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Attempted Regularization of Accessory Dwelling Units in Israel

Economic feasibility analysis from the owners' perspective

WORKING PAPER

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1. Introduction

Lack of affordable housing is a chronic issue that faces cities around the world. The gap between housing prices in high-demand locations and households' capacity to pay is expected to increase (McKinsey Global Institute 2017). Among the ever-growing body of literature about affordable housing, surprisingly little attention has been paid by governments to what is probably a significant phenomenon not only in Global South countries, but in OECD (advanced-economy) countries as well: irregular (informal or illegal) housing units. Such housing units are likely to be less costly than equivalent mainstream units. These are "bottom up" solutions that take on many forms and formats not addressed by regular planning and legislation. Irregular housing units are rampant in developing countries, where they serve a major function in filling in the huge gaps in housing supply left by governments, regulators and planners. However, increasingly, some scholars recognize that irregular housing is not insignificant even in the Global North (Alterman and Calor 2020).

In this report, we focus on advanced-economy countries only, and on one specific type of irregular housing which is recently drawing much attention. In American lingo such units are known as "accessory housing units" (ADUs). They were previously tagged "granny flats" (a gender-biased term). For the purpose of this research, ADUs refer to any form of subdivision or built-up format of a separate unit, installed in multifamily or single-family housing, as long as it contains independent facilities for sleeping, cooking and sanitation.

ADUs can take a variety of physical forms, including: a converted garage; a unit within a single-family home located in a basement, part of the main residence, an attic; a separate small freestanding structure built on the plot; or partition of an apartment in a multi-story building into two or more independent units.⁵ It should be noted that ADUs could also be pre-planned, included in advance in a new neighborhood by a plan/zoning and related regulations. However, in this research we focus mostly on ADUs that are *ex-post* additions to housing in an existing neighborhood. These are most pertinent to this research because they frequently challenge current regulatory regimes and call for rethinking of planning and planning law. While the term ADU in the US or Canadian context is associated mostly to single-family housing, we shall use this term more broadly, to denote partitioning of

⁵ While the term ADUs in the USA and Canada pertains mostly to single-family housing, in this report we use the term also to encompass what is probably a wide phenomenon - partitioning of apartments in multi-family buildings (for example, in a condominium). Note that ADUs should not be confused with "tiny homes" because the latter term refers only to size, whereas ADUs also assume a specific tenure structure: a main unit with the original tenure type, and a subsidiary unit, that can only be rented (Evans 2018).

apartment units as well. The latter are probably no less prevalent in global housing markets and, as we shall note later, in our case-study country - Israel. Yet, in this research we too focus largely on ADUs associated with single-family homes – simply because these are the current target of deregulation in Israel.

In many localities, ADUs are built or divided illegally, without conforming to statutory planning (zoning), building or housing codes, tax or fee responsibilities. While ADUs is probably a globally wide phenomenon, the numbers of illegal ADUs are unknown (no data base monitors them). Still, studies on 'Global North' communities,⁶ estimate that the number of illegal ADUs is very high particularly in cities with high demand for housings (Gellen 1985; Baer 1986; Durst and Wegmann 2017; Wegmann and Mawhorter 2017). The emergence of ADUs 'under the radar screen' poses challenges to the rule of law, facilitates tax evasion, and might cause conflicts among neighbors. Unauthorized ADUs might also compromise safety regulations and basic building standards, and pose major challenges to urban management. Without adequate data, planning agencies are not fully able to plan ahead for the required infrastructure and public services for the increase in number of households.

But alongside these challenges, ADUs offer many potential benefits. They promote urban infill rather than expansion, and help diversify the range of housing sizes and rents within any given housing market. ADUs can help create demographic replenishment of older neighborhoods and enhance social diversity by attracting households with a somewhat different socio-economic profile than the house owners. Perhaps most importantly, ADUs are a market-driven generator of affordable housing. Because they capitalize on prior investments and existing infrastructure, ADUs are more affordable than comparable alternatives (Alterman et al. 2012; McKinsey Global Institute 2017).

The challenges posed by the spread of illegal ADUs, alongside their potential benefits, call for regulatory adjustments and even reforms. Such reforms have been approved in several Global North cities. The reforms seek more permissive regulations with the hope of enabling many or most illegal ADUs to come under the umbrella of the law. The topic at hand - permitting the densification of the built environment by adopting ex-post regulations - could be a target of research from many disciplinary perspectives: Urban design, housing costs, housing demographics, social and community impacts, and real estate economics. In this project, we take the latter approach and look at the economic feasibility of ex-post

⁶ Commentators now talk of a 'Global North' and a 'Global South' referring respectively to richer or poorer communities which are found both within and between countries.

legalization from the perspective of homeowners who are considering whether to apply for a permit for an existing (illegal) ADU. From this perspective, we will assess the likelihood of the attempted deregulation in Israel to achieve its goals.

2. Israel as a case study

As our case study, we analyze the Israeli national context. In Israel, ADUs are known as “partitioned” or “subdivided” houses or apartments. We have reason to presume that almost all ADUs in the form of “subdivided apartments” and “subdivided houses” in Israel are currently illegal.

We selected Israel as our case study because over the past decade, this country has already made two nation-wide legislative attempts to “regularize” ADUs. We are not aware of a similar policy at a national level elsewhere. Also, in Israel housing prices are exceedingly high relative to average salaries in most parts of the country. In the last two decades, the ratio of housing prices to average wage increased significantly (70% during the period 2007-2016, according to Shraberman 2018). Since the massive street protests of 2011, the housing issue for middle-income households has escalated to the forefront of domestic political issues (Rosenhek and Shalev 2014). Given the country’s very high fertility rate and small area size, housing shortage is anticipated to escalate further. ADUs therefore fill in a major gap in the rental housing stock.

Our educated guess is that almost all ADUs in Israel, both in single family-houses and in apartment buildings are currently illegal. A major move to regularize ADUs took place in 2017. The Israeli parliament (Knesset) adopted an amendment to the 1965 Planning and Building Law (there are about 130 amendments) to allow creation of ADUs in single-family (or two-family) houses, within specified conditions. The amendment aimed to encourage legalization of existing illegal units, with an explicit goal of enhancing the stock of rental housing supply. The legislators hoped that the 2017 amendment would enable local and national governments to keep track of the number of ADUs in the housing stock and would make them a legitimate form of housing in the market. Thus, it was hoped, the acute shortage in affordable housing in Israel – especially rental housing - would be somewhat alleviated.

With Israel as our case study, we examine the likelihood that the 2017 amendment will indeed encourage homeowners to construct new ADUs or to legalize existing ones. Given that ADUs are a market-driven generator of housing, a key player is the homeowner. Our analysis focuses on his or her likely view of whether to apply for a building permit based on calculus of the cost-revenue ratio. Thus, we use empirical data for the costs

associated with the application for a permit, including administrative, professional and – importantly – taxation costs. Our focus is on legalization of existing ADUs. Will the costs involved in their legalization be worthwhile for homeowners?

In a scenario where an owner does not view the costs of legalization as feasible, which of two likely strategies will she or he take? 1) undo the existing illegal ADUs by demolishing any walls, stairs, or other facilities built illegally; or 2) take the risk of enforcement and its costs. The latter question is not directly addressed in this research, because in Israel, as in many countries, enforcement practices are difficult to gauge (Calor and Alterman 2017). They depend on uncertain information flows about infringements and vary from locality to locality and overtime. The second question is therefore addressed only indirectly.

To date, there is no academic or government analysis of ADUs in Israel. In our scoping of current literature, we therefore look at what is available from other countries (this boils down to the USA and Canada, since the topic is not yet addressed academically in other countries). It is important to reemphasize that legal and socio-spatial contexts of each jurisdiction is inevitably different. In Israel, for example, the taxation topic (the “betterment levy”(Alterman 1990; 2012), is a major player in the deregulation attempt and will thus feature prominently in our cost-feasibility analysis. By comparison, there are no equivalent taxes in the USA or Canada. Furthermore, in both the USA and Canada, ADUs are situated in single-family houses which compose a major type of housing stock. In Israel, the most prevalent housing type is condominium apartments; however, currently, there are no regulation addressing ADUs in condominiums. Our study on ADUs in single-family and double-attached houses in Israel captures thus only a small portion of the local phenomenon while in the USA and Canada it is the most prevalent format of ADUs.

3. Existing literature – the USA and Canada

As noted above, current studies (in English) on ADUs pertain largely to the USA and Canada. These are two low-density countries, where extensive areas in cities are zoned for single-family use. Globally, however, the phenomenon of ADUs in the broad sense is much broader than existing research. And while we can draw significant insights from the American and Canadian studies, the lessons to be learned from cities such as Portland and Vancouver are not fully relevant to Israel or to other OECD countries with higher-density urban areas.

In this chapter we review the existing literature on moves of local and state governments in the USA and Canada to regularize ADUs. In those two countries, as in Israel, much of the current stock of ADUs is illegal, at least in some respects. Thus, there is ample literature about current regulatory barriers and recommendations for deregulation, and also about attempts at deregulation. We have not, however, found any analysis of the economics feasibility of specific attempts at deregulation, as viewed from the homeowners' perspective: To what extent will the costs of abiding by the new rules outweigh the benefits of "becoming legal"? Although legal-financial contexts always differ from one jurisdiction to another, the questions raised and the method we apply for Israel may be of interest to scholars and decision makers in other countries as well.

3.1 Definitions and the Regulatory Context of ADUs

Most research in the USA and Canada pertains to existing ADUs that violate current land use, building, or tax regulations in some form or degree. Potentially, of course ADUs could also be added to existing plots legally, if and when regulations enable this.

Deregulation of ADUs in local zoning regulation has been in need especially in the many suburban localities in the USA where exclusionary zoning prevail (Brinig and Garnett 2013; Infranca 2019; Lemar 2019). Despite the fact that ADUs prevail in many urban areas across the globe, there is only scant international comparative literature. The first academic attention with a cross-national perspective about ADUs is by Lazarowitz (1991a,1991b). He reports on the rise of ADUs related to affordability and demographics in cities in the USA, Canada, Australia, New-Zealand and the UK, but he too focuses on the US and Canada. While the academic literature has since grown significantly, the reported cases on ADUs are

likely to cover only a small part of the global phenomenon. This is mainly due to the fact that most ADUs are illegal (entirely or in some aspects), owners don't always report them, and thus government statistics are unavailable. Because planning and taxation regulations differ across jurisdictions, researchers would find it difficult to calibrate the phenomena across countries. Thus, despite the international scope of the topic, literature on the effects of ADU regulations and the incentives that drive homeowners to legalize ADUs remains limited.

In the USA and Canada, the existence of ADUs as a housing option (probably present in the older parts of cities) fell out of favor starting in the 1950s. Suburbanization and the zoning codes that accompanied it placed single family properties as the idea, and discouraged ADUs (Antoninetti 2008). Academic interest in ADUs did not revive until the 1980's, when the idea of ADUs was proposed as an affordable living option for the aged, and later, for the generation of baby boomers. Even as early as the 1980s, public discourse highlighted the many benefits associated with ADUs and advocates have tried to ease regulations at both the local and state levels (Gellen 1985; Hare 1988).

However, initial deregulation efforts in the 1990s proved unsuccessful in easing local zoning restrictions. This did not stop homeowners from building ADUs illegally and the demand for such housing units increased in face of housing affordability crisis of the 2000s (Liebig et al. 2006; Antoninetti 2008; Chapple et al. 2012). In recent years, studies report on what seems to be a more positive attitude to regulatory changes in several states and cities. In fact, we are probably in the midst of a shift in the path towards wide acceptance of ADUs as a prominent form of affordable housing, and thus, wider recognition of the need to ease regulatory restrictions.

The USA and Canada share similar principles in their land use regulations: Unlike many other countries, the powers to regulate urban land use, down to the building permit, lie almost entirely with local governments (Alterman 2005). Local-level regulations have been considered by many scholars as the key obstacle to the production of ADUs (Liebig et al. 2006; Antoninetti 2008; Chapple et al. 2012; Been et al. 2014; Mukhija et al. 2014; Infranca 2019). Thus, easing of restrictions is considered a major stimulus for the ADUs market, and several studies reported a jump in ADUs creation following regulatory changes (Chapple et al. 2017, 2020; Basor 2020). A survey held in Vancouver, Portland and Seattle among homeowners who decided to add ADUs legally, further illuminates this effect. In the eyes of 42% of the respondents, the easing of land-use rules was the most significant stimulus for owners' decision to add ADUs to their home (Chapple et al. 2017).

ADU rules and regulations in the American and Canadian contexts usually contain requirements and standards about the physical layout of the building fixture, minimum size of the lot and maximum coverage, parking spaces, permitting process, occupancy restrictions and more. Two factors could explain the difficulties in liberalizing local zoning codes to make them more permissive towards ADUs: The concerns of local homeowners over the impact of ADUs on their neighborhood and property; and the political power that local homeowners possess in some jurisdictions to influence procedures of establishing local zoning ordinances.

Homeowners who do not plan to create an ADU often express concerns over their neighbors' ADUs, especially about negative impacts of increasing residential densities and the overload on parking and public services (Cobb and Dvorak 2000; Antoninetti 2008; Chapple et al. 2012; Mukhija 2014). As in many other zoning issues in the USA, homeowners might argue that ADUs will jeopardize the “character and quality” of the neighborhood. (Such claims, incidentally, are often partial camouflages for social exclusion; Fischel 1985; Alterman 2014; Hirt 2014; Fischler 2017). Homeowners might also be concerned that their property values may decline (Cobb and Dvorak 2000; Brinig and Garnett 2013; Pfeiffer 2015; Infranca 2019; Anacker and Niedt 2019).

Along similar grounds, homeowners sometimes object to ADUs because such housing may result in a more diverse (lower) income profile of the neighborhood. Often, the objection is also fed by anti-immigrant sentiments (Anacker and Niedt 2019). Homeowners' power to object against local zoning ordinances is embedded not only in general voting powers, but also in the public hearing procedure that precede approval of zoning ordinances, variances, or related decisions. Public hearing procedures facilitate the grouping of politically involved homeowners to vote against a local zoning proposal that may affect them (Fischel 1985, p. 34).

3.2 Regulatory barriers for ADUs in the USA and Canada

In American and Canadian studies, the working assumption is that illegal ADUs are more prevalent than permitted ones, especially in areas with high rental demand, such as NYC, Boston, and the Bay Area (Galvez and Braconi 2003; Neuwirth and Sheth 2008; Qiao 2016; Mendez 2017). In Vancouver in fiscal year 2007/8, inspections indicated that 8% of homes had legal suites while 35% had at least one illegal suite (Harris and Kinsella 2017). The few empirical studies on the topic suggest that, as may be expected, illegal ADUs are

more likely to spring up where planning and zoning regulations are more restrictive (Tyre 2008; Skinner 2011; Brophy 2016). We have collated what is regarded in the American and Canadian literature as “regulatory barriers” of ADUs and present them in the sub-sections below.

3.2.1 Zoning

Local regulations may prohibit one or more sub-types of ADUs. A useful distinction is between detached and attached ADUs. A detached ADU is set up as an independent structure on the lot, separated from the primary unit. An attached ADU shares part of the structure with the primary unit. This category displays several subtypes. An attached ADU could be a converted garage, a converted basement or an annex to the primary unit.

The original regulations (before attempted deregulation) may include various types of physical restrictions: Restrictions on the size of the ADU such as maximum floor area, or the ratio between the ADU’s floor area and the primary dwelling. Size limits can also refer to the structural layout (attached vs. detached ADUs). Permits of ADUs may also depend on a minimum size of the lot or the built-up area of the primary dwelling (Dain 2018). Lot size restrictions decrease significantly the potential number of ADUs, preclude lower-income homeowners and channel the building to areas that are less central and walkable (Chapple et al. 2012). Regulations of maximum lot coverage set the total coverage of the primary and secondary units. This limitation is expressed as a percentage of the total lot area. Since the primary unit is already built, the limitation may preclude reasonably-sized ADUs. Low percentage of maximum lot coverage limits de facto ADUs production to only large lots. Setback requirements specify minimum distances in the front, back and each side of the lot. Large setbacks may narrow the construction of ADUs to large lots (for example, Pfeiffer 2015).

3.2.2 Occupancy standards

Owner occupancy regulations determine whether homeowners are required to reside on the premises in order to obtain approval for ADUs. A Model State Act by Cobb and Dvorak (2000) recommended to include this requirement in order to prevent nuisances created by tenants. A decision by California appeals court illuminates another purpose of this owner occupancy requirement: “*to discourage speculation in residential properties that can make housing less affordable*” (Cobb and Dvorak 2000). Some regulations require that

owners occupy the primary unit. However, the recommendation by Cobb and Dvorak was to allow flexibility as some owners may prefer to maximize their income by living in the ADU and renting out the larger unit. Another occupancy restriction may refer to the residents' identity. Occupancy may be restricted to family members or domestic employees (for example, Dain 2018; Anacker and Niedt 2019). Occupancy regulations might lead to temporal and inefficient use of ADUs. Consequently, the contribution of ADUs to the supply of affordable housing is partial and the incentive to produce them legally is diminished (Anacker and Niedt (2019)).

3.2.3 Parking

Parking is a most common requirement that stands as a constraint on production of ADUs (Chapple et al. 2012; Wegmann and Nemirow 2011; Brown et al. 2020). Chapple et al. (2012) found that the requirement of off-street parking precluded the possibility of building ADUs in up to 90% of single-family properties in four bay area municipalities. By posing parking requirements, the local authority seeks to ensure that demand for street parking would meet supply. Hence, most local ordinances require at least one off-street parking space for an ADU, in addition to the one (or more) used by the primary unit (Chapple et al. 2012, 2017; Dain 2018; Brown et al. 2020); and in some localities, the number of additional parking spaces required relates to the number of bedrooms in the ADU (Dain 2018); There could also be a demand for covered parking, which is more expensive to construct compared to open-air parking (Chapple et al. 2012).

3.2.4 Design standards

Design standards of ADUs address concerns regarding the overall appearance of the neighborhood. Regulations may restrict the height or number of floors of the secondary unit in order to keep the appearance and visual perception of density in the neighborhood. Other requirements may relate to design features such as finish materials, roof pitch, trims and windows, etc., all of which were indicated, for example, in a study of ADU regulations in Metropolitan Boston (Dain 2018). Specific requirements are that ADUs have an appearance of a single-family dwelling or that they adhere to design features of the existing primary unit. These requirements may add large costs to the production of ADUs.

3.2.5 Caps on ADU production

Regulations sometimes limit the number or rate of ADUs in their jurisdiction. For example, limits may be set on the number of ADUs permitted annually or on the proportions of single-family homes that can add ADUs within a certain jurisdiction or area (Dain 2018).

3.2.6 Permitting procedures

Homeowners who wish to build ADUs are not professional developers and thus they lack skills and experience to deal with complex procedures. Therefore, long and complicated permitting processes pose a significant barrier both to legalization of existing ADUs and desire to create new ones (Gellen 1985; Cobb and Dvorak 2000; Chapple et al. 2012; Wegmann and Nemirow 2011). When a zoning ordinance allows ADUs, it may specify whether the permit will be granted 'as of right' or as a discretionary decision (Cobb and Dvorak 2000). A permitting process 'as of right', means that a permit will be granted as long as the application meets all the conditions specified in the local ordinances. By contrast, a discretionary decision means that applications would be judged on a case-by-case basis and decided according to the discretion of the authorized body (Liebig et al. 2006). In discretionary procedures, ADUs are to be approved by a Special Use Permit (sometimes called Conditional Use Permit). This procedure involves a public hearing and since the application is considered an exception to the Zoning ordinance, the permit is granted by the Zoning Board of Appeals or a similar body (depending on jurisdiction) (Fischel 1985). Other procedural requirements that may place burden on homeowners include permit fees, renewal processes, inspection requirements (Anacker and Niedt 2019) and affidavits to assure compliance with occupancy restrictions (Dain 2018).

3.2.7 Financing and Fees

Homeowners who plan to add ADUs or purchase a property with an existing ADU may face financial barriers in case they need a mortgage or a home equity loan. These barriers vary across jurisdictions (and across countries). Such loans are not tailored for ADU financing because the prospective rental income does not qualify as verifiable income. (Chapple et al. 2012; Wegmann 2015). In a survey held in Vancouver, Portland and Seattle among homeowners who added ADUs, 34% of respondents mentioned that obtaining a loan was the most challenging part of the ADU project. Only 4% of those requesting a loan

succeeded to get one based on the prospective value of the ADU. All others had to find other means of financing (Chapple et al. 2017).

The barrier of financing most strongly affects low to moderate income homeowners (Chapple et al. 2017). In a very recent paper, Chapple et al. (2020) analyzed permits issued across jurisdictions in California and found that production was higher in areas with higher home values. Possibly, homeowners in these areas use high home equity as a financial instrument to enable the ADUs construction. Based on these findings, calls are made to develop new loan products and involvement of the federal and state governments in promoting financial solutions (Wegmann 2015; Chapple et al. 2020).⁷ Local governments can further cut homeowners' costs by waiving fees on ADU production. Chapple et al. (2017) found that city permit fees and utility connections fees accounted respectively for about 8% and 5% of the total costs of ADU production. Professional services (architecture and engineering) account for about 8% of the costs and thus provision of technical and professional assistance can also be an incentive for ADU production.

To sum up: Recent discussion in the US and Canadian literature on ADU regulation addresses the need to move from negative regulation to positive incentivization. Financial viability is a key issue if ADUs are to be promoted on a larger scale as a form of affordable housing (Wegmann 2015; Chapple et al. 2017).

As will be discussed in Chapter 5, in Israel, the taxation of ADU production turns out to be a very significant factor in terms of financial burden.

3.3 Deregulation of ADUs by (US) state legislation

Despite the strong tradition in the USA of very strong local governments with decentralized powers over land use, in the last two decades, several US state legislatures took an active role in encouraging production of ADUs. The states' involvement came as a response to the overly restrictive local zoning requirements described above which discourage construction of new ADUs and legalization of existing units (Cobb and Dvorak 2000; Brinig and Garnett 2013; Infranca 2019). Politically, the easing of ADUs regulations gained momentum with the growing influence of 'smart growth' urbanism, the advocacy for the elderly and effort to increase affordable housing (Brinig and Garnett 2013).

⁷ Until this step will be taken Chapple et al. (2020) suggest to allow for subdivision of single-family lots thereby enabling the sale of ADUs. Note, that they would then stop being ADUs under our definition, and become small, affordable independent housing units within a neighbourhood of larger homes. Buyers could then use traditional loan products to finance the purchase. Another financial instrument can be tax exemptions, such as those offered in Massachusetts (Liebig et al. 2006).

Currently, many states in the USA have passed legislation pre-empting local prohibition of ADUs. Three states (Florida, Maine and Hawaii) have passed legislation encouraging local governments to authorize ADUs. Five states (California, New Hampshire, Oregon, Rhode Island and Vermont) have gone beyond enabling, and have made ADU regulations mandatory.⁸

The role models for state involvement are California, Oregon and Vermont. These states passed several amendments to initial state-wide legislation in order to make ADUs easier to build. In California, legislative changes have helped to pave the way for an 11-fold increase in ADU permits between 2016 and 2019: In 2016 only 1,269 permits were issued, rising to 14,702 in 2019. It is reported that Los Angeles, which issued only 80 permits in 2016 jumped to 2,342 in 2017 and a startling 6,747 in 2019 (<https://www.buildinganadu.com/adu-blog/california-adu-charts>; Chapple et al. 2020). A similar effect is reported for Portland, Oregon, where the number of permits increased from 45 in 2010 to around 500 in each of the years 2016-2018.⁹

3.3.1 ADU legislation in California

The first state legislation in California aiming to encourage ADUs was introduced in the 1980's, but it did not prove effective for two decades. Since then, California passed several laws intended to promote ADU construction (Antoninetti 2008; Brinig and Garnett 2013; Infranca 2019). California's 2003 Assembly Bill 1866 marked the shift in the state's approach regarding the balance between state and local powers. This legislation mandated local governments to adopt ADU regulations and to establish a non-discretionary permit procedure. The 'carrot and stick' mechanism was seen as the appropriate way to balance local level powers with state intervention. Local governments retain their autonomy in determining the contents of zoning ordinances, but if the propositions on ADUs are not adequately eased, the law empowers the state to replace the local zoning regulation (Antoninetti 2008; Chapple et al. 2011; Brinig and Garnett 2013; Infranca 2019).

In 2016, California passed two new bills (Senate Bill 1069 and Assembly Bill 2299) that further restricted the power of local governments from imposing restrictions on ADUs

⁸ [https://www.aarp.org/livable-communities/housing/info-2021/adu-model-state-act-and-local-ordinance.html#:~:text=Since%20then%2C%20many%20states%20have,\)%20and%20Vermont%20\(2005\).](https://www.aarp.org/livable-communities/housing/info-2021/adu-model-state-act-and-local-ordinance.html#:~:text=Since%20then%2C%20many%20states%20have,)%20and%20Vermont%20(2005).) Article published January 2021. Accessed 7/3/21

⁹ <https://www.oregonlive.com/realestate/2020/01/permits-for-in-law-flats-and-other-adus-are-down-but-interest-remains-high.html>. Accessed 7/3/21

(Infranca 2019): Local governments were obliged to approve one ADU per single-family lot if the following conditions applied: 1) the unit was within the existing built space of the primary unit; 2) it had independent access 3) setbacks complied with fire safety regulations. Local governments were also mandated to designate areas where detached ADUs are allowed. The 2016 laws drastically limited local requirements of off-street parking and determined default standards that would apply upon failures to adopt local ordinances.

Even more deregulation was enacted in 2017 (SB1069, AB 2299). It eased parking requirements and abolished utility connection fees applicable to ADUs (Garcia 2017). The most recent round of legislation - in 2020 (AB 68, AB 881, SB 13) - further liberalized the restrictions that local governments are permitted to impose on ADUs (HCD 2020). These new laws abolish the minimum lot size requirements, mandatory owner occupancy (for ADUs approved between 2020 and 2025), and replacement of off-street parking in the cases of ADUs in converted garages. Application review time limit has been narrowed to 60 days. Furthermore: the new legislation not only exempts ADU owners from paying impact fees, but it also even requires local governments to provide financial incentives for the production of ADUs.

It may well be that the 2020 legislation will finally succeed in stimulating an active ADU market. The estimated number of potential housing units in California that could be created through state legislation is 1.5 million (Monkkonen et al. 2020; Chapple et al. 2020). However, due to the COVID19 crisis and its disruption of housing markets everywhere, we conjecture that solid information about the degree of success of the most recent deregulation attempts will be delayed.

The regulatory changes in favor of ADUs in California and in other states and cities still leave the question of quantitative impact: How many ADUs exist in practice, whether legal or not? As noted, due to the unmeasurable effect of illegality, there are no reliable government statistics. A recent report by Freddie Mac (July 2020) tries to overcome this limitation by looking at offers for sale of homes with and without ADUs. We would add that the reliability of this data also has limitations but at least it provides some quantitative indication over time. The data used by Freddie Mac preceded the COVID crisis. Their method uses text-mining for ADU-related terms in 600 million MLS (multiple listing service) transactions entered from 1997 through 2019.

The Freddie Mac findings show a striking rise in the number of ADUs, over time, jumping from less than 2,000 listings per month in 1997 to more than 12,000 in 2018. Between 2009 and 2019, the number of first-time ADU listings averaged 8.6 percent in

annual growth. Yet, as a percentage, ADUs remain a very small share of the overall US housing stock. At the 2019 peak point, the share of active for-sale listings of homes with ADUs reached only 6.8 percent.

4 Attempts to regularize ADUs in Israel

4.1 Background to the Israeli regulatory context

The vast majority of ADUs in Israel are illegal (unauthorized /unpermitted), in direct violation of the planning law and planning regulation embedded in local and district statutory plans. The legal framework for understanding ADUs in Israel is the Planning and Building Law, 1965 (hereinafter the Planning and Building Law). It authorizes local governments to regulate land use, density, plot size, building heights etc. Plans that designate land for residential uses (similar to zoning regulations) typically limit the number of units and their sizes, leaving no room for addition of new residential units unless an amendment to the plan is approved.

In 2011, in light of the skyrocketing prices of sales and rentals in central cities, the Minister of Interior issued regulations that allowed partitioning of condominium apartments by the grant of a variance permit. This initiative targeted the largest housing stock in Israel—condominium apartments – and thus had high potential for impact. However, the 2011 regulations ended up prescribing a battery of conditions before a variance could be granted and consequently, they grossly failed to encourage homeowners to seek for ADUs permits. After only a handful of permit requests were submitted nationwide, this sunseting regulation self-terminated after 5 years, in 2016.

4.2 Current legislation to facilitate ADUs

In 2017, shortly after the apartment-partitioning regulation self-terminated, the parliament (Knesset) issued another ADU deregulation attempt, this time focusing on single-family homes. Amendment (no. 117) to the Planning and Building Law too was enacted as sunset legislation for five years, to terminate in 2022 (unless extended)¹⁰. It states that local planning commissions would grant a variation from the detailed plan for a single extra dwelling unit, so long as the permit application fulfils the following conditions:

- (1) The secondary unit is located on a plot with a detached or a semi-detached single-family home.
- (2) The size of the primary unit must be at least 120 sq. meters.

¹⁰ At the time of writing, July 2021, a new national coalition is just moving in (after two years of parliamentary limbo). We don't know of their intentions about termination or extension of this legislation.

- (3) The secondary unit must be at least 45 sq. meters, excluding the stairs and access, and it must include a separate kitchen, toilet and entrance.
- (4) The relevant detailed plan must have been approved before Jan.1st, 2011.
- (5) Each local authority may limit the number of ADUs according to what it sees as the availability of public services (schools etc.), infrastructure, open spaces, and parking in the area. However, the limitation must still permit ADUs in at least 20% of the relevant housing stock in the municipality.
- (6) The owner must pay a betterment levy of 34% of the increment in value of the property, created by the permitted variation.

The legislation additionally provides relaxations for several physical requirements:

Secure room - relaxation. The construction of a secure room against missiles is mandatory in all new residential buildings, but the amendment does not require its construction in ADUs.¹¹

Permitted Conversion of 'service area' into main residential area. 'Service area' (which is originally not counted as part of the permitted floor area ration) may be converted into residential use. This is a very important relaxation because basements in single-family homes are usually designated as service area where residential use, even for family members, is not permitted. Many of the illegal ADUs are indeed illegally converted basements. The maximum size of a basement ADU should be 60 sqm.

Parking relaxation: The local planning council may not require an additional *parking spot*, but it may oblige (or may wave) payment of *a fee* for the installation of public parking in the neighborhood. The level of the charge will be determined by a real estate appraiser.

4.3 The regulation's half-hearted intentions

Items 4 and 5 above deserve a closer look. Placed together, they reveal that the legislation was not really intended to stimulate the creation of new, legal ADUs beyond legalization of existing ones. Single-family and double-attached houses in urban Israel are

¹¹ If there is already a secure room in the house, the local planning council may condition the variance on protection improvements in one of the rooms of the ADU.

not the dominant housing form. Most Israelis reside in apartments, whether owned (condominiums) or rented. In this context, small units within single family homes (probably) have a high demand as an alternative, affordable form of housing. Unlike in the USA and Canada, such units are sought not only by single households (such as students, rarely the elderly), but also by small families with children.

Given this demand, in many of the neighborhoods in Israel where there are single-family homes, the percentage of homes already with an existing (illegal) ADU far exceeds the 20% mark. Although there are no official data, in a study we are currently conducting, we are interviewing a sample representative cities and smaller towns where there are neighborhoods with single-family homes. In each town, the officials estimated that the majority of homes already have an ADU (sometimes more than one), well surpassing the 20% mark. Yet, each of the municipalities reported that they have decided to adopt the 20% mark as their maximal, rather than minimal target. They were simply being realistic about real-life capacity to enforce. Each of the interviewees reported that after 3 years since the regulation came into force, very few permits have actually been requested, and fewer yet have met the rules stipulated and been granted a permit. The available national data corroborates our findings from the unofficial interviews: Between November 2017 and September 2020, only 537 variance requests were filed, and only 121 permits were granted.¹² This is probably a tiny part of the number of existing ADUs – almost all, probably illegal (our “knowledgeable guess”).

Unfortunately, Amendment 117 was enacted without first conducting in-depth analysis of the risks and benefits for homeowners in requesting a permit for a new ADU or, even more acutely, for an existing unit. Reality proves that ADUs remain a "hidden" stock of housing in Israel despite the changes in the law. In the next chapter we will pursue an economic appraisal analysis intended to understand some of the reasons why the legislation seems to be a failure. What are some of the incentives and risks of homeowners in applying for an ADU permit? The discussion will examine how the requirements mandated by Amendment 117 affect the economic feasibility for the homeowner to apply for a permit for an ADU – whether existing or desired.

¹²www.gov.il/BlobFolder/reports/collection_data_committee/he/Local_committees_permit_report_splitting_apartments_2020.pdf . In Hebrew. Accessed June 25, 2021.

5 The economic feasibility of regularizing an existing ADU: Research design

5.1 Research questions

Our **research question** is whether the ostensive deregulation is likely to drive homeowners to apply for the variance rather than continuing to run an illegal unit. To answer this question, we need to take into account the costs related to the permit application, including taxation. Ideally, we would also have liked to consider the owner's perception about the likelihood of encountering enforcement action and related fines. This, however, would be a different research project, with other objectives and methods.

The **operational research question** is: *What is the number of years for return of investment on a legalized ADU compared with an ADU operated with no building permit?* Note that this criterion assumes a mere *break-even* for the landowner. In other words, we are not including any expectation of surplus income from rental of the ADU – only assessing the number of months' income required to balance out the investment in the ADU under each of the two scenarios.

The law sets conditions for the ADU and involves costs as detailed in section 4.2. Some of the illegal ADUs created without a building permit will not meet the physical requirements, and it may not be economically feasible to invest in the retrofitting necessary to meet the standards.

5.2 Data sources

In the absence of any prior research or national data on the costs and benefits of ADUs to landowners, without or with the new regulations, we looked for some surrogates for the economic calculations that landowners are likely to make. Conveniently for our methodology, it so happens that under the Israeli Planning and Building Law, there is a tax (the betterment levy) to be paid upon the grant of any variances (or any other form of increased development or use rights). For ADU variances, there is a somewhat lower tax rate, as explained below (section 4.3.2). Thus, any application for an ADU variance must be accompanied by a case-specific assessment of the increment in land value accrued by approval of adding an ADU. Each case has its unique urban-planning context, and physical configuration.

As our data base, we analyzed eight formal appraisal reports that calculated the sums to be paid as betterment levy for an ADU permit. In the absence of any public depository of private appraisal reports, we had to make special effort to get access to such reports. These are an exceptionally reliable source of cost estimates since they are prepared by well trained and well-regulated professional valuers. Given the low number of permits granted so far nation-wide (as noted, only 121 by Sept 2020), this 7% (non-representative) sample is meaningful for this study.

Methodologically, we regard the eight appraisal reports as a set of mini-case studies grounded in a variety of real-life physical and regulatory contexts that span several local governments. Three of the reports are first-tier decisions by a local government appraiser. These were not appealed further. Five reports are by 'decisive appraisers' who are second-tier government-appointed appraisers. The appraisers' main mission is to make clear and transparent calculations of the increment in land value to be created by approval of an ADU, but the report often also shed light on legal questions.

5.3 Procedures and costs of applying for a permit for an existing ADU

In this section we survey the main cost elements in applying for a permit and constructing an ADU. To the extent relevant, we view these costs against the prim of the ADU legislation's declared purpose – to encourage requests for permits.

5.3.1. Streamlined procedures

Before the enactment of Amendment 117, the only way a homeowner could try to obtain a building permit for partitioning a housing unit into two (or more) was to apply for an amendment to the existing detailed plan (equivalent to American and Canadian zoning or PDU, depending on whether it applies to a wide area or just a single project). The reason is, that detailed plans in Israel usually specify the maximal number of housing units permitted. The rationale is, that this datum is important for forward planning of the necessary public services. Amending a plan usually takes several years and approval is not assured due to neighbours' objections, or the planning commission might be concerned about a “slippery road” towards more such spot applications. Initiative to revise an entire plan is even less likely. In practice, the number of plan amendments requested national wide is negligible. Although there are no numbers available, an indicator is that the Knesset committee protocol does not even mention this path as a relevant option.

Amendment 117 does provide for a streamlined procedure for obtaining an ADU permit. However, as we shall see, this is only a marginal cost-saver, if any. Instead of plan amendment, the interested homeowner may apply for a variance from the permit. This is always a shorter procedure than a plan amendment. Beyond this, the special legislation also limits the range of reasons whereby the local planning commission is authorized to reject an ADU variance request. All in all, thought, Israeli planning procedures are extremely long in cross-national comparative terms (Alterman 2002; OECD). Even this streamlined route would likely take about a year (compared with several years for a plan amendment). On its face, the new legislation does offer a faster route. But in reality, this does not function as an incentive because, as noted, it is not faster than any previously available procedure, so we cannot compare the time and costs saved. Furthermore: even if the procedure were very fast (it never is), the main cost factor - the “elephant in the room” – a hefty financial levy which is not waved – is the betterment levy discussed later.

5.3.2 Conversion costs

In many cases, the existing ADU diverges to some extent from the rather onerous physical regulatory rules. There may be conversion costs to meet one or more of the requirements – such as for minimal size, a separate entrance, parking, or Israel’s special requirement for a “secure room” in case of war. For example, in one of our set of cases that dealt with existing ADUs¹³, the official report by the Decisive Appraiser determines that: *Installation of an air filter for the secure room is required according to the update made from time to time by the Home Front Command and required as part of the conditions for new construction.* In another case¹⁴, the decisive appraisal states that: *Adjustment costs taken into account in the appraisal include adaptation of the existing construction for use for two separate units, each with a bedroom, kitchen, bathrooms and suitable infrastructure for water, sewage, electricity, communications, gas, and the like.*

5.3.3 The betterment levy and ADUs

And now to the major cost element. The Israeli planning law obliges the local planning commissions to levy 50% of the increment in land value created by specific planning and

¹³ In the City of Shoham. Decisive Appraisal by Ms. Nurit Jerby.

¹⁴ In the City of Shoham. Decisive appraiser Boaz Koot.

development-control decisions.¹⁵ The legislation specifies three grounds for imposing the levy: approval of any local detailed or master plan and granting of a variance or exception.

Assessment of the betterment levy calls for individual appraisal of each plot. The procedure thus assures that only real increase in property value would be taxed away, not a surmised or average assessment.

The law specifies three alternative tax incidence points when the levy may be collected - whichever occurs first: issuance of a building permit, sale of the property, or actual commencement of the newly permitted use. A landowner may also choose to pre-pay the levy immediately upon approval of the plan or the granting of a variance. The law is designed to correlate with a point when the landowner is presumed to have the available resources to pay the levy. As noted, payment of the levy is required also for the increment in property value due to the grant of a variance. The usual rate is the same as plan amendment – 50% of the increment in the property value.

While declaring that Amendment 117 is intended to promote ADUs and thus enhance the stock of affordable housing, the Knesset did not see fit to waive the betterment levy, probably because local governments would have objected strongly. Instead, in the special case of variances for ADUs, the legislation provides for a reduced levy of “only” 34%. Unlike the usual rule, Amendment 117 stipulates that half the sum is to be paid upon issuance of the building permit for the ADU, and the second half upon sale of the entire property (ADUs cannot be sold separately). There is no difference between a permit for an existing, illegal unit, and request for a permit for a new ADU in an existing building. In both cases, the landowner will be required to pay the 34% betterment levy.¹⁶

According to the Planning and Building Law, an assessment of the betterment levy “... shall take into account the increase in property value and as if sold in the free market.” Our main research task is to estimate whether the increased value of the property as a result of the planning variance - i.e., the increase in value as a result of the ADU that can only be rented out - exceeds the cost of the subdivision construction or installations PLUS the betterment levy. The legislation assumes that adding an ADU for rental will necessarily lead to an increase in the property value simply because it provides the *opportunity* to generate another housing unit, and, if rented, an income. In this report we shall not delve more deeply

¹⁵ The levy applies to both private land and public land on long-term leases (which in Israel function almost like freehold land; (Alterman 2003).

¹⁶ Pursuant to section 10 of the 117 Amendment, the betterment levy for converting service use in the basement or storage to a primary purpose (up to 60 sqm for a basement and up to 7.5 sqm for storage) is 50% of the increase in value (instead of 34%) and will be fully collected at the time the permit is granted.

into the underlying legal-economic basis for the assumption that there is a determinable real estate value increment when a variance is granted for an ADU that may or may not be consecutively rented out and might at some point be converted back to the family's use.

Note that the assessment of the betterment levy is not directly linked to the de facto rental of the unit.

In our view, the betterment levy as applied to ADUs is standing on somewhat shaky legal-economic grounds. So far, this issue has not received public or legal attention. However, in one of our sample appraisals, the valuer questioned the betterment assumption. He argued that the negative externalities to the main household's enjoyment of the home caused by the existence of an ADU (for example the loss of privacy) override the real estate-value increment. He further questioned the basic rationale of the betterment levy as a real estate-increment tax. From his viewpoint, a betterment levy should not apply to ADUs because the unit may not be sold, only rented out, and is thus inherently temporary. This appraiser's opinion is currently not the mainstream view, and we note it only in passing. To date, there is no authoritative court judgement on this issue. Such ambiguities exist, and we shall note them where relevant to this research project.

5.3.4 The three classic approaches to calculating the betterment levy

Appraisers in Israel (and their counterparts on similar issues) usually consider three *alternative or complementary* approaches for calculating the increment in property values, such as the betterment levy for ADUs:

- (1) The increase in value to the land component - This approach considers the planning improvement to be related only to the value of the land component without considering construction cost and entrepreneurial profit associated with the rights holder. Under this approach, the value of the land component is estimated and the increase in value is calculated using equivalent factors for both the original permitted building and to the new planning with approval of the variance (see Case study 1: Rehovot). Conversion costs are not deducted since the improvement is attributed to the land component only. Among our eight case-assessments, we found this approach in only one case, where the relevant land was still a vacant lot.
- (2) The sales comparison approach – Under this approach, the value of the building is calculated in both situations: as one unit and as a house with an ADU. The market

value is estimated according to sales prices in the surrounding area, while adjusting for relevant factors a small unit area, loss of privacy and non-tradability coefficient (the ADU cannot be sold as a separate unit). Under this approach, the cost of conversion is deducted from the increase in the property's value. This approach differs from the land component approach mentioned above as the value is estimated for the property in its entirety (including construction costs and entrepreneurial profit component). This approach was applied in several of our cases combined with the income capitalization approach.

- (3) The income capitalization approach – According to this approach, the increase in value is calculated as the difference in the expected rental incomes in two situations: rental of an entire private house and rental of a main house plus an ADU. The present value of the yearly rental income difference is then calculated using the housing capitalization rate. Conversion cost is deducted from the increase in value. *This method was used in most of our case appraisals, alone or together with one of the other approaches.*

5.4 Economic feasibility of applying for an ADU permit - analysis based on betterment-levy appraisal reports

In order to pursue an economic analysis of the feasibility of applications for ADU permits under the Israel legislative amendment, we selected eight case studies consisting of reports by land appraisers regarding the betterment levy that the homeowner would have to pay. To calculate the levy, appraisers must refer to the cost of construction, any retrofitting necessary, and of course, the property value before and after the addition of ADU. This happens to be precisely the information we need to answer our research question.

The eight cases are varied in terms of ADU type and size (Table 1). Four ADUs are located in basements, one on the ground floor and three on a walk-up first floor. Their sizes range between 45-108 sqm, with an average of approximately 70 sqm (Recall that the minimum size stipulated in the legislation is 45 sqm). The data on five of the eight cases are based on the reports by senior appraisers authorized to issue “decisive appraisals”. This implies that the owner has not agreed with the local government's appraiser's report and has requested a national government appointed decision. These appointed appraisers are usually more conservative than local government's appraisers in estimating increases in property

values, and thus are often sought by homeowners (Holzman-Gazit, 2018). The calculation approaches varied somewhat across the cases, as detailed in Table 1.

All the cases, except one (case no.1 in Rehovot), represent existing ADUs built without a permit. In these cases, the owners preferred the path of legalization over the two other alternatives - continuing to operate the ADU illegally or demolishing the works already invested in the ADU¹⁷. The exceptional case refers to a rather rare application for a new building on a vacant lot, where the approved detailed plan does not permit use of the basement for a housing unit, and the owner seeks permission for conversion ahead of construction.¹⁸

Table1: Case Studies of ADU Appraisals

Case no.	City	ADU Type	ADU size (sqm)	ADU Status (built or not)	Appraisal Approach	Appraisal Status
1	Rehovot	Basement	60	Not built	Sales comparison for land value attribute	Local Council
2	Shoham	First Floor	85	Built	Sales comparison and income capitalization	Decisive
3	Shoham	First Floor	86	Built	Sales comparison and income capitalization	Decisive
4	Shoham	First Floor	108	Built	Sales comparison and income capitalization	Decisive
5	Petah Tikva	Basement	45	Not indicated	Sales comparison	Decisive
6	Ra'anana	Ground floor	60	Not indicated	Sales comparison and income capitalization	Local Council
7	Shoham	Basement	47	Built	Sales comparison for service area conversion; Income capitalization	Local Council
8	Petah Tikva*	Basement	74	Built	Sales comparison	Decisive

* This case study comprises of 2 ADU units, the calculation refers to one of the units

For each case, we calculated the number of years for return of investment in two situations: a) an ADU unit that fulfills all the physical and use provisions of the law, including payment of the levy, and b) the same existing ADU built and used illegally. The inputs used for the calculation are:

- the net rental income
- the total costs of creating the ADU

¹⁷ We assume that cases where status was not indicated were already built.

¹⁸ This case may enhance the robustness of our conclusions regarding the economic feasibility of creating a new ADU by permit.

- the capitalization rate.

These factors are estimated for the two situations for comparison (ADU with a permit and ADU built illegally). Table 2 provides a description of the inputs including the economic assumptions used for their estimation.

Table 2: Economic viability calculus of ADUs with and without a permit

	ADU with a permit	ADU built illegally
Rental income	The net rent is set by deducting the cost to the landlord from free market rent.	Similar
Expenses	Conversion costs plus betterment levy, whose amount is determined in the appraisal, ¹⁹ plus costs of issuing a permit and consultant assumed to be 25,000 NIS.	Lower conversion costs (as there are no requirements and conditions for example for protection improvements or parking), no betterment levy and no permit issuance and consultant costs.
Capitalization rate²⁰	The ratio between the annual income per asset and its value. Based on the capitalization rate set at each of the eight appraisals, usually 3% , we have calculated the number of years for return of investment.	The capitalization rate set in the appraisals plus an addition of 1% reflecting the risk involved in the unpermitted unit.

We derived most of the input data from the information provided within the appraisal reports. In some cases, there was missing information, so we relied on our own best estimates, based on extensive appraisal practice of one of the co-authors.²¹ In cases where information on rental income was missing, we searched for rental data in the surrounding area based on a commercial reality sales and rental listing ("Yad2" website).²² The additional costs (professional services and fees) of all cases are based on our experience in similar estimations.

¹⁹ Half of the betterment levy which is paid at the time of sale of the property is calculated for a deferred period of 10 years, assuming that the house will be sold in 10 years.

²⁰ The capitalization rate expresses the required return on an asset. The estimation for the number of years for return of investment **does not** take into account the loss of privacy for the existing unit.

²¹ Eyal Salinger is also a practicing appraiser. Conversion costs for case no. 1 in Rehovot (which was a vacant lot by the time of application) are based on our estimates, according to the details provided in the appraisal report.

²² <https://www.yad2.co.il/realestate/rent>

5.5 Findings

Table 3 presents a summary of our findings. *The average number of years for return of investment of an ADU is 4.4 if built legally (with issuing a building permit), as compared to only 0.9 if built illegally.* For the most part, the betterment levy is the major cost factor in determining the number of years for return of investment. The betterment levy contributes on average 58% of the total costs of creating a legal ADU (as yet without taking into account the higher levy which might be required when there is need to convert service area to main living area). The levy turns out to be a major financial burden despite the fact that the ADU legislation calls for a special, presumably reduced levy rate of 34% instead of 50% normally. The levy's high burden remains even though the legislation provides an additional form of relaxation for the betterment levy in ADU – the right to postpone the second half of the sum to the date of sale of the property. There is no time restriction.

Table 3: Summary of the Findings

	1	2	3	4	5	6	7	8
Location	Rehovot	Shoham	Shoham	Shoham	Petah Tikva	Ra'anana	Shoham	Petah Tikva
Yearly net income from rent	30,000	36,000	36,000	36,000	36,000	45,600	36,000	32,400
Total cost for creating ADU illegally (only conversion costs)	48,000	30,000	26,667	50,000	13,333	40,000	33,333	13,333
Total cost for creating ADU legally	132,790	166,509	161,002	100,000	88,994	200,096	238,073	85,461
-Conversion costs	60,000	45,000	40,000	75,000	20,000	50,000	50,000	20,000
-Betterment Levy (converting service area to main area)	30,000	-	-	-	-	-	56,484	-
-Betterment Levy for ADU - total	20,400	100,670	110,089	-	51,544	146,405	187,000	46,398
* to be paid upon issuance of building permit	10,200	55,335	55,044	-	25,744	73,202	93,500	23,199
-Additional costs	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Number of years for return of investment with permit	4.82	5.05	4.87	2.94	2.63	4.85	7.48	2.79
Number of years for return of investment built illegally	1.69	0.86	0.77	1.46	0.38	0.91	0.96	0.42

As high as our cost estimates may seem, they are in fact on the conservative side. This is because five of our eight cases are 'decisive appraisals' given by second-tier appraisers, appointed when a landowner rejects the local appraiser's estimate. These specialized appraisers, seeking to diminish the likelihood of court appeals, tend to be more conservative than local government appraisers. Note further, that our derived time estimate does not take into account the various externalities from the ADU that the homeowners might suffer, including reduced privacy, noise, etc.

If indeed 4.5 years are a low side estimation of the time needed for return of investment in an ADU permit, one should not wonder that there are not long queues of homeowners holding (virtual) permit applications in their hands. Instead of relaxing regulations, the regulations in fact require high investment by small private owners in rental units within their one own home. Homeowners are usually not entrepreneurs. The flow of

rent is not assured; it might be disrupted either by market conditions or by the household's own constraints.

6 Summary and conclusions

In this research project we attempted to shed light on one of many aspects of the relationship between planning and building regulations and landowners' willingness to comply with them. Our focus has been on "accessory dwelling units" in existing single-family homes. Within the broader phenomenon of ADUs, one should also include illegally partitioned apartments, but these were not included in the present project because there is no recent legislative attempt to regularize them. Although there are no reliable Israeli government data sources, we learned from international literature that there is probably a large demand for such units because they supply a much-needed format of rental housing, usually more affordable than main units. From a sequence to this research project, currently in progress, we can confirm that the demand for ADUs in Israel too is high, and that most are not legal.

Following a 2017 amendment to the Israel national planning law, the declared policy is to regularize some of these units by authorizing local authorities to issue a variance to the building permit. This legislation applies only to single-family homes and not to apartments. The legislation is ostensibly intended to legalize many or most of existing units, and enable creation of new units within existing housing areas. However, three full years after the enactment, only a miniscule number of permits has in fact been issued. We wanted to decipher some of the reasons for this gap.

Our research question focused on one of several possible factors that might be inhibiting fulfilment of the legislative intent. We address the economic feasibility, from the landowner's point of view, of applying for a variance to legalize an existing ADU (or create a new one). By analyzing the costs faced by homeowners who wish to legally add an ADU, we aim to assess the potential effectiveness of the current ADU regulation in Israel.

The existing literature, largely emanating from the USA and Canada, reports on many localities and some states (especially those with acute housing shortages) where deregulation of ADU prohibitions has resulted in large numbers of permits granted for legalizing existing ADUs or building new ones. We should, however, point out that the information and academic analyses tends to focus on successes, and the full picture should also reflect the many US and Canadian cities and town where ADUs are still a violation, and

no deregulation attempts are in force. Even where deregulation attempts have been introduced, they may still hold back the capacity to produce ADUs legally for two main reasons: First, in some circumstances it may be physically impossible to build or retrofit an ADU in compliance with specific requirements; secondly, the regulations might impose large costs on homeowners, to the extent that production of ADUs is not economically lucrative.

The additional costs associated with ADU regulations (compared to the costs incurred by adding an unpermitted ADU) may be related to stringent architecture or engineering requirements, or to other conditions (such as parking or, in the Israeli context, also a safe-room against missiles). Beyond the physical requirement, there may also be fees or taxes. Academic studies in the USA highlight the role of financial constraints faced by homeowners who wish to add ADUs and emphasize their exceptional position as players in the housing market (Wegmann 2015; Chapple et al. 2017). The conclusion is that to reach substantial targets in the production of legal ADUs, removal of regulatory barriers might not suffice. In some housing-market or planning contexts, in order to make ADUs a profitable investment, there may be need for incentives.

Our own analysis looks at the extent to which legalizing an ADU in Israel is likely to prove to be economically feasible for the homeowner. Our indicator is a well-known measurement of real estate profitability - the estimated number of years for return on investment where the owner decides to apply for a variance, and is granted one. Our data source for the economic value of the real estate before and after the variance relies on legally mandated appraisal reports. Under Israeli planning law, these valuations are a precondition for granting a variance permit for an ADU (and most other building or use rights). Where there are disputes between the local government and the landowner, a mediating government-appointed appraiser is authorized to decide. In the case of ADUs, the betterment levy is assessed at a somewhat lower rate than usual, but the sum might still be hefty (depending on land values in each location).

There is no public depository of these expert valuations, either in general or specifically for ADUs. However, we did manage to get hold of eight such appraisals of the betterment levy linked to variances in various parts of the country, and these served as our case studies. Five out of the eight the ADUs' appraisals were given by a "decisive land

appraiser" who are government-appointed mediating appraisers.²³ Note, that in the absence of broader data, we cannot assess how representative these cases would be. They do, however, provide us with real-life cases from which we can draw information to shed light on our research question.

The findings show that when landowners decide to apply for a variance, the average number of years for return on investment is almost 4.5 years compared with only 11 months when the ADU is built and run illegally. Needless to say, this is a dramatic difference.²⁴

Our findings do not imply that the current objective of deregulating ADUs should be scrapped entirely, but rather that the conditions specified in the regulation – physical and financial alike - should be reassessed and resized. In order to encourage the creation of new ADUs, an application for a building permit should involve minimal regulatory requirements and costs. The main burden is the large payments required for the betterment levy. The ostensible relaxations stipulated by the legislation – 34% of the increment in land value compared with the usual 50% of the increment – is unrealistic because it still distances the return on investment for several years.²⁵

Basing our economic analysis on cases where the landowners DID apply for a permit reflects an obvious selection bias: Rational owners will only apply if they expect to benefit from the permit. This means that they would expect, at minimum, to balance out their investment in both creation of the ADU and its legalization. Thus, we have a strong built-in *conservative* bias. There are probably countless homeowners out there who did not and probably will not submit a permit application because their retrofitting costs plus the costs of regulations (including the betterment levy) are even higher than in the 8 cases analyzed.

Who are the homeowners who decide to create the ADU market? They are usually not entrepreneurs, but small private owners. They often lack sufficient knowledge to consider sophisticated economic strategies for long term financing. The legislative decision to impose a reduced rate of the betterment levy at 34% instead of 50% was, to our best knowledge, not backed by systematic economic calculations. Likewise, the additional

²³ The Planning and Building Law provides that under certain circumstances, disputes about the amount of betterment levy would be determined by a 'decisive land appraiser' commonly known also as quasi-judicial appraiser. Decisive land appraisers provide not only numeric assessment of real estate values but, where necessary, also attempt to clarify legal interpretative issues that arise from the new legislation. On the role and authority of decisive land appraisers within the Israeli statutory planning system, (Yifat Holzman-Gazit, 2018).

²⁴ Our calculation did not include the cost to be incurred if the violation is caught by the enforcement agents. To assess how homeowners perceive the probability of enforcement and its costs would require a very different research design which is beyond our scope of this research.

²⁵ Surveying the opinions of the homeowners is not a valid and reliable alternative strategy due to the blatantly illegality of most existing units.

relaxation in the legislation – permission to postpone the payment of half the betterment levy until the sale of the property (when presumably the added value may be expressed in the sales price), may or may not turn out to be significant in the landowners’ decisions.

In order to encourage homeowners to apply for a building permit for their ADU, demands and costs for the creation of an ADU should be significantly reduced. The current legislation is unlikely to have a significant impact. Between November 2017 and September 2020, only 537 applications were processed nationwide, and 121 variance-permits granted. The legislation’s declared purpose - to enable (legal) creation of a large number of affordable rental housing units - has fallen far short of its objectives. With expiration expected in 2022 (unless extended), we can already declare that the attempted deregulation intended to create significant numbers of legal ADUs, has failed. But the issue is unlikely to remain dormant for long. We hope that our findings – partial as they are – will help the legislators to design a much better strategy next time.

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