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The rise in Israel's real estate prices: sociodemographic aspects

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ABSTRACT

The conspicuous rise in Israel's housing prices from 2008 to date, after the stable prices in the early 2000s, has raised concerns of a property bubble in the Israeli economy. The grave effects of real estate bubbles that emerged in various countries around the world throughout history and led to severe long-term economic crises within the country and elsewhere add to the concern about such occurrences in the Israeli economy. This article focuses on the current effects of the real estate bubble on Israeli society at the preliminary stage, and examines the sociodemographic implications of Israel's rise in housing prices and its impact on several social parameters, such as the average number of members in a household, Israel's residential density, age at marriage, the extent of emigration from the country among the young, the population's spread to peripheral areas, the inequality index, and more.

KEYWORDS Israel; Real Estate; housing prices; property bubble

The rise in Israel's housing prices from 2008 to the present (74%),[1] after the steady (and even real) drop in prices in the early 2000s, has raised concerns of a property bubble in the Israeli economy. A historical review shows the considerable contribution of real estate bubbles to the development of economic and social crises. Volatile housing prices are not unusual and can be found in all countries with free markets, similar to the prices of stocks and commodities. Nonetheless, two particularly memorable examples of extremely volatile domestic property prices that resulted in an acute long-term economic crisis within and outside the country may be mentioned. The first is that of Japan in the early 1990s (the property bubble crisis), which generated much research,[2] and the second is the 2007–2009 US property crisis (the subprime crisis), which has also been extensively researched.[3] The financially disastrous results of these crises constitute warning signs for the Israeli real estate bubble.

A large corpus of work focuses on the causes of rising housing prices and the formation of real estate bubbles. One example is Olivier Blanchard,[4] who linked

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rational expectations for a rise in asset values to development of real estate bubbles and subsequent market crashes. Additionally, studies examined the association between domestic market fundamentals and indices versus development of price-level bubbles and asset price volatility.[5] Other work suggests methods of identifying emerging property bubbles. For instance, research by Katja Taipalus presents a technique for recognising emerging real estate bubbles by analysing rental prices in domestic markets, which was already carried out in countries such as Finland, the US, Britain, Spain, and Germany.[6]

As stated, the research literature includes strategies for handling the formation of property bubbles. One example is Christopher Crowe et al., who describe the disastrous economic consequences of real estate bubbles in various countries and suggest, among other things, three possible interventions and regulation options available to the economic leadership: First, implementation of a monetary policy restraining the demand for mortgages, such as raising interest rates; second, utilising fiscal policy tools to reduce housing demand, as in imposition of transaction taxes, property taxes, and mortgage interest tax; and third, operating macro prudential regulation aimed at moderating demand for housing and reducing risk to the financial system, for instance, instituting higher capital requirements for mortgage applicants and limits on loan-to-value and debt-to-income ratios.[7] Similarly, Michael Bordo and Olivier Jeanne frame the role of monetary policy in moderating the emergence of real estate bubbles as well as constraints for achieving this goal.[8]

Therefore, the urgent question is whether recent rapid and steep rises in Israeli housing prices will lead to a similar catastrophic reality. Figure 1 shows a consistent rise in Israeli housing prices (both new and second-hand) from 2007 to 2014. In fact, the Israeli property market is familiar with periods of rapidly rising prices, particularly the mid-1970s to early 1990s.[9] But the current situation appears to be somewhat different and there is widespread concern over potential spiralling prices leading to economic crisis, as occurred in Japan and the United States (see Figure 1).

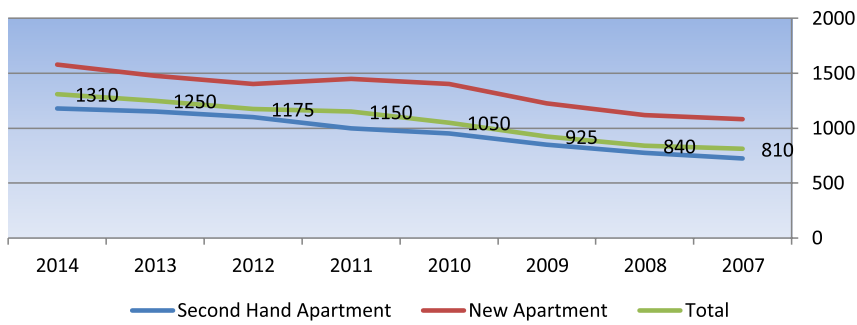

Figure 1. Housing prices in Israel, 2007–2014 (thousands of shekels).
Source: Israel CBS, Statistical Abstract of Israel 2014, Table 13.6: Price of Dwellings.

Causal analysis of the continuous rise of Israeli housing prices, as presented in the State Comptroller's report,[10] indicates a simultaneous convergence of multiple factors. First, from 2002 to 2012 a disparity developed between the number of households in Israel (consistently on the rise) and the decreasing number of new construction starts, as shown in Figure 2. This has led to an overall shortage of housing units,[11] contributing to a supply and demand gap and a consequent rise in housing prices (see Figure 2).

Second, a clear trend of reduction in the construction of smaller homes (up to three rooms) was discerned, contributing to diminished supply and detracting from the compatibility between the average home buyer's needs and the available housing. The average home buyer, as a result, increasingly had to take on unnecessary economic burdens. This trend, as well as the ballooning market for larger dwellings (four rooms and more), is represented in Figure 3.

Third, this period in Israel saw a considerable increase in housing demand, driving up housing prices along with supply constraints. Rising housing

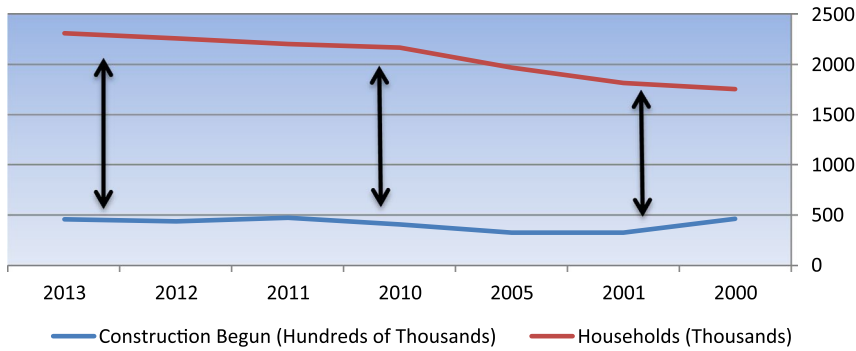

Figure 2. Israel's construction starts versus households, 2000–2013.
Source: Israel CBS, Statistical Abstract of Israel 2014, Table 22.1 – Construction – selected date, and Table 5.1 – Households.

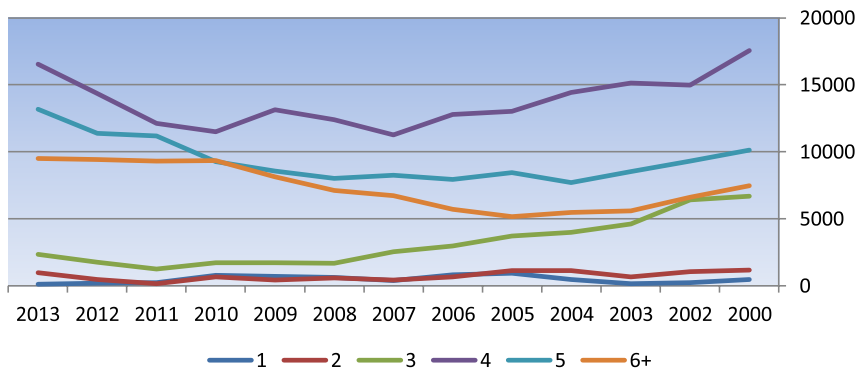

Figure 3. Israel's dwellings, by number of rooms, 2000–2013 (construction completed).
Source: Israel CBS, Statistical Abstract of Israel 2014, Table 22.9 – Dwellings, by number of rooms.

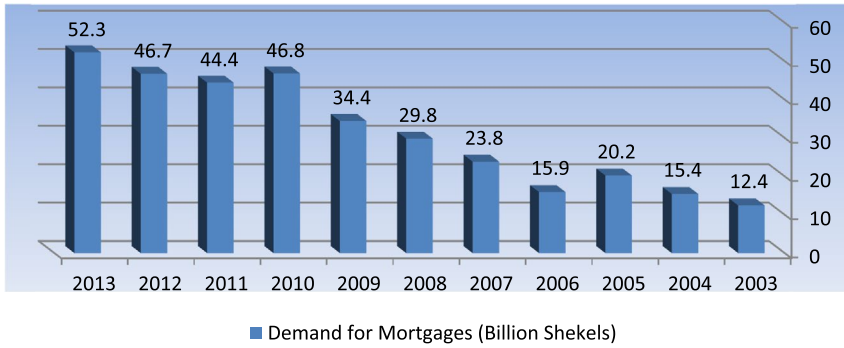

Figure 4. Demand for mortgages in Israel (in billion shekels), 2003–2013.
Source: Israel CBS, Table 17.3 – Credit to Public Through Banking Institutions.

demands were particularly evident from the increase in mortgage applications, as seen in Figure 4. One conspicuous reason for the spike in Israeli mortgages was the low local and global recession-related interest rates (see Figure 4).

A low interest rate environment plays into the rise in demand for mortgages from two simultaneous directions: first, it is an investment opportunity for those who lack the necessary funds to purchase a house. Very low interest rates encourage potential first-time buyers to commit to easy mortgages in order to purchase property and give themselves a socioeconomic boost. Furthermore, they reduce the attractiveness of sound savings routes and investment channels. They also increase the tendency of wealthy investors to reroute investments from financial channels into real estate, capitalising on potentially higher returns. Investor property purchases are perceived as unique opportunities for generating high yields, both through rental fees and continued rise in property values, producing higher profits than other investment options. Data from 2006 and 2012 published by the Taub Center for Social Policy Studies in Israel,[12] indicate a fourfold rise in the number of Israelis who own two or more homes (i.e. who invest in real estate).[13] A rise in investment home ownership is indeed evident in all income groups, although the most affluent (ranked in the top quintile) set the tone, as evident from Figure 5.

Research objective and expected significance

The development of Israel's housing prices has received scant research attention even though it is central to the public agenda. Moreover, no agreement exists that rising housing prices actually constitute a property bubble, as affirmed by Dovman, Ribon, and Yakhin, using data from 2010.[14] This year, State Comptroller Yosef Shapira published a lengthy report on financial aspects of rising housing prices and their causes.[15]

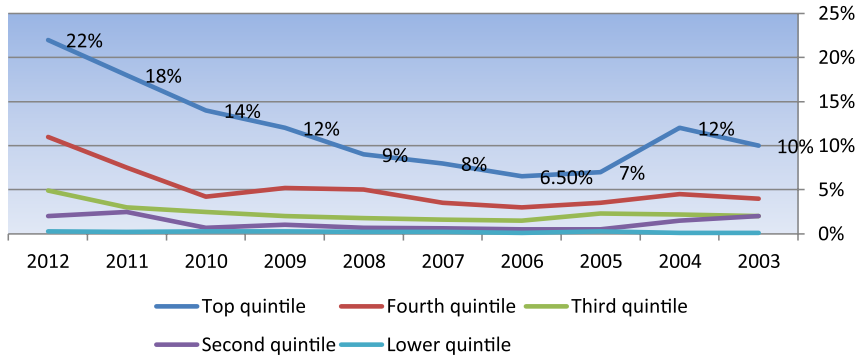

Figure 5. Ownership of two or more apartments (by income group), 2003–2012 (%).
Source: Taub Center for Social Policy Studies in Israel (2015), Picture of the Nation 2015, 11.

But the State Comptroller's report did not explore the *sociodemographic* implications and the impact zones of rising Israeli housing prices, the focus of the current study. Important social parameters such as average number of household members, housing density, peripheral population distribution, age at marriage, youth emigration, inequality index and more can offer valuable insights into socioeconomic interactions. Sociodemographic processes are powerful determinants of various domestic economic trends, including housing prices. This article focuses on the impact of financial trends (specifically, the rise in housing prices) on sociodemographic processes. The research results will enhance leadership decision-making when seeking to understand and influence salient domestic sociodemographic trends. This approach will enable utilisation of differential policies for intervention in housing markets (top down or bottom up) according to values and goals related to the spread and increase of population and slowing or boosting of emigration, among other sociodemographic phenomena.

Research hypothesis

The working hypothesis is that the rise in housing prices has a significant (although not exclusive) impact on several sociodemographic variables, as follows:

- *Impact on the inequality index:* The Gini Index of Inequality is based on the distribution of net monetary income between the different quintiles of the population. In 2000 the income of Israel's upper quintile was 6.5 times higher than that of the lower quintile. During the 2000s the disparity increased at a moderate rate, and by 2008 it had reached a factor of 7.5. Did the rise in Israel's housing prices from 2008 to the present affect income inequality, and if so to what degree? The research hypothesis assumes that

the rise in housing prices in Israel in general, and in central Israel in particular, has an effect on the population composition in various areas. Those who can afford to purchase a home in central Israel enjoy the benefits of increased employment opportunities, higher pay, and better education and schooling for children, producing a cyclical process as they grow older and have children of their own. In contrast, those who cannot afford to purchase a home in central Israel are compelled to reside in more distant residential areas, with detrimental effects on their pay level and those of their offspring. Thus it seems that rising Israeli housing prices, especially evident in the Central district of the country, aggravate socioeconomic inequality and therefore affect the inequality index (the Gini Index). In this context, the study by Elimelech and Levin-Epstein, who analysed the Israeli inequality index regarding ethnic residential patterns and linked place of residence, labour market, and education, is notable.[16]

- *Impact on the age of first marriage*: From 1970 to 2008 there was a rise in the age at marriage in Israel. According to the research hypothesis, the rise in Israel's housing prices during 2008–2014 will be found to have accelerated and enhanced this trend. This assumption is based on the rationale that young Israelis interested in starting a family and aware of growing obstacles due to rising housing prices are compelled to postpone the marriage until they obtain the necessary capital to take out a mortgage or until they are more certain of their ability to undertake such a heavy financial commitment. Thus, the research assumption is that the rise in Israel's housing prices will be found to have amplified Israel's rising average age at marriage.
- *Impact on the number of household members*: Examination of the number of household members in Israel as presented in the data of the Central Bureau of Statistics[17] shows that in the 1980s and 1990s some 70% of Israeli households consisted of four or fewer members (i.e. two parents and no more than two children) and about 30% of five or more (i.e. two parents and at least three children). From the early 2000s and until 2008 this ratio changed slightly, reaching some 75% small families (no more than four members) and 25% large families (five or more members), indicating a clear trend of diminishing family size in Israel. The question is how will the accelerated Israeli housing prices from 2008 to the present affect the number of members per household? Will a change be found in the ratio of large families (five or more members) and small families (four or fewer members), and if so in which direction? According to the research hypothesis, the rise in prices will reinforce the growing weight of small families as a proportion of all Israeli households, as many people will avoid expanding their family due to the concern that this will compel them to move to a larger home, while prices are rising, or alternately to aggravate their housing density if compelled to remain in their current home with a larger family.

- *Impact on Israel's housing density*: Housing density in Israel, measured by the number of residents per room, is relatively high compared to OECD countries. However, there was a clear improvement in this index from the 1980s to 2008, before the rising wave of housing prices. Thus, the question is how the increase in Israel's housing prices affects the housing density index. The research hypothesis assumes that in light of the increase in available large homes (four rooms or more) at the expense of smaller homes (three rooms or fewer), as shown in Figure 4, which makes it more difficult for smaller households seeking to purchase a home to find one that matches their needs and forces them to buy a larger home than they need, and in light of the previous premise that the price rises will have a negative impact on household motivation to extend the family, it appears that the housing density in Israel will fall, as a result of people buying larger homes than they need and/or of the diminishing household size. Thus, it seems that the improvement in Israel's housing density, a trend that began about three and a half decades ago, will continue in the investigated years as well.
- *Impact on the extent of emigration from the country by young people*: Examination of the number of Israelis leaving the country for over a year shows that since the early 2000s there has been a consistent and considerable drop in emigration numbers. In 2001, 27,400 residents left the country, while in 2007 the number fell to only 21,100. Age-range analysis shows that of all those who left in 2001, 8200 were in the 25–40 age range, while in 2007 the number of young people was about 6700.[18] The question, therefore, is whether rising house prices encouraged more Israelis to leave the country. This is all the more relevant for 25–40-year-olds, who have the most potential for starting a family and seeking housing. The research hypothesis assumes that the answer to this question is positive and that the rise in the cost of housing had the effect of increasing the number of Israelis leaving the country, particularly among younger emigrants.
- *Impact on the population spread to peripheral areas*: The Central Bureau of Statistics divides Israeli towns into the following districts: Jerusalem district, Northern district, Haifa district, Central district, Tel Aviv district, Southern district, and Judea and Samaria district.[19] In the mid-1990s the number of residents in the Tel Aviv district was 20.3%, in the Central district (the outskirts of Tel Aviv) 21.7%, in the Northern district 16.9%, and in the Southern district 13.4%. The question is: will the rise in housing prices be found to have an impact on the distribution of Israeli residents in the different areas, and if so, how? The research hypothesis claims that the rise in housing prices does indeed have an effect on population distribution, with the proportion of those residing in the further reaches of the country (the Southern district and the Northern district) growing at the expense of large cities: Tel Aviv, Jerusalem, and Haifa will have seen

slumps in population rates. It may also be assumed that the proportion of those residing on the outskirts of Tel Aviv (Central district) will be found to have risen as well.

Findings

The research findings presented below show the changes in the various parameters examined in this study during 2008–2014,[20] when a considerable rise was evident in Israel's housing prices.

Measure of income inequality

The Gini Index[21] of inequality in available income between the various socioeconomic groups in Israeli society during 2005–2014 shows that, unlike the research hypothesis presented above, the level of inequality in available income in Israel during the investigated period (aside from 2014) did in fact fall, particularly during 2011–2013 when housing prices rose sharply (0.3794, 0.377, and 0.3634, respectively). This fact refutes the assumption that the rise in housing prices, evident primarily in central Israel, makes a real contribution to increasing socioeconomic inequality in Israeli society, as well as a negative effect on the inequality index. Analysis of this data, presented in the National Insurance Institute report, shows that the sharp drop in the inequality index by available income is related to the continuous rise in the number of employees in Israel during these years (see Figure 6). Nonetheless, the rise in this index in 2014 (0.37), after several years of decline showing a worsening of the income division within Israeli society, can attest to a change in direction as a result of

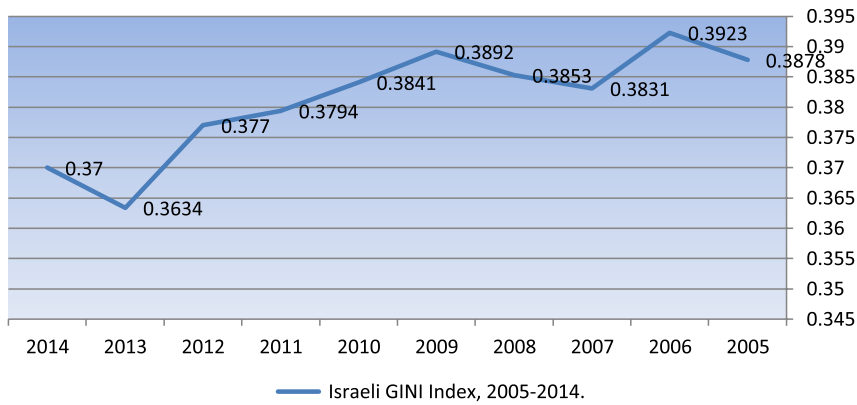

Figure 6. Israeli GINI index, 2005–2014 (after transfer payments and direct taxes).
Source: National Insurance Institute – Research and Planning Administration. 2013 annual report – Poverty rates and social disparities, 46–7, and data of the Central Bureau of Statistics – Household expenditures survey for 2013).

the economic policy introduced in this year, which included a cut in National Insurance allowances and tax relief that benefited high earners.

Age at marriage

Examination of data on Israel's average age at marriage, as presented in Figure 7,[22] shows that the rising age at marriage among men (grooms) and women (brides), which began as stated in the early 1970s, continued in the investigated period as well, characterised as it is by a conspicuous rise in housing prices. However, unlike the research hypothesis, which assumed that the rise in Israel's average age at marriage would intensify as a result of the rising housing prices, in practice even if the trend of delaying the marriage age indeed continued during the period under investigation, average age at marriage was not found to intensify, among either men or women. The average age at marriage of men and women in Israel, which was 29 and 25.6, respectively, in 2006 (before the sharp rise in housing prices), rose to 29.12 and 26.1, respectively, by 2013. This moderate rise does not attest to a significant (if any) effect of the high housing prices. Hence, it appears that young people who are aware of the increasing difficulty of finding housing due to the price rises do not necessarily choose to put their intentions to settle down on hold until they have the necessary capital to take out a mortgage or until they are more certain of their ability to take on such a heavy commitment, refuting the research hypothesis (see Figure 7).

The average number of people in the family

Examination of the average number of people in Israeli families shows that the increase in the proportion (percentage) of small families (four members or

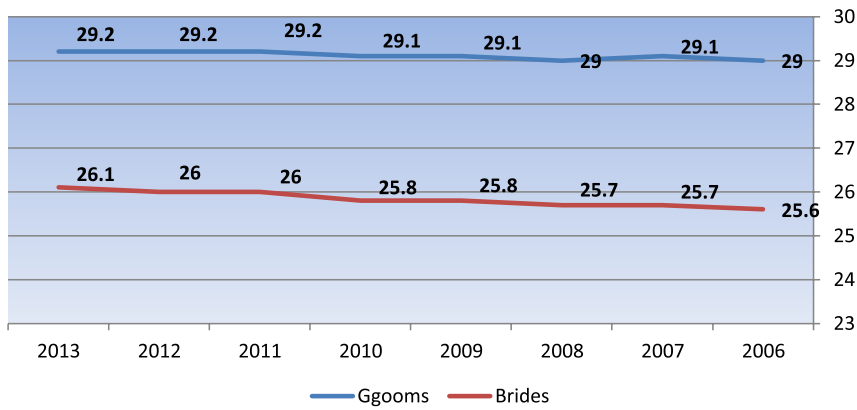

Figure 7. Mean marriage age in Israel, 2006–2013.
Source: CBS, Statistical abstract of Israel 2008–2015, Table 3.6.

fewer) at the expense of families defined as large (five or more members), which started as stated in the early 1980s, continued in the years under investigation as well. Moreover, from 2009 to 2014 it appears that there was a conspicuous acceleration in the growing proportion (percentage) of small families (some 80%) compared to the mid-2000s (some 75%) and the early 2000s (some 70%). This finding is compatible with the research premise, which stated that the rise in Israel's housing prices would probably strengthen the increase in the proportion of smaller households, as many people will avoid extending their families due to the concern that this will require a move to a larger home despite the price rises, or alternately worsen their housing density if they have to remain in their current home with a larger family (see Figure 8).

Housing density

Israel's housing density (measured, as stated, as number of residents per room) during 2005–2014 is presented in Table 1. The table shows a drop in Israel's housing density in 2012–2014 only (and not throughout the entire period under investigation). The table indicates that during these three years only was there an increase in the proportion of households with the lowest housing density (less than one person per room). The research findings indicate that from 2005 to 2011 these households comprised 52% of all Israeli households, while in 2012–2014 their proportion rose to 54% and over. Furthermore, the proportion of households with a medium housing density (1.5 to 1.99 people per room) dropped: whereas in 2011 these households comprised 7.9% of all Israeli households, in 2012–2014 their proportion diminished to only 7.3% (on average). Moreover, the proportion of households with a medium housing density (2.0 people per room) was also found to diminish during 2012–2014: from 3.5% in previous years (2009–2011), these households were 3% of all

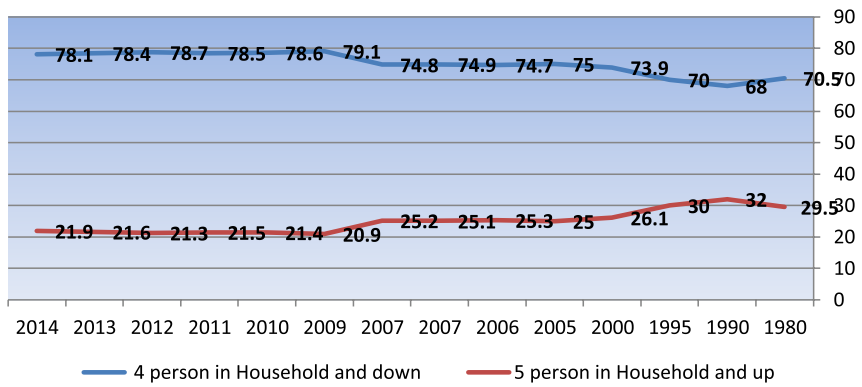

Figure 8. Persons in household in Israel, 2005–2014.
Source: CBS, Statistical abstract of Israel 2007–2015, Table 5.1.

Table 1. Housing density in Israel by persons per room (%), 2005–2014.

3+	2.5–2.99	2.01–2.49	2	1.5–1.99	1.01–1.49	1	−1
1.1	0.9	1.2	3.1	7.4	12.7	19.5	54.2
1.2	0.9	1.0	3.0	7.3	13.0	19.2	54.5
1.3	1.1	1.0	3.0	7.2	12.6	19.4	54.4
1.0	1.0	1.5	3.5	7.9	12.7	19.5	52.8
1.1	0.9	1.5	3.6	7.8	13.1	19.7	52.4
1.0	1.2	1.5	3.5	7.9	13.0	19.7	52.3
1.0	1.1	1.4	3.3	7.8	12.9	19.8	52.7
1.2	1.0	1.2	3.1	7.7	13.4	19.7	52.6
1.2	1.0	1.3	3.0	7.9	13.7	19.8	52.1
1.0	1.1	1.3	3.1	7.7	14.0	20.3	51.4

Source: CBS, Statistical abstract of Israel 2008–2015, Table 5.23.

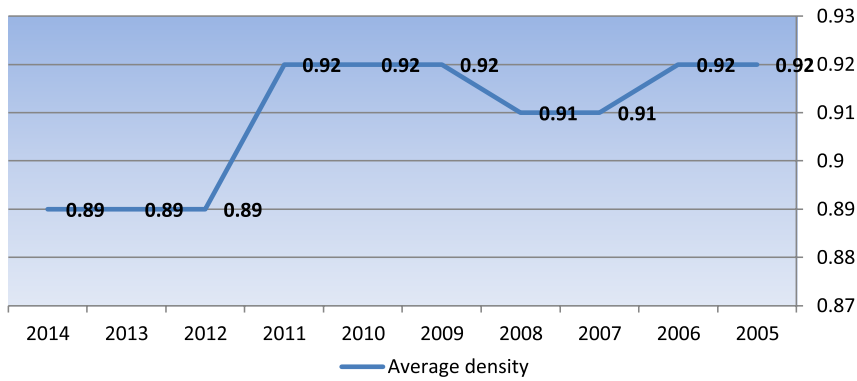

Figure 9. Average housing density in Israel, 2005–2014.
Source: CBS, Statistical abstract of Israel 2008–2015, Table 5.23.

Israeli households during 2012–2014. A similar trend is evident in the proportion of households with a high housing density (2.00–2.49 people per room) – a drop from 1.5% in 2011 to an average proportion of slightly more than 1% in 2012–2014. In the other density levels presented in Table 1,[23] no notable change is evident in the investigated years in general and during 2012–2014 in particular (see Table 1).

The trends presented in the table and described above led to a clear (although moderate) drop in Israel's average housing density during 2012–2014, as presented in Figure 9. The figure shows that Israel's average housing density from 2005 to 2011 ranged from 0.91 to 0.92, while in 2012–2014 it dropped to only 0.89. Therefore, it may be said that the research premise claiming that the improvement in Israel's housing density index would continue during the investigated years was partially confirmed, since it appears that the improvement in Israel's housing density was evident only in the second part of the investigated period (2012–2014), while in the first part of this period (2008–2011) the housing density remained unchanged (see Figure 9).

Emigration of young people from the country

Examination of the number of young Israelis (aged 25–40) who left Israel for a period of more than a year between 2006 and 2013, as presented in Figure 10,[24] shows that from 2006 to 2009 there was a conspicuous drop in their numbers. As of 2009, this trend ceased, and the number of young emigrants stabilised at 4900. This number remained unchanged in 2010 and even diminished slightly in 2011 (4800); however in 2012 the number of young Israelis who left the country rose slightly to 5100. Nonetheless, this does not attest to a change in trend, as by 2013 the number of young emigrants had dropped to 4900. It appears that the rise in Israel's housing prices did not lead to a wave of emigration among the young as hypothesised; rather at the most it put an end to the decrease in the number of emigrants that began, as stated, several years earlier (see Figure 10).

Spread of the population to the periphery

Examination of changes in the population distribution in the investigated period shows that during 2008–2014 several conspicuous changes were evident in Israel's population distribution index. First of all, the proportion of citizens living in the Tel Aviv district (of Israel's total population), which had been on the rise until 2008 (17%), began decreasing gradually and consistently from this year until 2014, when it was only 16.3%. This trend is compatible with the research premise, which assumed that a negative correlation would be found between the accelerated price rises in Israel in general and in the Tel Aviv district in particular between 2008 and 2014 and the demand for housing in the Tel Aviv district, which would be manifested in a drop in the number of those living in the district in these years. Secondly, there was a slight but consistent rise in the proportion of citizens living in the Central district (outskirts of Tel Aviv), including the Petach Tikva sub-district, the Sharon sub-district, the

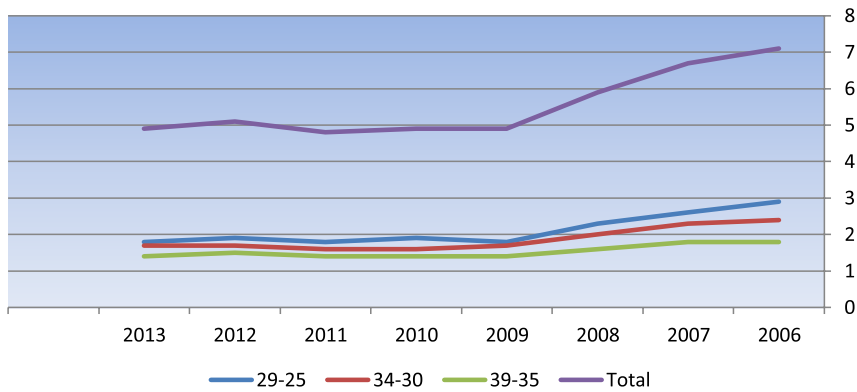

Figure 10. Departures of young (25–40) Israelis abroad, 2006–2013 (thousands).
Source: CBS, Statistical abstract of Israel 2008–2015, Table 4.10.

Ramle sub-district, and the Rehovot sub-district. In 2007 the proportion of those living in the Central district was 23.9%, while in 2014 it was 24.4%. This trend is compatible with the previous trend, which indicated, as stated, a fall in the proportion of those living in the Tel Aviv district, and it appears that many citizens who sought to live in the centre gave up on their intention to purchase a home in Tel Aviv itself and chose to settle in the nearby Central district, and it confirms the research premise, which stated that the rising housing prices in 2008–2014 would be followed by an increase in the proportion of those living on the outskirts of Tel Aviv (the Central district).

The third trend indicates an increase in the proportion of those settling in the Judea and Samaria district during 2008–2014. While the residents of this district in 2007 comprised 3.8% of Israel's total population, by 2014 it had reached 4.5%. While it is indeed likely that other factors and considerations (political, ideological, ethical, etc.) may explain the increase in residents of this area, it would be wrong to disregard the effect of the economic factor. It is not unreasonable that the rise in housing prices in the Central district on one hand and in the Jerusalem district on the other persuaded citizens who initially had wished to live in these areas to explore the possibility of moving to the nearby area of Judea and Samaria.

The findings further indicate that in the examined period there was a slight drop in the proportion of citizens residing in the Northern district and in the Haifa district, where in 2007 the proportion of those living in these districts was 16.9% and 12% and in 2014 their proportion was 16.4% and 11.7%, respectively. Moreover, no notable change was found in the proportion of those living in the Jerusalem district and in the Southern district. Therefore, it appears that the research premise whereby the rise in housing prices would have an effect on the population distribution in the various areas, with the proportion of those living in the distant periphery (the Southern and Northern districts) growing while the proportion of those living in the districts of the large cities (Tel Aviv, Jerusalem, and Haifa) would drop – was only partially confirmed (see Figure 11).

Discussion

The conspicuous rise in Israel's housing prices from 2008 to the present is at the basis of this study, which seeks as stated to explore its sociodemographic consequences. The research hypothesis states that Israel's rising housing prices in these years will have an impact on Israel's inequality index, average age of marriage, average number of members per family, as well as on Israel's housing density, the emigration of young people from the country, and the population spread to the periphery. The research conclusions show that some of the research hypotheses were confirmed by the findings and others were refuted, as follows.

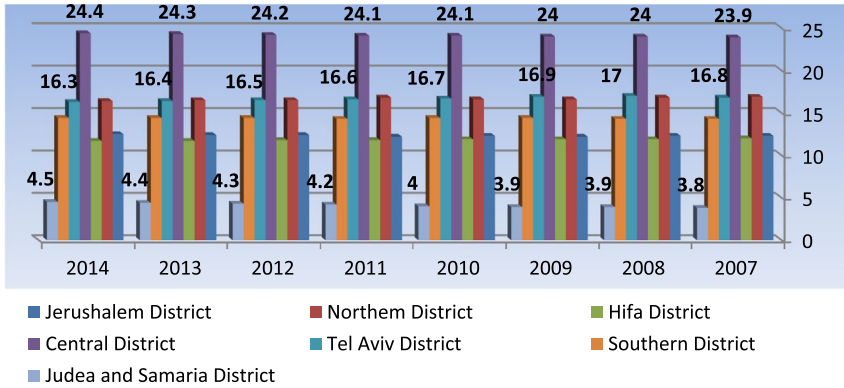

Figure 11. Geographical distribution of the population in Israel, 2007–2014 (%).
Source, CBS; Statistical abstract of Israel 2008–2015, Table 2.15.

The first research premise stated that the rise in housing prices in Israel in general and in the Central district in particular would have a real effect on increasing socioeconomic inequality within Israeli society and on the inequality index (the Gini Index). In fact, as shown by this article, the opposite happened: inequality in Israel's available income actually dropped sharply during 2011–2013 despite the conspicuous rise in Israel's housing prices in these years (aside from the data for 2014 which attest, as stated, to a rise in Israel's income inequality). A possible explanation has to do with the drop in unemployment in Israel, and accordingly with the continuous rise in the proportion of those employed in these years, which contributed to people's income and thus reduced inequality of available income as measured by the Gini index. In contrast, the Israeli economy's worsening income inequality in 2014 may, as stated, be related to the discriminatory economic policy that has increased income disparity, and it cannot necessarily be associated with the rise in housing prices.

The second research premise stated that the rise in Israel's housing prices in the investigated period would intensify Israel's rising average age at marriage, a trend evident since the 1970s. Yet again, however, the findings refute the research hypothesis. For while the average age at marriage among both men and women continued to rise during the investigated period, no increase in rates were evident. Hence, it appears that this rise is related to a wider sociocultural process in modern society in general and in Israel in particular and not specifically to the rise in housing prices. Moreover, even assuming that young Israelis are aware of the increasing difficulty of finding housing due to the price rises, this does not appear to drive them to postpone their intention to settle down until they obtain the necessary capital to take out a mortgage – their wish to settle down and start a family apparently overcoming their economic concerns, in contrast to the research hypothesis.

The third research premise claimed that the rise in Israel's housing prices during the investigated period would enhance the increase in the percentage of

small households as a proportion of all households, a trend consistently evident for many decades. The research findings support this hypothesis and show that during 2009–2014 a conspicuous acceleration was evident in the increasing proportion (percentage) of small families compared to the preceding decade. This can be explained by the fact that a large proportion of households who cannot afford to purchase a more spacious home avoid expanding their family and worsening their standard of living.

The fourth research premise, which dealt with changes in Israel's housing density in light of the rising housing prices during 2008–2014, linked changes in the size of apartments built in Israel with the previous research premise on the size of Israeli households. This premise stated that the increase in the size of large homes (four or more rooms) at the expense of small homes, and the diminishing size of Israeli families (as presented in the previous research premise), would lead to an improvement in Israel's housing density (measured, as stated, by the number of people per room) during 2008–2014.

The research findings indicate that this premise was only partially confirmed, as in 2008–2011 the density level remained the same as during 2005–2006 (the period before the rapid rise in housing prices). Nonetheless, during 2012–2014 there was a drop in Israel's housing density, as in the hypothesis.

A possible explanation for these findings is that when prices first began to rise it was still unclear whether this was temporary, and therefore it is possible that many people did not purchase new and more spacious homes to improve their housing density. This might explain why during 2008–2011 Israel's average housing density remained unchanged. However in 2012–2014 there was a particularly steep rise in housing prices (as presented in Figure 1) and it is clear that people who had been waiting for the prices to drop understood that they have no reason to wait and decided to purchase more spacious homes, with a consequent improvement in Israel's housing density in those years.

The fifth research premise claimed that Israel's rising housing prices would encourage young people (aged 25–40) to emigrate from the country in order to be able to purchase a home, something that has gradually become impossible in their homeland in recent years. The research findings show that it is not possible to significantly confirm this premise, as even if the decrease in the number of Israeli emigrants (during 2006–2009) was found to have ceased by 2010, in 2013 the number of young people leaving the country did indeed diminish. Therefore, it appears that Israel's rising housing prices did not lead to a wave of emigration among young people as hypothesised, but generally slowed down the decline in the number of immigrants that began several years ago. An explanation of this might be related to other factors that are not specifically economic and that keep young Israelis from deciding to emigrate and to settle elsewhere – for example, the recent political, religious, and demographic shifts in the world in general and in Europe in particular.

The sixth and final research premise claimed that the rising housing prices would have an effect on population distribution in Israel's various regions, with the proportion of those living in the distant periphery (the Southern and Northern districts) growing, while the proportion of those living in the major metropolitan districts (Tel Aviv, Jerusalem, and Haifa) would fall. A related assumption was that an increase would be found in the proportion of those living in the outskirts of Tel Aviv (the Central district). The research findings show that these premises were almost all confirmed. To begin with, the percentage of residents living in the Tel Aviv district as a proportion of the overall Israeli population experienced a decline. Second, there was a rise in the percentage of residents living in the Central district – as assumed. These findings are compatible with the premise that the rise in housing prices, in Tel Aviv in particular, would discourage people employed in the centre in general and in Tel Aviv in particular from purchasing a home in Tel Aviv itself and would encourage them to find a more realistic alternative from an economic perspective while also remaining close to their workplace. Thus, towns on the outskirts of the metropolis (the Petach Tikva sub-district, the Sharon sub-district, the Rehovot sub-district, etc.) have become a particularly attractive alternative. Third, a slight decrease was found in the proportion of citizens living in the Northern and Haifa districts, with no conspicuous change found in the proportion of those living in the Jerusalem district and in the Southern district. Thus, it seems that the research premise stating that the rise in housing prices would increase the proportion of those living in the distant periphery and decrease the proportion of those living in the districts of the large cities was only partially confirmed. Furthermore, the proportion of those living in the Judea and Samaria district was found to have risen in the investigated period. The reason for this trend might also have to do with political, ideological, and ethical considerations rather than only with the economic factor.

Conclusion

The article's research findings seem to strengthen the relationship between economic shifts and sociodemographic changes; and while they did not confirm all research hypotheses, those that were confirmed can attest to the effect of Israel's housing prices on three interrelated socioeconomic and sociodemographic measures:

- The rising housing prices, particularly in central Israel, encouraged the spread of the population to regions where it was cheaper to purchase a home.
- The economic stress of purchasing a home in general, and a more spacious home in particular, served to continue the fall in the size of average Israeli households.

- There was a conspicuous drop in Israel's housing density in 2012–2014, when housing prices rose sharply as a result of increasing demands and the purchase of more spacious homes.

Then again, the findings with regard to the two other measures examined were unable to confirm the research hypotheses:

- The level of inequality in Israeli incomes did not rise in the investigated period, in contrast to the research hypotheses.
- No conspicuous rise was found in the average age of marriage as a result of the rising housing prices. Nonetheless, the fact that the research hypotheses with regard to the income inequality index and the average age of marriage were not confirmed does not mean that they were not affected by housing prices. These measures might be more affected than the other measures examined by more conspicuous and meaningful factors such as employment levels in the economy, economic policy, level of growth in the economy, which are capable of affecting the inequality index, or by cultural and/or religious factors that can affect age of marriage, and therefore the impact of housing prices was not evident in the findings.

Notes

1. Until the second quarter of 2015.
2. See Weinstein, *Japanese Economic Crisis*, 164; Ito and Iwaisako, "Bubbles in Japan," 143–93; Stone and Ziemba, "Land and Stock Prices," 150–51; Noguchi, "Bubble and Economic Policies," 10; Cargill, Hutchison, and Ito, "Deposit Guarantees," 41–52; Schaede, "Financial Crisis in Japan," 85; Ohmi, "Japanese Economic Crisis," 61–77; Lincoln, "Japan's Financial Mess," 59; Saxonhouse and Stem, "Japan's Lost Decade," 485.
3. See Kregel, "Changes in the US Financial System," 1848-80; Gjerstad and Smith, "Monetary Policy," 272; Blundell-Wignall and Atkinson, "Subprime Crisis," 55–102; Gwinner and Sanders, "Subprime Crisis," 6; Hellwig, "Systemic Risk," 129–207; Whalen, "Subprime Crisis," 219–35; Serkan, "Behavioral Approach," 190; Sagemann and Reese, "Great Subprime Credit Crisis," 21-63; Arner, *Global Credit Crisis*, 91–136; Brown and Davis, "Prime Crisis," 16–28.
4. Blanchard, "Speculative Bubbles," 387–9.
5. See Flood and Garber, "Market Fundamentals," 745–70; Flood and Hodrick, "Asset Price Volatility," 831–42; Flood and Hodrick, "Testing for Speculative Bubbles," 85–101; Aizenman and Jinjarak, "Current Account Patterns," 75–89.
6. Taipalus, *Global House Price Bubble?*, 29.
7. Crowe, Dell'Ariccia, Igan, and Rabanal, *Real Estate Booms*, 300–319.
8. Bordo and Jeanne, "Booms Busts in Asset Prices," 8966.
9. Rubinstein, "Housing Prices in Israel."
10. State Comptroller, *Housing Crisis*, 1–5.

11. The State Comptroller's report states that this discrepancy is 53,000 housing units.
12. Taub Center for Social Policy Studies in Israel, "Picture of the Nation," 11.
13. From 2.1% to 8.1%.
14. Dovman, Ribon, and Yakhin, "Housing Market in Israel," 1–38.
15. State Comptroller, *Housing Crisis.*
16. Elmelech and Lewin-Epstein, *Migration and Housing in Israel*, 243–69.
17. Source: Israel CBS, Households by Size of Households, Table 5.1.
18. Source: Israel CBS.
19. Source: Israel CBS, Geographical Distribution of the Population.
20. Aside from the 2014 data of the Gini index, the average age at marriage and the extent of emigration among the young, since the data for this year had not been published when this paper was written.
21. This index ranges from 0 to 1, with 0 indicating complete equality and 1 indicating complete inequality.
22. The figure does not include the data for 2014, as at the time this paper was written they had not yet been published in the databases of the Central Bureau of Statistics.
23. One person per room, 1.01–1.49, 2.5–2.99, and more than three people per room.
24. The figure does not include the data for 2014, as at the time this paper was written they had not yet been published in the databases of the Central Bureau of Statistics.

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No potential conflict of interest was reported by the author.

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