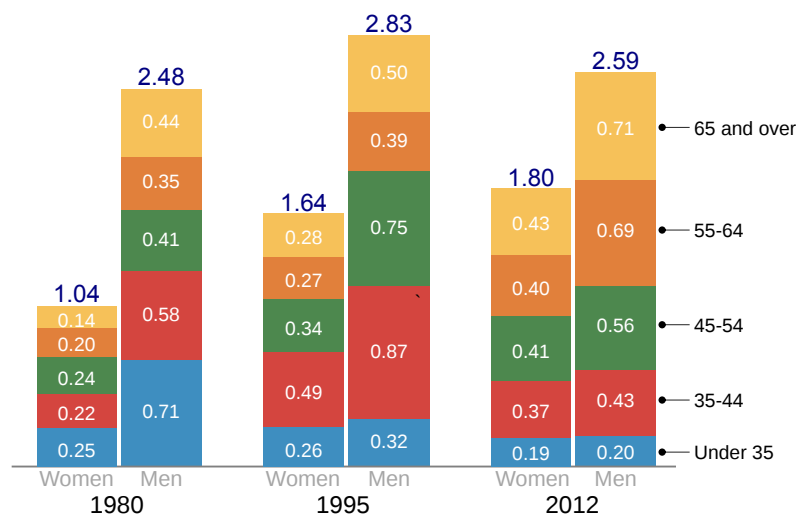


Source: Dov Chernichovsky and Eitan Regev, Taub Center
Data: Central Bureau of Statistics, OECD

The Gender Distribution of Physicians

Alongside the changes in the age structure of physicians in Israel, there have been changes in the gender distribution over the years. Between the years 1980 and 2012, the share of female physicians in the population almost doubled, from 1.04 per 1,000 people to 1.80 (Figure 8). During that period there was relative stability in the number of male physicians per capita. It is noteworthy that the rise in the share of women in the physician work force somewhat moderated the aging of that population in recent years.

Figure 8
Certified physicians per 1,000 population
by gender and age group, 1980, 1995 and 2012



Source: Dov Chernichovsky and Eitan Regev, Taub Center

Data: Central Bureau of Statistics, OECD

The aging of the physician population has an important qualitative dimension: older physicians bring with them more experience. Furthermore, the greater equality between the sexes in the system is

certainly encouraging. However, considering the demographic composition of the physician work force in Israel, the challenge facing the system is more serious than the raw numbers show, and the findings in this area cast a harsher light on the neglect in the planning of the physician work force in Israel.

The entry of young physicians into the system is important on several levels. From the qualitative aspect, it is worth noting that a young work force is innovative and its knowledge base is current. This is an essential element in modern medicine, given the rapid pace of development, and is also of significance given that there is no ongoing testing to ensure that physicians stay up-to-date in their field. Furthermore, the economic aspect cannot be ignored either: inasmuch as it is justified, older physicians cost the system more because they generally receive higher salaries.

The most important aspect of the decline in the number of young physicians compared to the population is a reduction in the effective work force. The number of retiring physicians is growing at a relatively rapid pace, especially among male physicians. The relative rise in the share of elderly physicians, like the share of women, is likely to be manifested not only in a reduction in the number of practicing physicians but also by a drop in the labor force participation levels of the remaining physicians, since young physicians, especially interns, tend to work longer hours than older physicians.

There is no doubt that the efforts made in recent years to increase physician training programs, including the new medical school in Safed and the recruitment of medical students and physicians from abroad, are steps in the right direction. Considering the lack of planning for the future and insufficient preparation in the past, though, Israel is facing a drop in the effective supply of physician work force. Even if in the near future there is rapid entry of young physicians into the system at the end of their training, Israel can expect a period of some 20 years in which it will experience a low supply of physicians aged 40-60 – the most productive age group, in terms of experience and work productivity.

3. Conclusion

The privatization process of the Israeli healthcare system continues, contrary to the trend in the OECD countries and the United States. The reduction in the share of public financing, along with the fact that private financing comes mainly from out-of-pocket expenditure and not from private insurance, leads to a continued widening of the disparities in access to health services and increases inequality between income deciles in general.

As for the demographic composition of the physician population, two significant changes have occurred: an increase in the share of women out of the total physician population, and a drop in the share of young physicians. Despite the advantages of more experienced physicians, the aging of the physician population could have severe implications for the effective physician labor force, and Israel might experience a significant shortage of middle-aged physicians. Furthermore, the shortage in the physician work force will be felt even more strongly as the trend of increased demand grows, partly as an outcome of the increase in the share of private financing of the healthcare system.

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Health Status and Healthcare System Budgeting in Israel in the Context of Disability-Adjusted Life Years (DALYs)

Dov Chernichovsky and Liora Bowers*

Abstract

This chapter briefly presents Israel's healthcare system in the context of the Disability-Adjusted Life Years (DALYs) metric. While accepted metrics in the healthcare system in Israel and in general often evaluate mortality, the Disability-Adjusted Life Years measure estimates disease burden that is caused either by premature death or by morbidity and disability, thus giving a more complete picture of health status in the country. An examination of the health status of Israelis shows that while cardiovascular diseases and major cancers are responsible for 42 percent of mortality, their contribution to overall disease burden as measured by DALYs stands at only 18 percent. In contrast, orthopedic problems and major depressive disorders, which contribute to 19 percent of overall disease burden, are almost non-existent among the causes of death. In terms of budgeting for the public healthcare system, current allocations for the 15-54 year-old age groups, populations which are very important in terms of their role within households and in the labor market, are relatively low compared to this group's share of disease burden. This study also found that the Health Basket Committee dedicates almost half of its annual budget to cancer-related illnesses and treatment, which are among the main causes of mortality. Nonetheless, new funding for treatment of orthopedic disorders and mental health issues is minimal due, in part, to the narrow mandate of this committee.

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1. *The DALY Metric*

Traditional metrics for examining health status and the quality of healthcare in various countries have generally been based on mortality rates. Mainly due to technological advances, modern medicine has unprecedented opportunities to extend life, although this does not always ensure a high level of functioning or good quality of life. In light of this, since the 1990s, various measures have been developed that attempt to measure life years in terms of “quality.” These measures are an effort to give a value to levels of everyday functioning and a sense of enjoyment in life, and among other things, to allow for a broader perspective on the potential of modern medicine to contribute to the welfare of society.

One accepted method for capturing overall disease burden and quality of life uses Disability-Adjusted Life Years (DALYs). An important milestone in quantifying disease burden occurred with the release of the 1993 annual World Bank report (World Bank, 1993) which examined the burden of morbidity on the population. Today, there is an international project led by the Institute for Health Metrics and Evaluation at the University of Washington, which is coordinating this effort among 500 researchers at 300 institutions in 50 countries.

DALYs measure both the number of life years lost due to premature death¹, and the partial loss of function due to disease or disability. The concept of Disability-Adjusted Life Years among the population is the “burden of disease” on the population. Simply put, this burden can be thought of as the difference between the current health status of the population and the situation in which the population is at its full life potential, free of loss of function due to premature death, disease or

¹ The researchers leading the DALYs project at the Institute for Health Metrics and Evaluation established a life expectancy of 86 years for analytical purposes – a rather old age relative to the average life expectancy in developed countries – which is only reached by the leading group in terms of life expectancy in the world, Japanese women. Age 86 is thus used as the potential life expectancy for all individuals and any death younger than this age is considered premature.

disability. As such, Disability-Adjusted Life Years are defined as the total number of life years lost due to premature death (YLL – Years of Life Lost) plus the total number of life years without a certain amount of function (YLD – Years Lost due to Disability). That is,

$$\text{DALYs} = \text{YLL} + \text{YLD}$$

The DALYs metric is just one method within a family of metrics known as HALYs – Health-Adjusted Life Years – whose purpose is to quantify the quality of each year of life according to the possibility to derive enjoyment from it and experience full functioning (Chernichovsky, in preparation; Gold et al., 2002). All of these methods, including the attempt to apply them to Israel, are based on developing models, the latest data regarding incidence of disease, and estimates of the impact of various diseases, injuries or disabilities in terms of functioning ability. The major advantage of the DALYs measure relative to other similar methods is that it allows a comparison of data between different countries and areas.²

Using a method that is still in the process of development and refinement means that estimates of DALYs for Israel can change in the future. Nevertheless, it is reasonable to assume that the overall picture will not change in a meaningful way since the DALYs method relates to risk factors, diseases and injuries that affect functioning and that are not explicitly accounted for in other currently used health metrics, which are strictly based on mortality and are thus perhaps insufficient. In other words, the findings presented in the chapter are not greatly affected by the accuracy of the specific data or figures but rather by the method itself.

² A comparative analysis between Israel and other countries over time will appear in a future publication on this topic.

Data³

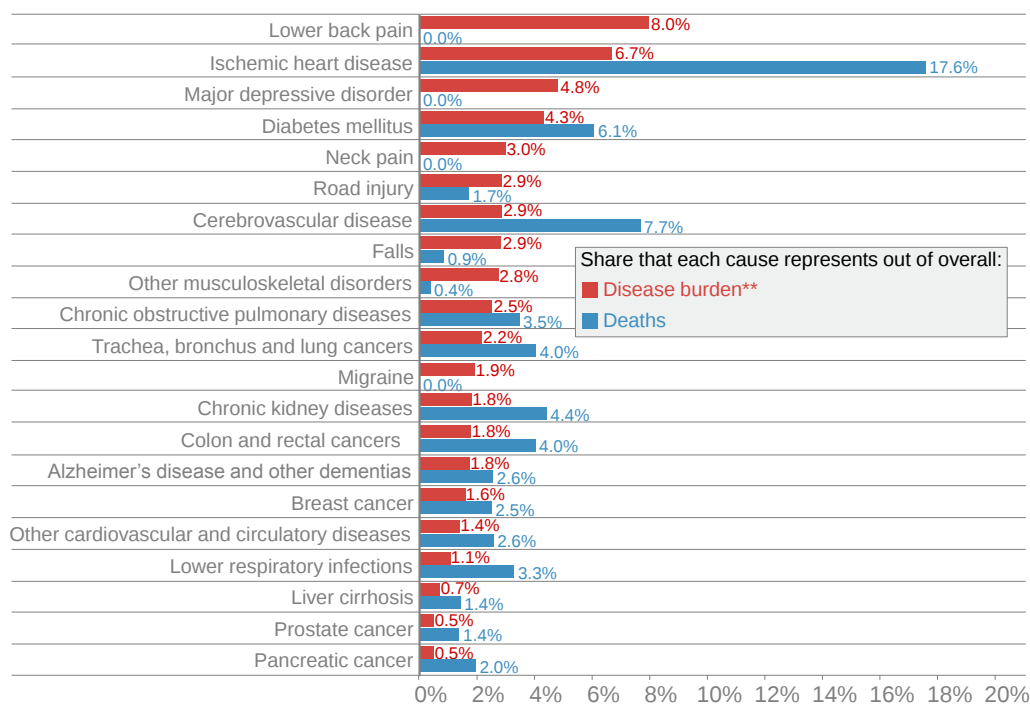
Mortality data comes from Israel's vital registry database. Morbidity estimates – including disease and injury incidence, prevalence, duration, and remission – are based on meta-regressions applied to data that comes from various sources, including household surveys, disease registries and monitoring data, and hospitalization and out-patient records, for 21 regions in the world (Israel is included in the Western Europe region). The weight or degree of disability assigned to a particular patient condition or impairment is based on surveys of the general public conducted in five countries (Murray et al., 2012). These surveys examined the public's perception of the extent of health impairment with regard to a variety of medical conditions. The results across the different countries showed that people's perceptions were relatively similar regarding the level of impairment caused by diseases and various disabilities (Murray et al., 2012).

2. Causes of Death and Disease Burden in Israel

The data presented in Figure 1 show considerable differences between the top 15 causes of mortality and the top 15 causes of overall disease burden, as measured by DALYs, (for a total of 21 causes) in Israel. The main causes of death are cardiovascular and circulatory diseases and cancer while main drivers of disease burden (that do not lead to death) are lower back pain, major depressive disorders and migraines. The top causes of death – cardiovascular and circulatory diseases (together, 28 percent of total deaths) and major cancers (14 percent of total deaths) – contribute only 11 percent and 7 percent to overall disease burden, respectively. Orthopedic problems and depression are together responsible for about 19 percent of overall disease burden, but are almost negligible in their contribution to mortality rates.

³ The analyses in this chapter are based on data from the Institute for Health Metrics and Evaluation.

Figure 1
Main causes* of death and disease burden**, 2010



* The top 15 causes of death and top 15 causes of disease burden (some of the causes overlap)

** Disease burden is measured via the Disability-Adjusted Life Years (DALYs) indicator, which accounts for both deaths and disability

Source: Dov Chernichovsky and Liora Bowers, Taub Center

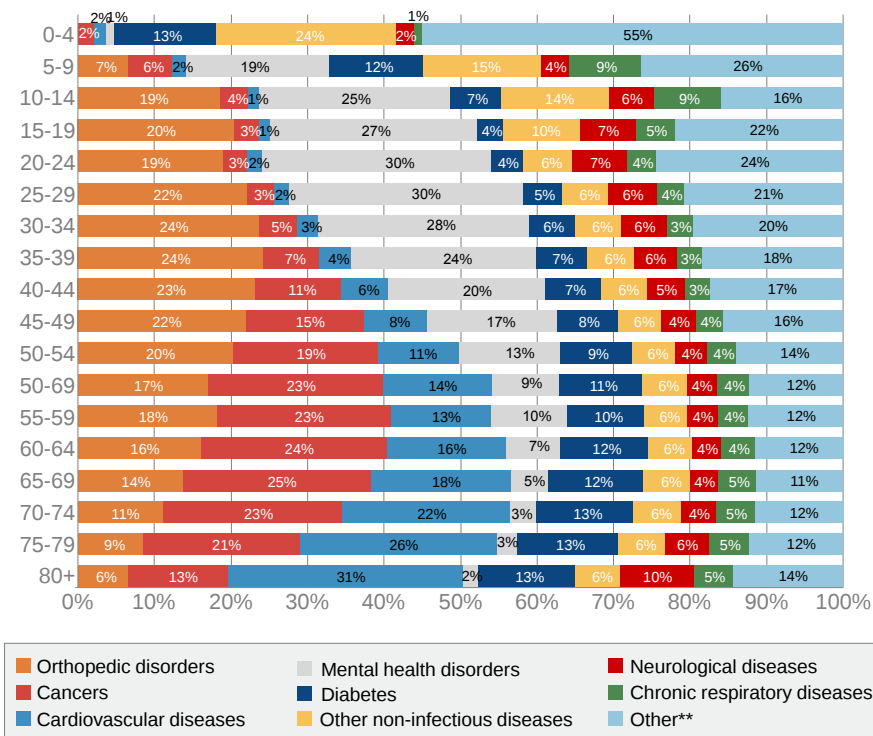
Data: Institute of Health Metrics and Evaluation, Global Burden of Disease collaboration

Death and Disease Burden in Various Age Groups

Figure 2 shows the distribution of the causes of disease burden, as measured by DALYs, across various age groups. As expected, the main causes of disease burden in the older age groups, such as cancers and vascular diseases, are also the causes of death. In contrast, the disease

burden among younger age groups is concentrated in conditions that are not fatal, like orthopedic and mental health issues. Likewise, in the younger ages, the disease burden from accidents is also high. That is, the DALYs measure gives more weight, relative to the current methodology based on mortality, to poor health among younger age groups.

Figure 2
Distribution of the causes of disease burden*
by age groups, 2010



* Disease burden is measured via the Disability-Adjusted Life Years (DALYs) indicator, which accounts for both deaths and disability.

** “Other” includes (the numbers in parentheses represent the range, across the various age groups, of the share of disease burden): accidents (3-6%); road injury (1-9%); childhood diseases (0-38%); infectious diseases (1-9%); deliberate injury (0-7%); digestive disorders (1-2%); malnutrition (0-5%); all other causes (0-2%)

Source: Dov Chernichovsky and Liora Bowers, Taub Center

Data: Institute of Health Metrics and Evaluation, Global Burden of Disease collaboration

3. Resource Allocation to the Healthcare System in the Context of Disability-Adjusted Life Years (DALYs)

In Israel, there are three integrated mechanisms for resource allocation to the public health system:

- A. Allocation through the capitation mechanism.** This allocation is designed to fund general medical care provided through the health funds. The central component in this mechanism is the capitation formula, which calculates a relative weight for each individual based on his age and gender, and also provides an addition for residents in the periphery of the country. According to this mechanism, money is distributed to the health funds for each insured member (Chernichovsky, 2011). About 72 percent of public financing for health services – some 34 billion shekels in 2010 – were allocated to the health funds via this mechanism.
- B. Allocations through the government budget.** This allocation is designed to fund Ministry of Health activities; namely preventive medicine, mental health and long-term care. This allocation accounts for about 28 percent of total public healthcare expenditure.⁴
- C. Allocation through the Health Basket Committee.** This allocation – totaling 300 million shekels in the latest budget – is designed to finance new technologies such as medications and medical devices.⁵

⁴ This figure also includes funding for maternity care and work-related injuries through National Insurance Institute taxes.

⁵ In this context, it is important to note that there is a lack of congruence between decisions of the Health Basket Committee and changes in the capitation mechanism. While it might be expected that the capitation mechanism would be adjusted according to the decisions of the Committee, such is not the case. If the capitation mechanism were to include, for example, some components related to disease burden, medication and hospitalization, as it does in other Western European countries, the adjustment would be, in part, automatic (Chernichovsky, 2011).

This mechanism has a special significance despite its relatively small size, because this allocation is added annually to the other two allocations and helps determine the direction of the system from a technology perspective.

It is interesting to examine how the Israeli healthcare budgeting system aligns with both the current health metrics used in the country and with the DALYs metric that estimates overall disease burden. In this section, two comparisons will be drawn: a comparison between the actual capitation formula and the distribution of disease burden by age groups, and a comparison between the Health Basket Committee allocation and the distribution of disease burden by medical conditions.

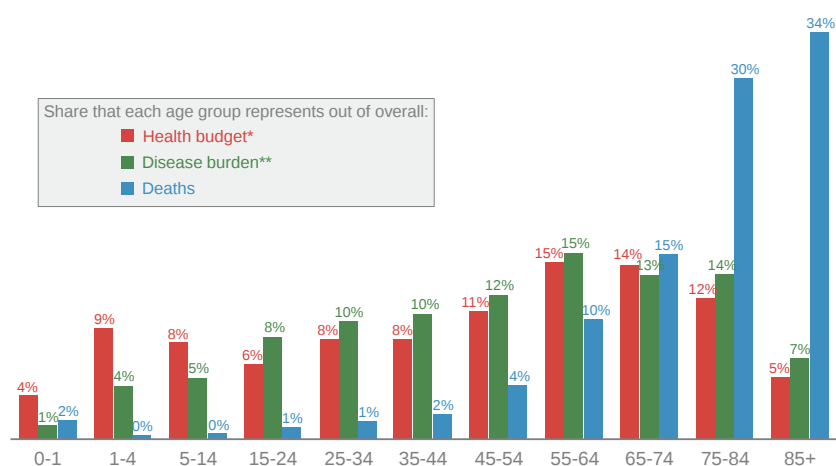
Allocation Based on the Capitation Formula Versus Based on Disease Burden

In order to compare between the actual allocation based on the capitation formula and the distribution of disease burden using DALYs, the basic capitation formula was recalculated. The calculated capitation formula for this analysis also includes the allocation for services provided directly by the Ministry of Health and not just those provided by the health funds. Such adjustments for direct Ministry of Health services include accounting for the child health allocation (ages 0-4) and long-term care funding for those aged 65 and older.

It is important to remember that the capitation formula is based on the relationship between the expected allocation per individual in a given age group as compared with the expected allocation per individual in the baseline age group (generally age 35-44). The assumption is that, on average, the actual allocation for each age group will equal the predetermined allocation that is based on the capitation formula. The formula expresses both the system's estimates of healthcare costs as well as societal preferences regarding the level of allocation for various age groups.

Figure 3 shows the distribution of mortality, disease burden (using DALYs) and the healthcare budget based on the capitation formula, by age group. For example, those aged 85 and over account for 34 percent of mortality and 7 percent of disease burden in Israel. This group receives 5 percent of healthcare funding according to the capitation formula. In contrast, those aged 1-4 account for a negligible share of mortality, while they account for 4 percent of disease burden and 9 percent of the budget via the capitation formula.

Figure 3
Distribution of the health budget*, disease burden and deaths**
by age groups, 2010



* The health budget shown here is based on allocation via the capitation formula, which includes Ministry of Health direct expenditures and Health Basket expenditures.

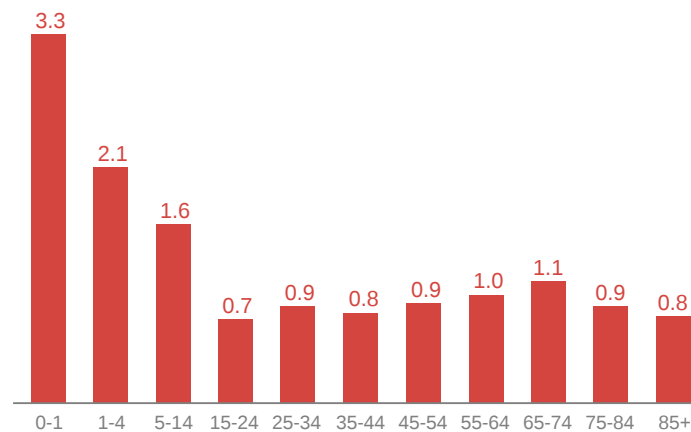
** Disease burden is measured via the Disability-Adjusted Life Years (DALYs) indicator, which accounts for both deaths and disability.

Source: Dov Chernichovsky and Liora Bowers, Taub Center

Data: Institute of Health Metrics and Evaluation, Global Burden of Disease collaboration

Figure 4 shows the ratio between the allocation according to the capitation formula (including the Ministry of Health's direct spending on the various age groups) and the distribution of disease burden by DALYs. The correlation coefficient between the budget allocation based on the capitation formula and the distribution of disease burden by age group is 0.84; the correlation between allocation based on the capitation formula and distribution of mortality rates by age group (not shown in figure) is 0.16. This means that the capitation formula in Israel yields allocations that are much more aligned with disease burden, as measured by DALYs, than they are with mortality rates. That is, the current allocation system is relatively well-matched to the public needs in terms of disease burden.

Figure 4
**Ratio of the share of the healthcare budget to
 the share of overall disease burden***
 by age group, 2010



* The amount allocated to each age group as a percent of the entire healthcare budget (according to the adjusted capitation formula) in ratio to the percent of the overall disease burden in each age group. For example, a figure of 1.0 would mean that an age group receives a budget allocation (as a share of the total budget) that is exactly equal to its share of the overall disease burden in Israel. Disease burden is measured via the Disability-Adjusted Life Years (DALYs) indicator, which accounts for both deaths and disability.

Source: Dov Chernichovsky and Liora Bowers, Taub Center

Data: Institute of Health Metrics and Evaluation, Global Burden of Disease collaboration

Nevertheless, the data shown in Figures 3 and 4 indicate that the actual budget allocation for the younger age groups (0-15 year olds) is larger than their share of disease burden in the distribution (from a ratio of 3.3 at age 0-1 to a ratio of 1.6 for ages 5-14), while the actual budget allocation to all other age groups – except ages 55-74 – is lower than their share of disease burden in the distribution. The relatively low allocation of the capitation formula relative to the disease burden (based on DALYs) for the age groups 15-54 is noteworthy.

The differences between the actual allocation based on the capitation formula and the distribution of disease burden shed light on both the government priorities in healthcare, even if they are not explicitly stated, as well as the limitations of the DALYs metric from a policymaking perspective. For example, the relatively high actual allocation for children according to the capitation formula reflects the decision by policymakers to invest relatively heavily in prevention. The DALYs metric, however, does not take into consideration the benefits of such prevention. Nevertheless, it is possible that a disease burden perspective could encourage different policies with regard to prevention than those in place today. For example, it is possible that a system that prioritizes the treatment of leading causes of disease burden would invest more in preventing problems like orthopedic and mental health issues early on.

The relatively low allocation for those aged 85 and over shows a government policy, although not explicit, that recognizes the limitations of dealing with death, and that is unwilling to invest unlimited amounts towards coping with mortality among the elderly. However, it is important to note that while those ages 85 and over represent a very high share of mortality in the country, they account for a much more modest share of the overall disease burden in the country. As such, while the allocation based on the capitation formula to those ages 85 and over is particularly low compared to their mortality rates, their allocation relative to disease burden is relatively similar to that of age groups 15-54.

The relatively low investment according to the capitation formula for ages 15-54 is also noteworthy, especially among the younger ages in this cohort. These groups are particularly likely to suffer from medical

conditions that are unrelated to death; as such, it would be appropriate to adjust their allocation accordingly – especially because of their relative importance with regard to household functioning and labor market participation.

Health Basket Committee Allocation Versus Disease Burden Distribution

As has been stated, the decisions of the Health Basket Committee impact only a small share of the healthcare system budget (the annual addition to the existing budget). Nevertheless, this component is of great significance since it reflects the additional amounts invested in new healthcare technologies, whose combined impact over time has the potential to determine the character of the system in the long term.

Making comparisons between the Health Basket Committee allocation and the distribution of disease burden, as measured by DALYs should be done with caution. The DALYs metric is static – it paints a picture of the health status of the population today, without providing any insight regarding those factors that lead to changes in disease burden. Taking such factors into consideration could lead to a different picture than the one presented solely by the metric itself. For example, even though mental health problems contribute greatly to disease burden in Israel today, their importance might be mitigated when considering that such problems are more prevalent among younger age groups, and demographic changes are leading to an aging population.

Nonetheless, there is value in comparing the Health Basket Committee allocation with both mortality rates and disease burden (as measured by DALYs) for each age group, in order to see how the Health Basket Committee allocation aligns with each metric and accordingly, what this indicates with regard to developments in the healthcare system over the long term. In terms of both promoting efficiency in healthcare budgeting and given the trend in the modern world towards using metrics such as DALYs, it is expected that the Health Basket Committee would allocate

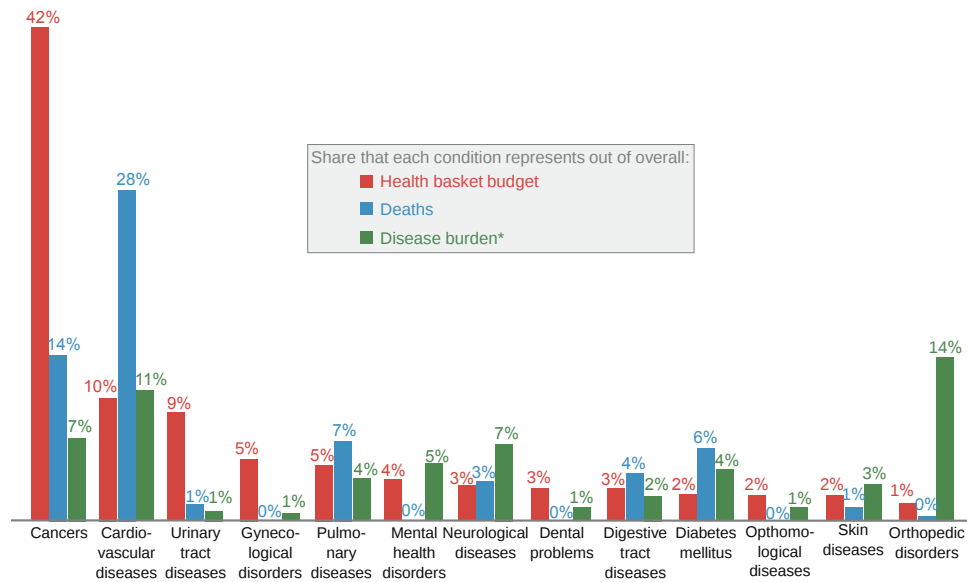
money for technologies that would have the most impact on disease burden – as opposed to the most impact on preventing death.

Figure 5 presents a comparison of the share of funding allocated by the Health Basket Committee for 2014 to various medical conditions with the share of mortality and disease burden (DALYs) caused by such conditions.⁶ Almost half of the Committee's allocation was devoted to cancer treatments, which is a major cause of death. In contrast, orthopedic and mental health problems, which contribute greatly to disease burden, received minimal additional allocation from the Health Basket Committee.

To some extent, these findings support the assumption that the Health Basket Committee has narrowed its focus towards life-saving medicines and mortality prevention, and does not give sufficient weight to disease burden stemming from poor health. This situation arises due to the narrow mandate of this Committee, which is limited to adopting new technologies – a scope that does not necessarily align with an approach that advocates for achieving the maximum health improvement from each additional shekel invested, based on the DALYs metric. For example, the Health Basket Committee cannot recommend using its budget to expand existing treatments to populations that currently do not benefit from them, such as expanding subsidized dental treatment to populations over the age of 11. Furthermore, the Committee cannot allocate more towards treating orthopedic problems using effective and innovative methods that are currently available but that do not involve adopting new technologies. That is, the Committee has no mandate to encourage new treatment approaches unless they are based on new technologies, even if such technologies are not necessarily proven yet.

⁶ Ministry of Health, the Recommendations of the Public Committee to Increase the Basket of Healthcare Services, 2014 update
health.gov.il/Services/Committee/vsal/HBS2014/Pages/default.aspx.

Figure 5
Distribution of Health Basket Committee budget
 as compared to distribution of deaths and disease burden*,
 by select medical condition**, 2010



* Disease burden is measured via the Disability-Adjusted Life Years (DALYs) indicator, which accounts for both deaths and disability.

** Conditions are listed in order of those receiving the highest budget allocation by the Health Basket Committee; not all medical conditions budgeted by the Health Basket Committee appear in this figure.

Source: Dov Chernichovsky and Liora Bowers, Taub Center

Data: Institute of Health Metrics and Evaluation, Global Burden of Disease collaboration

4. Conclusions

The DALYs metric presents an alternative to metrics based on mortality rates or life expectancy alone. When health status in Israel is examined, significant differences are found between the impact of various medical conditions on mortality rates and their impact on overall disease burden as measured by DALYs.

Actual healthcare system budgeting according to the capitation formula (which takes into consideration age and gender and allocates more to those living in the geographic periphery), reflects a government policy that is more aligned with addressing disease burden than preventing death. As such, the healthcare system has been relatively successful with regard to matching funding with the needs of the public in terms of disease burden. However, the actual budget allocates more to the youngest age groups (0-15) than they would receive if allocation were based on disease burden (DALYs), while the actual allocation to the other age groups – except those ages 55-74 – is lower than it would be if allocation were based on disease burden. The relatively low allocation granted to the age groups 15-54 based on the capitation formula is particularly noteworthy given the importance of this age cohort to households' functioning and to the labor market.

Comparing the allocation through the Health Basket Committee to the distribution of disease burden as measured by DALYs shows that almost half of the Health Basket Committee's allocation is devoted to treatment for causes of death (namely cancer treatments). In contrast, the major contributors to disease burden, like orthopedic issues, receive almost no additional allocated funds. These results support the assumption that the Committee has a narrow vision focused on life-saving medications and technologies, and does not encourage innovative approaches to reduce disease burden from conditions that do not lead to death.

Beyond offering a new and thought-provoking approach to examining the health status of the population, this discussion presents some questions for policymakers in the health system. First, it is important to examine the issue of the large allocation granted to children according to

the capitation formula, which is not substantiated when assessing the distribution of disease burden via DALYs. Second, it should be assessed how the investment in the most productive age groups – ages 15-54 – can be bolstered, given that the distribution of disease burden suggests that these groups' actual allocation is lacking. Third, the possibility of changing the Health Basket Committee's mandate should be examined, to allow the Committee to examine the system from the perspective of disease burden and not just death prevention. In addition, it is important to explore the possibility of giving the Committee a wider mandate to allocate additional resources to the system (to widen current eligibility, for example, to dental care to include additional age groups) and to implement methods and innovative treatment approaches that are not specifically life-saving.

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