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Research Department

**Buyer Characteristics and the Probability of Buying
a First Home: 2012–15 Compared to 2016–19**

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מאפייני הרוכשים והתמורות שחלו בסיכוי לרכוש דירה לראשונה

בשנים 2016—2019 לעומת השנים 2012—2015

דארין וייסמן

תקציר

מחקר זה בוחן מספר היבטים של שוק הדיור בשנים 2012—2019. המחקר מבוסס על קובץ נתונים ייחודי, שנוצר ממיזוג של שלושה מקורות: כרטסת מחירי נדל"ן (כרמ"ן); קבצי רשות המיסים המכילים את מאפייני השכירים, לרבות הכנסותיהם; ונתוני עסקות במסגרת תוכנית "מחיר למשתכן". תחילה נבחנים המאפיינים הכלכליים-חברתיים של רוכשי דירה לראשונה בשנים 2012—2015 לעומת השנים 2016—2019, לרבות מאפייני הדירות הנרכשות והתפלגות הרכישות במחוז מגורים ומחוצה לו. כמו כן נעשית הבחנה בין רוכשי "מחיר למשתכן" לבין הרוכשים בשוק החופשי; למיטב ידיעתנו הדבר טרם נעשה עבור מדגם מייצג של רוכשי "מחיר למשתכן".

רוכשי דירה לראשונה בשוק החופשי בשנים 2016—2019 דומים במאפייניהם לרוכשים בשנים 2012—2015. עוד מצאנו כי אין הבדלים מהותיים בין ההכנסה של רוכשי "מחיר למשתכן" לבין ההכנסה של הרוכשים בשוק החופשי, וכי שיעור הנשואים ושיעור המשפחות עם ילדים בקרב רוכשי "מחיר למשתכן" גבוה יותר. הדירות שנרכשו בידי הרוכשים לראשונה ב"מחיר למשתכן" זולות יותר וגדולות יותר ביחס לדירות שנרכשו בשוק החופשי, כאשר פערי המחירים באזור המרכז גדולים משמעותית ביחס לפריפריה; כמו כן, שיעור גבוה יותר של רוכשי מחיר למשתכן רכשו דירה מחוץ למחוז מגוריהם.

בהמשך המאמר נבחנות התמורות שחלו בסיכוי לרכוש דירה לראשונה בשנים 2016—2019 לעומת השנים 2012—2015 בקרב משקי בית המשתייכים לקבוצות שונות. תוצאות האמידה מצביעות על כך שההסתברות לרכוש דירה לראשונה עלתה בקרב כל חמישוני ההכנסה, אך במקביל התרחב הפער בין החמישון התחתון לבין החמישון העליון.

בשנים 2016—2019 עלה הסיכוי של משפחות צעירות, ובפרט של משפחות צעירות עם ילדים, לרכוש דירה לראשונה, בין היתר בשל זכאותן של משפחות אלה לרכוש דירות במסגרת תוכנית "מחיר למשתכן". המשפחות שזכו בהגרלות "מחיר למשתכן" והחליטו לממש את זכייתן רכשו דירות גדולות יותר במחירים נמוכים יותר ביחס לרוכשי דירה לראשונה בשוק החופשי. כמו כן מצאנו שהסיכוי לרכוש דירה בשוק החופשי נותר יציב, והסיכוי לרכוש דירה בשוק החופשי בפריפריה אף עלה עבור חמישוני הכנסה נמוכים. אפשר להסיק מכך שהרחבת ההיצע בשנים 2016—2019 הייתה משמעותית בהשוואה לשנים 2012—2015, ולכן הסיכוי של מי שלא זכו בהגרלות "מחיר למשתכן" לא נפגע.

Buyer Characteristics and the Probability of Buying a First Home: 2012–15 Compared to 2016–19

Darin Vaisman

Abstract

This study examines a number of aspects of the housing market during the 2012–19 period. The study is based on a unique dataset that was created by merging three sources: the “Carman” Real Estate Price Register; Israel Tax Authority files that include the characteristics of salaried employees, including their incomes; and transaction data from the “Buyer’s Price” program. The study first examines the socioeconomic characteristics of first-time homebuyers between 2012 and 2015, compared with those between 2016 and 2019, including the characteristics of the purchased dwellings and the distribution of purchases inside and outside of the residential district. A distinction is also made between “Buyer’s Price” purchasers and those in the open market. To the best of our knowledge, this has not yet been done for a representative sample of “Buyer’s Price” purchasers.

First-time homebuyers in the open market between 2016 and 2019 have similar characteristics to those who purchased between 2012 and 2015. There are no substantial differences in income between purchasers in the Buyer’s Price program and those on the open market, while the rates of married couples and families with children are higher in the Buyer’s Price program. The dwellings purchased by first-time buyers in the Buyer’s Price program are less expensive and larger than the dwellings purchased on the open market, and price differences in the center of the country are significantly larger than in the periphery. In addition, a higher rate of Buyer’s Price purchasers bought a dwelling outside their residential district.

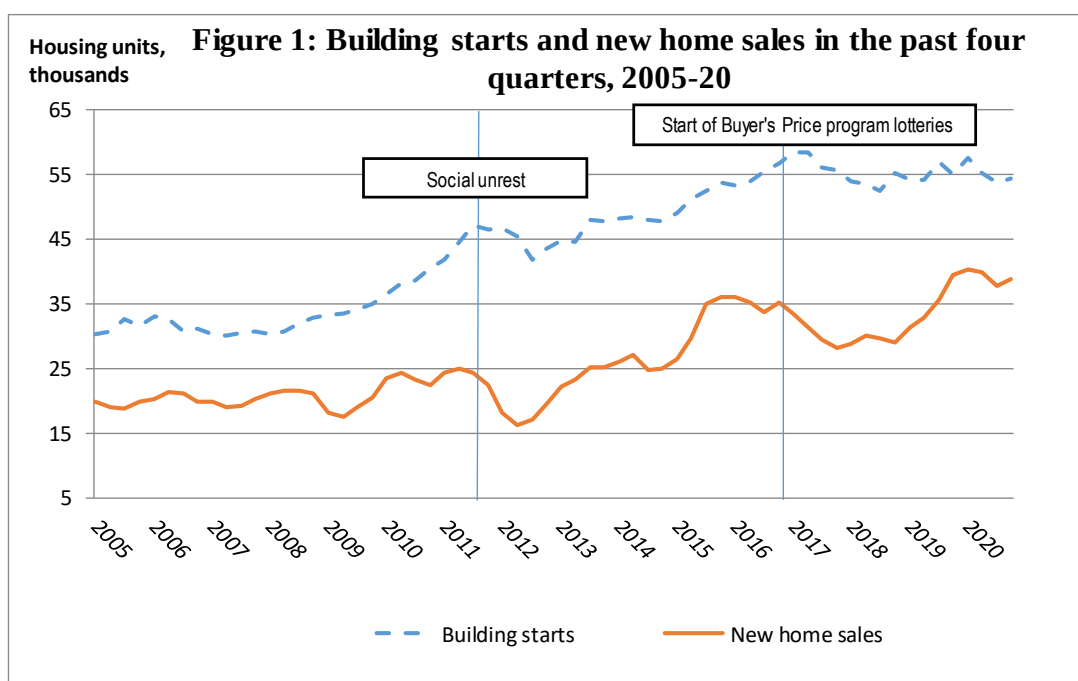
The study examines the changes that have taken place in the probability of purchasing a first home between the 2012–15 period and the 2016–19 period among households that belong to various groups. The results of the estimation indicate that the probability of purchasing a first home increased among all income quintiles, but the gap between the lowest and highest income quintiles widened.

Between 2016 and 2019, the probability of young families, particularly those with children, purchasing a first home increased, partly because these families were the target population for the Buyer’s Price program. The study also found that the chance of purchasing a home in the open market remained stable, and the chance of purchasing a home in the open market in the periphery even increased for the low income quintiles. From this, we can derive that the increase in supply between 2016 and 2019 was more significant than between 2012 and 2015, so the probability of purchasing a home of someone who did not win in the Buyer’s Price lotteries were not hampered.

1. Foreword and Survey of Literature

Following a persistent increase in housing prices between 2008 and 2015, resolving the housing crisis became one of the government's main objectives and it introduced a series of measures to increase the housing supply and lower housing prices. These included establishment of the VATMAL (National Planning & Building Committee for Priority Housing Areas)¹ to rapidly advance the programs, the signing of umbrella agreements with the local authorities, promoting urban renewal as well as other measures.²

Figure 1 shows housing starts data representing the development of the housing supply and data on new dwellings sold in the period of the study.



Source: Central Bureau of Statistics.

In an effort to lower the cost of purchasing a home, particularly for nonhomeowners, the government introduced a number of measures to reduce the share of investors in the housing market. These included raising the purchase tax on the purchase of an additional dwelling in 2015 and imposing multiple ownership tax (tax on the purchase of a third and subsequent

¹ VATMAL—an acronym for the Hebrew "National Planning & Building Committee for Priority Housing Areas".

² Further information appears in Chapter 9 of the 2017 Bank of Israel Annual Report, Chapter 9 of the 2018 Bank of Israel Annual Report, and Chapter 8 of the 2019 Bank of Israel Annual Report.

apartment) in 2017;³ however, the main step was the introduction of the Buyer's Price program at the end of 2015, with the goal of assisting nonhomeowner households to purchase a home.⁴

As part of the Buyer's Price tenders, the Israel Land Authority marketed land at a predefined subsidized price with developers competing on the per square meter price to the consumer; the bidder who offered the lowest price was awarded the tender. Those eligible to participate in the lotteries were couples of any age and individuals aged 35 or more who were not homeowners. No other criteria were defined, including income level or earning capacity.⁵ Winners were entitled to cancel their win at any stage, until the signing of the contract with the contractor. Buyer's Price purchasers may not sell their homes for five years after receiving their occupancy permit (Form 4) or 7 years from the date of the lottery in which they won their dwelling, whichever is earlier.⁶

According to the government's financial reports⁷, between 2015 and March 31, 2020, the Buyer's Price program cost NIS 9.3 billion⁸, and its final cost is expected to surpass NIS 10 billion. In 2017, the IMF⁹ published comments on the Buyer's Price program noting that the budgetary cost of the program was high (compared with the benefits). According to Ministry of Finance figures¹⁰, between the actual start of sales in the program in March 2016 and the end of 2020, 49,000 dwellings were sold through the Buyer's Price program.¹¹

Encouraging home ownership is just one of the tools used by the government to influence the housing market, and governments in many advanced economies attempt to encourage home ownership. The budgetary cost of programs to encourage home ownership are substantial and are based on the belief that higher home ownership rates benefit not only the actual purchasers

³ The Supreme Court cancelled tax on ownership of three or more dwellings that same year.

⁴ A nonhomeowner is one who does not own, and has not owned in the last 3 years (up to 2018 in the past 6 years) a dwelling or any rights in a home that exceed one third of a home in aggregate or rights in land designated for construction (the rights are calculated in aggregate).

⁵ In the lotteries, some preference was given to local residents.

⁶ According to Ministry of Housing directives, buyers sign an undertaking at the time of the purchase.

⁷ <https://www.gov.il/he/Departments/DynamicCollectors/financial-reports?skip=0> [Hebrew]

⁸ Of which NIS 7 billion is the loss of revenues for discounts on the land and NIS 2.3 billion is supplementary subsidy and grants for buyers, not including the cost of the guarantees provided by the State as part of the program and expenses within the context of the umbrella agreements.

⁹ International Monetary Fund.

¹⁰ Data on Buyer's Price housing transactions are published in the Chief Economist's Real Estate Review.

¹¹ Also including homes that were sold in the Target Price program in the same period.

(Haurin et al., 2002) but also have positive external influences on the neighborhoods in which they live (Di Pasquale and Glaeser, 1999; Hoff and Sen, 2005).

The question of whether the encouragement of home ownership does in fact have positive effects is discussed in the research literature and addresses the following points. Neighborhoods are positively impacted due to a greater willingness of households to invest in property they own and in their residential environment—for example, crime rates were found to be lower in neighborhoods in which the government encouraged the purchase of public housing dwellings (Disney et al., 2020). Child attainment is positively affected by the stability of their residential location: both outwardly—the educational attainments of other people's children, and privately—attainments of the children of those purchasing public housing (Green and White, 1997; Gibbons et al., 2017). There is greater financial discipline following purchase of the dwellings—improved financial conduct of the households as more people work and earn a wage, increase savings, and a larger share of households pay municipal taxes following the purchase of a home (Arbel et al., 2017; Sodini et al., 2017).

In contrast, Oswald (1999) asserted that higher home ownership rates also have a negative effect, since they limit mobility in the labor market, in turn leading to higher unemployment. A number of empirical studies examined Oswald's assertion; some supported his arguments, such as Blanchflower and Oswald (2013), who found that an increase in the rate of home ownership in the US led to higher unemployment, and Isebaert and Smolders (2015) who showed similar results for Belgium. In contrast, Broulikova et al. (2020) and Taskin and Yaman (2019) did not find evidence that higher homeownership rates cause higher unemployment.

Ownership is encouraged in several ways, with each method targeting a different population group:

- A. Households in low-income deciles are generally encouraged to purchase a home through the privatization of public housing and the offering of substantial discounts to public housing occupants to purchase the homes in which they reside. In the United Kingdom, this is called "Right to Buy" (RTB) while in Israel large discounts are offered to public housing residents.¹² The effect of the increase in home ownership rates resulting from the

¹² A detailed description of the program and review of its effects can be found in: Hausman, Ramot-Nyska, and Zussman (2022).

privatization of public housing and sale of the homes to their occupants has been widely studied and the research has found a positive impact on both the neighborhoods¹³ and child attainment.¹⁴

- B. Encouraging home ownership for the population at large, without means testing. For example, in the US, home ownership is subsidized by allowing the interest payments on mortgages to be deducted from taxable income¹⁵, or the Buyer's Price program in Israel that provided discounts to first-time homebuyers without means testing. Poterba and Sinai (2008) show that the possibility of offsetting the interest expense on mortgage payments from taxable income benefits households in higher income groups.¹⁶ Shapiro and Glaeser (2003) assert that those who benefit from reduced taxes for mortgage payments are relatively well-off households who would have purchased a home anyway, and the benefit seems to create an incentive to purchase a more expensive home—although it does not increase home ownership rates.

Between 2008 and 2015, the share of families living in rented accommodations in Israel rose against the backdrop of rising owner-occupied housing prices, although it remains low relative to the average in the EU.¹⁷ A Bank of Israel study that focused on young couples as a large proportion of first-time homebuyers found that the rate of home ownership among 25-40 year olds diminished in the period 2002–12 in parallel with an increase in the median age of the buyers and an increase in the proportion of dwellings purchased in the periphery (Bank of Israel, 2014).

The study by Brender and Strawczynski (2015) shows that it is young families with children who are forced to rent due to the difficulty in securing the funds to buy a home, whereas this trend has not developed among families without children or families with adult children.

¹³ Hausman, Ramot-Nyska, and Zussman (2022) found that the privatization of public housing in Israel raised the value of the homes in the neighborhoods in which public housing dwellings were sold to their occupants. In the case of the UK, Disney et al. (2020) found that the crime rate dropped in neighborhoods in which the government encouraged the purchase of public housing dwellings.

¹⁴ Aaronson (2000), Green and White (1007), Gibbons et al. (2017).

¹⁵ The similarity is with respect to those households receiving a subsidy to purchase a home.

¹⁶ According to the analysis performed by Poterba and Sinai (2008), the benefit amounted to an average of \$1,600 per household, but for households that took a large mortgage (those in the higher income deciles) the benefit amounted to \$7,100.

¹⁷ According to the Central Bureau of Statistics Household Expenditure Surveys.

The purpose of this present study is to examine whether government policies to increase the housing supply and reduce prices for nonhomeowners have changed the mix of first-time homebuyers, and to examine how they affect the chances of purchasing a first home among different population groups; and specifically to examine whether the opportunities for young families with children¹⁸ to purchase a home are greater in the period 2016–19 than they were between 2012 and 2015.

We started by examining the socioeconomic characteristics of first-time homebuyers in both periods, including the characteristics of Buyer's Price purchasers as against first-time homebuyers in the open market. To the best of our knowledge, this has not previously been done for a representative sample of Buyer's Price purchasers¹⁹, and it is important because it helps us understand which population groups benefited from the program. Additionally, we examined the transaction characteristics of first-time homebuyers, including comparing the distribution of the share of buyers inside their residential district between 2012 and 2015 with their share between 2016 and 2019. We then examined the changes that occurred in the probability for purchasing a first home among households with different demographic characteristics in different income quintiles, between 2016 and 2019 compared with the period between 2012 and 2015.

2. Data and the study population

2.1 Data

The dataset used in the analysis was created by merging three sources:

- A The “Carman” Real Estate Price Register: this database covers real estate transactions from 1998 up to the present time (the coverage is partial up to 2006). The data include transaction characteristics, including sale price, category of buyer (first-time, housing upgraders, investors) and property characteristics such as residential address, number of rooms, square meterage, and others.

¹⁸ Families who were forced to rent between 2002–12 (Brender and Strawczynski, 2015).

¹⁹ In the period 2016–20 in which the program operated, several publications by the Ministry of Finance Chief Economist (surveys of the residential real estate sector) published the characteristics of buyers in the program for several projects that had been chosen to report.

- B. Israel Tax Authority files – a random anonymized sample of 10% salaried employees in Israel and their partners. These files are panel data that contain detailed information about both partners: age, family status, number of children, income, seniority, job characteristics, etc.
- C. Transaction data from the Buyer's Price program: several sources of information about Buyer's Price transactions are available:
1. Data received by the Bank of Israel from the Central Bureau of Statistics, from January 2016 to the present.
 2. Ministry of Housing data: information about the program projects, for the period from 2015 through March 2017.²⁰
 3. An Israel Tax Authority housing transaction file (betterment tax and purchase tax files): the identification of Buyer's Price transactions is available only from the middle of 2018.

Identifying Buyer's Price transactions: at September 2020, use of all the sources identifies 48,000 Buyer's Price transactions. However, this figure seems to be an overestimation resulting from transactions identified from the Ministry of Housing project data. According to data from the Ministry of Finance Chief Economist, 44,200 transactions were recorded in the relevant period.²¹ In fact, after filtering out observations based on the history of past transactions²², we were left with 44,000 Buyer's Price transactions.

In the first stage, after identifying the Buyer's Price transactions, we merged them with the Carman file to obtain a Carman file in which Buyer's Price transactions were identified. In the second stage, we merged the resulting file with the salaried employees files. The merger was made possible thanks to an anonymized identification number given to each individual in both files so that it was possible to identify when the individual and/or their partner in the salaried

²⁰ This source contains an over-identification of homes, since contractors were able to sell some of the project dwellings on the open market.

²¹ Transaction data for the Buyer's Price program are published in the Chief Economist's Real Estate Sector Review.

²² Filtering out of transactions that are not classified as a first transaction in Carman and of transactions classified as a first-time transaction but where a history of transactions was found for the buyers after the merger with the Carman file.

employees file had purchased a home, and whether the dwelling was purchased through the Buyer's Price program or on the open market.

From 2016 to 2020, between 10 percent and 13 percent of Buyer's Price transactions were associated with salaried employees from the file of salaried employees and their partners.

2.2 The study population

The study covers all households with at least one salaried employee aged between 20 and 40. The study includes sale transactions for dwellings in Jewish / mixed communities between 2012 and February 2020 (up to the outbreak of COVID-19, as a consequence of which data for March–September 2020 were not included in the study). Homebuyers included households in the first-time homebuyers category only²³ and potential first-time homebuyers included all households that were not homeowners up to the relevant year. Households with an anomalous income for the sample²⁴ and households residing in Arab settlements were omitted from the sample. Between 2016 and 2019, first-time homebuyers were classified as either Buyer's Price buyers or buyers on the open market.

The study population was characterized at two levels: first-time homebuyers compared with potential buyers and first-time buyers on the open market compared with Buyer's Price buyers, including characteristics of the transactions performed.

Table 1A: The right-hand panel headed “number of households in the sample” shows that the number of first-time buyers was between 2.5 percent and 2.6 percent of the potential population in 2012–2013, dropped to 2 percent in 2014 due to a decrease in first-time purchases based on the expectation of the zero VAT program, returned to between 2.5 percent and 2.7 percent in 2015–2018, and rose to 3.4 percent in 2019. In 2016, Buyer's Price transactions accounted for 8 percent of all transactions in the sample. This figure increased to 44 percent in 2019 (January 2019 through February 2020), similar to the proportion of Buyer's Price transactions from all first-time home purchases reported in the same period.

²³ First-time homebuyers: individuals who had not purchased a home the past (the Carman file has no history of them buying or selling a dwelling).

²⁴ Households whose income was above the 99th percentile and below the first percentile were omitted.

The data indicate that married couples account for a significantly different proportion of actual buyers against potential buyers. To focus on the differences in buyer characteristics that are not attributable to the variance in the share of couples, in some of the theoretical statistics we focus exclusively on married couples.²⁵ The results appear in Table 1B.

Table 1A

Study population - characteristics of first-time homebuyers and potential buyers

	Share of married ^a			Average net household income ^b			Average age			Number of households		
	Open market	Buyer's Price	Total sample	Open market	Buyer's Price	Total sample	Open market	Buyer's price	Total sample	Open market	Buyer's price	Total sample
2012	0.80		0.45	147,292		75,446	30.3		29.0	2,934		115,167
2013	0.78		0.45	142,042		75,399	30.1		29.0	3,094		117,747
2014	0.77		0.45	145,676		76,856	30.1		29.1	2,405		119,904
2015	0.77		0.45	152,655		79,896	30.3		29.0	3,354		122,565
2016	0.79	0.93	0.45	154,229	182,446	83,717	30.2	31.4	29.0	3,036	242	122,069
2017	0.78	0.93	0.45	155,255	188,723	86,825	30.0	31.5	29.0	2,525	517	124,623
2018	0.78	0.94	0.44	165,200	186,004	89,295	30.4	31.2	33.2	2,611	839	127,889
2019	0.73	0.93	0.45	158,972	185,361	88,823	30.4	31.3	33.0	2,762	1,846	137,033

^a. Married couples are those who live together and manage a joint household.

^b. The data on income refer to net household income from wages, in 2018 prices.

Table 1B

Study population - characteristics of first-time homebuyers and potential buyers, couples only

	Percentage of families with children			Average net income per household ^a			Average age			Number of households		
	Open market	Buyer's Price	Total sample	Open market	Buyer's Price	Total sample	Open market	Buyer's price	Total sample	Open market	Buyer's Price	Total sample ^b
2012	0.66		0.77	161,764		104,178	30.3		33.5	2,364		51,581
2013	0.64		0.77	157,443		103,929	30.3		33.5	2,409		52,814
2014	0.64		0.76	163,313		105,987	30.3		33.4	1,872		54,035
2015	0.67		0.76	171,557		109,908	30.6		33.3	2,586		55,483
2016	0.65	0.74	0.76	170,062	184,483	115,664	30.3	31.1	33.3	2,403	224	54,621
2017	0.68	0.77	0.76	174,974	193,297	118,966	30.3	31.2	33.2	1,958	477	55,994
2018	0.71	0.77	0.77	184,402	189,554	122,091	30.4	31.2	33.2	2,041	789	55,796
2019	0.67	0.80	0.78	181,932	188,825	117,598	30.4	31.3	33.0	2,019	1,711	61,453

^a. The data on income refer to households' net income from wages, in 2018 prices.

^b. The "total sample" column in the tables refers to the buyers' potential.

²⁵ Married couples are defined as couples living together and managing a joint household.

The average income of the buyers is significantly higher than the income of households that did not purchase a home, despite the fact that, on average, the buyers are more than two years younger.²⁶ Families with children account for a higher proportion of households that did not purchase a home (potential buyers). This is apparently the result of age differences between the two groups.

When comparing buyers' characteristics between 2012 and 2015 and between 2016 and 2019, a distinction is made between buyers in the open market and buyers through the Buyer's Price program, since from 2016 the housing market was divided into an open market and a subsidized market.²⁷ The table shows that the characteristics of buyers in the open market between 2016 and 2019 are similar to those of buyers between 2012 and 2015: the average age was 30, married buyers account for 77 percent to 80 percent, and average net income per household was NIS 160,000 between 2012 and 2014, gradually increasing between 2015 and 2018²⁸ and declining by 2 percent in 2019.

The characteristics of Buyer's Price purchasers differ somewhat from those of buyers in the years preceding the program (and from those of buyers in the open market in the years in which the program operated). Buyer's Price purchasers are about ten months older on average than buyers in the open market and it is possible that the waiting period between winning the lottery and purchase of the apartment contributes to this age difference. The share of married couples among Buyer's Price purchasers is 20 percent higher in the period 2016–2018 and 27 percent higher in 2019 than in the open market. The differences in the share of married couples are consistent with the terms of eligibility in the Buyer's Price program that prevent individuals below the age of 35 from issuing a certificate of eligibility.²⁹ The share of families with children among Buyer's Price buyers is about 10 percentage points higher than among buyers on the open market. These differences are amplified in 2019 when the share of Buyer's Price transactions from among the total number of first-time buyer transactions increases. This is apparently due to a shift of potential buyers away from the open market to the Buyer's Price program, and their

²⁶ At these ages, average income increases significantly.

²⁷ Although the Target Price program was approved in 2014, the number of homes sold through the program before 2016 was very low.

²⁸ The real wage for a salaried position was relatively stable between 2012 and 2015 and increased between 2016 and 2019.

²⁹ Other than exceptional cases.

signing of the purchase contract. The average income of households who purchased a home through the Buyer's Price Program is similar to the income of buyers on the open market. A standardized distribution of the income of the buyers (couples only) by age according to income quintiles³⁰ between 2016 and 2019 appears in Table 2, allocated by Buyer's Price and the open market. We can see that the distribution of buyers on the open market by income quintiles is similar to that of Buyer's Price buyers—and in both groups, the share of buyers in income quintiles 1 and 2 is low.

Table 2
Distribution of buyers by income quintiles - Buyer's Price and open market^a (percent)

	2016		2017		2018		2019	
Income quintile	Buyer's Price	Open market	Buyer's Price	Open market	Buyer's Price	Open market	Buyer's Price	Open market
1	3.2	4.0	2.7	3.8	3.3	4.2	4.2	4.3
2	4.5	5.4	4.0	5.6	6.8	4.7	5.9	4.8
3	5.4	9.3	9.1	8.8	9.3	8.9	9.4	10.5
4	24.3	20.7	20.7	22.3	19.9	22.0	20.8	21.2
5	62.6	60.7	63.4	59.5	60.7	60.1	59.6	59.4

^a Couples only.

Table 3 shows the transaction characteristics of first-time homebuyers. For 2016-2019, the table shows transaction characteristics of first-time homebuyers on both the open market and in the Buyer's Price program, but for 2012–2015 only transaction characteristics for buyers in the open market are shown.

The price of homes purchased on the open market are between 6 percent and 11 percent lower than the average price of homes reported by the Central Bureau of Statistics in those years, but are almost the same as the average price of homes purchased by first-time homebuyers.³¹ We can see that the prices of homes purchased on the open market rose by rates similar to the increase in the cost of housing (in real terms) in the same period, while the number of rooms remained stable. The dwellings purchased by first-time homebuyers in the Buyer's Price program are cheaper and larger than those purchased on the open market: the average price difference is NIS 160,000, and average difference in the number of rooms is 0.4 rooms.

³⁰ Income quintiles were calculated for each age, and households were associated with income quintiles according to their age.

³¹ According to Israel Tax Authority (Carman) data.

Nonetheless, it is impossible to draw any direct conclusion about the size of the discount factored into the Buyer's Price program given that the dwellings may have different characteristics.³²

Table 3

Characteristics of first-time homebuyer transactions^a - Buyer's Price compared with the open market

	Price of home ^b (NIS)		Number of rooms		Number of transactions	
	Open market	Buyer's Price	Open market	Buyer's Price	Open market	Buyer's price
2012	1,066,980		3.9		2,364	
2013	1,086,370		3.9		2,409	
2014	1,148,913		3.9		1,872	
2015	1,224,537		3.9		2,586	
2016	1,307,988	1,091,713	3.9	4.4	2,403	224
2017	1,288,556	1,155,721	3.8	4.3	1,958	477
2018	1,363,523	1,233,422	3.9	4.3	2,041	789
2019	1,371,883	1,217,035	3.8	4.3	2,019	1,711

^a. Couples only.

^b. Price of homes in 2018 prices.

Ongoing data published weekly on the Ministry of Housing website about the Buyer's Price program, and information about the tenders published by the Israel Land Authority show that the demand for housing through the program, which is defined as the ratio of the number of lottery participants to the number of dwellings offered, was significantly higher in the center of the country³³ than in the periphery³⁴, while supply through the Buyer's Price program was more limited particularly in the Tel Aviv district.³⁵ We wish to study the characteristics of the buyers and dwellings they purchased through the Buyer's Price program compared with the open market, segmented by periphery and center, in order to examine the reasons for the high demand in the center of the country by eligible participants.

³² We plan to estimate the hedonic price regression for Buyer's Price transactions later on.

³³ Center: the Tel Aviv, Jerusalem and central districts; periphery: Haifa, the northern and southern districts.

³⁴ Data about the ratio of the number of dwellings offered in the lotteries to the number of those registering, and of tenders allocated by periphery and center of the country, appear in Chapter 9 of the Bank of Israel 2018 Annual Report, and Chapter 8 of the Bank of Israel 2019 Annual Report.

³⁵ Data on the spatial distribution of Buyer's Price building starts and the total number of building starts appear in Appendix A, Table A3.

Table A1 in Appendix A shows buyer characteristics allocated by center of the country and periphery. Even after segmentation of the transactions between periphery and center, we note that first-time homebuyers in the open market between 2016 and 2019 have similar characteristics to those who purchased between 2012 and 2015, and the differences in buyer characteristics between Buyer's Price and the open market that we noted at the aggregate level are also observed in the segmentation according to periphery and center.

The data show that in the center of the country, the average difference³⁶ between the price of a dwelling on the open market and in the Buyer's Price program is NIS 240,000 – a gap of 15 percent. This contrasts with NIS 80,000 which is a gap of 7 percent in the periphery (although in some peripheral areas a grant of NIS 40-60,000 [about 4 percent] was given to Buyer's Price buyers, in addition to the discount). In absolute terms, this is a significant difference, although it is more moderate in percentage terms. Furthermore, Buyer's Price dwellings are 0.4 rooms larger on average in the periphery and 0.6 rooms in the center of the country. The discounts in the center that are higher than in the periphery are probably the reason for the high demand for projects in the center of the country. In an effort to understand whether the price differences reflect a different composition of purchased apartments, we compared prices by allocation according to the number of rooms (the results appear in Tables A2a and A2b in Appendix A). We can see that the price differences are more significant as the number of rooms increases (also in percent). There are some differences in the mix of the dwellings between the periphery and center, but they do not account for the price differences between the center and periphery.³⁷

We also examined the distribution of households by the district in which they purchased the dwelling compared with their residential district prior to the purchase, between 2012 and 2015 and between 2016 and 2019, in the Buyer's Price program and on the open market. The results appear in Table 4.

³⁶ Average for 2016–2019.

³⁷ In addition to the observed characteristics of the dwellings, there are unobserved characteristics that might create price differences, although they cannot be examined.

Table 4A**Distribution of purchase district for first-time homebuyers by residential district ^{a,b}, 2012-2015**

Purchase district↓ Residential district→	Jerusalem	North	Haifa	Center	Tel Aviv	South
Jerusalem	0.91	0.03	0.01	0.01	0.01	0.03
North	0.01	0.85	0.02	0.01	0.01	0.00
Haifa	0.00	0.04	0.84	0.00	0.00	0.01
Center	0.03	0.04	0.08	0.89	0.07	0.06
Tel Aviv	0.03	0.03	0.05	0.08	0.90	0.04
South	0.02	0.01	0.00	0.01	0.01	0.86

^a. Each line represents a district and with a total amount of 100%

^b. Transactions performed by couples only.

Table 4B**Distribution of purchase district for first-time homebuyers by residential district^{a,b}, 2016-2019**

Purchase district↓ Residential district→	Jerusalem		North		Haifa		Center		Tel Aviv		South	
	Buyer's Price	Open market	Buyer's Price	Open market	Buyer's Price	Open market	Buyer's Price	Open market	Buyer's Price	Open market	Buyer's Price	Open market
Jerusalem	0.72	0.90	0.03	0.03	0.05	0.03	0.06	0.03	0.05	0.01	0.05	0.04
North	0.02	0.01	0.72	0.85	0.07	0.04	0.01	0.00	0.02	0.01	0.00	0.00
Haifa	0.01	0.00	0.08	0.02	0.62	0.79	0.01	0.01	0.02	0.01	0.00	0.00
Center	0.06	0.03	0.10	0.04	0.14	0.08	0.69	0.83	0.21	0.07	0.10	0.08
Tel Aviv	0.12	0.04	0.06	0.04	0.10	0.05	0.19	0.11	0.65	0.89	0.04	0.04
South	0.07	0.02	0.02	0.02	0.01	0.01	0.03	0.02	0.05	0.01	0.80	0.83

^a. Transactions by couples only

^b. Each line represents a district amounting to a total of 100%

The tables show that between 2012 and 2015, between 84 percent and 91 percent of couples purchased their first home inside their residential district. Between 2016 and 2019, the share of buyers inside their residential district on the open market remained stable compared with 2012-2015, whereas among couples who purchased a home through the Buyer's Price program, the share of buyers inside their residential district declined compared with 2012-2015. Excluding the southern region, the differences range from 13 percentage points (northern region) to 24 percentage points (Tel Aviv region). The differences in the share of buyers inside their residential district between Buyer's Price buyers and buyers on the open market are not necessarily an indication of the difference in the willingness of buyers to change their residential district. If some of those buying homes outside their residential district intend to rent out their new

apartment, then the percentage of those planning to rent out their new home is higher among buyers in the Buyer's Price program than among buyers on the open market, due to the relatively high proportion of buyers outside their residential district in the Buyer's Price program.

To conclude, we can see that the characteristics of couples who were first-time homebuyers on the open market between 2012 and 2015 and between 2016 and 2019 remained stable, whereas the characteristics of buyers through the Buyer's Price program are somewhat different: in this group, the share of families with children is higher, they are slightly older than the buyers on the open market, the homes they purchased are slightly larger and they also account for a higher percentage of buyers who bought a dwelling outside their residential district.

3. Methodology

To examine how the probabilities of becoming a first-time homebuyer changed between 2012 and 2015 and between 2016 and 2019 and to examine whether the differences in the probability of purchasing a home among the different population groups changed, we conducted an analysis using a logistic regression estimation.

The analysis focuses on the period between January 2012 and February 2020 (up to the outbreak of the COVID-19 pandemic). Our study covered households in the first-time homebuyer category only – on the open market or Buyer's Price. Potential first-time homebuyers included all households that were not homeowners up to the relevant year. Homeowners were identified by monitoring the history of transactions by the individuals in the household. If a purchase transaction was identified, the household to which the individual belongs will not be treated as a potential first-time homebuyer from that year.

To assess the development of the chance of becoming a first-time homebuyer, including the opportunity to become a first-time homebuyer on the open market, a logit regression (Regression 1) was estimated for the full sample and for the sample that does not include Buyer's Price buyers, for both periods – 2012-2015 and 2016-2019:

$$(1) \quad y_{t,i} = \beta_{t,0} + \sum_{j=1}^5 \beta_{t,1,j} Q_{t,i,j} + \beta_{t,2} \text{age}_{t,i} + \beta_{t,3} \text{age}_{t,i}^2 + \beta_{t,4} y_married_{t,i} + \beta_{t,5} y_married_{t,i}^2 + \beta_{t,6} kids_num_{t,i} + \beta_{t,7} status_{t,i} + \beta_{t,8} District_{t,i} + \epsilon_{t,i}$$

where in period t : y_i is the dummy variable for a first-time home purchase, $Q_{i,j}$ is a dummy for the income quintile to which the household belongs, $age_{t,i}$ is the age of the older partner, $y_married_i$ is the number of years married, $kids_num_i$ is a dummy variable for the number of children category, $status_i$ is the dummy for family status, $District_i$ is the dummy for residential district at the time of the purchase.

The principal results appear in Table 5.³⁸

Results of the estimation:

The estimates in Table 5, $\exp(\beta)$, represent the relationship between the chances of different groups to purchase a dwelling:

$$\exp[\beta] = \frac{\frac{p(y = 1|x = 1)}{p(y = 0|x = 1)}}{\frac{p(y = 1|x = 0)}{p(y = 0|x = 0)}}$$

Where β are the factors obtained in the logistic regression.³⁹ In other words, the estimations represent the size of the ratio of the given group to the base group.⁴⁰

Table 5

Results of the estimated regression: key variables ^{a,b}

Independent variable	Buyer's Price and open market		Open market	
	2012-2015	2016-2019	2012-2015	2016-2019
Quintile 2	1.148** (0.071)	1.114** (0.056)	1.146** (0.072)	1.061 (0.060)
Quintile 3	1.597*** (0.091)	1.652*** (0.076)	1.611*** (0.093)	1.487*** (0.077)
Quintile 4	2.884*** (0.151)	2.843*** (0.120)	2.924*** (0.155)	2.619*** (0.123)
Quintile 5	5.936*** (0.296)	5.850*** (0.235)	6.245*** (0.314)	5.591*** (0.249)
Married (vs. single)	3.304*** (0.140)	3.716*** (0.130)	3.448*** (0.146)	3.862*** (0.148)
Years married	1.026* (0.014)	1.033*** (0.011)	1.020 (0.014)	0.967*** (0.012)

³⁸ The full results of the regression appear in Appendix B, Table B-1.

³⁹ Due to the non-linear relationship between p and $\logit(p)$, when a logit regression is estimated the only thing we can learn from the estimated parameters is whether the effect of the relevant independent variable on p is positive or negative. For this reason, we will generally want to make a transformation to β s and present Odds Ratios.

⁴⁰ For example, for each income quintile, we present the ratio of the probability of someone in that income quintile to the probability of the first income quintile. Family status is presented in relation to singles, etc.

Years married ^b	0.990*** (0.001)	0.990*** (0.001)	0.990*** (0.001)	0.994*** (0.001)
Age	1.635*** (0.04)	1.519*** (0.03)	1.658*** (0.04)	1.510*** (0.03)
Age ²	0.993*** (0.000)	0.994*** (0.000)	0.993*** (0.000)	0.994*** (0.000)
Children (1 or 2 children)	1.030 (0.034)	1.178*** (0.031)	1.025 (0.034)	1.182*** (0.036)
Number of observations	117,199	124,651	112,938	120875

^a Significance level of *10%, **5%, or ***1%.

^b Open market does not include households that already purchased through the Buyer's Price framework, nor as potential buyers.

Main findings

We found that age, family status and income interact strongly with the probability of purchasing a dwelling. Table 5 shows that married couples are more likely to buy a home than singles with similar characteristics; age was found to have a positive, significant connection with the probability of purchasing a home; the number of years of marriage has a positive effect which becomes significant between 2016 and 2019. Additionally, the effects of age and years of marriage on the probability of purchasing a home are not linear (the variables for age and years of marriage squared, have a significant, negative relationship with the probability of purchasing a home).⁴¹

Results of the estimation for the sample that includes market transactions only are similar to the findings for the sample that includes open market transactions and Buyer's Price transactions.⁴² We found that between 2016 and 2019, households with children⁴³ had a greater chance of purchasing a home than households without children. The values of those estimates that were found to be significant in both periods do not change significantly between the periods, and the values for the control variables are similar in both.

Income has a positive, significant impact on the probability of a household purchasing a home: the difference in the probabilities of buying a first home between the first quintile and the third, fourth and fifth quintiles is significant in both periods; likewise, the probability in the fifth quintile is higher than that of the other quintiles (the differences are significant).

⁴¹ The overall effect of age increases up to age 34 and is positive for all ages in the sample; the overall effect of years of marriage becomes negative from the fourth year of marriage in 2012–2015 and from the sixth year in 2016–2019.

⁴² Excluding the effect of the number of years of marriage, which in the open market becomes negative and significant between 2016 and 2019.

⁴³ One or two children below the age of 18.

One of the key questions in the literature on this subject is whether government policy that aims to encourage home ownership successfully achieves its objective.⁴⁴ The purpose of government policy, and specifically the goal of the Buyer's Price program, was to make it easier for young families to buy their first home.⁴⁵ In fact, the estimation results confirm that between 2016 and 2019, young families with children had a greater probability of purchasing a home than families without children, including in the open market.

To quantify the effect of variables such as number of children and income quintile on the probability of becoming a first-time homebuyer, and to examine whether this probability changed in 2016-2019 relative to 2012-2015, we used the estimation results to calculate the effect of the specific variable, while the other variables were fixed at their average values.⁴⁶

The effect of number of children on the probability of purchasing a first home appears in Figure 2A. The graph shows that between 2012 and 2015, all families, irrespective of the number of children, had a similar probability of purchasing a home. Between 2016 and 2019 the probability of young families purchasing a first home increased, but the most significant increase was among families with one or two children. These were the families that according to Brender and Strawczynski (2015) had been forced into the rental market between 2002 and 2012.

Figure 2B shows the probability of becoming a first-home buyer in the open market. We can see that the probability of families with one or two children purchasing a home increased, even if they did not do so through the Buyer's Price program. This is apparently due to a changing trend and return to the ownership market by young families, particularly young families with children, in light of government policy⁴⁷ that was designed to help nonhomeowners purchase their own home.

⁴⁴ See Glaeser and Shapiro (2003) for details.

⁴⁵ As they appear on the Israel Land Authority website:
https://land.gov.il/Land_Tenders/Pages/price_accommodation.aspx

⁴⁶ The effect of variable k (number of children, income quintile) on the probability of buying a dwelling is calculated from within the logistic regression when the value of the specific variable is changed and all the other variables remain fixed (at their average values):

$$MFX(x_k) = \frac{\partial p}{\partial x_k} = \beta_k p(1 - p) = \beta_k \frac{e^{(\beta_0 + x_1\beta_1 + x_2\beta_2 + \dots + x_k\beta_k)}}{(e^{(\beta_0 + x_1\beta_1 + x_2\beta_2 + \dots + x_k\beta_k)})^2}$$

⁴⁷ The Buyer's Price program and expansion of the housing supply. Between 2016 and 2019, private construction also increased, both as a market response to rising home prices and as a result of government policy that included relief for private construction.

Figure 2A

Estimated probability of purchasing a home between 2016 and 2019 and between 2012 and 2015, for nonhomeowners, by number of children

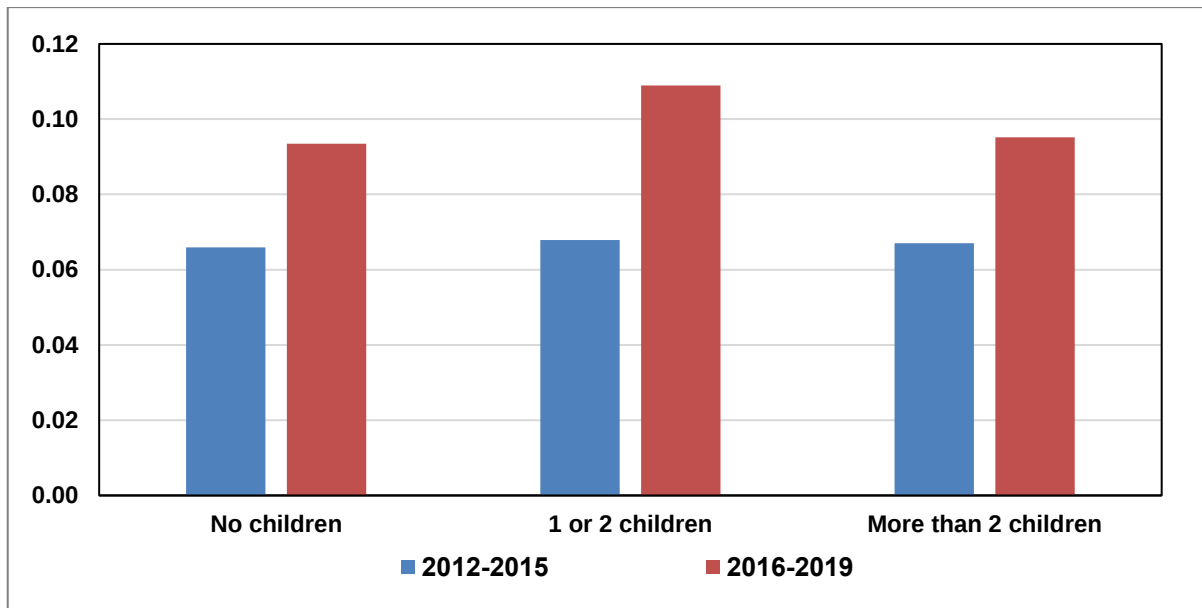
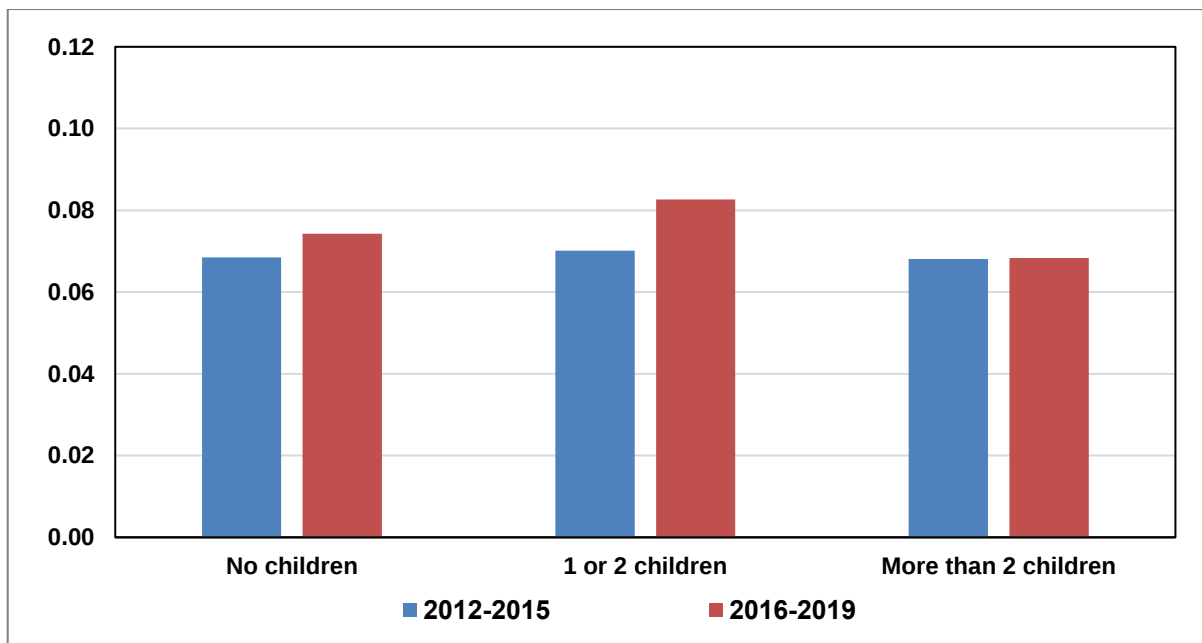


Figure 2B

Estimated probability of purchasing a home between 2016 and 2019 and between 2012 and 2015, for nonhomeowners who did not purchase a home through Buyer's Price, by number of children



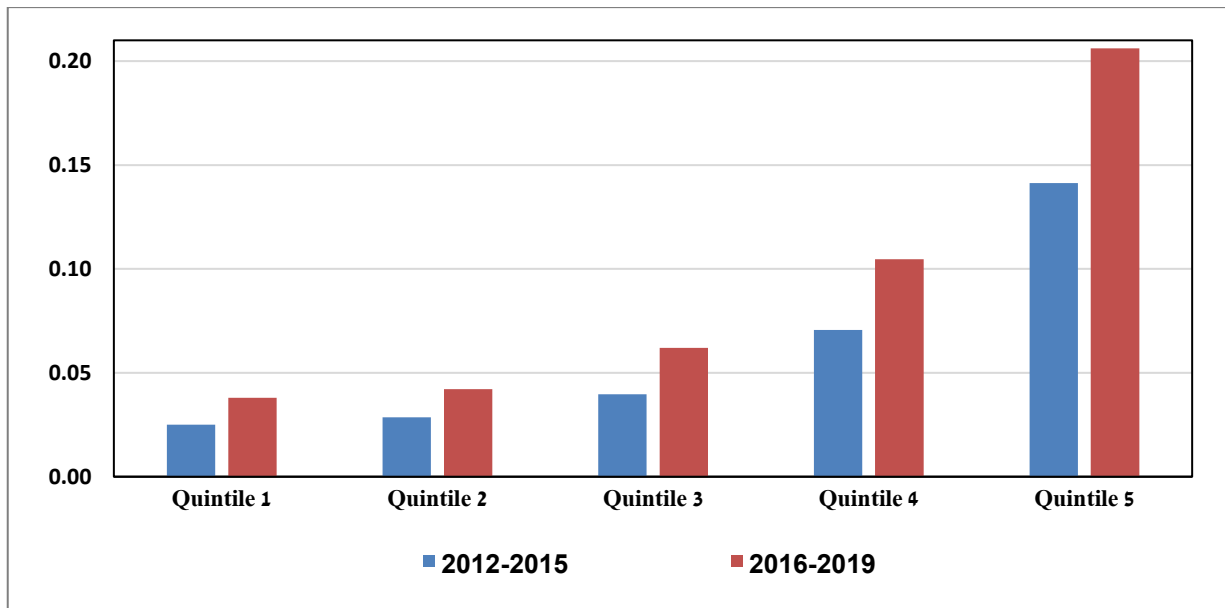
Based on the results of the regressions presented in Table 5. See Footnote 46 for an explanation of the calculation.

Figure 3A shows the effect of being in a particular income quintile on the probability of purchasing a first home and that this probability increased between 2016 and 2019. This increase is typical of all income quintiles, and although in percentage terms the rate of increase is similar, due to large gaps between the quintiles, the absolute difference in the probability of purchasing a home increased between 2016 and 2019. The differences in the probability of purchasing a home between the two periods were found to be significant at a level of 1% in a Wald test for all income quintiles.

Based on the results of the regression, which did not include households that purchased a home through the Buyer's Price program, we calculated the probability of purchasing a home on the open market. The results appear in Figure 3B and confirm that the chance of households that did not participate in Buyer's Price lotteries purchasing a first home (or that participated but did not win the right to purchase a home at a reduced price or who won a lottery but did not actually purchase a home) did not decrease between 2016 and 2019. We can therefore conclude that the increase in supply between 2016 and 2019 was significant compared with the period between 2012 and 2015 so that individuals who did not participate in or win a Buyer's Price lottery had a slightly greater probability of purchasing a first home. This is true for all income quintiles. Although the increase is similar for all income quintiles (between a half and one percentage point), proportionately the probability of the lowest income quintile purchasing a home on the open market increased by 22 percent, compared with a 14 percent increase for the second and third income quintiles and a 10 percent increase in the probabilities of the two upper quintiles. The differences in the probability of purchasing a home between the two periods were found to be significant in a Wald test at a level of 5 percent for income quintiles 1 and 2 and 1 percent for income quintiles 3–5, respectively.

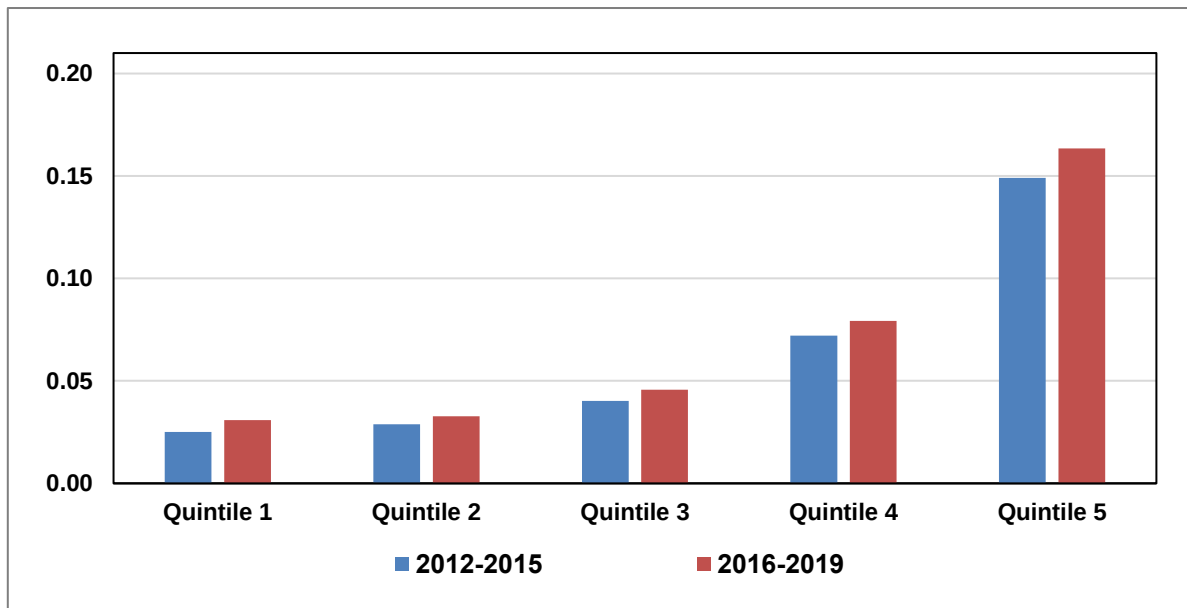
Figure 3A

Estimated probability of purchasing a home between 2016 and 2019 and between 2012 and 2015, for nonhomeowners, by income quintile



* Based on the results of the regressions presented in Table 5. See Footnote 46 for an explanation of the calculation.

Figure 3B: Estimated probability of purchasing a home between 2016 and 2019 and between 2012 and 2015, for nonhomeowners who did not purchase a home through Buyer's Price, by income quintile



* Based on the results of the regressions presented in Table 5. See Footnote 46 for an explanation of the calculation.

A further test that we conducted is an estimation of the probability of nonhomeowners purchasing a home in the periphery or center of the country in the relevant periods, by income quintiles. The results appear in Table 6.

Table 6A

Estimated probability for nonhomeowners to purchase a home in the periphery or center of the country, by income quintile^a

	Center			Periphery		
	2016-2019	2012-2015	Percentage change (%)	2016-2019	2012-2015	Percentage change (%)
Quintile 1	0.04	0.03	50.5	0.04	0.02	58.5
Quintile 2	0.04	0.03	45.7	0.04	0.03	52.1
Quintile 3	0.06	0.04	53.6	0.06	0.04	61.1
Quintile 4	0.11	0.07	45.6	0.10	0.07	52.6
Quintile 5	0.21	0.15	43.1	0.20	0.13	50.0

Table 6B

Estimated probability for nonhomeowners who did not purchase a home through Buyer's Price to purchase a home in the periphery or center of the country, by income quintile^a

	Center			Periphery		
	2016-2019	2012-2015	Percentage change (%)	2016-2019	2012-2015	Percentage change (%)
Quintile 1	0.03	0.03	18.5	0.03	0.02	32.0
Quintile 2	0.03	0.03	10.1	0.03	0.03	21.4
Quintile 3	0.05	0.04	9.2	0.04	0.04	20.9
Quintile 4	0.08	0.08	6.0	0.08	0.07	17.0
Quintile 5	0.17	0.16	6.0	0.16	0.14	16.5

^a. Center: Tel Aviv, Central and Jerusalem districts

Periphery: Haifa, North and South districts

The estimation results confirm that between 2016 and 2019 the probability of purchasing a home in the periphery, compared with 2012 and 2015, rose by 55 percent for all income quintiles and the probability of purchasing a home in the center of the country rose by 48 percent; whereas for households that did not purchase a home through the Buyer's Price program, the probability of purchasing a home increased more moderately—mainly in the periphery, and the relative increase was significant for income quintiles 1-3. The increased supply, which was more significant in the periphery, together with the stronger chance of eligible households to win

Buyer's Price lotteries in the periphery⁴⁸, may have contributed to a greater probability for households that did not purchase a home through the Buyer's Price program to do so in the periphery, and specifically for households in income quintiles 1–3.

4. Summary and conclusions

This paper uses data obtained by merging three sources: the Carman Real Estate Price Register, Israel Tax Authority files and transaction data from the Buyer's Price program. For each individual in the Israel Tax Authority files we identified if and when they or their partner purchased a home, and whether the home was purchased through the Buyer's Price program or on the open market.

Given that the market is split into subsidized and open markets, we examined the characteristics of first-time homebuyers in the open market and in the Buyer's Price program between 2016 and 2019. Buyers in the open market in this period had similar characteristics to those between 2012 and 2015, whereas the characteristics of the Buyer's Price buyers were somewhat different—the percentage of married couples and families with children among them was higher than on the open market, although their income was similar to that of the open market buyers.⁴⁹

The homes purchased by first-time buyers through the Buyer's Price program were less expensive and larger than the homes purchased on the open market: the average price difference was NIS 160,000, and the average difference in size was 0.4 rooms, and price differences between the open market and Buyer's Price in the center of the country are significantly larger than in the periphery.⁵⁰ This finding is also true when we examine transactions carried out exclusively by couples.

We also found that between 2012 and 2015 a high percentage of households purchased their first home inside their residential district. However, between 2016 and 2019 the share of buyers within their residential district in the open market remained stable, while the share of buyers in the Buyer's Price program (couples) who purchased a home inside their residential district was 20 percent lower than in 2012-2015.

⁴⁸ Based on data from the Buyer's Price lotteries. For further information, see Chapter 9 in the Bank of Israel 2018 Annual Report.

⁴⁹ Net income from work calculated for couples only.

⁵⁰ Nonetheless, it is impossible to calculate the discount factored into the Buyer's Price program since the homes might have different characteristics.

The Buyer's Price program benefited lottery winners directly, and particularly winners in projects in which the inherent discounts were high.⁵¹ The eligible population for Buyer's Price is, for the most part, young couples who won, and exercised, the right to purchase a home at a reduced price. The opportunity for individuals purchasing a first home who were not eligible to participate in Buyer's Price lotteries or who did not win a lottery, was mainly affected by the increased supply. Nevertheless, beyond the program's direct impact, there were also some indirect effects, such as a shift of buyers who met the terms of eligibility away from the open market to the Buyer's Price program, and specifically the movement of eligible participants away from the second hand market to the market for new homes.⁵² An additional indirect effect of the Buyer's Price program on the housing market was to delay the decision to purchase a home while waiting for the program to materialize and exercising a win in the lotteries.⁵³

To examine how the probabilities of different groups to purchase a first home changed between 2016 and 2019 compared with the period between 2012 and 2015, a logit regression was estimated. The estimation results show that the probability of purchasing a first home increased between 2016 and 2019 against the backdrop of the government's policy to help nonhomeowners purchase a home. This increase characterized all income quintiles and it is most significant among families with young children.

Based on the estimation results we can conclude that there was a significant increase in supply between the periods 2012–2015 and 2016–2019. As such, the probability of purchasing a home for individuals who did not participate in or win Buyer's Price lotteries not only did not decline, but even increased slightly. The increase was more significant for buyers in the periphery, and specifically for the lower income quintiles.

⁵¹ Although it is impossible to calculate the discount factored into the project, we can estimate in which projects the discounts were more significant, in part based on the ratio between the number of participants who registered for the lottery and the number of dwellings.

⁵² Among buyers in the open market, the share of married buyers fell in 2019, which is consistent with the partial shift of those eligible to participate in the Buyer's Price program.

⁵³ The drop in the number of transactions between 2016 and 2017 and the increasing number of transactions from 2018 onwards are evidence of this deferral.

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APPENDIX A

Table A-1: Study population - characteristics of first-time homebuyers and potential buyers

Center^a												
	Price of home		Number of rooms		Average net income ^c		Average net income of young couples only		Average age of buyers		Number of transactions	
	Open market	Buyer's Price	Open market	Buyer's Price	Open market	Buyer's Price	Open market	Buyer's Price	Open market	Buyer's Price	Open market	Buyer's Price
2012	1,258,736		3.9		155,894		172,852		30.4		1,642	
2013	1,310,798		4.0		152,413		171,074		30.4		1,630	
2014	1,385,129		3.9		158,928		177,185		30.4		1,255	
2015	1,474,739		4.0		165,434		184,773		30.6		1,667	
2016	1,607,105	1,183,745	3.8	4.4	164,032	185,952	185,840	190,232	30.3	31.2	1,489	161
2017	1,610,417	1,468,595	3.7	4.3	164,567	206,743	192,302	215,679	30.3	32.4	1,233	195
2018	1,619,375	1,424,669	3.7	4.3	177,516	197,023	199,768	201,417	30.4	31.6	1,384	486
2019	1,695,032	1,418,518	3.6	4.3	166,491	200,135	193,844	203,504	30.2	32.1	1,351	1,010

Periphery^b												
	Price of home		Number of rooms		Average net income ^c		Average net income of young couples only		Average age of buyers		Number of transactions	
	Open market	Buyer's price	Open market	Buyer's price	Open market	Buyer's price	Open market	Buyer's price	Open market	Buyer's price	Open market	Buyer's price
2012	803,234		3.9		137,183		150,140		29.9		1,158	
2013	833,344		3.9		131,920		145,420		29.8		1,333	
2014	867,130		3.8		130,537		148,351		29.9		1,041	
2015	965,373		3.9		140,492		159,969		30.0		1,568	
2016	1,040,270	960,070	3.9	4.2	145,755	175,478	165,887	178,221	29.9	31.8	1,433	81
2017	999,155	977,586	3.8	4.2	146,718	177,810	167,406	180,265	29.7	31.1	1,186	322
2018	1,035,393	972,392	3.9	4.2	151,581	170,921	174,911	174,541	29.8	31.1	1,113	352
2019	1,047,390	970,340	3.8	4.3	151,431	167,896	172,703	172,061	29.8	30.8	1,260	815

a. Center: Tel Aviv, Center and Jerusalem districts
b. Periphery: Haifa, North and South districts
c. Data on income refers to net income for households from salaried employment, at 2018 prices

Table A - 2a: Price differences by number of rooms: Open market minus Buyer's Price

	Center			Periphery		
	3	4	5	3	4	5
2016	407,969	504,901	757,875	-33,406	130,574	328,655
2017	332,407	236,551	401,312	60,942	127,369	155,588
2018	241,441	300,636	437,601	44,142	123,906	254,527
2019	423,997	445,487	622,805	67,828	144,858	285,057

Table A - 2b: Open market and Buyer's Price: Number of transactions allocated by rooms, center^a and periphery^b

		Number of transactions - Buyer's Price			Number of transactions - open market		
		3	4	5	3	4	5
Center	2016	19	56	84	481	611	269
	2017	25	98	65	452	504	170
	2018	95	175	182	502	524	234
	2019	220	328	371	572	499	170
		Number of transactions - Buyer's Price			Number of transactions - open market		
		3	4	5	3	4	5
Periphery	2016	5	56	17	357	717	274
	2017	27	193	101	379	523	198
	2018	34	206	105	307	528	208
	2019	130	370	287	359	603	204

^a. Center: Tel Aviv, Center and Jerusalem districts

^b. Periphery: Haifa, North and South districts

Table A-3: Spatial distribution of Buyer's Price building starts, and of total building starts

	Buyer's Price building starts	Total building starts	Share of building starts in Buyer's Price, in district	Share of building starts in district
Jerusalem	1,825	7,843	0.06	0.08
North	2,634	7,912	0.08	0.08
Haifa	4,665	13,754	0.15	0.13
Center	10,181	29,148	0.32	0.28
Tel Aviv	3,933	22,608	0.12	0.22
South	8,325	18,458	0.26	0.18

Source: Central Bureau of Statistics, 2017-2020 data, building starts of homes for sale only.

APPENDIX B

	Table B-1			
	Buyer's Price and Open Market		Open market ^a	
	2016-2019	2012-2015	2016-2019	2012-2015
Quintile 2	1.114** (0.056)	1.148** (0.071)	1.061 (0.060)	1.146** (0.072)
Quintile 3	1.652*** (0.076)	1.597*** (0.091)	1.487*** (0.077)	1.611*** (0.093)
Quintile 4	2.843*** (0.120)	2.884*** (0.151)	2.619*** (0.123)	2.924*** (0.155)
Quintile 5	5.850*** (0.235)	5.936*** (0.296)	5.591*** (0.249)	6.245*** (0.314)
Married (as opposed to single)	3.716*** (0.130)	3.304*** (0.140)	3.862*** (0.148)	3.448*** (0.146)
Divorced (as opposed to single)	1.203** (0.095)	1.307*** (0.114)	1.135 (0.097)	1.292*** (0.114)
Years married	1.033*** (0.011)	1.026* (0.014)	0.967*** (0.012)	1.020 (0.014)
Years married ^b	0.990*** (0.001)	0.990*** (0.001)	0.994*** (0.001)	0.990*** (0.001)
Age	1.519*** (0.027)	1.635*** (0.039)	1.510*** (0.031)	1.658*** (0.040)
Age ²	0.994*** (0.000)	0.993*** (0.000)	0.994*** (0.000)	0.993*** (0.000)
Children (1 or 2)	1.178*** (0.031)	1.030 (0.034)	1.182*** (0.0361)	1.025 (0.034)
Three or more children	1.020 (0.055)	1.016 (0.073)	0.948* (0.028)	0.994 (0.071)
North	1.133*** (0.050)	1.215*** (0.068)	1.220*** (0.061)	1.211*** (0.068)
Haifa	1.669*** (0.067)	1.628*** (0.085)	1.755*** (0.082)	1.651*** (0.087)
Center	1.446*** (0.051)	1.475*** (0.068)	1.490*** (0.061)	1.522*** (0.070)
Tel Aviv	1.222*** (0.046)	1.136*** (0.056)	1.290*** (0.056)	1.150*** (0.057)
South	1.399*** (0.053)	1.316*** (0.067)	1.497*** (0.066)	1.337*** (0.068)
Judea & Samaria	1.174*** (0.059)	1.360*** (0.088)	1.256*** (0.074)	1.375*** (0.089)
Intercept	4.32e-06*** (0.000)	9.09e-07*** (0.000)	4.68e-06*** (0.000)	7.35e-07*** (0.000)

^a. Significance level of *10%, ** 5%, *** 1%.

^b. Open market not including households who purchased a home through Buyer's Price, not even potential buyers.