

Reforming the Taxation of Housing in Israel

OECD Working Papers should not be reported as representing the official views of the OECD or of its member countries. The opinions expressed and arguments employed are those of the author(s).

Working Papers describe preliminary results or research in progress by the author(s) and are published to stimulate discussion on a broad range of issues on which the OECD works. Comments on Working Papers are welcomed, and may be sent to the Centre for Tax Policy and Administration, OECD, 2 rue André-Pascal, 75775 Paris Cedex 16, France (ctp.contact@oecd.org).

This working paper has been authorised for release by the Director of the Centre for Tax Policy and Administration, Pascal Saint-Amans.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

© OECD 2021

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at www.oecd.org/termsandconditions.

Abstract

This paper examines the taxation of housing in Israel, and proposes a set of reforms to improve the efficiency and fairness of the current system. Israel's housing tax system faces similar problems to those of many other OECD countries. In particular, a bias arises in favour of owner-occupied property relative to rented property due to the non-taxation of imputed rents and most capital gains. That said, unlike many OECD countries, Israel taxes some owner-occupied capital gains (above a generous threshold) and generally does not allow mortgage interest relief for owner-occupied properties, reducing the extent of the distortion more than in many countries. As with most OECD countries, Israel levies highly distortionary transaction taxes, although a zero-rate band significantly limits the number of owner-occupied house purchases subject to the tax. Additionally, Israel's recurrent property tax (the *Arnona*) faces a number of design problems, while the tax rules for rental income are complex and subject to significant tax evasion. To address these concerns, a reform package is proposed that involves a gradual and broadly revenue-neutral shift away from transaction taxes towards recurrent taxation of residential property, via increases in both the recurrent property tax and rental income taxation. The redesign of the recurrent property tax from an area-based to a market value-based tax is also proposed, as are a number of more technical reforms.

Table of contents

Reforming the Taxation of Housing in Israel	5
1. Introduction	5
2. The housing market in Israel	6
3. Taxation of housing in Israel	9
4. Taxation of housing in OECD countries	13
5. Policy issues arising from the current tax rules for housing in Israel	19
6. Reform options and recommendations	34
References	43

Reforming the Taxation of Housing in Israel

Alastair Thomas¹

1. Introduction

The OECD has been asked by Israel's Ministry of Finance and Permanent Delegation to the OECD to undertake a review of the tax treatment of housing in Israel and to provide recommendations for reform. This report presents the findings of that review.

The report is intended to build on the analysis in the recently completed OECD Economic Survey of Israel (OECD, 2020), and, in particular, on the detailed advice provided by the OECD regarding reform to Israel's recurrent tax on immovable property (the *Arnona*), as presented in OECD (2019). Key *Arnona* reform recommendations made in the latter report are therefore taken as a base on which to develop a broader proposed reform package for the taxation of housing in Israel.

As in most OECD countries, a range of taxes are applied to housing in Israel, including taxes on rental income and capital gains, as well as transaction and recurrent property taxes, with application of the rules varying depending on whether the property is owner-occupied or is a second/rented property.

Israel's tax system faces similar problems to those of many other OECD countries. In particular, a bias arises in favour of owner-occupied property relative to rented property due to the non-taxation of imputed rents and most capital gains. That said, unlike many OECD countries, Israel taxes some owner-occupied capital gains (above a generous threshold) and generally does not allow mortgage interest relief for owner-occupied properties, reducing the extent of the distortion more than in many countries. As with most OECD countries, Israel levies transaction taxes – which are highly distortionary – although a zero-rate band significantly limits the number of owner-occupied house purchases subject to the tax. Additionally, the *Arnona* faces a number of design problems, as detailed in OECD (2019), while the tax rules for rental income are complex and subject to significant tax evasion.

In response to these concerns, this report proposes a reform package involving a gradual and broadly revenue-neutral shift away from transaction taxes towards recurrent taxation of residential property, via increases in both the recurrent property tax and rental income taxation. The key reform proposals are to:

¹ The author is a Senior Economist in the OECD's Centre for Tax Policy and Administration. Thanks to the staff of the Ministry of Finance of Israel and Israel's Permanent Delegation to the OECD for their collaboration on the project, and to officials of the various other government departments that kindly provided input. Particular thanks for comments and input are due to: Iftach Assael, David Bradbury, Bert Brys, Isabelle Chatry, Boris Cournede, Shaked Green, Bethany Millar-Powell, Walid Oueslati, Federica de Pace and Oliver Roehn.

- Gradually remove the transaction tax applying to both first and second properties, in order to remove the distortionary impact on both housing and labour markets. To moderate any short-term impacts on property prices, this reform should be gradually implemented over a number of years, and not be fully implemented until the revenue-raising reforms noted below to the recurrent property tax and rental income taxation have been implemented.
- Increase the recurrent property tax rate on residential property to compensate for the loss of revenue from the removal of the transaction tax.
- Reform the recurrent property tax for both residential and commercial property so that the base is the current market value of the property, and ensure that property values are regularly updated.
- Apply a single method of taxation to rental income, requiring all income and expenses (including mortgage interest payments) to be declared, and taxing returns at the taxpayer's marginal personal income tax rate.
- Lower the threshold for application of the capital gains tax rate on an owner-occupied home, and remove the ability for mortgage interest payments to be deducted against this capital gains tax liability.
- Fully subject to the post-2014 capital gains tax regime any gain made on a property initially purchased as vacant land prior to 2014 but on which residential accommodation has been constructed post-2014.
- As an interim measure until the proposed reforms to the *Arnona* have been implemented, consider applying a very low annual penalty tax on residential property owners that choose not to support a government approved urban renewal project covering their property. In the long-run, consider also the merits of adopting a split-rate *Arnona* where a higher tax rate is applied to land than to improvements.

In addition to these key recommendations, several additional reform options are also discussed, the merits of which would depend on the policy priorities of the government. In light of the current COVID-19 pandemic, the above recommendations have been developed for a medium term horizon. Consideration should be given to their implementation only once recovery from the health and economic crises is well underway.

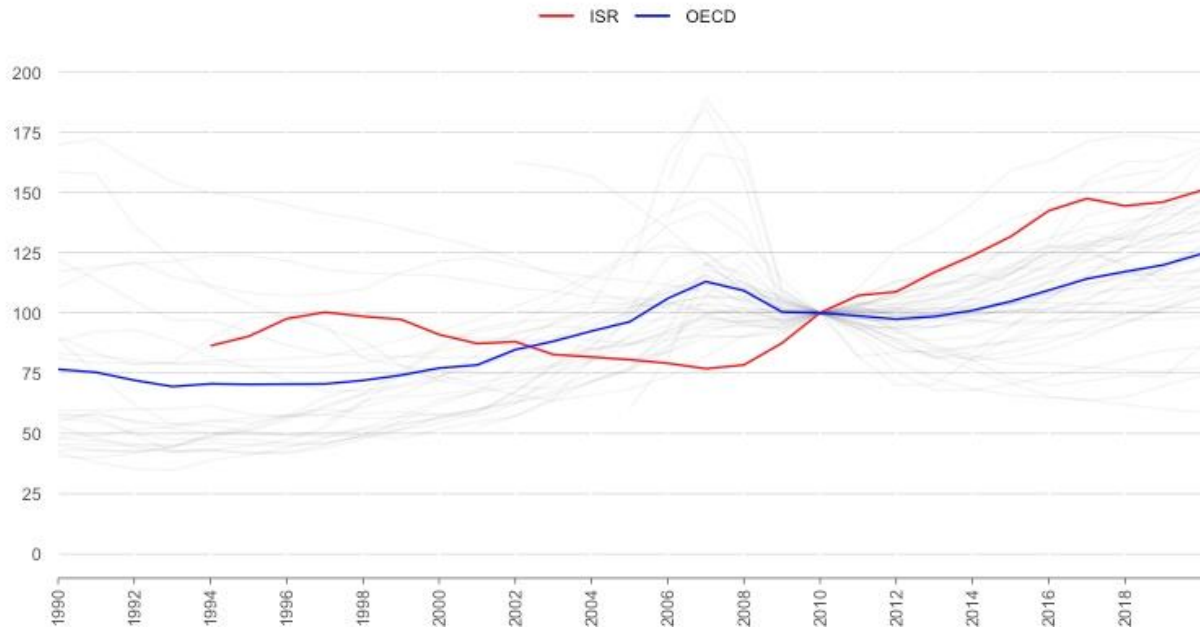
The report proceeds as follows: Section 2 provides background information on the housing market in Israel, including the significant increases in house prices throughout the last decade. Section 3 discusses the current tax rules for housing in Israel, while Section 4 summarises how housing is taxed in other OECD countries. Section 5 highlights key policy issues and concerns arising from the current rules. Section 6 presents reform recommendations.

2. The housing market in Israel

This section briefly provides background information on the housing market in Israel. The housing market is predominantly comprised of owner-occupied housing, rather than rental housing. As of 2018, 72.5% of households lived in owner-occupied housing (Bank of Israel Annual Report, 2019).

The housing market in Israel has experienced substantial price appreciation in the last 12 years, resulting in significant concerns regarding housing affordability, particularly for younger and poorer socio-economic groups. As Figure 1 highlights, following a period of falling house prices between 1997 and 2007, house prices rose significantly in Israel between 2008-2010. While the increases post-2010 have been less significant than during the 2008-2010 period, they have generally been higher than the OECD average. Rental costs have also increased in Israel, though at a slightly lower rate than the OECD average in the last five years (Figure 2).

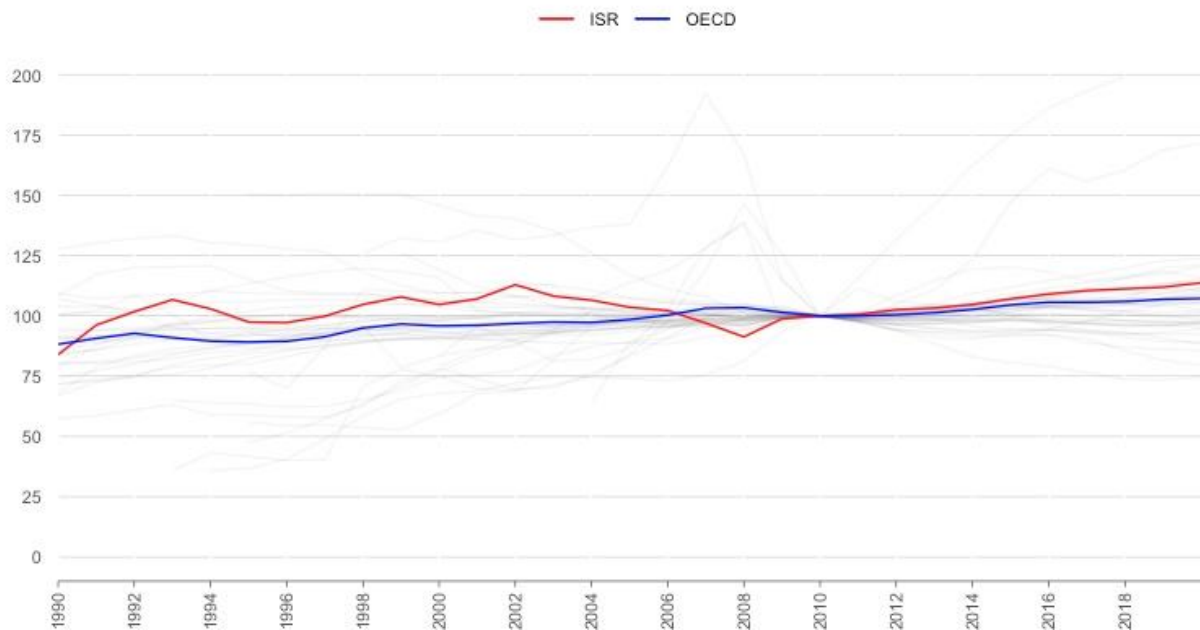
Figure 1. Real house price index (2010=100)



Notes: Real house (hedonic) prices evolution (2010=100).

Source: OECD House Price Analytical Database

Figure 2. Real rent price index (2010=100)



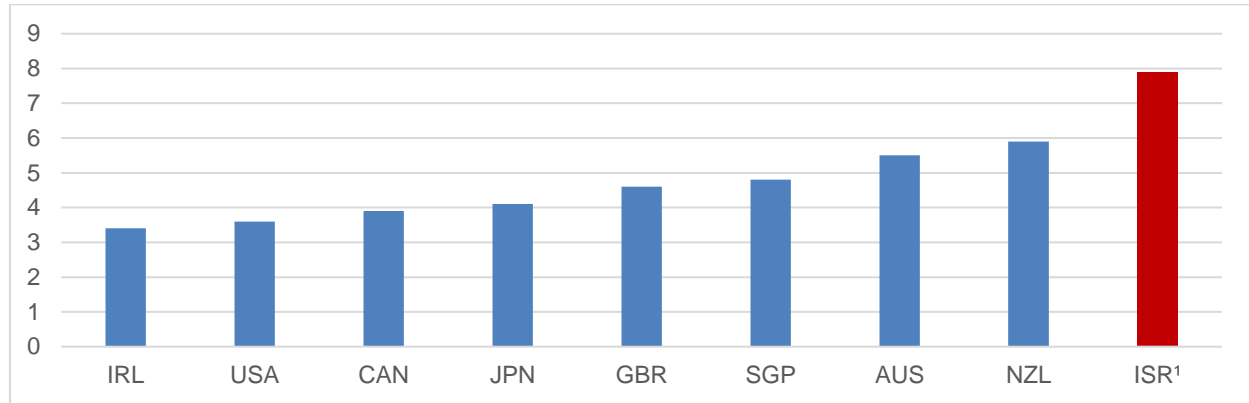
Notes: Real rent prices evolution (2010=100). The indicator includes actual rentals for housing, imputed rentals for housing and maintenance and repair of the dwelling. It is deflated using the CPI index.

Source: OECD House Price Analytical Database

The recent OECD Economic Survey of Israel (OECD, 2020) highlights that the reason for the increase in house prices has been an insufficient increase in housing supply to meet increasing demand. This is not a problem faced by Israel alone. Indeed, housing supply has not kept pace with housing demand in most OECD countries over the last 30 years (OECD, 2021). Housing affordability is now lower in Israel than in

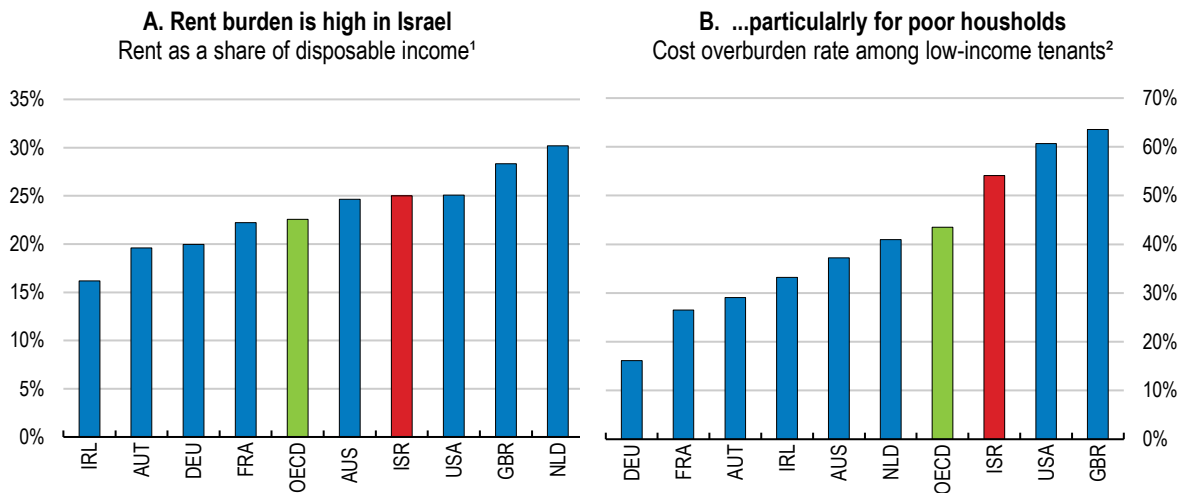
many other countries (Figure 3). Furthermore, even though rent increases have been slightly lower than on average across the OECD in the last five years, rental costs are still high in Israel, particularly for lower-income households (Figure 4).

Figure 3. Price-to-income ratios, 2016



Source: OECD (2016)

Figure 4. Rental affordability, 2016



1. Median of the mortgage burden (principal repayment and interest payments) or rent burden (private market and subsidised rent) as a share of disposable income, in per cent, 2015 or latest year available.

2. Share of population in the bottom quintile of the income distribution spending more than 40% of disposable income on rent, in per cent, 2015 or latest year available.

Source: OECD calculations based on European Survey on Income and Living Conditions (EU SILC) 2015 except: from the Household, Income and Labour Dynamics Survey (HILDA) for Australia (2014); the German Socioeconomic Panel (GSOEP) for Germany (2014); American Community Survey (ACS) for the United States (2015) and Bank of Israel for Israel (2015).

Source: OECD (2020)

Broad policy settings regarding the housing market are summarised in Figure 5, including comparison with other OECD countries. Israel applies relatively strong macroprudential rules, with a maximum loan-to-value ratio of 75% for second homes. The private rental market in Israel is relatively liberal compared to the average OECD country, as regulatory controls on both rent levels and rent increases are minimal. As will

be discussed in more detail in section 5 of this paper, Israel's tax system imposes relatively low marginal effective tax rates on owner-occupied housing. Land use is comparatively unrestricted, although zoning rules still create some problems for housing supply as discussed later in the report. Finally, Israel provides a moderate degree of housing allowances to support low-income households.

Figure 5. Israel Housing market policy indicators



Policy indicators	
LTV	Maximum loan-to-value ratios applied to mortgage loans (in %). 2019. Source: OECD Questionnaire on Affordable and Social Housing (QuASH)
Rent control	Indicator reflecting on the number of regulations that restrict rent levels and rent increases, including rent freezes, rent level control, limits of decontrolling (e.g. change of tenant, new or vacant dwelling). The indicator ranges between 0 and 1, with a higher number indicating greater stringency. 2019. Source: OECD calculations based on OECD Questionnaire on Affordable and Social Housing (QuASH)
METR	The indicator combines information on property taxes and housing-related provisions of income taxes. It is computed as the difference between the pre and post-tax rates of return of a marginal investment divided by the pre-tax rate of return of that investment where post-tax real rate is the minimum rate of return necessary to make the investment worthwhile (in %). 2018. Source: OECD Tax Policy Studies paper (OECD, 2018)
Land-use governance	Indicator of restrictiveness of the land use regulation. It comprises two components: decentralisation and overlap. The indicator ranges between 2 and 30 with a higher number indicating greater stringency. 2019. Source: OECD calculations based on OECD Questionnaire on Affordable and Social Housing (QuASH)
Housing allowances	Public spending on means- and/or income-tested housing allowances and transfers to households (in % of GDP). 2018 or latest year available. Source: OECD Affordable Housing database

Source: OECD (2021)

3. Taxation of housing in Israel

As in most OECD countries, a range of taxes are applied to housing in Israel and these vary depending on the type of housing investment. Taxation may be applied to rental income and realised capital gains, while transaction taxes and recurrent property taxes are also applied. Tax incentives are also provided to encourage investment in housing developments. This section briefly summarises the tax rules as applicable in 2020.²

² Note that Israel's "Law for the encouragement of capital investments" provides for reduced tax rates on rental income earned by companies or individuals that construct and rent certain residential complexes. However, consideration of this tax incentive scheme was beyond the mandate of this research project.

3.1. Rental income

Imputed rental income from owner-occupied housing is not subject to tax in Israel. In contrast, actual rental income earned from rental housing is subject to tax. Rental income can be taxed either as business or non-business income. If the taxpayer is considered to be “in the business” of investing in property then the income will be considered to be business income. This will depend on the facts of the particular case. If, for example, an investor buys and sells several properties as “a system” then the Tax Authority is likely to consider the income to be business income. The Tax Authority has also in some cases considered income to be “occasional business income”, even if only one house is sold, where it was only held for a short period of time. In contrast, if the taxpayer lives in the property then it is likely to be considered non-business income, or if it is held for an extended period of time.

If considered business income or occasional business income, then the taxpayer will be required to file a full tax return declaring all income and expenses, and will be subject to tax either under the corporate income tax if incorporated, or at marginal personal income tax rates if unincorporated.

Where the taxpayer is not “in the business” of investing in property then there are three possibilities for the taxation of rental income.

- Exemption.
- 10% rate on gross income.
- Full declaration and taxation at marginal rates.

3.1.1. Exemption

Taxpayers earning less than ILS 5 100 per month³ in rental income are exempt from tax on this income. The exempt amount is gradually lowered for taxpayers with rental income above ILS 5 100 per month following a “folding” approach, where for every shekel above ILS 5 100, the size of the exemption reduces by one shekel. The exempt amount is therefore fully extinguished for a taxpayer earning ILS 10 200 per month.

For income above the exempt amount, the taxpayer may choose for it to be taxed under either the 10% rate on gross income approach or the full declaration approach described below.

3.1.2. 10% rate on gross income

In order to minimise compliance costs, Israel offers taxpayers the option of being taxed at a flat 10% rate on their gross rental income (in excess of the exempt amount, if applicable). Under this approach, the taxpayer is unable to deduct expenses, but is also not required to complete a full tax return. There is no restriction on the total amount of rental income that can be subject to the 10% rate. This approach is intended to approximate the tax payable from full declaration of income and expenses and taxation at personal marginal rates.

3.1.3. Full declaration and taxation at marginal rates

The third approach available to taxpayers is to make a full declaration of rental income and expenses and pay tax at their applicable marginal personal income tax (PIT) rate on their taxable income (gross rental income less deductible expenses).

While marginal PIT rates range from 10-50%, depending on income level, rental income is treated as passive income, and consequently subject to a minimum marginal PIT rate of 31%. Passive income is

³ Following a price index adjustment, this has fallen slightly in 2021 to ILS 5 070.

added on top of labour income, and potentially subject to higher marginal rates depending on the combined level of labour plus capital income. The top rate of 50% applies to (combined labour plus capital) income above ILS 651 600. There is an exception for taxpayers over 60 years of age, for whom rental income is treated as active income, and so is subject to the normal PIT schedule on combined labour and capital income.⁴

The main expenses deductible against rental income are mortgage interest⁵, depreciation, and repairs and maintenance costs. Depreciation can be claimed at 2% per annum, following the declining balance method, on the total value of land and improvements. However, depreciation deductions are (partially) recovered on sale if a capital gain has been made, as the depreciation deductions are added to the sale price of the property and subject to capital gains tax.⁶

3.2. Capital gains

Capital gains are partially taxed on owner-occupied housing, and fully taxed on rented or second properties. Israel applies a conditional exemption from capital gains tax (CGT) on the first ILS 4.5 million of capital gain from residential property. The required conditions are: it is the only house owned by the taxpayer; and has been held for more than 18 months.⁷ Any gain above this amount, or where these two conditions are not met, is subject to the capital gains tax rate of 25%. As such, a second property, whether rented or not, will be subject to CGT on the entire capital gain. In contrast to most OECD countries, Israel taxes the real rather than nominal capital gain. The real gain is calculated by inflation indexing the purchase price (using the CPI inflation rate).

As noted above, depreciation deductions on rented property are also added on to the sale price to partially claw back the deduction. Additionally, for rented property, if mortgage interest payments were not claimed throughout the holding period, then the real (inflation-adjusted) interest amounts can be deducted against the capital gain, reducing the CGT liability. For owner-occupied housing, the real mortgage interest expenses paid throughout the holding period can also be deducted against any capital gain. Given the ILS 4.5 million exemption, this is only of relevance for properties experiencing large gains.

Prior to 2014, capital gains on housing in Israel were not taxed (irrespective of the number of houses owned or tenure type) if held for more than four years. Consequently, “grandparenting” provisions require adjustments to be made to the calculation of the taxable capital gain for houses purchased prior to 2014. A linear division is made of the capital gain over the holding period of the house. Any capital gain attributed to before 2014 is untaxed; and the gain attributed to 1 January 2014 and beyond is taxed at 25%.

3.3. Transaction taxes

A transaction tax (*Mas Rechisha*) is imposed on the purchaser of residential property in Israel. The tax base is the purchase price of the property, with progressive rates applied. A different rate structure applies

⁴ Israel applies (in 2020) the following tax schedule for the personal income tax: 10% on income up to ILS 75 960; 14% up to ILS 108 960; 20% up to ILS 174 960; 31% up to ILS 243 120; 35% up to ILS 505 920; and 50% on any income above this. However, passive income is subject, at a minimum, to the 31% rate.

⁵ Unlike a number of OECD countries, mortgage interest is not deductible for owner-occupied housing.

⁶ In net present value terms, the tax reduction from the upfront depreciation deductions (against a marginal rate of 31%) will outweigh the additional tax paid on sale (taxed at the 25% CGT rate) – both due to the time value of money and the tax rate differentials. The possible exception would be for a taxpayer aged over 60, if the depreciation deductions reduce income subject to tax at a lower marginal rate, and particularly if the holding period is also relatively short.

⁷ Ownership of any commercial properties is ignored in determining the number of residential properties owned.

to taxpayers purchasing their first property (or upgrading their single property), and to taxpayers purchasing a second or subsequent property. The applicable rates were lowered slightly for second property purchases in September 2020 (bringing them closer to the rates on first properties). The new rates are presented in Table 1.

Table 1: Transaction tax rates

	Tax rate (marginal)	Apartment price (ILS)
Single apartment (first home buyers and upgraders)	0%	Less than 1 744 505
	3.5%	1 744 505 - 2 069 205
	5%	2 069 205 - 5 338 290
	8%	5 338 290 - 17 794 305
	10%	17 794 305 +
Additional apartment (investors)	5%	Less than 1 744 505
	6%	1 744 505 - 3 876 835
	7%	3 876 835 - 5 338 290
	8%	5 338 290 - 17 794 305
	10%	17 794 305 +

Source: Israel Tax Authority

3.4. Recurrent taxes on immovable property

As with most OECD countries, Israel operates a recurrent tax on immovable property (*Arnona*) at the local government level. The *Arnona* is the primary revenue source for Israel's 257 local governments, which provide a range of public services including elementary and secondary education, social welfare, and a range of local public services, including sanitation, parks and recreation, and road maintenance. (OECD, 2019).

Unlike most other OECD countries, the *Arnona* is calculated based on the size of the property (in square meters) as opposed to its value, and is paid by the user rather than the owner of the property. Rates are typically based on one or more of the following criteria:

- The actual use of the property.
- The location of the property within a local jurisdiction.
- The type of property (single-family houses, large apartments, small apartments, etc.).
- The age of the property.

Rates are typically significantly higher for commercial than residential property, and vary considerably across different local governments. Furthermore, rates also vary substantially by the type of commercial property. Table 2, provides a summary of the average rates applied in OECD countries, highlighting the degree of variation both across types of property and across local governments.

Discounts are provided by local governments for certain groups of households, within limits specified by the central government. The extent of discount varies across local governments, but typically includes discounts for low-income households, the elderly, students, people with disabilities, soldiers performing compulsory national service, and new immigrants. In some areas, discounts are also given for property used by educational, religious or charitable organisations, and for government-owned property.

Table 2: Arnona rates per square meter by property type, 2016

Type of Property	Average	Standard deviation	Minimum	Maximum
Residential	29.2	19.6	0.2	102.3
Offices, services and trade	109.2	79.2	28.9	1,006.7
Industry & craftsmanship	70.7	37.6	15.8	265.4
Banks & insurance companies	880.4	334.2	340.0	1,660.0
Hotels	60.5	29.2	16.1	170.0
Parking lots	25.3	18.2	1.1	66.7
Occupied land	12.5	10.7	0.02	53.2
Agricultural land	8.4	24.8	0.01	245.0
Agricultural buildings	13.7	22.9	0.2	180.0

Note: Rates measured in new Israeli shekels (NIS). Local jurisdictions with no property of a given type are not included in calculation of descriptive statistics for that type of property.

Source: OECD (2019)

4. Taxation of housing in OECD countries⁸

This section provides a brief summary of how other OECD countries tax housing. It draws on the results of a detailed review undertaken by the OECD in 2018 of the tax treatment of savings, including housing, in 40 OECD and partner countries, which was based on a survey issued to countries in 2017 (see OECD, 2018a, for further detail).

As in Israel, a range of taxes are typically applied to housing across the 40 OECD and partner countries. Taxation may be applied to imputed or actual rental income and realised capital gains. Transaction taxes and recurrent property taxes are also often applied, while a small number of countries also apply wealth taxes to residential property. Rules tend to vary significantly depending on whether the property is owner-occupied or a second property/rented out.

Tables 3 and 4 present the key features of the tax treatment of owner-occupied and rented housing, respectively, across the three broad stages at which taxation may occur: acquisition; holding; and disposal. Categories are signified as Y for yes; N for no; or NA if not applicable. Additional details are provided in footnotes where relevant. The tables reflect the rules in place in each country as of 1 July 2016.

4.1. Owner-occupied property

Table 3 summarises the tax treatment of owner-occupied residential property in the 40 countries. While capital income is typically untaxed, recurrent property taxes and in most cases transaction taxes are applied.

On acquisition, 21 out of 40 countries provide tax relief (either a deduction or tax credit) for the interest expense incurred in purchasing a property with debt, though in many cases the available tax relief is capped. As noted above, while not providing an upfront deduction, Israel uniquely amongst the 40 countries allows interest payments to be deducted from capital gains tax liability on sale. Transaction taxes are very common, being applied on purchase of owner-occupied housing in 30 out of 40 countries.

At the holding stage, only four countries (Denmark, Greece, the Netherlands and Switzerland) tax imputed rental income (generally at low rates, and only when at least partially debt-financed in the case of the

⁸ This section draws heavily on chapter 2 of OECD (2018a).

Netherlands). A net wealth tax is imposed on owner-occupied property in all six countries that have net wealth taxes (Argentina, Colombia, France, Norway, Spain and Switzerland), but a 30% rate reduction applies in France and only 25% of the property value is subject to the tax in Norway. Spain applies a specific exemption threshold to the main residence of up to EUR 300 000, which is additional to the EUR 700 000 general exemption threshold. Meanwhile, recurrent property taxes are imposed in all 40 countries, though not all sub-central areas apply a tax in some countries (e.g. Hungary, Switzerland). In 36 of the countries, the recurrent property taxes are based on property values, though in many cases values are outdated and/or not regularly updated to current market values. In four countries, they are area-based (Czech Republic, Israel, Poland, and the Slovak Republic).

At disposal, only 14 countries tax capital gains on owner-occupied property (on a realisation basis). Furthermore, these taxes are often imposed at concessionary (or zero) rates, often subject to a minimum holding period test.

4.2. Rented residential property

Table 4 summarises the tax treatment of rented residential property in the 40 countries. This includes second properties not actually rented out, which are typically taxed in the same manner. A broadly comprehensive approach is typically applied to rented residential property, with full taxation of rental income and capital gains (on a realisation basis). In addition, recurrent property taxes and in most cases transaction taxes are also applied.

On acquisition, 27 out of 40 countries provide tax relief (either a deduction or tax credit) for the interest expense incurred in purchasing a property with debt. In many cases, though less frequently than with owner-occupied property, the available tax relief is capped. In addition, Belgium provides tax relief for mortgage principal repayments (but not for interest payments). Transaction taxes are again applied in 30 out of 40 countries.

At the holding stage, 34 out of 40 countries tax rental income, while two (Belgium and the Netherlands) apply a tax on imputed rather than actual rental income. Unlike Israel, most countries allow only a single approach to taxing rental income. That said, Italy also provides a “standard” and “simplified” taxation option, similar to Israel. Rental income is typically taxed at progressive rates across the 40 countries (irrespective of whether other capital income in the country is taxed at progressive or flat rates), but flat rates are applied in four countries (Denmark, Iceland, Italy and Slovenia). In some cases rates are applied at concessionary levels, or on a reduced base (e.g. Latvia, Spain, Iceland, Italy). There are also income-based exemptions applied to rental income in Korea and the Slovak Republic.

A net wealth tax is imposed on rented property in all six countries that have net wealth taxes (Argentina, Colombia, France, Norway, Spain and Switzerland), but only 80% of the property value is subject to the tax in Norway. Recurrent property taxes are imposed in all countries. As with owner-occupied property, they are value-based rather than area-based in all but four countries (Czech Republic, Israel, Poland, and the Slovak Republic), and not all sub-central areas apply a tax in some countries (e.g. Hungary, Switzerland).

At disposal, at least some capital gains are taxed in 34 out of 40 countries. However, concessionary (or zero) rates are often applicable, often subject to a minimum holding period test.

Table 3. Tax treatment of owner-occupied residential property in 40 countries, 2016

(As at 1 July 2016)

Country	Acquisition of asset			Holding of asset			Disposal of asset		
	PIT treatment		Transaction tax	PIT Income from asset	Other taxes		PIT or CGT		
	Interest expense deductible	Amount of acquisition deductible			Income from asset	Value of asset	Realised income from asset	Original value of asset	Capital gains
Australia	N	N	Y	N	N	Y	N	N	N
Austria	N	N	Y	N	N	Y	N	N	N
Belgium	Y ¹	N	Y	N	N	Y	N	N	N
Canada	N	N	Y	N	N	Y	N	N	N
Chile	Y ²	N	N	N	N	Y ³	N	N	N
Czech Republic	Y	N	Y	N	N	Y	N	N	Y ⁴
Denmark	Y	N	Y	N	Y ⁵	Y	N	N	N
Estonia	Y ⁶	N	N	N	N	Y	N	N	N
Finland	Y ⁷	N	Y	N	N	Y	N	N	N
France	N	N	Y	N	N	Y ⁸	N	N	N
Germany	N	N	Y	N	N	Y	N	N	Y ⁹
Greece	Y	N	Y ¹⁰	N	Y ⁵	Y	N	N	N
Hungary	N	N	Y ¹⁰	N	N	Y ¹¹	N	N	Y ¹²
Iceland	N	N	Y	N	N	Y	N	N	N
Ireland	N	N	Y	N	N	Y	N	N	N
Israel	N ³⁶	N	Y	N	N	Y	N	N	Y ¹³
Italy	Y ¹⁴	N	Y	N	N	Y ¹⁵	N	N	Y ¹⁶
Japan	Y ¹⁷	N	N	N	N	Y	N	N	Y
Korea	Y ¹⁸	N	Y	N	N	Y	N	N	Y ¹⁹
Latvia	N	N	Y	N	N	Y	N	N	N
Luxembourg	Y ²⁰	N	N	N	N	Y	N	N	N
Mexico	Y	N	Y	N	N	Y	N	N	N ²¹
Netherlands	Y	N	Y	Y ⁵	N	Y ²²	N	N	N
New Zealand	N	N	N	N	N	Y	N	N	N
Norway	Y	N	Y	N	N	Y ²³	N	N	N
Poland	N	N	Y	N	N	Y	N	N	N
Portugal	N	N	Y	N	N	Y	N	N	N
Slovak Republic	N	N	N	N	N	Y	N	N	N
Slovenia	N	N	Y	N	N	Y	N	N	Y ²⁴
Spain	N ²⁵	N	Y	N	N	Y ²⁶	N	N	Y ²⁷
Sweden	Y	N	Y	N	N	Y ²⁸	N	N	Y ²⁹
Switzerland	Y	N	Y ³⁰	Y ⁵	N	Y ^{30,31}	N	N	N
Turkey	N	N	Y	N	N	Y	N	N	N
United Kingdom	N	N	Y	N	N	Y	N	N	N
United States	Y	N	Y	N	N	Y	N	N	Y ³²
Argentina	Y	N	N	N	N	Y ³¹	N	N	N
Bulgaria	Y ³³	N	Y	N	N	Y	N	N	N
Colombia	Y	N	N	N	N	Y ³¹	N	N	Y
Lithuania	N	N	N	N	N	Y	N	N	Y ³⁴
South Africa	N	N	Y	N	N	Y	N	N	Y ³⁵

Source: OECD (2018a)

Notes

- 1 Tax credit received equals EUR 0.45 for every euro of interest paid. Cap of EUR 2 300 tax credit amount.
- 2 Interest not deductible if taxpayer earns above CLP 83 129 400 (in 2016).
- 3 Recurrent property tax applies if house value of CLP 21 934 249 or greater.
- 4 Gains are taxable if held for five years or less; or two years or less if the taxpayer's main residence (unless the gains are used to finance a new residence in which case not taxable even if held for two years or less).
- 5 Tax on imputed rental income.
- 6 Mortgage interest is deductible up to EUR 1 200 per year.
- 7 55% of mortgage interest is deductible against capital income. Remaining interest is deductible against earned income up to EUR 1 400 per year.
- 8 Recurrent property tax plus net wealth tax. The taxable threshold for the net wealth tax is set at EUR 1.3 million, but once this threshold has been achieved, the assets are taxed as of EUR 800 000.
- 9 No CGT if held more than 10 years.
- 10 First-time house buyers are exempt from the transaction tax.
- 11 Recurrent property tax (building tax on dwellings) due in only some municipalities. In 2017 only 548 municipalities out of 3 178 levied building tax on dwellings.
- 12 The taxable capital gain is reduced by an increasing percentage each year and is exempt after five years.
- 13 CGT only applies on gains above a sale price of ILS 4.5 million.
- 14 A tax credit of 19% of mortgage interest is provided up to a max of EUR 4 000 of interest payment
- 15 Only luxury homes subject to recurrent property tax
- 16 Exempt from CGT if held at least five years
- 17 Tax credit equal to 1% of mortgage value
- 18 Deductible at taxpayer's marginal rate unless house cost more than KRW 400 million and up to a limit depending on years being paid off.
- 19 40% tax rate for short-term holdings of less than 1 year. No CGT if held for 2 years or more. CGT is however still applicable if house is worth more than KRW 900 million.
- 20 Mortgage interest is deductible below a threshold (EUR 1 500 years 1-5; EUR 1 125 years 5-10; then EUR 750).
- 21 Unless gain exceeds 700 thousand investment units, or have sold a house within the previous five years.
- 22 Recurrent property tax
- 23 Recurrent property tax and net wealth tax. The tax-free allowance for the net wealth tax is NOK 1 400 000.
- 24 The tax rate for capital gains depends on the holding period: 25% for up to 5 years; 15% from 5 to 10 years; 10% from 10 to 15 years; 5% from 15 to 20 years; and non-taxation for greater than 20 years.
- 25 A tax credit (which covered interest and amount of acquisition) was repealed in 2013. However, it can still be applied as a temporary regime by taxpayers who were applying the credit prior to 2013. According to their legal competences, the majority of regional governments (Comunidades Autónomas) apply the tax credit.
- 26 Recurrent property tax and net wealth tax. For net wealth tax, an exemption threshold of EUR 300 000 applies for the main residence.
- 27 However, full rollover relief applies in respect of capital gains from disposals by any taxpayer of his primary residence. The exemption requires that the entire proceeds be reinvested within a 2-year period in the acquisition of another primary residence. Full exemption applies for taxpayers over 65 years old (see above).
- 28 Recurrent property tax has a maximum amount of SEK 7 412 for a house and SEK 1 268 for an apartment.
- 29 Only a proportion (22/30) of the capital gain is taxable.
- 30 Transaction taxes and recurrent property taxes are applied in many, but not all cantons. Neither are applied in Zurich, which is used as the representative canton in the ETR modelling.
- 31 Recurrent property tax plus net wealth tax.
- 32 Untaxed if capital gain of less than USD 250 000 (or USD 500 000 for married filing jointly) and held for at least 2 of the last 5 years. Otherwise taxed at marginal PIT rates for short-term gains, and at preferential long-term rates for long-term gains.
- 33 Mortgage interest is deductible (for a married investor only) if either the investor or the spouse was under 35 years of age (and they were already married) at the start of the mortgage.
- 34 Taxable unless place of residence for at least 2 years; or if less than 2 years and income is used within one year to purchase a new place of residence.
- 35 Exempt if capital gain of less than SAR 2 million. Otherwise, subject to marginal rates after 40% exclusion.
- 36 Israel allows interest payments to be deducted from capital gains tax liability on sale.

Table 4. Tax treatment of rented residential property in 40 countries, 2016

(As at 1 July 2016)

	Acquisition of asset			Holding of asset			Disposal of asset		
	PIT treatment		Transaction tax	PIT	Other taxes		PIT or CGT		
	Interest expense deductible	Amount of acquisition deductible			Income from asset	Income from asset	Value of asset	Realised income from asset	Original value of asset
Australia	Y	N ¹	Y	Y	N	Y	N	N	Y
Austria	Y	N	Y	Y	N	Y	N	N	Y
Belgium	Y ²	N	Y	Y ³	N	Y	N	N	Y ⁴
Canada	Y	N	Y	Y	N	Y	N	N	Y
Chile	Y ⁵	N	N	N	N	Y ⁶	N	N	N
Czech Republic	Y	N	Y	Y	N	Y	N	N	Y ⁷
Denmark	Y	N	Y	N	Y ⁸	Y	N	N	Y ⁹
Estonia	Y ¹⁰	N	N	Y ¹¹	N	Y	N	N	Y
Finland	Y ¹²	N	Y	Y ¹³	N	Y	N	N	Y
France	N	N	Y	Y	N	Y ¹⁴	N	N	Y ¹⁵
Germany	Y	N	Y	Y	N	Y	N	N	Y ¹⁶
Greece	Y	N	Y ¹⁷	Y	N	Y	N	N	Y
Hungary	N	N	Y	Y	N	Y ¹⁸	N	N	Y ¹⁹
Iceland	N	N	Y	N	Y ²⁰	Y	N	N	Y
Ireland	Y	N	Y	Y	N	Y	N	N	Y
Israel	N	N	Y	Y ²¹	N	Y	N	N	Y
Italy	N	N	Y ²²	Y ²³	Y ²³	Y	N	N	Y ²⁴
Japan	Y	N	N	Y	N	Y	N	N	Y
Korea	Y ²⁵	N	Y	Y ²⁶	N	Y	N	N	Y ²⁷
Latvia	N	N	Y	Y ²⁸	N	Y	N	N	Y
Luxembourg	Y	N	N	Y	N	Y	N	N	Y
Mexico	Y	N	Y	Y	N	Y	N	N	Y
Netherlands	N	N	Y	N	Y ²⁹	Y	N	N	N
New Zealand	Y	N	N	Y	N	Y	N	N	N
Norway	Y	N	Y	Y	N	Y ³⁰	N	N	Y
Poland	Y	N	Y	Y	N	Y	N	N	Y
Portugal	N	N	Y	Y	N	Y	N	N	Y ³¹
Slovak Republic	N	N	N	Y ³²	N	Y	N	N	N
Slovenia	N	N	Y	N	Y ¹	Y	N	N	Y ³³
Spain	Y	N	Y	Y ³⁴	N	Y ³⁵	N	N	Y
Sweden	Y	N	Y	Y	N	Y ³⁶	N	N	Y ³⁷
Switzerland	Y	N	Y ³⁸	Y	N	Y ^{38,39}	N	N	Y
Turkey	Y	N	Y	Y	N	Y	N	N	N
United Kingdom	Y	N	Y	Y	N	Y	N	N	Y
United States	Y	N	Y	Y	N	Y	N	N	Y ⁴⁰
Argentina	N	N	N	Y	N	Y	N	N	N
Bulgaria	N	N	Y	Y	N	Y	N	N	Y ⁴¹
Colombia	Y	N	N	Y	N	Y	N	N	Y
Lithuania	N	N	N	Y	N	Y	N	N	Y ⁴²
South Africa	Y	N	Y	Y	N	Y	N	N	Y ⁴³

Source: OECD (2018a)

Notes

- 1 No general depreciation deduction. But cost of depreciable assets in a rental property are deductible
- 2 While mortgage interest is not deductible, a tax credit is provided equal to EUR 0.45 for every euro of mortgage principle paid, limited to the first EUR 76 780 of the loan.
- 3 Imputed income is taxed at progressive PIT rates
- 4 If held less than five years.
- 5 Interest not deductible if taxpayer earns above CLP 83 129 400 (90 UTA).
- 6 Recurrent property tax applies if house value of CLP 21 934 249 or greater.
- 7 Taxable if held <5 years; or <2 years if taxpayer's main residence (unless used to finance new residence).
- 8 A splitting system applies.
- 9 Taxed at flat rate as "net capital income" under semi-dual system
- 10 Mortgage interest is deductible up to EUR 1 200 per year.
- 11 Income tax only applies to 80% of rental income
- 12 Deductible against capital income
- 13 Rental income is taxed as investment income, but at a flat 30% rate.
- 14 Recurrent property tax plus net wealth tax. The taxable threshold for the net wealth tax is set at EUR 1.3 million, but once this threshold has been achieved, the assets are taxed as of EUR 800 000.
- 15 Subject to flat withholding tax plus social taxes. A reduction is provided if held more than six years. Untaxed if held for more than 22 years (withholding tax) and 30 years (social taxes).
- 16 No CGT if held more than 10 years
- 17 First-time house buyers are exempt from the transaction tax.
- 18 Recurrent property tax (building tax on dwellings) due in only some municipalities. In 2017 only 548 municipalities of 3178 levied building tax on dwellings.
- 19 The taxable capital gain is reduced by an increasing percentage each year and is exempt after five years.
- 20 50% of rental income is exempt and 50% is subject to a flat 20% capital income tax rate
- 21 Taxpayer has three options: exemption of rental income up to a ceiling of ILS 5 030; 10% tax on gross rental income, with no deductions; or marginal tax rate (30% to 48%) on rental income net of expenses
- 22 Higher transaction tax rate for second homes than owner-occupied home
- 23 Actual rental income from residential property is taxed under ordinary PIT, with 95% of the annual rent included in the tax base. Alternatively, the taxpayer can choose to pay a 21% "coupon tax" on rental income (10% in the case of pre-agreed controlled rents).
- 24 Exempt from CGT if held at least five years
- 25 40% of interest and principle is deductible against salary and wage income.
- 26 Exempt if rental income does not exceed KRW 20 million income until 2016.
- 27 40% tax rate if held <1 year. For 5 years, taxable but get 15% reduction; if 10 years get 38% reduction
- 28 Special PIT rate applied at flat concessionary rate.
- 29 Deemed return on net asset value (value less debt) is taxed. First EUR 24 437 of total assets excluding pensions and owner-occupied housing is exempt.
- 30 Recurrent property tax and net wealth tax. The tax-free allowance for the net wealth tax is NOK 1 400 000.
- 31 Half of capital gains are indexed.
- 32 Rental income less than EUR 500 is untaxed.
- 33 The tax rate for capital gains depends on the holding period: 25% for up to 5 years; 15% from 5 to 10 years; 10% from 10 to 15 years; 5% from 15 to 20 years; and non-taxation for greater than 20 years.
- 34 60% reduction in tax on rental income
- 35 Recurrent property tax and net wealth tax. For net wealth tax, an exemption threshold of EUR 700 000 is applied in general for all assets, including rented residential property.
- 36 Recurrent property tax has a maximum amount of SEK 7 412 for a house and SEK 1 268 for an apartment.
- 37 Only 90% of the capital gain is taxable when used mainly for business
- 38 Transaction taxes and recurrent property taxes are applied in many, but not all cantons. Neither are applied in Zurich, which is used as the representative canton in the ETR modelling.
- 39 Recurrent property tax plus net wealth tax.
- 40 Lower rate schedule applies for long-term gains of more than one year. Gain attributable to any accelerated depreciation is taxable at ordinary rates. Gain attributable to straight-line depreciation is taxed at ordinary rates up to 25%.
- 41 No CGT if held more than three years, but only for one house sold per year.
- 42 If held less than 10 years.
- 43 Subject to marginal PIT rates after 40% exclusion.

5. Policy issues arising from the current tax rules for housing in Israel

The comparison of Israel's with other OECD countries' housing tax regimes, highlights a number of positive features in Israel's system. In particular, unlike many OECD countries, Israel taxes at least some capital gains earned from owner-occupied housing, and does not provide mortgage interest relief when no income is taxed. It also, unlike many OECD countries, fully taxes the capital gains earned on second properties. However, there are a number of areas of concern that arise from the current tax rules for housing in Israel (many of which also arise in other OECD countries' systems). These include:

- Non-neutrality across different savings vehicles
- Non-neutrality between types of housing investment
- Discouraging transactions
- Equity considerations
- Complexity in the taxation of rental income
- Capital gains tax rules for previously vacant land
- Urban renewal and efficient land use

These issues are discussed in turn below, before the following section then considers potential reform options to address the concerns.

5.1. *Non-neutrality across different savings vehicles*

The first issue relates to the broader tax regime for capital income, and how the tax treatment of housing fits into this. Specifically, the current system creates incentives for investors to place their money in certain savings vehicles over others. This can be inefficient – as the tax system rather than pre-tax rates of return may drive investment decisions.

Designing a tax regime for capital income requires a range of policy goals to be weighed against each other, including efficiency and equity considerations, raising revenue, and the minimisation of administrative and compliance costs. The typical starting point in this process is the concept of tax neutrality (OECD, 2018a, 1994; Mirrlees et al., 2011). There are two main aspects of tax neutrality: neutrality regarding the allocation of savings over the lifecycle; and neutrality regarding portfolio allocation. Greater policy concern is typically given to the latter over the former as empirical evidence clearly shows that taxes affect portfolio allocation decisions, whereas evidence is mixed as to whether taxes affect lifecycle savings (and hence the aggregate level of savings).

Neutrality regarding portfolio allocation requires that different savings vehicles be taxed equivalently at the margin. This ensures that it is asset returns, rather than tax considerations, that drive investment decisions. As discussed in more detail below, neutrality is typically also beneficial from an equity perspective as portfolio allocations vary across the income and wealth distributions and differential taxation can therefore benefit particular subgroups over others (OECD, 2018a).

To illustrate the current lack of neutrality in the Israeli system, we calculate marginal effective tax rates (METRs) across a range of savings vehicles for individuals. METRs enable a wide range of taxes and tax design features to be incorporated into a single indicator in a comparable manner. This includes the impact of multiple taxes on a particular savings vehicle, of deductions and variations in the tax base, of different holding periods and the potential build-up of untaxed or tax-deferred returns, of variation in the type of return generated, and the impact of taxation of the inflationary component of returns.

The METRs consider a saver contemplating investing an additional currency unit in one of a range of assets (including owner-occupied and rented housing). The investment is a marginal investment, both in

terms of being an incremental purchase of the asset, and in terms of generating net returns just sufficient to make the purchase worthwhile (as compared to the next best savings opportunity). The approach assumes a fixed pre-tax real rate of return and calculates the minimum post-tax real rate of return that will, at the margin, make the savings worthwhile. The METR can then be calculated as the difference between the pre- and post-tax rates of return divided by the pre-tax rate of return.

Figure 6 compares METRs on equity-financed housing to that of other financial assets in Israel. (Debt-financed housing is considered separately in the next section). The median across 40 countries of the same results are presented in Figure 7. Analysis is first based on rules in place in 2016 to enable comparison with METR modelling available for other OECD countries. Subsequent analysis then considers the rules applicable as of 2020.

For each savings vehicle, results are presented for three different taxpayer types (low-, average- and high-income taxpayers). Results are presented for a five-year expected holding period (except for private pensions and housing where a 20-year holding period is assumed due to the typically longer-term nature of such investments). A pre-tax return of 3% is assumed, with inflation equal to the OECD average (to eliminate the impact of inflation on cross-country comparisons). The Israel results assume rental income is below the ILS 5 100 exemption threshold for a low-income taxpayer, and that the 10% flat rate option is adopted by average- and high-income taxpayers. The housing METR results exclude recurrent property taxes, based on an assumption that they act largely as a “benefits tax” (i.e. as a payment for local public services received), and so have minimal impact on savings incentives. However, it is important to note that there remains considerable debate in the literature as to the incidence of recurrent property taxes, and it is arguable that they may be borne to some extent by investors and therefore distort savings decisions (see, e.g., Zodrow, 2007, for further discussion).⁹ Additional assumptions and details of the METR modelling are presented in Box 1, and in OECD (2018a).

Figure 6 shows that the largest deviation from neutrality in Israel comes from the significant tax concession provided for private pension savings (for contributions up to the maximum eligible amount¹⁰). Effectively, the tax benefit (in net present value terms) of the up-front 35% tax credit for pension contributions outweighs the future tax paid on pension payments received by the investor (of which 48% is tax exempt). However, for contributions made above the maximum amount, the METR becomes positive, though still concessionary as compared to most other alternative assets. Israel also provides a tax-favoured savings account in the form of the advanced study fund (*Keren Hishtalmut*). These funds are entirely untaxed if contributions (up to a ceiling) are held in the fund for at least three years if spent on education or training, or if held for at least six years otherwise.

Beyond these two areas, a clear bias can also be seen in favour of investment in owner-occupied housing as compared to other (non-pension, non-study fund) savings options. This is particularly the case for low and middle-income households that are not subject to the transaction tax or capital gains tax.¹¹ In contrast, a rented (second) property, which is subject to the transaction tax, personal income tax on rental income, and capital gains tax, is more heavily taxed than most other savings options for average- and high-income taxpayers. Meanwhile, a low-income taxpayer who is assumed to earn rental income below the ILS 5 100 exempt amount per month, faces a METR similar to many other financial assets (bank deposits, bonds, investment funds).

⁹ Furthermore, the extent of the validity of the benefits tax assumption may vary across countries and municipalities, depending, for example, on tax design and the degree of link to local services received.

¹⁰ The tax credit is provided for contributions up to a maximum amount of 7% of a worker's salary or ILS 8 700 per month (in 2016).

¹¹ To the extent that the *Arnona* component of the METR acts as a tax on capital (as opposed to a “benefits tax”), the bias towards owner-occupied housing may be lower than reflected in Figure 6. However, even if the *Arnona* was fully borne by investors, the bias would still exist at least for low- and average-income taxpayers.

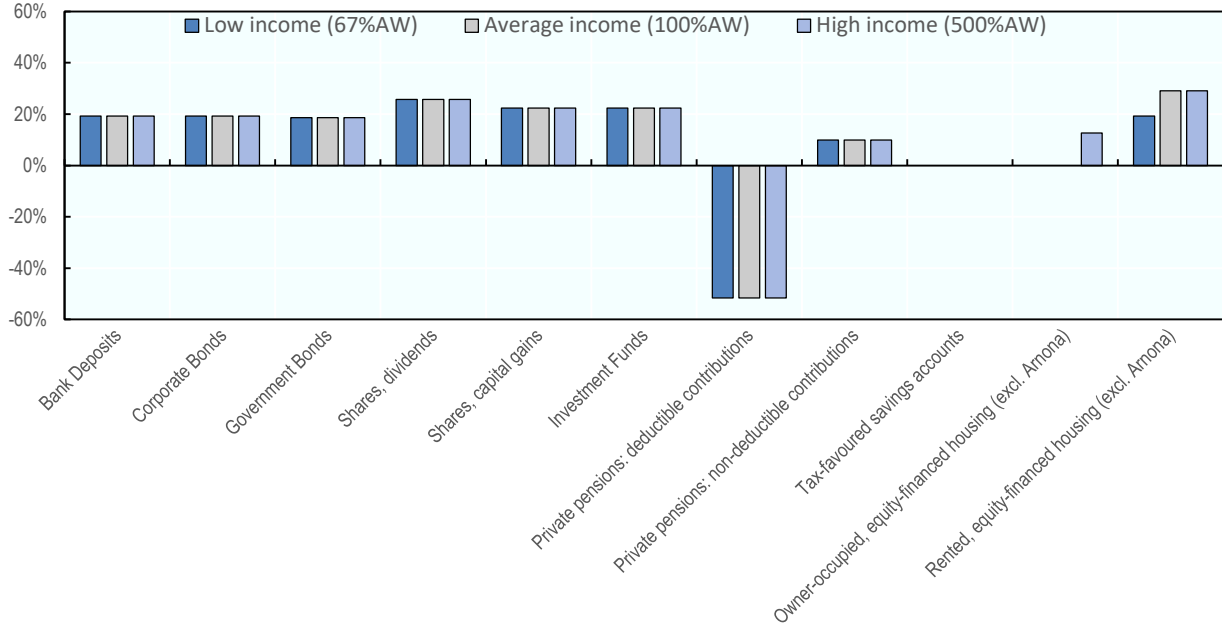
Such deviations from neutrality are not uncommon across the OECD, but a clear policy rationale is required to justify them. In particular, concessions for private pension schemes exist in the majority of OECD countries, as policy makers actively encourage a shift in portfolio allocation towards retirement savings. This can be seen in Figure 7. Owner-occupied housing, for which similar long-term saving arguments are often made, is also frequently tax favoured in OECD countries. (Additionally, METRs are comparatively low in the limited number of countries that provide tax-favoured savings accounts).

One clear difference between Israel and the median OECD results is the progressive nature of the METRs. This is because a significant number of countries apply progressive personal income tax rates to capital income. That said, many OECD countries also adopt a similar flat-rate capital income tax approach as Israel does, although a number of countries that apply flat rates to most financial assets, still apply progressive rates to rental income. (These flat-rate countries dampen the overall degree of progressivity exhibited by the OECD average METR results in Figure 7).¹² The application of progressive marginal rates can also be seen to create a regressive effect for pension savings where countries provide a tax deduction for contributions (as opposed to the tax credit approach adopted by Israel).

As noted above, from an efficiency point of view the non-neutralities illustrated in Figures 6 and 7 should be avoided. As such, there is a strong case to reassess the merits of the concessions for private pensions, tax-favoured savings accounts and owner-occupied housing, as compared to a move towards greater neutrality – both in Israel and across the OECD (OECD, 2020, 2018a).

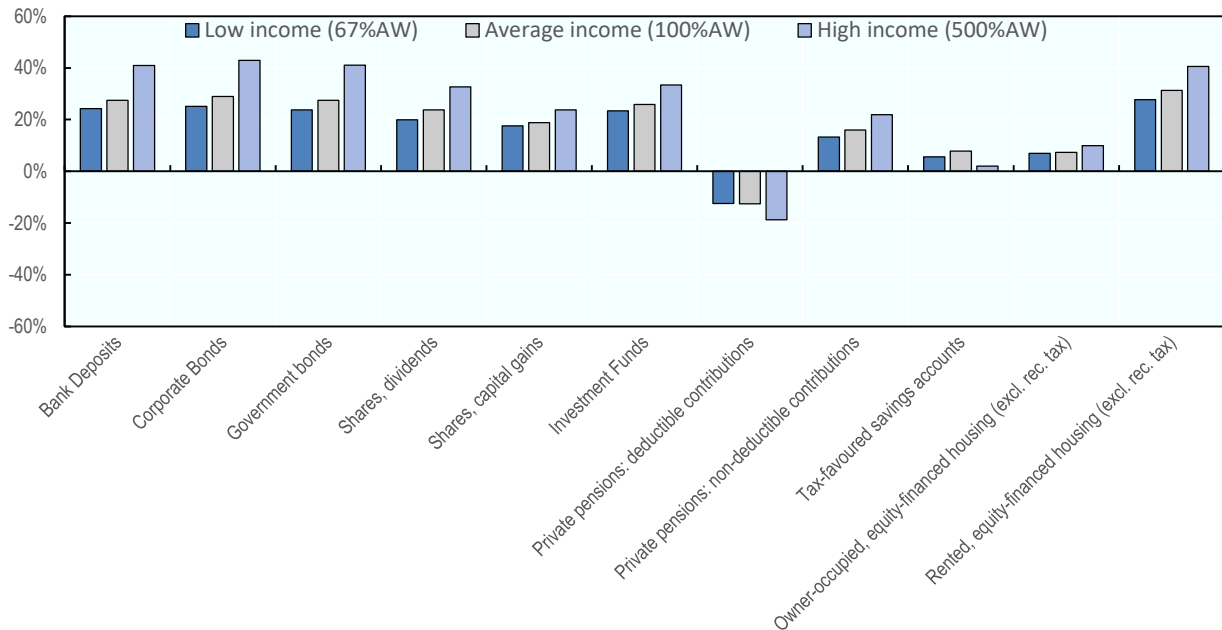
¹² 23 of the 40 countries examined in OECD (2018a) were classified as applying a broadly “flat rate” approach to capital income taxation. In general, Israel applies a flat capital income tax rate of 25% on dividends and on (inflation-adjusted) interest income and capital gains. Bank accounts are taxed at 15% on nominal interest income. That said, a surtax of 3% is levied on total income from all sources above ILS 649 560, and a higher dividend tax rate of 30% applies to shareholders holding more than 10% of a company.

Figure 6. METRs across asset types – Israel (2016 rules)



Source: OECD Savings tax models

Figure 7. METRs across asset types – 40-country median (2016 rules)



Source: OECD Savings tax models

Box 1. METR methodology

The methodology follows broadly the approach of OECD (2018a), which itself drew on the methods used by King and Fullerton (1984). The analysis considers a saver who is contemplating investing an additional currency unit in one of a range of assets. The investment is a marginal investment, both in terms of being an incremental purchase of the asset, and in terms of generating net returns just sufficient to make the purchase worthwhile (as compared to the next best savings opportunity). The approach assumes a fixed pre-tax real rate of return and calculates the minimum post-tax real rate of return that will, at the margin, make the savings worthwhile. The METR can then be calculated as the difference between the pre- and post-tax rates of return divided by the pre-tax rate of return.

Consider a saver contemplating investing one currency unit in a particular savings vehicle. The present value of the returns and costs (taxes) of investing in that savings vehicle over time can be expressed as:

$$V = -1 + \int_{t=0}^n (R_t - T_t) e^{-\rho_H t} dt \quad (1)$$

where R_t is the stream of returns and T_t the stream of taxes on those returns (which will vary depending on the particular savings vehicle and the way in which it is taxed). The returns and costs are discounted at a rate ρ_H .

The length of time for which an asset is held is often crucial in determining tax liabilities. The approach taken here is to assign a probability to each possible holding period. The expected return is then calculated in each case, on the basis of risk neutrality. It is assumed that the probability of sale in each period is fixed, so that there is, for example, a 10 per cent chance of sale in the first period; if the asset is not sold, there is a 10 per cent chance of sale in the second period, and so on.

The time of sale of asset 't' may be thought of as a random variable, which follows an exponential probability density function with rate parameter λ :

$$p(t) = \lambda e^{-\lambda t} \quad (2)$$

This setup implies that the investment will earn a return in period 0 with full certainty while the probability that the investment yields a return in the following periods decreases over time until n reaches infinity, when the probability that the investment earns a return is zero.

This endogenous asset holding period approach has a number of advantages. First, it allows focusing on different holding periods while avoiding time-related variables in the analytical solution of the derived effective tax rates. Second, where tax rates vary with the holding period, the method implicitly weights the different tax rates (avoiding the need to calculate different METRs for each holding period). It therefore gives a reasonable summary of the overall tax treatment where incentive effects vary with the holding period.

Incorporating the endogenous holding period into equation 1 gives:

$$V = -1 + \int_{n=0}^{\infty} \lambda e^{-\lambda n} \left[\int_{t=0}^n (R_t - T_t) e^{-\rho_H t} dt \right] dn \quad (3)$$

Setting $V=0$ and solving for ρ_H will yield an expression for the investor's after-tax nominal rate of return on the particular savings vehicle. The after-tax real rate of return of investing in a particular savings vehicle, s , given an inflation rate of π , is then:

$$s = \rho_H - \pi \quad (4)$$

The investment is assumed to earn a fixed real return, r . Consequently, the METR, t_e , is:

$$t_e = \frac{r - s}{r} \quad (5)$$

Further detail, including detailed asset-specific equations, are provided in OECD (2018a).

5.2. Non-neutrality between types of housing investment

A second non-neutrality of concern is within the housing market between different types of housing investment. As illustrated already in Figure 6, there is a non-neutrality between owner-occupied and rented property. Additionally, there can be a non-neutrality between debt- and equity-financed investment in housing, as well as between short- and long-term investments in housing.

5.2.1. Owner-occupied vs rented housing

Figures 8 and 9 illustrate the tax bias towards owner-occupied housing as compared to rented housing using the 2020 tax rules for Israel. Figure 8 presents METRs assuming the average- and high-income taxpayer opts for the 10% flat rate on gross rental income, while Figure 9 assumes the average- and high-income taxpayer deducts mortgage interest expenses and is taxed at the 31% marginal personal income tax rate on their rental income. In both cases, a low-income taxpayer is assumed to earn less than ILS 5 100 per month in rental income, and the income is therefore exempt.

In addition to equity-financed results, the results now also incorporate debt-financed results, as most housing investments include some degree of debt financing. The modelling approach adopted is again based on OECD (2018a). It assumes a fixed pre-tax real rate of return, and calculates the minimum post-tax real rate of return that will, at the margin, make the savings worthwhile.¹³ The analysis considers a saver choosing whether to finance a marginal investment in residential housing with either debt or equity. If they choose to finance with debt, they must pay the market interest rate on the debt (the final cost of which may be reduced due to tax deductibility of the interest payments on rental income). They can then also invest the equity that they had available in an alternative investment and derive a return. This alternative investment is assumed for simplicity to be bank account interest earning the same pre-tax return as must be paid in mortgage interest. (This simplifying assumption allows the analysis to isolate the impact of tax rules, rather than of differential interest rates). Results again exclude the *Arnona* under the assumption that it acts predominantly as a benefits tax (payment for local services), though as noted above this may not fully be the case in practice.

For both equity and debt financing, a clear bias in favour of owner-occupied housing is illustrated. METRs are higher for rented property because the rental income (for average- and high-income taxpayers) and capital gains (for all taxpayers) are taxed, whereas, for owner-occupied housing, imputed rental income is untaxed and capital gains (for low- and average-income taxpayers) are untaxed.¹⁴ Additionally for low- and average-income taxpayers, the transaction tax is applied for rental housing (as a second property) but not for owner-occupied housing (on the assumption that the property is purchased for less than ILS 1 744 505). This results in no taxation (except the *Arnona*) for low- and average-income taxpayers investing in equity-financed owner-occupied housing. Meanwhile, a high-income taxpayer investing in rented property is assumed to be subject to a higher transaction tax rate (8% instead of 5%), further increasing their overall METR.

¹³ This is a savings-focused approach. An alternative approach would be to treat the housing investment as a business that can be financed through either debt or equity, each of which requires a fixed return. Such a “cost of capital” approach is typically used in calculating corporate effective tax rates. Instead of fixing the pre-tax return, this approach would fix the after-tax return and calculate the pre-tax return necessary to generate it.

¹⁴ For debt-financed housing where the full declaration approach is adopted, the bias is partially countered by the deductibility of mortgage interest for rented property (for average- and high-income taxpayers).

5.2.2. Debt vs equity-financing

Figures 8 and 9 also show that, for owner-occupied housing, there is a bias towards equity financing, while Figure 8 shows an equity bias for both owner-occupied and rented housing. In Figure 8, this is because the interest costs of debt financing are assumed to not be fully covered by the alternative return made on the marginal shekel of savings. This is because mortgage interest payments are not deductible (whereas the alternative return on bank account interest is taxed at 15%). This is the case also in Figure 9 for owner-occupied property. However, for rental property, the impact varies. As a low-income taxpayer does not pay any tax on their rental income, they do not benefit from mortgage interest deductibility, and consequently the interest cost of debt financing increases the METR above that for equity financing. However, for average- and high-income taxpayers, who do benefit from mortgage interest deductibility, the results show a bias favouring debt-financing. This is because the alternative return on the marginal Shekel of savings, after 15% tax, is now assumed to generate a return greater than the cost of the mortgage interest payments, after the tax deduction for mortgage interest (with deductions assumed against a 31% marginal income tax rate for both the average- and high-income taxpayer).

It is important to note that these debt-financing results are highly dependent on the modelling assumptions made. The latter (debt-bias) result is driven by two factors – the (simplifying) assumption that the same pre-tax rate of interest is earned on the alternative investment as is paid on a mortgage, and that the tax rate on the alternative investment is less than the rate at which mortgage interest is deductible (15% vs 31%). In contrast, consider the more realistic case where there is a risk premium component to the mortgage interest rate, and so the mortgage interest rate is higher than the interest rate on the alternative investment. If the risk premium outweighs the tax saving on the alternative investment, then a positive financing cost will result and an equity bias will be present. If, instead, the tax saving on the alternate investment outweighs the risk premium, then there will be a debt-financing bias. Meanwhile, if the two equate – and so the post-tax mortgage interest cost equals the post-tax return on the alternative investment – then there will be neutrality between debt and equity financing.¹⁵

More generally, if a greater return can be generated from a housing investment than the cost of mortgage interest, then a taxpayer will have an incentive to leverage greater investment through debt financing. Tax concessions increase this possibility. In particular, the combination of concessionary tax rates on capital gains and mortgage interest deductibility can encourage such leveraged investment, as can allowing annual losses on rental property to be offset against other (e.g. labour) income (OECD, 2018a). Israel's tax settings (full taxation of capital gains on rented property, and non-deductibility of mortgage interest on owner-occupied property) minimise this possibility.

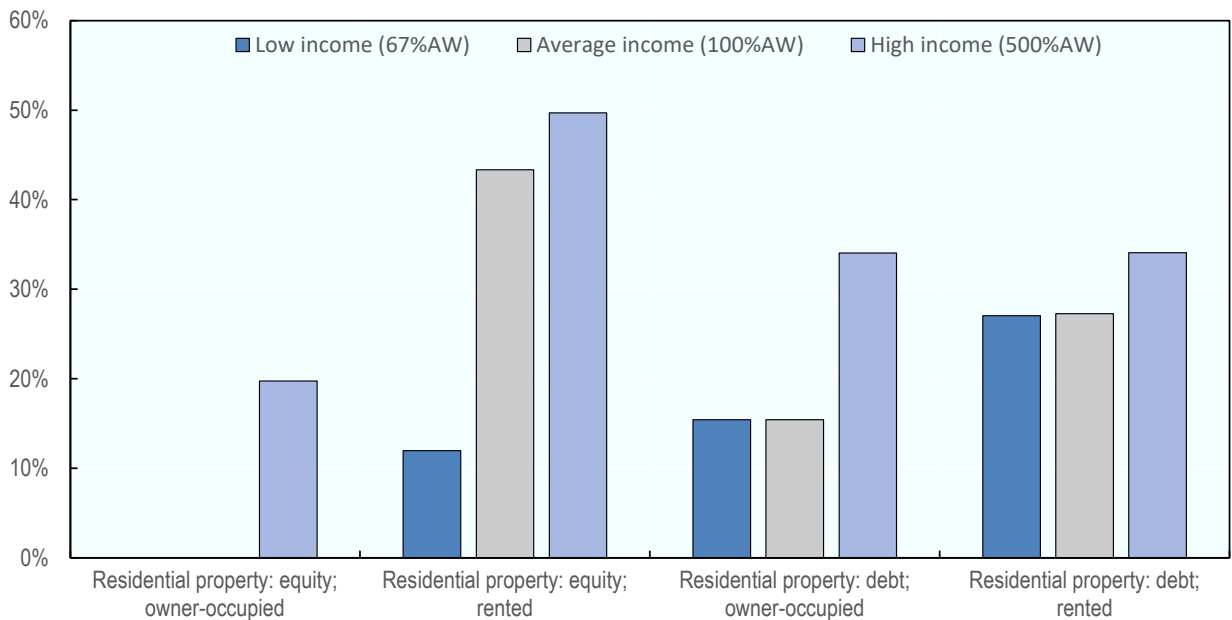
¹⁵ More specifically, a debt bias will result if the after-tax risk premium (the risk premium is also tax deductible as part of the mortgage interest deduction) outweighs the difference between the tax rate against which mortgage interest is deductible and tax rate on the alternative investment. If the risk premium is β , t_d is the tax rate at which mortgage interest is deductible, t_a is the tax rate on the alternative investment, r is the real return and π is inflation, then a debt bias will occur if: $\beta < ((t_d - t_a)/(1 - t_d))(r + \pi)$. If $\beta = 0$, then a debt bias occurs if $t_a < t_d$. Meanwhile, if $t_a = t_d$, then an equity bias occurs if $\beta > 0$.

Figure 8. METRs across housing scenarios – Israel (2020 rules, 10% flat rate on rental income)



Source: OECD Savings tax models

Figure 9. METRs across housing scenarios – Israel (2020 rules, full declaration of rental income)

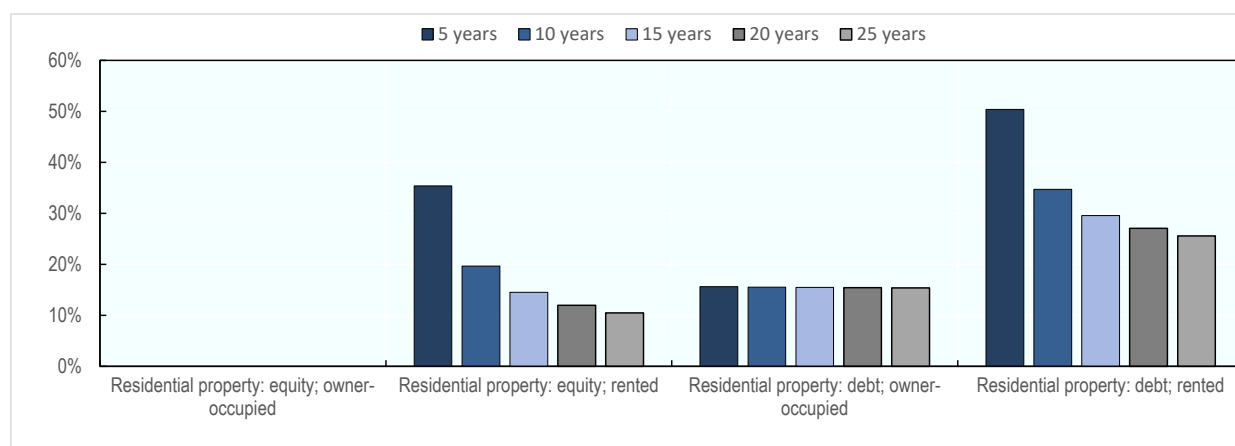


Source: OECD Savings tax models

5.2.3. Short vs long-term investment (holding period)

Another distortion created by the tax rules is between short- and long-term investment. While annual taxes on income and property value will have a constant impact on METRs, one-off payments such as transaction taxes and realisation-based capital gains taxes will have a varying impact on METRs depending on the holding period. A transaction tax will effectively be spread out over the life of the investment, resulting in lower METRs for longer holding periods. Meanwhile, a deferral effect will continuously lower the net present value of the capital gains tax as the holding period increases. The varying impact of the transaction tax and capital gains tax across holding periods is illustrated in Figure 10. The low-income taxpayer scenario is presented to focus on the impact of these two taxes.

Figure 10. METRs across different holding periods – Israel (2020 rules, low-income taxpayer)



Source: OECD Savings tax models

In the owner-occupied scenario, the METR does not change across holding periods. It is zero for equity financed housing as the low-income taxpayer pays no tax (other than the *Arnona*, which is again excluded from the modelling), while there is a positive financing cost in the debt-financed case that is constant across holding periods. In contrast, rented housing is liable to the transaction tax and capital gains tax (rental income is below the threshold, so exempt). Consequently, the METR falls substantially as the holding period increases. The impact of the transaction tax is particularly evident from the large fall in the METR as the holding period increases from 5 to 10 years: the burden of the transaction tax is effectively halved as it is spread over twice the number of years. The overall METR is always higher for the debt-financed than equity-financed case due to the positive financing cost, but the same decreasing pattern exists as the holding period increases.

Addressing the deferral benefit from capital gains taxation is challenging, particularly as moving to accrual-based taxation is not typically seen as practically implementable. Furthermore, in the current low-inflation environment this impact may also be of less concern to policy makers than if inflation rates were high. In contrast, the impact of the transaction tax can be seen to be substantial, irrespective of inflation, and warrants particular attention from policy makers. The transaction tax is examined in more detail now.

5.3. Discouraging transactions

As shown in section 4, Israel is not alone in imposing a transaction tax on property. Indeed, 30 out of 40 countries surveyed impose transaction taxes. Israel currently imposes higher transaction tax rates on second than first properties (if valued less than ILS 5 338 290), which is less common across the 40 countries.

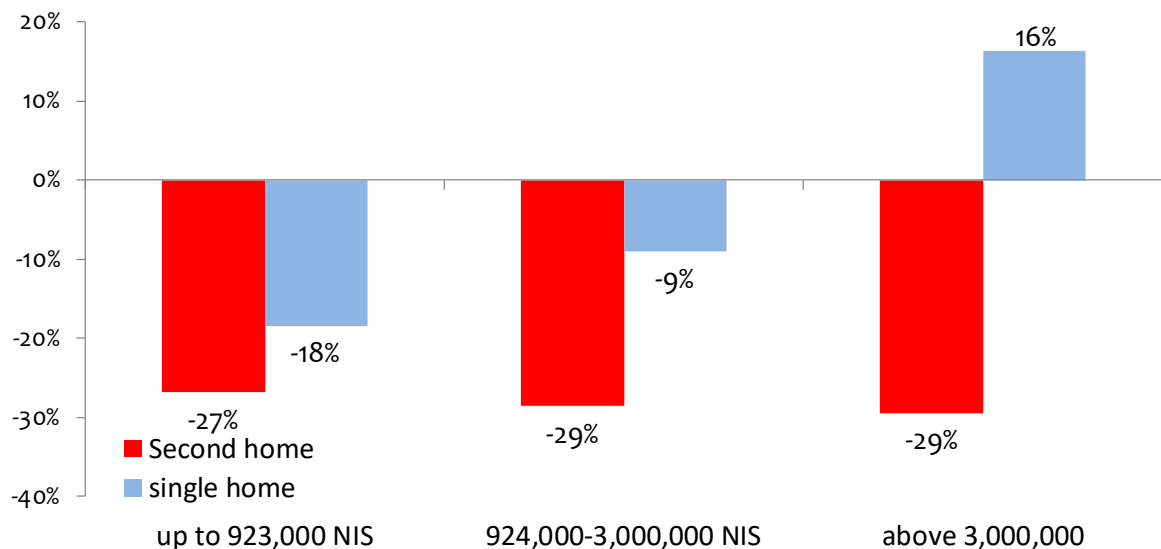
The prevalence of transaction taxes across the OECD is due, in large part, to their relative ease of administration and difficulty to avoid, particularly where property transactions require a registration process to conclude the legal transfer of ownership. That said, in some countries there remains a risk of under-declaration of sale prices to avoid the full extent of the tax.¹⁶

An additional potential benefit of transaction taxes is that they may have an impact on the volume of transactions, and hence may reduce volatility in house prices (Mirrlees et al., 2011). Furthermore, by disproportionately reducing the return on short-term speculative housing investment, they may also have a dampening impact on house price increases (OECD, 2021). This is of particular relevance in Israel, which has experienced significant house price appreciation and volatility over the last 15 years.

The transaction tax in Israel does appear to have had a dampening impact on housing transactions, although whether it has had a significant impact on house price volatility and price increases is less clear. Figure 11 shows the change in the number of residential property transactions between 2010 and 2011 when the transaction tax rates on second properties was increased. The rate on second properties was increased from 3.5% to 5% for a sale price up to ILS 923 000; 5% to 6% for a sale price between ILS 923 000 and ILS 3 million; and from 5% to 7% for a sale price above ILS 3 million.

Figure 11 shows a large fall in the number of second home sales following the reform, across all price categories. The reduction was significantly larger for second homes than first homes in the first two price bands, providing suggestive evidence of a dampening impact of the transaction tax increase. Interestingly, for the most expensive price band, there was a similar decrease in the number of second house sales, but an increase in the number of first house sales. This may be indicative of some taxpayers intentionally mischaracterising a second home as a first home in order to avoid the largest tax rate increase. In this regard, previous analysis has raised concern about the use of “straw buyers” (such as family members that did not own residential property) to evade tax in this way (OECD, 2020; Gruber, 2015).

Figure 11: Change in property transactions following 2011 transaction tax increase



Source: Israel Ministry of Finance

However, despite this dampening impact on house purchases, a transaction tax is unlikely to be the best policy tool to reduce house price volatility. In particular, previous OECD analysis suggests that there are

¹⁶ For example, this is a particular concern in India (OECD, 2017).

better policy tools available for addressing house price volatility. For example, drawing on house price data from 1980-2005 for a panel of 19 OECD countries, Andrews et al. (2011) found that, while higher transaction taxes were associated with lower house price volatility, the effect was modest in comparison to that of banking supervision. Indeed, prudential banking supervision and policies designed to contain the excessive build-up of leverage were shown to significantly reduce the extent of house price volatility. In this regard, they also found that tax relief for mortgage interest – which Israel provides – may also increase price levels and price volatility by encouraging leverage. More recently, Cournède et al. (2019) find that tightening loan-to-value (LTV) caps reduces the likelihood of severe downturns, though also results in slower recoveries and growth.

A transaction tax is also not the only option available to governments to dampen house price increases. For example, measures to reduce the constraints on housing supply currently faced by Israel will more directly target the underlying cause of house price appreciation than the imposition of a transaction tax. Prudential banking supervision measures may also impact price increases (as well as volatility). For example, Cournède et al. (2019) find that tightening loan-to-value caps has a dampening effect on house price increases. OECD (2021) highlights recent successful examples of Canada and Sweden in tightening loan-to-value regulations in order to cool their housing markets.

Furthermore, any tax on housing, not just a transaction tax, can be expected to have some dampening impact on house prices by lowering the return to housing investment, but may have less negative efficiency consequences. Indeed, the efficiency consequences of a transaction tax are likely to be large (see, e.g. Brys et al., 2016; Mirrlees et al., 2011). Like an income tax, a transaction tax will discourage investment, but unlike an income tax, a transaction tax will also discourage transactions. By discouraging transactions, a transaction tax results in inefficiency in not just the housing market, but also in the labour market.

Within the housing market, a transaction tax will discourage efficient trades, leading to a suboptimal allocation of the housing stock. For example, a transaction tax may discourage a retired couple from downsizing to a smaller house, or discourage a young couple from upsizing to a larger house to better suit their growing family. It may also discourage moves to a more preferable location. More generally, a transaction tax on housing can be thought of as constituting a tax on an intermediate input in the production of income (e.g. actual or imputed rent) in contravention of the well-known Diamond and Mirrlees (1971) production efficiency theorem. As a result, Brys et al. (2016) conclude transaction taxes to be both highly inefficient and damaging to economic growth.

By reducing mobility, a transaction tax will also lead to inefficiency in the labour market by affecting the job-matching process. Homeowners may, for example, be less willing to move to another town to take up a better employment opportunity because of the increased cost of relocation due to the transaction tax (OECD, 2021; Brys et al., 2016). In this regard, recent OECD analysis based on household-level microdata finds that higher housing transaction costs, including from transaction taxes, are associated with lower residential mobility, particularly amongst younger households (Causa and Pichhelmann, 2020). This confirms earlier research on the impact of transaction taxes on mobility.¹⁷

In light of such concerns, a number of countries have reduced transaction taxes in the last decade. For example, the United Kingdom removed their transaction tax (stamp duty) for first-time homebuyers on properties with a purchase price of GBP 300 000 or less in November 2017. In 2014, Australia's ACT region, reduced transfer duties while increasing land taxes. In the 2011-13 period, Ireland reduced its transaction tax (stamp duty) from 9% to 1% on properties with a purchase price up to EUR 1 million, and 2% for higher purchase prices, while increasing recurrent taxes on property. Meanwhile, in 2012, the Netherlands lowered its transaction tax from 6% to 2%.

¹⁷ See Hilber and Lyytikäinen (2017) for a brief summary of previous empirical research on the impacts of transaction taxes.

An important mitigating factor in Israel is the fact that the zero rate band for first home buyers significantly reduces the number of first home buyers that pay the transaction tax. For example, Table 5 shows that, in 2017, 65% of first home buyers were within the zero rate band. Nevertheless, the distortions remain for taxpayers purchasing more expensive homes.

Table 5. Proportion of first house buyers in each transaction tax bracket, 2017

Tax rate (marginal)	Apartment price (ILS)	% of first home buyers
0%	Less than 1 623 320	65.7%
3.5%	1 623 320 - 1 925 460	14.9%
5%	1 925 460 - 4 967 445	18.9%
8%	4 967 445 - 16 558 150	0.54%
10%	16 558 150+	

Source: Israel Ministry of Finance

5.4. Equity considerations

A further concern relates to the equity implications of some aspects of the current tax rules for housing in Israel. These relate to the underlying asset holdings of households and their correspondence with tax rates; the provision of mortgage interest relief to high-income owner-occupiers; the application of a fixed rate of taxation on rental income; and the area-based design of the recurrent property tax.

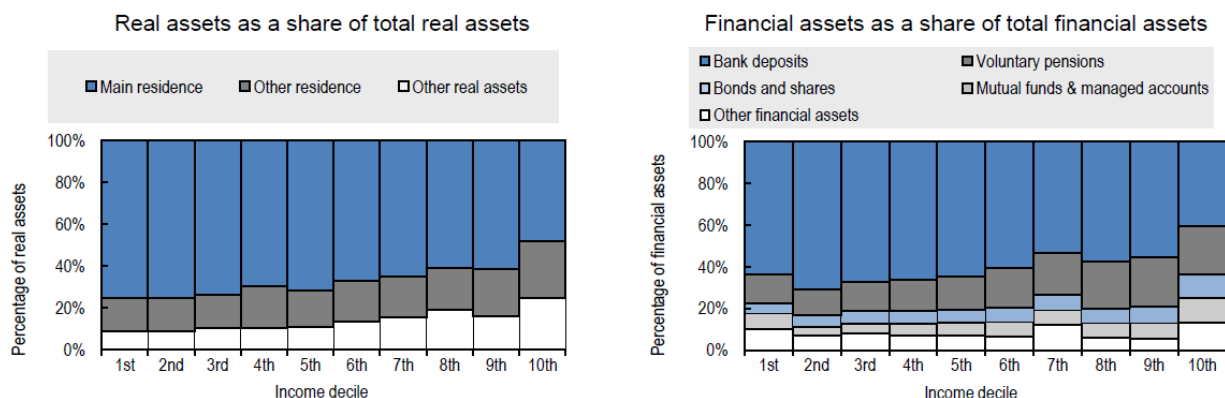
5.4.1. Asset holdings

The differential taxation of different assets – including different housing assets – raises equity concerns in addition to the efficiency concerns discussed above. This is because different households tend to hold different compositions of assets. The concessionary tax treatment of owner-occupied housing therefore also raises equity concerns as a household investing more in owner-occupied housing will be taxed less heavily than a household investing in rental housing or in other financial assets such as bonds, shares, or in a bank account.

While asset holdings data is not available for Israel, typical varying patterns of asset holdings are illustrated across 18 European countries in Figure 12. The exact distributional impact of the concessional taxation of owner-occupied housing is complicated. As Figure 12 shows, lower income households tend to hold a greater share of their real assets in owner-occupied housing than higher income households, thereby resulting in a disproportionate benefit accruing to low- and middle-income households from the concessionary taxation.¹⁸ However, higher income households typically still hold greater aggregate amounts of owner-occupied housing than other households (they own larger, more valuable homes), and so will still benefit to a greater extent from the tax concession in aggregate terms. Furthermore, the poorest of households do not hold any housing assets at all, and so receive no benefit from the concessionary tax treatment of owner-occupied housing. Overall, the concession can arguably be considered most favourable to middle-income households, but to also be a poorly targeted mechanism to support distributional goals in light of the greater aggregate benefit received by higher income households.

¹⁸ Real assets make up approximately 87% of the total asset holdings of households, on average, across the 18 countries. Within this, higher income households tend to hold a higher share of financial assets than lower income households.

Figure 12. Asset holdings of households – average across 18 European Countries



Note: The above shows the average for Austria, Belgium, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Slovenia, and Spain.

Source: OECD (2018a)

More broadly, neutrality across all assets would aid distributional goals. For example, Israel fully taxes interest on bank deposits, which are a disproportionate amount of poorer households' financial assets, but provide concessionary treatment to pension funds which are disproportionately held by richer households (both in proportionate and aggregate terms).

5.4.2. Mortgage interest concessions

Unlike many OECD countries, Israel does not directly provide mortgage interest relief on debt-financed owner-occupied housing. This is appropriate in light of the heavily tax-favoured nature of owner-occupied housing, with no taxation of imputed-income and no taxation of capital gains less than ILS 4.5 million. Provision of mortgage interest relief in such a case would simply further exacerbate the degree of concessionary taxation. In contrast, mortgage interest deductions are allowed on rental property (when elected) because the corresponding income (including capital gains) are fully taxed.¹⁹ These are sensible policy settings and should be retained.

In addition, though, Israel does allow tax relief for mortgage interest to owner-occupiers that earn capital gains above the ILS 4.5 million threshold. The value of this concession is lower than that which would be received if mortgage interest was annually deductible, as only the nominal value can be deducted against the capital gains tax liability. Nevertheless, the degree of taxation they face is still low in comparison to what they would be subject to on an investment in rental property, and, as such, the case for providing this deduction is weak. It also counters the beneficial impact of applying the capital gains tax to higher income taxpayers and thereby reducing the distortion favouring owner-occupied housing.

5.4.3. Rental rules

The 10% fixed rate option for taxation of rental income also raises equity concerns. Given a 31% rate on most taxpayers' capital income, the 10% rate assumes that gross income is approximately three-times taxable income (where taxable income is defined as gross income less deductible expenses). However, if this ratio varies across taxpayers, this will then result in differential taxation. In particular, if higher income taxpayers have access to housing investments generating higher than a 3% gross return (e.g. due to information asymmetries), but with costs still equal to 2%, then their effective tax rate will be lower than

¹⁹ Although there is still a deferral benefit accruing from the realisation based taxation of capital gains. But many other countries provide concessionary rates for capital gains, in addition to the deferral benefit, which can lower the effective tax burden to a far greater extent (OECD, 2018a).

that of a taxpayer receiving a 3% return. In contrast, requiring all taxpayers to declare their income and deduct expenses will result in equivalent taxation of all taxpayers on the basis of their taxable income.

Furthermore, the 10% rate approach, effectively assumes a constant path of income and expenses over the life of the investment. However, there is likely to be a large difference between the expenses incurred in the early years of a debt-financed housing investment (when mortgage interest expenses will be high) and in later years (when interest payments are lower). The 10% rate option may therefore over-tax investors in early years (in which case they would instead elect to declare their income and expenses), and under-tax them in later years. Further analysis should be undertaken to determine actual gross and taxable returns from rental property to better determine the potentially concessionary degree of taxation that results for some taxpayers.

5.4.4. Area-based design of the recurrent property tax

Israel is a considerable outlier amongst OECD countries in applying the recurrent property tax on the basis of area as opposed to property values. As discussed in OECD (2019), the primary problem with an area-based tax is that it is likely to be a poor proxy for a taxpayer's ability to pay, and may therefore conflict with equity goals. Consider, for example, two apartments of identical area in square metres, but one on the ground floor and the other on the top floor of a large apartment building. The apartment on the top floor will likely be valued at significantly more (and generate a higher imputed or actual return) than the ground floor apartment. However, this greater value (and return) will not be taken account of in determining the tax due. As a result, recent OECD analysis (OECD, 2020, 2019) has recommended moving from the current area-based system to one based on market values. This reform option is discussed in more detail in Section 6.

5.5. Complexity and risk of abuse

An additional concern regarding the taxation of rental income is the complexity associated with the regime, which requires taxpayers to make a determination as to which of the three options will be preferable for them. Part of the rationale for offering the exemption and simplified 10% rate options is to reduce compliance costs. However, the provision of options and consequent need to choose the most appropriate option creates a compliance cost in itself, thereby reducing the gain associated with the exemption and simplified 10% rate options, yet still creating efficiency, fairness and abuse concerns.

For a taxpayer subject to the 31% tax rate on capital income, if their deductible expenses constitute more than two-thirds of their rental income then they will be better off declaring and paying the 31% rate on their taxable income. In contrast, if their expenses are less than this amount then they will be better off paying the 10% rate on their gross income. This decision will need to be reconsidered every year, particularly for debt-financed investment where the level of expenses will vary over time as noted above.

If a taxpayer has rental income below the ILS 5 100 exemption threshold, then they will prefer to claim the exemption. However, a large concern with the provision of the exemption option is that it provides opportunities for abuse. Indeed, many taxpayers earning rental income above the ILS 5 100 threshold appear not to be reporting their rental income (OECD, 2020; Horesh, 2019; Levi-Weinrib, 2017). Some taxpayers may not be fully aware of the tax rules, while others appear to be deliberately flouting them. Either way, revenue is being lost. The problem is exacerbated by the lack of any reporting requirement – which makes detection of both error and evasion more difficult. The existence of the exemption may also embolden some taxpayers to evade tax on the basis that they can “plead ignorance” to the tax authorities if caught, potentially avoiding harsher penalties. Indeed, the recent experience of the Tax Authority has been for many audited taxpayers to claim ignorance of their tax obligations for income above the threshold. Removing the exemption entirely would eliminate the ability of taxpayers to plead ignorance.

As noted above, an additional area of potential abuse is in relation to the transaction tax on second properties and the potential for taxpayers to intentionally mischaracterise a second home as a first home through the use of a “straw buyer” in order to avoid the higher tax rate.

5.6. Capital gains tax rules for previously vacant land

Following Israel’s capital gains tax reform in 2014, a linear approximation has been utilised to determine the proportion of the capital gain on a residential property that should be considered as accruing post-2014 and therefore subject to capital gains tax. However, the current rules also apply to land purchased pre-2014, but where a house has been built post-2014. In such a case, the majority of the capital gain can be expected to have accrued post-2014, yet some of the gain is able to be apportioned to earlier, non-taxable, years. This effect would be particularly the case for long-held vacant land. To address this anomaly, Israel should consider fully applying the post-2014 capital gains tax rules to such properties.

5.7. Urban renewal and the efficient use of land

As already noted, a key concern in Israel is increasing the supply of housing. Urban renewal is a key part of the Israeli government’s attempts to increase the supply of housing in densely populated central areas such as Tel Aviv and Jerusalem. Consequently, in 2016, the Government Authority for Urban Renewal was created to work with local governments to plan and promote urban renewal projects in built urban areas. Urban renewal projects include both the renovation (and extension) of existing buildings and demolition/reconstruction, as well as complementary infrastructure work. In addition to increasing housing supply, urban renewal projects also aim to increase the resilience of residential buildings and infrastructure to natural disasters (e.g. earthquakes) and security threats (Government Authority for Urban Renewal, 2021).

A difficulty currently faced in progressing Israel’s urban renewal plans relates to the challenges associated with collective decision making. For example, for an urban renewal project to proceed, it typically needs 80% of the property owners in the approved area or building to agree to exercise the building rights they have been provided under the associated urban renewal plan. In many cases, this 80% threshold is not met, and consequently opportunities to increase housing supply are lost. There is therefore merit in considering options to improve incentives for owners to exercise the building rights they have been provided, while at the same time respecting ownership rights and equity considerations.

More generally, efficiency concerns arise when any land is not put to its most productive use. In densely populated residential areas this is indeed likely to be housing, but in other cases it could be commercial or some other use. Inefficient land use may also occur, for example, where investors hold vacant land for speculative purposes. Meanwhile, efficiency concerns also arise when there are negative external effects from land use. For example, urban sprawl may result in increased commuting and pollution, as well as the inefficient use of infrastructure.

The tax system can play a role in incentivising the efficient use of land, including through urban renewal. In particular, application of a recurrent property tax based on market value, rather than Israel’s current area-based approach, would improve incentives to maximise the return generated from the land so as to cover the tax cost. Applying a recurrent tax purely on the market value of land would further incentivise efficient land use by encouraging greater investment in capital improvements. Alternatively, a split-rate recurrent property tax (e.g. as applied in Finland and some US states) could be adopted, with a higher rate applying to land than to improvements. As with a pure land tax, a split-rate design would encourage greater investment in capital improvements, but still generate tax revenue from taxing the value of improvements. A split-rate design may also act to discourage urban sprawl.²⁰ A pure land tax or split-rate tax would, however, create the added complexity of having to distinguish between the value of land and of

²⁰ See OECD (2018b) for a discussion of the impact of property taxes on urban sprawl.

improvements. Finally, a tax on vacant land (e.g. as applied in Belgium) can be used to encourage vacant land to be efficiently utilised.

6. Reform options and recommendations

This section presents a set of reform proposals to address the concerns highlighted in the previous section, and to more generally improve the system of housing taxation in Israel. It draws on both the preceding analysis in this paper, as well as on the detailed analysis and recommendations regarding the recurrent property tax (*Arnona*) provided by the OECD in 2019 (see OECD, 2019).

The heart of the proposed reform package is a broadly revenue-neutral shift away from transaction taxes towards recurrent taxation of residential property, through increases in both the recurrent property tax and rental income taxation. The key reform proposals are summarised here, and discussed in more detail in the remainder of the section.

Key reforms for Israel to consider implementing:

- Gradually remove the transaction tax applying to both first and second properties in order to remove the distortionary impact on both housing and labour markets. To moderate any short-term impacts on property prices, this reform should be gradually implemented over a number of years, and not be fully implemented until the revenue-raising reforms noted below to the recurrent property tax and rental income taxation have been implemented.
- Increase the recurrent property tax rate on residential property to compensate for the loss of revenue from the removal of the transaction tax.
- Reform the recurrent property tax for both residential and commercial property so that the base is the current market value of the property, and ensure that property values are regularly updated.
- Apply a single method of taxation to rental income, requiring all income and expenses (including mortgage interest payments) to be declared, and taxing returns at the taxpayer's marginal personal income tax rate.
- Lower the threshold for application of the capital gains tax rate on an owner-occupied home, and remove the ability for mortgage interest payments to be deducted against this capital gains tax liability.
- Fully subject to the post-2014 capital gains tax regime any gain made on a property initially purchased as vacant land prior to 2014 but on which residential accommodation has been constructed post-2014.
- As an interim measure until the proposed reforms to the *Arnona* have been implemented, consider applying a very low annual penalty tax on residential property owners that choose not to support a government approved urban renewal project covering their property. In the long-run, consider also the merits of adopting a split-rate *Arnona* where a higher tax rate is applied to land than to improvements.

In addition to these key recommendations, the section also discusses a number of additional reform options for Israel to consider that may be appropriate depending on the policy priorities of the government.

6.1. Removing the transaction tax

As highlighted in section 5, the transaction tax is a highly inefficient tax creating distortions to both the housing market and the labour market. At the same time, it does raise significant revenue, while potentially having some dampening impact on house prices and house price volatility.

One option for reform would be to remove the transaction tax on just the first home, as this would eliminate the distortion to labour mobility, but still act as dampener on speculative transactions of second properties. However, by increasing the differential between taxation of first and second properties it would likely also increase the degree of tax evasion via straw buyers. As noted in section 5, there are already significant concerns regarding evasion with the current differentials.

Furthermore, the case for using a transaction tax to dampen house price increases and volatility is weak, as empirical evidence shows that other regulatory measures are more effective at addressing such concerns. Furthermore, while recent house price increases (which all taxes can be expected to impact) have been greater in Israel than the OECD average, house price volatility (which transaction taxes are likely to have a greater impact on as compared to other housing taxes) is significantly lower than the OECD average.

A second option would simply be to align the rates for first and second homes in order to eliminate the incentive to evade the higher rates on second homes. In addition to minimising evasion, this would maintain dampening pressure on house prices and ensure the tax continued to raise significant revenue. However, it would not address the significant distortions to both the housing and labour markets.

The most preferable solution would instead be to remove the transaction tax on both first and second properties. This would remove the current distortions to both the housing market and labour market, as well as eliminating current concerns regarding a rate differential. The resulting revenue loss can be made up through the proposed increases in the recurrent property tax and rental income taxation. To moderate any short-term impacts on property prices, this reform should be gradually implemented over a number of years, and should not be fully implemented until the revenue-raising reforms to the recurrent property tax and rental income taxation have been implemented.

As noted by Mirrlees et al. (2011), the removal of a transaction tax creates a windfall gain to existing owners because the costs are likely to have been largely capitalised into prices. However, in the context of the broader reform being proposed, it is likely that the windfall gains from removal of the transaction tax will be at least partially offset by losses as a result of the increases in recurrent property taxation and rental income taxation (assuming these are to some extent capitalised into prices). Nevertheless, this strengthens the case to phase out the transaction tax over several years to reduce the immediate impact.

6.2. Increasing the recurrent tax on residential property

As noted earlier, the OECD has recently undertaken a review of Israel's recurrent property tax, the *Arnona* (OECD, 2019, "the *Arnona* report"). The reform proposals presented in this report therefore draw and build on that analysis. The *Arnona* report presents a number of policy recommendations, the majority of which are focused on improving the existing *Arnona* system, while several focus on more fundamental reform. These recommendations are summarised in Box 2. Two of the recommendations are of particular importance with regard to producing a coherent reform package for the taxation of housing as a whole in Israel. These are:

- Reducing the large disparity between non-residential and residential *Arnona* rates.
- Establishing a value-based system of property taxation.

This section builds on the first of these recommendations, while the subsequent section focuses on the second recommendation.

Box 2. OECD recommendations for reform to the *Arnona*

Policy recommendations for *improving* the *Arnona* system:

- **Reduce the large disparity between non-residential and residential *Arnona* rates by reducing non-residential rates.** The government should reduce the ratio of non-residential rates to residential rates by mandating reductions in non-residential *Arnona* rates. As the reduction of *Arnona* rates will reduce the tax revenue available to local governments, it is only feasible if combined with policies to replace lost *Arnona* revenue.
- **To help replace *Arnona* revenue, develop alternative sources of local government revenue.** Local governments should consider raising revenue through the use of tourist taxes, parking taxes, taxes on ride-sharing service, and license taxes on various local activities.
- **Increase and reform the central government fiscal transfers in support of the major delegated functions-education and social welfare.** Grants for education and social services should be in the form of block grants, without matching requirements. These grants should fully cover the costs of meeting the education and social welfare standards set by the central government.
- **Improve the *Arnona* by (1) standardizing the classification of types of property across the country; (2) establishing a uniform national system for measuring taxable area; (3) addressing the problems created by the current system of *Arnona* exemptions and discounts; (4) allowing a limited degree of rate setting by local governments; and (5) assisting local governments in increasing their *Arnona* collection rates through the provision of training, technical assistance, and capital grants for the modernisation of local governments' computer systems.** These policies should improve the effectiveness, fairness, and efficiency of the *Arnona* system prior to undertaking more substantial reforms.

Policy recommendations for *reforming* the *Arnona* system:

- **Establish a value-based system of property taxation for all non-residential property.** Both fairness and economic efficiency will be enhanced by converting the non-residential *Arnona* into a tax based on the market value of property. The transition to a value-based system will be relatively straightforward, in part because much of the data needed to calculate market values are already available in the form of information that businesses must use to comply with existing taxes.
- **Establish a value-based system of residential property taxation.** The transition to a value-based property tax system will increase the vertical and horizontal equity of the *Arnona*. Recently developed techniques for property assessment combined with new technologies will greatly reduce the costs involved in determining the value of residential property. Lessons gained from establishing a value-based non-residential *Arnona* will facilitate the establishment of a reformed residential *Arnona*.

Source: OECD (2019)

As emphasised in both the *Arnona* report and the recent OECD Economic Survey of Israel (OECD, 2020), the rate differential in the *Arnona* currently creates incentives for municipalities to favour commercial over residential development. Local authorities generate significant revenue from commercial property due to commercial *Arnona* rates that can be as much as 11 times higher than residential property rates (OECD, 2017). Not only are rates on residential property much lower, but additional residents require higher expenditures on municipal services (and infrastructure), meaning that, overall, local authorities make a net loss when zoning land as residential. Consequently, local authorities are incentivised to zone land as commercial rather than residential.²¹

This has led to an oversupply of land zoned for commercial or industrial use with, in many cases, land remaining largely empty (OECD, 2017). Meanwhile, the negative impact on the supply of new residential housing has contributed to the significant house price increases Israel has faced in recent years and the consequent lack of housing affordability, particularly for lower-income groups.

Reducing the disparity between the non-residential and residential *Arnona* rates is consequently a key priority. When considered in isolation, the *Arnona* report proposed to reduce the disparity predominantly through a reduction in the commercial *Arnona* rate. However, the disparity could also be addressed through an increase in the residential rate, or through an increase in the residential rate and a decrease in commercial rates. In the context of the broader reform to housing taxation considered in this report, increasing the rate on residential property is the preferable option as part of the broader reform away from transaction taxes towards recurrent taxes.

6.2.1. *Moving from transaction taxes toward recurrent taxes on immovable property*

While transaction taxes are highly distortionary, recurrent taxes on residential property are a comparatively efficient source of tax revenue. This is because the tax base – typically land and improvements – is highly immobile, and consequently there will be limited behavioural response to the tax. This is particularly the case for land, which is in fixed supply. Indeed, a pure land tax would be more efficient than a tax on land and improvements, but would create practical difficulties in terms of separating the value of land from improvements. Furthermore, a recurrent tax on residential property may act to some extent as a “benefits tax”, in that it may be seen as a (partial) payment for local public goods, and therefore be less distortive than a pure tax. Recurrent taxes are also difficult to evade due to the highly visible nature of immovable property, and can also contribute to more efficient land usage.

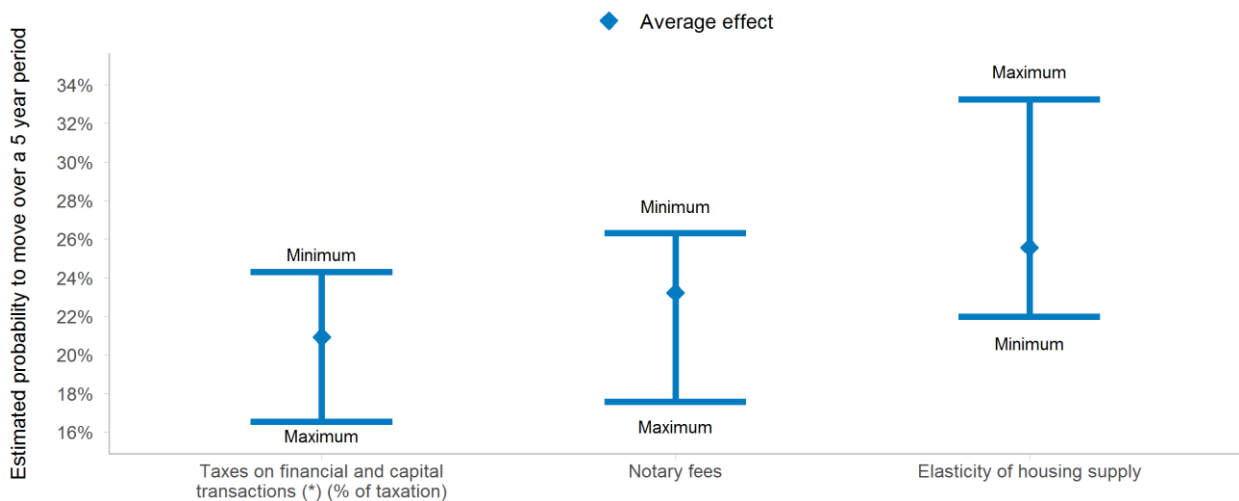
This is supported by previous OECD empirical analysis that has found a shift in the tax mix towards recurrent property taxes to be pro-growth (Cournède et al., 2018; Johansson et al., 2008). Furthermore, recurrent taxes on residential property were found to have less adverse effects on growth than those levied on commercial property (Johansson et al., 2008). This is also consistent with theory in that a tax on commercial property is effectively a tax on an intermediate input which is inefficient as shown by Diamond and Mirrlees (1971).

More recently, Causa and Pichelmann (2020) find that, in addition to making the tax system more efficient, a shift away from transaction taxes towards recurrent taxes would increase residential mobility. They also find that increasing the responsiveness of housing supply – which reducing the discrepancy between residential and commercial *Arnona* rates would aid – would also improve labour mobility (see Figure 14). Drawing on Causa and Pichelmann (2020), OECD (2021) recommends countries consider moving from transaction taxes to recurrent taxes to reduce impediments to labour mobility. In light of the employment

²¹ OECD (2020) also notes that municipalities are likely to prioritise developments that are attractive to high-income earners, rather than those attractive to poorer households, students and the elderly, who may require higher spending and can also receive tax concessions that further reduce *Arnona* revenue. This can be seen, for example, in the shrinking proportion of small apartments amongst new builds. Indeed the share of apartments with three rooms or less has fallen from over one-third of all new dwellings in the 1980s, to only around 10% today.

challenges faced due to the COVID-19 pandemic, reducing disincentives to move from low-employment to high-employment areas may be more important than ever. Additionally, as part of a broadly revenue neutral reform, imposition of the same broad degree of taxation on housing will continue to maintain dampening pressure on house prices.

Figure 14: Shifting from non-recurrent to recurrent housing taxation, reducing notary fees and the rigidity in housing supply



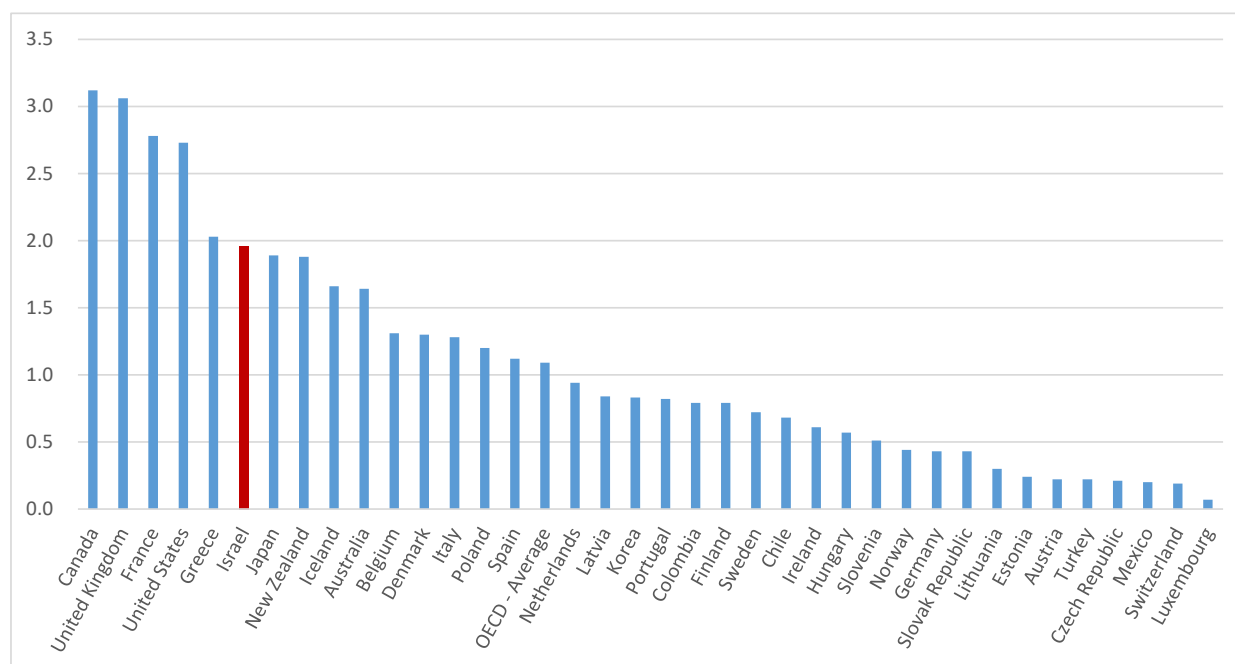
Note: The diamond is the average estimated probability to move evaluated at average policy and household characteristics. The distance between the Min/Max and the average is the change in the estimated probability associated with a policy change.

Source: Calculations presented in OECD (2021), based on estimates reported in Causa and Pichelmann (2020).

Compared to other OECD countries, Israel already raises a significant amount of tax revenue from recurrent taxes on immovable property (Figure 15). However, a substantial component of this revenue is from commercial property, leaving significant scope to increase taxes on residential property. Detailed costings would need to be undertaken to determine the appropriate post-reform levels of the *Arnona* to ensure revenue neutrality taking account of the lost revenue from the transaction tax and revenue gained from increased taxation of rental income.

A complicating factor with such a reform in Israel, as in many other countries, relates to revenue sharing across levels of government. The transaction tax is a central government tax, whereas the *Arnona* is a local government tax. Consequently, adjustments would need to be made in revenue sharing relationships between central and local governments. While complicated, there is no reason that such adjustments cannot be made. Discussion in further detail of revenue sharing arrangements and funding of local government is beyond the agreed scope of this report. A further issue beyond the specific scope of this report is the complexity associated with the current structure of commercial property rates. Further discussion is provided in the *Arnona* report, but there is a clear case for simplification here.

Figure 15: Recurrent taxes on immovable property as % of GDP, 2017



Source: OECD Revenue Statistics Database

6.3. Moving to a value-based system of recurrent property taxation

In the context of the broad reform package proposed here, the second crucial reform highlighted in the *Arnona* report is for Israel to move to a value-based system of property taxation. As noted in section 5, the key benefit of moving to a value-based system is that it will better achieve equity goals. It is therefore particularly important in the context of the proposed increases in the *Arnona* on residential property, as otherwise such increases may exacerbate the inequities present in the current *Arnona* system. While improving equity, moving to a value-based system will, necessarily, alter the tax liabilities faced by different households. Particular care should therefore be taken to ensure, for example, that cash flow concerns do not arise for lower-income taxpayers.²²

As noted in Section 5, Israel is a considerable outlier amongst OECD countries in not applying the recurrent property tax on the basis of property values. Moving to a value-based system will better achieve equity goals because the market value of a property will more closely match the ability to pay of taxpayers than the area of a property. It is also important that property values are regularly updated to ensure they reflect current market values. Otherwise, overtime inequities can again arise as property values in different areas may diverge over time, while improvements affecting values will be made to some properties but not others.

In addition to the equity gains, a move to a value-based system will also improve efficiency in the housing market. This is because an area-based system will encourage some households to make sub-optimal housing choices – such as living in a smaller apartment than would otherwise be optimal in order to avoid the tax.

While a value-based system is more costly to administer than an area-based system, the equity and efficiency gains of a movement to a value-based system will undoubtedly outweigh these additional costs.

²² Additional mechanisms can also be employed as discussed in the *Arnona* report to address equity concerns, including concessions for low-income groups, and allowing deferral of payment for low-income taxpayers until sale of the property or death so as to address cash flow concerns.

Furthermore, modern property valuation techniques have substantially reduced the administrative costs of such systems. Rather than the administrative costs, it is administrative capacity that can restrict the adoption of a value-based system. Indeed, area-based systems are often adopted in countries with less regulated property markets and limited tax administration capacity. However, given Israel's well-functioning and regulated property market, and considerable tax administration capacity, there is little case for maintaining the current system.

6.4. Simplifying the taxation of rental income

The analysis in section 5 showed the current tax rules for rental housing to be complex, to favour some taxpayers over others, and to be subject to abuse. To address those concerns, and to raise further revenue to fund the repeal of the transaction tax, it is proposed that Israel move to a single system of taxation of rental income based on the declaration and taxation of all rental income after deduction of expenses at marginal passive income tax rates. Essentially this is application of the current tax declaration option, and repeal of the tax exemption and 10% rate on gross income options.

This approach will be simple as it no longer requires taxpayers to determine the most appropriate tax option for them in each year. While this will increase reporting requirements for many taxpayers earning rental income, this is standard practise in most OECD countries for taxpayers earning rental income. Furthermore, by requiring declaration of rental income and removing the exemption for rental income less than ILS 5 100 per month, it will substantially reduce both unintentional non-reporting and (intentional) tax evasion. Requiring all taxpayers with rental income to report will also increase the ability of the tax administration to undertake audit activity. It will also increase fairness as it will ensure that all taxpayers are taxed on their taxable income (gross income less deductible expenses) at their corresponding marginal tax rates, rather than on an approximated basis that applies lower effective tax rates to taxpayers earning higher rates of return.

Finally, it will raise significantly more revenue than under the current system. This is both due to the removal of the exemption, and due to the consequent decrease in evasion. The current rules bring in approximately ILS 950 million of tax revenue on rental income (in 2020). The Ministry of Finance has estimated that, even if the exemption remained in place, full compliance with the current system would roughly double this amount. Removal of the exemption will further increase the revenue generated. As noted above, detailed costings will need to be undertaken regarding the revenue impacts of each aspect of the reform and in order to ensure the overall reform is broadly revenue neutral.

6.5. Reducing the bias towards owner-occupied housing

Section 5 illustrated in detail the tax bias distorting savings decisions towards owner-occupied housing, and away from rented housing (including non-rented second houses) and other financial assets more generally. It also highlighted that this bias is common across OECD countries. This reflects a number of factors. First, it is both conceptually and politically difficult to apply a tax to imputed rental income as it is not evidenced in an actual market, while there are often also political difficulties in applying capital gains taxes to owner-occupied property. Second, there are various reasons why governments may wish to encourage home ownership. For example, it may be seen as a way to encourage long-term savings, similar to tax relief for private pensions, which is particularly important in light of aging populations in many countries and concerns regarding the sustainability of social security systems. Additionally, increased home ownership may be seen to provide certain social benefits (see, for example, Engelhardt et al., 2010). The efficiency gains from moving to a more neutral tax system must be weighed against any such benefits considered to be derived from homeownership in determining the extent of any reform.

At the extreme, fully taxing imputed rental income and capital gains from owner-occupied housing would eliminate the bias. Given the likely political difficulty in implementing a tax on imputed income, we do not

propose such a reform. Indeed, only four OECD countries tax imputed rental income, and they do so at highly concessionary rates. However, there are alternative options available to reduce to some extent the disparity in tax treatment.

First, Israel already taxes some capital gains on owner-occupied housing. Not only does this reduce the bias toward owner-occupied housing for taxpayers investing in large houses with large expected capital gains, but it also increases the degree of progressivity in the system. However, it currently only applies to very large gains (in excess of ILS 4.5 million). Israel should consider lowering this threshold, for example, to ILS 3 million, which would still exclude the majority of homeowners.

To further reduce the distortion favouring owner-occupied property, Israel should also consider removing the ability of taxpayers to claim mortgage interest payments against capital gains tax. Given that the related income – imputed rental and the majority of capital gains – are still predominantly untaxed, this simply acts to reduce the beneficial impact of the taxation of capital gains.

A further possibility to consider is to apply a higher rate of recurrent property tax to owner-occupied properties to compensate for the non-taxation of imputed rental and capital gains. This is not proposed currently given it would add complexity to what is already required to be a significant reform to the *Arnona*. However, it warrants consideration in the longer term.

6.6. Capital gains tax rules for previously vacant land

The application of the current capital gains tax grandparenting rules to properties where houses were built post-2014 on previously vacant land purchased pre-2014, is likely to provide a significant and unintended tax concession to owners. While attempts could be made to more accurately estimate the proportion of capital gain relating to the vacant land prior to 2014, the vast majority of the gain can be expected to have accrued post-2014. As such, a pragmatic solution would be to simply apply fully the post-2014 capital gains tax rules to such properties. Owners could potentially be given a period of notice – e.g. 12 months – before the change came into effect to give taxpayers the option to benefit from the existing provisions.

6.7. Urban renewal and efficient use of land

Urban renewal is another important policy objective of the government, particularly in order to increase the supply of housing in densely populated parts of the country, such as Tel Aviv and Jerusalem. More generally, tax settings that encourage the efficient use of land can both increase the supply of housing and the density of housing in high-demand areas, and thereby decrease urban sprawl (and its associated costs).

A current impediment to efficient land use in Israel is the area-based design of the *Arnona*, which provides less incentive to invest in capital improvements and put the land and buildings to their most effective use than a market value-based recurrent property tax. The proposed move to a market value-based *Arnona* will therefore encourage more efficient land use. To further incentivise efficient land use, Israel could also give consideration to the application of a split-rate structure to the *Arnona*, with a higher rate applying to land. This tax could also be levied on vacant land.

As noted above, it is likely to take time to implement the major reforms required to the *Arnona*. Therefore, Israel may wish to consider possible interim options to incentivise more efficient land use, particularly in densely populated areas. Importantly, incentivising investments that increase housing supply will only be effective where planning rules do not constrain residential development. Therefore, one such option could focus on the Government's urban renewal project, under which a number of local governments have approved master plans that give building rights to certain areas and buildings. For these urban renewal projects to proceed, 80% of the landlords in the approved area or building have to agree to exercise the building rights they have been provided. In many cases, this 80% threshold is not met, and consequently opportunities to increase housing supply are being lost. One interim option to incentivise the utilisation of

these building rights could be to apply a very mild penalty tax on owners that choose not to support the urban renewal project. To avoid equity concerns, such a tax should be set at a very low level so as not to force any owner (e.g. those with cash flow constraints) to support the urban renewal project, but rather to provide a simple “nudge” in the direction of more efficient land use. Once a market value-based *Arnona* system is implemented, it will not be necessary to add such a “nudge”, because the *Arnona* will play that role.

6.8. Other potential reform options

A number of other reform options are worth consideration by Israel in the medium term, though detailed discussion of these is beyond the mandate of this report in that they relate to fundamental reform of broader capital income taxation, and to the *Arnona*.

First, in the medium term, Israel could consider providing a rate of return allowance for all savings vehicles, including housing. A rate of return allowance would have as its primary goal removing the distortion to lifecycle savings decisions. By exempting a ‘normal’ return, consumption tomorrow would not be discouraged relative to consumption today.²³ Gains in excess of the normal return would still be taxed to serve equity and revenue goals. Such a reform was proposed, for example, for the United Kingdom in the Mirrlees Review (Mirrlees et al., 2011).

By applying a rate of return allowance to rental housing, this would mean that, for an asset producing a normal return, there would be no distortion between rental and owner-occupied housing. (Taxpayers earning above normal returns would still be taxed on those above-normal returns). Combined with a lower capital gains threshold, a rate of return allowance could significantly restrict the degree of bias in the housing system, as well as improving the efficiency of the taxation of capital income across the board.

A second, medium term, reform option worth consideration in Israel relates to the taxation of commercial buildings, currently taxed under the *Arnona*. Consideration should be given to not taxing commercial buildings, and instead only taxing commercial land. This is because a tax on commercial buildings is effectively a tax on the inputs to production and is therefore inefficient as per the Diamond and Mirrlees (1971) production efficiency theorem. In the shorter term, and in line with the recommendations from OECD (2019), lowering the commercial rates (and simplifying their structure), while increasing residential rates as discussed above, is likely to be the most preferable reform option.

²³ The normal return is defined as the return required to make a taxpayer ambivalent between consuming today and consuming in the next period. It is typically approximated by the risk free return, which itself is typically approximated by the return on a short-term government bond (OECD, 2018a).

References

- Andrews, D., A. Caldera Sánchez and Å. Johansson (2011), “Housing Markets and Structural Policies in OECD Countries”, *OECD Economics Department Working Papers*, No. 836.
- Brys, B., S. Perret, A. Thomas and P. O’Reilly (2016), “Tax Design for Inclusive Economic Growth”, *OECD Taxation Working Papers*, No. 26, OECD Publishing, Paris.
- Cournède, B., J-M Fournier and P. Hoeller (2018), “Public Finance Structure and Inclusive Growth”, *OECD Economic Policy Papers*, No. 25.
- Cournède, B., S. Sakha and V. Ziemann (2019), “Empirical links between housing markets and economic resilience”, *OECD Economics Department Working Papers*, No. 1562.
- Diamond, P. and J. Mirrlees (1971), “Optimal Taxation and Public Production I: Production Efficiency”, *American Economic Review*, 61, 8-27.
- Engelhardt, G., M. Eriksen, W. Gale and G. Mills (2010), “What Are the Social Benefits of Homeownership? Experimental Evidence for Low-Income Households”, *Journal of Urban Economics*, Vol. 67, No. 3, pp. 249-258.
- Gruber, N. (2015), “Comments on Finance Minister Moshe Kahlon’s housing plan”, Shoresh Policy Brief, August.
- Hilber, C. and T. Lyytikäinen (2017), “Transfer taxes and household mobility: Distortion on the housing or labor market?”, *Journal of Urban Economics*, 101, pp 57-73.
- Horesh, H. (2019), “Data show Israel’s rental market is haven for tax evaders”, Haaretz, 21 November.
- Johansson, Å., C. Heady, J. Arnold, B. Brys and L. Vartia, (2008), “Taxation and Economic Growth”, *OECD Economics Department Working Papers*, No. 620, OECD Publishing, Paris.
- Levi-Weinrib, E. (2017), “Israel Tax Authority targets owners of 2 homes”, Globes, 6 September.
- Mirrlees, J., S. Adam, T. Besley, R. Blundell, S. Bond, R. Chote, M. Gammie, P. Johnson, G. Myles and J. Poterba (2011), *Tax by Design: The Mirrlees Review*, Oxford University Press for Institute for Fiscal Studies, Oxford.
- OECD (2021), *Brick by Brick: Building Better Housing Policies*, OECD Publishing, Paris.
- OECD (2020), *OECD Economic Surveys: Israel 2020*, OECD Publishing, Paris.
- OECD (2019), “A review of local government finance in Israel: reforming the Arnona system”.
- OECD (2018a), *Taxation of Household Savings*, OECD Tax Policy Studies, No. 25, OECD Publishing, Paris.
- OECD (2018b), *Rethinking Urban Sprawl*, OECD Publishing, Paris.
- OECD (2017), *Spatial Planning and Policy in Israel: The Cases of Netanya and Umm al-Fahm*, OECD Publishing, Paris.
- OECD (2016), *OECD Economic Surveys: Israel 2016*, OECD Publishing, Paris.
- OECD (1994), *Taxation and Household Saving*, OECD Publishing, Paris.
- Zodrow, G. (2007), “The property tax as a capital tax: a room with three views”, James A. Baker III Institute for Public Policy, Rice University.